

**ENNIS BIG SKY AIRPORT
IMPROVEMENTS
A.I.P. 3-30-0090-014-2015 & 3-30-0090-017-2016
MASTER PLAN UPDATE
Alternative Development & Evaluation**

Prepared for the

Ennis Big Sky Airport
Ennis/Madison County, Montana

In cooperation with the

Federal Aviation Administration
and the
Montana Aeronautics Division

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July 2017

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Table of Contents

1. Project Description	1
A. Objective	1
B. Benefits	1
2. Existing Conditions / Airport History	1
A. Airport Location.....	1
B. Airport History	3
C. FAA Airport Improvement Program – Grant History.....	3
D. Facilities / Pavements.....	4
E. Instrument Procedures / Navigational Aids / Other Miscellaneous Aids.....	6
F. FAR Part 77 Airspace	6
1) Primary Surface	6
2) Approach Surfaces.....	6
3) Transitional Surfaces	6
4) Horizontal Surface	7
5) Conical Surface.....	7
G. Utilities	7
H. Residential-Through-The-Fence (RTTF) Access.....	7
I. Socioeconomic Data.....	7
J. Financial Data	8
K. Environmental Overview	8
L. Previous Master Planning Efforts.....	11
3. Operational Baseline	13
4. Aviation Forecasts – Methodology	14
A. US Census Bureau.....	14
B. Madison County Growth Policy.....	17
C. Montana Department of Commerce	18
D. FAA Terminal Area Forecast Summary – Fiscal Years 2013-2040	19
E. FAA Aerospace Forecast – Fiscal Years 2015-2035	19
F. FlightAware Data	20
G. Survey of Known Users and Agencies / Inventory and Review Aircraft Data	23
5. Aviation Forecasts – Analysis	24
A. Local Aircraft Operations.....	25
B. Itinerant Aircraft Operations	26
C. Air Taxi Operations.....	27
D. Military Operations	30
E. Aircraft Operations Total	31
F. Fleet-Mix Determination of Critical Design Aircraft.....	32

1) Aircraft Approach Category (AAC)	33
2) Airplane Design Group (ADG).....	34
3) Taxiway Design Group (TDG).....	34
4) Maximum Takeoff Weight (MTOW).....	35
5) Critical Design Aircraft - Summary.....	37
G. Based Aircraft	37
6. Facility Requirements.....	38
A. Airfield Capacity	38
B. Runway Requirements	39
1) Dimensional Criteria.....	39
2) Orientation	39
3) Length	40
4) Width	47
5) Pavement Design Strength.....	47
C. Taxiway Requirements.....	48
1) Taxiway Design Group (TDG).....	48
2) Airplane Design Group (ADG).....	48
3) Pavement Fillets with Cockpit-Over-Centerline for Most Demanding Aircraft.....	48
4) Parallel Taxiway Justification.....	48
D. Terminal Area Requirements	49
1) Apron Area	49
2) Hangar Access Taxilanes.....	52
3) Fueling	52
4) FBO's.....	52
5) Vehicular Access / Parking.....	53
a) Rental Car Facilities	53
6) Terminal Building.....	53
E. Electronic, Visual, and Satellite Aids to Navigation.....	53
F. Utilities	54
G. Airspace Requirements	55
H. Miscellaneous Equipment	55
1) Wildlife Fencing	55
2) Snow Removal Equipment (SRE) / SRE Storage Building.....	55
3) Aircraft Rescue & Firefighting Equipment / Building	58
7. Primary Element Alternative Development and Evaluation	58
A. Primary Alternative #1 – No Action (6,001' x 75' Runway).....	62
B. Primary Alternative #2 – C-II Runway with Extension to the North.....	64
C. Primary Alternative #3 – Alternate Site Locations	68
D. Primary Alternative #4 – Rotate the Runway	70
E. Primary Alternative #5 – Develop Runway to the South	74
F. Primary Alternative #6 – C-II Runway with FAA Modification of Airport Design Standards.....	79
G. Primary Element Alternatives Summary and Selection	84

8. Secondary Element Alternative Analysis	85
9. Airport Layout Plan	85
10. Facility Implementation Plan	95
11. Financial Feasibility Analysis	96

Figures and Tables

Figure 2.1 Vicinity Map..... 2

Figure 2.2 Terminal Area Plan (ALP 2010)..... 5

Table 2.1 Overview of Environmental Conditions 9

Table 4.1 Historic Madison County Total Population Trends 15

Table 4.2 Madison County Population by Year..... 16

Table 4.3 Town of Ennis Population by Year..... 16

Table 4.4 Madison County Population Projections Through 2035 from eREMI Model..... 18

Table 4.5 IFR Operations by Month (06/2011 - 06/2016)..... 22

Table 6.1 Peak Period IFR Operations 49

Figure 7.1 Primary Alternative #1: No Action (6,001’ x 75’ Runway) 63

Figure 7.2 Primary Alternative #2: C-II Runway at Existing Location 67

Figure 7.3 Primary Alternative #3: Possible Alternate Site Locations 69

Figure 7.4 Primary Alternative #4: Rotate the Runway..... 73

Figure 7.5 Primary Alternative #5: Develop Runway to the South 78

Appendices

APPENDIX A: Pavement Condition Index (PCI) - 2015

APPENDIX B: Airport Layout Plan (ALP) – 2010

APPENDIX C: Montana Department of Commerce Census & Economic (CEIC) Data Summary

APPENDIX D: FlightAware Data

APPENDIX E: Survey Responses

APPENDIX F: Forecast Levels and Growth Rates

APPENDIX G: Comparing Airport Planning and TAF Forecasts

APPENDIX H: Public Involvement – Preliminary Forecasting

APPENDIX I: Forecasting – FAA Approval

APPENDIX J: Pavement Design – Fleet-Mix, FAARFIELD Analysis

APPENDIX K: Facility Requirements – Supplemental Data

APPENDIX L: Alternatives Development and Evaluation – Supplemental Data

APPENDIX M: Public Involvement – Alternatives Development and Evaluation

APPENDIX N: Public Involvement – Airport Layout Plan

APPENDIX O: Airport Layout Plan (ALP)

APPENDIX P: Capital Improvement Plan (CIP)

APPENDIX Q: Residential-Through-The-Fence Access Agreements

APPENDIX R: Airport Recycling, Reuse, and Waste Reduction Plan

APPENDIX S: Planning for Compliance

Ennis Big Sky Airport Improvements
AIP 3-30-00090-014-2015 & 3-30-0090-017-2016
MASTER PLAN UPDATE

1. Project Description

This document has been prepared for Madison County, Montana, under the Federal Aviation Administration (FAA) Airport Improvement Program (AIP) Projects 3-30-0090-014-2015 & 3-30-0090-017-2016.

A. Objective

The objective of these projects is to conduct an airport planning study to determine the type of airport facilities that are appropriate for the Ennis Big Sky Airport (EKS) based on current and forecasted aircraft activity. The focus of the study is to evaluate the airport's existing and forecasted general aviation usage based on single-engine, multi-engine, and turbine categories. This aviation forecasting will emphasize the type of aircraft usage based upon Aircraft Approach Category (AAC), Airplane Design Group (ADG), Taxiway Design Group (TDG), aircraft Maximum Takeoff Weight (MTOW), and the associated Design / Critical Aircraft (or composite grouping of Design Aircraft).

The study then helps to identify the existing and ultimate facility requirements / alternatives; identify a matrix of associated environmental impact categories that may be necessary for additional review or mitigation; update the Airport Layout Plan (ALP); provide public involvement; and, provide an implementation plan and financial feasibility component for the recommended improvements.

B. Benefits

This study is conducted primarily to aid Madison County in evaluating the existing conditions and development shown on the Airport Layout Plan (ALP) relative to the current and projected needs of the critical aircraft that use/will use the facility. The term "Critical Aircraft" is used in determining design criteria for airport geometry based on the most demanding aircraft type with regular usage, which is defined as 500 operations (excluding touch-and-go operations). An operation is a take-off or landing at the airport. The safety of present and future aircraft users at the Ennis Big Sky Airport will be the main benefit achieved from this study.

2. Existing Conditions / Airport History

Ennis Big Sky Airport is classified as a "general aviation" (GA) airport. Although the *USC Title 49 – Transportation* does not define "general aviation" airport, it is taken to mean all airports that are not classified as "commercial service," "cargo service," or a "reliever" of a commercial service airport. The airport primarily serves the Madison Valley and town of Ennis areas, but also can provide access into the Big Sky resort area.

A. Airport Location

EKS → Latitude 45°16'27.66"N – Longitude 111°38'55.90"W → Airport Elevation 5422.9' MSL

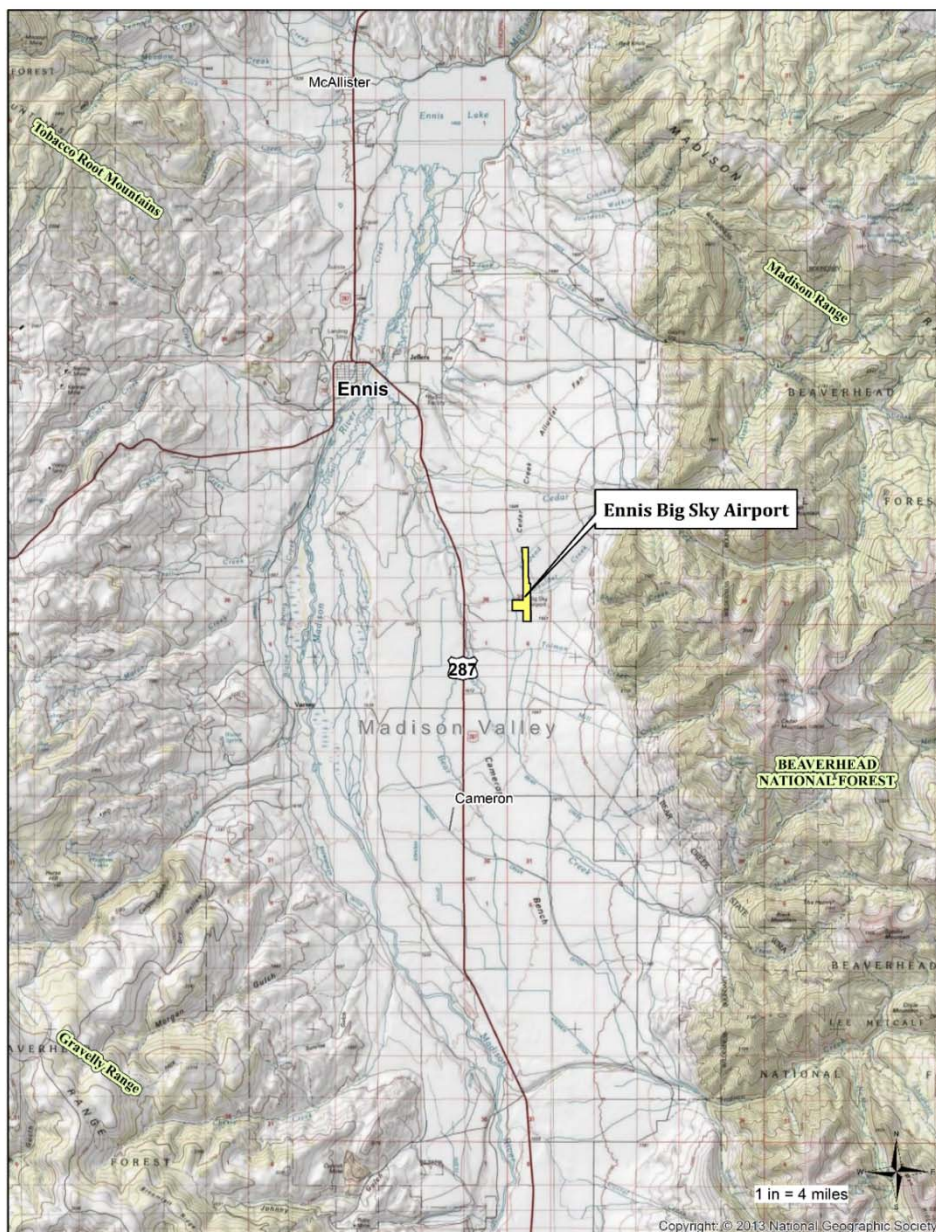
The Ennis Big Sky Airport is located approximately seven miles south-southeast of the town of Ennis, Montana. The airport property lies 1½-miles east of Highway 287, which is the major north-south arterial

through the town and the Madison Valley. The airport is accessed by an east-west oriented gravel access road (Airport Road), which is maintained by Madison County. A secondary north-south oriented gravel access road (Runway Road) provides direct access to a small gravel parking area next to the north apron and Fixed-Base Operator (FBO). Airport Road also provides access to the Shining Mountains Airpark subdivision, within which the airport property lies, and rural residential housing. Airport Road does not provide access to the Federal Lands located east of the airport, at the base of the Madison Mountain Range.

Shining Mountains Air Park consists of:

- 24 – approximately 10-acre parcels, located on the west side of the runway (4 of which are currently owned by Madison County); and
- 32 parcels located on the east side of the runway (24 – parcels of approximately 10-acres each, and 8 parcels, located against the eastern property boundary that are “partial” lots, having been previously sectioned as part of the 1990 AIP improvements).

Figure 2.1 Vicinity Map



B. Airport History

The Ennis Big Sky Airport was originally established in the mid-1970s as a private air park. The airport was known as the Big Sky Air Park and constructed as part of the Shining Mountains land development. The developer's intention at the time of the Air Park's construction was to turn it over to Madison County for their operation as a public airport. Since that time, the lands at the Big Sky Air Park have been acquired by Madison County through a combination of donations and purchases for development of the airport.

C. FAA Airport Improvement Program – Grant History

There have been several FAA funded Airport Improvement Program (AIP) projects at this location, which have made the airport what it is today.

AIP 3-30-0080-01 (1986)

- Airport Master Plan & Site Selection Study (for both the Twin Bridges and Ennis areas); and
- Environmental Assessment.

AIP 3-30-0090-01 & 02 (1990)

- Construct Runway 16-34, partial parallel taxiway, and south apron;
- Install Medium-Intensity Runway Lighting (MIRL) system;
- Install Runway 16 and 34 Precision Approach Path Indicators (PAPI's);
- Install lighted wind cone and segmented circle;
- Land acquisition;
- Install perimeter fencing;
- Relocated existing above-ground fuel tanks; and
- Construct new residential subdivision access road.

AIP 3-30-0090-03 (1992)

- Construct remaining portion of parallel taxiway (to 4,700-ft previous runway length);
- Construct north apron and hangar access taxiway;
- Install runway guidance signs and retroreflective taxiway markers; and
- Land acquisition.

AIP 3-30-0090-04 (1999)

- Conducted Master Plan Update to address needs and feasibility of a Runway 16 extension; and
- Environmental Assessment.

AIP 3-30-0090-05 (2000)

- Preventative pavement maintenance of airside pavements (crack seal, fog seal, and remarking).

AIP 3-30-0090-06 & 07 (2003 & 2004)

- Acquisition of land perpetual state leases easement for Runway 16 extension and approach protection.

AIP 3-30-0090-008-2006 & -009-2007

- Acquire Snow Removal Equipment (SRE);
- Install AWOS A(V); and
- Construct SRE storage building.

AIP 3-30-0090-010-2008 & -011-2008

- Reconstruct Runway 16-34;
- Construct 1,900-ft Runway 16 extension;
- Replace / Install MIRL
- Preventative pavement maintenance (crack seal, fog seal, and remark) of taxiways, taxilane, and aprons.

AIP 3-30-0090-012-2013

- Preventative pavement maintenance of airside pavements (crack seal, fog seal, and remarking).

AIP 3-30-0090-013-2014

- Rehabilitate a portion of North Apron (Phase I – design and construction); and
- Rehabilitate a portion of Taxiway A (Phase I – design and construction).

AIP 3-30-0090-014-2015 (in process)

- Land Acquisition (Tract 11-B) (in process)
- Conduct Airport Master Plan / ALP Update – Phase I

AIP 3-30-0090-015-2015 (completed July 2016)

- Rehabilitate a portion of North Apron (Phase II – construction);
- Rehabilitate Taxiways – Taxiway B, Taxilane C, and Taxiway Connection A1;
- Construct Taxiways – partial Parallel Taxiway A, and Taxiway Fillets;
- Construct Apron;
- Install Guidance Signs;
- Install Miscellaneous NAVAIDS (Primary Wind Cone and Beacon); and
- Install Runway Vertical Guidance System (Runway “16” and “34” PAPI’s).

AIP 3-30-0090-016-2016 (in process)

- Land Acquisition (Tracts 10-A and 10-B)
- Install AWOS III

AIP 3-30-0090-017-2016 (in process)

- Conduct Airport Master Plan / ALP Update – Phase II

D. Facilities / Pavements

The Ennis Big Sky Airport currently consists of a single paved runway and a 4,700-foot partial parallel taxiway beginning at the Runway “34” end. The runway is 6,601-feet long by 75-feet wide with a 16-34 magnetic declination orientation. The runway length meets the requirements of 100% of the small aircraft fleet, with design standards meeting the requirements of Runway Design Code A/B – II, with not lower than ¾-mile visibility (FAR Part 77). The runway pavements were reconstructed in 2008 and are currently designed to 30,000-lbs single, 47,000-lbs dual wheel gear configuration (limited due to the 3” bituminous asphalt thickness).

Other paved areas include:

- three connecting taxiways;
- a “hammerhead” turnaround at the Runway “16” threshold;
- approximately 5.0-acres of apron (which includes approximately 143,328 square feet of available parking space); and
- an Airplane Design Group-I hangar access taxilane (Taxilane C) for small / utility aircraft.

The north apron, a north apron expansion, a portion of Taxiway A, and Taxiways B and C were reconstructed / constructed in 2016. These pavements are designed to 66,000-lbs single, 85,000-lbs dual, and 144,000-lbs dual-tandem wheel gear configuration (with exception to Taxiway C, which is designed to 12,500-lbs single wheel gear configuration). The remaining taxiways and south apron pavements are currently designed to 12,500-lbs (single or dual wheel gear configuration). The pavements are in poor condition, having been originally constructed in 1990 and 1992 (identified as T-1, T-2, and A-1, respectively). See **APPENDIX A** – Pavement Condition Index (PCI) – 2015. Since that time only preventative pavement maintenance (crack sealing, seal coating, remarking) has occurred on these pavements.

Runway 16-34 is lighted with a radio-controlled, medium-intensity runway lighting (MIRL) system. The connecting taxiways have dual medium-intensity taxiway lights defining the entrance to the taxiways and retroreflective markers surrounding the remaining taxiways and aprons.

Several smaller hangars populate the taxiway, while two large private hangars are located along the west edge of the north apron. The Fixed-Base Operator (FBO) has been in operation since September 2012, and is operating out of both large hangars. There are several buildings and structures located within the area between the north and south apron.

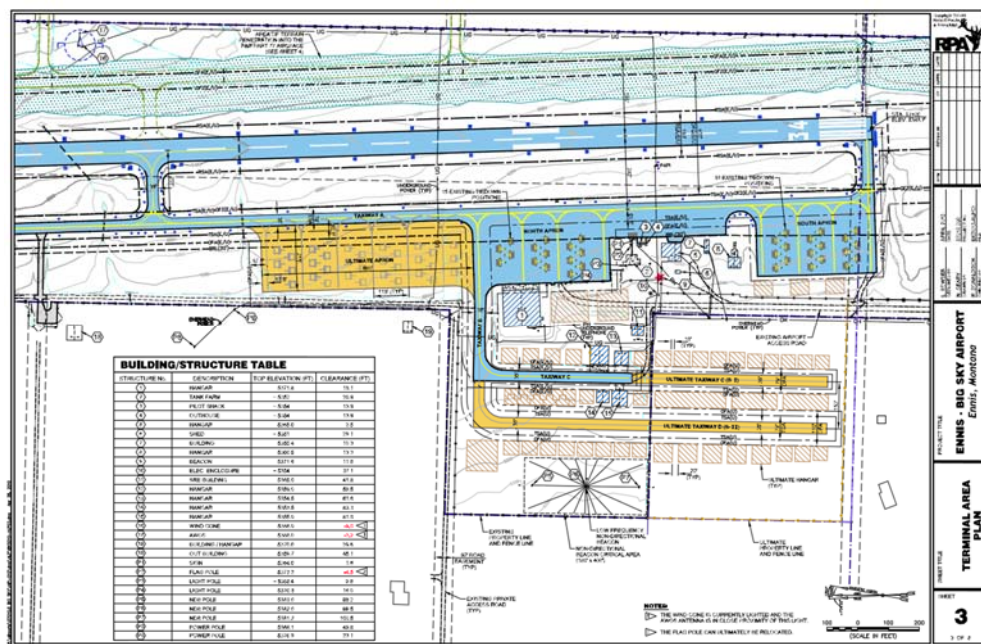
Two hangars, a shed, and another building are located on a single lease, which expires in 2031. At this time, Madison County does not intend to extend that lease agreement, as the location of the lease may inhibit future growth. Other buildings and structures located between the two aprons include: fuel tanks (located within a concrete containment structure), the 100LL self-serve dispensing unit, a pilot shack, an outhouse, a flagpole, and the airport beacon.

24-hour self-serve 100LL fuel is provided on the ramp, while Jet A and 100LL are available via fuel trucks during normal business hours or by previous arrangement with the FBO.

There is a 30' x 38' Snow Removal Equipment (SRE) storage building located southwest of the north apron. The airport has a single piece of snow removal equipment, a 260 Hp pickup-based snowplow, with a 9' reversible snowplow and a 7' hydraulic sweeper.

The existing Airport Layout Plan (ALP) is included in **APPENDIX B**. The “Terminal Area Plan” is shown below.

Figure 2.2 Terminal Area Plan (ALP 2010)



E. Instrument Procedures / Navigational Aids / Other Miscellaneous Aids

Runway “16” has an RNAV (GPS) LPV 1-mile non-precision approach. Runway “34” is currently visual; however, an RNAV (GPS) non-precision approach is scheduled for publication in the future, as well as a Runway “16” amendment to the RNAV (GPS) approach. Runway 16-34 has non-precision instrument (NPI) pavement markings. Both runway ends have a “2-box” Precision Approach Path Indicator (PAPI) visual aid. The Airport’s wind cone and segmented circle are located just east of mid-field. The automated weather reporting equipment (AWOS III) is located within the segmented circle, operating on 119.85 MHz, and the airport beacon is located west of the apron.

The UNICOM frequency is 122.8 MHz. A Non-Directional Beacon (NDB) for Visual Flight Rules (VFR)-only use is located on airport property immediately west of the ramp. The NDB location interferes with potential “terminal area” expansion and removal / relocation evaluation will be a part of this study. It operates on 286 KHz.

F. FAR Part 77 Airspace

The various civil airport imaginary surfaces, as defined by 14 CFR FAR Part 77, for the existing facility are listed below. They are listed in order of proximity and importance to the runway. These surfaces are also included on the existing Airport Layout Plan included in **APPENDIX B**.

1) Primary Surface

The Ennis Big Sky Airport has a runway pavement strength exceeding 12,500-lbs, which classifies the facility as “other than utility” in FAR Part 77. The *primary surface* width is 500-feet for non-precision instrument runways having visibility minimums greater than $\frac{3}{4}$ -statute mile. The length of the *primary surface* extends 200-feet beyond each end of the runway. The elevation of any point on the *primary surface* is the same as the elevation of the nearest point on the runway centerline.

There is currently terrain (ground) along the east side of the runway, which penetrates the *primary surface*.

2) Approach Surfaces

The 14 CFR FAR Part 77 surface that is considered most important to protect is the *approach surface* to each runway. Each *approach surface* is longitudinally centered on the extended runway centerline and extends outward and upward from each end of the *primary surface*. An approach surface is applied to each end of the runway based upon the type of approach available or planned for that runway end.

The inner edge of the *approach surface* is the same width as the *primary surface* and it expands uniformly at a slope of 34:1 to a width of 3,500 feet at 10,000 feet from each end of the *primary surface*. These dimensions apply to both runways, since they each currently have, or are planned to have, non-precision instrument approaches greater than $\frac{3}{4}$ -statute mile.

Runways “16” and “34” have *approach surface* penetrations of terrain (ground) and a fence line, both along the eastern edge of the *approach surfaces*.

3) Transitional Surfaces

These surfaces extend outward and upward at right angles to the runway centerline and the runway centerline extended, at a slope of 7:1 from the sides of the *primary surface* and from the sides of the *approach surfaces*. *Transitional Surfaces* begin at the adjacent primary surface elevation and terminate at an elevation that is 150’ above the established airport elevation.

Ennis Big Sky Airport has terrain (ground) *transitional surface* penetrations along the east side of the runway, for approximately 4,000 feet, beginning at the Runway 34 end. Other penetrations on the east side of the runway include the wind cone, segmented circle, AWOS, and fence line. Additionally, there is a

flagpole located near the pilot shack / hangar area on the west side of Runway 16-34 that penetrates the *transitional surface*.

4) Horizontal Surface

This surface is defined as a horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging 10,000-foot arcs from the center of each end of the *primary surface* and connecting the adjacent arcs with lines tangent to those arcs.

There is a large penetration of the *horizontal surface* located east of the airport. The penetrations consist of terrain (ground) and buildings / residences constructed atop of the penetrating ground. The penetration begins approximately 3,500 feet from Runway 16-34 and extends to the outer limits of the 10,000-foot *horizontal surface*.

5) Conical Surface

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

Ennis Big Sky Airport has *conical surface* penetrations along the east side of the runway, for the entirety of the 4,000-foot wide surface.

G. Utilities

An inventory of utilities currently at the Airport includes:

- Single-phase power on-Airport to hangars and facilities;
- Three-phase power running across the Airport to adjacent properties;
- Telephone;
- Individual water wells to FBOs;
- Individual septic systems for FBOs; and,
- Vault toilet for public use.

H. Residential-Through-The-Fence (RTTF) Access

The Ennis Big Sky Airport has existing RTTF access points, as depicted on the ALP included in **APPENDIX B**. Madison County has an FAA-approved RTTF Access Agreement, approved on April 16, 2015, which is included in **APPENDIX Q**. The Access Agreement is approved until: 1) Substantial changes are proposed to the access agreement; or 2) April 16, 2035.

All RTTF users will be required to enter into the *Agreement for Airport Access* prior to being authorized to utilize the established access points. The RTTF users will also be subject to all terms listed in the *Agreement for Airport Access*.

The current RTTF users have signed the *Agreement for Airport Access*, which are included in **APPENDIX Q**.

I. Socioeconomic Data

Major business activities in Madison County are ranching, farming, construction, limited mining, and tourism / recreation.

The Madison Valley elevation is approximately 5,000-feet above mean sea level, with several surrounding mountain ranges peaking at approximately 11,300-feet. The valley is bordered by the Centennial Range on the south, the Tobacco Root Range to the north, the Gravelly Range to the west, and the Madison Range to the east. The Madison, Beaverhead, Big Hole, Jefferson, and Ruby Rivers are all major rivers within Madison County. Madison County is known for its “Blue Ribbon” trout streams, numerous lakes, hunting, hiking, biking, skiing, snowmobiling, and panoramic mountain scenery.

In recent years, the communities of Ennis, Twin Bridges, Sheridan, and Virginia City have stepped up their efforts to market the area for tourism and outdoor recreation opportunities. For the past three decades, the Big Sky resort area has been a growth center in Madison County for both jobs and housing. Based on the County-approved master plans for four major resort developments (Boyne USA, Moonlight Basin Ranch, Spanish Peaks Resort, and Yellowstone Club), this resort community is likely to see continued growth. Seasonally, the Big Sky resort area employs over 800 service-oriented employees. It is likely that the number of visitors to Madison County each year will also rise due to the recreational amenities in this region of Montana.

The Ennis Big Sky Airport is currently used by a mix of General Aviation and business jet traffic. The airport is the only paved airport in the Madison Valley. It fulfills a critical niche in the national airspace system, being roughly 40 nautical miles from paved runways at Dillon (DLN), Twin Bridges (7S1), West Yellowstone (WYS), Mission Field (LVM), and Bozeman Yellowstone International (BZN). The airport is an essential link in Madison Valley's tourism industry.

J. Financial Data

An in depth financial analysis is outside the scope of this Master Planning effort. However, it is noted that Madison County funds the two county airports (Ennis Big Sky and Twin Bridges) primarily from a County mil levy of 2 mils, which generates approximately \$164,000 annually, fuel flowage fees, and lease revenue.

K. Environmental Overview

Specific environmental review for any proposed / recommended developments, if any, arising out of this Master Plan are not covered in this section. Instead, this section focuses on providing an existing environmental overview of the known conditions at the Ennis Big Sky Airport (which encompasses land within Township 6 South, Range 1 East, Sections 30 & 31). The goal of this section is to aid in developing alternatives with the subsequent environmental processes in mind, and to consider environmental data in the evaluation of the alternatives.

In accordance with FAA Order 1050.1F, the following environmental impacts should be considered when evaluating any proposed developments / alternatives:

1. Air quality;
2. Biological resources;
3. Climate;
4. Coastal resources;
5. Department of Transportation Act, Section 4(f);
6. Farmlands;
7. Hazardous materials;
8. Solid waste, and pollution prevention;
9. Historical, architectural, archeological, and cultural resources;
10. Land use;
11. Natural resources and energy supply;
12. Noise and compatible land use;
13. Socioeconomics, environmental justice, and children's environmental health and safety risks;
14. Visual effects (including light emissions); and
15. Water resources.

The following **Table 2.1** briefly addresses each of the impact categories regarding known existing conditions.

Table 2.1 Overview of Environmental Conditions

Environmental Category	Comment
Air Quality	<p>Air pollutants of concern under the Clean Air Act of 1970 include: carbon monoxide (CO), ozone (O₃), particulate matter (PM₁₀/PM_{2.5}), sulfur dioxide (SO₂), oxides of nitrogen (NO_x), and lead (Pb). A review of mapping available from the Montana Department of Environmental Quality shows the Ennis Big Sky Airport <u>does not</u> occur within a designated nonattainment areas for any air pollutants of concern. Madison County's air quality is generally considered to be of high quality with good visibility although air quality may be adversely affected by smoke from wildfires within and outside of the county.</p>
Biological Resources (including fish, wildlife, and plants)	<p>The U.S. Fish and Wildlife Service (USFWS) Ecological Services Montana Field Office online summary of listed species (reviewed on November 9, 2015) shows four Threatened species (Canada Lynx, Grizzly Bear, Red Knot and Ute Ladies' tresses) and two Candidate Species (Sprague's Pipit, and Whitebark Pine) as occurring in Madison County. Critical habitat for Canada lynx has been designated in parts of Madison County; however, this habitat is not near the airport.</p> <p>The airport property and immediately adjoining lands generally do not provide suitable habitat for Canada lynx, the Red Knot, Ute Ladies' tresses, or Whitebark pines. It is possible, but unlikely, that grizzly bears or their sign could be seen in the vicinity of the airport. The Sprague's pipit, a small migrating bird that breeds and winters on open grasslands, could conceivably occur on grasslands in this part of Madison County.</p> <p>According to a Montana Natural Heritage Program (MNHP) General Observation Report for the broad area including the airport, elk, white-tailed deer, pronghorn antelope, mountain lions, martens, gray wolf, and several other smaller mammals may occur in the area. It is possible other species tolerant of some level of human disturbance like red fox, ground squirrels, bobcats, raccoons, skunks, porcupine, and mice could occur in the area. A few amphibians and reptiles (spotted frogs and gartersnakes), ferruginous hawks, bald eagles, golden eagles, and a variety of other common birds could also occur on or near the airport.</p> <p>Boulder, Shell, and McDeed Creeks are named streams that cross lands on or near the airport lands. None of these intermittent streams provide habitat for fish since they are dry much of the year.</p> <p>According to the Montana Natural Heritage Program, the primary landcover types on and near the airport is Montan Sagebrush Steppe and Rocky Mountain Lower Montane, Foothill, and Valley Grassland.</p>
Coastal Resources	There are no Coastal Zones or Coastal Barriers in the State of Montana.
Floodplains	There are no surface waters with floodplains delineated by the Federal Emergency Management Agency (FEMA) in the vicinity of the airport. FEMA has not published a Flood Insurance Rate Map (FIRM) for the area.
Farmlands	The <i>Farmland Policy Protection Act</i> (FPPA) requires special consideration be given to soils considered as prime farmland, unique farmland, or farmland of

	<p>statewide or local importance by the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS).</p> <p>The NRCS’s NCSS Web Soil Survey (interactive soils mapping website) was consulted to identify soil types on the airport property and to determine if any soils are designated as prime farmland, unique farmland, or farmland of statewide or local importance. The mapping produced for the Big Sky (Ennis) Airport area showed that two soils on the airport—Attewan loam, cool, 2 to 8 percent slopes (map unit 11) and Attewan cobbly loam, cool, 2 to 8 percent slopes (map unit 12) - -are classified farmland of statewide importance.</p>
Hazardous Materials	<p>A review the Montana Department of Environmental Quality's (MDEQ's) website and online mapping tool did not identify any underground storage tanks (USTs), leaking USTs, Petroleum Tank Release Compensation Fund (spill) sites, Remediation Response sites, or hazardous waste handlers at or near the Ennis Big Sky Airport.</p>
Cultural Resources	<p>Two cultural resource surveys have been conducted on the existing airport property. In 1998, a cultural resource inventory was conducted on 50 acres of airport land was conducted in advance of a proposed northerly runway extension. A 2012 inventory was conducted on a 10-acre tract adjoining the southwest portion of the airport. These surveys did not identify any historical or archaeological sites.</p> <p>A search of properties listed on the National Register of Historic Places shows no sites exist at or near the airport.</p>
Surface Waters	<p>Boulder, Shell, and McDeed Creeks are intermittent streams that cross lands on or near the airport lands. The streams are dry most of the year. Based on past coordination with the U.S. Army Corps of Engineers, Boulder, Shell, and McDeed Creeks would likely be considered jurisdictional “Waters of the U.S.” The Granger Ditch, an irrigation facility located west of the airport, intercepts surface waters in the area.</p>
Water Quality	<p>Based on a review of the current State of Montana’s 303(d) list, there are no impaired surface waters on or near the airport. There are no groundwater resources, sole source aquifers, or sources of public water supply on the airport property.</p>
Section 4(f) of the Department of Transportation Act	<p>Properties protected under Section 4(f) include publicly owned parks, recreation areas, and wildlife or waterfowl refuges of national, state, or local significance or land from a historic site of national, state, or local significance. A review of online environmental information shows there are no Section 4(f) resources at or near the Ennis Big Sky Airport.</p>
Wetlands	<p>National Wetland Inventory mapping for the area did not show any wetlands or riparian features on the airport. There have been no recent wetland delineations completed for the airport property. Based on past coordination with the U.S. Army Corps of Engineers, Boulder, Shell, and McDeed Creeks would likely be considered jurisdictional “Waters of the U.S.”</p>
Wild and Scenic Rivers	<p>There are no Wild and Scenic River segments in the Ennis area.</p>

Visual Resources	The Ennis Big Sky Airport is situated in the broad Madison Valley with significant mountainous terrain existing several miles east of the airport. The property immediately surrounding the airport is used for agricultural purposes with scattered residences on subdivided lands. A notable concentration of hangars and other airport-related buildings exists west of Runway 16/34.
Noise	Aircraft noise modeling for at the Ennis Big Sky Airport was conducted for the 1999 Environmental Assessment (EA), which resulted in the construction of a 1,900-foot-long extension to Runway 16/34. Existing and future noise contour maps were developed for the EA. Scattered rural residences near the airport comprise the only noise sensitive receptors in the area. There is no existing airport noise program.
Existing Land Use	With the exception of property immediately adjacent to the airport, most land surrounding the Ennis Big Sky Airport is used for grazing. Residences exist on several properties adjacent to the airport and these homes were developed as part of the initial “airpark” development at the facility. Scattered rural residences and agricultural buildings exist on other lands in the vicinity of the airport. There are no schools, places of public assembly, hospitals or other noise sensitive land uses in proximity to the airport. Land use planning on lands adjoining the airport is guided by the Madison County Growth Policy 2012 (adopted March 2013).
Light Emissions	Sources of lighting at the airport includes: airfield and apron lighting, visual NAVAIDs, security lighting for airport buildings, and both airborne and ground-based aircraft operations.
Socio-economics and Environmental Justice	According to mapping for the 2010 Census, the Ennis Big Sky Airport is located within Madison County Census Tract 1, which has more than 3,200 residents. The estimated race and ethnicity characteristics of Tract 1 as indicated in the American Community Survey (ACS) Profile Report for the 2009-2013 period shows the Census Tract has a very low minority population (estimated to be less than 4%). The median age of the residents of Tract 1 is estimated to be 46.2 years with about 24% of the residents being 65 years and older. Both of these age measures are substantially higher than that seen for the State of Montana as a whole. The ACS data shows median household income (\$51,994) and per capita income (\$41,308) for residents is substantially above comparable measures for Montana residents as a whole. The number of persons living below the poverty level (about 8%) was also well below the level seen for state residents as a whole.

Proposed alternatives / developments will require evaluation on a case-by-case basis in order to determine the appropriate level of environmental review necessary / required.

L. Previous Master Planning Efforts

Four previous airport planning efforts have been completed for the Ennis Big Sky Airport:

1. **1971** – The first planning effort was completed in 1971, focusing on a site selection for the Ennis Big Sky Airport
2. **1980** – Site selection update

- 3. 1986 – AIP 3-30-0080-01 – Site Selection Study update and Environmental Assessment**
- 4. 1998 – AIP 3-30-0090-04 – Forecasting / Facility Requirements**

1971 Airport Planning Summary

Airport facilities planning was formally undertaken in 1971 when the Airport Board retained consulting services to prepare a County Aviation Plan. This planning and engineering study focused on the identification of improvements for the Twin Bridges Airport and the selection of a site for the Ennis Airport. The study evaluated five locations as potential airport sites for the community and recommended a site east of Ennis be developed as a public airport. No action was ever taken to develop the recommended Ennis Airport site.

Sportsman’s Field (S55), an existing private airstrip located adjacent to the Town of Ennis, provided the only aviation facilities in the Madison Valley until the mid-1970s when the Big Sky Air Park was developed at the site of the existing Ennis Big Sky Airport. The developers of the Big Sky Air Park attempted to turn over the ownership and maintenance of the air park to the County. However, the Madison County Commissioners questioned whether the facility should be accepted due to the maintenance responsibilities, location, and the fact that the 1971 study recommended another site for the airport.

1980 Airport Planning Summary

In 1980 the Madison County Airport Board, at the request of Madison County, retained consulting services in an attempt to address the questions surrounding airport development and to update the 1971 site selection study. The consultant recommended that Madison County accept Big Sky Air Park with the conditions that clear title is donated for sufficient property to allow future development of the airport; that there are no exclusive rights to the airport; and that the possibility of streets and taxiways entering the airport from adjacent residential areas is excluded from consideration. The County did follow through and acquired the air park lands through dedications by property owners; however, FAA site approval for a public airport at this location had not yet been received. Therefore, the airport was not eligible for federal funding through the FAA.

AIP 3-30-0080-01 (1986) Summary

In 1986 the consulting firm of Robert Peccia & Associates was retained to prepare a Master Plan and Site Selection Study / Environmental Assessment. The purpose of the 1986 study was to obtain FAA site approval in an airport location, which could be developed with federal funding assistance. The study evaluated eight sites for airport development. Sites 2, 4, 6, and 7 were determined to have the potential to produce impacts that may exceed threshold levels in one or more environmental categories. Sites 1, 3, and 4 were eliminated due to airspace and topographic limitations. Sites 5 and Site 8 were further evaluated, with Site 5 being chosen as the best alternative for further development. In February 1989, the Master Plan & Site Selection Study and the Environmental Assessment were both accepted by the FAA and site approval was granted for development at the Big Sky Air Park (today’s Ennis Big Sky Airport). During the summer of 1990, the Ennis Big Sky Airport was constructed, as recommended in the planning study.

AIP 3-30-0090-04 (1998) Summary

In 1998 a Master Planning Update effort was undertaken, focusing on the current and projected operational demands on the airport facilities and to assess the need to expand or improve upon those facilities. The study concluded in recommending land acquisition and construction of a 1,900-foot runway extension on the north end of Runway 16-34 (as well as extending the adjacent parallel taxiway and the facilities of the runway lighting, Precision Approach Path Indicator (PAPI), and taxiway reflectors). The 1,900-foot extension would bring the total runway length to 6,600-feet, accommodating 100% of the small aircraft fleet. During the summer of 2008, the 1,900-foot runway extension (and associated improvements) was constructed. Due to funding limitations, the parallel taxiway was not extended; however much of the grading and subbase improvements were completed for future base course and finish course (bituminous asphalt) placement.

No other “significant” facility expansions were recommended in the short, medium, or long-term stages. Long-term forecasts (2007-2017) estimated there would be approximately 190 annual operations by C-II aircraft, based upon user surveys. However, at the time of the study, the runway length was 4,700-feet, with very few Approach Category C aircraft utilizing the airport. It should also be noted that there were no FBO services or instrument procedures at the airport at that time.

3. Operational Baseline

The existing operational baseline estimate can be found by accessing the *5010-1 Airport Master Record*. This record contains aeronautical data describing the physical and operational characteristics of civil public-use airports that are active in the National Airspace System (NAS). The data is typically derived from FAA inspections (commonly completed by the Montana Aeronautics Division through the FAA), with input from the airport manager and/or Sponsor.

While based aircraft data is also found on the *5010 Airport Master Record*, this data is verified through a different program. The airport manager and/or Sponsor are tasked with updating based aircraft data periodically (one-year minimum requested) on the FAA’s *National Based Aircraft Inventory Program*. The web-based program has a process to verify and eventually confirm the aircraft listing. Users follow specific steps to eliminate N-number registration duplicates from their listing, verify N-numbers reported by other airports, verify N-numbers not found in FAA Aircraft Registration data, and finally verify that all aircraft in the list are based at the facility.

The existing (June 2015) operational baseline, included in the *5010 Airport Master Record*, contains:

Based Aircraft		Annual Operations	
Single Engine	21	Air Carrier	0
Multi-Engine	1	Air Taxi	600
Jet	0	General Aviation – Local	6,500
		General Aviation – Itinerant	5,000
		Military	100
		Total:	12,200

The operational baseline can additionally be described based upon specific types or performance characteristics of the aircraft using the airport. Two main performance characteristics utilized in identifying the airport design standards and facility requirements are: Aircraft Approach Category (AAC) and Airplane Design Group (ADG), as described in FAA Advisory Circular (AC) 150/5300-13A.

The majority of the operations at the Ennis Big Sky Airport can be described as general aviation aircraft operating in the “small airplane” fleet, with a Maximum Takeoff Weight (MTOW) of 12,500-lbs or less (utility). These aircraft are most typically contained in the AAC of A and B, and the ADG of I and II.

Aircraft exceeding these operational characteristics are most commonly itinerant aircraft and air taxis. Additionally, those higher performance aircraft typically operate under Instrument Flight Rules (IFR). IFR flight plans permit an aircraft to operate in instrument meteorological conditions, when operation of an aircraft under Visual Flight Rules (VFR) is not safe. IFR operations to / from the Ennis Big Sky Airport were obtained through FlightAware for the period of 06/21/2011 to 06/17/2015 (as described in Section 4, Item F. below).

Developing an annual operational baseline of these aircraft was completed using the FlightAware data for the period of 06/19/2015 through 06/20/2016. The tables below summarize the aircraft operations.

Aircraft Approach Category – IFR Operations Per Year	
A	93
B	62
C	373

Airplane Design Group – IFR Operations Per Year	
I	152
II	372
III	4

Note that in this one year of data there were 373 operations with aircraft of approach category C at this facility, which is currently designed in accordance with Runway Design Code B-II standards. The vast majority, 288 of the 373 (77.2%), of the Approach Category C aircraft were Airplane Design Group II.

4. Aviation Forecasts – Methodology

Per Advisory Circular 150/5070-6B: “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 expanded facilities.”

AC 150/5070-6B describes four common techniques utilized in forecasting: *Regression Analysis, Trend Analysis and Extrapolation, Market Share Analysis or Ratio Analysis, and Smoothing*. A combination of these techniques has been used for the forecasting, as described below.

This Planning Narrative’s aviation forecasts Methodology section presents recent national aviation industry trends, and local population, operational growth, and aviation trends. This information provides background for critical design aircraft activity and other facility requirements bases upon the aviation forecasts. Short, intermediate, and long-term (5, 10, and 20-year) forecasts for Ennis Big Sky Airport will be presented.

In accordance with FAA AC 150/5070-6B, short-term forecasts are typically used to justify near-term development and support operational planning and environmental improvement programs; medium-term forecasts are typically used in planning capital improvements; and long-term forecasts are helpful in general planning.

Forecasts will focus on those operations by *Critical Aircraft*, but the figures will also be evaluated for apron and hangar needs. The *Design Aircraft* or *Critical Aircraft*, as defined by FAA AC 150/5300-13A, is “an aircraft that determines the application of airport design standards for specific runway, taxiway, taxilane, apron, or other facility (such as Engineered Materials Arresting System [EMAS]). This aircraft can be a specific aircraft model or a composite of several aircraft using, expected, or intended to use the airport or part of the airport.”

The factors / aviation activity measures potentially affecting the aviation activity at the Ennis Big Sky Airport are summarized below (**Sections A. through G.**).

A. US Census Bureau

The US Census Bureau is an agency that has a wealth of data from information they collect and periodically update. This aviation forecasting will primarily make use of the historical population growth from Madison County and the town of Ennis.

Permanent Population. Table 4.1 summarizes the population changes seen in Madison County since 1960 based on US Census Bureau and the Montana Census and Economic Information Center data.

Table 4.1 Historic Madison County Total Population Trends

Area	1960	1970	1980	1990	2000	2010	Estimated Population 2014*
Madison County	5,211	5,014	5,448	5,989	6,851	7,691	7,820
% Change from Previous Census	--	-3.78%	8.66%	9.93%	14.39%	12.26%	--
Unincorporated Areas of County	3,444	3,115	3,513	4,026	4,822	5,646	5,706
% Change from Previous Census	--	-9.55%	12.78%	14.60%	19.77%	17.09%	--
Town of Ennis	525	501	660	785	840	838	871
% Change from Previous Census	--	-4.57%	31.74%	18.94%	7.01%	-0.24%	--
Other Incorporated Areas**	1,242	1,398	1,275	1,178	1,189	1,207	1,243
% Change from Previous Census	--	12.56%	-8.80%	-7.61%	0.93%	1.51%	--

Madison County (All) Average Annual Rates of Change

1960-2010 (50 Years)	← 0.78% →					
1990-2010 (20 Years)	← 0.95% →					
2000-2010 (10 Years)	← 0.95% →					
2000-2014	← 0.95% →					

Unincorporated County Areas Average Annual Rates of Change

1960-2010 (50 Years)	← 0.99% →					
1990-2010 (20 Years)	← 1.71% →					
2000-2010 (10 Years)	← 1.59% →					
2000-2014	← 1.21% →					

Town of Ennis Average Annual Rates of Change

1960-2010 (50 Years)	← 0.94% →					
1990-2010 (20 Years)	← 0.33% →					
2000-2010 (10 Years)	← -0.02% →					
2000-2014	← 0.26% →					

* SUB-EST2014: Subcounty Resident Population Estimates: April 1, 2010 to July 1, 2014 (Released May 2015); Compiled 5/29/2015 by the Census & Economic Information Center, MT Dept. of Commerce (www.ceic.mt.gov).

** Includes the Incorporated Towns of Sheridan, Twin Bridges, and Virginia City

Although a small decrease in population was recorded during the 1960s, Madison County has shown consistent growth in its population every decade since 1970. The County saw its total population grow by 8.7% over the 1970 to 1980 period, by 9.9% between 1980 and 1990, by 14.4% in the 1990s, and by 12.3%

between 2000 and 2010. With the exception of the 1960-1970 period, the average annual growth rates in the decades between 1970 and 2010 varied from a low of about 0.83% (1970-1980) to a high of more than 1.4% (1990-2000). The annual growth rate averaged 0.78% per year over the 1960-2010 period.

Table 4.2 Madison County Population by Year

US Census – Madison County						
Year	1960	1970	1980	1990	2000	2010
Population	5,211	5,014	5,448	5,989	6,851	7,691

Unincorporated areas of Madison County grew at a notably higher rate than did the incorporated communities of Ennis, Sheridan, Twin Bridges, and Virginia City over the 1960-2010 period. Although the population of the Town of Ennis grew by nearly 60% over the 50-year period, the combined populations of the other three incorporated communities decreased by nearly 3% over the same period. The annual growth rate for the Town of Ennis was about 0.94% over the 1960-2010 period.

Table 4.3 Town of Ennis Population by Year

US Census – Town of Ennis						
Year	1960	1970	1980	1990	2000	2010
Population	525	501	660	785	840	838

The Montana Census and Economic Information Center released estimates of mid-year 2014 populations for counties and subareas within each county in May 2015. These estimates place the “current” populations of Madison County and the Town of Ennis at 7,820 and 871 residents, respectively. Using these estimates, Madison County’s population has grown by about 1% over the 2000-2014 period and all unincorporated areas of the county grew by about 1.2% over the same period. Incorporated communities in the county (including Ennis) only grew at a rate of about 0.3% between 2000 and 2014.

Seasonal Population. A variety of data sources suggest that seasonal residents will continue to play a significant role in Madison County’s growth and development pattern. The 2000 Census described 67% of the vacant housing stock in Madison County as seasonal or recreational; in 2010 approximately 86% of the vacant housing was seasonal or recreational. According to the 2010 Census, about 76% of all the vacant housing units for seasonal, recreational, or occasional use (2,199 housing units) were located in the Madison Valley County Census Division, which includes the Ennis area, adjoining lands in the Madison Valley area south of Ennis, and a portion of the Big Sky-Moonlight Basin area. As further evidence of the high seasonal population, the *Madison County Growth Policy 2012* indicates, “about 63% of Madison County’s private properties list a permanent address outside of Madison County.”

The seasonal, recreational, or occasional use housing units, within the Madison Valley, has seen an average annual increase of 11.3% over the period of 2000-2010.

Implications for Airport Growth. *Regression Analysis* tying airport growth with local population trends is a valid statistical technique for this application. County population trends are more indicative of airport growth potential than are trends for incorporated communities, since 70% of the county’s population lives in unincorporated areas. Between 1960 and 2010 (50 years), Madison County has seen an average annualized yearly population growth rate of 0.78%. Between 1990 and 2010, the rate was 0.95%. Between 2000 and 2010, the rate was also 0.95%, which included a notable period of economic recession.

Much of the continuing development in the Big Sky resort community, and the Madison Valley area, remains tailored to buyers who are unlikely to make Madison County their primary residence. All such information suggests a continued influx of seasonal residents to Madison County.

Again, conditions in the Madison Valley are conducive to continuing growth, especially when considering the major developments of the resort community of Boyne USE, Moonlight Basin Ranch, Spanish Peaks Resort, and the Yellowstone Club.

Considering the above information, an annual population growth rate of 1.0% to 1.2% for Madison County appears reasonable for the next 20 years. Additionally, an annual growth rate of seasonal, recreational, or occasional use housing units of 8.0% to 12.0% also seems reasonable for the next 10 to 20 years.

An important demographic characteristic when considering aircraft operations and type of aircraft is the level of disposable income of the population. Per AC 150/5070-6B, “*Disposable income is a good indicator of the propensity to travel and general aviation aircraft purchases and use.*” Unfortunately, the disposable income data for the seasonal, recreation, and occasional use housing units is largely not captured in Madison County data, as this data would be gathered and published where the permanent residence is located. With over 57% of the housing units within the Madison Valley being seasonal, recreational, or occasional use, this portion of Madison County’s demographic plays a very large role in their economy. These seasonal and recreational homeowners logically have more disposable income than the average population. The 8.0% to 12.0% average annual growth rate of seasonal, recreational, or occasional use housing can be similarly compared to seasonal and recreational travelers, and in turn *Itinerant Traffic* at the airport.

B. Madison County Growth Policy

The *Madison County Growth Policy 2012*, adopted March 2013 under Resolution 11-2013, was developed as a guiding document for growth and development within the County. The entire policy is available at:

<http://www.madisoncountymt.gov/documentcenter/view/778>

The purpose of the Growth Policy was threefold: 1) revise the Madison County Growth Policy to meet the standards outlined in Montana Code Annotated (MCA) 76-1-601; 2) keep the Growth Policy current in its goals and recommendations; and 3) provide more effective guidance on local decisions of growth, development, and conservation over the next 5 – 10 years.

The vision of the *Growth Policy* is as follows:

“In the year 2022, Madison County is still a place we’re proud to call home, still: Blessed with people who are hardworking yet fun-loving, independent yet compassionate and generous in time of need; Devoted to supporting our youth and senior populations; Relatively free of crime and pollution; Rich in water, scenic beauty, wildlife, historical, and recreational resources; Rural in character and agriculturally productive; Rooted in the tradition of being good stewards of the land; Focused on protecting rights of all citizens.”

In the year 2022, Madison County’s economy has gained strength and diversity with agricultural households enjoying a more financially secure position. Our river corridors, hayfields, rangelands, and foothills have not become clustered by scattered residential development and noxious weeds have lost their foothold on our landscape. Our towns have retained their small-town atmosphere, while offering a variety of goods and services to local residents and visitors, and families of modest income levels can afford to live here. Local public services have adequate funds to support our increased population, the art of being a good neighbor is widely practiced by both newcomers and old-timers, and we have become even better stewards of the land.”

Madison County had a population of 7,691 people in 2010, a 12% increase in the year-round population between 2000 and 2010. Population growths have ranged from 1.5% average annually per year from 1990 to 2000, to 1.3% average annually from 2000 to 2010. Ennis is the largest town in the County, with a population of 838 in 2010.

Based on the *Madison County Growth Policy 2012*, annual growth rates ranging between 1.0% and 1.5% for total county population are possible, with the most likely long term annual growth rate through at least 2030 being 1.2%. Additionally, the policy states, “data sources suggest that seasonal residents will continue to play a significant role in Madison County’s growth and development pattern.”

Implications for Airport Growth. One way to forecast growth related to the airport is a correlation with local population trends tied to aviation demand (*Regression Analysis*). Conditions in the Madison Valley are conducive to continuing growth. The natural resources and amenities offered in this area of Montana will continue to encourage growth and development proportional to the status of the economy.

C. Montana Department of Commerce

County level population projections are available from Montana Department of Commerce Census & Economic Information Center (CEIC). The CEIC projections were developed by Regional Economic Models, Inc. (REMI) and provide complete annual demographic forecasts through 2060 for the State of Montana and each county. The eREMI projection is a very complex model that heavily relies on economic and demographic data with a host of assumptions. The eREMI model does not generate an average annual growth rate, but recalculates the growth rate on an annual basis considering demographic trends. The eREMI model projects Madison County’s population to be 8,761 by the year 2035. This represents an overall increase in population of approximately 14% over the 2010 population and an annualized average growth rate in population of about 0.52% per year over the 2010 to 2035 period.

Table 4.2 shows the eREMI projections for Madison County at 5-year intervals through the year 2035. CEIS data summary is included in **APPENDIX C**.

Table 4.4 Madison County Population Projections Through 2035 from eREMI Model

	2010	2015	2020	2025	2030	2035
Total Population	7,691	8,222	8,601	8,820	8,859	8,761
<i>Annualized Growth from 2010-2015</i>	← 1.34% →					
<i>Annualized Growth from 2015-2020</i>		← 0.91% →				
<i>Annualized Growth from 2020-2025</i>			← 0.50% →			
<i>Annualized Growth from 2025-2030</i>				← 0.09% →		
<i>Annualized Growth from 2030-2035</i>					← -0.22% →	
<i>Annualized Growth from 2010-2035</i>	← 0.52% →					

Source: eREMI - a product of Regional Economic Models, Inc. (www.remi.com) - Released April 2013; Compiled by the Census & Economic Information Center, MT Dept. of Commerce (www.ceic.mt.gov)

Implications for Airport Growth. The eREMI growth projections for Madison County are approximately half the growth rate of 0.95% per year seen in the County over the past 20-years (1990 – 2010). The 0.52% average annual growth rate could serve as a conservative population growth for Madison County; however, the actual population has seen an average annual growth rate of more than 0.8% over the

past 50-years. Therefore, the 0.52% forecasted annualized growth seems too conservative and low. Again, this population growth can be related to airport growth through a form of *Regression Analysis*.

D. FAA Terminal Area Forecast Summary – Fiscal Years 2013-2040

“*The Terminal Area Forecast (TAF) is prepared to assist the FAA in meeting its planning, budgeting, and staffing requirements. In addition, state aviation authorities and other aviation planners use the TAF as a basis for planning airport improvements.*” It contains a query data application that allows the public to access and print historical (1990 to 2012) and forecast (2013 to 2040) aviation activity data by individual airport, state, or FAA region.

The content of the TAF report was used as a comparison of aircraft operations established at the Ennis Big Sky Airport. The FAA must consider the TAF in their evaluation and approval of any airport forecasts.

The TAF model and TAF database can be accessed at: http://www.faa.gov/data_research/aviation/.

The TAF forecasting estimates very moderate growth within the Northwest Mountain Region (ANM) and for the entire nation:

- Average annual growth rates of all Itinerant Operations from 2012 to 2040 were an estimated 1.09% for the FAA’s Northwest Mountain Region and 0.82% for the Nation.
- Average annual growth rates of Total Operations from 2012 to 2040 were an estimated 1.02% for the FAA’s Northwest Mountain Region and 0.70% for the Nation.
- Average annual growth rates of Based Aircraft from 2012 to 2040 were an estimated 0.96% for the FAA’s Northwest Mountain Region and 0.83% for the Nation.
- The forecasting for Ennis Big Sky Airport (EKS) for itinerant operations, local operations, and based aircraft was estimated to be negligible (zero).

Implications for Airport Growth. The average annual growth rates of 1.09%, 1.02%, and 0.96% for itinerant operations, total operations, and based aircraft, respectively, corresponds well with the estimated 1.2% “likely” average annual population growth rate included in the *Madison County Growth Policy 2012*.

The aviation activity at the Ennis Big Sky Airport does not constitute enough of the “market share” to garner direct airport forecasting as part of the TAF. Therefore, zero growth has been shown for the Ennis Big Sky Airport. The TAF forecasting for the Ennis Big Sky Airport should be disregarded.

The Northwest Mountain Region depicts an average annual aircraft operations (takeoff or landing) growth of approximately 1%. This *Trend Analysis* can be applied at the local Ennis Big Sky Airport, which constitutes a percentage of the regional forecasts.

E. FAA Aerospace Forecast – Fiscal Years 2015-2035

The FAA updates yearly their aviation forecast projects. The 2015 update is now available for reference, and is available for review at: http://www.faa.gov/data_research/aviation/.

According to the *FAA Aerospace Forecast – Fiscal Years 2015 -2035*:

The general aviation forecasts rely heavily on discussions with industry experts conducted at industry meetings, including four Transportation Research Board (TRB) meetings of Business Aviation and Civil Helicopter Subcommittees in May 2014 and January 2015 along with the results of the 2013 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 also presents the draft forecasts and assumptions to industry staff and aviation associations, who are asked to comment on the reasonableness of the assumptions and forecasts. Their comments and/or suggestions have been incorporated into the forecasts as appropriate.

General aviation market continues its recovery. In 2014, the turbo jet sector recorded its first increase in deliveries by U.S. manufacturers since 2008. For a third year in a row, single engine piston deliveries have increased. The long term outlook for general aviation is favorable, and near term also looks promising especially for piston aircraft activity which is sensitive to fuel price movements. While it is slightly lower than predicted last year, the growth in business aviation demand over the long term continues. As the fleet grows, the number of general aviation hours flown is projected to increase an average of 1.4 percent per year through 2035.

The general aviation industry continued its modest growth in 2014, especially with the help from growth in the business jet and single engine piston deliveries. The strong growth of turboprop and multi-engine piston segments in 2013 slowed down to closer to their 2012 levels.

The FAA forecasts the fleet and hours flown for single-engine and multi-engine piston aircraft, turboprops, turbojets, piston and turbine powered rotorcraft, and light sport, experimental and “other” (which consists of gliders and lighter than air vehicles) aircraft.

The active general aviation fleet is projected to increase at an average annual rate of 0.4 percent over the 21-year forecast period...” “The more expensive and sophisticated turbine-powered fleet (including rotorcraft) is projected to grow...at an average rate of 2.4 percent per year over the forecast period, with the turbine jet portion increasing at 2.8 percent a year.

Implications for Airport Growth. A *Trend Analysis and Extrapolation* method is applicable to this General Aviation airport. The FAA Aerospace Forecast estimates a relatively minimal growth of 0.4% annually for the general aviation fleet. However, the forecast estimates a much higher growth in the turbine-powered fleet of 2.4% annually, with 2.8% annually in the turbine jet portion. The turbine jet portion of the fleet-mix currently utilizing the Ennis Big Sky Airport has larger implications on the facility requirements necessary for continued safe operations. *Substantial* or *Regular Use* by turbine jet aircraft may also impact identifying the critical aircraft or design aircraft for the airport.

Substantial or *Regular Use*, as defined by the FAA, “is 500 annual operations, excluding touch-and-go operations. An operation is either a takeoff or landing.”

F. FlightAware Data

FlightAware is a privately held company that provides aviation flight tracking in over 50 countries. FlightAware maintains the data in perpetuity; however, only the previous fourteen days are available for free viewing.

Data of all Instrument Flight Rules (IFR) departures and arrivals to Ennis Big Sky Airport (KEKS) were purchased for the period of 06/21/2011 to 06/20/2016. The data include the aircraft type filed, origin and destination information, departure and arrival time, and owner information. The aircraft types were then researched and identified / categorized by wingspan, length, maximum take-off weight (MTOW), landing gear configuration, aircraft approach category (AAC), airplane design group (ADG), and taxiway design group (TDG). A summary of the totals is shown on the next page; the entire data set is in **APPENDIX D**.

Aircraft Approach Category Operations 06/20/2011 – 06/20/2016	
A	439
B	315
C	1,293
Total:	2,047

Airplane Design Group Operations – 06/20/2011 – 06/20/2016	
I	754
II	1,283
III	10
Total:	2,047

Ennis Big Sky Airport (KEKS) received 2,047 filed IFR flight plans during the five-year duration (the unknown or unidentifiable aircraft have been eliminated from these calculations, as their unknown aircraft characteristics do not help identify specific airport needs). Over 63% (1,293 operations) of all data included aircraft approach category “C” or greater. Additionally, the majority of the aircraft were:

- Airplane Design Group II – 1,283 operations (62.7%);
- Taxiway Design Groups 1 & 2 – 1,973 operations (96.4%); and
- Aircraft with MTOW greater than 12,500 lbs, but less than 60,000 lbs – 1,303 operations (63.7%).

It is noted that the growth period generally corresponds with the opening of a full-time Fixed-Base Operator (FBO), which began 09/2012; increasing the availability of aviation jet fuel (Jet-A1 and Jet-A1+) and 100 low-lead (100LL); and, the marketing of the Ennis Big Sky Airport and the FBO. Additionally, the recent FAA development of instrument approach procedures (May 2014) increases the safety / usability during inclement weather conditions and by high performance aircraft, which typically operate under IFR.

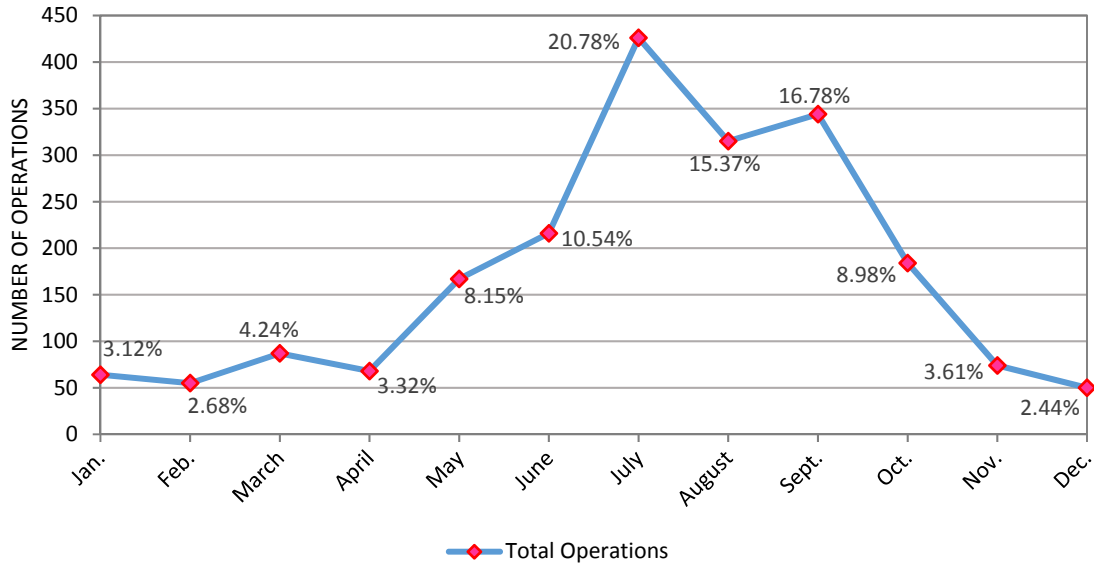
Year	Aircraft Approach Category C IFR Operations
06/21/2012 – 06/20/2013	172
06/21/2013 – 06/20/2014	241
06/21/2014 – 06/18/2015	290
06/19//2015 – 06/20/2016	373

In accordance with AC 150/5070-6B, “*Master plan forecasts must include appropriately defined peak period activity levels for facilities planning...*”. Forecasts of annual aircraft operations may not adequately describe the individual needs of the airport facilities; annual metrics are only useful when activity tends to be evenly distributed over the hours, days, and months of the year.

Identifying peak periods can be helpful in identifying specific facility requirements on an hourly, daily, weekly, monthly, and / or annual analysis period. For Ennis Big Sky Airport, identifying the monthly / annual peak period will be sufficient, as there have been no noted hourly, daily, or weekly periods that cause noteworthy impacts to facility needs.

As can be seen below in Table 4.5, the FlightAware data indicates a significant portion of the IFR traffic operates between the 6 months of May to October, with nearly 80.6% of all IFR operations occurring in that period. The three-month period of July to September has historically included approximately 53% of the total operations. The month of July has statistically been the busiest month, with nearly 21% of the IFR operations.

Table 4.5 IFR Operations by Month (06/2011 - 06/2016)



Implications for Airport Growth. The short-term trend analysis of the “C” category aircraft depicts a very high average annual growth rate of 29.44% over the past three years. The aviation-related factors of having a full-time FBO and increasing the availability of jet fuel will likely continue to drive significant growth – at least in the short-term.

Those aviation-related factors combined with the economic, demographic, and geographic characteristics of the Madison Valley, including the community of Ennis and the surrounding areas of the Big Sky resort area (Boyne USA, Moonlight Basin Ranch, Spanish Peaks Resort, and the Yellowstone Club), are significant contributing factors to extensive growth at the Airport.

This trend indicates significant growth is likely to continue in the short-term. Giving greater weight to the latest trends and conditions is referred to as *Smoothing*. Per AC 150/5070-6B, Smoothing “*can be effective in generating short-term forecasts.*”

The medium and long-term growth in aircraft operations is expected to trend similar to the other economic measures that have been discussed in other sections (*Regression Analysis*). When looking specifically at the “C” category aircraft, one of the most pertinent statistical economic measures is the growth of the seasonal, recreational, and part-time housing units, which has increased at an average annual growth rate of 11.34% within the Madison Valley over the 2000-2010 period. The *Madison County Growth Policy 2012* predicts this trend is likely to continue to play a significant role in Madison County’s growth and development pattern.

The identified peak period will influence airport facility needs based on the operations forecasted (assuring facilities will meet the needs of peak period activity levels); however, they do not have any specific impact on the forecasts which are shown on an annual basis.

G. Survey of Known Users and Agencies / Inventory and Review Aircraft Data

An online survey was developed to collect data from airport users, to the extent possible. Post cards were sent to all Madison County registered pilots and registered aircraft owner inviting them to take part in the survey. The survey forms were also distributed to owners and business entities from the FlightAware data set (for those where owner information was provided or able to be identified). 147 post cards were sent out, with 25 respondents. Multiple responses were provided for multiple aircraft, bringing the total to 42 individual responses. A few responses were blank, with no information provided, and omitted from the totals.

The survey solicited information about users’ or potential users’ aircraft (wing span, weight, stall speed), as well as frequency of use (current and anticipated), if those operations are / will be mostly performed during a “peak period” of three-months or less in duration, hangar and other improvement needs, and general comments. A summary of those responses is included in **APPENDIX E**.

WING SPAN SUMMARY	
No Response	0
Number W < 49'	25 (Design Group I)
Number 49' ≤ W < 79'	14 (Design Group II)
Number 79' ≥ W	3 (Design Group III)
42	

AIRCRAFT WEIGHT SUMMARY	
No Response	2
No. w < 12,500 lbs.	28
No. 12,500 < w < 30,000	4
No. 30,000 < w < 60,000	3
No. 60,000 < w < 100,000	5
42	

STALL SPEED SUMMARY	
No Response	3
Number S < 49 Knots	16 (Approach Cat. A)
Number 49' ≤ S < 79'	13 (Approach Cat. B)
Number 79' > S	10 (Approach Cat. C)
42	

A summary of the estimated current annual operations from the respondents totaled 595 landings (1,190 operations). The future anticipated number of annual landings by respondents totaled 713 (1,426 operations). This suggests an increase in the number of anticipated landings of 19.8% among those responding to the survey. The future anticipated number of landings requested in the survey did not specify a short, medium, or long-range timeframe.

Ten of the 25 respondents indicated their operations typically occur during a “peak period” of 3-months or less in duration. The month of July was the most commonly specified or included within the identified peak period, with 8 of the 10 (8 of 25 total = 32%) respondents having included July within their answer.

While there were numerous general improvement requests, the majority of the requested improvements will be based upon the *Critical Design Aircraft* and facility resulting from this forecasting effort.

Additional hangar space availability needs for based or local aircraft does not seem immediately necessary based upon the responses. The need for hangar space was mostly requested for itinerant and seasonal traffic.

Taxiway lighting, which was requested by 9 of the 25 individual responses (36%) is required by FAA as a standard item, and will be installed at some point when local and FAA funding is available to replace the existing retroreflective taxiway markers.

Wildlife fencing is typically justified / installed based upon specific needs of the airport. Wildlife fencing is required for Part 139 certificated airports, which is not applicable to the Ennis Big Sky Airport. The Airport commonly has pronghorn antelope and elk on or near the airport. Installing a wildlife fence is planned in the future based on availability of local and FAA funding.

Implications for Airport Growth. The survey responses were relatively minimal in comparison to the number of total operations recorded on the FAA Form 5010-1 *Airport Master Record* and the FlightAware data. Therefore, it is difficult to ascertain specific forecasting data from this subsection alone.

The survey responses showed an average of 23% of the respondents being owners of Aircraft Approach Category C and 33% being of Design Group II.

The forecasted increase in total operations based on respondent information was approximately 19.8%. If this estimated increase in operations occurs in the short-term (within the next five years), it would result in an average annual increase in total operations of 3.7%.

It is difficult to determine the impacts from any peak period (July was the most commonly utilized month per the responses, with June and August being the second most commonly utilized months), relating to specific total number of operations with the limited survey answers provided. Other analyzed factors, such as the FlightAware data, will result in a more accurate identification of the peak period.

5. Aviation Forecasts – Analysis

In accordance with AC 150-5070-6B, forecasts shall include “*both the type and level of aviation activity expected at the airport over the planning horizon.*” The type and level are both necessary in order to determine the demands likely to be placed on the airport facilities. This effort must also include identifying the critical design aircraft. The critical design aircraft and fleet mix of aircraft define the runway and taxiway requirements. These activity measures for the Ennis Big Sky Airport can be broken down into the following major categories:

- local aircraft operations;
- itinerant aircraft operations;
- air taxi operations;
- military operations;
- aircraft operations (total);
- fleet-mix with determination of critical design aircraft;
 - Aircraft Approach Category (AAC)
 - Airplane Design Group (ADG)
 - Taxiway Design Group (TDG)
 - Maximum Takeoff Weight (MTOW)
- based aircraft (and related hangar needs).

Many factors affect aviation demand. This forecast should serve only as a guide for near-term planning. Accurately predicting 20 years into the future is unrealistic and, therefore, these estimates should be updated at intervals appropriate for any significant / new improvements. There can also be specific outside and internal contributing factors that can greatly affect associated traffic, such as losing an FBO or improving

direct public vehicular access to the Big Sky resort area. Should a significant contributing factor change, a revised forecasting effort may be necessary / required.

A. Local Aircraft Operations

Identifying the local versus itinerant aircraft operations is not significantly important when considering runway design standards, airport geometries, and associated requirements. However, it can be useful data when identifying such things as the amount of apron space necessary versus hangar space / taxilane needs. Local / based aircraft typically do not affect ramp / apron space as much as itinerant aircraft, which are commonly parked and tied down on the aprons. The current availability of Airplane Design Group-I hangar space indicates there is no immediate need for expansion of those taxilane facilities / hangar space, although hangar construction has seen an increase the past few years, with approximately one hangar having been constructed in each of the past three or so years.

The operational baseline for local operations, included on the 5010 *Airport Master Record*, is 6,500 annual operations. This number has historically grown at an average annual rate of 0.60% (1997 – 2015). This number indicates that a more conservative growth rate for local traffic is likely.

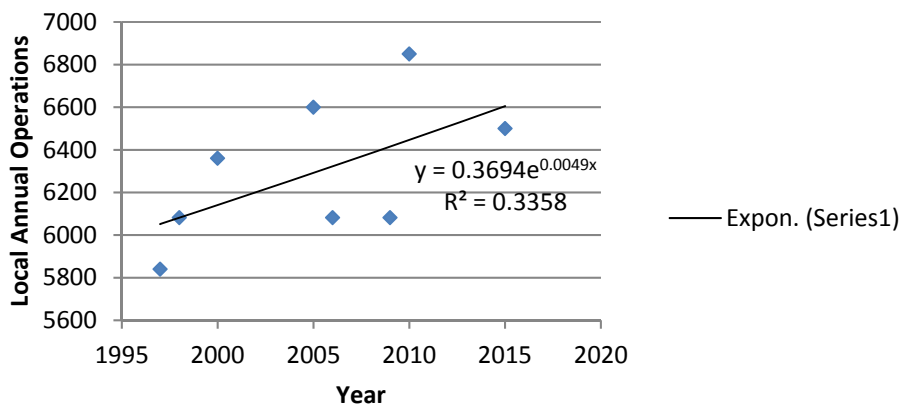
We find that the most pertinent determining growth indicators are the local population trends (US Census Bureau historical and Madison County Growth Policy forecasted), historical local operations, as well as the FAA Terminal Area Forecast (TAF), and FAA Aerospace Forecast.

These indicators all show / predict relatively minimal growth:

- 0.95% average annual population growth rates (US Census Bureau – 1990 to 2010);
- 1.5% (high – aggressive) Madison County Growth Policy average annual population growth estimate;
- 1.0% (low – conservative) Madison County Growth Policy average annual population growth estimate;
- 0.4% average annual growth in general aviation – FAA Aerospace Forecast;
- 2.4% average annual growth in turbine-powered fleet – FAA Aerospace Forecast;
- 1.02% average annual growth rate in total operations of Northwest Mountain Region – FAA TAF; and
- 0.60% average annual growth rate (1997-2015) on 5010 *Airport Master Record* for local operations.

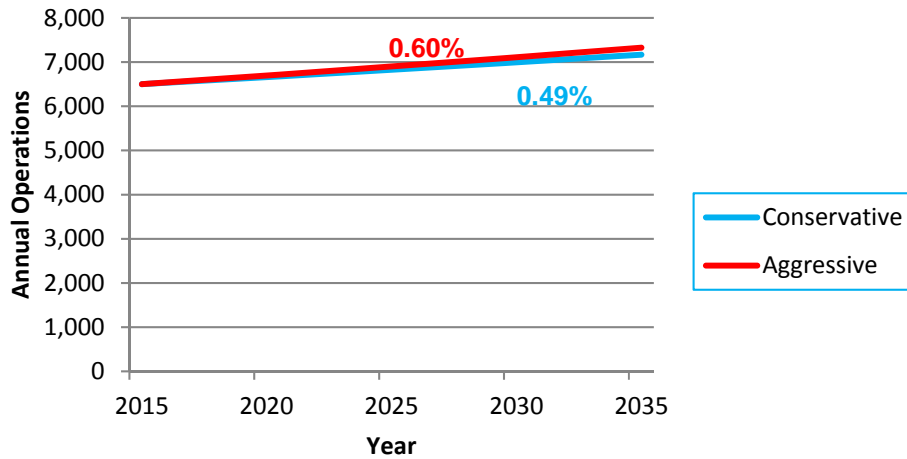
Utilizing a *Trend Analysis* of the historical 5010 *Airport Master Record* depicts a highly variable, slow exponential growth of 0.49%.

Local Operations - 5010 Historical



All of these data indicators display / predict minimal growth in the local general aviation operations. Utilizing either the 0.60% average annual growth rate as an aggressive estimate, and a 0.49% exponential annual growth rate as a conservative estimate will have little immediate effect on the facilities required, as both show very modest local operational growth. The growth forecasts are also generally consistent with the other indicators listed above, showing limited growth in population and general aviation.

Local Operations - Forecast



Year	2015	2020	2025	2030	2035
Conservative Operations	6,500	6,661	6,826	6,994	7,168
Aggressive Operations	6,500	6,697	6,901	7,110	7,326

B. Itinerant Aircraft Operations

Again, the itinerant aircraft operations total, in itself, is not significantly important when evaluating runway design standards, airport geometries, and associated requirements. However, it can help better estimate the amount of associated apron space necessary, especially during peak periods.

The operational baseline for itinerant operations, included on the 5010 *Airport Master Record*, is 5,000 annual operations. This number has historically shown minimal growth, with a 0.37% average annual growth rate (1997 – 2015). We find that the most pertinent determining growth indicators when considering itinerant operations are the historical itinerant operations, FAA TAF, FAA Aerospace Forecast, and US Census Bureau (particularly seasonal population trends).

The following growth indicators were particularly considered as part of the itinerant operations forecasting estimate:

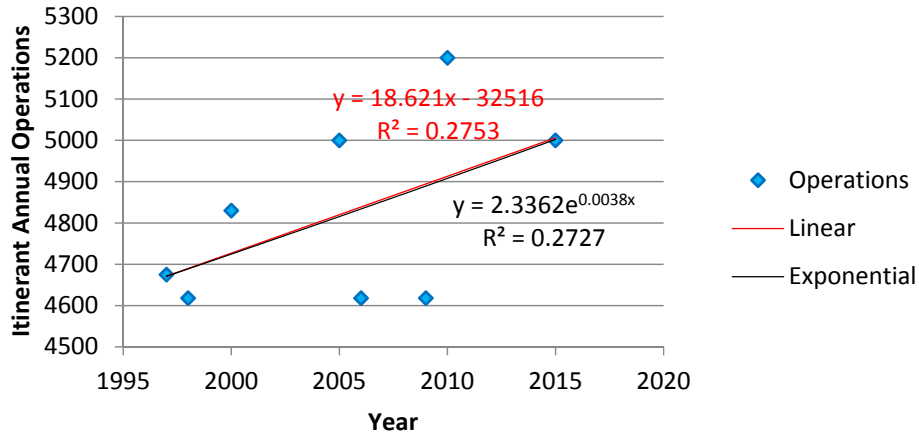
- 11.3% average annual growth rate of seasonal, recreational, or occasional use housing – US Census Bureau (2000 - 2010);
- 0.4% average annual growth in general aviation – FAA Aerospace Forecast;
- 2.4% average annual growth in turbine-powered fleet – FAA Aerospace Forecast;
- 1.02% average annual growth rate in total operations of Northwest Mountain Region – FAA TAF; and
- 0.37% average annual growth rate (1997-2015) on 5010 *Airport Master Record* for itinerant operations.

Utilizing a *Trend Analysis* of the historical 5010 *Airport Master Record* depicts a highly variable, slow linear growth of 18.6 operations per year. A very similar exponential growth line depicts a highly variable exponential growth of 0.38% per year.

While the Northwest Mountain Region and FAA Aerospace Forecast and TAF serve well on a broader scale, they do not necessarily adequately represent the Ennis Big Sky Airport and the Madison Valley area, and specifically the itinerant traffic trends. The US Census Bureau information presents an important demographic characteristic (seasonal, recreational, or occasional use housing), which helps gauge the impacts of the recreational growth and tourism within the area; however, this tourism growth is not directly apparent in any correlation to the historical 5010 *Airport Master Record* data.

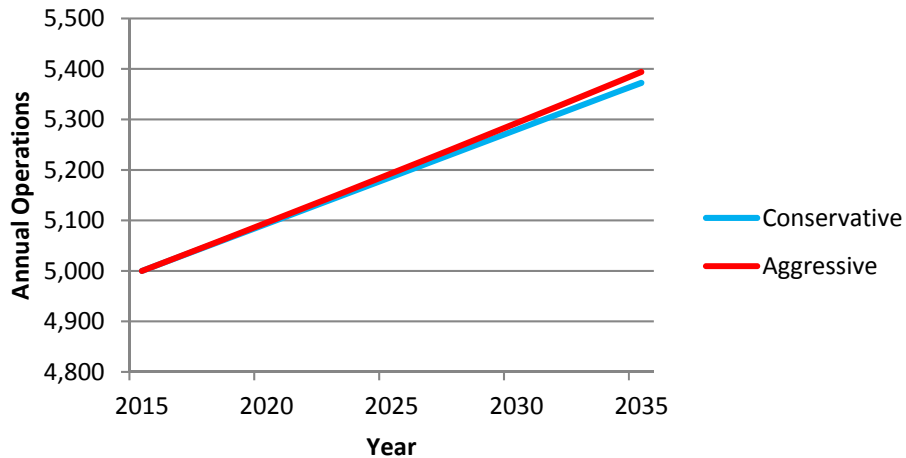
When considering these factors, collectively they indicate continued slow growth is likely for the total itinerant operations. A simple *Extrapolation* can be projected onto the above *Trend Analysis*, with either a

Itinerant Operations - 5010 Historical



linear or an exponential trend, resulting in very similar results, depicting minimal growth.

Itinerant Operations



Year	2015	2020	2025	2030	2035
Conservative	5,000	5,093	5,186	5,279	5,372
Aggressive	5,000	5,096	5,193	5,293	5,394

C. Air Taxi Operations

0.38%

18.6 Ops/Year

Air taxi or air charter operations are generally “unscheduled” small commercial aircraft that make flights on demand. Air taxis are required to be less than 60 passenger seats and are governed by the FAA Part 135

Federal Aviation Regulations (FAR). These aircraft are almost inclusively in the turbine-powered fleet, including turboprop (turbo-propeller) and turbine jet. The high performance aircraft may have a more direct impact on the facility requirements at the Ennis Big Sky Airport, as they may constitute the *critical design aircraft*.

The operational baseline for air taxi operations, included on the 5010 *Airport Master Record*, is 600 annual operations. This estimate of 600 operations also correlates fairly well with the FlightAware data, which had a total of 528 operations from the period of 06/2015 to 06/2016 (while also showing significant growth over the past three years). Air taxis are commonly operated under Instrument Flight Rules (IFR) for all flights, and are therefore usually tracked in the data obtained through FlightAware.

We find that the most pertinent determining growth indicators when considering air taxi operations are the FAA Aerospace Forecast, US Census Bureau (particularly seasonal population trends), historical air taxi operations, and FlightAware Data.

The following growth indicators were particularly considered as part of the air taxi operations forecasting estimate:

- 11.3% average annual growth rate of seasonal, recreational, or occasional use housing – US Census Bureau (2000 - 2010);
- 29.44% average annual growth rate of all Aircraft Approach Category C IFR operations (06/2012 – 06/2016) – FlightAware;
- 12.25% average annual growth rate (2008-2015) on 5010 *Airport Master Record* for air taxi operations;
- 6.04% average annual growth rate of all Aircraft Approach Category B IFR operations (06/2012 – 06/2015) – FlightAware; and
- 2.4% average annual growth in turbine-powered fleet – FAA Aerospace Forecast.

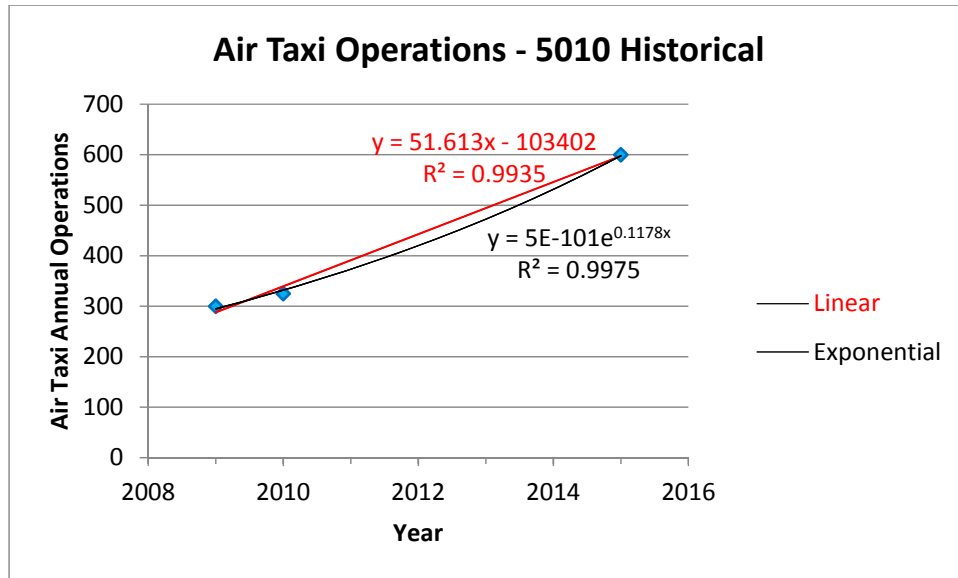
Again, while the FAA Aerospace Forecast serves well on a broader scale, it does not necessarily represent the Ennis Big Sky Airport and the Madison Valley specific area and trends. The FAA Aerospace Forecast does predict much stronger nationwide growth in the turbine-powered fleet versus the general aviation fleet. This indicates aviation growth is moving towards the higher performance aircraft.

The most direct factors associated with the Madison Valley are the recent growths shown on the IFR cataloged data (FlightAware) and the demographic characteristic of the number of seasonal, recreational, and occasions use housing. The FlightAware data depicts a direct substantial growth in the air taxi operations at the airport. This explosive growth is likely the result of a number of factors, including:

- constructing the runway extension (2008);
- a rebounding economy;
- the opening of a full-time FBO (September 2012);
- FAA development of instrument approach procedures (May 2014), increasing safety and ability to operate in less than ideal weather conditions, which is especially important for the faster high performance fleet; and
- recent effort of expanding tourism in the Madison Valley and the Town of Ennis.

Utilizing a *Trend Analysis* of the historical 5010 *Airport Master Record* depicts a substantial, steady growth. The 5010 data was limited to the historical data following the 2008 runway extension project. The data prior to that extension is simply not representative, as runway length is a primary consideration in the operational safety of all aircraft, and in particular, high performance aircraft that commonly represent air taxi operations.

The *Trend Analysis* results in a linear growth of 51.6 operations per year, or a very similarly well-correlated exponential growth of 11.78% per year. Both growth trends are accurate due to the limited data points associated with the short-term explosive growth at the airport.

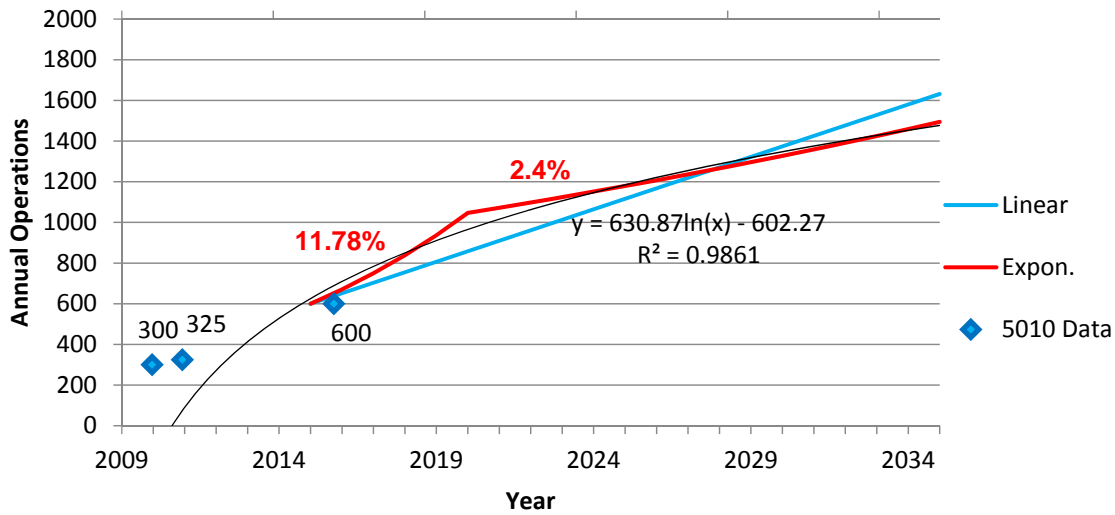


This historical air taxi growth closely matches the 10-year growth indicator of seasonal, recreational, or occasional use housing growth rate of 11.3% average annually. The *Madison County Growth Policy 2012* predicts that the seasonal, recreational, or occasional use housing growth trend is likely to continue to play a strong role in the local economy.

The very strong growth in the air taxi traffic is anticipated to continue, at least in the short-term. This rapid growth will likely begin to moderate slightly through the medium and long-term growth scenarios, as the recent runway extension (2008), FBO-provided services (2012), and instrument approach procedure development (2014) catch up with the air taxi demand to the area.

Plotting both a linear and an exponential growth rate correlates very well with historical data and the growth indicators discussed above. A continued growth rate of 11.78% in the short-term (5-years), slowing to the FAA Aerospace Forecast of 2.4% for the turbine-powered fleet in the medium and long-term, is very logical for this airport. A logarithmic growth curve matches well with the projected growth, while continuing to “flatten” in the long-term. The linear growth rate is likely not sustainable in the long-term, although it is very consistent with historical data, and thus represents an aggressive growth prediction should the increase in operations continue linearly.

Air Taxi Operations



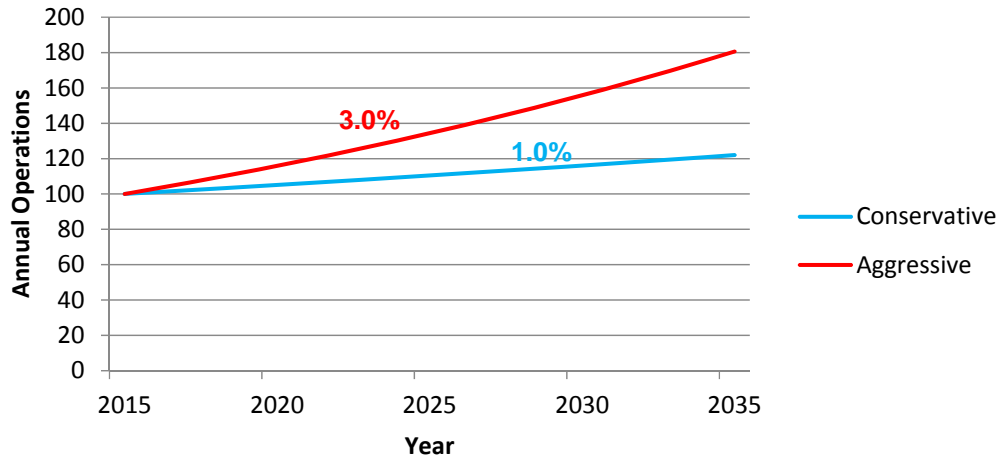
Year	2015	2020	2025	2030	2035
Linear	600	858	1,116	1,374	1,632
Exponential	600	1,047	1,179	1,327	1,494
Logarithmic Trend Line	528	910	1,147	1,318	1,453

The air taxi category could also be directly impacted by specific external and internal contributing factors, such as losing an FBO, or improving direct public vehicular access to the Big Sky Resort area. Should a significant contributing factor change, a revised forecasting effort will likely become necessary.

D. Military Operations

Historically military operations have been relatively minimal at the Ennis Big Sky Airport. They have recently had some slow, steady growth in military traffic, but the small number of total operations (estimated at 100 annual operations on the current 5010 *Airport Master Record*) will have little impact on the facility requirements at the airport. Additionally, the majority of the military operations have been rotary-wing aircraft (helicopters), which have no impact on runway design standards / requirements and little impact on any facility requirements. Although forecasting military operations is difficult, a minimal growth of **1.0% (conservative) to 3.0% (aggressive)** is anticipated. Again, under either the conservative or aggressive growth estimates, the military operations will have negligible impact on any facility requirements / needs.

Military Operations

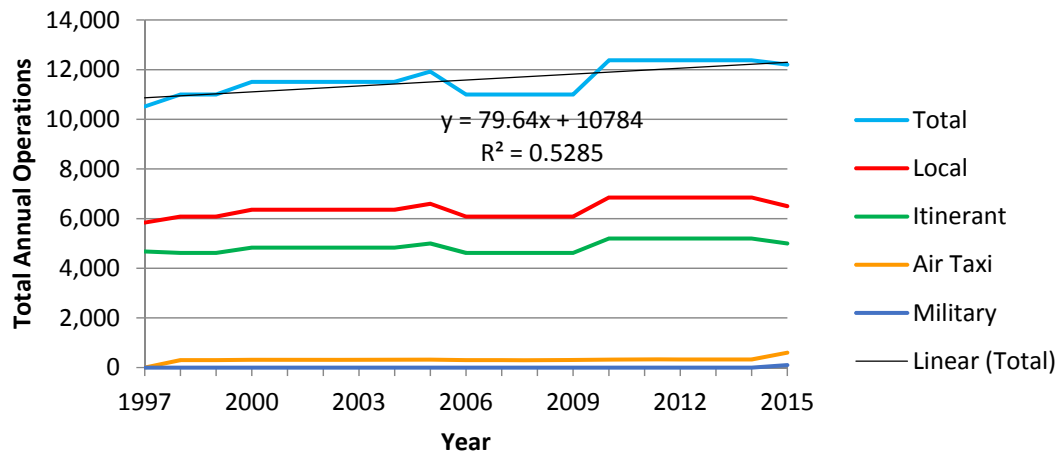


Year	2015	2020	2025	2030	2035
Conservative	100	105	110	116	122
Aggressive	100	116	134	156	181

E. Aircraft Operations Total

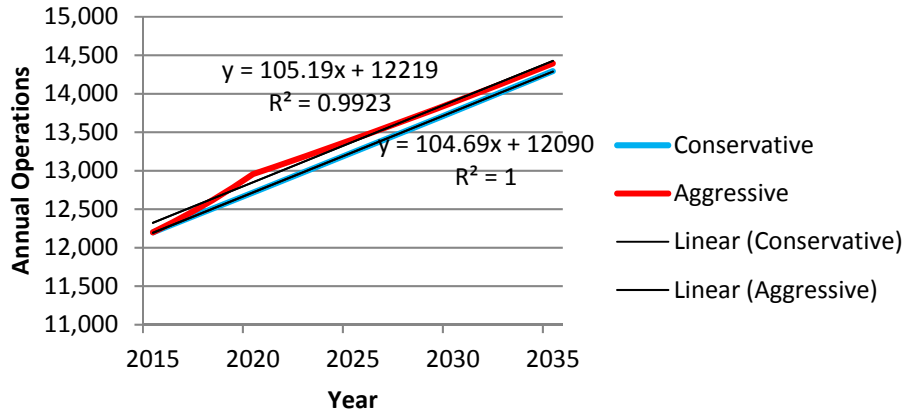
The operational baseline for total aircraft operations, as included on the 5010 *Airport Master Record*, is 12,200 annual operations. This number has historically fluctuated up and down with an average annual growth of 0.83% (1997 – 2015).

Total Operations - 5010 Historical



The number of total operations is simply a total of the forecasts generated above: local, itinerant, air taxi, and military. A summation of the forecasts results in linear conservative and aggressive trends with a high degree of correlation. The projected growth is slightly higher than the 1997 – 2015 historic growth; however, it is much more indicative of the growth that has been seen since the 2008 runway extension, and particularly over the past three years, since the FBO has been located at the facility and expanded the available services.

Total Operations - Individually Estimated



Year	2015	2020	2025	2030	2035
Conservative	12,200	12,717	13,238	13,764	14,294
Aggressive	12,200	12,956	13,407	13,886	14,395

F. Fleet-Mix Determination of Critical Design Aircraft

Identifying the *critical aircraft* or *design aircraft* is the starting point in determining the required facilities and design parameters at the Ennis Big Sky Airport. In accordance with AC 150/5300-13A (Change 1), “the design aircraft for the purposes of airport geometric design is a composite aircraft representing a collection of aircraft classified by three parameters:

- Aircraft Approach Category (AAC)
- Airplane Design Group (ADG)
- Taxiway Design Group (TDG).”

This *design aircraft* can be further defined by the Maximum Takeoff Weight (MTOW), which can affect the required runway length in accordance with AC 150/5325-4B.

Per AC 150/5000-17 *Critical Aircraft and Regular Use Determination*, the design aircraft “is the most demanding aircraft type, or grouping of aircraft with similar characteristics, that make regular use of the airport. Regular use is 500 annual operations, including both itinerant and local operations, but excluding touch-and-go operations.” The current design aircraft is that of an Aircraft Approach Category B, Airplane Design Group II, and Taxiway Design Group 2, with a Maximum Takeoff Weight of less than 12,500-lbs. This section focuses on forecasting the most demanding aircraft approaching, or anticipated to approach, the regular use threshold of 500 annual operations. Particularly, those exceeding the existing design parameters of B-II-2.

When considering the forecasted information above, the air taxi sections, and more specifically the turbine-powered aircraft fleet, are the most demanding aircraft utilizing this airport. The most pertinent growth data, when considering these turbine-powered aircraft specifically, is the FlightAware data.

The FlightAware data has shown significant growth in the recent past, and that rapid growth trend is anticipated to continue at least in the short-term. This growth may necessitate significant airport facility and geometric design changes.

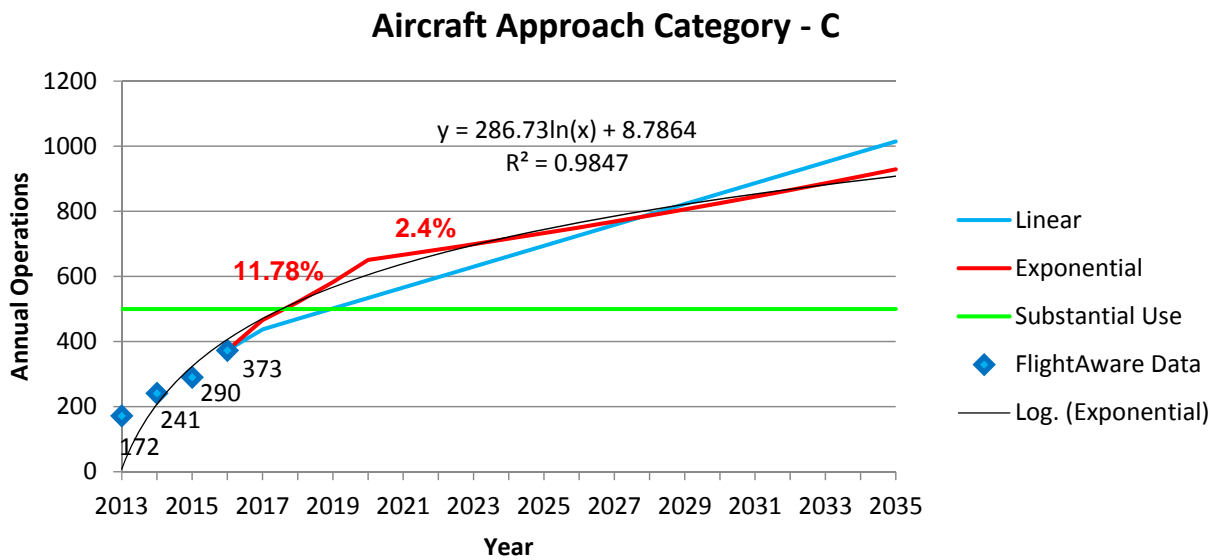
1) Aircraft Approach Category (AAC)

The AAC “C” aircraft have an operational baseline of 373 operations from the period of 06/2015 to 06/2016, as established by the FlightAware data. The number of operations by the AAC-C fleet has shown substantial growth over the past three years, increasing by an average of 29.44% annually over that period. The AAC-C aircraft operating at the Ennis Big Sky Airport are most commonly air taxis, so the same growth factors are also pertinent in this AAC forecast.

The following growth factors were particularly considered as part of the AAC *design aircraft* forecasting:

- 11.3% average annual growth rate of seasonal, recreational, or occasional use housing – US Census Bureau (2000 – 2010);
- 29.44% average annual growth rate of all Aircraft Approach Category C IFR operations (06/2013 – 06/2016) – FlightAware;
- 12.25% average annual growth rate (2008 – 2015) on 5010 *Airport Master Record* for air taxi operations per year (11.78% exponential annual growth); and
- 2.4% average annual growth in turbine-powered fleet – FAA Aerospace Forecast.

The 373 operations, which has been established as the baseline from FlightAware data, constitutes 62.2% of the air taxi baseline operations of 600. A simple ratio can be applied to the Air Taxi forecasted operations to the number of Aircraft Approach Category C operations.



Year	2015	2020	2025	2030	2035
Linear	290	533	694	854	1,015
Exponential	290	651	733	825	929
Logarithmic Trend Line	272	605	744	838	908

Again, plotting both a linear and an exponential growth rate correlates very well with historical data and the growth indicators discussed above. A continued growth rate of 11.78% in the short-term (5-years), slowing to the FAA Aerospace Forecast of 2.4% for the turbine powered fleet in the medium and long-terms. The logarithmic growth curve correlates well with the projected growth, while continuing to “flatten” in the long-term at around 900 operations. The linear growth rate serves well as an aggressive forecasted projection for long-term needs.

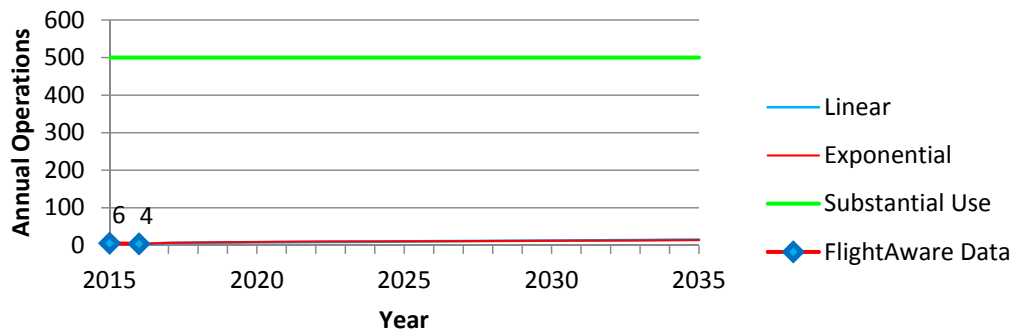
The logarithmic growth estimate results in a total annual AAC-C operation estimate that exceeds the 500-operation substantial use threshold in the year 2017.

As stated earlier, accurately predicting 20 years into the future is unrealistic, largely due to potential internal and external contributing factors. A few new individuals “basing” AAC-C aircraft at the Ennis Big Sky Airport could substantially increase the number of operations at the airport, as they could constitute tens of operations per year with each local aircraft. The previously discussed potential impacts of FBOs and the Big Sky Resort access would also have significant impacts on this fleet of aircraft. Should a significant contributing factor change, a revised forecasting effort would be recommended.

2) Airplane Design Group (ADG)

The ADG-II aircraft were the predominant demanding ADG category on the FlightAware data. There were only ten (10) operations with ADG-III were recorded from the period of 06/2014 to 06/2016. While the ADG-III aircraft also have the potential to expand rapidly in growth, the existing average operational baseline of four (4) makes it very difficult to estimate growth, as a 100% or more growth rate could occur from just a few users / aircraft. A ratio of comparison to the “C” category aircraft would be a much more accurate growth model. From the period of 06/2014 to 06/2015, there were 290 AAC-C operations, with 2.07% of those being of ADG-III, and from 06/2015 to 06/2016, there were 373 AAC-C operations, with only 1.07% being ADG-III. Maintaining a ratio of the 2-year average (1.57%) along the AAC conservative and aggressive models, yields a conservative estimate of 15 annual operations, and an aggressive estimate of 16 annual operations, both in the year 2035.

Airplane Design Group - III



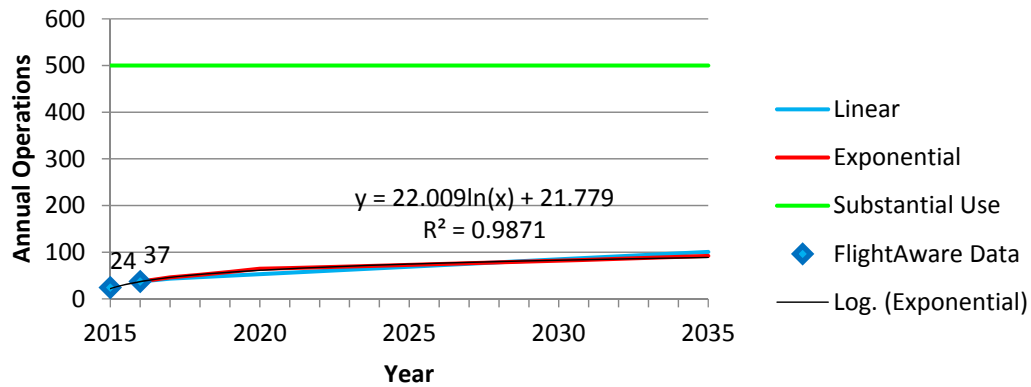
Year	2015	2020	2025	2030	2035
Linear	6	8	10	13	16
Exponential	6	10	11	12	15

Neither the conservative nor aggressive growth forecasts predict a change to ADG-III, indicating that the critical aircraft will remain ADG-II.

3) Taxiway Design Group (TDG)

The TDG-3 aircraft have an operational baseline of 37 annual operations from the period of 06/2015 to 06/2016, as established by FlightAware data. All of these TDG-3 aircraft were AAC-C. Therefore, forecasting growth can be attributed by a simple ratio to the projected AAC-C operations. 9.9% of all AAC-C operations were TDG-3 aircraft. This ratio applied to the AAC-C forecasts results in estimated operations less than the substantial use threshold of 500 operations (under either the linear – aggressive or exponential – conservative estimates). This indicates that the TDG will remain “2”. Once again, should a significant contributing factor change, a revised forecasting effort would be recommended.

Taxiway Design Group - 3



Year	2015	2020	2025	2030	2035
Linear	24	53	69	85	101
Exponential	24	65	73	82	92
Logarithmic Trend Line	22	61	75	83	89

4) Maximum Takeoff Weight (MTOW)

In accordance with AC 150/5325-4B, “General aviation airports have witnessed an increase use of their primary runway by scheduled airline service and privately owned business jets. Over the years, business jets have proved themselves to be a tremendous asset to corporations by satisfying their executive needs for flexibility in scheduling, speed, and privacy. In response to these types of needs, GA airports that receive regular usage by large airplanes over 12,500 pounds (5,670 kg) MTOW, in addition to business jets, should provide a runway length comparable to non-GA airports.” For that reason, the MTOW of the aircraft utilizing the Ennis Big Sky Airport also needs to be forecasted.

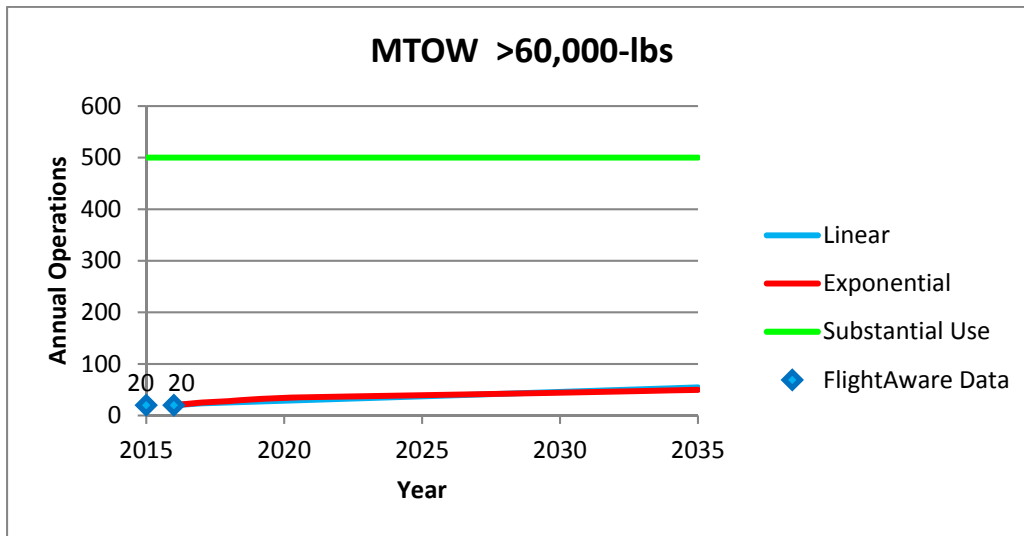
While the FlightAware data only captures the IFR traffic, which constitutes just a fraction of total airport operations, it does capture the vast majority of the most demanding aircraft, which are typically operated under IFR flight plans. Therefore, the FlightAware data and corresponding latest historical trends are the determining factors utilized to forecast aircraft MTOW by grouping of:

- less than 12,500-lbs,
- greater than 12,500-lbs, but less than 60,000-lbs, and
- greater than 60,000-lbs.

Although significant growth has occurred over the past three years for aircraft of greater than 60,000-lbs MTOW, the operations still represent a small number (20 annual operations for each of the periods from 06/2014 to 06/2015 and 06/2015 to 06/2016). These operations represent 115.44% average annual growth over the past three years, a growth rate that is unreasonable to forecast into the medium and long-terms.

A more accurate assessment for forecasting would be to compare the >60,000-lbs MTOW growth to AAC by ratio. The 20 operations each year were all by AAC-C aircraft. Applying a ratio averaging those years’ AAC-C projections shows that 5.4% of the operations were by >60,000-lbs aircraft. This ratio applied to the AAC-C forecasts results in estimated operations of 56 annually for the exponentially forecasted (conservative) growth model and 54 operations for the linear forecasted (aggressive) growth model by the year 2035. The projections show that the >60,000-lbs MTOW fleet of aircraft will not reach the substantial use threshold under either the conservative or aggressive growth predictions. Although the >60,000-lbs MTOW aircraft do not constitute regular usage necessitating geometry changes, the aircraft are utilized

when establishing a “fleet-mix” for airport pavement design in accordance with AC 150/5320-6E (this will also apply to AC 150/5320-6F, which is currently in *draft* form).



Year	2015	2020	2025	2030	2035
Linear	20	29	37	46	54
Exponential	20	35	39	44	50

The “>12,500-lbs but < 60,000-lbs MTOW” fleet of aircraft recorded 313 operations from the period of 06/2014 to 06/2015 and 399 operations from 06/2015 to 06/2016 (including those with greater than 60,000-lbs MTOW). This grouping of aircraft has also shown substantial growth over the past three years of 33.95% average annual growth. Forecasting this grouping of aircraft is, again, very similar to the air taxi and AAC-C aircraft predictions, as the vast majority of these aircraft is of the turbine-powered fleet.

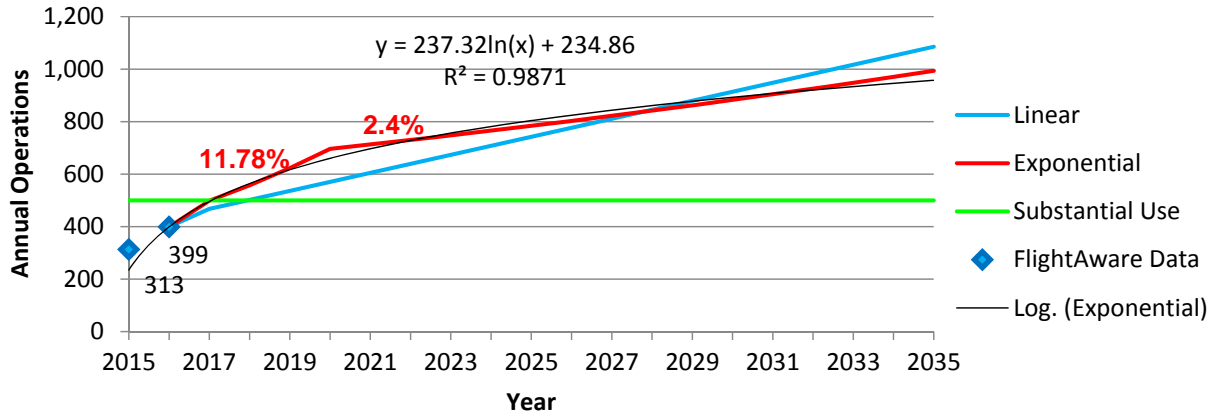
The following growth factors were particularly considered as part of the AAC *design aircraft* forecasting:

- 11.3% average annual growth rate of seasonal, recreational, or occasional use housing – US Census Bureau (2000 - 2010);
- 33.95% average annual growth rate of all >12,500-lbs, but <60,000-lbs MTOW IFR operations (06/2013 – 06/2016) – FlightAware; and
- 2.4% average annual growth in turbine-powered fleet – FAA Aerospace Forecast.

The 399 operations, which has been established as the baseline from FlightAware data, constitutes 66.5% of the air taxi baseline operations of 600. A simple ratio can be applied to the Air Taxi forecasted operations to the number of aircraft in the >12,500-lbs fleet.

Plotting both a linear and an exponential growth rate provides similar long-term operations. The exponential growth (and corresponding logarithmic trend) places greater emphasis on the extraordinary growth that is occurring, while tapering in the medium and long-terms, as the FBO and runway extension catches up with the demand to the area. Both growth estimates exceed the substantial use threshold of 500 annual operations.

MTOW >12,500, <60,000-lbs



Year	2015	2020	2025	2030	2035
Linear	313	571	742	914	1,085
Exponential	313	696	784	883	994
Logarithmic Trend Line	235	660	804	893	957

5) Critical Design Aircraft - Summary

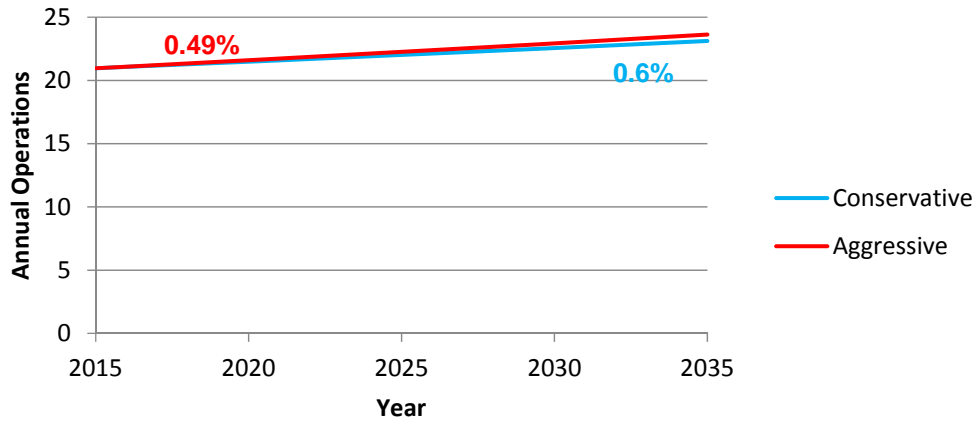
Given the explosive growth in operational traffic that the airport is seeing (primarily within the air taxi segment of the operations), and the growth indicators in the area, it is our opinion that the aggressive and exponential (logarithmic trends) should be utilized in the forecasts. These forecasts emphasize the immediate growth in the short-term followed by slowed growth as the recent expansion of airport facilities (FBO, fuel availability, runway extension, instrument approach procedure, etc.), catches up with the aviation demand to the Madison Valley area. These forecasts are included in **APPENDIX F** – Forecast Levels and Growth Rates and **APPENDIX G** – Comparing Airport Planning and TAF Forecasts.

In summary, the *Critical Design Aircraft* for the short-term (5-years), medium-term (10-years), and long-term (20-years) have been forecasted to be **C-II-2** with an aircraft **MTOW of >12,500-lbs and <60,000-lbs** exceeding the substantial use threshold **2018** when utilizing the aggressive growth trend. The aggressive growth forecasts correspond well with the logarithmic trends and the unprecedented growth the airport has seen recently. The forecasts shall be updated at intervals appropriate for any significant / new improvements. Periodic updates to the FlightAware analysis would likely include enough relevant data for a forecasting update of the most demanding aircraft and justification for improvements.

G. Based Aircraft

There are currently 21 aircraft based at the Ennis Big Sky Airport, which comprise the entirety of the local operations (estimated at 6,500 annual operations on the current 5010 *Airport Master Record*). This ratio equals approximately 310 operations, or 155 flights per based aircraft (310:2). Applying this same ratio to the local operational forecast results in projections of 23 and 24 based aircraft in the year 2035, for the conservative and aggressive models, respectively. The local operational forecast was largely developed on historical operational growth; see **Section 5.B** above. These factors are also applicable to the based aircraft projections, making the ratio projection a reasonable approach.

Based Aircraft



Year	2015	2020	2025	2030	2035
Conservative	21	21	22	23	23
Aggressive	21	22	22	23	24

The number of based aircraft can be highly volatile (similar to the historic local operation numbers), as the addition of only a few aircraft can constitute a comparatively substantial growth (as a percentage). Hangar and associated taxilane needs at the Ennis Big Sky Airport are typically driven by immediate needs, while leaving some room for expansion. With very moderate growth, it is typically reasonable to predict the need for additional taxilanes / hangar locations several years in advance.

Currently there are approximately three available hangar spaces (depending upon the size constructed) located along the ADG-I/TDG-1 hangar access taxilane, indicating there is no immediate need for additional ADG-I hangar spaces or taxilanes. There are currently no hangar locations available for ADG-II/TDG-2 aircraft, although there is short and long-term hangar space available to rent in one of the FBO’s main hangars on the north ramp.

6. Facility Requirements

This section aims to define the type of facilities necessary at the Ennis Big Sky Airport to accommodate the forecast activity, including, any additional facilities that may be required. In accordance with AC 150/5370-6B, “the findings from capacity analyses and facility requirement determinations help develop alternatives that can best meet future demands.” “The determination of airfield and airspace requirements includes an assessment of the airports’ ability to handle forecast activity levels, analysis of its compliance with design and safety standards, and determination of design standards for new facilities or the improvement of existing facilities.”

A. Airfield Capacity

The FAA defines capacity in AC 150/5060-5 *Airport Capacity and Delay* (1983) as “a measure of the maximum number of aircraft operations which can be accommodated on the airport or airport component in an hour.” The airfield capacity at the Ennis Big Sky airport far exceeds the anticipated level of demand for the short, medium, and long-term forecasted activity levels. Essentially, this means that there is no additional need, from a capacity standpoint, for additional runways in order to accommodate the annual service volume without undue delays. This includes airfield capacity during the peak timeframes.

B. Runway Requirements

1) Dimensional Criteria

In accordance with AC 150/5300-13A, runway dimensions are determined by the aircraft factors of approach speed, wingspan, and designated or planned visibility minimums, corresponding to Aircraft Approach Category (AAC), the Airplane Design Group (ADG), and the approach visibility minimums. These three criteria combine to define the Runway Design Code (RDC). Section 5.F.5 above, *Fleet Mix Determination for Critical Design Aircraft*, determined that for the expected 20-year planning period, the critical design aircraft is forecasted to be C-II (AAC-ADC). The third component of the RDC is the approach visibility minimum, expressed in feet:

- 1200 (lower than ¼-mile)
- 1600 (lower than ½-mile but not lower than ¼-mile)
- 2400 (lower than ¾-mile but not lower than ½-mile)
- 4000 (lower than 1-mile but not lower than ¾-mile)
- 5000 (not lower than 1-mile)
- “VIS” is for visual approach use only.

The current RDC for Runway 16-34 is B-II-5000. Either a 4000 (lower than 1-mile but not lower than ¾-mile), or 5000 (not lower than 1-mile) visibility minimum is appropriate for the Ennis Big Sky Airport. The *Critical Design Aircraft* change to C-II will result in a “future” need for re-designation to C-II-5000. An “ultimate” RDC designation of C-II-4000 will help ensure that future airspace requirements are adequately protected in accordance with AC 150/5300-13A.

Upgrading from AAC-B to AAC-C changes / increases the runway design standards, surface gradient standards, the runway separation standards, and may result in larger Runway Protection Zone (RPZ) dimensions.

2) Orientation

Ideally, an airport has its primary runway oriented in the direction of the prevailing wind. However, other factors such as environmental and manmade features, topography, and other navigational obstructions must also be taken into consideration.

Per FAA AC 150/5300-13A, Runway Design Code B-II has an allowable crosswind component of 13 knots, with C-II increasing to an allowable crosswind component of 16 knots. Based on wind data gathered for one year in 1986/1987, the runway at Ennis Big Sky Airport is oriented to take advantage of the prevailing wind conditions, with a 99.2% coverage at a 10.5-knot crosswind component (See **APPENDIX B** – Airport Layout Plan - 2010). Increasing the allowable crosswind component to 16 knots will also increase the percentage of coverage. The 99.2% already far exceeds the 95.0% minimum coverage recommended when evaluating the need for a crosswind runway; therefore, the existing runway orientation meets the requirements and no crosswind runway is recommended.

In accordance with the FAA’s ARP SOP No. 2.00, the age of the wind data should be based upon the “*last 10 consecutive years of data with most current data no older than 10 years*”; however, Ennis has not historically had a weather station located in the Madison Valley. An AWOS III system was installed and FAA certified on May 13, 2015. The current data obtained from the on-site weather station will be utilized to update the All Weather and IFR wind roses as part of the Airport Layout Plan update completed as part of this Master Planning effort.

The runway designation of 16-34 will be effective until approximately 2025, based on the current magnetic declination of 12°13’ East, with the expected change to be 0°7’ West per year.

3) Length

In accordance with AC 150/5325-4B, *Runway Length Requirement for Airport Design*, various factors govern the suitability of available runway length, “most notably airport elevation above mean sea level, temperature, wind velocity, airplane operating weights, takeoff and landing flap setting, runway surface condition (dry or wet), effective runway gradient, presence of obstruction in the vicinity of the airport, and if any, locally imposed noise abatement restriction or other prohibitions.”

The four steps to determining runway length are listed below. It is noted that AC 150/5325-4B utilizes a “five-step” process; however, Step #4 is simply selection of a recommended runway length prior to adjustments.

Step 1: Identify the design airplane (or family of airplanes) whose *regular use* (500 operations per year) necessitates the longest length. The forecasting revealed that Ennis Big Sky Airport needs to accommodate the family grouping of C-II aircraft with **MTOW >12,500 lbs and <60,000 lbs**.

This grouping can be further broken down to define the percentage of fleet to be served and the useful load factor, in accordance with AC 150/5325-4B:

Over the past three-years, of the aircraft >12,500 lbs, over half have been included within the 75% fleet (ranging from a low of 62.37% to a high of 72.83% of the aircraft being within the 75% fleet). If these percentages are maintained, the Ennis Big Sky Airport will not meet substantial use of the 100% fleet until beyond 2035. For that reason, the **75 percent fleet** chart should be utilized.

Aircraft currently utilizing the airport within the 75 percent (and larger) fleet include:

- Beech Jet / Beechcraft 400/A
- Beech Jet / Beechcraft 800 (100 percent fleet)
- Bombardier Challenger 300
- Bombardier Challenger 600 (100 percent fleet)
- Cessna Citation Jet I/II
- Cessna Citation Jet III 650 (100 percent fleet)
- Cessna Citation Jet 525
- Cessna Citation Excel / XLS
- Cessna Citation Sovereign 680
- Cessna Citation X / Ten 750 (100 percent fleet)
- Dassault Falcon 900
- Dassault Falcon 2000 (100 percent fleet)
- Gulfstream III / IV / V (100 percent fleet)
- Gulfstream 200 / IAI Galaxy 1126 (100 percent fleet)
- Learjet 31/35/40/45

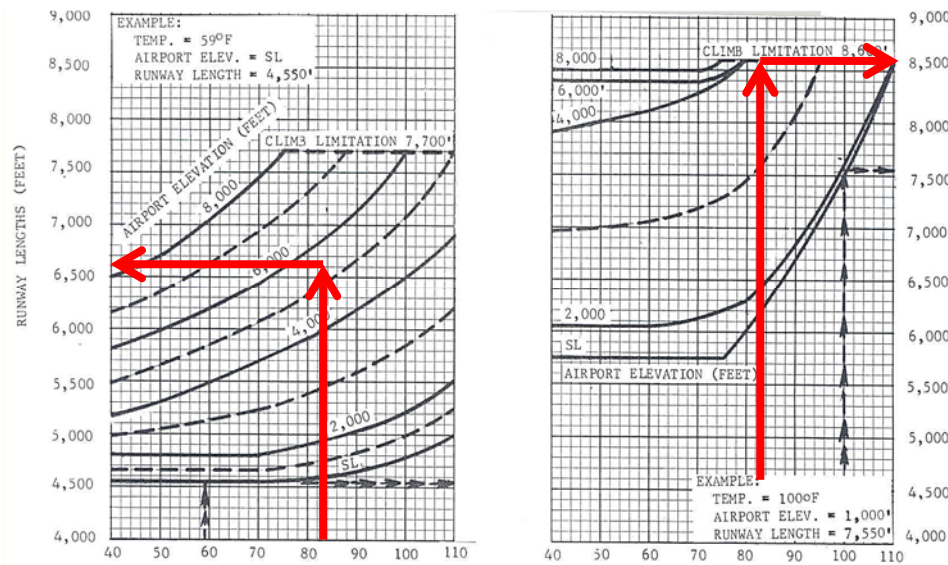
A full listing of these aircraft can be found with the FlightAware data included in **APPENDIX D**.

Step 2: Determine the 60 percent or 90 percent useful load curve based on the haul lengths and service needs of the critical design aircraft. While it is difficult to ascertain the necessary useful load for “unscheduled” air taxi operations, which comprise the majority of the C-II operations at the Ennis Big Sky Airport, the **60 percent useful load curve** will meet the current and short term needs for this General Aviation airport. Interpolation is allowed between the 60 percent and 90 percent useful load curves. In other words, “ultimate” runway length may be interpolated between the curves to accommodate a 75% useful load.

Step 3: Verify the mean daily maximum temperature of the hottest month of the year for the Airport. Using data from the Western Regional Climate Center, the mean maximum temperature for Ennis, MT is 83.2° F

(data years 1918 – 2015). The hottest month historically is July, which is also the Airport’s busiest month for air traffic. Additionally, the existing airport elevation of 5423’ is utilized.

The charts shown below are from Figure 3-1 of AC 150/5325-4B for the 75% fleet.



Mean Daily Maximum Temperature of Hottest Month of the Year in Degrees Fahrenheit
75 percent of feet at 60 percent useful load 75 percent of feet at 90 percent useful load

Step 4: Apply any necessary length adjustments to the obtained length determinations for effective runway gradient, and wet and slippery runways.

The runway length(s) obtained from Figure 3-1 shall be increased at a rate of 10 feet for each one foot of elevation difference between the high and low points of the runway centerline. The existing Runway 16-34 has an elevation difference of 74.2 feet, requiring a 742’ runway length adjustment. This adjustment must be estimated for any additional future required runway extension. The total runway length adjustment can only be approximated until design engineering is completed on the final runway length profile. Considering the existing terrain beyond the Runway 16 threshold (the most likely direction of any future extension at the existing facility location), a total **runway length adjustment of 1,000 feet** is estimated.

The runway length for turbojet-powered airplanes obtained from the “60 percent useful load” curves is increased by 15 percent or up to 5,500 feet, whichever is less. The runway lengths for turbojet-powered airplanes obtained from the “90 percent useful load” curves are also increased by 15 percent or up to 7,000 feet, whichever is less. In either case, the recommended runway length will exceed those listed; therefore, no additional adjustment for runway surface conditions is required.

In summary, a minimum overall runway length of **7,600 feet** is recommended, meeting the 75 percent fleet and 60 percent useful load. Again, this recommended runway length is estimated based on centerline elevation adjustment; preliminary design profiles would further refine this estimate.

Once again, it is difficult to determine the necessary / required useful load applicable to the Ennis Big Sky Airport, as the majority of the large air traffic is experienced from “unscheduled” air taxi operations. These unscheduled air taxi operations are small commercial aircraft that make flights on demand. Because the demand is established by the user, the required useful load can be highly variable. Essentially, the useful load for these “on demand” flights is relatively indeterminable.

An “ultimate” overall runway length of 8,700 feet would serve the 75% fleet at approximately 75% useful load. The ultimate runway length for this GA airport is not necessary at this time, but presenting it on the Airport Layout Plan as an ultimate condition will aid in potential runway protection to serve an increased useful load. Additional planning and justification would likely be warranted prior to construction of this recommended ultimate runway length.

Verification. The recommended runway lengths can be further verified / justified through specific aircraft performance charts for the aircraft and operators currently utilizing the airport. Again, while there is not a single distinct critical aircraft, but rather a family grouping of aircraft, we have identified the five most common “C” aircraft approach category aircraft currently utilizing the Ennis Big Sky Airport, which may require additional runway length:

- Cessna Citation 560 Excel / XLS 224 operations
- Cessna Citation 680 Sovereign 169 operations
- Cessna 750 X / Ten 156 operations
- Beechcraft Hawker 400 133 operations
- Dassault Falcon 2000 112 operations

Operations listed are total operations as listed in the FlightAware data from 06/21/2011 to 06/20/2016 (**APPENDIX D**).

The aircraft performance charts in comparison with the existing, future, and ultimate runway lengths / configurations are included in **APPENDIX K**. A summary of those performance characteristics follows.

Cessna Citation 560 Excel / XLS

Existing Runway Length – 6,601 feet:

Performance charts show that the useful load becomes restricted at the existing runway length (6,601 ft) beginning at 22°C (71.6°F) for the Runway “16” departure, and 16°C (60.8°F) for the “34” departure (both under dry pavement conditions and flaps at 15 degrees (flap configuration is chosen based upon best performance with each given configuration)).

Under wet pavement conditions and existing length (6,601 ft), the useful load becomes restricted at 20°C (68°F) for the Runway “16” departure and 12°C (53.6°F) for the “34” departure (both with flaps at 15 degrees).

This does not mean the aircraft cannot operate safely at the Ennis Big Sky Airport, but that it cannot operate in accordance with the performance charts at full maximum takeoff weight (100% useful load) at temperatures above those listed.

The Citation Excel, with a useful load of approximately 7,400 lbs, has a takeoff weight of approximately 17,240 lbs at 60% useful load, and 18,350 lbs at 75% useful load. Utilizing the performance charts, the aircraft becomes restricted (under dry pavement conditions, 15 degree flaps, and “34” departure) at approximately 24°C (75.2°F) for 75% useful load, and 30°C (86.0°F) for 60% useful load. This indicates the runway length may not be long enough to accommodate 75% useful load, especially when considering the peak season is summertime, with warmer temperatures (existing Airport Layout Plan lists 82.7°F as the mean maximum temperature of the hottest month). Pavements under wet conditions become restricted at lesser temperatures; however, it is relatively uncommon to have very hot temperatures as well as sustained wet pavement conditions.

Future Recommended Runway Length – 7,600 feet:

Performance charts show that the useful load becomes restricted at the future recommended runway length (7,600 ft) at 26°C (78.8°F) for the Runway “16” departure, and 18°C (64.4°F) for the “34” departure (both under dry pavement conditions and flaps at 7 and 15 degrees, respectively).

Under wet pavement conditions and future recommended length (7,600 ft), the useful load becomes restricted at 24°C (75.2°F) for the Runway “16” departure and 18°C (64.4°F) for the “34” departure (both with flaps at 7 degrees).

Utilizing the same useful load calculations shown above, the aircraft becomes restricted (again under dry pavement conditions, 15 degree flaps, and “34” departure) at approximately 28°C (82.4°F) for 75% useful load, and 34°C (93.2°F) for 60% useful load. This indicates the future recommended runway length will be adequate to accommodate a 75% useful load under typical hottest daily temperatures and pavement conditions (wet or dry).

Ultimate Recommended Runway Length – 8,700 feet:

Performance charts show that the useful load becomes restricted at the ultimate recommended runway length (8,700 ft) at 26°C (78.8°F) for the Runway “16” departure, and 22°C (71.6°F) for the “34” departure (both under dry pavement conditions and flaps at 7 degrees). The temperature restriction for Runway “16” is the same as listed above for the future runway length of 7,600 ft, due to the aircraft being limited by level-off altitude (it is no longer limited by runway length).

Under wet pavement conditions and ultimate recommended length (8,700 ft), the useful load becomes restricted at 26°C (78.8°F) for Runway “16” and 22°C (71.6°F) for “34” departures (both with flaps at 7 degrees).

Utilizing the same useful load calculations shown above in the existing condition, the aircraft becomes restricted (again under dry pavement conditions, 15 degree flaps, and “34” departure) at approximately 32°C (89.6°F) for 75% useful load, and 36°C (96.8°F) for 60% useful load. This additional runway length does not greatly increase the operational limits for this aircraft (when compared to the 7,600 ft future runway length performance charts), and is therefore not necessary for this aircraft alone.

Cessna Citation 680 Sovereign

Existing Runway Length – 6,601 feet:

Performance charts show that the useful load becomes restricted at the existing runway length (6,601 ft) at 36°C (96.8°F) for the Runway “16” departure, and 26°C (78.8°F) for the “34” departure (both under dry pavement conditions and flaps at 7 degrees).

Under wet pavement conditions and existing length (6,601 ft), the useful load becomes restricted at 30°C (86.0°F) for the Runway “16” departure, and 20°C (68.0°F) for the “34” departure (with flaps at 15 and 7 degrees, respectively).

Again, this does not mean the aircraft cannot operate safely at the Ennis Airport, but that it cannot operate in accordance with the performance charts at full maximum takeoff weight (100% useful load), at temperature above those listed.

The Citation Sovereign, with a useful load of approximately 12,790 lbs, has a weight of approximately 25,774 lbs at 60% useful load, and 27,692.5 lbs at 75% useful load. Utilizing the performance charts, the aircraft becomes restricted (under dry pavement conditions, 7 degree flaps, and “34” departure) at approximately 36°C (96.8°F) for 75% useful load, and 43°C (109.4°F) for

60% useful load. This indicates the existing runway length is adequate under the typical operating conditions, therefore, the future and ultimate lengths are not further summarized for this aircraft.

Cessna 750 X / Ten

Existing Runway Length – 6,601 feet:

Performance charts show that the useful load becomes restricted at the existing runway length (6,601 ft) beginning at 14°C (57.2°F) for the Runway “16” departure, and -20°C (-4.0°F) (which is the bottom of the performance charts temperature range) for the “34” departure (both under dry pavement conditions and flaps at 15 degrees).

Under wet pavement conditions and existing length (6,601 ft), the useful load becomes restricted at -20°C (-4.0°F) (which is the bottom of the performance charts temperature range) for both the “16” and “34” departures (both with flaps at 15 degrees).

The Cessna X / Ten, with a useful load of approximately 14,100 lbs, has a takeoff weight of approximately 30,060 lbs at 60% useful load, and 32,175 lbs at 75% useful load. Utilizing the performance charts, the aircraft becomes restricted (under dry pavement conditions, 15 degree flaps, and “34” departure) at approximately 19°C (66.2°F) for 75% useful load, and 24°C (75.2°F) for 60% useful load. This indicates the runway length may not be long enough to accommodate either 60% or 75% useful load(s); again, especially considering the peak season is summertime.

Future Recommended Runway Length – 7,600 feet:

Performance charts show that the useful load becomes restricted at the future recommended runway length (7,600 ft) at 20°C (68.0°F) for the Runway “16” departure, and 14°C (57.2°F) for the “34” departure (both under dry pavement conditions and flaps at 15 degrees).

Under wet pavement conditions and future recommended length (7,600 ft), the useful load becomes restricted at 8°C (46.4°F) for the Runway “16” departure and -20°C (-4.0°F) (which is the bottom of the performance charts temperature range) for the “34” departure (both with flaps at 15 degrees).

Utilizing the same useful load calculations shown above, the aircraft becomes restricted (again under dry pavement conditions, 15 degree flaps, and “34” departure) at approximately 26°C (78.8°F) for 75% useful load, and 32°C (89.6°F) for 60% useful load. This indicates the future recommended runway length will be adequate to accommodate a 60% useful load under typical hottest daily temperatures and pavement conditions; however, still may not be long enough to accommodate 75% useful load.

Ultimate Recommended Runway Length – 8,700 feet:

Performance charts show that the useful load becomes restricted at the ultimate recommended runway length (8,700 ft) beginning at 26°C (78.8°F) for the Runway “16” departure, and 18°C (64.4°F) for the “34” departure (both under dry pavement conditions and flaps at 15 degrees).

Under wet pavement conditions and ultimate recommended length (8,700 ft), the useful load becomes restricted at 16°C (60.8°F) for the Runway “16” departure, and 14°C (57.2°F) for the “34” departure (both with flaps at 15 degrees).

Utilizing the same useful load calculations shown above in the existing condition, the aircraft becomes restricted (again under dry pavement conditions, 15 degree flaps, and “34” departure) at approximately 30°C (86.0°F) for 75% useful load, and 40°C (104.0°F) for 60% useful load. This indicates that the ultimate runway length of 8,700 ft is necessary to accommodate a 75% useful load under typical hottest daily temperatures.

Beechcraft 400 Hawker

Existing Runway Length – 6,601 feet:

Performance charts show that the useful load becomes restricted at the existing runway length (6,601 ft) beginning at 12°C (53.6°F) for the Runway “16” departure, and 0°C (32.0°F) for the “34” departure (both under dry pavement conditions and flaps at 10 degrees).

Under wet pavement conditions and existing length (6,601 ft), the useful load becomes restricted at 6°C (42.8°F) for the Runway “16” departure, and -5°C (23.0°F) for the “34” departure (both with flaps at 10 degrees).

The Hawker 400, with a useful load of approximately 6,250 lbs, has a takeoff weight of approximately 13,800 lbs at 60% useful load, and 14,737.5 lbs at 75% useful load. Utilizing the performance charts, the aircraft becomes restricted (under dry pavement conditions, 10 degree flaps, and “34” departure) at approximately 13°C (55.4°F) for 75% useful load, and 22°C (71.6°F) for 60% useful load. This indicates the runway length may not be long enough accommodate either 60% or 75% useful load(s), once again, especially considering the peak season is summertime.

Future Recommended Runway Length – 7,600 feet:

Performance charts show that the useful load becomes restricted at the future recommended runway length (7,600 ft) at 18°C (64.4°F) for the Runway “16” departure, and 6°C (42.8°F) for the “34” departure (both under dry pavement conditions and flaps at 10 degrees).

Under wet pavement conditions and future recommended runway length (7,600 ft), the useful load becomes restricted at 12°C (53.6°F) for the Runway “16” departure, and 6°C (42.8°F) for the “34” departure (both with flaps at 10 degrees).

Utilizing the same useful load calculations shown above, the aircraft becomes restricted (again under dry pavement conditions, 10 degree flaps, and “34” departure) at approximately 19°C (66.2°F) for 75% useful load, and 28°C (82.4°F) for 60% useful load. This indicates the future recommended runway length may still not be long enough to accommodate 60% useful load during the hottest portions of the days during the peak summertime season.

Ultimate Recommended Runway Length – 8,700 feet:

Performance charts show that the useful load becomes restricted at the ultimate recommended runway length (8,700 ft) beginning at 20°C (68.0°F) for the Runway “16” departure, and 8°C (46.4°F) for the “34” departure (both under dry pavement conditions and flaps at 10 degrees).

Under wet pavement conditions and ultimate recommended length (8,700 ft), the useful load becomes restricted at 16°C (60.8°F) for the Runway “16” departure, and 8°C (46.4°F) for the “34” departure (both with flaps at 10 degrees).

Utilizing the same useful load calculations shown above in the existing condition, the aircraft becomes restricted (again under dry pavement conditions, 10 degree flaps, and “34” departure) at approximately 24°C (75.2°F) for 75% useful load, and 33°C (91.4°F) for 60% useful load. This indicates that the ultimate runway length of 8,700 ft is necessary to accommodate a 60% useful load under typical hottest daily temperatures. This ultimate runway length will also accommodate a 75% useful load while operating under cooler temperatures (morning and evening), even during the hottest summertime months. This is generally adequate for this General Aviation airport, which does not have scheduled commercial service.

Dassault Falcon 2000

Existing Runway Length – 6,601 feet:

Performance charts show that the useful load becomes restricted at the existing runway length (6,601 ft) beginning at 2°C (35.6°F) for the Runway “16” departure, and -20°C (-4.0°F) (which is the bottom of the performance charts temperature range) for the “34” departure (both under dry pavement conditions and flaps at 10 degrees).

Under wet pavement conditions and existing length (6,601 ft), the useful load becomes restricted at -20°C (-4.0°F) (which is the bottom of the performance charts temperature range) for both the Runway “16” and “34” departures (both with flaps at 10 or 20 degrees).

The Falcon 2000, with a useful load of approximately 15,765 lbs, has a takeoff weight of approximately 30,194 lbs at 60% useful load, and 32,559 lbs at 75% useful load. Utilizing the performance charts, the aircraft becomes restricted (under dry pavement conditions, 20 degree flaps, and “34” departure) at approximately 2°C (35.6°F) for 75% useful load, and 22°C (71.6°F) for 60% useful load. This indicates the runway length may not be long enough accommodate either 60% or 75% useful load(s); once again, especially considering the peak season is summertime.

Future Recommended Runway Length – 7,600 feet:

Performance charts show that the useful load becomes restricted at the future recommended runway length (7,600 ft) at 22°C (71.6°F) for the Runway “16” departure, and 0°C (32.0°F) for the “34” departure (both under dry pavement conditions and flaps at 10 degrees).

Under wet pavement conditions and future recommended runway length (7,600 ft), the useful load becomes restricted at 8°C (46.4°F) for the Runway “16” departure, and -20°C (-4.0°F) (which is the bottom of the performance charts temperature range) for the “34” departure (both with flaps at 10 degrees).

Utilizing the same useful load calculations shown above, the aircraft becomes restricted (under dry pavement conditions, 10 degree flaps, and “34” departure) at approximately 27°C (80.6°F) for 75% useful load, and 35°C (95.0°F) for 60% useful load. This indicates the future recommended runway length may still not be long enough to accommodate 75% useful load during the hottest portions of the days during the peak summertime season.

Ultimate Recommended Runway Length – 8,700 feet:

Performance charts show that the useful load becomes restricted at the ultimate recommended runway length (8,700 ft) beginning at 22°C (71.6°F) for the Runway “16” departure, and 14°C (57.2°F) for the “34” departure (both under dry pavement conditions and flaps at 10 and 20 degrees, respectively).

Under wet pavement conditions and ultimate recommended length (8,700 ft), the useful load becomes restricted at 22°C (71.6°F) for the Runway “16” departure, and 14°C (57.2°F) for the “34” departure (both under dry pavement conditions and flaps at 10 and 20 degrees, respectively). These restrictions remain unchanged from the dry runway conditions listed above.

Utilizing the same useful load calculations shown above in the existing condition, the aircraft becomes restricted (again under dry pavement conditions, 20 degree flaps, and “34” departure) at approximately 30°C (86.0°F) for 75% useful load, and 38°C (100.4°F) for 60% useful load. This indicates that the ultimate runway length of 8,700 ft will accommodate a 75% useful load under typical hottest daily temperatures.

4) Width

Per FAA AC 150/5300-13A, the width of a runway is determined by the Runway Design Code. Both the “future” RDC of C-II-5000 (not lower than 1-mile visibility) and “ultimate” RDC of C-II-4000 (not lower than ¾-mile visibility), require a runway width of 100 feet per Table A7-8 *Runway design standards matrix, C/D/E – II*.

5) Pavement Design Strength

Pavement design shall be in accordance with AC 150/5320-6; AC 150/5320-6F is the current guidance. The most current guidance will be consulted prior to any physical construction improvements occur at the airport.

“Airplane pavements are designed and constructed to provide adequate support for the loads imposed by airplanes and to produce a firm, stable, smooth, skid-resistant, year-round, all-weather surface free of debris or other particles that may be blown or picked up by propeller wash or jet blast.”

Both flexible and rigid pavement designs are included within the advisory circular(s). A life-cycle cost analysis (cost / benefit analysis) is required to be completed prior to all pavement construction / rehabilitation efforts. Hot Mix Asphalt (HMA), flexible pavement, is typically constructed / utilized for all GA airports within Montana, simply due to frost considerations and the costs associated with designing around those considerations. HMA pavements will tolerate some degree of frost heave(s), whereas rigid pavement will generally only tolerate minor amounts of frost heave(s).

The subgrade at the Ennis Big Sky Airport is, in general, Frost Group 3 (FG-3) lean clay and sandy lean clay. These soils, when relatively uniform in horizontal extent, will permit designing for reduced subgrade strength frost consideration for HMA pavements, whereas rigid pavements will require limited frost protection (65% of the depth frost penetration, considered an estimated 70.5” for the Ennis Big Sky Airport area). Again, a benefit cost analysis (BCA) should be performed as part of each individual pavement section design.

The design procedure presented in AC 150/5320-6E provides methods based on layered elastic and three-dimensional finite element-based structural analysis developed to calculate design thicknesses for airfield pavements. The specific *“design method is computationally intense, so the FAA developed a computer program call FAARFIELD to help pavement engineers implement it.”* FAARFIELD requires input of a “fleet-mix” or “traffic-mix” of aircraft utilizing, and anticipated to utilize, the pavements to be input into the program. For the purposes of the Ennis Big Sky Airport, the majority of the large heavy aircraft are included within the FlightAware Data. This data can be readily used to comprise the required fleet-mix (plus supplementing / estimating the smaller aircraft), applying the forecasted growth, and utilized to generate the required pavement sections. The fleet-mix and FAARFIELD pavement design analysis are included in **APPENDIX J**. These include aircraft with a maximum of **92,750 lbs dual wheel gear**, and **28,000 lbs single wheel gear** configurations.

Some pavements may be designed to accommodate only a portion of the overall traffic at the airport. For instance, the current hangar access Taxilane C will only accommodate Airplane Design Group I aircraft, with wingspans less than 49-ft. This pavement should be designed to include only the fleet-mix of aircraft that will traverse the pavement. A maximum of **12,500 lbs single wheel gear** would accommodate the aircraft in this particular instance.

Prior to any construction, the pavements must be designed in accordance with current FAA guidance, and verify that the fleet-mix and forecasted usage, included within this Master Plan Update, are still in line with current usage.

C. Taxiway Requirements

Taxiway geometry and dimensions are determined with both the Airplane Design Group (ADG) and the Taxiway Design Group (TDG) in accordance with AC 150/5300-13A (Change 1). The ADG, which is based on a plane's wingspan and tail height, is used for the taxiway clearance and separation requirements, while the TDG controls the pavement width and taxiway edge safety margin.

1) Taxiway Design Group (TDG)

Taxiway Design Groups are based on a combination of an airplane's main gear width (MGW) and the cockpit to main gear (CMG) distance, both of which influence the steering characteristics. The forecasting for the Ennis Big Sky Airport determined that the main taxiways must accommodate TDG-2 aircraft (see [Section 5.F.3](#)) and the hangar taxiways / taxilanes will be a mixture of TDG-1 and TDG-2. Group 2 taxiways / taxilanes have a **35-foot pavement** width, while Group 1 taxiways / taxilanes have a 25-foot pavement width. Pavement fillets to accommodate turning movements through intersections should be considered as part of all taxiway design.

2) Airplane Design Group (ADG)

The ADG sets the limits for the taxiway and taxilane safety and object free areas. The Taxiway Safety Area (TSA) is a "*defined surface alongside the taxiway*" that helps to minimize the risk of aircraft damage should it leave the taxiway pavement, or allows room for emergency vehicles. The width of the TSA is equal to the maximum wingspan of ADG-II aircraft (79 feet), centered on the pavement centerline. The Object Free Area (OFA) for a taxiway or taxilane enhances operational safety by leaving ground area clear of objects (other than those fixed by function). Centered on the pavement centerline, the OFA for ADG-II taxiways is 131 feet wide and 115 feet wide for taxilanes. The OFA for hangar taxilanes, which are to be utilized exclusively for ADG-I aircraft, is 79 feet wide.

3) Pavement Fillets with Cockpit-Over-Centerline for Most Demanding Aircraft (Not Critical Aircraft)

In accordance with AC 150/5300-13A, curves and intersections should be designed for cockpit over centerline steering. This requires design / construction of pavement fillets, which are widened areas of pavement at the outer edges of intersections. Pavement fillets are generally designed to allow all aircraft in the designated taxiway design group to maneuver safely through a turn; this essentially requires design focused around the most demanding aircraft utilizing the pavements. The fillets on the taxiway connections to the runway and aprons will be designed beyond TDG-2 to accommodate the more demanding TDG-3 aircraft frequenting the airport. TDG-3 airplanes have wider MGW and longer CMG, needing more pavement area to travel safely around the radius. While the TDG-3 aircraft only constitute occasional use at the Ennis Big Sky Airport (37 operations from 06/19/2015 to 06/20/2016 – see [APPENDIX D](#)), widening the pavements in turning locations is of minimal additional cost, improves safety of the users, and helps prevent damage that can occur when aircraft gear wheels track close to the pavement edges. The pavement fillets should also include the Taxiway Edge Safety Margin (TESM). The TESM is the distance between the outer edge of the landing gear and the edge of the taxiway / taxilane pavement, with the nose gear on centerline. The width of the TESM is determined by the TDG: 5' TDG-1, **7.5' TDG-2**, and **10' TDG-3**.

4) Parallel Taxiway Justification

In accordance with AC 150/5300-13A, a parallel taxiway increases runway capacity and safety, especially under conditions of low visibility. A runway having instrument procedures with approach visibility minimums below 1-mile is *required* to have a full-length parallel taxiway, and *recommended* for all other conditions. Therefore, a full-length parallel taxiway is recommended for the C-II-5000 (> 1-mile) and will be required under the "ultimate" condition of C-II-4000 (> ¾-mile) runway.

From strictly a capacity standpoint, a parallel taxiway is not required to help accommodate the annual service volume at the airport. In accordance with AC 150/5070-6B and 150/5060-5, an acceptable level of

delay per aircraft is an average of four to six minutes. Ennis Big Sky Airport will not experience this level of capacity volume in the short, medium, or long-terms even during peak periods.

The parallel taxiway shall be 35 feet wide, running the full-length of the runway, with 300-ft minimum centerline separation from the runway centerline.

D. Terminal Area Requirements

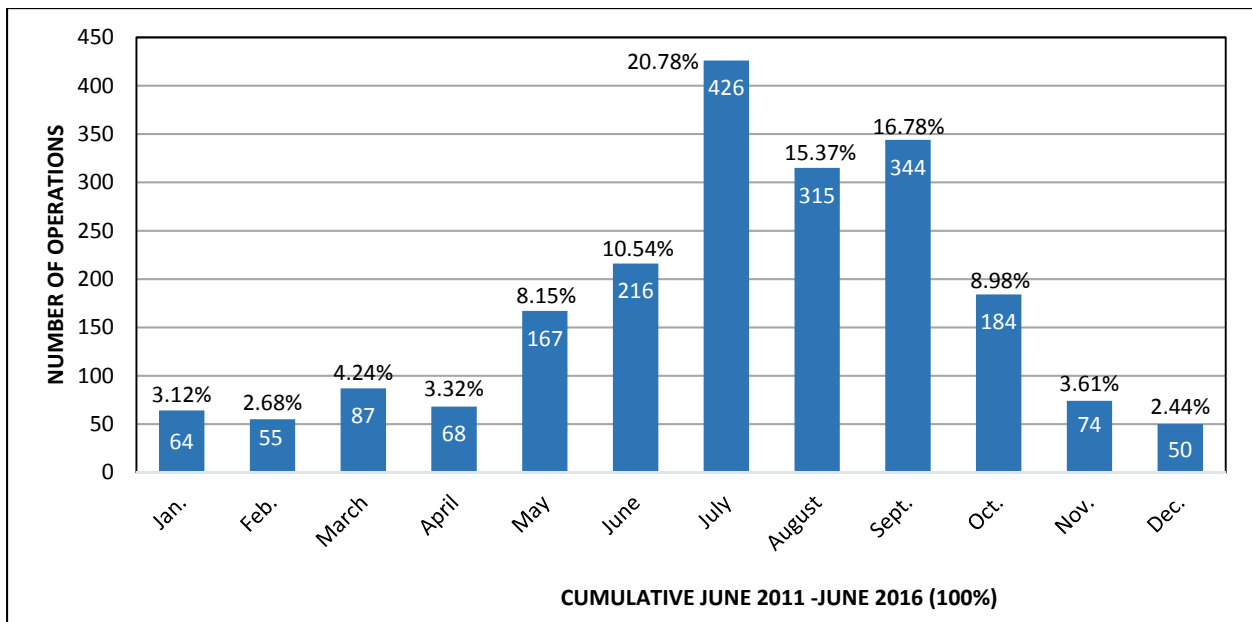
The Terminal Area requirements for the Ennis Big Sky Airport will be defined by the needs associated with current and future anticipated fixed-base operators, apron areas, fuel tanks and fueling services, automobile parking (including rental cars), and airport access.

1) Apron Area

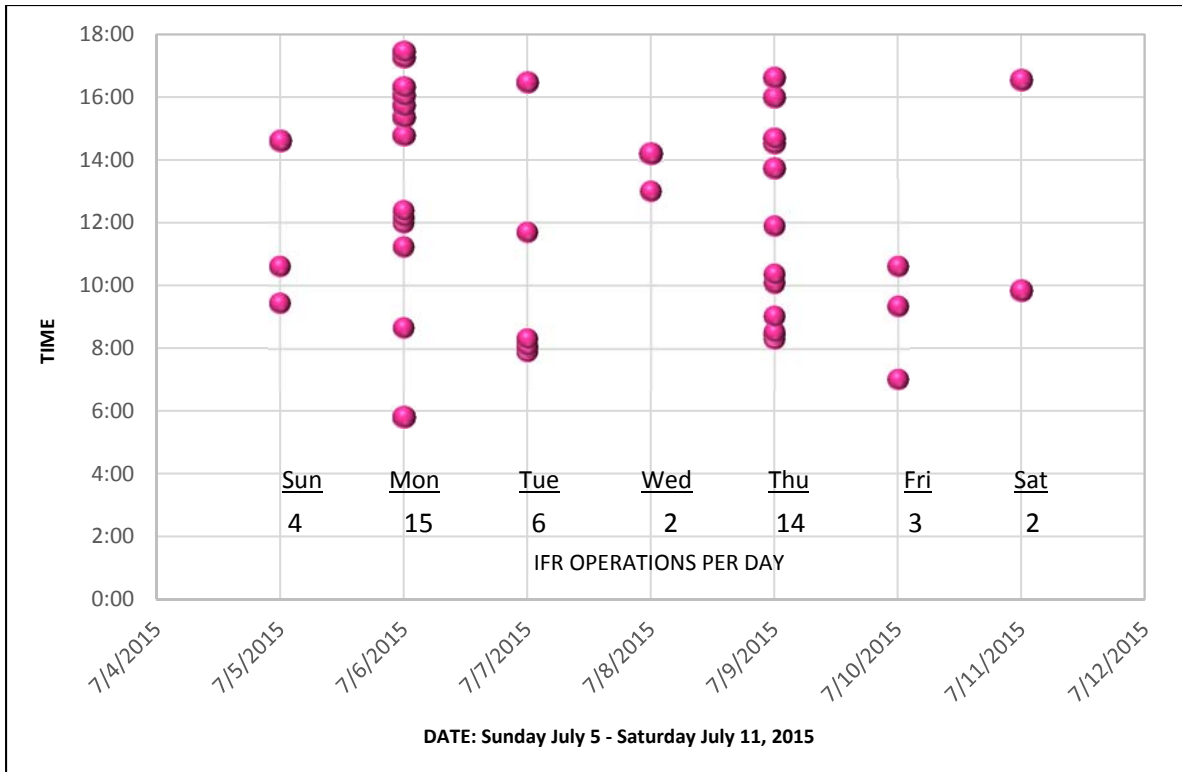
The increased separation and object free area standards for upgrading RDC B-II to C-II significantly reduce the existing parking area. Determining the appropriate amount of apron area needed requires classifying the capacity needs in conjunction with the operational requirements. Identifying the Airport’s peak period of operations is a first step in finding the type of needs that must be met. As noted in Section 5.F (Aviation Forecasts – Methodology) the monthly / annual peak period(s) will be sufficient for this airport, since no hourly, daily, or weekly periods have been noted to cause significant impacts on facility needs.

Table 6.1 graphically shows the FlightAware data gathered for a 5-year period, from June 2011 through June 2016. It shows a significant portion (80.6%) of the IFR traffic operates between the 6 months of May to October. The three-month period of July to September accounts for approximately 53% of the total IFR operations, with July being busiest month, with nearly 21% of all logged IFR operations.

Table 6.1 Peak Period IFR Operations



The busiest week for the Airport has been the first full week after the Fourth of July holiday, with the busiest days being Monday and Thursday in both 2014 and 2015. Although there is a lack of relevant historical data, these two years of IFR data are indicative of potential facility requirements.



The Airport must have adequate ramp space for safe and efficient servicing of departing planes without causing delays. Arrivals must also receive a safe place to park and timely service. AC150/5300-13A does not provide specific guidance or recommendation on the amount of apron space that should be provided. Rather it simply states, “the total amount of apron area required is based on local conditions and will vary from airport to airport.”

Currently, the Ennis Big Sky Airport has approximately 143,215 square feet of available apron space. These areas can be further broken down into three separate aprons:

- South Apron – 61,340 square feet (including the taxilanes traversing between the tie-down rows);
- Central Apron fronting the two large FBO hangars – 32,150 square feet; and
- North Apron – 51,490 square feet.

The South Apron is typically utilized for smaller general aviation traffic, with occasional “overflow” use by large aircraft during peak periods. The South Apron is equipped with tie-down anchors for tethering small aircraft, which can be overturned by high winds, and has “interior” taxilane striping between the tie-down rows. This available apron space is sufficient for the amount of small aircraft traffic that is typically encountered, including peak periods (with exception to annual fly-in events, which are not practical to design for). With limited growth of small aircraft anticipated / forecasted, the existing number of tie-down locations and square footage should be sufficient for the Ennis Big Sky Airport for at least the short and medium terms. The apron will need to be “shifted” to accommodate for the increased Runway 16-34 OFA width of 800’ for C-II aircraft, thereby maintaining a similar area of available parking space.

The Central Apron currently sits in front of the two “main” large hangars, both of which currently fill FBO roles (hangar storage, fueling services, etc.). The Central Apron was recently (2016 construction) reduced in available parking area to 32,150 square feet, due to the relocation of Taxiway A. The available apron space will be further reduced under a C-II configuration, which will include an 800’ wide runway OFA, as stated above. If the existing Runway 16-34 is widened entirely towards the east (shifting the runway centerline eastward by 12.5’), the available parking area would be reduced to 31,400 square feet of parking area.

The North Apron is typically utilized for larger itinerant traffic. The apron does not include any tie-down anchors, which are generally provided for parking smaller aircraft. The current apron size will accommodate approximately four very large aircraft (C-III) parking under power. In accordance with AC 150/5300-13A “*itinerant or transient aprons should be designed for easy access by the aircraft under power*”.



The North apron can accommodate up to five to six C-II “average” sized aircraft, including minimum 10-foot wing separation. The average sized aircraft was determined based upon the average length and wingspan of the C-II fleet included within the FlightAware data (63’ x 63’). While the peak periods / days at the Ennis Big Sky Airport occasionally see this amount of traffic, the air taxis / charters generally deplane passengers, take on fuel, and depart for their next destination, some spending less than 30 minutes on the ground. This quick turn-around time lessens the amount of traffic parked at one time. Consequently, the existing apron size is generally adequate; especially considering overflow from the North apron can be parked on the South Apron (although the south apron cannot currently handle heavy aircraft due to poor pavement conditions / design weight). Again, the existing apron size will be reduced due to the 800’ wide runway OFA under C-II design standards (to 36,630 square feet). The reduced size will not significantly affect the number of aircraft capable of being parked; however, it will limit their ability to taxi / maneuver and park under power. The apron may need to be widened (expanded) slightly, to better accommodate the itinerant / transient aircraft parking under power.

With the air taxi services forecasted to nearly triple in the long-term scenario, the apron sizing will “ultimately” need to be increased in a nearly proportional manner. This equates to approximately 250,920 square feet of ultimate apron capacity to accommodate for large aircraft, while maintaining the existing South Apron (61,340 square feet) for general aviation aircraft.

The Airport should continually monitor the need for apron expansion(s), as a change in length of “parking” time at the Airport could result in the need for more apron space without increasing the number of operations (due to the same aircraft being parked for longer durations). Upon reconstruction, the South Apron can continue to operate as an “overflow” for parking large aircraft during peak periods; however, the need for use of the South Apron for this type of parking is a good indication that an apron expansion is necessary in the near future.

2) Hangar Access Taxilanes

Hangar access taxilane(s) construction at General Aviation airports is typically based upon immediate needs, while allowing for some future hangar construction / growth. In other words, Ennis Big Sky Airport should allow for adequate growth within the Airport Layout Plan for ultimate growth, but actual construction should be gauged upon actual needs, while allowing for reasonable short to medium-term growth / hangar construction.

The existing hangar access taxilane (Taxilane C) is 25-foot wide, constructed for small A/B-I, TDG-1 aircraft only. There are currently approximately three (depending on size) hangar sites available along hangar access Taxilane C. The airport has recently been seeing roughly one hangar per year being constructed along this taxilane. It would be reasonable to extend existing Taxilane C into the tract of land to the south, which was recently purchased by Madison County to accommodate for short-term and long-term airport “terminal area” growth. While there is not an immediate need for additional A/B-I hangar access taxilane access, consideration should be given to including an extension as part of larger construction projects in the near term. Extending Taxilane C to allow for four to eight additional hangars will allow for adequate short and medium-term growth.

The Airport currently has no facilities available to base / hangar larger aircraft (B-II / C-II) other than renting space in the FBO hangar(s). Construction of a taxilane(s) west of Taxilane C can provide opportunity for wider taxilanes and larger hangars. However, any new taxilane development in this area would be constrained to B-II-2 aircraft due the existing pavement grades on Taxiway B and adjacent fixed elevations (nearby hangars). Meeting the grading requirements for Group C aircraft is not feasible because of the connection to Taxilane C, which has seven hangars established along both sides of the pavement. Construction of a B-II-2 taxilane should be considered in the short-term. A taxilane that allows space for roughly four to six larger hangars would likely meet the short and medium term needs. Hangars ranging in size from 8,000 to 12,000 square feet could be constructed along the B-II taxilanes.

Consideration should also be given to make allowances for aircraft larger than C-II. In other words, even though the forecasted critical aircraft meeting the substantial use threshold is C-II, larger aircraft frequenting the airport should also be accommodated, including future potential hangar locations. Development of the currently bare tracts of land to the west of the airport could provide adequate area for taxilanes meeting C-II / C-III design guidance in accordance with AC 150/5300-13A.

Taxilane construction shall meet the dimensional requirements specified in AC 150/5300-13A. ADG-I taxilanes shall be 25’ wide, with 79’ wide object free areas; ADG-II taxilanes shall be 35’ wide, with 115’ wide object free areas; and, ADG-III taxilanes shall be 50’ wide pavements with 162’ wide object free areas.

3) Fueling

The Airport’s fuel tanks and fueling are owned and operated by the FBO, Choice Aviation. A site adjacent to the airport access road can offer direct delivery access for a tanker truck and easy access for the FBO fuel trucks. The tanks will be located outside of the future runway object free area and departure surface. The 100LL self-service equipment will also be moved in order to clear the area adjacent to the existing parallel taxiway for relocation. Jet A is dispensed solely through service trucks and does not have a self-service location.

Future FBO locations should also consider / allow for fuel tank locations and access. This planning will be reflected on the Airport Layout Plan – Terminal Area Drawing.

4) FBO’s

At general aviation airports, the fixed-base operator(s) provide services to passengers, pilots / crew, and aircraft. There are currently two large hangars providing FBO services, with both hangars being operated by Choice Aviation. Madison County is willing and encouraging to make the airport available to additional

reasonably qualified FBOs. The existing Airport Layout Plan – Terminal Area plan allows for future / ultimate FBOs, which would be similarly situated.

5) Vehicular Access / Parking

The Airport’s current access is along Airport Road (County Road 212) and north onto Runway Road. The access road is one lane in each direction, terminating at the visitor parking area. The existing access provides adequate access for the vehicular demand to the airport. The access road will remain essentially unaltered, but may shift slightly to accommodate for apron expansion(s), and self-serve fuel. Additional secondary access to the airport may ultimately be provided along Lockheed Drive, West Belanca, and West Hawker Lane. These existing roads provide access to all sides of the existing airport properties planned for Terminal Area development.

a) Rental Car Facilities

Rental cars are offered as a service of the FBO(s) and through Hertz and Enterprise (commonly organized through the FBO, Choice Aviation). Currently, during peak periods, over 110 rental cars are booked in a single month. The rental cars are parked within the FBO hangars or between the two hangars. The existing parking is adequate to accommodate the level of rental cars. Planning for future, additional FBOs should consider parking areas for both employees and rental or courtesy cars.

6) Terminal Building

In accordance with the FAA Order 5100.38D Airport Improvement Program Handbook, Table N-7, Part e., General Aviation terminal buildings are FAA eligible to be funded utilizing Non-Primary Entitlement (NPE) funding, regardless of whether the airport has commercial service. The terminal building must be entirely public use, with any colocated FBO non-public office space, non-public conference rooms, or areas behind the counter, being FAA ineligible for reimbursement. Additionally, a minimal parking area is also eligible provided the lot is public-use and non-revenue producing.

Ennis Big Sky Airport currently has a small pilot shack / public room, with an adjacent vault toilet; however, both buildings will be within the C-II Runway Object Free Area (OFA) and will require demolition or relocation.

A small public terminal building with a pilot lounge, conference room / pilot flight planning room, and public bathroom(s) would be justified for the Ennis Big Sky Airport. Much of the itinerant traffic currently utilizes the on-site FBO facilities; however, the addition of a terminal building would provide access to the public. The building would be designed in accordance with all state and county requirements, including being ADA (Americans with Disabilities Act) accessible. A small, adjacent parking lot, providing approximately six to eight parking stalls, would provide sufficient public parking in the short, medium, and long-terms.

E. Electronic, Visual, and Satellite Aids to Navigation

The Airport currently has the following visual and navigational aids:

- Medium Intensity Runway Lighting (MIRL);
- Taxiway reflectors;
- Rotating beacon;
- Wind cone with segmented circle;
- Precision Approach Path Indicators (PAPI) for both runway ends;
- Non-Directional Beacon (NDB); and,
- Automated Weather Observing System (AWOS) III.

In general, the Airport’s existing visual and navigational aids are adequate for both the existing and future airport needs.

The Non-Directional Beacon (NDB) is rarely utilized, especially since development of the GPS instrument approach procedures to Runways 16 and 34. The NDB is currently maintained by the Montana Department of Transportation – Aeronautics Division; however, due to funding limitations, MDT is attempting to decommission NDBs that an airport determines is underutilized. Additionally, the NDB is located in the area of planned expansions for hangar access taxilanes. The NDB should be decommissioned and removed to reduce maintenance costs and allow for the future planned hangar development area.

The PAPIs were recently replaced in 2016. The existing LED PAPIs do not require an above ground Power Control Unit (PCU), therefore, no part of the existing PAPIs needs to be located outside of the object free area. The “two-box” PAPIs are adequate visual aids for this non-Part 139 airport. Either one or both of the PAPIs will require relocation with any runway widening or lengthening project.

Other visual guidance systems, such as Runway End Identification Lights (REILs) or an Omnidirectional Approach Lighting System (ODALS), may be considered in the future. In accordance with AC 150/5340-30H, “[REILs] are more beneficial in areas having a large concentration of lights and in areas of featureless terrain.” There is not a large concentration of light surrounding the airport, and thus no REILs are warranted. Per AC 150/5300-13A, Table 3-4, an ODALS is recommended, but not required, for non-precision runways with 1-mile or greater approach visibility minimums. Should it be determined that enhanced visual approach guidance is necessary, an appropriate lighting system would be installed.

The AWOS III weather station was installed and FAA commissioned in 2015. The AWOS III is a vital navigational aid to this facility and is required in conjunction with the GPS instrument approach procedures. Following installation of the AWOS III, the National Weather Service (NWS) reported a dramatic difference in wind, temperature, and weather versus their predictions. The addition of a present weather sensor (AWOS III P) will allow the NWS to develop better climatology for the Madison Valley, increasing safety of aircraft navigating the currently unpredictable weather systems.

The Ennis Big Sky Airport currently has L-853 taxiway reflectors in lieu of taxiway lighting, with dual taxiway lights delineating the “throat” of the taxiway / runway intersection(s). This is considered non-standard in accordance with AC 150/5340-30H, which only allows taxiway reflectors to supplement taxiway lighting; however, this taxiway reflector configuration is standard for general aviation airports in Montana. Installation of Medium Intensity Taxiway Lighting (MITL) should be planned as part of future improvements in order to meet the guidance in AC 150/5340-30H.

Terminal Radar Approach Control (TRACON) for the Ennis Big Sky Airport is operated though Big Sky Approach in Bozeman, Montana. Currently, radio communications by pilots on the ground at the Ennis Big Sky Airport are not practicable to Big Sky Approach. It has been reported that aircraft must be close to 10,000’ elevation to be able to reach Big Sky Approach by aviation radio. Therefore, pilots rely on cell phone communications with Big Sky Approach, with cell coverage in the Ennis area also being marginal. This compounding issue creates a safety concern. The Ennis Big Sky Airport should consider the addition of an aviation band radio “repeater” or Remote Communication Outlet (RCO) to extend the communication capabilities and increase user safety.

F. Utilities

An inventory of utilities currently at the Airport includes:

- Single-phase power on-Airport to hangars and facilities;
- Three-phase power running across the Airport to adjacent properties;
- Telephone;
- Individual water wells to FBOs;
- Individual septic systems for FBOs;
- Vault toilet for public use.

The existing utilities provided seem adequate and / or readily available (such as three-phase power) for the existing and future Airport needs. The Airport Layout Plan – Terminal Area Drawing should take into consideration the need for septic drain fields for all FBOs, and allow adequate space for their installation.

G. Airspace Requirements

Upgrading the Airport from Runway Design Code B-II-5000 to C-II-5000 (future) and C-II-4000 (ultimate) does not necessarily change the 14 CFR Part 77 airspace requirements. The components of the imaginary airspace surfaces (defined in [Section 2.F](#)) will remain the same dimensionally, but become “longer” based on the ultimate recommended runway length.

H. Miscellaneous Equipment

1) Wildlife Fencing

As stated in Section 4.G above, wildlife fencing is typically justified / installed based upon specific site conditions and wildlife incursions of the airport. Wildlife fencing is not required for non-Part 139 certificated airports; however, the Airport commonly has pronghorn antelope and elk on or near the airport. Additionally, one or two moose are typically sited within the Airport fence each year, which can be particularly difficult to deter. Installing a wildlife fence, in accordance with AC 150/5370-10 and FAA Technical Specification F-163 *Wildlife Exclusion Fence*, will increase users’ safety at the Airport. Wildlife fencing becomes especially safety critical for aircraft that operate at faster approach speeds and under IFR weather conditions, both of which are seeing significant increases at the Airport. The fencing should be located outside of all runway and taxiway object free areas, and typically along the Airport property boundary.

Security has not been reported as being an issue, so a large cattle guard could be used at the main entrance to the Airport. Interior barbed wire fencing with wood posts and signage can continue to be utilized to help designate areas for vehicular access and to keep unauthorized users outside of the Air Operations Area (AOA).

Gates will also have to be located at all Residential Through The Fence (RTTF) access locations (four each along both sides of the Airport), as designated on the Airport Layout Plan ([APPENDIX B](#)). Each access easement is 60’ wide. An *Agreement for Airport Access* must be signed and approved by Madison County prior to any user being authorized to utilize these access locations (see [APPENDIX Q](#)). In accordance with the *Agreement for Airport Access*, the gates that are primarily utilized by the users are considered private-use infrastructure, and shall be maintained by the User or Users. Madison County’s *Rules and Regulations*, adopted on April 4, 2016 under Resolution 17-2016, further specify the requirement to enter into a signed *Agreement for Airport Access* prior to being authorized to utilize the access locations. The *Rules and Regulations* stipulate that all “*gates must be kept closed at all times once the aircraft is through the access gate, and further, no unauthorized vehicles are allowed access through the gates.*”

2) Snow Removal Equipment (SRE) / SRE Storage Building

In accordance with AC 150/5220-20A *Airport Snow and Ice Control Equipment*:

b. Non-commercial service airports. For non-commercial service airports with over 10,000 operations and at least 15 inches (38 cm) of annual snowfall should have a minimum of one high-speed rotary plow supported by two snow plows of equal snow removal capacity. For non-commercial service airports with over 10,000 operations that experience an annual snowfall of less than 15 inches (38 cm), provide a minimum of one snow plow. For non-commercial service airports having 10,000 or fewer annual operations that experience more than 30 inches (76 cm) of annual snowfall, provide a minimum of one high-speed rotary plow supported by two snow plows of equal snow removal capacity. For non-commercial service airports having 10,000 or fewer annual operations that experience an annual snowfall of 30 inches (76 cm) or less, provide a minimum of one snow plow. Table 2-2 illustrates these selection criteria. Paragraphs 2-4 and

2-5 provide the selection criteria to determine the number and types of high-speed rotary plows and snow plows by using a second step.

Table 2-2. Equipment selection criteria for non-commercial service airports Minimum high-speed rotary plow and snow plow for non-commercial Service Airports

<i>Minimum high-speed rotary plow and snow plow for non-commercial Service Airports</i>		
<i>Annual Operations</i>	<i>Annual Snowfall (inches)</i>	<i>Minimum type and number of equipment</i>
<i>10,000 or fewer</i>	<i>30 inches (76 cm) or less</i>	<i>1 snow plow</i>
	<i>more than 30 inches (76 cm)</i>	<i>1 high-speed rotary plow supported by 2 snow plows</i>
<i>over 10,000</i>	<i>15 inches (38 cm) or more</i>	<i>1 high-speed rotary plow supported by 2 snow plows</i>
	<i>Less than 15 inches (38 cm)</i>	<i>1 snow plow</i>

Note: Read table from left to right to determine the minimum type and number of plow equipment.

c. Other supporting equipment. Other types of supporting equipment such as front wheel loaders or ice-melters may be needed to assist in the removal of snow from all non-critical, remaining operational areas including secondary taxiways or low priority ramp aprons. AC 150/5200-30 classifies such paved areas as Priority 2 or Priority 3 areas.

Ennis receives an average of 33-inches of snow fall each year (see **APPENDIX K**) with 12,200 operations (per the 5010 Airport Master Record), whereby AC 150/5220-20A recommends **two snow plows, plus one high speed rotary plow (snow blower)**.

In accordance with AC 150/5200-30D *Airport Winter Safety and Operations* the Airport should have sufficient equipment to clear, within a reasonable time, Priority 1 pavements from 1-inch of snow weighing up to 25 lf/ft³. Table 1-2 within the AC defines the targeted clearance time of 3-hours (see below).

Table 1-2. Clearance Times for Non-Commercial Service Airports

Annual Airplane Operations (includes cargo operations)	Clearance Time ¹ (hour)
40,000 or more	2
10,000 – but less than 40,000	3
6,000 – but less than 10,000	4
Less than 6,000	6
<p>General: Although not specifically defined, Non-Commercial Service Airports are airports that are not classified as Commercial Service Airports [see Table 1-1, general note].</p> <p>Footnote 1: These airports may wish to have sufficient equipment to clear 1 inch (2.54 cm) of falling snow weighing up to 25 lb/ft³ (400 kg/m³) from Priority 1 areas within the recommended clearance times.</p>	

Priority 1 pavements at the Ennis Big Sky Airport have been determined to include Runway 16-34, the Runway “34” connecting taxiway leading to the main apron / terminal area, and the priority portion of the main apron(s) (further defined as approximately half of the north apron and the entire central apron fronting the two large private hangars). Clearance of these Priority 1 pavements would allow the Airport to conduct aircraft operations safely at a “minimal acceptable level of service.” The remaining pavements are considered Priority 2 pavements; which would consist of the remaining taxiways (parallel taxiway and other connecting taxiways), hangar access taxilanes, remaining apron areas, and the Airport access road).

Calculations

The resulting Priority 1 clearance areas total approximately 662,000 square feet of pavement in the existing condition, and 1,037,000 square feet under the ultimate condition (with future condition(s) falling between those parameters). All calculations are included in APPENDIX K.

Calculations of clearing these areas with their current pickup-based runway plow, with a 9’ wide plow, show the existing plow is undersized even under the existing pavement conditions. The existing pickup-based runway plow was purchased in 2006 prior to the runway extension (2008) and north apron expansion (2014) being constructed. A high-speed, municipal grade plow, equipped with a 16 to 18-foot plow, is justified, and would adequately clear the Priority 1 pavements in less than the targeted 3.0 hours for the existing, future, and ultimate conditions.

Summary

AC 150/5220-20A recommends the need for two high-speed runway plows and one rotary plow / snow blower. However, in accordance with AC 150/5200-30D, only a single high-speed runway plow, equipped with a 16 to 18-foot plow, is necessary to clear the Priority 1 areas in less than the targeted time of 3.0 hours. It is therefore recommended that Ennis Big Sky Airport acquire:

- 1 – Municipal Grade, High-Speed Runway Plow (est. 46,000-lbs to 60,000-lbs GVW), equipped with 16 to 18-foot snow plow; and,

- 1 – Rotary Plow. It is recommended to acquire a 4x4 industrial tractor to meet the needs of a runway broom and rotary plow. Industrial tractors are versatile pieces of equipment and are readily available / serviceable in the Ennis area and throughout Montana.

Both pieces of equipment are necessary / justified in the short-term, upon availability of funding (FAA and local). Ennis Big Sky Airport does not currently see the need for a second high-speed plow, as the single high-speed plow will meet the targeted clearance time. If the plow ever breaks down, the Madison County Road Department would supplement the Airport's snow removal needs until the plow was operating again. Additionally, the smaller pickup-based plow can aid in supplementing plowing, especially along smaller pavement areas such as the taxiways and taxilanes. A second municipal grade, high-speed runway plow may be necessary / justified in the future, as the Priority 1 pavement area expands with ultimate conditions.

The existing storage building is not large enough to accommodate the recommended additional equipment. AC 150/5200-30D states, *"snow and ice control equipment should be housed in a building capable of maintaining 50 degrees Fahrenheit to prolong the useful life of the equipment and to enable more rapid response to operational needs."* A new building, or building addition, should be constructed to house the equipment in accordance with those requirements.

3) Aircraft Rescue & Firefighting Equipment / Building

This section aims to provide an overview of existing conditions and potential options should Madison County and the FAA determine ARFF equipment is justified at the Ennis Big Sky Airport.

Ennis Big Sky Airport is a General Aviation airport, with no scheduled passenger-carrying operations from an air carrier. Therefore, it is not subject to 14 CFR Part 139 requirements, which would prescribe Aircraft Rescue and Firefighting (ARFF) equipment and agents.

Ennis Big Sky Airport does not currently have fire suppression capabilities located at the airport, for either a structural (hangar) fire or an aircraft fire. Water is only available from a low output well, which does not include storage capacity (cistern) to aid in structural fire suppression, and there are no foam agents or dry chemicals for extinguishing aircraft fires.

In accordance with FAA Order 5100.38D, ARFF vehicles for airports that do not hold a 14 CFR Part 139 certificate are not generally eligible for FAA assistance in obtaining the equipment, *"unless AAS-1 [Airport Safety and Standards] has determined that this will significantly contribute to safety of individuals and property at the airport per 49 USC § 47102(3)(B)(ii)."*

Air taxi services operating at the Ennis Big Sky Airport typically carry approximately 4 to 6 passengers per aircraft; however, occasionally up to 18 passengers will be on board a single aircraft. Madison County Office of Emergency Management (OEM) and the Madison Country Rural Fire Department should review their emergency action plan to determine if ARFF equipment is justified. Additionally, a cistern water storage facility may be warranted to aid in fire suppression capabilities of structural (hangar) fires. Consideration should be given to improving fire suppression capabilities for both structural (hangar) and aircraft fires, and emergency response.

7. Primary Element Alternative Development and Evaluation

This section identifies and evaluates alternatives to meet the needs of the airport's users, in accordance with **Section 6. Facility Requirements** detailed above. Effective facility planning must also incorporate potential environmental issues and consideration of fiscal concerns into the alternative's identification, evaluation, and selection effort. Cost alone should not be a factor in rejecting an alternative *unless the cost of the alternative renders it infeasible.*

Elements requiring large areas of land are a primary concern. For Ennis Big Sky Airport, the Primary Elements of consideration are the significant airside pavements (principally, the runway and parallel taxiway) and their associated object free areas, the runway protection zones, and the associated imaginary airspace surfaces in the future and ultimate configurations. After the Primary Alternative is chosen for development, the Secondary Elements Alternatives, including analysis of taxilanes and hangars, terminal area development, aprons, vehicular access and parking, snow removal equipment, etc., will be evaluated in **Section 8**.

Thirteen Primary Elements are considered for each of the following 6 Primary Alternatives.

1. Runway Width	6. Runway Protection Zone	11. Land Requirements
2. Runway Length	7. Threshold Siting Surface	12. Environmental
3. Runway Object Free Area	8. Glide Path Qualification Surface	13. Cost Estimate
4. Parallel Taxiway Separation	9. Departure Surface	
5. 14 CFR Part 77 Airspace	10. Aircraft Parking Separation	

While ultimate conditions are considered in all alternatives, emphasis has been given to the “future” conditions. An ultimate runway length of 8,700 feet is not reasonably foreseeable at this time and would require further analysis and justification prior to construction. Therefore, precedence has been given to selecting the alternatives that best suit future needs, while also briefly considering ultimate conditions for general viability.

Clearance evaluations of the various surfaces considered are approximate, as final design(s) is not included in the scope of work for this project. Instead, information from the existing Airport Layout Plan, existing survey information, and other sources are used to the extent possible to make reasonable estimations.

1. **Runway Width:** Per *Table A7-8* in FAA AC 150/5300-13A (Change 1) the runway width for C-II aircraft is 100 feet plus 10-foot shoulders.
2. **Runway Length:** The existing runway length of 6,601 feet does not meet the 7,600 feet minimum “future” recommended runway length in accordance with FAA AC 150/5325-4B (meeting 75% fleet at >12,500-lbs and <60,000-lbs MTOW and 60 percent useful load). Based on this recommendation, the runway will be extended 1,000 feet (nominally). This development will require the Airport to acquire land. Again, the “ultimate” recommended runway length of 8,700 feet minimum (meeting 75% fleet at approximately 75% useful load) is briefly considered for general layout and land availability; however, particular emphasis has been given to the future condition for all other criteria examined.
3. **Runway Object Free Area:** The Object Free Area (OFA) for a C-II runway is 800 feet wide and extends 600 feet beyond each threshold (both runway ends will have visual guidance). The existing B-II OFA is 500 feet wide and extends 300 feet beyond each threshold. At the existing airport location, the larger OFA will require the Airport to acquire land and clear new obstructions along both sides of the runway.
4. **Parallel Taxiway Separation:** A portion of the parallel taxiway has already been relocated farther away from the existing runway centerline to meet C-II criteria of 300 feet minimum centerline separation. The remaining portion of the existing parallel taxiway has a B-II separation of 240 feet. Any continuation or extension of the parallel taxiway will be at C-II separation. At the existing airport location, land acquisition for a C-II runway object free area would cover the area required for the parallel taxiway. However, due to sloping terrain, additional construction easements or land

acquisition would most likely be necessary to accommodate shoulder fill beyond the runway OFA limits.

5. **14 CFR Part 77 Airspace:** The existing Airport Layout Plan identifies airspace obstructions in all the airspace surfaces. Most these are residences, outbuildings, and trees situated on rising terrain, as well as the terrain itself within the horizontal and conical surfaces. The transitional surface penetrations include the wind cone, segmented circle, weather system equipment, and terrain. During the 2008 runway extension project, the terrain penetrations were cleared for the then-existing 20:1 visual approach surface to Runway 16. Now that both runway ends have non-precision GPS procedures with 34:1 approach surfaces, there are currently terrain and fence penetrations at each end.

The airspace surfaces for a C-II airport, with not lower than one-mile visibility minimums (“future” condition), would not change the dimensions or extents of the associated surfaces if a runway extension were not considered. However, lengthening the runway elongates the surfaces, potentially creating new terrain penetrations in the primary, transitional, and approach surfaces that would need to be addressed. The horizontal and conical surfaces will have permanent terrain, building, and tree penetrations in all alternatives (excepting possible alternative site locations – Primary Alternative #3).

6. **Runway Protection Zone (RPZ):** The existing RPZs for Runway 16-34 are 500’ x 700’ x 1,000’ (*Table A7-4* in FAA AC 150/5300-13A), sized for B-II aircraft and visibility minimums not lower than one mile. Both are clear of obstructions and incompatible land uses. The Airport has control over the RPZs through either fee simple title, perpetual easement, and/or right-of-way easement.

The runway protection zone for C-II aircraft with visibility minimums not lower than 1-mile (the future condition) are 500’ x 1,010’ x 1,700’ (*Table A7-8*). These larger RPZs will extend beyond current airport control. With FAA emphasis on airport owner control of the land within the RPZ, the airport would need to acquire new easements or title to these areas.

In many of the alternatives considered, Airport Road crosses (or will cross) the RPZ for Runway 34 – this is being presented as an acceptable condition. The larger RPZ overlays approximately 850 linear feet of the road. Airport Road is an unpaved public road and, east of the entrance to the airport, is used exclusively for residential access to the Shining Mountains Air Park and the Mustang Ranches subdivision further east. Airport Road supports approximately 101 residential lots, although about two-thirds are currently undeveloped. There are 36 parcels with structures, 26 with local owners. Using a national average of 9.57 trips per day per household*, the average daily traffic on the road would be 967 vehicles at 100% occupancy. Estimated actual traffic volumes are significantly lower than this, considering the current vacancy of the lots, the seasonal/occasional use households, and the travel distance to and from Ennis (which typically lowers the average trip counts per day per household). The FAA has previously concurred that a detailed RPZ analysis is not currently warranted due to the low traffic counts and the typical use (residential access) of this public roadway versus the estimated costs for the County to acquire land, a portion of which is in a conservation easement, and divert the road around the RPZ.

Clearing Airport Road from the RPZ, such as displacing or relocating the Runway 34 threshold, was not developed for consideration in any alternative.

7. **Threshold Siting Surface:** The threshold siting surface for each runway end will be sized per *Table 3-2 Approach / Departure Standards Table* in FAA AC 150/5300-13A. The runway will “support

* Institute of Transportation Engineers, Trip Generation 9th Edition, 2012, Single-Family Detached Housing.
URL: <http://ite.org/>.

instrument night operations serving greater than approach Category B aircraft.” The surface begins 200’ outboard of the runway threshold at a width of 800’ and extends out 10,000’ at a 20:1 slope to a final width of 3,800’, 500 feet above the threshold elevation. Each of the future siting surfaces will have obstructions that mostly coincide with object free area penetrations; clearing for the OFA and 14 CFR Part 77 surfaces will clear the threshold siting surfaces.

8. **Glide Path Qualification Surface (GQS):** A glide path qualification surface is associated with a runway end that accommodates (or is expected to) an approach with vertical guidance. Currently both runway ends have approaches with vertical guidance. This surface begins at the runway threshold and is centered at a width equal to the width of the runway plus 200’ (300’ wide for a C-II runway). The GQS extends out 10,000’ at a 30:1 slope to a final width of 1,520’, 333 feet above the threshold elevation. Any penetrations to the GQS would be cleared by the more-stringent airspace grading.
9. **Departure Surface:** The departure surface begins at the runway end at a width of 1,000’ and extends out 10,200’ at a 40:1 slope to a final width of 6,466’, 255 feet above the threshold elevation. A GPS departure procedure is in place for each end of the existing runway, published as “Ennis One Departure (Obstacle).” Due to the terrain conditions in the Madison Valley, it is expected that all development alternatives will have obstructions to the runway departure surface(s). Close-in and on-centerline penetrations would be priorities for mitigation.
10. **Aircraft Parking Separation:** The current B-II design standards at the airport require 250’ separation from runway centerline to an aircraft parking area. This dimension coincides with the width of the 500’ B-II OFA. The separation distance increases to 400’ for a C-II airport, which also coincides with the 800’ C-II OFA. At the Airport’s current location, the three available parking aprons (north, central, and south) are constrained by the parallel taxiway object free area. The north apron is currently used most by the larger charter jets that can park under power; the central apron in front of the FBO hangars is 87’ wide, enough for C-II aircraft; and, the south apron has tie-downs for small aircraft, although it is available for parking larger planes when needed. Apron considerations are also considered in more detail as part of the Secondary Alternative analysis.
11. **Land Requirements:** The existing airport boundary is completely adequate for B-II design standards but only partially suitable for C-II standards. For the Airport to own or have control over an 800-foot wide C-II OFA at the current location, it would need to acquire additional land on the east and west sides of the existing airport. The future runway extension(s) to either the north or the south would both require land acquisitions. The land to the north and west is owned by the State of Montana, and a perpetual easement is reasonably attainable. The parcels on the eastside are privately owned. Development to the south would need land from two tracts that are within a conservation easement and a portion of land owned by the State of Montana. Additional land acquisitions or construction easements would also be necessary to accommodate clearing the airspace surfaces. The majority of the land acquisition would not impact any residences; however, rotation and extension to the south would impact a nearby residence, thus requiring acquisition.
12. **Environmental:** See **Table 2.1 Overview of Environmental Conditions** for a summary of the impact categories on and near the airport. Before any runway improvements are constructed for any alternative, an Environmental Assessment (EA) document will be produced “*to determine whether [the] proposed action has the potential to significantly affect the human environment*” (FAA Order 1050.1F, 3-1.2).

At the existing airport site, Boulder Creek, Shell Creek, and McDeed Creek are surface waters that pass through the property. They are intermittent streams, which all have been disturbed by previous airport construction.

Meeting all grade limitations for a C-II runway in accordance with current FAA design standards requires significant earthwork and grading activity, even if the airport is moved to a new site in the valley. Of particular concern is the runway longitudinal gradient, which is the basis for the related OFA and airspace clearing. The extent of earthwork could pose environmental, geological, hydrogeological, and geotechnical uncertainties.

13. **Cost Estimate:** Generalized estimates are discussed for each Primary Alternative, with more detailed cost breakdowns included in **APPENDIX L**.

A. Primary Alternative #1 – No Action (6,001’ x 75’ Runway)

The No Action Primary Alternative maintains the current airport reference code of B-II. The runway would remain at its current length and width, the clearance and separation distances are not increased, and the airport would not have to purchase land.

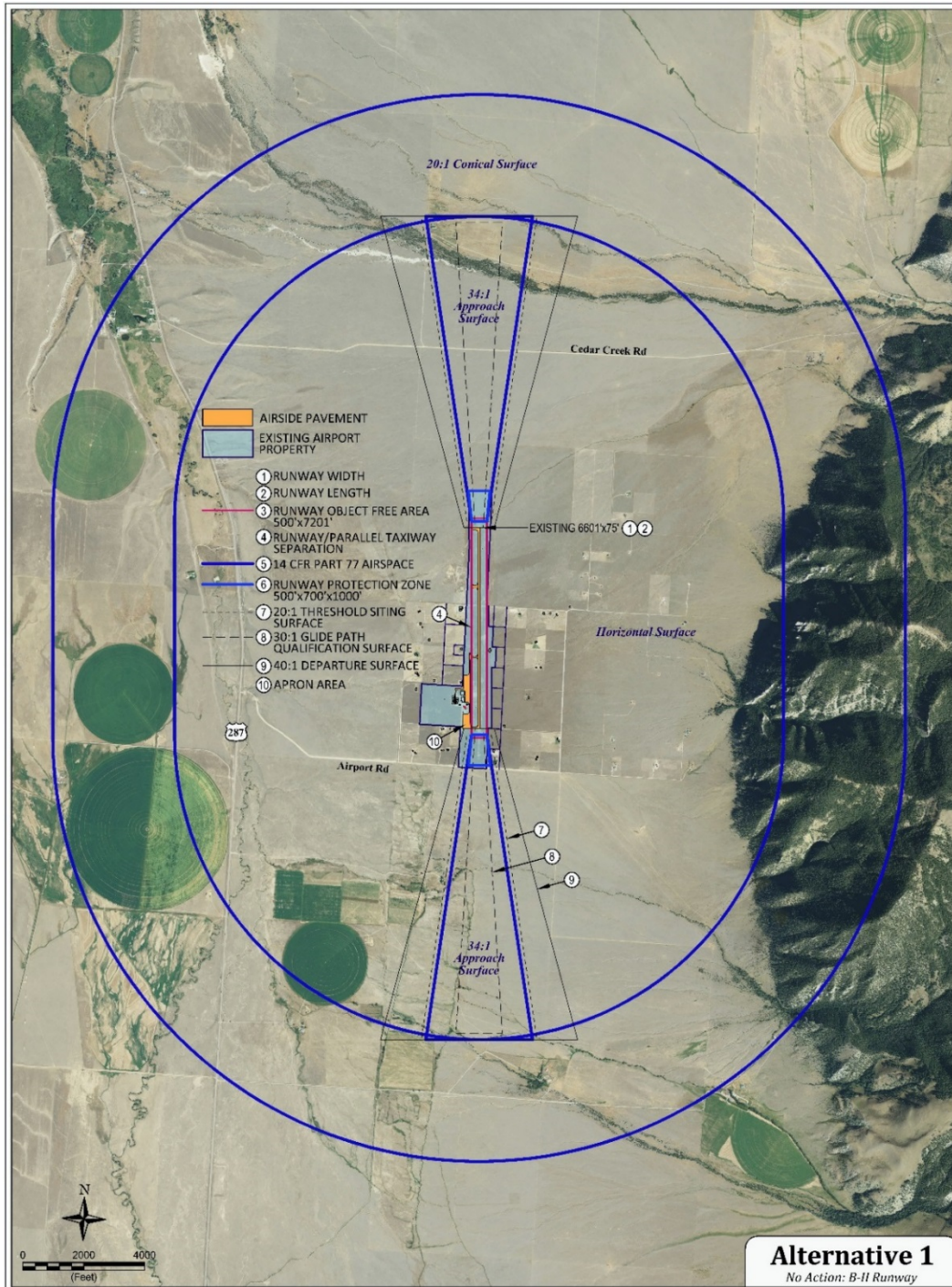
Primary Element	Considerations
Runway Width	No Change – 75 feet (B-II)
Runway Length	No Change – 6,001 feet (100% of small aircraft fleet)
Runway Object Free Area	No Change – 500’ wide x 6,601’ long (B-II)
Parallel Taxiway Separation	No Change – 240’ (B-II)
14 CFR Part 77 Surfaces	No Change – Non-Precision, Other than Utility, Visibility Minimums >3/4 SM
Runway Protection Zone	No Change – 500’ x 700’ x 1,000’ (B-II)
Threshold Siting Surface	No Change – 400’ x 3,800’ x 10,000’ (Supports instrument night operations serving approach Category A and B aircraft only.)
Glide Path Qualification Surface	No Change – 275’ x 1,520’ x 10,000’ (75’ wide B-II runway)
Departure Surface	No Change – 1,000’ x 6,466 x 10,200’
Aircraft Parking Separation	No Change – 250’ separation from runway centerline (B-II)
Land Requirements	No Change – Airport boundary sufficient for B-II standards
Environmental	No Change – No new impacts or concerns
Cost Estimate	The Airport would likely lose FAA Airport Improvement Program funding due to safety concerns. See discussion below.

Summary. Not upgrading the existing B-II standards creates unsafe and potentially dangerous conditions for the fleet of aircraft currently using and forecasted to utilize the airport. With continued growth and the critical aircraft changing to C-II-2, FAA funding assistance would be impacted, as funding of airport improvements not conforming to design and safety standards is ineligible. To continue to maintain an airport meeting the FAA’s design / safety standards, and in turn obtain federal funding assistance, the airport would likely need to restrict access for those aircraft deemed to be operating beyond the limits of the facility. This alternative has the potential to critically limit growth and revenue at the airport and within the community.

Since the No Action alternative acquires no land and makes no improvements, there are no project improvement costs. However, since current-use and forecasting have demonstrated the need for the airport to upgrade from B-II to C-II, there would likely not be access to FAA AIP funding unless limitations were

placed on users. Without addressing the runway length and width, safety area and object free area requirements, and runway / taxiway separation issues, the FAA would be unable to participate in funding improvements that do not meet the safety standards of the fleet utilizing the airport. Therefore, any future improvements would be the sole responsibility of Madison County. Expenses for future rehabilitation and maintenance alone could exceed several million dollars, even in the short-term (0 – 5 years) as some pavements are already beyond their useful lives and in need of reconstruction / major rehabilitation. Medium and long-term costs would approach \$5M to \$10M in local funds as further pavement rehabilitation / reconstruction becomes necessary for the existing pavements. Additionally, aircraft would continue to operate at a location that does not meet standard safety requirements.

Figure 7.1 Primary Alternative #1: No Action (6,001' x 75' Runway)



Alternative 1
No Action: B-II Runway

B. Primary Alternative #2 – C-II Runway with Extension to the North

This alternative examines developing the runway based on the existing airport footprint and extending the runway to the north for a future length of 7,600 feet. The runway and parallel taxiway would be designed to meet all C-II standards without seeking Modification of Airport Design Standards from the FAA. Meeting the C-II design standards would require major runway reconstruction and an extensive, potentially risky, earthwork project.

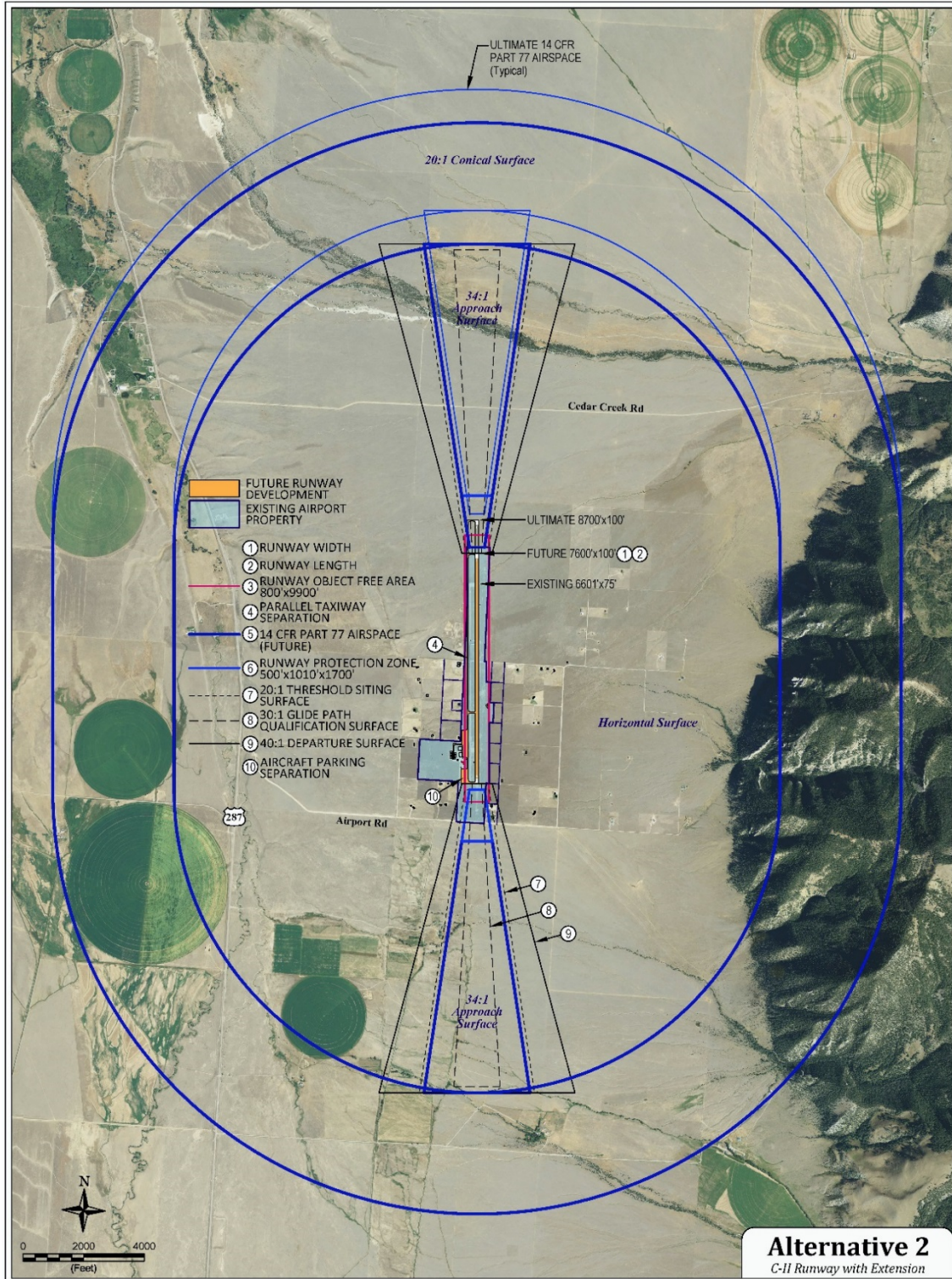
Primary Element	Considerations
Runway Width	<p><u>100 feet (C-II)</u> Widening options are discussed in the Secondary Alternatives considerations.</p>
Runway Length	<p><u>7,600 feet (Future)</u> Extending the runway 1,000 feet (nominally) to the north requires the airport to acquire approximately 31.2 acres of land. The land north of the current airport boundary is owned by the State of Montana, and a perpetual easement is reasonably attainable.</p> <p><u>8,700 feet (Ultimate)</u> Extending the runway an additional 1,100 feet to the north requires the airport to acquire approximately 20.2 acres of land. The land north is owned by the State of Montana, and a perpetual easement is reasonably attainable.</p>
Runway Object Free Area (OFA)	<p><u>800' wide x 8,800' long (Future)</u> The wider C-II OFA creates new obstructions along both sides of the runway that will need mitigation. On the east side are the perimeter fence, segmented circle, wind cone, AWOS, and terrain. On the west side the primary violation will be aircraft parking areas. The airport will also need to acquire land to the north, east, and west. The acreage needed to the north and west is owned by the State of Montana, and a perpetual easement is reasonably attainable.</p>
Parallel Taxiway Separation	<p><u>Minimum 300' from runway centerline (C-II)</u> Continuing the parallel taxiway north will not require additional land acquisition once the acquisitions for the runway OFA is in place. However, additional construction easements from the State of Montana may be necessary to accommodate shoulder fill that likely would extend beyond the limits of the runway OFA.</p>
14 CFR Part 77 Surfaces	<p><u>Non-Precision, Other than Utility, Visibility Minimums >3/4 SM</u> The 34:1 approach surfaces for both runway ends will need to be cleared of fence and terrain penetrations. The primary and transitional surfaces will also have terrain penetrations on the east side that will need to be addressed.</p>

Primary Element	Considerations
Runway Protection Zone (RPZ)	<p><u>500' x 1,010' x 1,700' (C-II)</u></p> <p>The Airport will need to gain control of the land within the RPZs, approximately 39 acres that are beyond the current easements. The Runway 16 and 34 RPZs mostly overlay acreage that is within conservation easements plus land owned by the State of Montana. The State of Montana land and land protected through conservation easements preclude development in these areas, which therefore may not require any acquisitions (or additional avigational easements).</p> <p>As stated above, Airport Road crosses (would continue to cross) the RPZ for Runway 34. The FAA has previously concurred that this would be a permissible alternative (although it would be preferable to maintain control of the entire RPZ, if reasonably feasible).</p>
Threshold Siting Surface (TSS)	<p><u>800' x 3,800' x 10,000'</u></p> <p>(Supports instrument night operations serving greater than approach Category B aircraft.)</p> <p>Clearing obstructions within the OFA and the 14 CFR Part 77 surfaces will clear any penetrations of the threshold siting surface.</p>
Glide Path Qualification Surface (GQS)	<p><u>300' x 1,520' x 10,000'</u> (100' wide C-II runway)</p> <p>Once the penetrations of the 34:1 approach surfaces are cleared, the 30:1 glide path qualification surfaces for each runway end will be unobstructed.</p>
Departure Surface	<p><u>1,000' x 6,466 x 10,200'</u></p> <p>Due to the size of the departure surface, it is not reasonably achievable to entirely clear the surfaces of penetrations. The departure surface off the future Runway 16 end (the Runway 34 departure procedure) will have terrain penetrations along the east side. A portion of Cedar Creek Road (+15' public road clearance) will also penetrate this departure surface. The departure surface off Runway 34 will have the same obstructions in it as it currently does, which are accounted for in the "Ennis One Departure (Obstacle)" procedure.</p>

Primary Element	Considerations
Aircraft Parking Separation	<p>400' separation from runway centerline (C-II)</p> <p>The three existing apron areas (north, central, and south) will each be affected by the greater separation distance. The north apron is most typically used for large itinerant traffic, allowing them to park under power. Although the greater separation distance will reduce the parking area, it will remain sufficient to accommodate the typical traffic (C-II and occasional C-III).</p> <p>The central apron in front of the FBO hangars will be most impacted by the C-II separation standard. The reduced apron width will no longer accommodate the largest of the group II aircraft (wingspan up to 79').</p> <p>The south apron is primarily for small aircraft traffic. The parking area could be up to 140' wide (without airport access road relocation) and allow for 15 small aircraft tie-down positions. The south apron can also be used for overflow parking by large aircraft when necessary.</p> <p>Additional apron construction would need to occur in the short to mid-term period. The Airport would need to develop apron parking either on land they already own, which is farther away from the runway, or purchase one or more nearer, adjacent parcels.</p>
Land Requirements	<p>± 20 Acres</p> <p>The current Airport boundary is not sufficient for C-II design standards. Property would need to be acquired for the runway extension and the runway object free area, most of which is owned by the State of Montana. Additionally, construction easements would be needed for the parallel taxiway shoulder fill and airspace grading on the north and east sides of a new property boundary.</p>
Environmental	<p>The extent of earthwork for this alternative, due to meeting the grade limitations associated with meeting C-II design standards, creates significant geological, hydrogeological, and geotechnical concerns (with up to 30' deep cuts / excavations).</p> <p>With adequate slope embankments (7:1 proposed matching transitional surface; however, anything 3:1 or "flatter" should be sufficient) the geological concerns can be mitigated.</p> <p>Hydrogeological investigations, possibly with the installation of monitoring wells should be completed to depths at least 10' deeper than the deepest excavations proposed. A review of surrounding well logs indicate that ground water is unlikely to pose issues.</p> <p>Direct environmental concerns are mostly limited to significant excavations (east side) and embankments (west side) in the area of McDeed Creek (up to 20' deep cut). More minor earthwork (excavations and embankments) would be necessary in the areas of Shell Creek and Boulder Creek.</p>
Cost Estimate	<p>\$13,900,000</p> <p>The improvements for the future configuration, which meet FAA standards and accounts for the primary elements of the design, is estimated to be \$13.9 million. This includes having to reconstruct a significant portion of the existing runway (approximately 2,000-ft) in order to comply with FAA criteria for the longitudinal profile grade limits and vertical curve criteria on the existing runway.</p> <p>The detailed cost estimate is included in APPENDIX L.</p>

Summary. Approximately 2,000 feet of existing runway would need to be reconstructed, as it currently exceeds the longitudinal profile requirements (existing grade is 1.92%). Additionally, meeting the longitudinal grade criteria, particularly the 0.8% first quarter on the Runway 16 end, results in a large quantity of earthwork (approximately 1.1 million cubic yards) with excavations up to 30' in depth, including approximately a 20-ft deep cut in the area of McDeed Creek. Geotechnical and hydrogeological concerns have not been investigated to those depths along the alluvial fan on which the airport resides.

Figure 7.2 Primary Alternative #2: C-II Runway at Existing Location



C. Primary Alternative #3 – Alternate Site Locations

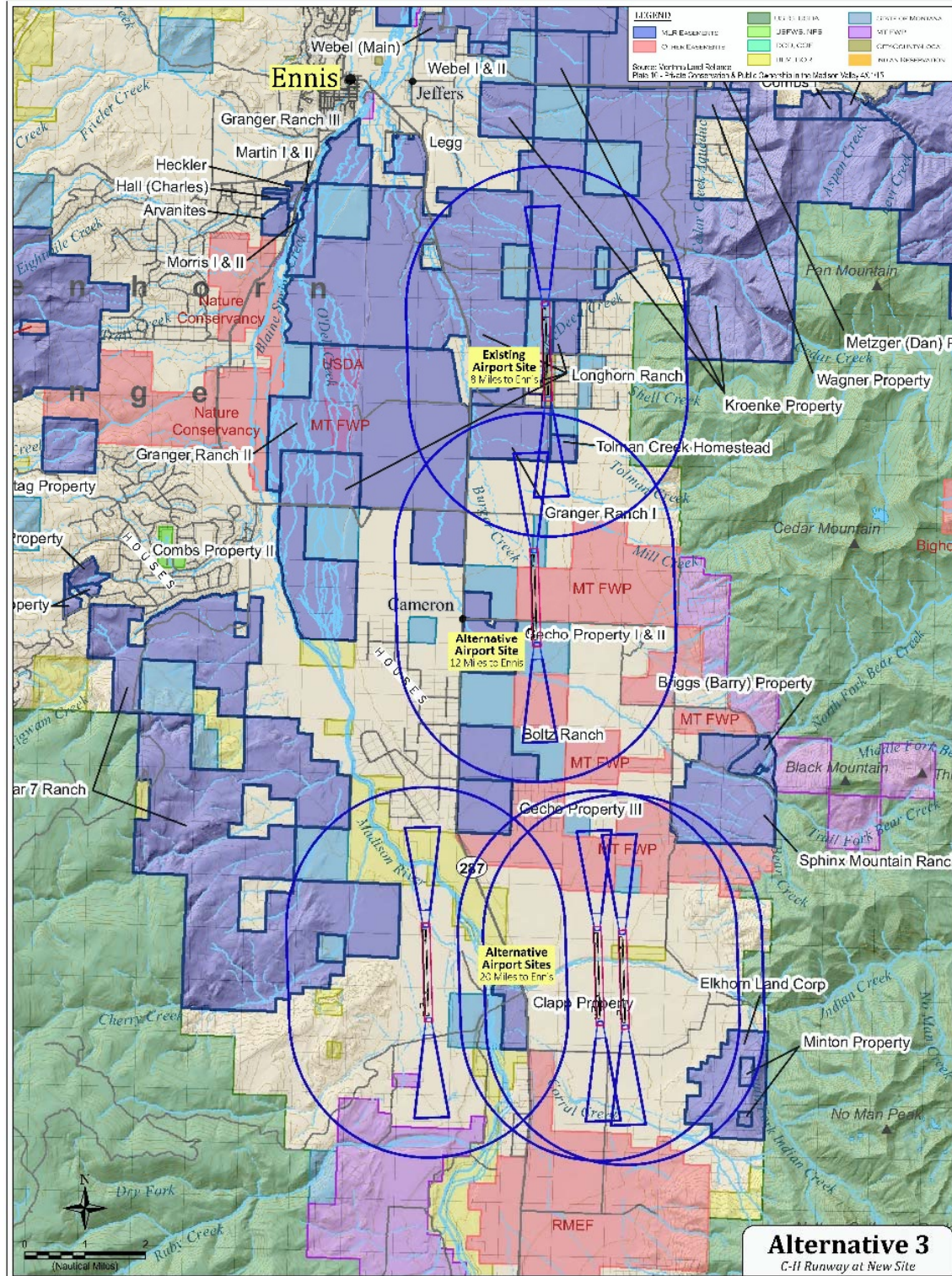
The emphasis of the alternative selection process is to establish a preferred alternative for meeting the existing and forecast needs of the airport. It is expected that these needs can be reasonably achieved at the existing facility. Although there is a heavy infrastructure and private development investment associated with the established facility, alternative sites should to be considered if practicable. A brief review of the Ennis / Madison Valley area was completed to evaluate whether a new location may be better suited to accommodate the Primary Elements for a C-II airport. Alternative site locations were not researched in depth.

Primary Element	Considerations
Runway Width	100 feet (C-II)
Runway Length	7,600 feet (Future) 8,700 (Ultimate)
Runway Object Free Area	800' wide x 8,800' long (Future) 800' wide x 9,900' long (Ultimate)
Parallel Taxiway Separation	Minimum 300' from runway centerline (C-II)
14 CFR Part 77 Surfaces	Non-Precision, Other than Utility, Visibility Minimums >3/4 SM
Runway Protection Zone	500' x 1,010' x 1700' (C-II)
Threshold Siting Surface	800' x 3,800' x 10,000' (Supports instrument night operations serving greater than approach Category B aircraft.)
Glide Path Qualification Surface	300' x 1,520' x 10,000' (100' wide C-II runway)
Departure Surface	1,000' x 6,466 x 10,200'
Aircraft Parking Separation	400' separation from runway centerline (C-II)
Land Requirements	220 Acres for ultimate airport development and an additional 50 Acres (purchases or easements) for the RPZs
Environmental	See Table 2.1 for the 15 environmental impacts that would need to be investigated for an alternate site. Significant public opposition is more likely for an alternate site versus improving the existing site.
Cost Estimate	\$26,400,000 Major costs include land acquisitions, environmental mitigation, earthwork, pavements / pavement sections, as well as the existing private hangars and infrastructure (which have existing lease agreements with Madison County). These lease agreements would either require “buy-outs” and/or Madison County would likely continue to have to maintain the existing airport site until the leases expired. This cost estimate includes some very large assumptions, such as there not being any detrimental environmental impacts requiring extensive mitigation efforts, unknown geotechnical conditions for pavement section requirements, roughly estimated earthwork calculations, and having willing sellers of land at near fair market value.

Summary. The Ennis area and Madison Valley have very few locations that appear suitable for airport construction, largely due to the area’s terrain controlling an alternate site’s suitability to accommodate airport airspace and pavements. Additionally, most of the open land is either National Forest Service or

within a Conservation Easement (shown on the map in green, dark purple, and pink). The conservation easements generally restrict non-agricultural development. In addition to looking for gently sloped open land, a new airport in this valley would also face substantial challenges related to mitigating impacts on the environment and established communities. The resulting potential locations are also considerably farther away from the town of Ennis; the existing airport is already 8 miles from downtown by car. The other sites are approximately 12 to 20 miles south of town.

Figure 7.3 Primary Alternative #3: Possible Alternate Site Locations



D. Primary Alternative #4 – Rotate the Runway

Attempting to lessen the extensive earthwork cuts (volume and maximum depths) needed to clear the Runway 16 airspace, this alternative examines rotating the runway centerline to the northwest. Using the center of the future runway object free area as the pivot point, the centerline was rotated 1.75° west. The angle chosen was a compromise between trying to minimize the depth of terrain to be cut on the north end while also complying with C-II runway design standards for the 7,600-ft runway. The rotation angle used kept the cut depth under 20 feet; lesser angles did not accomplish this. Changing the rotation and/or the pivot point also did not sufficiently reduce the earthwork. Increasing the rotation angle also begins to put the runway OFA onto developed property on the west side. It also creates an increasing amount of fill to be required for runway and taxiway construction on the downsloping terrain, while generating considerably less cut material.

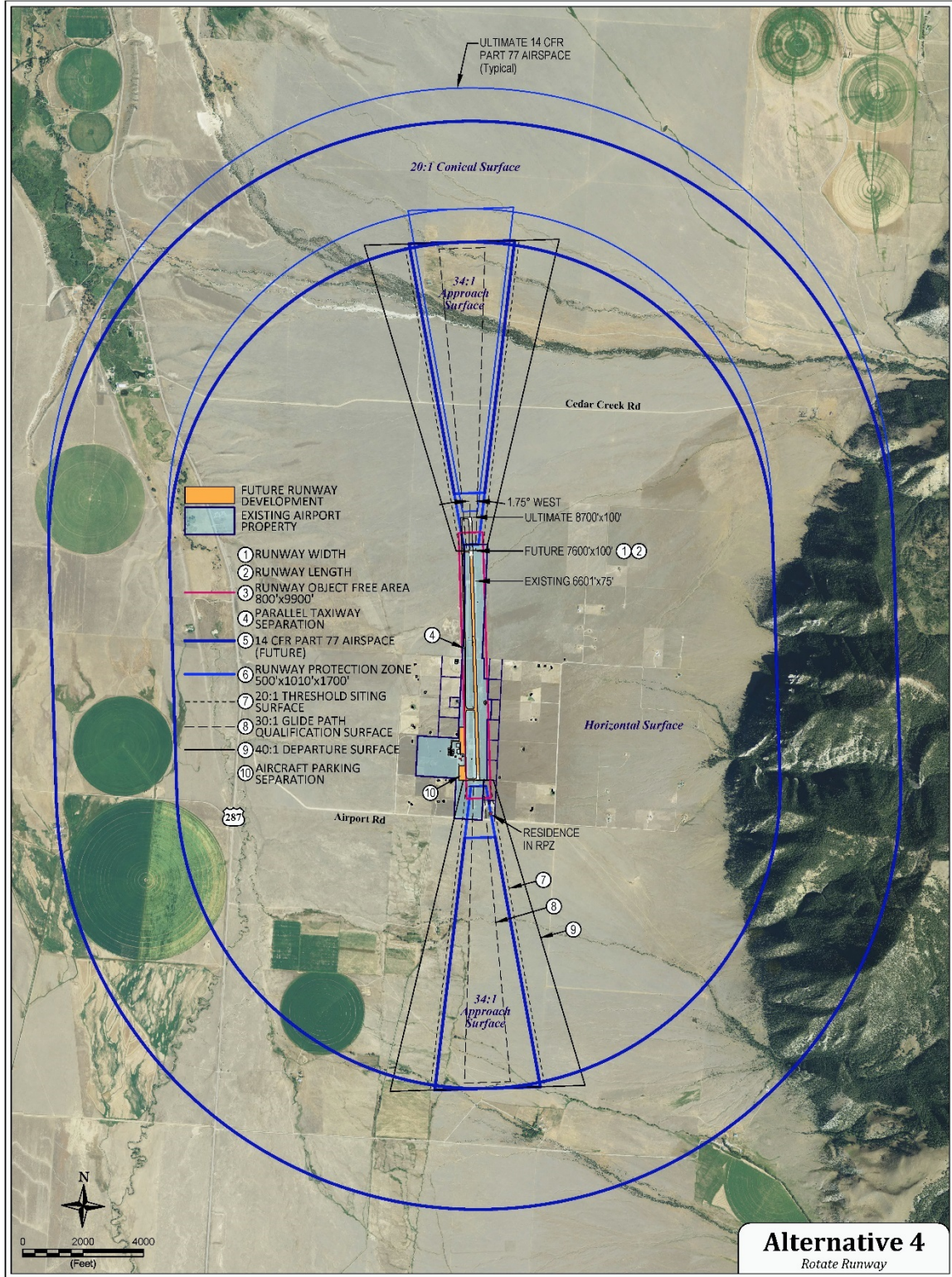
Primary Element	Considerations
Runway Width	100 feet (C-II)
Runway Length	<p>7,600 feet (Future) Extending the runway 1,000 feet (nominally) to the north requires the airport to acquire approximately 37 acres of land. The land north of the current airport boundary is owned by the State of Montana, and a perpetual easement is reasonably attainable.</p> <p>8,700 feet (Ultimate) Extending the runway an additional 1,100 feet to the north requires the airport to acquire approximately 20.2 acres of land. The land north is owned by the State of Montana, and a perpetual easement is reasonably attainable.</p>
Runway Object Free Area (OFA)	<p>800' wide x 8,800' long (Future) The C-II OFA would include obstructions along the east side of the runway that will need mitigation – the perimeter fence, segmented circle, wind cone, AWOS, and terrain. Rotating the runway, and thus the OFA, does not affect the existing apron areas on the west side. The larger, rotated OFA will require the Airport to acquire land to the north, east, and west. The acreage needed to the north and west is owned by the State of Montana, and a perpetual easement is reasonably attainable. On the east side, approximately 9.8 acres of private property from 4 different landowners would need to be purchased to clear the OFA. Acquisition of some of the parcels would be a significant portion of the parcel to likely require acquisition of the remaining acreage as uneconomic remnants (approximately 8.0 additional acres).</p>
Parallel Taxiway Separation	<p>Minimum 300' from runway centerline (C-II) Continuing the parallel taxiway north will not require additional land acquisition once the acquisitions for the runway OFA are in place. However, additional construction easements from the State of Montana would likely be necessary to accommodate shoulder fill that would extend beyond the limits of the runway OFA. Constructing the parallel taxiway to the north will require considerable fill (embankment) material (>20') due to the downslope of the terrain. A small portion of necessary embankment may fall onto private lands.</p>

Primary Element	Considerations
14 CFR Part 77 Surfaces	<p><u>Non-Precision, Other than Utility, Visibility Minimums >3/4 SM</u> The 34:1 approach surfaces for both runway ends will need to be cleared of fence and/or terrain penetrations. The primary and transitional surfaces will also have terrain penetrations that will need to be addressed. The extents of the obstructions in the horizontal and conical surfaces change only slightly due to the runway rotation.</p>
Runway Protection Zone (RPZ)	<p><u>500' x 1,010' x 1,700' (C-II)</u> The Airport will need to gain control of the land within the RPZs. The Runway 16 RPZ overlays acreage that is owned by the State of Montana. The Runway 34 RPZ covers land that is part of a conservation easement and a 6.43-acre lot with an occupied residence and outbuilding. It is expected that easements for the state land and conservation easement areas should be reasonably attainable (or possibly not required due to their existing limiting development protections in-place); purchasing the inhabited parcel has not been put forward at this point.</p>
Threshold Siting Surface (TSS)	<p><u>800' x 3,800' x 10,000'</u> (Supports instrument night operations serving greater than approach Category B aircraft.) For Runway 16, clearing obstructions within the OFA and the 14 CFR Part 77 surfaces will clear any penetrations of the threshold siting surface. The existing residence and outbuilding are within the Runway 34 TSS, both of which would be required to be removed to clear the runway protection zone.</p>
Glide Path Qualification Surface (GQS)	<p><u>300' x 1,520' x 10,000'</u> (100' wide C-II runway) Once the penetrations of the Runway 16 34:1 approach surface are cleared, the 30:1 glide path qualification surface will be unobstructed. The GQS at the Runway 34 threshold should be free of obstructions.</p>
Departure Surface	<p><u>1,000' x 6,466 x 10,200'</u> The departure surface off the future Runway 16 end (the Runway 34 departure procedure) will have terrain penetrations along the east side. A portion of Cedar Creek Road (+15' public road clearance) will also penetrate this departure surface. The departure surface off Runway 34 will have similar obstructions in it as it currently does, which are accounted for in the "Ennis One Departure (Obstacle)" procedure; however, the close-in terrain penetration will be greater due to the runway rotation.</p>

Primary Element	Considerations
Aircraft Parking Separation	<p>400' separation from runway centerline (C-II)</p> <p>The three existing apron areas (north, central, and south) will not be affected by the greater separation distance after the runway bearing is rotated. Although the runway object free area, which coincides with the 400' separation distance, rotates away from the existing apron areas, the parking areas are still constrained by the parallel taxiway OFA, as is the current configuration.</p> <p>In this alternative, the aprons will continue to function as they do in the current airport configuration.</p> <p>Additional apron construction would continue to need to occur in the short to mid-term period. The Airport would need to develop apron parking either on land they already own, which is farther away from the runway, or purchase one or more nearer, adjacent parcels.</p>
Land Requirements	<p>± 30 Acres for future airport development and possibly 24.3 Acres (easements) for the RPZs</p> <p>The current Airport boundary is not sufficient for C-II design standards and the realigned runway corridor. Property would need to be acquired to the north and west for the runway extension and the runway object free area. Private properties on the east side are needed for the OFA (four parcels and a portion of a fifth). Additionally, construction easements would be needed for the parallel taxiway shoulder fill and airspace grading on the north and east sides of a new property boundary.</p>
Environmental	<p>Rotating the runway bearing to lessen the earthwork necessary on the east side lessens the geological, hydrogeological, and geotechnical concerns associated with the runway construction and airspace clearing; however, the runway and parallel taxiway will further infringe upon McDeed Creek and Shell Creek, both intermittent streams. The depths of excavations along these creeks are lessened, but more “length” would be disturbed. More minor disturbances associated with earthwork grading / excavation would be required along Boulder Creek.</p>
Cost Estimate	<p>\$19,600,000</p> <p>The improvements for the future configuration, which meet FAA standards and accounts for the primary elements of the design, is estimated to be \$19.6 million. Rotating the runway and complying with FAA criteria for the longitudinal profile grade limits leaves nearly all the existing runway footprint unavailable to be used in this alternative.</p> <p>The detailed cost estimate is included in APPENDIX L.</p>

Summary. As stated above, a 1.75° western rotation was selected to lessen the required earthwork and depth of excavations necessary to clear the Runway 16 airspace. While this rotation does limit the depth of excavation to less than 20' maximum depth, it creates a very large embankment (fill) associated with the parallel taxiway (1.25M cubic yards). A lesser angle could be selected to attempt to “balance” earthwork quantiles; however, this would increase the depth of cut necessary and would not significantly reduce impacts / excavations similar to those presented in Alternative #2. Additionally, this alternative would require full reconstruction of the existing runway (6,600'), increase necessary land acquisitions, and impacts an occupied residence at the “34” end. A minor benefit occurs with a slightly lessened impact to the existing aprons.

Figure 7.4 Primary Alternative #4: Rotate the Runway



E. Primary Alternative #5 – Develop Runway to the South

This alternative looks at shifting the future runway development to the south to avoid the potentially massive earthwork project necessary with developing to the north. The Runway 16 threshold would be relocated 1,801 feet south of its current location. The 1,801’ of pavement would be removed and regraded to clear the object free area and airspace. This leaves 4,800 feet of existing runway pavement, of which approximately 2,000’ would need to be reconstructed to meet the C-II longitudinal profile grade standards. The remaining existing pavement will be widened to 100’. Constructing 2,800 feet to the south will yield the recommended future length of 7,600 feet. Airport Road would have to be relocated around (or through) the Runway 34 runway protection zone, creating a 1½ -mile detour for residents of the two subdivisions. Much of the land needed for this development is either within a conservation easement or owned by the State of Montana.

Primary Element	Considerations
Runway Width	100 feet (C-II) Widening options are discussed in the Secondary Alternatives considerations.
Runway Length	7,600 feet (Future) Constructing / extending the runway 2,800 feet to the south requires the airport to acquire approximately 57 acres of land. 8,700 feet (Ultimate) Extending the runway 1,100 feet back to the north would likely be most attainable. Significant earthwork would need to occur; however, ultimate conditions are not being evaluated at length (only for general feasibility and land availability). The land north is owned by the State of Montana, upon which exists an existing perpetual easement which the existing runway portion is constructed upon.
Runway Object Free Area (OFA)	800’ wide x 8,800’ long (Future) The wider C-II OFA creates new obstructions along both sides of the runway that will need mitigation. On the east side are the perimeter fence, segmented circle, wind cone, AWOS, and terrain. The larger OFA will require the Airport to acquire land to the south, east, and west. (See Land Requirements below.) The existing residence buildings, located at the southeast corner of the existing airport, remain outside of the OFA. However, acquisition of a portion of the property may be considerable enough to require acquisition of the entire 6.43-acre lot including the residence and outbuilding; purchasing the inhabited parcel has not been put forward at this point.
Parallel Taxiway Separation	Minimum 300’ from runway centerline (C-II) The existing parallel taxiway would be continued at the C-II separation distance north to connect to the relocated Runway 16 end. A new 2,800’x 35’ parallel taxiway to the south would begin at the southeast edge of the south apron.

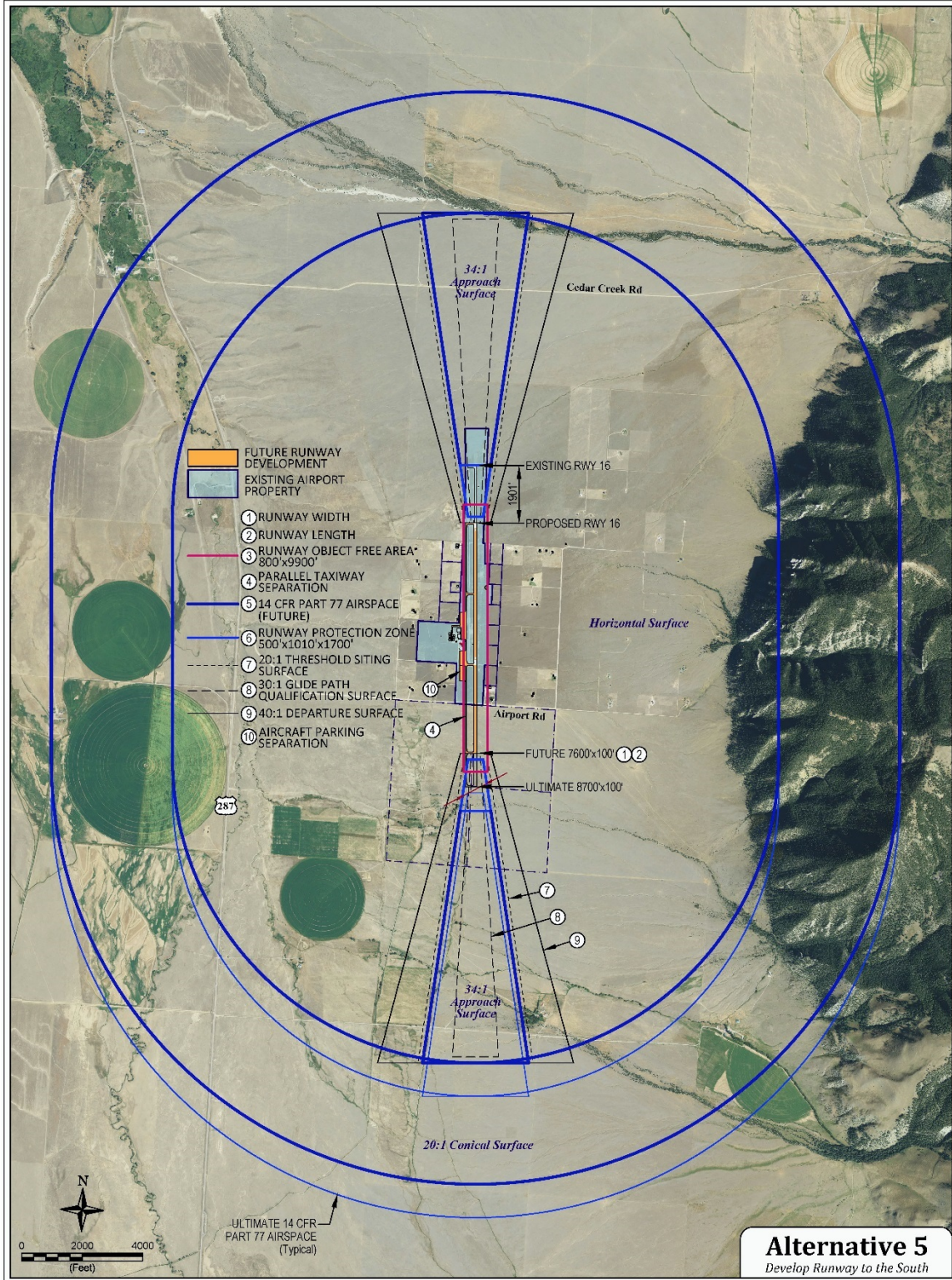
Primary Element	Considerations
14 CFR Part 77 Surfaces	<p><u>Non-Precision, Other than Utility, Visibility Minimums >3/4 SM</u> The 34:1 approach surfaces for each runway end and the primary and transitional surfaces will need to be cleared of terrain or other penetrations. There is an existing overhead power line running diagonally through the Runway 34 airspace. This alternative would need to be developed further to determine whether the transmission line is an airspace penetration. The extents of the obstructions in the horizontal and conical surfaces change slightly due to the shift south.</p>
Runway Protection Zone (RPZ)	<p><u>500' x 1,010' x 1,700' (C-II)</u> The Runway 16 RPZ will now mostly be on land controlled by the Airport. The remainder is on state land and a conservation easement. The Runway 34 RPZ covers land that is part of a conservation easement and land owned by the State of Montana. It is anticipated that with relocation, Airport Road would be rerouted around the outer perimeter of the RPZ rather than having it continue through the RPZ. However, continuing to allow Airport Road to pass through the RPZ would reduce the “detour” distance and slightly reduce costs. Obtaining an easement for the state land should be reasonably attainable. Acquisition of the private land within the conservation easement is less certain.</p>
Threshold Siting Surface (TSS)	<p><u>800' x 3,800' x 10,000'</u> (Supports instrument night operations serving greater than approach Category B aircraft.) For each runway end, clearing obstructions within the OFA and the 14 CFR Part 77 surfaces will clear any penetrations of the threshold siting surface.</p>
Glide Path Qualification Surface (GQS)	<p><u>300' x 1,520' x 10,000'</u> (100' wide C-II runway) Once any penetrations of the 34:1 approach surfaces are cleared, the 30:1 glide path qualification surfaces will be unobstructed at each runway end.</p>
Departure Surface	<p><u>1,000' x 6,466 x 10,200'</u> The departure surface off the future Runway 16 end (the Runway 34 departure procedure) will have terrain and fence penetrations along the east side. The departure surface off Runway 34 will have close-in terrain penetrations and potentially the existing overhead powerlines and trees.</p>

Primary Element	Considerations
Aircraft Parking Separation	<p>400' separation from runway centerline (C-II)</p> <p>The three existing apron areas (north, central, and south) will each be affected by the greater separation distance. The north apron is most typically used for large itinerant traffic, allowing them to park under power. Although the greater separation distance will reduce the parking area, it will remain sufficient to accommodate the jets.</p> <p>The central apron in front of the FBO hangars will be most impacted by the C-II separation standard. The reduced apron width will no longer accommodate the largest of the group II aircraft (wingspan up to 79').</p> <p>The south apron is primarily for small aircraft traffic but is also used for overflow parking by large aircraft when necessary. In this alternative, the south apron could be expanded to the south on land the Airport already owns, although it is a greater distance from the airport's services.</p> <p>Additional apron construction would need to occur in the short to mid-term period. The Airport would need to develop apron parking either on land they already own, which is farther away from the runway and/or services, or purchase one or more nearer, adjacent parcels.</p>
Land Requirements	<p>± 57 Acres for future airport development and an additional 28.6 Acres (easements) for the RPZs</p> <p>The current Airport boundary is not sufficient for C-II design standards and extending the runway corridor to the south. Two private properties on the east side (one with an occupied residence) would need to be acquired for the runway object free area. Approximately 23.5 acres of land needed south of the current airport boundary is owned by the State of Montana, and a perpetual easement is reasonably attainable. The remainder needed to the south, 17 acres, is private ranchland within a conservation easement. Madison County would also need to purchase right-of-way for rerouting Airport Road.</p>
Environmental	<p>Developing the runway to the south lessens the earthwork necessary for construction and airspace clearing at the Runway 16 end. McDeed Creek, an intermittent stream to the north, would not be disturbed in the "future" runway condition.</p> <p>Minor disturbances along both Boulder Creek and Shell Creek will be necessary due to earthwork grading / excavation,</p> <p>The impacts of new runway and taxiway construction to the south may include rerouting Airport Road such that it would cross Tolman Creek twice. Tolman Creek is a nearly year-round creek with significant banks and growth along the banks, more so than the other creeks impacted (McDeed, Boulder, and Shell). Wetlands impacts are also more likely. Permitting, coordination, and possibly mitigation, with U.S. Corps of Engineers and Montana Fish, Wildlife, and Parks would be necessary.</p> <p>It is anticipated that there would also be relatively strong public opposition to a 1½-mile detour around the new airside developments.</p>

Primary Element	Considerations
Cost Estimate	<p><u>\$13,900,000</u></p> <p>The improvements for the future configuration, which meet FAA standards and accounts for only the primary elements of the design, is estimated to be \$13.9 million. Extending the runway to the south and complying with FAA criteria for the longitudinal profile grade limits leaves only about 2,800 feet of the existing runway footprint available to be used in this alternative.</p> <p>The detailed cost estimate is included in APPENDIX L.</p>

Summary. As stated above, an 1,801’ extension to the south was selected to avoid the area where terrain begins to rise (more significantly) in order to lessen the extents of excavation requirements. A lesser “shift” to the south could be selected (primarily to avoid Tolman Creek); however, this would result in increased excavations and therefore, increased costs, but lessened environmental impacts. While this alternative reduces the amount of earthwork necessary, costs for existing facility reconstruction, a longer extension to the south, land acquisitions, and re-routing Airport Road are considerably increased. Only an approximate 2,800 feet of existing runway would be able to be utilized due to longitudinal profile grades. Lastly, it is anticipated that there would be significant public opposition to this alternative due to the Airport Road re-route and necessary acquisition of land within a Conservation Easement.

Figure 7.5 Primary Alternative #5: Develop Runway to the South



F. Primary Alternative #6 – C-II Runway with FAA Modification of Airport Design Standards

Primary Alternative #6 considers the layout presented as Primary Alternative #2 plus options where it may be reasonable and justified to depart from certain FAA design recommendations or requirements, while still providing an acceptable level of safety. Departing from standards would aim to significantly reduce the costs associated with the proposed improvements, making them more feasible from both a constructability and an economic standpoint. Once again, cost alone should not be a factor in rejecting an alternative *unless the cost of the alternative renders it infeasible* or impractical. Proposing any variations of FAA recommendations or requirements requires approval by the FAA in all instances. If these options are approved by the FAA as providing an acceptable level of safety, these modifications would greatly reduce the cost, environmental impacts (particularly concerning McDeed Creek), and hydrogeological and geotechnical concerns (relating to the extent of excavation necessary along the alluvial fan) associated with this or any similar alternative.

Three FAA *Modifications of Airport Design Standards* (MOS) are considered as part of this alternative:

- MOS 1: Runway Surface Gradient – 0.8% Maximum Slope First and Last Quarter
- MOS 2: Runway Surface Gradient – 1.5% Maximum Slope Central Half
- MOS 3: Runway Surface Gradient – Vertical Curve Criteria.

Approval of a downslope approach steeper than 0.8% requires efforts to mitigate the phenomenon of runway slope illusion, a pilot’s visual misperception due to the absence or alteration of visual references. “*Visual illusions are most critical when transitioning from instrument meteorological conditions (IMC) and instrument references to visual meteorological conditions (VMC) and visual references.*”¹ When approaching a downsloping runway a pilot may perceive that the aircraft is lower than it actually is, resulting in a higher approach. Maintaining the proper glide slope, the aircraft then touches down farther along on the runway, shortening the available landing distance.

Primary Alternative #6 was evaluated using 3 different options for the MOS.

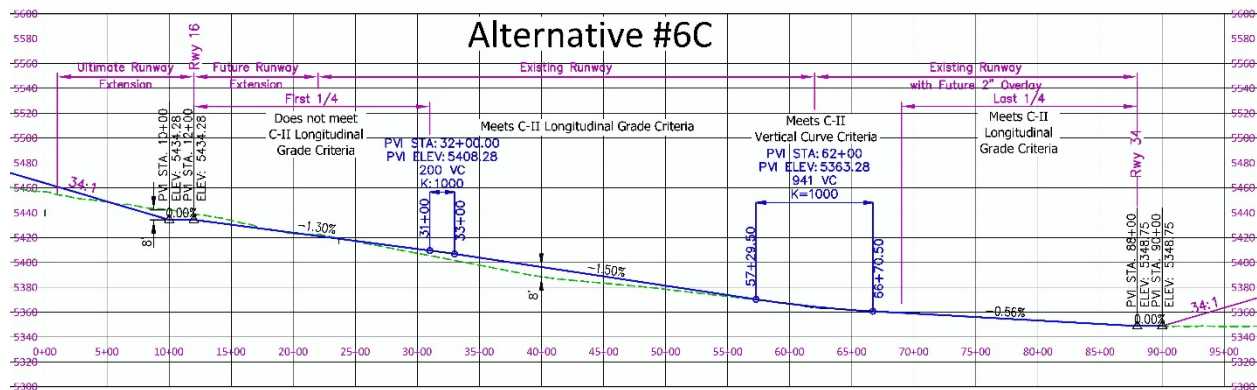
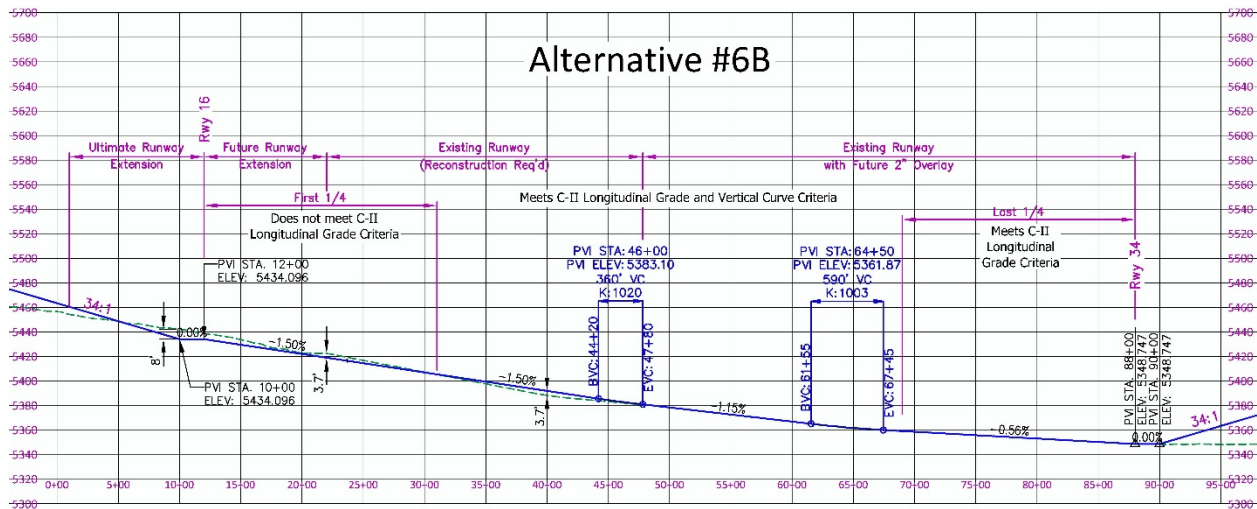
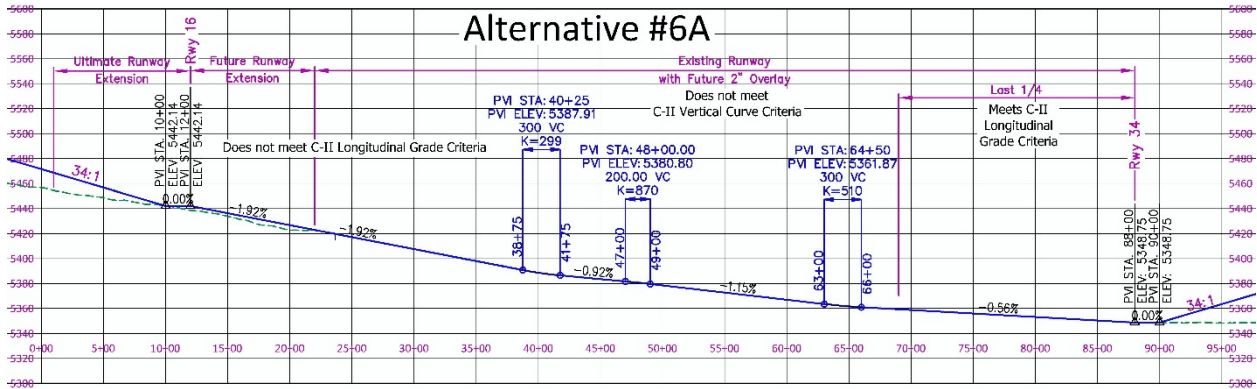
- Station references: Sta. 12+00 = Future Runway 16 threshold
- Sta. 22+00 = Existing Runway 16 threshold
- Sta. 88+00 = Existing and Future Runway 34 threshold

- 1) #6A – The existing runway profile grades (Sta. 22+00 to 88+00) are unchanged and the runway extension (Sta. 12+00 to 22+00) is continued at the 1.9% profile grade. This option requires approval of at least MOS 1 and MOS 2 listed above (additionally it is highly likely that a parallel taxiway MOS would be required upon construction – exceeding 1.5% maximum). MOS 3 is not directly associated with the other modifications presented. Without approval of MOS 3, “partial” rehabilitation / reconstruction of approximately 1,400 feet of runway would be required to upgrade the vertical curves within the existing runway profile (a portion of which overlaps the area with 1.9% longitudinal grade). MOS 3 savings are estimated at approximately \$355,000.
- 2) #6B – The existing runway profile grade is unchanged from Sta. 41+00 to 88+00; the rest of the existing runway and the extension (Sta. 12+00 to 41+00) is at 1.5% (maximum). This option requires approval of MOS 1. MOS 3 is not directly associated with MOS 1. Without approval of MOS 3, “partial” rehabilitation / reconstruction of approximately 850 feet of runway would be required to upgrade the vertical curves within the existing runway profile. MOS 3 savings are estimated at approximately \$215,000.

¹ Flight Safety Foundation Approach-and-landing Accident Reduction Tool Kit, FSF ALAR Briefing Note 5.3 – Visual Illusions ©2000.
https://flightsafety.org/wp-content/uploads/2016/09/alar_bn5-3-illusions.pdf

- 3) #6C – The existing runway profile grade is unchanged from Sta. 66+70 to 88+00. The central portion from Sta. 32+00 to 62+00 is at 1.5% and the first quarter, Sta. 12+00 to 32+00, is at 1.3%. This options requires approval of MOS 1.

These alternatives presuppose that the necessary modifications are approved; however, FAA approval would be required as part of the Airport Layout Plan. Any approved FAA Modifications of Airport Design Standards will be included within the final Airport Layout Plan in **Appendix O**.



Primary Element	Considerations
Runway Width	<p>100 feet (C-II) Widening options are discussed in the Secondary Alternatives considerations.</p>
Runway Length	<p>7,600 feet (Future) Extending the runway 1,000 feet (nominally) to the north requires the airport to acquire approximately 31.2 acres of land. The land north of the current airport boundary is owned by the State of Montana, and a perpetual easement is reasonably attainable.</p> <p>8,700 feet (Ultimate) Extending the runway an additional 1,100 feet (nominally) to the north requires the airport to acquire approximately 20.2 acres of land. The land north is owned by the State of Montana, and a perpetual easement is reasonably attainable.</p>
Runway Object Free Area (OFA)	<p>800' wide x 8,800' long (Future) The wider C-II OFA creates new obstructions along both sides of the runway that will need mitigation. On the east side are the perimeter fence, segmented circle, wind cone, AWOS, and terrain. On the west side the primary violation will be aircraft parking areas. The airport will also need to acquire land to the north, east, and west. The acreage needed to the north and west is owned by the State of Montana, and a perpetual easement is reasonably attainable.</p> <p>The penetrations exist in all options (6A, 6B, and 6C); however, the terrain penetrations increase with each longitudinal grade option, respectively.</p>
Parallel Taxiway Separation	<p>Minimum 300' from runway centerline (C-II) Continuing the parallel taxiway north will not require additional land acquisition once the acquisitions for the OFA are in place. Additional construction easements from the State of Montana may be necessary to accommodate shoulder fill that could extend beyond the limits of the runway OFA.</p> <p>Shoulder fill is generated by excavations associated with the runway for all alternatives; therefore, there is not significant cost changes under any option.</p>
14 CFR Part 77 Surfaces	<p>Non-Precision, Other than Utility, Visibility Minimums >3/4 SM The 34:1 approach surfaces for both runway ends will need to be cleared of fence and terrain penetrations. The primary and transitional surfaces will also have terrain penetrations on the east side that will need to be addressed.</p> <p>The penetrations exist in all options (6A, 6B, and 6C); however, the terrain penetrations increase with options 6B and 6C. 6C actually has slightly less terrain penetrations (due to maximizing the central portion at 1.5%), but it requires reconstruction of a large portion of the existing runway.</p> <p>The terrain penetrations under all options will not be as severe as the similar alternative without Modifications of Airport Design Standards.</p>

Primary Element	Considerations
Runway Protection Zone (RPZ)	<p><u>500' x 1,010' x 1,700' (C-II)</u></p> <p>The Airport will need to gain control of the land within the RPZs, approximately 39 acres that are beyond the current easements. The Runway 16 and 34 RPZs mostly overlay acreage that is within conservation easements plus land owned by the State of Montana. The State of Montana land and land protected through conservation easements preclude development in these areas, which therefore may not require any acquisitions (or additional avigational easements).</p> <p>As stated above, Airport Road crosses (would continue to cross) the RPZ for Runway 34. The FAA has previously concurred that this would be a permissible alternative (although it would be preferable to maintain control of the entire RPZ, if reasonably feasible).</p>
Threshold Siting Surface (TSS)	<p><u>800' x 3,800' x 10,000'</u></p> <p>(Supports instrument night operations serving greater than approach Category B aircraft.)</p> <p>Clearing obstructions within the OFA and the 14 CFR Part 77 surfaces will clear any penetrations of the threshold siting surface.</p>
Glide Path Qualification Surface (GQS)	<p><u>300' x 1,520' x 10,000'</u> (100' wide C-II runway)</p> <p>Once the penetrations of the 34:1 approach surfaces are cleared, the 30:1 glide path qualification surfaces for each runway end will be unobstructed.</p>
Departure Surface	<p><u>1,000' x 6,466 x 10,200'</u></p> <p>The departure surface off the future Runway 16 end (the Runway 34 departure procedure) will have terrain penetrations along the east side. A portion of Cedar Creek Road (+15' public road clearance) will also penetrate this departure surface. The departure surface off Runway 34 will have the same obstructions in it as it currently does, which are accounted for in the current "Ennis One Departure (Obstacle)" procedure.</p>
Aircraft Parking Separation	<p><u>400' separation from runway centerline (C-II)</u></p> <p>The three existing apron areas (north, central, and south) will each be affected by the greater separation distance. The north apron is most typically used for large itinerant traffic, allowing them to park under power. Although the greater separation distance will reduce the parking area, it will remain sufficient to accommodate the jets.</p> <p>The central apron in front of the FBO hangars will be most impacted by the C-II separation standard. The reduced apron width will no longer accommodate the largest of the group II aircraft (wingspan up to 79').</p> <p>The south apron is primarily for small aircraft traffic. The parking area could be up to 140' wide and allow for 15 small aircraft tie-down positions. The south apron can also be used for overflow parking by large aircraft when necessary.</p> <p>Additional apron construction would need to occur in the mid-term period. The Airport would need to develop apron parking either on land they already own, which is farther away from the runway, or purchase one or more nearer, adjacent parcels.</p>

Primary Element	Considerations
Land Requirements	<p><u>± 20 Acres</u></p> <p>The current Airport boundary is not sufficient for C-II design standards. Property would need to be acquired for the runway extension and the runway object free area. Additionally, construction easements may be needed for the parallel taxiway shoulder fill and airspace grading on the north and east sides of a new property boundary.</p>
Environmental	<p>The extent of earthwork for these alternatives is lessened by the proposed MOS(s). The impacts increase, with each alternative, respectively, as the earthwork necessary increases (further impacting McDeed and Shell Creeks, and increasing geotechnical and hydrogeological concerns).</p> <p>Alternative #6A greatly lessens the excavations necessary, with a maximum depth of cut of approximately 11', and less than 5' cuts (east) and fills (west) along McDeed Creek.</p> <p>Alternative #6B includes excavations up to approximately 22' in depth, including approximately 19' along McDeed Creek (east side)</p> <p>Alternative #6C includes excavations up to approximately 19' in depth, including approximately 10' along McDeed Creek (east side).</p>
Cost Estimate	<p><u>\$8,500,000 to \$11,900,000</u></p> <p>The improvements for the future configuration, with approved FAA Modifications of Airport Design Standards and only the primary elements of the design accounted for, is estimated to be:</p> <ul style="list-style-type: none"> \$8.5 million for Alternative #6A \$11.7 million for Alternative #6B \$11.9 million for Alternative #6C. <p>These costs include having to reconstruct a large portion of the existing runway in Alternatives #6B (1,900') and #6C (4,470') in order to flatten the longitudinal profile grade to 1.5% maximum (while Alternative #6C attempts to additionally reduce the last quarter).</p> <p>The detailed cost estimate is included in APPENDIX L.</p>

Summary. Meeting the longitudinal grade criteria (particularly the 0.8% last quarter on the Runway 34 end) results in extensive earthwork, cost, and increased environmental, geotechnical, and hydrogeological concerns. Therefore, areas that it may be permissible to depart from standards have been evaluated.

Alternative #6A would maintain 1.9% slope within the existing runway, and proposes to extend north (1,000') at 1.9%. This greatly reduces the earthwork and associated costs, and impacts to McDeed Creek. It also utilizes the entirety of the existing 6,600-ft long runway.

Alternative #6B would reconstruct approximately 1,900' of runway with reconstruction to 1.5% maximum slope., and extend north (1,000') also at 1.5% maximum slope. Maximum depths of cut are limited to approximately 23' (compared to 30' in Alternative #2), including an approximate 20' deep cut in the area of McDeed Creek (similar to that of Alternative #2, as McDeed Creek falls within the 1.5% longitudinal grade section applicable to both alternatives). The geotechnical and hydrogeological concerns are mostly mitigated with this alternative, as prior excavations and numerous geotechnical borings on the airport have been completed to these approximate depths (20-ft).

Alternative #6C attempted to further limit the depth of excavations, by maximizing the central portion of the runway to 1.5% maximum. This would require reconstruction of 4,470 feet of the existing runway. While the maximum depths of cut have been further reduced (when compared to #6B), the cost of reconstruction of the vast majority of the exiting runway causes slight cost increases. The only notable improvement, is a slightly “flattened” last quarter of the runway, with nearly offsetting costs of lessened earthwork versus an increased portion of existing runway reconstruction. This alternative is the closest of the three to try to achieve the 0.8% profile grade specification for the first quarter of the future runway length.

G. Primary Element Alternatives Summary and Selection

Madison County utilized a weighted criteria-ranking analysis to aid in evaluating the Primary Elements alternatives. The ranking scores are summarized below; the spreadsheet with full ranking criteria is included in **APPENDIX L**. A “perfect” score would equal 1,100.

Not Evaluated: Primary Alternative #1 – No Action

This alternative was not considered a viable option for meeting facility requirements. It was eliminated because restricting aircraft larger than the current B-II standards would be highly detrimental to airport growth and the economic benefits that the airport provides to the surrounding communities.

Evaluation: Primary Alternative #2 – C-II Runway with Extension to the North

Score: 827. Proposing to upgrade the Airport to C-II standards at the existing location without modifications to FAA design standards put this alternative fourth out of the six alternatives ranked; however, it is noted that this alternative is the highest ranked of those not requiring approval of FAA Modification of Airport Design Standards. Most detrimental to this alternative were the environmental and cost considerations. Further geotechnical and hydrogeological investigations should be completed in order to further evaluate the impacts of the excavation extents (and determine feasibility and further refined cost estimates based those investigations).

Not Evaluated: Primary Alternative #3 – Alternate Site Locations

This alternative was eliminated because the goal is to improve the existing site, if practicable. In addition, relocation to a new site would likely be highly controversial and unjustifiably expensive when compared to the remaining viable alternatives.

Evaluation: Primary Alternative #4 – Rotate the Runway

Score: 664. Rotating the runway bearing 1.75° to the west eased some of the earthwork concerns to the northeast while creating deep areas of fill necessary for the central portion of the runway corridor and parallel taxiway. A lesser rotation angle could be selected to increase excavation and decrease the parallel taxiway fill; however, the lesser rotation angle simply begins to approach Primary Alternative #2.

Evaluation: Primary Alternative #5 – Develop Runway to the South

Score: 698. Runway development shifts from the north to the south in an effort to reduce the necessary earthwork excavations associated with Primary Alternative #2, while maintaining design standards for longitudinal gradient. This alternative ranked fifth out of the 6 alternatives evaluated. Land acquisitions (some within conservations easements), cost, and impacts to Airport Road (which would be likely to have significant public opposition) contributed to this determination. This alternative would also impact Tolman Creek, creating additional environmental concerns. A lesser shift could be utilized, which would increase earthwork and cost, but eliminate the Tolman Creek impact.

Evaluation: Primary Alternative #6A – C-II Runway with FAA MOS, 1.9% Profile Grade

Score: 1,034. This alternative would require at least two FAA approved Modification of Airport Design Standards (1.5% maximum longitudinal grade for the central portion, and 0.8% maximum longitudinal grade for the Runway 16 first quarter). Although this alternative was the sponsor’s

selected *Preferred Alternative*, the FAA has determined that approval of the MOS to exceed the 1.5% longitudinal grade criteria does not provide an acceptable level of safety, and therefore would not be FAA eligible for assistance. This would result in this alternative being at the sole expense of Madison County, and would increase the liability on Madison County with the determination from the FAA that an acceptable level of safety has not been provided. For these reasons, this alternative was eliminated from the final selection criteria.

Evaluation: Primary Alternative #6B – C-II Runway with FAA MOS, 1.5% (Maximum) Profile Grade

Score: 893 Preferred Alternative. This alternative was the selected *Preferred Alternative* out of the six evaluated. This alternative would require one FAA approved Modification of Airport Design Standards (0.8% maximum longitudinal grade for the Runway 16 first quarter). The other considered MOS for vertical curve criteria has been excluded, as the FAA determined it would not be allowable, due to the widening portion adding to the existing vertical curves (in other words, widening would construct more pavement not meeting standards). This alternative requires reconstruction of approximately 2,600’ of existing runway to 1.5% maximum slope and construction of the 1,000-ft runway extension, also at 1.5% maximum slope. Earthwork costs (excavation and embankment quantities and depths) and impacts to McDeed Creek are significantly lessened compared to Primary Alternative #2.

Evaluation: Primary Alternative #6C – C-II Runway with FAA MOS, 1.3% Profile Grade

Score: 836. This alternative attempted to limit the grades in the Runway 16 first quarter by maximizing the grade in the central portion to 1.5%, and achieve a “balanced” earthwork scenario. The result was an approximate 1.3% maximum first quarter profile grade, requiring one FAA approved Modification of Airport Design Standards (0.8% maximum longitudinal grade for the first quarter). This alternative ranked third out of the six evaluated, mostly due to the required earthwork, reconstruction of approximately 4,470’ of existing runway, and resulting cost(s).

8. Secondary Element Alternative Analysis

Secondary element analysis at the Ennis Big Sky Airport is less influential to the alternatives process, since for the most part, the secondary features are controlled by the requisites of the primary elements. Moving forward with the selected *Preferred Alternative* Primary Alternative #6B, further alternative development was completed using the secondary element analysis found in the following sections. Three options for widening the runway were developed based on approval of the preferred alternative #6B, including FAA approval of the Modification of Airport Design Standards. Impacts to taxilanes and hangars, terminal area development, existing and future apron layout options, vehicular access and parking, etc., were addressed through an iterative process with the Sponsor and the Airport Board. Determinations for these elements were based on foreseen needs and preferences since they have little effect on an alternative’s evaluation.

Seven Secondary Elements are considered for each of the 3 Secondary Alternatives.

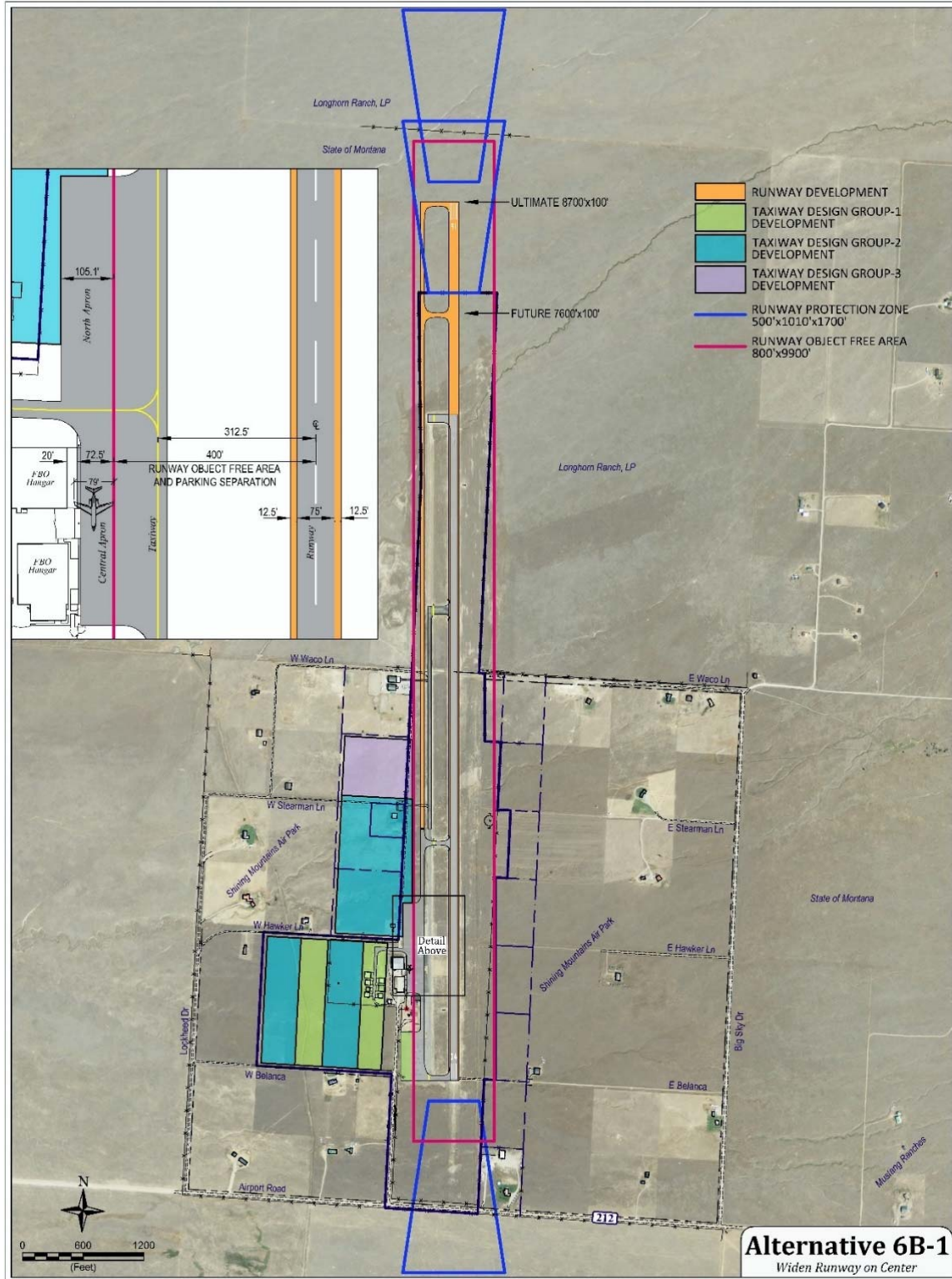
1. Runway Widening
2. Runway Object Free Area (OFA)
3. Instrument Approach Procedures and Navigational Aids
4. Aircraft Parking Separation
5. Land Requirements
6. Additional Environmental Considerations
7. Cost Estimate

A. Secondary Alternative #6B-1: Runway Widening on Centerline

Secondary Element	Considerations
Runway Widening	<p>Widen on Centerline The runway would be widened 12.5 feet on both sides, maintaining the pavement crown on centerline.</p>
Runway Object Free Area (OFA) Runway Safety Area (RSA)	<p>OFA: 800' wide x 8,800' long (Future) RSA: 400' wide x 8,800' long (Future) The C-II OFA creates new obstructions along both sides of the runway that will need mitigation. On the east side are the perimeter fence, segmented circle, wind cone, AWOS, and terrain. On the west side, aircraft parking areas will be reduced. The RSA will require grading to meet the C-II standards and the existing drainage ditches and culverts will have to be moved or extended outside of the RSA.</p>
Instrument Approach Procedures and Navigational Aids	<p>Non-Precision, Not Lower than 1 Mile PAPI, Medium Intensity Runway and Taxiway Lighting Extending Runway 16 to the north requires new procedure development. Widening the runway on centerline may not require an amendment / new procedure for the Runway 34 end, as the threshold is anticipated to remain in the same position horizontally as it is currently and is not expected to change by more than the 3-foot vertically (allowable tolerance). The Runway 16 PAPI equipment will need to be relocated based on the future threshold location. The Runway 34 PAPI equipment will need to be moved outboard relative to the new edge of pavement (and likely adjusted vertically with shoulder grading and centerline profile changes). All lights adjacent to the existing runway pavement edges will have to be moved due to the on-center widening.</p>
Aircraft Parking Separation	<p>400' C-II separation from runway centerline The three existing apron areas (north, central, and south) will each be affected by the separation distance. Although the greater separation distance will reduce the parking area on the north apron, it will remain sufficient to allow the itinerant jet traffic to park under power. The central apron in front of the FBO hangars will be most impacted by the C-II separation standard. The apron pavement width will be reduced to 72.5 feet, no longer wide enough accommodate the largest of the group II aircraft (wingspan < 79'). The south apron is primarily for small aircraft traffic. The parking area could be up to 127.5 feet wide and allow for 14 small aircraft tie-down positions. The south apron can also be used for overflow parking by large aircraft when necessary. Additional apron construction would need to occur in the short to mid-term period (in addition to reconstruction of the existing south apron due to the pavements being past their useful life).</p>

Secondary Element	Considerations
Land Requirements	<p>±31.5 Acres (State of Montana, easement needed) ±10 Acres (Private)</p> <p>The current Airport boundary is not sufficient for C-II design standards. Property would need to be acquired for the future and ultimate runway extensions and the ultimate runway object free area. The private property acquisitions consist of 2 parcels on the east side, the largest of which is rangeland that is within a conservation easement; the other parcel is an undeveloped lot in the Shining Mountains Air Park subdivision.</p>
Environmental	<p>Other than the considerations discussed in the Primary Elements alternative analysis, widening the runway on centerline does not present any additional known environmental impacts.</p>
Cost Estimate	<p>\$11,700,000</p> <p>This estimate does not produce any significant changes to the Primary Alternative #6B cost estimate. Runway construction would require land acquisitions and relocation of the lighting system and PAPIs on both sides of the runway.</p> <p>The detailed cost estimate is included in APPENDIX L.</p>

Figure 8.1 Secondary Alternative #6B-1 Runway Widening on Centerline

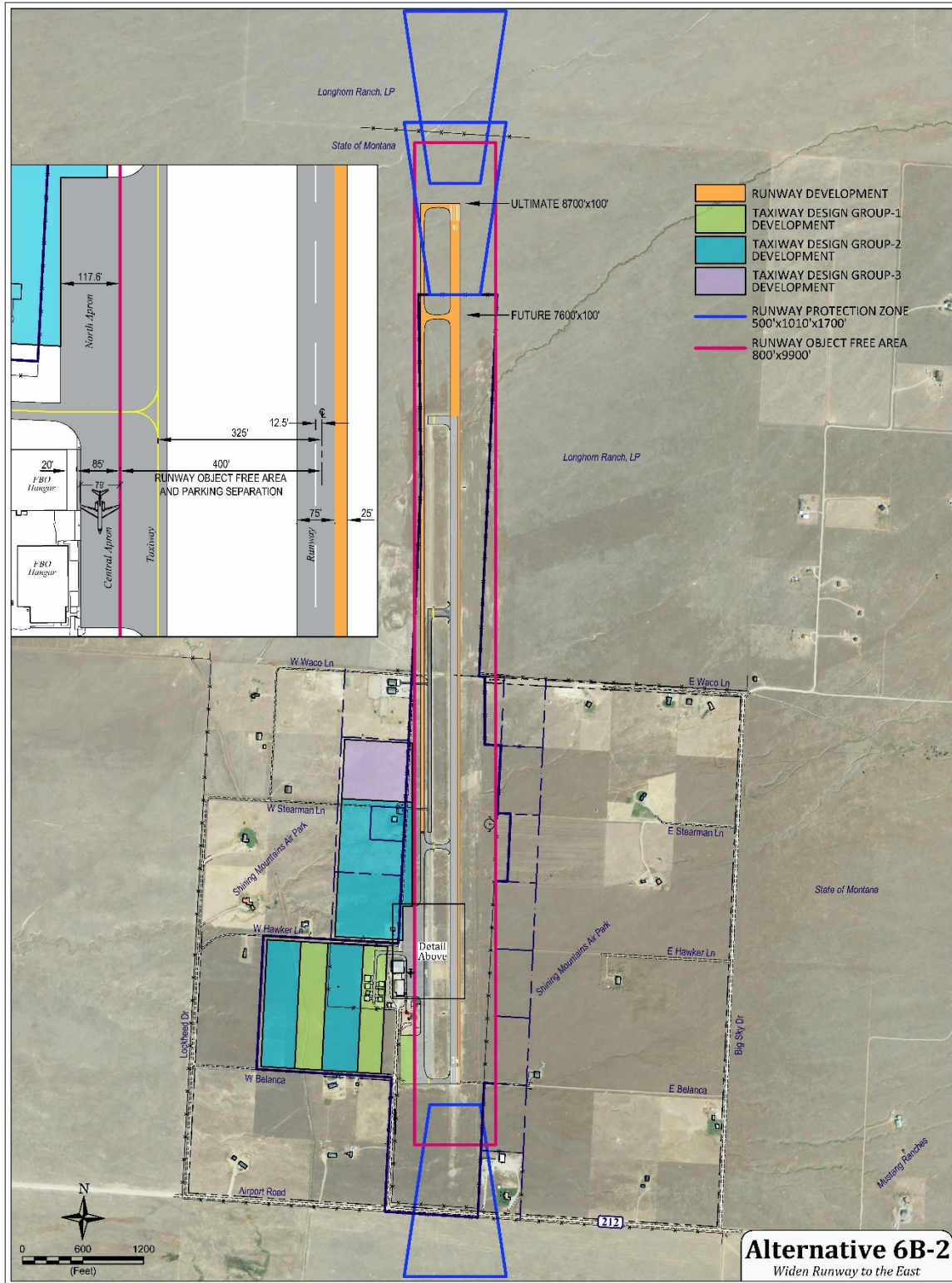


B. Secondary Alternative #6B-2: Runway Widening Eastward

Secondary Element	Considerations
Runway Widening	<p>Widen to the East The runway would be widened 25 feet to the east, creating an off-center pavement crown. The crown would be 12.5’ west of the new centerline, which is within the 25-foot permissible offset per FAA AC 150/5300-13A, Paragraph 313.b.(5).</p>
Runway Object Free Area (OFA) Runway Safety Area (RSA)	<p>OFA: 800’ wide x 8,800’ long (Future) RSA: 400’ wide x 8,800’ long (Future) The C-II OFA creates new obstructions along both sides of the runway that will need mitigation. On the east side are the perimeter fence, segmented circle, wind cone, AWOS, and terrain. This alternative will require the most earthwork grading of the 3 secondary alternatives due to the rising terrain all along the east side of the runway corridor. On the west side, aircraft parking areas will be reduced (although, this has an opposite effect, with this secondary alternative having the least impact). The RSA will require grading to meet the C-II standards and the existing drainage ditches and culverts will have to be moved or extended outside of the RSA.</p>
Instrument Approach Procedures and Navigational Aids	<p>Non-Precision, Not Lower than 1 Mile PAPI, Medium Intensity Runway Lighting Extending Runway 16 to the north requires new procedure development. Widening the runway all to the east side will require a new Runway 34 approach procedure. The threshold will shift 12.5’ to the east, which exceeds the 10-foot horizontal tolerance. The Runway 16 PAPI equipment will need to be relocated based on the future threshold location; the Runway 34 PAPI equipment <u>may</u> be able to remain in place, although adjustments may be necessary based on shoulder grading and any runway profile changes. All lights adjacent to the east side of the existing runway pavement edge must be moved due to the eastward widening.</p>
Aircraft Parking Separation	<p>400’ C-II separation from runway centerline The three existing apron areas (north, central, and south) will each be affected by the separation distance. This alternative leaves the greatest area available for aircraft parking. Although the greater separation distance will reduce the parking area on the north apron, it will remain sufficient to allow the itinerant jet traffic to park under power. The central apron in front of the FBO hangars will be most impacted by the C-II separation standard. The apron pavement width will be 85 feet, wide enough accommodate the largest of the group II aircraft (wingspan < 79’). The south apron is primarily for small aircraft traffic. The parking area could be up to 140 feet wide and allow for 18 small aircraft tie-down positions. The south apron can also be used for overflow parking by large aircraft when necessary. Additional apron construction would need to occur in the short to mid-term period (in addition to reconstruction of the existing south apron due to the pavements being past their useful life).</p>

Secondary Element	Considerations
Land Requirements	<p>±30.7 Acres (State of Montana, easement needed) ±11.1 Acres (Private)</p> <p>The current Airport boundary is not sufficient for C-II design standards. Property would need to be acquired for the future and ultimate runway extensions and the ultimate runway object free area. The private property acquisitions consist of 2 parcels on the east side, the largest of which is rangeland that is within a conservation easement; the other parcel is an undeveloped lot in the Shining Mountains Air Park subdivision.</p>
Environmental	<p>Other than the considerations discussed in the Primary Elements alternative analysis, widening the runway eastward does not present any additional known environmental impacts.</p>
Cost Estimate	<p>\$11,700,000</p> <p>This estimate does not produce any significant changes to the Primary Alternative #6B cost estimate. Runway construction would require land acquisitions and relocation of the lighting system on the east side of the runway.</p> <p>This alternative has the least impact on the existing apron areas, which alleviates the near-term costs of providing additional aircraft parking area. It is also less disruptive to the FBOs that have invested substantially into their existing facilities.</p> <p>The costs associated with new instrument approach procedures are not a measurable component because the FAA develops the procedures at no direct cost to the airport's Owner / Sponsor.</p> <p>The detailed cost estimate is included in APPENDIX L.</p>

Figure 8.2 Secondary Alternative #6B-2 Runway Widening Eastward

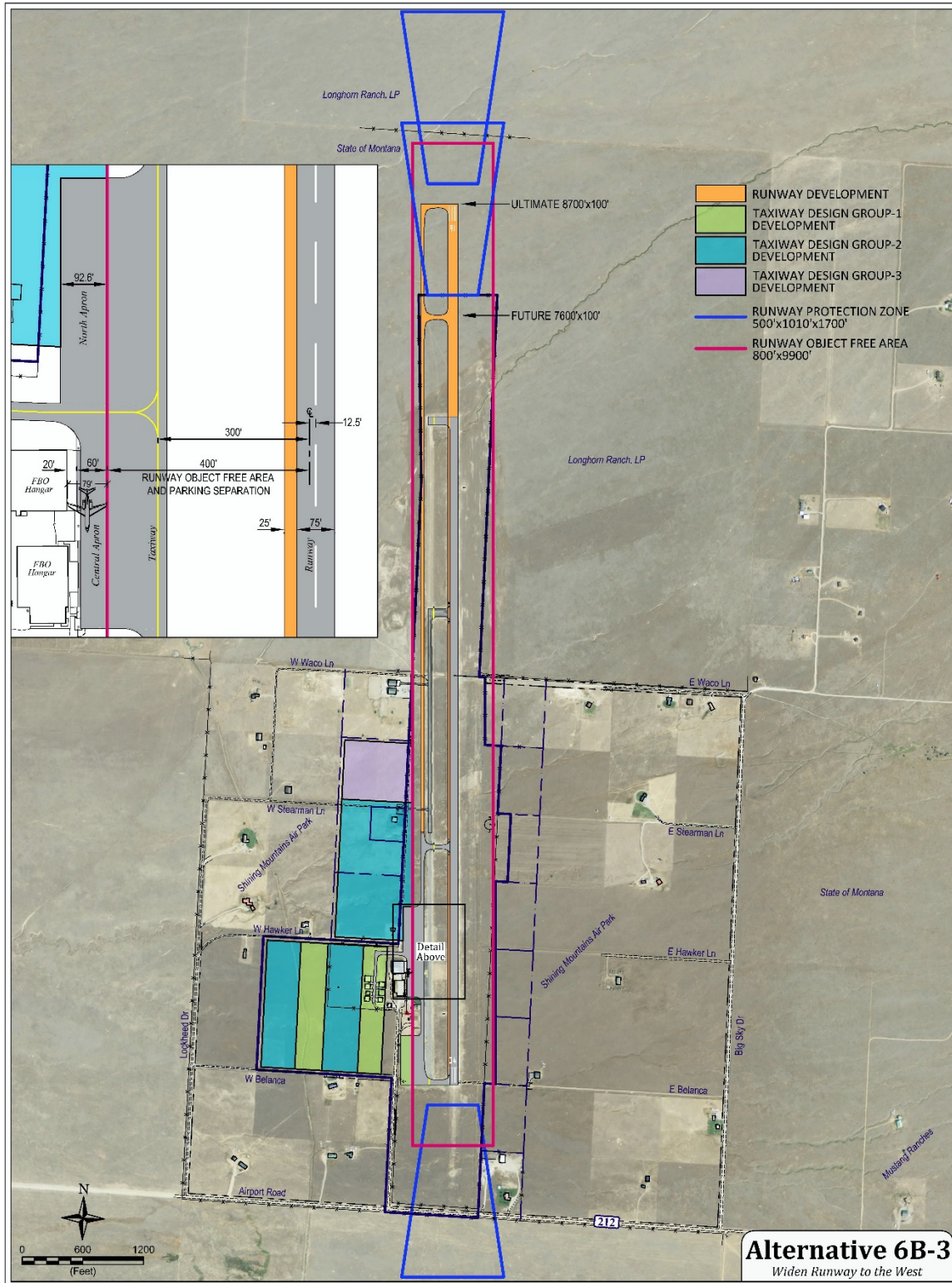


C. Secondary Alternative #6B-3: Runway Widening Westward

Secondary Element	Considerations
Runway Widening	<p>Widen to the West The runway would be widened 25 feet to the west, creating an off-center pavement crown. The crown would be 12.5' east of the new centerline, which is within the 25-foot permissible offset per FAA AC 150/5300-13A, Paragraph 313.b.(5).</p>
Runway Object Free Area (OFA) Runway Safety Area (RSA)	<p>OFA: 800' wide x 8,800' long (Future) RSA: 400' wide x 8,800' long (Future) The C-II OFA creates new obstructions along both sides of the runway that will need mitigation. On the east side are the perimeter fence, segmented circle, wind cone, AWOS, and terrain. This alternative will require the least earthwork grading of the 3 secondary alternatives due to the rising terrain all along the east side of the runway corridor. On the west side, aircraft parking areas will be reduced (although, this has an opposite effect, with this secondary alternative having the most impact). The RSA will require grading to meet the C-II standards and the existing drainage ditches and culverts will have to be moved or extended outside of the RSA.</p>
Instrument Approach Procedures and Navigational Aids	<p>Non-Precision, Not Lower than 1 Mile PAPI, Medium Intensity Runway and Taxiway Lighting Extending Runway 16 to the north requires new procedure development. Widening the runway all to the west side will require a new Runway 34 approach procedure. The threshold will shift 12.5' to the west, which exceeds the 10-foot horizontal tolerance. The Runway 16 PAPI equipment will need to be relocated based on the future threshold location. The Runway 34 PAPI equipment will need to be moved outboard relative to the new edge of pavement (and likely adjusted vertically with shoulder grading and centerline profile changes). All lights adjacent to the west side of the existing runway pavement edge will have to be moved due to the westward widening.</p>

Secondary Element	Considerations
Aircraft Parking Separation	<p>400' C-II separation from runway centerline</p> <p>The three existing apron areas (north, central, and south) will each be affected by the separation distance. This alternative leaves the least area available for aircraft parking.</p> <p>Although the greater separation distance will reduce the parking area on the north apron, it will remain sufficient to allow the itinerant jet traffic to park under power.</p> <p>The central apron in front of the FBO hangars will be most impacted by the C-II separation standard. The apron pavement width will be 60 feet, not wide enough accommodate most of the group II aircraft (wingspan < 79').</p> <p>The south apron is primarily for small aircraft traffic. The parking area could be up to 115 feet wide and allow for 11 small aircraft tie-down positions. The south apron can also be used for overflow parking by large aircraft when necessary.</p> <p>Additional apron construction would need to occur in the near to mid-term period. Even with additional apron construction, impacts to the FBO cannot be completely offset.</p>
Land Requirements	<p>±32.7 Acres (State of Montana, easement needed) ±8.9 Acres (Private)</p> <p>The current Airport boundary is not sufficient for C-II design standards. Property would need to be acquired for the future and ultimate runway extensions and the ultimate runway object free area. The private property acquisitions consist of 2 parcels on the east side, the largest of which is rangeland that is within a conservation easement; the other parcel is an undeveloped lot in the Shining Mountains Air Park subdivision.</p>
Environmental	<p>Other than the considerations discussed in the Primary Elements alternative analysis, widening the runway westward does not present any additional known environmental impacts.</p>
Cost Estimate	<p>\$11,700,000</p> <p>This estimate does not produce any significant changes to the Primary Alternative #6B cost estimate. Runway construction would require land acquisitions and relocation of the lighting system and PAPI on the west side of the runway.</p> <p>This alternative has the most impact on the existing apron areas, increasing the urgency to provide additional aircraft parking areas. It is also the most disruptive to the FBOs that have invested substantially into their existing facilities (with impacts that cannot be totally “offset” by construction of additional apron space, which will not be ideally located fronting the FBOs).</p> <p>The costs associated with new instrument approach procedures are not a measurable component because the FAA develops the procedures at no direct cost to the airport’s Owner / Sponsor.</p> <p>The detailed cost estimate is included in APPENDIX L.</p>

Figure 8.3 Secondary Alternative #6B-3 Runway Widening Westward



D. Secondary Element Alternatives Summary and Selection

As with the Primary Elements alternatives, Madison County utilized a weighted criteria-ranking analysis to aid in evaluating the Secondary Elements alternatives. The ranking scores are summarized below; the spreadsheet with full ranking criteria is included in **APPENDIX L**. A “perfect” score would equal 620.

Evaluation: Primary Alternative #6B-1: Widen Runway on Centerline

Score: 346. Widening from 75’ to 100’ on decreases constructability (likely increasing cost; however, in depth cost estimating has not been completed, which may include increase unit prices due to the constructability issues). All of the edge lights adjacent to the runway and the navigational aids would have to be relocated because of the additional 12.5’ of pavement on each side. This alternative also does not allow the entire fleet of group II aircraft access to the central apron, which would require construction of new apron areas to offset the “loss”. This loss of parking also impacts the FBO’s, as some of the large aircraft parking would be shifted away from the central apron.

Evaluation: Primary Alternative #6B-2: Widen Runway Eastward

Score: 422, Preferred Alternative. Widening the runway entirely on the east side shifts the centerline enough to allow the largest of the group II aircraft (wingspan < 79’) to park on the central apron in front of the FBO hangars. By maintaining adequate available apron area, this alternative defers the need and added cost of near-term apron construction. Minor increases in necessary land acquisitions and earthwork excavations are negligible in comparison to the benefits this secondary alternative provides.

Evaluation: Primary Alternative #6B-3: Widen Runway Westward

Score: 360. Widening the runway to the west poses no greater construction costs than does the preferred alternative; however, it does have a critical effect on the central apron parking area. Leaving only a 60’ wide strip of pavement available restricts much of the group II fleet from safely being able to park near the FBO hangars. The near-term costs would be increased due to the Airport needing to construct more apron area.

Further secondary alternative analysis consisted of selecting preferred “terminal area” layout of aprons, taxilanes, hangars, vehicular access and parking, future FBOs, SRE building location(s), ARFF building and cistern locations, fueling location(s), etc. A number of various options were presented to the Airport Board and Madison County, with the Owner selecting the preferred terminal area configuration alternative to best suit the needs of the Airport and its users.

9. Airport Layout Plan

The Airport Layout Plan (ALP) set is a planning document for the Airport, Madison County, and the FAA. It shows existing conditions and proposed “future” and “ultimate” improvements. The ALP helps to ensure that short-term and long-term development plans adhere to FAA design and safety standards while furthering the Airport’s goals and the needs and expectations of the surrounding communities. A current and approved ALP is also a prerequisite for the Airport to be eligible for federal grant assistance per the *Airport and Airway Improvement Act of 1982*.

The Ennis Big Sky Airport ALP was last updated and approved in 2010, and has been updated to reflect the conditions and facilities / alternatives as proposed in this document. **The ALP is included within APPENDIX O.**

10. Facility Implementation Plan

The facilities implementation plan provides guidance on how to implement the findings and recommendations of this planning effort. Emphasis will be given to major projects and cost estimates, interrelated project, and available funding (FAA and Sponsor local share). The summary of the facility

implementation plan for “future” improvements is summarized within the **Capital Improvement Plan (CIP), APPENDIX P**. The CIP has been prepared based upon current cost estimates and realistic goals of available FAA and local funding. The CIP should be annually updated, with greater emphasis on refining cost estimates as projects approach (0-5-years); to reflect the imprecise nature of long-range facility planning.

Airport growth should continue to be monitored, in comparison with the Master Plan forecast, to establish need for key improvements such as hangar access taxiway needs, apron expansions, “ultimate” runway extension, parallel taxiway completion to increase runway capacity, etc. Such items as apron expansion may be necessary without actual operational increases, simply due to an increase in the average duration of itinerant aircraft remaining on the aprons. Because lead-time associated with many projects is significant, the Owner should continually work with the Airport Manager, Airport Board, the Engineer, and the FAA to identify additional needs or any changes in usage and adjust the CIP accordingly.

11. Financial Feasibility Analysis

Financial feasibility was completed in conjunction with the generation of the Capital Improvement Plan (CIP), addressed in Section 10 above. The CIP aimed to emphasize “near-term” projects while addressing financial feasibility, with the medium and long-term facility improvement projects being more general in estimated timing, cost, and financial feasibility.

Federal Funding – Ennis Big Sky Airport has historically received FAA funding through State Apportionment, and Non-Primary Entitlement funding. Given the financial costs and importance of these proposed improvements it is anticipated that Discretionary funding will also be necessary. Coordination with the FAA was completed as part of the CIP development, which lists the anticipated funding source(s) for federal funding assistance based upon the FAA’s priority system.

State Funding – The Montana Department of Transportation Aeronautics Division offers eligible airports and aviation facilities low interest loans and grants for various airport and aviation-related projects. Loan and grant applications can be submitted for any airport or aviation related improvement project. Airports are eligible for grant assistance up to ½ of the airport’s share of federally funded (NPIAS) airport project costs. Airports are eligible for loan assistance to cover the remaining airport’s share of federally funding (NPIAS) airport project costs. The low-interest loans are offered at ½ of the national prime lending rate, to be repaid over a ten-year period.

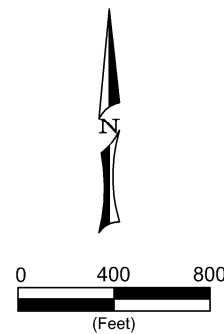
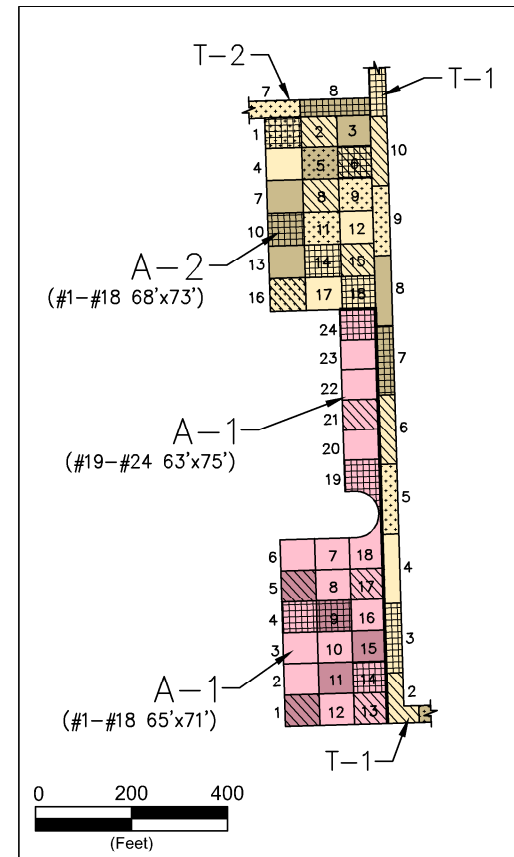
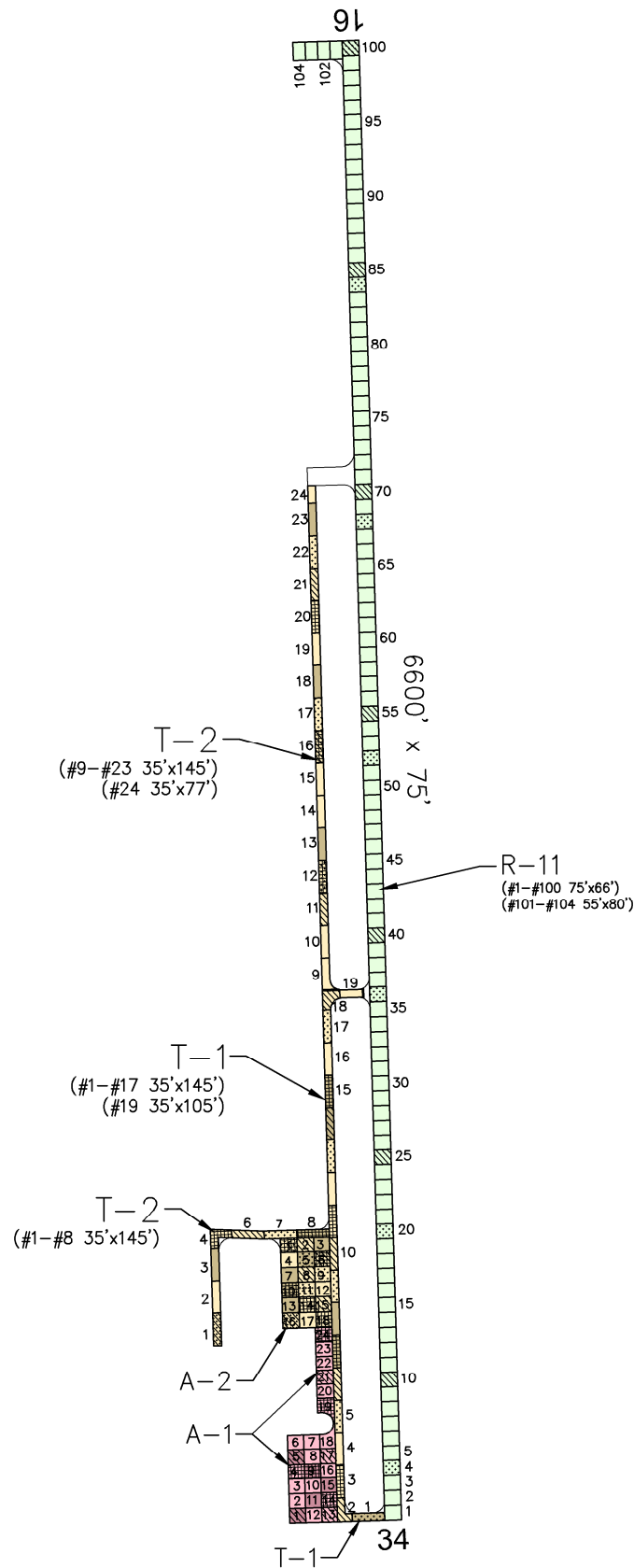
Grant and loan assistance has varies slightly year-to-year, but has typically been \$350,000 to \$400,000 each, for all applicants. The local percentage of grant assistance to each project can vary greatly, based on priority of the project, the number and total amount of project costs of applicants in any given year, etc. In general, for large multi-million dollar projects 1 to 2 percent grant assistance could be estimated, while 3 to 4 percent grant assistance could be estimated for smaller projects (less than \$500,000). These estimates would likely be on the upper end of those estimates for high priority projects (runways, fencing, runway lighting, etc.), and on the low end for low priority project (aprons, taxiways, etc.). Very low priority projects (access roads, snow removal equipment, land, etc.) may not receive any grant assistance, dependent upon priority rankings of other applicants.

Local Funding – Reserved – *Draft Master Plan Report*.

APPENDIX A

Pavement Condition Index (PCI) - 2015

ENNIS



PAVEMENT STRENGTH SURVEY/PAVEMENT CONDITION SURVEY

PAVE. IDENT.	SOIL CLASS	SUB GRADE CLASS	SUBBASE COURSE	BASE COURSE	SURFACE COURSE	OVERLAY	PAVEMENT STRENGTH			REMARKS
							MAX. GROSS LOAD (LBS)			
							SINGLE	DUAL	DUAL TAN.	
RUNWAYS										
R-11	CBR=20		P-152	4"P-209/3"P-207	3" P-401	P-609	30,000	30,000		4,5
TAXIWAYS										
T-1	CBR=4			8" P-208	3" P-401	P-609	12,500			1,3,4,5
T-2			P-152	8" P-208	3" P-401	P-609	12,500			2,3,4,5
APRONS										
A-1	CBR=4			8" P-208	3" P-401	P-609	12,500			1,3,4,5
A-2			P-152	8" P-208	3" P-401	P-609	12,500			2,3,4,5

REMARKS:

1. AIP-02, 1990, ALL NEW CONSTRUCTION.
2. AIP-03, 1992, CONSTRUCT PARALLEL TAXIWAY EXTENSION, APRON AND ACCESS TAXIWAY.
3. AIP-05, 2001, CRACK SEAL, FOG SEAL, AND REMARK ALL PAVEMENTS.
4. AIP-010, 2008, RECONSTRUCT RUNWAY (R-11); CONSTRUCT RUNWAY EXTENSION AND TURN AROUND; CRACK SEAL, FOG SEAL, AND REMARK ALL REMAINING PAVEMENTS.
5. AIP-012-2013, CRACK SEAL, FOG SEAL, AND REMARK ALL PAVEMENTS.

LEGEND

- 2003 SURVEY AREA
- 2006 SURVEY AREA
- 2009 SURVEY AREA (NOT SURVEYED)
- 2012 SURVEY AREA
- 2015 SURVEY AREA

- MAINTAIN: PCI > 60
- TRANSITION: PCI 45 TO 60
- RECONSTRUCT: PCI < 45

DATE OF PAVEMENT STRENGTH SURVEY: MAR. 12, 1990

EVALUATED BY: S. DALTON

DATE OF MOST RECENT PAVEMENT CONDITION SURVEY: SEPT. 10, 2015

EVALUATED BY: D. SCHANDEL

LOCATION: ENNIS MONTANA

**MONTANA AVIATION SYSTEM PLAN
2015 UPDATE - PAVEMENT CONDITION INDEXES**

**ENNIS BIG SKY AIRPORT
(EKS)**

Date: DECEMBER 2015 Prepared For: Prepared By:

DECEMBER 2015



ENNIS AIRPORT

Branch: 50A

APRON

A-2

Length: 408 LF **Width:** 216 LF **Area:** 88,128 SF **Last Const. :** 1992 **Family:** ACAM15
From: NORHTERN PORTION OF AP **To:** **Surface:** AC

Inspections

Samples Surveyed: 5 **Total Samples:** 18 **Last Inspection Date (RPA)** 9/10/2015 **PCI:** 49

Sample # 1 **Area:** 4964 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	1010 LF
WEATHERING	L	100 SF
LONGITUDINAL/TRANSVERSE CRACKING	M	24 LF
RAVELING	L	50 SF
PATCHING	L	8 SF
RAVELING	M	4 SF

Sample # 5 **Area:** 4896 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	1150 LF
LONGITUDINAL/TRANSVERSE CRACKING	M	54 LF
WEATHERING	L	100 SF
RAVELING	L	50 SF
PATCHING	L	16 SF
SWELLING	M	9 SF
RAVELING	M	2 SF

Sample # 9 **Area:** 4896 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	803 LF
LONGITUDINAL/TRANSVERSE CRACKING	M	200 LF
DEPRESSION	L	108 SF
WEATHERING	L	100 SF
RAVELING	L	50 SF
PATCHING	L	4 SF

Sample # 11 **Area:** 4896 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	1296 LF
LONGITUDINAL/TRANSVERSE CRACKING	M	100 LF
WEATHERING	L	100 SF
RAVELING	L	50 SF
PATCHING	L	13 SF

Sample # 16 **Area:** 4964 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	901 LF
ALLIGATOR CRACKING	L	576 SF
LONGITUDINAL/TRANSVERSE CRACKING	M	60 LF
WEATHERING	L	100 SF
RAVELING	L	50 SF
RAVELING	M	4 SF

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
LONGITUDINAL/TRANSVERSE CRACKING	L	18473 LF	20.96 %	33.49
ALLIGATOR CRACKING	L	2062 SF	2.34 %	28.63
LONGITUDINAL/TRANSVERSE CRACKING	M	1568 LF	1.78 %	14.80
SWELLING	M	32 SF	0.04 %	10.00
RAVELING	M	36 SF	0.04 %	4.00
DEPRESSION	L	387 SF	0.44 %	2.80
RAVELING	L	895 SF	1.02 %	2.64
PATCHING	L	147 SF	0.17 %	2.01
WEATHERING	L	1790 SF	2.03 %	0.69

* Multiple deduct values are scaled down from their algebraic sum to keep the model consistent with experimental data.

Percent of Deduct Values Based on Distress Mechanism

29.0 % **Loa** 58.0 % **Climate/Durability** 13.0 % **Other**

ENNIS AIRPORT

Branch: 50R

RUNWAY

R-11

Length: 6,600 LF **Width:** 75 LF **Area:** 495,000 SF **Last Const. :** 2008 **Family:** ACRMU15
From: RWY 34-16 STA 0+00 **To:** RWY 34-16 STA 66+00 **Surface:** AC

Inspections

Samples Surveyed: 7 **Total Samples:** 7 **Last Inspection Date (RPA)** 9/10/2015 **PCI:** 86

Sample # 4 **Area:** 4950 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	58 LF
WEATHERING	L	120 SF
RAVELING	L	96 SF
RAVELING	M	2 SF

Sample # 20 **Area:** 4950 SF

Distress Description	Severity	Quantity
WEATHERING	L	120 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	31 LF
RAVELING	L	96 SF
PATCHING	L	2 SF

Sample # 36 **Area:** 4950 SF

Distress Description	Severity	Quantity
WEATHERING	L	120 SF
RAVELING	L	96 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	22 LF
DEPRESSION	M	10 SF
DEPRESSION	L	5 SF
OIL SPILLAGE	N	1 SF

Sample # 52 **Area:** 4950 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	70 LF
WEATHERING	L	120 SF
WEATHERING	M	100 SF
RAVELING	L	96 SF
DEPRESSION	L	3 SF
SWELLING	L	2 SF

Sample # 68 **Area:** 4950 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	47 LF
WEATHERING	L	120 SF
RAVELING	L	96 SF
PATCHING	L	1 SF
OIL SPILLAGE	N	1 SF

Sample # 84 **Area:** 4950 SF

Distress Description	Severity	Quantity
WEATHERING	L	120 SF
RAVELING	L	96 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	28 LF
PATCHING	L	1 SF
PATCHING	M	1 SF

Sample # 100 **Area:** 4950 SF

Distress Description	Severity	Quantity
WEATHERING	L	120 SF
RAVELING	L	96 SF
SWELLING	L	10 SF
RAVELING	M	4 SF
PATCHING	L	1 SF
DEPRESSION	L	1 SF

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
PATCHING	M	14 SF	0.00 %	6.20
DEPRESSION	M	143 SF	0.03 %	5.20
LONGITUDINAL/TRANSVERSE CRACKING	L	3657 LF	0.74 %	4.45
RAVELING	M	86 SF	0.02 %	4.00
RAVELING	L	9600 SF	1.94 %	3.91
OIL SPILLAGE	N	29 SF	0.01 %	2.00
PATCHING	L	71 SF	0.01 %	2.00
WEATHERING	M	1429 SF	0.29 %	1.31

ENNIS AIRPORT

Branch: 50R

RUNWAY

R-11

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
SWELLING	L	171 SF	0.03 %	1.00
WEATHERING	L	12000 SF	2.42 %	0.75
DEPRESSION	L	129 SF	0.03 %	0.30

* Multiple deduct values are scaled down from their algebraic sum to keep the model consistent with experimental data.

Percent of Deduct Values Based on Distress Mechanism

0.0 % **Loa**

73.0 % **Climate/Durability**

27.0 % **Other**

ENNIS AIRPORT Branch: 50T **TAXIWAY T-1**

Length: 2,755 LF Width: 35 LF Area: 96,425 SF Last Const. : 1990 Family: ACRMU15
 From: To: Surface: AC

Inspections

Samples Surveyed: 5 Total Samples: 19 Last Inspection Date (RPA) 9/10/2015 **PCI: 54**

Sample # 1

Distress Description	Severity	Quantity	Area: 5075 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	543 LF	
LONGITUDINAL/TRANSVERSE CRACKING	M	128 LF	
WEATHERING	L	100 SF	
LONGITUDINAL/TRANSVERSE CRACKING	H	27 LF	
RAVELING	L	50 SF	
DEPRESSION	L	43 SF	
RUTTING	L	38 SF	
PATCHING	L	35 SF	
PATCHING	M	35 SF	
DEPRESSION	H	25 SF	
SWELLING	M	1 SF	

Sample # 5

Distress Description	Severity	Quantity	Area: 5075 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	260 LF	
LONGITUDINAL/TRANSVERSE CRACKING	M	44 LF	
LONGITUDINAL/TRANSVERSE CRACKING	H	35 LF	
WEATHERING	L	100 SF	
RAVELING	L	50 SF	
RUTTING	L	38 SF	
DEPRESSION	L	21 SF	
DEPRESSION	H	17 SF	

Sample # 9

Distress Description	Severity	Quantity	Area: 5075 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	362 LF	
LONGITUDINAL/TRANSVERSE CRACKING	M	45 LF	
WEATHERING	L	100 SF	
RAVELING	L	50 SF	
RUTTING	L	38 SF	
LONGITUDINAL/TRANSVERSE CRACKING	H	2 LF	
PATCHING	M	2 SF	
PATCHING	L	1 SF	

Sample # 13

Distress Description	Severity	Quantity	Area: 5075 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	582 LF	
LONGITUDINAL/TRANSVERSE CRACKING	M	42 LF	
WEATHERING	L	100 SF	
RAVELING	L	50 SF	
RUTTING	L	38 SF	
DEPRESSION	L	16 SF	
PATCHING	L	1 SF	

Sample # 17

Distress Description	Severity	Quantity	Area: 5075 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	478 LF	
LONGITUDINAL/TRANSVERSE CRACKING	M	47 LF	
WEATHERING	L	100 SF	
RAVELING	L	50 SF	
RUTTING	L	38 SF	
DEPRESSION	L	15 SF	
PATCHING	L	1 SF	

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
LONGITUDINAL/TRANSVERSE CRACKING	L	8455 LF	8.77 %	21.52
DEPRESSION	H	160 SF	0.17 %	14.32
RUTTING	L	722 SF	0.75 %	14.14
LONGITUDINAL/TRANSVERSE CRACKING	M	1163 LF	1.21 %	12.24
LONGITUDINAL/TRANSVERSE CRACKING	H	243 LF	0.25 %	11.11
SWELLING	M	4 SF	0.00 %	10.00
PATCHING	M	141 SF	0.15 %	6.88
RAVELING	L	950 SF	0.99 %	2.59

ENNIS AIRPORT

Branch: 50T

TAXIWAY

T-1

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
DEPRESSION	L	361 SF	0.37 %	2.27
PATCHING	L	144 SF	0.15 %	2.01
WEATHERING	L	1900 SF	1.97 %	0.68

* Multiple deduct values are scaled down from their algebraic sum to keep the model consistent with experimental data.

Percent of Deduct Values Based on Distress Mechanism

14.0 % **Loa**

59.0 % **Climate/Durability**

27.0 % **Other**

ENNIS AIRPORT

Branch: 50T

TAXIWAY

T-2

Length: 3,365 LF **Width:** 35 LF **Area:** 117,775 SF **Last Const. :** 1992 **Family:** ACRMU15
From: **To:** **Surface:** AC

Inspections

Samples Surveyed: 5 **Total Samples:** 24 **Last Inspection Date (RPA)** 9/10/2015 **PCI:** 57

Sample #	Distress Description	Severity	Quantity	Area:
Sample # 1	LONGITUDINAL/TRANSVERSE CRACKING	L	641 LF	5075 SF
	RAVELING	L	50 SF	
	LONGITUDINAL/TRANSVERSE CRACKING	M	10 LF	
	WEATHERING	L	25 SF	
	BLEEDING	N	16 SF	
	PATCHING	L	1 SF	

Sample #	Distress Description	Severity	Quantity	Area:
Sample # 7	LONGITUDINAL/TRANSVERSE CRACKING	L	908 LF	5075 SF
	LONGITUDINAL/TRANSVERSE CRACKING	M	100 LF	
	RAVELING	L	25 SF	
	WEATHERING	L	25 SF	
	DEPRESSION	L	10 SF	

Sample #	Distress Description	Severity	Quantity	Area:
Sample # 12	LONGITUDINAL/TRANSVERSE CRACKING	L	806 LF	5075 SF
	LONGITUDINAL/TRANSVERSE CRACKING	M	126 LF	
	WEATHERING	L	100 SF	
	RAVELING	M	56 SF	
	RAVELING	L	50 SF	
	DEPRESSION	L	32 SF	
	PATCHING	M	1 SF	

Sample #	Distress Description	Severity	Quantity	Area:
Sample # 17	LONGITUDINAL/TRANSVERSE CRACKING	L	884 LF	5075 SF
	LONGITUDINAL/TRANSVERSE CRACKING	M	103 LF	
	WEATHERING	L	100 SF	
	RAVELING	L	50 SF	
	LONGITUDINAL/TRANSVERSE CRACKING	H	10 LF	
	DEPRESSION	L	12 SF	
	OIL SPILLAGE	N	4 SF	

Sample #	Distress Description	Severity	Quantity	Area:
Sample # 22	LONGITUDINAL/TRANSVERSE CRACKING	L	622 LF	5075 SF
	LONGITUDINAL/TRANSVERSE CRACKING	M	156 LF	
	WEATHERING	L	100 SF	
	RAVELING	L	50 SF	
	DEPRESSION	L	20 SF	
	OIL SPILLAGE	N	2 SF	

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
LONGITUDINAL/TRANSVERSE CRACKING	L	17920 LF	15.22 %	29.06
LONGITUDINAL/TRANSVERSE CRACKING	M	2297 LF	1.95 %	15.51
LONGITUDINAL/TRANSVERSE CRACKING	H	46 LF	0.04 %	7.50
PATCHING	M	5 SF	0.00 %	6.20
RAVELING	M	260 SF	0.22 %	4.78
RAVELING	L	1044 SF	0.89 %	2.44
OIL SPILLAGE	N	28 SF	0.02 %	2.00
PATCHING	L	5 SF	0.00 %	2.00
DEPRESSION	L	343 SF	0.29 %	1.55
WEATHERING	L	1624 SF	1.38 %	0.58
BLEEDING	N	74 SF	0.06 %	0.00

* Multiple deduct values are scaled down from their algebraic sum to keep the model consistent with experimental data.

Percent of Deduct Values Based on Distress Mechanism

0.0 % Loa 95.0 % Climate/Durability 5.0 % Other

APPENDIX B

Airport Layout Plan (ALP) – 2010



SYN	REVISION	BY	APPR.	DATE

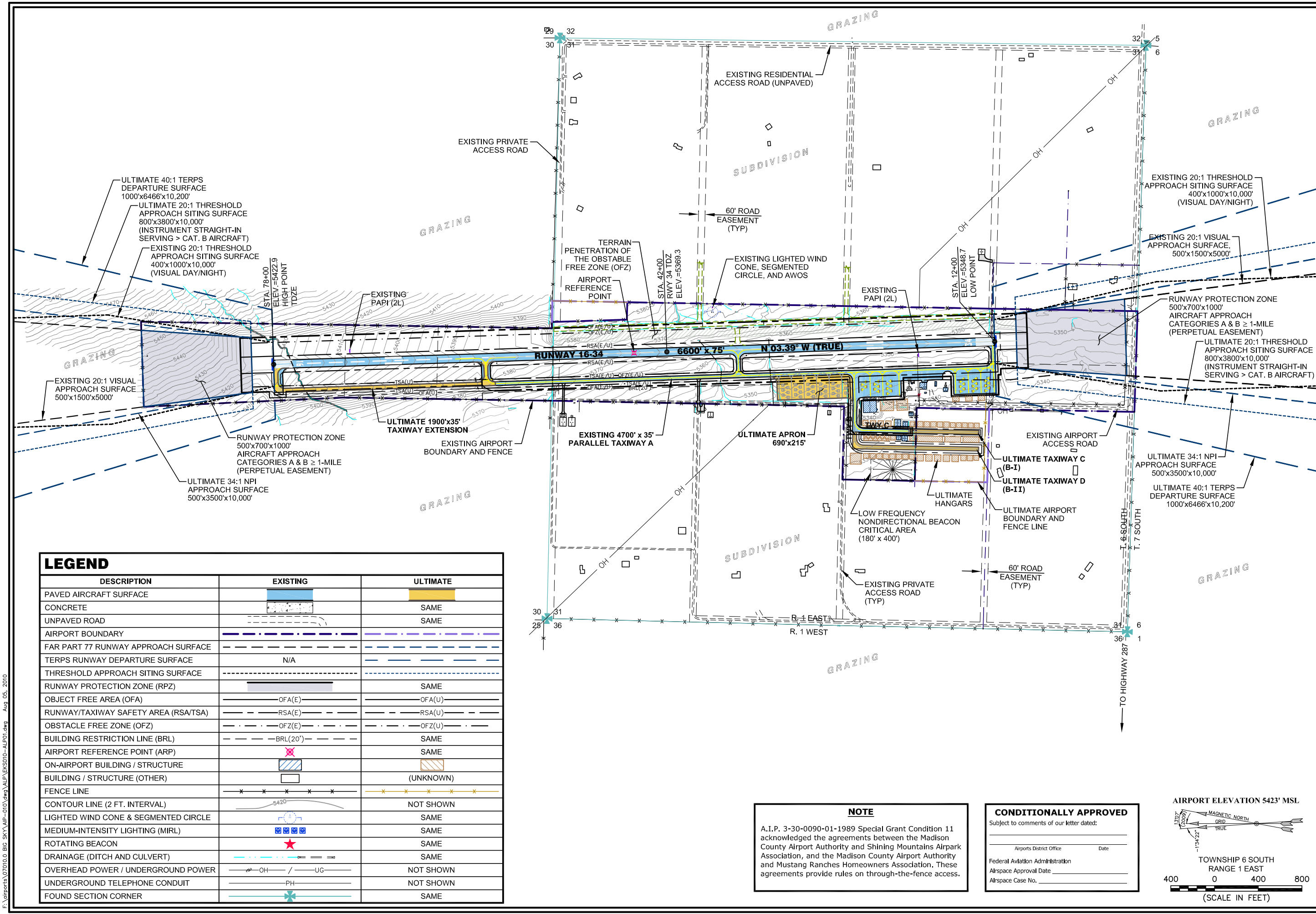
APPROVED: DAVID SCHULZ, CHAIRMAN
MADISON COUNTY COMMISSION

APRIL 2010	DATE	07010.000	PROJECT NO.	EKS010-ALP01	FILE
L. BOWSER	DESIGNED BY	N. GEARY	DRAWN BY	R. DONALDSON	CHECKED BY

PROJECT TITLE
ENNIS - BIG SKY AIRPORT
Ennis, Montana

SHEET TITLE
AIRPORT LAYOUT PLAN

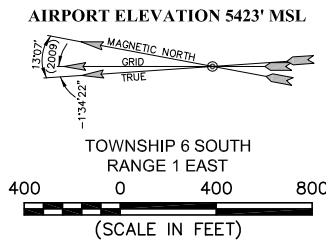
SHEET
1
1 OF 8



DESCRIPTION	EXISTING	ULTIMATE
PAVED AIRCRAFT SURFACE		
CONCRETE		SAME
UNPAVED ROAD		SAME
AIRPORT BOUNDARY		
FAR PART 77 RUNWAY APPROACH SURFACE		
TERPS RUNWAY DEPARTURE SURFACE	N/A	
THRESHOLD APPROACH SITING SURFACE		
RUNWAY PROTECTION ZONE (RPZ)		SAME
OBJECT FREE AREA (OFA)		
RUNWAY/TAXIWAY SAFETY AREA (RSA/TSA)		
OBSTACLE FREE ZONE (OFZ)		
BUILDING RESTRICTION LINE (BRL)		SAME
AIRPORT REFERENCE POINT (ARP)		SAME
ON-AIRPORT BUILDING / STRUCTURE		
BUILDING / STRUCTURE (OTHER)		(UNKNOWN)
FENCE LINE		
CONTOUR LINE (2 FT. INTERVAL)		NOT SHOWN
LIGHTED WIND CONE & SEGMENTED CIRCLE		SAME
MEDIUM-INTENSITY LIGHTING (MIRL)		SAME
ROTATING BEACON		SAME
DRAINAGE (DITCH AND CULVERT)		SAME
OVERHEAD POWER / UNDERGROUND POWER		NOT SHOWN
UNDERGROUND TELEPHONE CONDUIT		NOT SHOWN
FOUND SECTION CORNER		SAME

NOTE
A.I.P. 3-30-0090-01-1989 Special Grant Condition 11 acknowledged the agreements between the Madison County Airport Authority and Shining Mountains Airpark Association, and the Madison County Airport Authority and Mustang Ranches Homeowners Association. These agreements provide rules on through-the-fence access.

CONDITIONALLY APPROVED
Subject to comments of our letter dated: _____
Airports District Office Date _____
Federal Aviation Administration
Airspace Approval Date _____
Airspace Case No. _____



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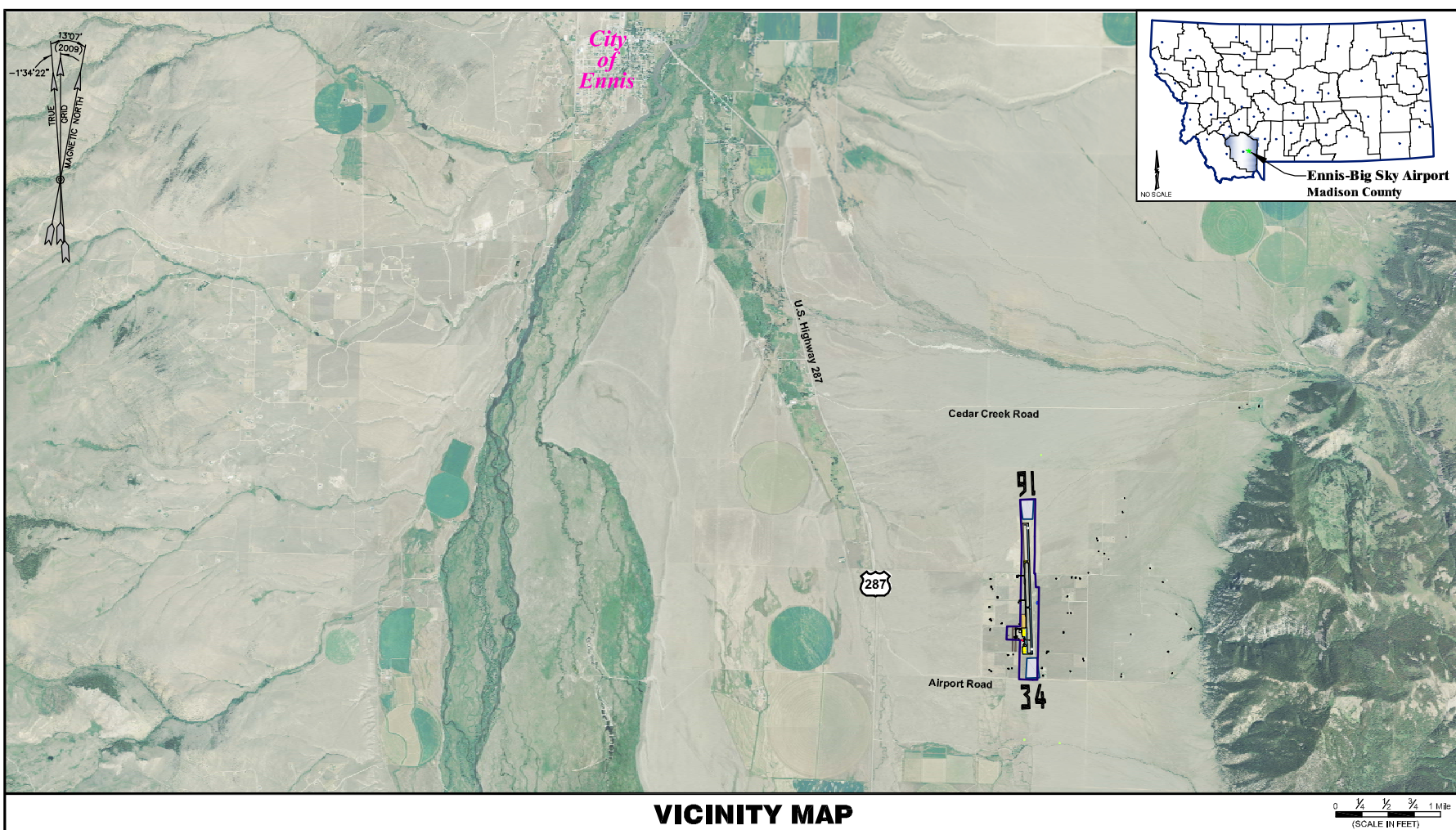


AIRPORT DATA

	EXISTING	ULTIMATE
AIRPORT ELEVATION (MSL)	5422.9	SAME
AIRPORT REFERENCE POINT (ARP)	LATITUDE 45° 16' 27.666" N LONGITUDE 111° 38' 55.895" W	SAME
MEAN MAXIMUM TEMPERATURE OF THE HOTTEST MONTH	82.7° F	SAME (ASSUMED)
AIRPORT REFERENCE CODE (ARC)	B-II	SAME
AIRPORT CODE	EKS	SAME
TERMINAL NAVIGATION AIDS	BEACON, NDB, UNICOM, WIND CONE, PAPI	SAME + GPS
TAXIWAY MARKINGS / LIGHTING	YES / REFLECTORS	SAME
NPIAS ROLE	G.A.	SAME

RUNWAY DATA

	RUNWAY 16-34	
	EXISTING	ULTIMATE
FAR PART 77 APPROACH VISIBILITY MINIMUMS	> 1 MILE	> 3/4 MILE
FAR PART 77 APPROACH SLOPES	20:1	34:1
FAR PART 77 RUNWAY CATEGORY	VISUAL	NPI
APPROACH CATEGORY - DESIGN GROUP (ARC)	B-II	SAME
TRUE BEARING (NAD 83)	N 03° 23' 22" W	SAME
MAGNETIC DECLINATION (JULY 2009)	13° 07' EAST	(0° 9' WEST/YEAR)
LENGTH (FT) x WIDTH (FT)	6,600' x 75'	SAME
PERCENTAGE OF FLEET SERVED	100%	SAME
TYPE OF SURFACE	ASPHALT	SAME
PAVEMENT STRENGTH (x 1,000 LBS)	27SW, 75DW	SAME
LIGHTING	MIRL	SAME
MARKING TYPE	NPI	SAME
EFFECTIVE GRADIENT	1.124%	SAME
MAXIMUM GRADIENT	1.920%	SAME
LINE OF SIGHT REQUIREMENTS MET?	YES (5' OBJECT)	SAME
WIND COVERAGE	99.2%	SAME
NAVIGATION AND VISUAL AIDS	PAPI, NDB	SAME + GPS
SAFETY AREA DIMENSIONS	150' x 7,200'	SAME
OBJECT FREE AREA DIMENSIONS	500' x 7,200'	SAME
OBSTACLE FREE ZONE DIMENSIONS	400' x 7,000'	SAME



VICINITY MAP

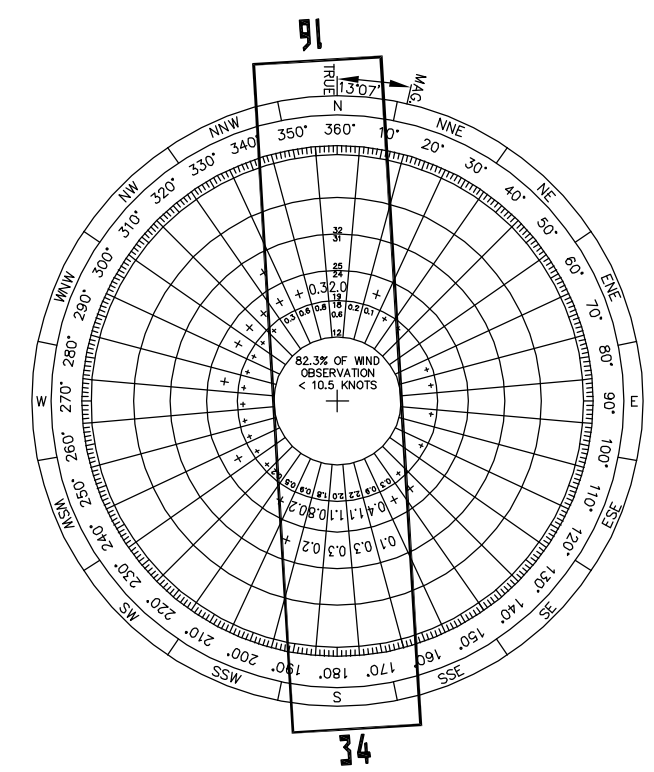
RUNWAY COORDINATES AND ELEVATIONS

RUNWAY END	LATITUDE	LONGITUDE	ELEVATION	TDZE
16	45° 17' 00.183" N	111° 38' 58.623" W	5422.9	5422.9 (STA. 78+00)
34	45° 15' 55.150" N	111° 38' 53.168" W	5348.7	5369.3 (STA. 42+00)

NON-STANDARD CONDITIONS - DISPOSITION

NONE

WIND ROSE AND NOTES:



→ WIND ROSE DATA COMPILED FROM HOURLY OBSERVATIONS AT THE AIRPORT BETWEEN OCTOBER 1986 AND NOVEMBER 1987.
→ 10.5 KNOT CROSSWIND COVERAGE RUNWAY 16-34 = 99.2 %

FAA APPROVED MODIFICATIONS

NONE

NOTES:

- ALP IS BASED ON FAA - AC 150/5300-13 (CHANGE 15)-AIRPORT DESIGN AND FEDERAL AVIATION REGULATION PART 77 - OBJECTS AFFECTING NAVIGABLE AIRSPACE.
- THE EXISTING THRESHOLD APPROACH SITING SURFACE FOR RUNWAY 34 HAS TERRAIN PENETRATIONS IN THE NORTHEAST CORNER. THE ULTIMATE THRESHOLD APPROACH SITING SURFACES FOR RUNWAYS 16 AND 34 WILL HAVE TERRAIN AND FENCE PENETRATIONS IF THE AREAS ARE NOT REGRADED.
- THE OBJECT FREE ZONE HAS TERRAIN PENETRATIONS ALONG THE EAST SIDE OF THE RUNWAY. THE PENETRATION EXTENDS FROM STA. 10+00 TO STA. 52+70, APPROXIMATELY 120' TO 200' EAST OF THE RUNWAY CENTERLINE. THE MAXIMUM PENETRATION HEIGHT IS 4.5' AT STA. 52+37.
- PERCENTAGE OF FLEET SERVED:
(USING AN AIRPORT ELEVATION OF 5423 FEET AND 82.7° AS THE MEAN MAXIMUM DAILY TEMPERATURE OF THE HOTTEST MONTH, WITH 74' DIFFERENCE IN RUNWAY CENTERLINE ELEVATION)
→ 4690' SERVES 75% OF THE SMALL AIRCRAFT FLEET
→ 6570' SERVES 95% OF THE SMALL AIRCRAFT FLEET
→ 6600' SERVES 100% OF THE SMALL AIRCRAFT FLEET
- SURVEY INFORMATION COLLECTED IN 2007 BY ROBERT PECCIA AND ASSOCIATES, INC. ALL SURVEY INFORMATION IS NAD 83(1992) AND NAVD 88, GEOID 99. LATITUDE AND LONGITUDE COORDINATES OBTAINED USING TRIMBLE GEOMATICS OFFICE™ SOFTWARE. CONTOURS AND FEATURES SHOWN ON THE QUADRANGLE MAPS ARE NGVD 29.

LEGEND

DESCRIPTION	EXISTING	ULTIMATE
PAVED AIRCRAFT SURFACE		
CONCRETE		SAME
UNPAVED ROAD		SAME
AIRPORT BOUNDARY		
RUNWAY APPROACH SURFACE		
THRESHOLD APPROACH SITING SURFACE		
RUNWAY PROTECTION ZONE (RPZ)		SAME
OBJECT FREE AREA (OFA)		
RUNWAY/TAXIWAY SAFETY AREA (RSA/TSA)		
OBSTACLE FREE ZONE (OFZ)		
BUILDING RESTRICTION LINE (BRL)		SAME
AIRPORT REFERENCE POINT (ARP)		SAME
ON-AIRPORT BUILDING / STRUCTURE		
BUILDING / STRUCTURE (OTHER)		(UNKNOWN)
FENCE LINE		
CONTOUR LINE		NOT SHOWN
LIGHTED WIND CONE & SEGMENTED CIRCLE		SAME
MEDIUM-INTENSITY LIGHTING (MIRL/MITL)		SAME
ROTATING BEACON		SAME
DRAINAGE		SAME
OVERHEAD POWER / UNDERGROUND POWER		NOT SHOWN
UNDERGROUND TELEPHONE CONDUIT		NOT SHOWN
FOUND SECTION CORNER		SAME

PROJECT TITLE

ENNIS - BIG SKY AIRPORT
Ennis, Montana

SHEET TITLE

AIRPORT INFORMATION SHEET

SHEET

2

2 OF 8



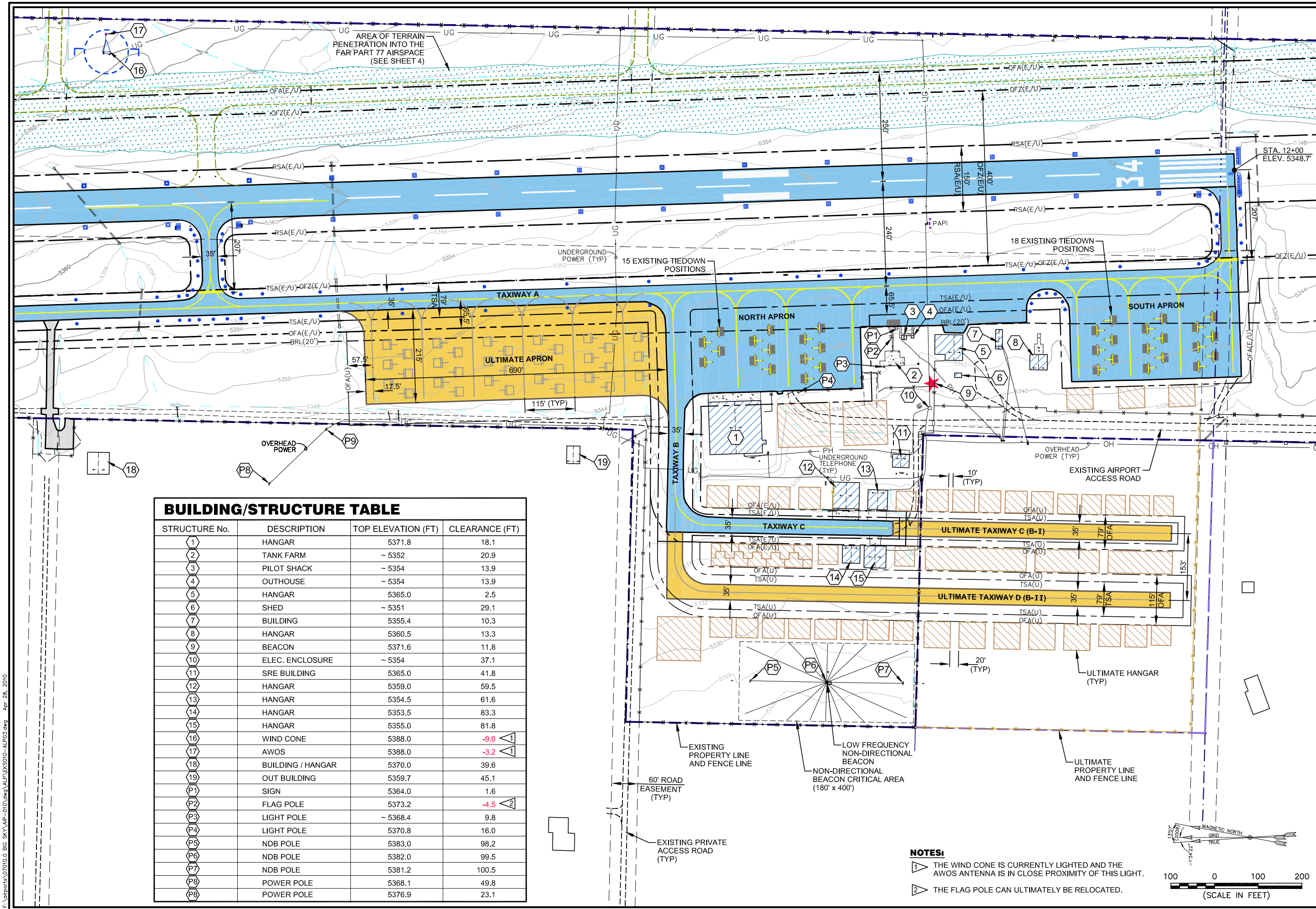
SYN	REVISION	BY	DATE

L. BOWSER	DESIGNED BY	APRIL 2010	DATE
N. GEARY	DRAWN BY	07010.000	PROJECT NO.
R. DONALDSON	CHECKED BY	EKS010-ALP03	FILE

PROJECT TITLE
ENNIS - BIG SKY AIRPORT
Ennis, Montana

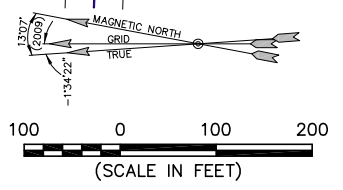
SHEET TITLE
TERMINAL AREA PLAN

SHEET
3
3 OF 8



BUILDING/STRUCTURE TABLE			
STRUCTURE No.	DESCRIPTION	TOP ELEVATION (FT)	CLEARANCE (FT)
1	HANGAR	5371.8	18.1
2	TANK FARM	~ 5352	20.9
3	PILOT SHACK	~ 5354	13.9
4	OUTHOUSE	~ 5354	13.9
5	HANGAR	5365.0	2.5
6	SHED	~ 5351	29.1
7	BUILDING	5355.4	10.3
8	HANGAR	5360.5	13.3
9	BEACON	5371.6	11.8
10	ELEC. ENCLOSURE	~ 5354	37.1
11	SRE BUILDING	5365.0	41.8
12	HANGAR	5359.0	59.5
13	HANGAR	5354.5	61.6
14	HANGAR	5353.5	83.3
15	HANGAR	5355.0	81.8
16	WIND CONE	5388.0	-9.0
17	AWOS	5388.0	-3.2
18	BUILDING / HANGAR	5370.0	39.6
19	OUT BUILDING	5359.7	45.1
P1	SIGN	5364.0	1.6
P2	FLAG POLE	5373.2	-4.5
P3	LIGHT POLE	~ 5368.4	9.8
P4	LIGHT POLE	5370.8	16.0
P5	NDB POLE	5383.0	98.2
P6	NDB POLE	5382.0	99.5
P7	NDB POLE	5381.2	100.5
P8	POWER POLE	5368.1	49.8
P8	POWER POLE	5376.9	23.1

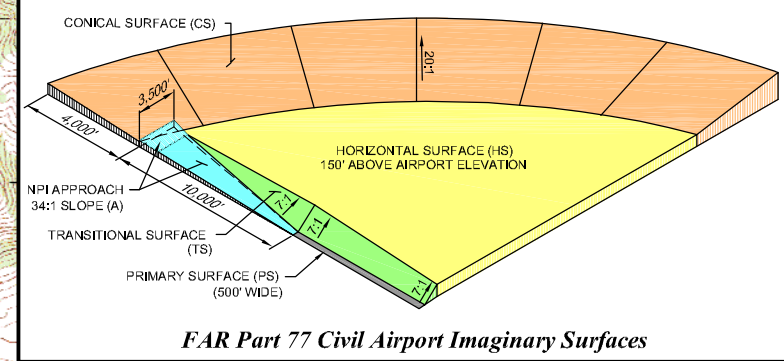
NOTES:
 1 THE WIND CONE IS CURRENTLY LIGHTED AND THE AWOS ANTENNA IS IN CLOSE PROXIMITY OF THIS LIGHT.
 2 THE FLAG POLE CAN ULTIMATELY BE RELOCATED.



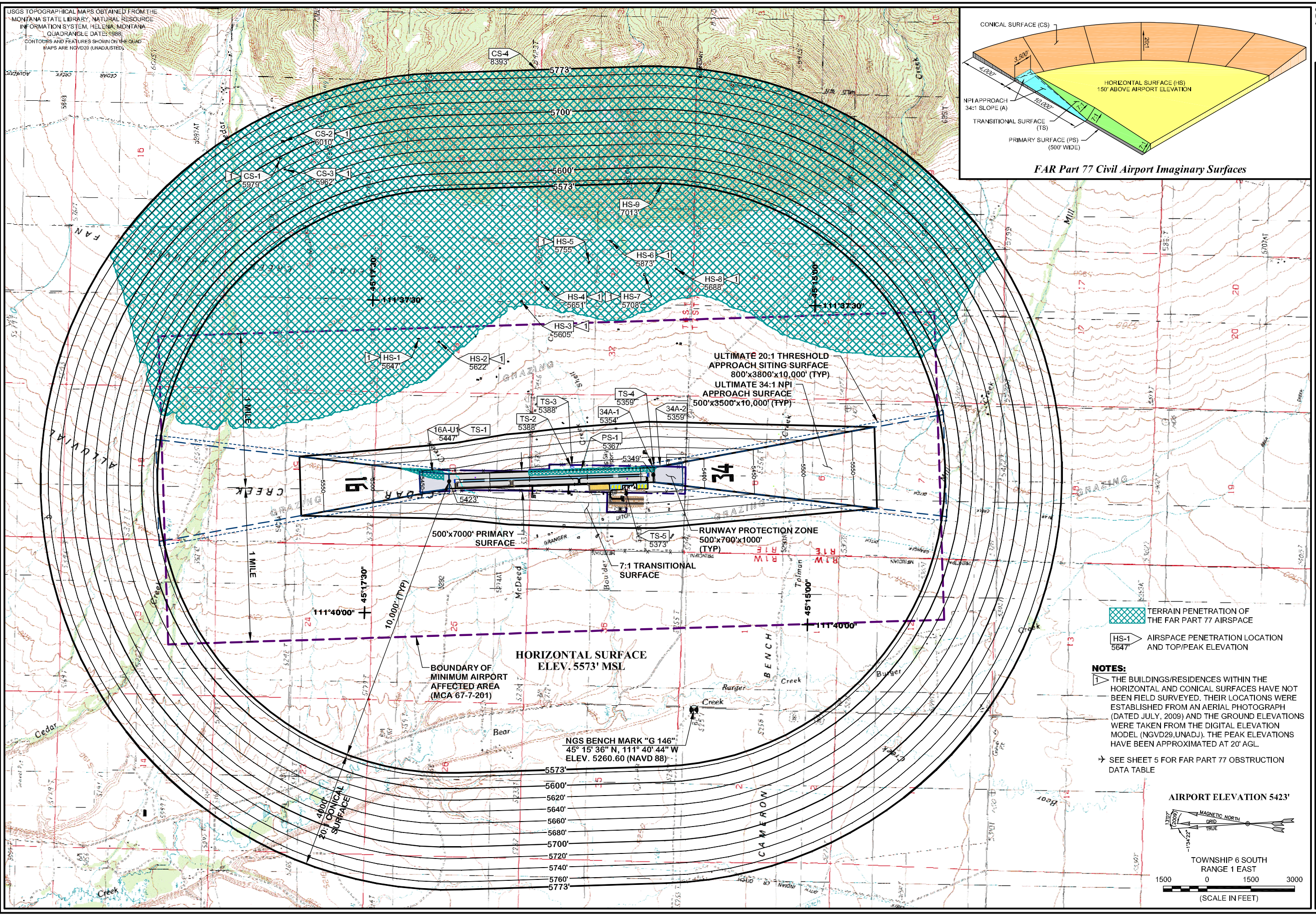
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USGS TOPOGRAPHICAL MAPS OBTAINED FROM THE MONTANA STATE LIBRARY, NATURAL RESOURCE INFORMATION SYSTEM, HELENA, MONTANA. QUADRANGLE DATE: 1988. CONTOURS AND FEATURES SHOWN ON THE QUAD MAPS ARE NGVD29 (UNADJUSTED).

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FAR Part 77 Civil Airport Imaginary Surfaces



SYN	REVISION	BY	DATE

L. BOWSER	DESIGNED BY	APRIL 2010	DATE
N. GEARY	DRAWN BY	07010.000	PROJECT NO.
R. DONALDSON	CHECKED BY	EKS010-ALP04-5	FILE

PROJECT TITLE
ENNIS - BIG SKY AIRPORT
 Ennis, Montana

SHEET TITLE
FAR PART 77
AIRPORT AIRSPACE
DRAWING

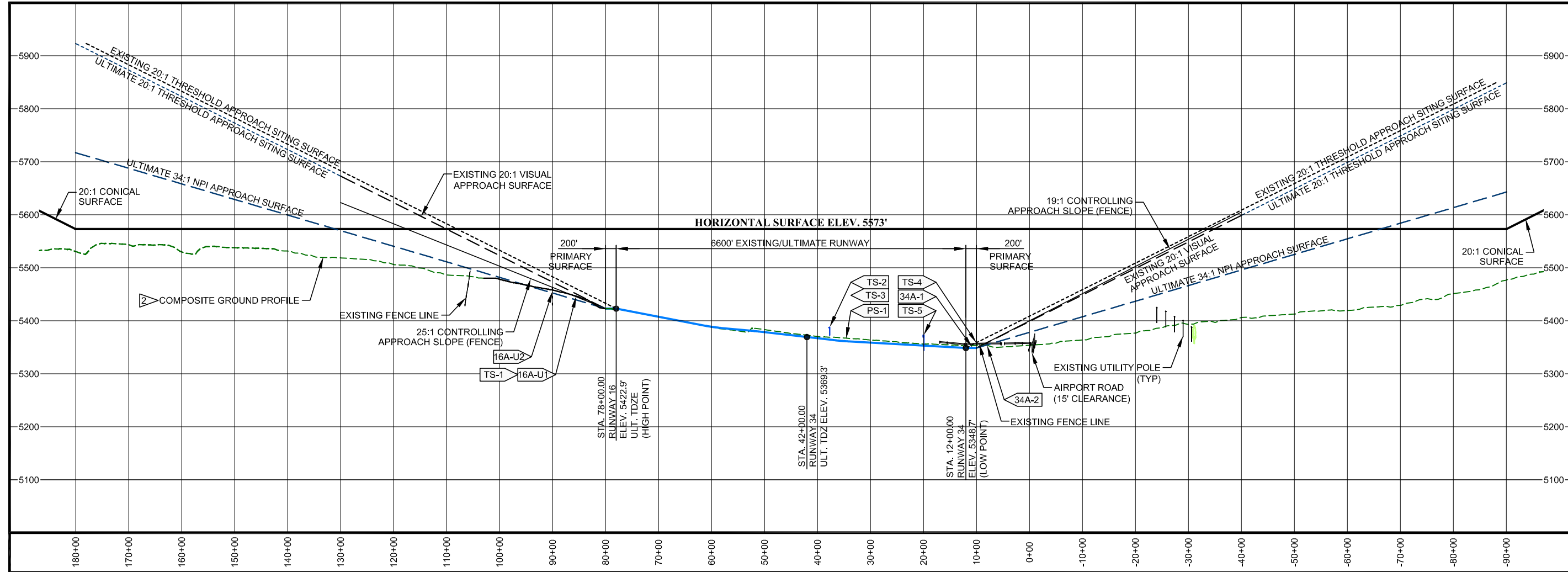
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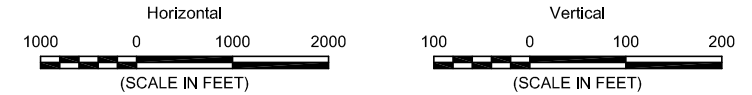


DATE	BY	REVISION

APRIL 2010	DATE	07010.000	PROJECT NO.	EKS010-ALP04-5	FILE
L. BOWSER	DESIGNED BY	N. GEARY	DRAWN BY	R. DONALDSON	CHECKED BY



RUNWAY 16-34



FAR PART 77 OBSTRUCTION DATA TABLE

NUMBER	DESCRIPTION	FAR PART 77 SURFACE PENETRATION	MAXIMUM PENETRATION	PROPOSED REMEDY	APPROX. RUNWAY STATION	APPROX. DISTANCE FROM RUNWAY CL	NUMBER	DESCRIPTION	FAR PART 77 SURFACE PENETRATION	MAXIMUM PENETRATION	PROPOSED REMEDY	APPROX. RUNWAY STATION	APPROX. DISTANCE FROM RUNWAY CL
CS-1	BUILDING/RESIDENCE	CONICAL	281' ±	NONE	134+12	11,237' EAST	HS-9	TERRAIN	HORIZONTAL	1,440' ±	NONE	3+80	9,980' EAST
CS-2	BUILDING/RESIDENCE	CONICAL	286' ±	NONE	133+23	11,832' EAST	TS-1	TERRAIN	TRANSITIONAL	8' ±	REGRADE	85+52	333' EAST
CS-3	BUILDING/RESIDENCE	CONICAL	284' ±	NONE	132+61	10,854' EAST	TS-2	WIND CONE	TRANSITIONAL	9.0'	LIGHTED	37+71	353' EAST
CS-4	TERRAIN	CONICAL	2,620' ±	NONE	45+61	14,000' EAST	TS-3	AWOS	TRANSITIONAL	3.2'	NONE	37+70	393' EAST
HS-1	BUILDING/RESIDENCE	HORIZONTAL	74' ±	NONE	89+20	4,918' EAST	TS-4	FENCE	TRANSITIONAL	5.1'	RELOCATE	10+00	290' EAST
HS-2	BUILDING/RESIDENCE	HORIZONTAL	49' ±	NONE	82+40	4,798' EAST	TS-5	FLAG POLE	TRANSITIONAL	4.5'	RELOCATE	19+91	359' WEST
HS-3	BUILDING/RESIDENCE	HORIZONTAL	32' ±	NONE	53+35	6,109' EAST	PS-1	TERRAIN	PRIMARY	6' ±	REGRADE	34+60	250' EAST
HS-4	BUILDING/RESIDENCE	HORIZONTAL	78' ±	NONE	46+19	6,735' EAST	16A-U1	TERRAIN	APPROACH (ULT.)	8' ±	REGRADE	85+52	333' EAST
HS-5	BUILDING/RESIDENCE	HORIZONTAL	182' ±	NONE	29+50	7,376' EAST	16A-U2	FENCE	APPROACH (ULT.)	10.4'	REGRADE	90+00	400' EAST
HS-6	BUILDING/RESIDENCE	HORIZONTAL	300' ±	NONE	22+36	8,072' EAST	34A-1	TERRAIN	APPROACH (EX. & ULT.)	5' ±	REGRADE	10+00	250' EAST
HS-7	BUILDING/RESIDENCE	HORIZONTAL	135' ±	NONE	10+93	6,895' EAST	34A-2	FENCE	APPROACH (EX. & ULT.)	0.3' (EX) 4.4' (ULT)	REGRADE	8+00	280' EAST
HS-8	BUILDING/RESIDENCE	HORIZONTAL	115' ±	NONE	0+15	7,048' EAST							

NOTES:

1 THE BUILDINGS/RESIDENCES WITHIN THE HORIZONTAL AND CONICAL SURFACES HAVE NOT BEEN FIELD SURVEYED. THEIR LOCATIONS WERE ESTABLISHED FROM AN AERIAL PHOTOGRAPH (DATED JULY, 2009) AND THE GROUND ELEVATIONS WERE TAKEN FROM THE DIGITAL ELEVATION MODEL (UNADJUSTED). THE PEAK ELEVATIONS HAVE BEEN APPROXIMATED AT 20' AGL.

2 EXISTING COMPOSITE GROUND BEYOND THE AIRPORT FENCE LINE WAS SAMPLED FROM NGVD 29 DIGITAL ELEVATION MODELS (UNADJUSTED). NO ADDITIONS HAVE BEEN MADE FOR TOP OF VEGETATION/TREE ELEVATIONS. SOURCE: GeoCommunity™ GISDataDepot Based on USGS Quadrangle Maps

SEE SHEET 6 FOR RUNWAY 16 AND RUNWAY 34 INNER APPROACH SURFACES DRAWING.

ENNIS - BIG SKY AIRPORT
Ennis, Montana

FAR PART 77 AIRPORT AIRSPACE PROFILE

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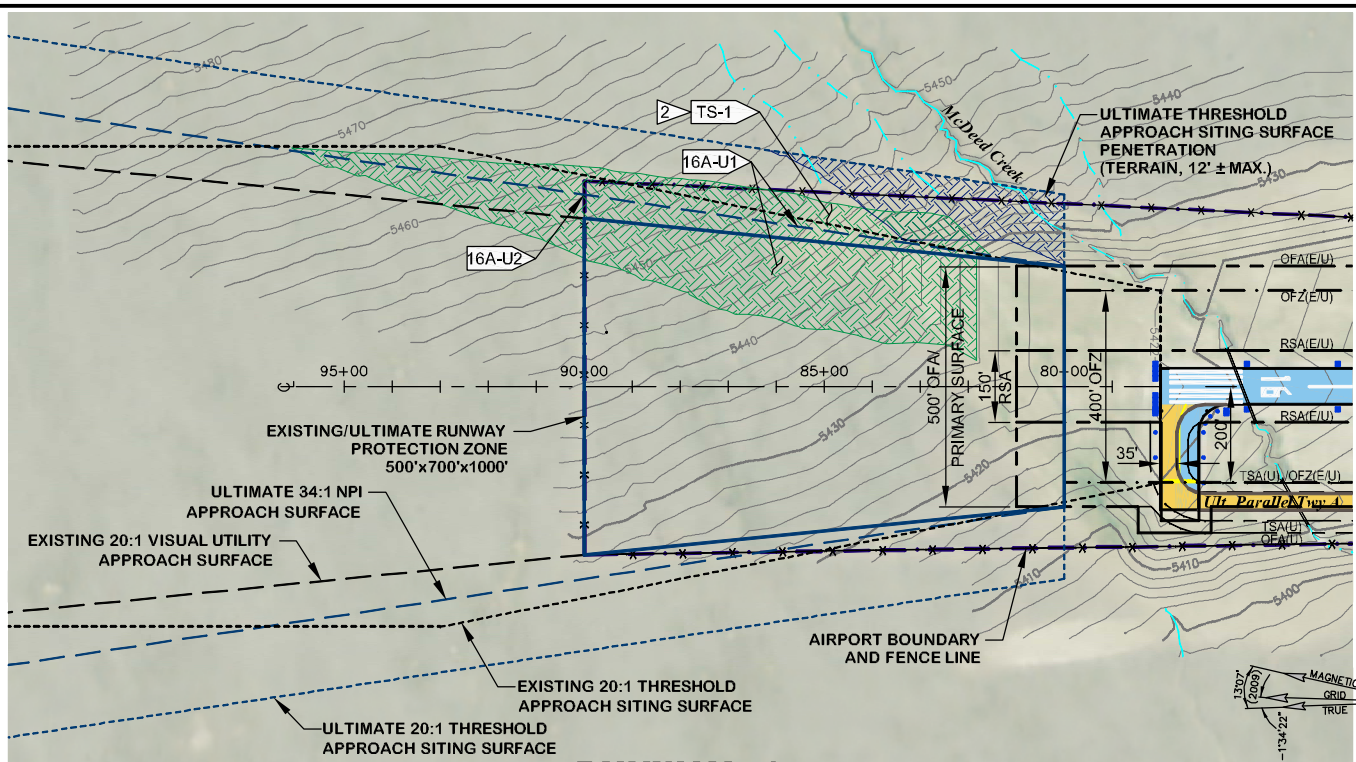
SYN	REVISION	BY	APPR.	DATE

APRIL 2010	DATE	07010.000	PROJECT NO.	EKS010-ALP06	FILE
L. BOWSER	DESIGNED BY	N. GEARY	DRAWN BY	R. DONALDSON	CHECKED BY

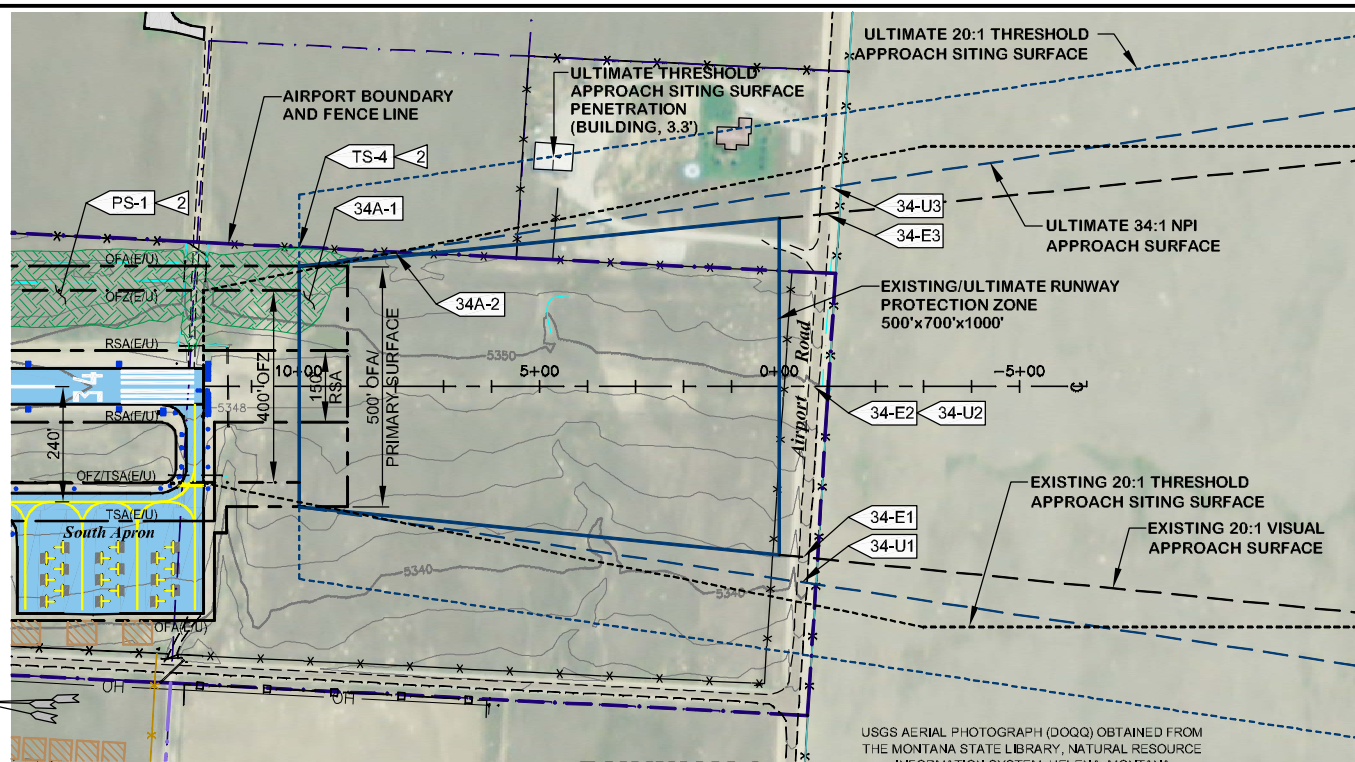
PROJECT TITLE
ENNIS - BIG SKY AIRPORT
 Ennis, Montana

SHEET TITLE
RUNWAY 16-34
INNER APPROACH
SURFACES DRAWING

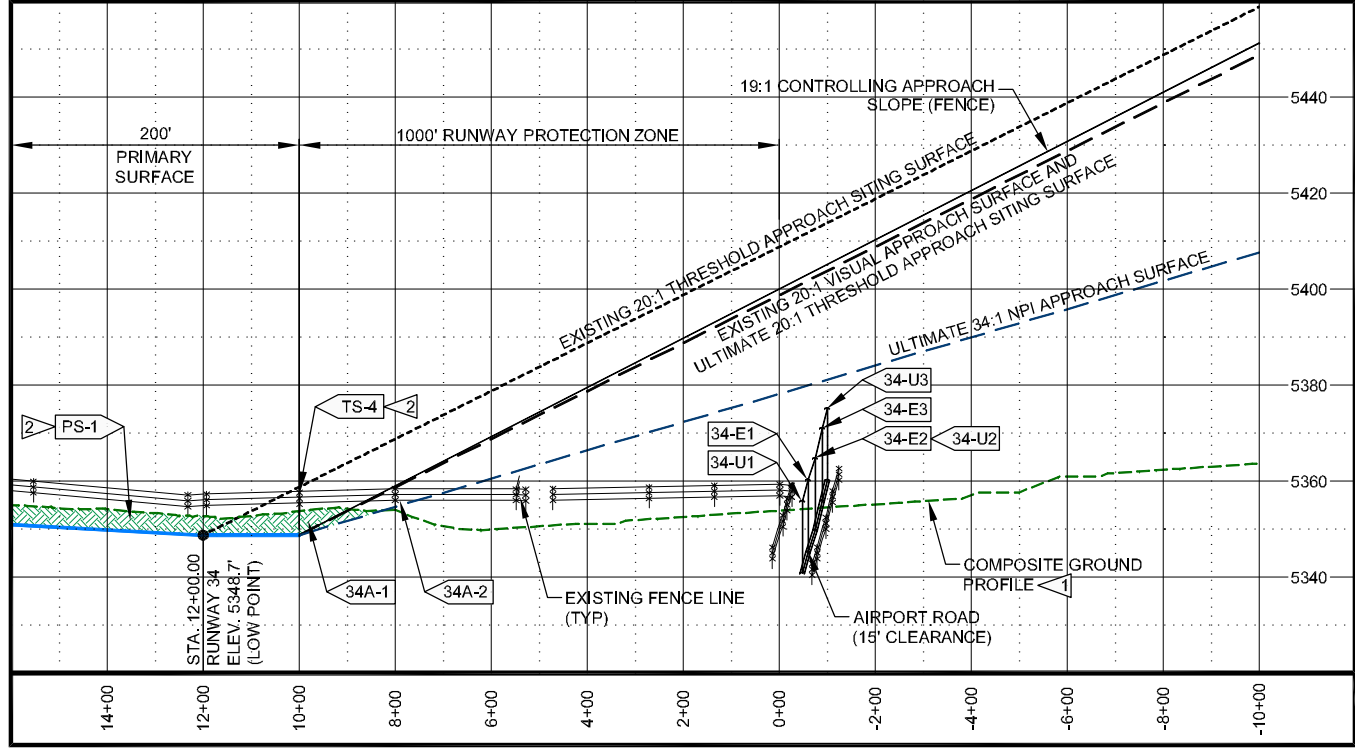
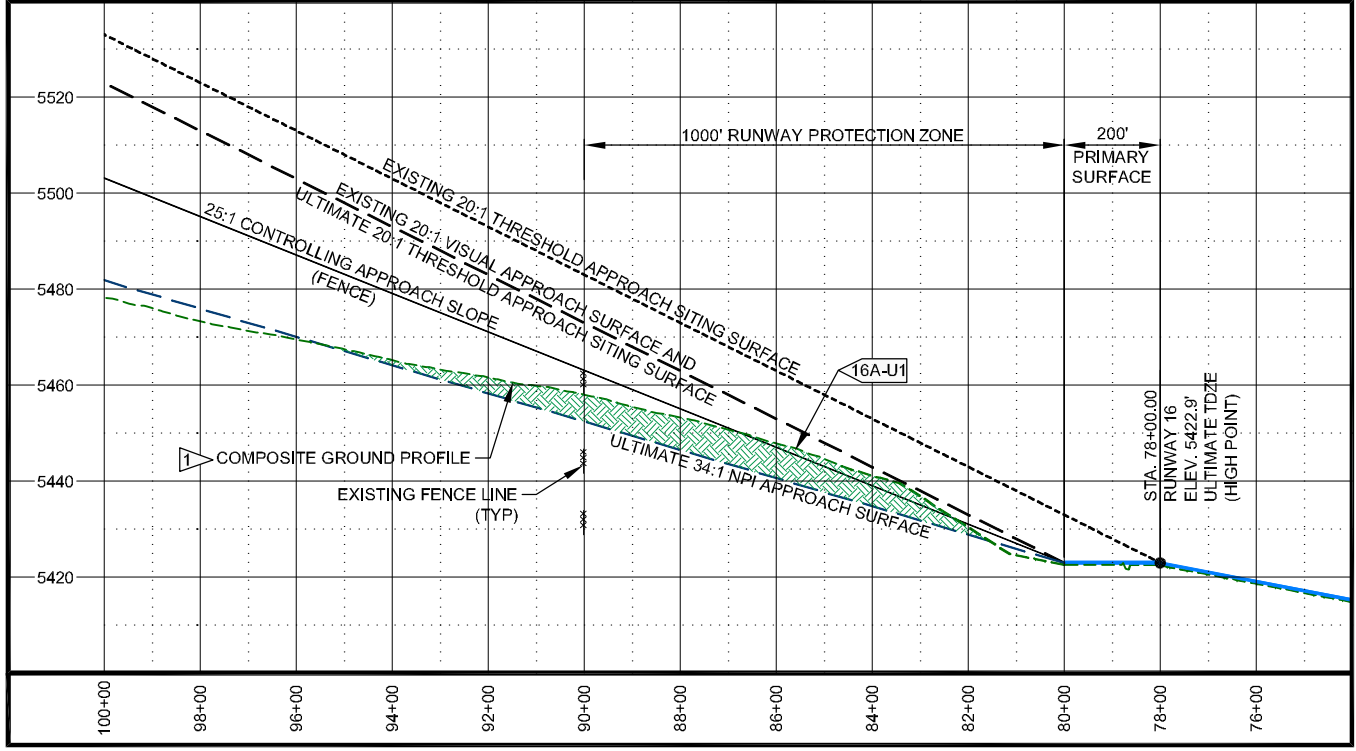
SHEET
6



RUNWAY 16

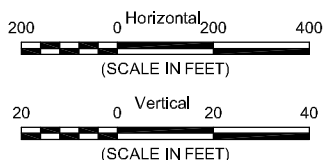


RUNWAY 34



SEE SHEET 7 FOR RUNWAY 16 AND RUNWAY 34 ULTIMATE DEPARTURE SURFACE DRAWINGS

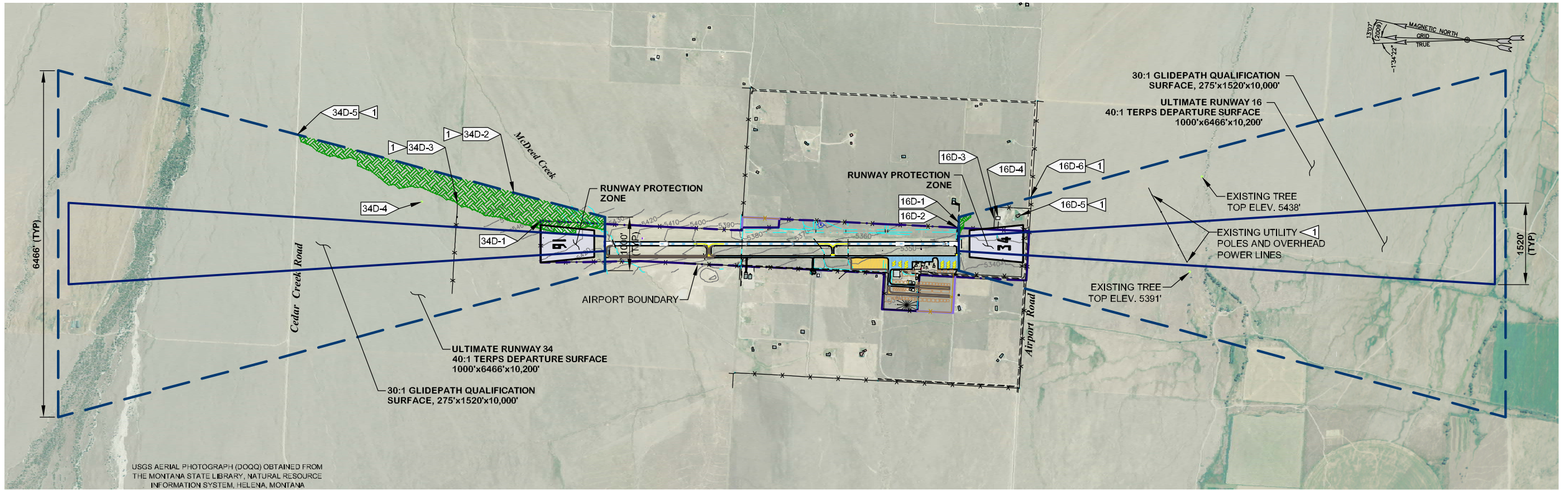
LOCATION NUMBER	DESCRIPTION	GROUND ELEVATION	REQ'D CLEARANCE/ TOP ELEVATION	20:1 VISUAL APPROACH ELEVATION	34:1 NPI APPROACH ELEVATION	PROPOSED DISPOSITION
16A-U1	TERRAIN	5447'	5447'	---	5439'	REGRADE
16A-U2	FENCE	5458.2'	5462.7'	5472.9'	5452.3'	REGRADE



NOTES:
 1 EXISTING COMPOSITE GROUND PROFILE IS SAMPLED WITHIN THE APPROACH AREA ONLY. ULTIMATE THRESHOLD APPROACH SITING SURFACE PENETRATIONS WILL EXIST, ALTHOUGH IT DOES NOT APPEAR SO IN THE PROFILE.
 2 SEE FAR PART 77 OBSTRUCTION DATA TABLE, SHEET 5.

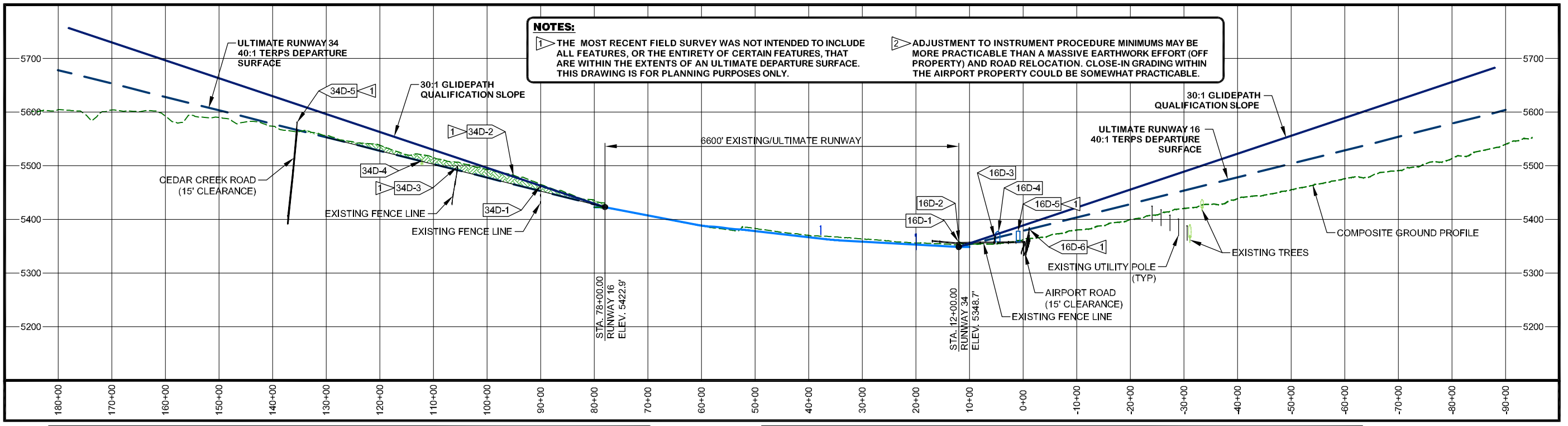
LOCATION NUMBER	DESCRIPTION	GROUND ELEVATION	REQ'D CLEARANCE/ TOP ELEVATION	20:1 VISUAL APPROACH ELEVATION	34:1 NPI APPROACH ELEVATION	PROPOSED DISPOSITION
34A-1	TERRAIN	5354.5'	5354.5'	5348.7'	5348.7'	REGRADE
34A-2	FENCE	5354.5'	5359.0'	5358.7'	5354.6'	REGRADE
34-E1	ROADWAY	5342.3'	5357.3'	5401.3'	5379.6'	---
34-E2	ROADWAY	5349.8'	5364.8'	5402.3'	---	---
34-E3	ROADWAY	5359.0'	5374.0'	5403.5'	5380.9'	---
34-U1	ROADWAY	5340.9'	5355.9'	---	5379.5'	---
34-U2	ROADWAY	5349.8'	5364.8'	---	5380.2'	---
34-U3	ROADWAY	5360.2'	5375.2'	---	5381.3'	---

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USGS AERIAL PHOTOGRAPH (DOQQ) OBTAINED FROM THE MONTANA STATE LIBRARY, NATURAL RESOURCE INFORMATION SYSTEM, HELENA, MONTANA
PHOTO DATE: JULY 20, 2009

RUNWAY 16-34



NOTES:

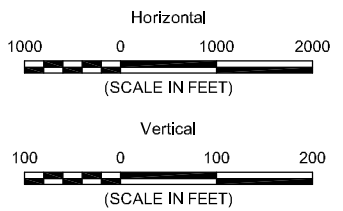
- THE MOST RECENT FIELD SURVEY WAS NOT INTENDED TO INCLUDE ALL FEATURES, OR THE ENTIRETY OF CERTAIN FEATURES, THAT ARE WITHIN THE EXTENTS OF AN ULTIMATE DEPARTURE SURFACE. THIS DRAWING IS FOR PLANNING PURPOSES ONLY.
- ADJUSTMENT TO INSTRUMENT PROCEDURE MINIMUMS MAY BE MORE PRACTICABLE THAN A MASSIVE EARTHWORK EFFORT (OFF PROPERTY) AND ROAD RELOCATION. CLOSE-IN GRADING WITHIN THE AIRPORT PROPERTY COULD BE SOMEWHAT PRACTICABLE.

RUNWAY 34 DEPARTURE OBSTRUCTION DATA TABLE

NUMBER	DESCRIPTION	TOP/MAXIMUM ELEVATION OF OBJECT	ULTIMATE DEPARTURE SURFACE ELEVATION	MAXIMUM PENETRATION	PROPOSED DISPOSITION
34D-1	FENCE	5464.4'	5453.0'	11.4'	NO ACTION
34D-2	TERRAIN	5484' ±	5465.3'	19' ±	NO ACTION
34D-3	FENCE	5499.3'	5491.7'	7.6'	NO ACTION
34D-4	TREE (CONIFER)	5513.0'	5508.2'	4.8'	NO ACTION
34D-5	PUBLIC ROAD (15' CLEARANCE)	5581' ±	5566.5'	14.5' ±	NO ACTION

RUNWAY 16 DEPARTURE OBSTRUCTION DATA TABLE

NUMBER	DESCRIPTION	TOP/MAXIMUM ELEVATION OF OBJECT	ULTIMATE DEPARTURE SURFACE ELEVATION	MAXIMUM PENETRATION	PROPOSED DISPOSITION
16D-1	TERRAIN	5357.5'	5348.7'	8.8'	NO ACTION
16D-2	FENCE	5357.8'	5348.7'	9.1'	NO ACTION
16D-3	FENCE	5369.4'	5365.6'	3.8'	NO ACTION
16D-4	BUILDING/RESIDENCE	5378.5'	5366.9'	11.6'	NO ACTION
16D-5	BUILDING/RESIDENCE	5378' ±	5375.3'	2.7' ±	NO ACTION
16D-6	PUBLIC ROAD (15' CLEARANCE)	5385' ±	5381.6'	3.4' ±	NO ACTION



SYN	REVISION	BY	APPR.	DATE

L. BOWSER	DESIGNED BY	APRIL 2010	DATE
N. GEARY	DRAWN BY	07010.000	PROJECT NO.
R. DONALDSON	CHECKED BY	EKS010-ALP07	FILE

PROJECT TITLE
ENNIS - BIG SKY AIRPORT
Ennis, Montana

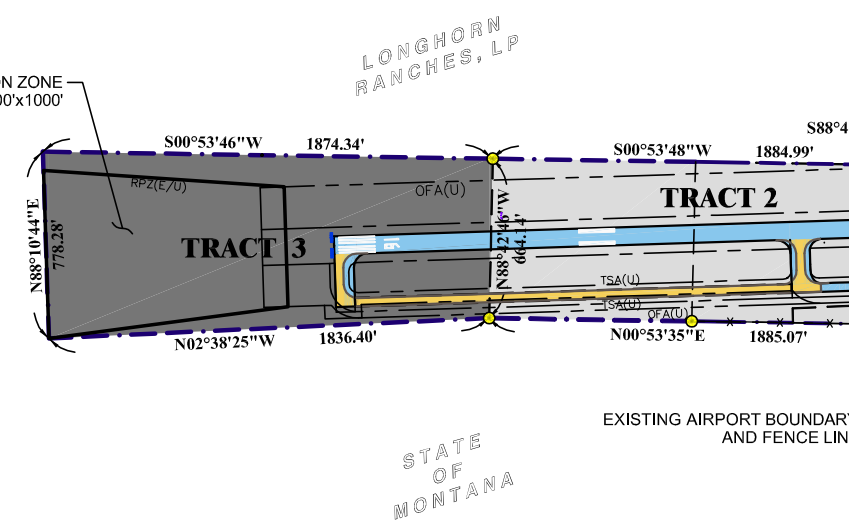
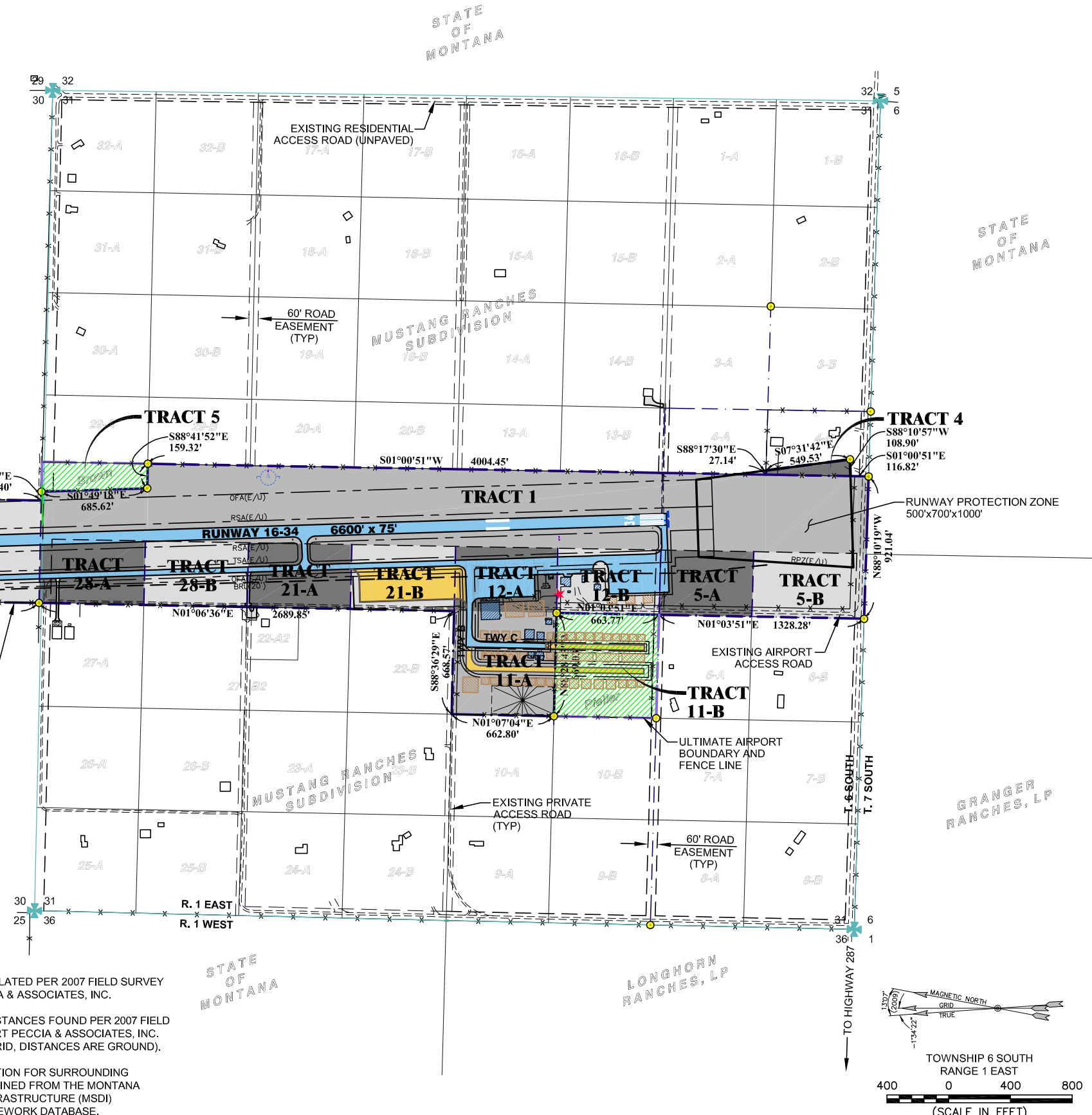
SHEET TITLE
RUNWAY 16-34 DEPARTURE SURFACES DRAWING

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SUMMARY OF PROPERTY INTERESTS

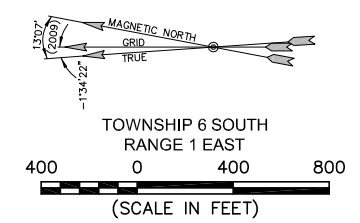
TRACT NO.	DESCRIPTION	ACREAGE	BOOK	PAGE	YEAR ACQUIRED	PARTICIPATING PROJECT NO.	PURPOSE OF ACQUISITION
1	MADISON COUNTY - FEE SIMPLE TITLE	58.57	308	840-849	1985	A.I.P. 3-30-0090-02	AIRPORT DEVELOPMENT
2	PERPETUAL EASEMENT FROM STATE OF MONTANA	28.97	345	335-336	1990	A.I.P. 3-30-0090-01	AIRPORT DEVELOPMENT
5-A	MADISON COUNTY - FEE SIMPLE TITLE	6.406	345	542	1990	A.I.P. 3-30-0090-01	AIRPORT DEVELOPMENT
5-B	MADISON COUNTY - FEE SIMPLE TITLE	6.415	344	523	1990	A.I.P. 3-30-0090-01	AIRPORT DEVELOPMENT
12-A	MADISON COUNTY - FEE SIMPLE TITLE	6.387	342	437	1989	A.I.P. 3-30-0090-01	AIRPORT DEVELOPMENT
12-B	MADISON COUNTY - FEE SIMPLE TITLE	6.397	343	389	1989	A.I.P. 3-30-0090-01	AIRPORT DEVELOPMENT
21-A	MADISON COUNTY - FEE SIMPLE TITLE	6.399	343	288	1989	A.I.P. 3-30-0090-01	AIRPORT DEVELOPMENT
21-B	MADISON COUNTY - FEE SIMPLE TITLE	6.417	343	289	1989	A.I.P. 3-30-0090-01	AIRPORT DEVELOPMENT
28-A	MADISON COUNTY - FEE SIMPLE TITLE	6.366	343	289	1989	A.I.P. 3-30-0090-01	AIRPORT DEVELOPMENT
28-B	MADISON COUNTY - FEE SIMPLE TITLE	6.383	343	288	1989	A.I.P. 3-30-0090-01	AIRPORT DEVELOPMENT
11-A	MADISON COUNTY - FEE SIMPLE TITLE	10.184	356	728	1991	A.I.P. 3-30-0090-03	AIRPORT DEVELOPMENT
3	PERPETUAL EASEMENT FROM STATE OF MONTANA	30.692	508	598	2004	A.I.P. 3-30-0090-006-2004	RUNWAY EXTENSION, RPZ, AND APPROACH PROTECTION
4	RIGHT-OF-WAY EASEMENT FROM DANNY C. AND DARCIE STROUD	0.854	490	225	2004	A.I.P. 3-30-0090-006-2004	RPZ AND APPROACH PROTECTION
5	PROPOSED ACQUISITION	2.77	--	--	--	--	AIRSPACE CLEARANCE
11-B	PROPOSED ACQUISITION	10.195	--	--	--	--	HANGAR ACCESS TAXIWAYS AND HANGARS



LEGEND

DESCRIPTION	EXISTING	ULTIMATE
PAVED AIRCRAFT SURFACE		
CONCRETE		SAME
UNPAVED ROAD		SAME
AIRPORT BOUNDARY		
RUNWAY PROTECTION ZONE (RPZ)	RPZ(E/U)	SAME
OBJECT FREE AREA (OFA)	OFA(E)	OFA(U)
RUNWAY/TAXIWAY SAFETY AREA (RSA/TSA)	RSA(E)	RSA(U)
BUILDING RESTRICTION LINE (BRL)	BRL(20')	SAME
ON-AIRPORT BUILDING / STRUCTURE		
BUILDING / STRUCTURE (OTHER)		(UNKNOWN)
FENCE LINE		
LIGHTED WIND CONE & SEGMENTED CIRCLE		SAME
ROTATING BEACON		SAME
FOUND PROPERTY PIN		N/A
FOUND SECTION CORNER		SAME

- NOTES:**
- ACREAGES CALCULATED PER 2007 FIELD SURVEY BY ROBERT PECCIA & ASSOCIATES, INC.
 - BEARINGS AND DISTANCES FOUND PER 2007 FIELD SURVEY BY ROBERT PECCIA & ASSOCIATES, INC. (BEARINGS ARE GRID, DISTANCES ARE GROUND).
 - PARCEL INFORMATION FOR SURROUNDING PROPERTIES OBTAINED FROM THE MONTANA SPATIAL DATA INFRASTRUCTURE (MSDI) CADASTRAL FRAMEWORK DATABASE.



DATE	BY	APPR.	REVISION	SYM.

APRIL 2010	DATE	07010.000	PROJECT NO.	EKS010-ALP08	FILE
L. BOWSER	DESIGNED BY	N. GEARY	DRAWN BY	R. DONALDSON	CHECKED BY

PROJECT TITLE
ENNIS - BIG SKY AIRPORT
Ennis, Montana

SHEET TITLE
EXHIBIT "A" AIRPORT PROPERTY MAP

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APPENDIX C

**Montana Department of Commerce Census & Economic
(CEIC) Data Summary**

Montana County Population Projections - County Comparison, 1990 - 2060

Source: eREMI - a product of Regional Economic Models, Inc. (www.remi.com) - Released April 2013
 Compiled by the Census & Economic Information Center, MT Dept. of Commerce (www.ceic.mt.gov)



Montana Counties - Total Population

	Historic Estimates										
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Madison County	5,994	6,091	6,037	6,150	6,348	6,643	6,668	6,787	6,759	6,801	6,870
McCone County	2,259	2,189	2,128	2,167	2,179	2,169	2,127	2,099	2,041	2,015	1,960
Meagher County	1,824	1,847	1,840	1,870	1,891	1,893	1,891	1,914	1,927	1,929	1,916
Mineral County	3,329	3,328	3,448	3,609	3,625	3,612	3,726	3,732	3,783	3,869	3,877
Missoula County	79,080	81,098	83,549	86,243	88,037	90,413	91,947	93,151	93,847	94,791	96,178
Musselshell County	4,105	4,126	4,081	4,179	4,347	4,445	4,612	4,518	4,494	4,499	4,471
Park County	14,643	14,458	14,666	15,213	15,535	15,724	15,845	15,811	15,465	15,595	15,710
Petroleum County	519	508	504	513	526	512	514	508	497	494	493
Phillips County	5,150	5,152	5,103	5,030	5,009	5,110	5,034	4,956	4,826	4,720	4,568
Pondera County	6,427	6,287	6,301	6,249	6,294	6,387	6,462	6,611	6,568	6,493	6,384
Powder River County	2,077	2,054	2,054	2,045	2,054	2,019	2,005	1,968	1,884	1,863	1,847
Powell County	6,640	6,712	6,809	6,806	6,889	7,057	7,126	7,122	7,135	7,143	7,203
Prairie County	1,368	1,326	1,299	1,306	1,297	1,308	1,269	1,250	1,254	1,238	1,179
Ravalli County	25,068	25,985	27,387	28,754	30,455	31,942	33,170	34,041	34,578	35,311	36,301
Richland County	10,640	10,534	10,438	10,234	10,193	10,159	10,036	9,969	9,893	9,765	9,619
Roosevelt County	10,958	10,780	10,789	10,860	10,964	10,932	10,834	10,873	10,717	10,614	10,623
Rosebud County	10,473	10,335	10,405	10,509	10,488	10,447	10,180	9,783	9,588	9,424	9,399
Sanders County	8,680	8,628	8,842	9,230	9,644	10,019	10,093	10,155	10,097	10,124	10,287
Sheridan County	4,692	4,568	4,547	4,470	4,432	4,444	4,410	4,331	4,300	4,169	4,078
Silver Bow County	33,913	34,140	34,401	34,868	35,025	34,978	35,014	34,931	35,218	34,757	34,571
Stillwater County	6,573	6,703	6,734	6,935	7,133	7,336	7,477	7,710	7,887	8,100	8,247
Sweet Grass County	3,146	3,145	3,135	3,186	3,223	3,310	3,342	3,299	3,302	3,518	3,633
Teton County	6,267	6,188	6,227	6,340	6,431	6,430	6,354	6,339	6,365	6,460	6,436
Toole County	5,050	5,026	5,128	5,226	5,294	5,292	5,211	5,219	5,199	5,201	5,261
Treasure County	867	881	896	890	880	858	864	857	891	868	854
Valley County	8,175	8,123	8,132	8,226	8,149	8,193	8,117	8,092	7,970	7,792	7,653
Wheatland County	2,246	2,279	2,271	2,292	2,353	2,413	2,401	2,330	2,337	2,270	2,243
Wibaux County	1,189	1,155	1,135	1,142	1,111	1,126	1,111	1,105	1,100	1,072	1,072
Yellowstone County	113,557	115,387	118,359	121,194	123,377	125,373	126,623	127,217	127,641	128,736	129,570



Montana County Population Projections - County Comparison, 1990 - 2060

Source: eREMI - a product of Regional Economic Models, Inc. (www.remi.com) - Released April 2013
 Compiled by the Census & Economic Information Center, MT Dept. of Commerce (www.ceic.mt.gov)



Montana Counties - Total Population

	Historic Estimate									
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Madison County	6,856	6,935	6,894	6,999	7,211	7,343	7,560	7,674	7,674	7,698
McCone County	1,874	1,828	1,797	1,781	1,778	1,765	1,767	1,720	1,705	1,738
Meagher County	1,906	1,895	1,913	1,935	1,899	1,923	1,908	1,893	1,897	1,890
Mineral County	3,839	3,837	3,936	3,985	4,133	4,211	4,156	4,177	4,200	4,223
Missoula County	97,435	98,968	99,976	100,934	102,298	104,372	106,110	107,747	108,717	109,443
Musselshell County	4,368	4,353	4,361	4,370	4,323	4,398	4,394	4,423	4,478	4,550
Park County	15,651	15,676	15,539	15,509	15,629	15,690	15,828	15,896	15,738	15,587
Petroleum County	490	506	506	519	492	495	470	481	488	488
Phillips County	4,498	4,383	4,317	4,295	4,228	4,166	4,193	4,182	4,242	4,267
Pondera County	6,360	6,285	6,228	6,140	6,148	6,172	6,169	6,117	6,109	6,173
Powder River County	1,814	1,834	1,837	1,789	1,739	1,794	1,761	1,756	1,738	1,737
Powell County	7,033	6,986	6,893	6,872	6,997	7,115	7,117	7,036	7,093	7,031
Prairie County	1,208	1,173	1,168	1,153	1,098	1,098	1,083	1,123	1,139	1,190
Ravalli County	36,683	37,308	38,184	38,739	39,012	39,555	40,023	40,223	39,956	40,343
Richland County	9,424	9,286	9,195	9,096	9,207	9,267	9,356	9,430	9,679	9,753
Roosevelt County	10,558	10,389	10,344	10,459	10,437	10,285	10,166	10,129	10,334	10,458
Rosebud County	9,248	9,196	9,210	9,136	9,131	9,057	9,089	9,095	9,174	9,264
Sanders County	10,489	10,466	10,554	10,895	11,002	11,178	11,364	11,433	11,471	11,397
Sheridan County	3,952	3,825	3,697	3,683	3,573	3,507	3,469	3,385	3,387	3,383
Silver Bow County	33,882	33,636	33,474	33,416	33,414	33,441	33,489	33,812	34,008	34,233
Stillwater County	8,392	8,441	8,451	8,435	8,481	8,659	8,867	8,945	9,077	9,110
Sweet Grass County	3,594	3,617	3,591	3,676	3,675	3,697	3,778	3,755	3,731	3,622
Teton County	6,373	6,286	6,314	6,209	6,105	6,110	6,143	6,143	6,050	6,088
Toole County	5,228	5,184	5,006	5,069	5,130	5,085	4,969	5,079	5,245	5,346
Treasure County	836	793	784	799	766	759	748	754	720	721
Valley County	7,587	7,512	7,427	7,422	7,367	7,272	7,332	7,415	7,349	7,376
Wheatland County	2,174	2,193	2,131	2,113	2,086	2,035	2,080	2,151	2,158	2,162
Wibaux County	1,032	1,028	1,020	1,019	995	984	1,014	986	1,030	1,002
Yellowstone County	130,801	132,165	133,715	135,441	137,623	139,582	141,518	144,255	146,465	148,450



Montana County Population Projections - County Comparison, 1990 - 2060

Source: eREMI - a product of Regional Economic Models, Inc. (www.remi.com) - Released April 2013
 Compiled by the Census & Economic Information Center, MT Dept. of Commerce (www.ceic.mt.gov)



Montana Counties - Total Population

	Projected Figures									
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Madison County	7,803	7,905	8,020	8,126	8,222	8,307	8,390	8,469	8,540	8,601
McCone County	1,768	1,796	1,824	1,849	1,871	1,889	1,906	1,921	1,937	1,955
Meagher County	1,883	1,878	1,879	1,880	1,882	1,883	1,887	1,894	1,898	1,906
Mineral County	4,215	4,215	4,223	4,232	4,247	4,263	4,280	4,297	4,312	4,325
Missoula County	110,500	111,724	113,103	114,575	116,076	117,595	119,108	120,585	122,071	123,553
Musselshell County	4,699	4,832	4,955	5,068	5,173	5,267	5,357	5,440	5,515	5,585
Park County	15,578	15,592	15,608	15,630	15,653	15,679	15,699	15,719	15,741	15,760
Petroleum County	513	536	556	576	594	612	629	645	660	675
Phillips County	4,275	4,281	4,285	4,290	4,290	4,292	4,290	4,289	4,286	4,276
Pondera County	6,249	6,316	6,387	6,453	6,516	6,571	6,626	6,679	6,728	6,777
Powder River County	1,761	1,782	1,798	1,810	1,818	1,823	1,829	1,834	1,840	1,846
Powell County	7,054	7,078	7,097	7,117	7,140	7,163	7,184	7,205	7,228	7,247
Prairie County	1,206	1,225	1,246	1,267	1,291	1,314	1,335	1,356	1,376	1,394
Ravalli County	40,471	40,614	40,789	40,988	41,202	41,436	41,678	41,924	42,182	42,450
Richland County	10,075	10,383	10,702	10,989	11,247	11,484	11,705	11,915	12,112	12,294
Roosevelt County	10,600	10,716	10,817	10,903	10,978	11,045	11,103	11,152	11,196	11,232
Rosebud County	9,274	9,273	9,267	9,277	9,293	9,305	9,325	9,347	9,373	9,399
Sanders County	11,407	11,430	11,463	11,501	11,539	11,580	11,627	11,677	11,725	11,776
Sheridan County	3,418	3,444	3,468	3,489	3,505	3,521	3,535	3,550	3,567	3,585
Silver Bow County	34,229	34,245	34,282	34,336	34,406	34,493	34,607	34,739	34,874	35,014
Stillwater County	9,245	9,360	9,457	9,532	9,596	9,650	9,691	9,719	9,741	9,751
Sweet Grass County	3,725	3,813	3,897	3,970	4,031	4,085	4,134	4,173	4,210	4,241
Teton County	6,141	6,182	6,215	6,240	6,258	6,273	6,286	6,296	6,304	6,313
Toole County	5,414	5,471	5,527	5,567	5,600	5,632	5,658	5,680	5,697	5,715
Treasure County	736	748	759	770	780	788	795	804	812	821
Valley County	7,498	7,604	7,695	7,773	7,841	7,900	7,949	7,993	8,034	8,074
Wheatland County	2,223	2,276	2,327	2,375	2,419	2,463	2,506	2,546	2,587	2,625
Wibaux County	1,016	1,031	1,046	1,060	1,071	1,080	1,091	1,101	1,109	1,120
Yellowstone County	150,834	153,235	155,777	158,217	160,556	162,797	164,915	166,910	168,796	170,586



Montana County Population Projections - County Comparison, 1990 - 2060

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Montana Counties - Total Population

	Projected Figures										
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Madison County	8,659	8,710	8,755	8,792	8,820	8,841	8,857	8,865	8,865	8,859	
McCone County	1,967	1,979	1,989	1,998	2,003	2,006	2,008	2,009	2,007	2,005	
Meagher County	1,908	1,910	1,915	1,918	1,921	1,922	1,922	1,921	1,918	1,914	
Mineral County	4,336	4,345	4,353	4,358	4,361	4,359	4,355	4,347	4,334	4,316	
Missoula County	124,965	126,301	127,576	128,770	129,872	130,889	131,799	132,642	133,405	134,085	
Musselshell County	5,645	5,698	5,745	5,783	5,815	5,837	5,849	5,853	5,844	5,825	
Park County	15,787	15,813	15,838	15,864	15,884	15,905	15,920	15,931	15,939	15,939	
Petroleum County	690	702	717	732	745	757	767	777	787	795	
Phillips County	4,266	4,264	4,262	4,263	4,256	4,252	4,252	4,247	4,241	4,234	
Pondera County	6,827	6,875	6,922	6,963	7,004	7,044	7,081	7,110	7,129	7,143	
Powder River County	1,855	1,859	1,860	1,865	1,869	1,872	1,876	1,880	1,883	1,882	
Powell County	7,268	7,289	7,308	7,327	7,340	7,351	7,358	7,362	7,362	7,355	
Prairie County	1,411	1,426	1,441	1,454	1,465	1,475	1,481	1,486	1,486	1,486	
Ravalli County	42,712	42,963	43,209	43,453	43,679	43,900	44,117	44,330	44,526	44,691	
Richland County	12,462	12,621	12,763	12,894	13,005	13,102	13,189	13,263	13,320	13,357	
Roosevelt County	11,269	11,305	11,341	11,358	11,370	11,371	11,396	11,388	11,367	11,335	
Rosebud County	9,424	9,449	9,467	9,478	9,497	9,518	9,518	9,498	9,462	9,413	
Sanders County	11,827	11,875	11,917	11,957	11,987	12,008	12,025	12,034	12,033	12,019	
Sheridan County	3,601	3,616	3,631	3,646	3,662	3,679	3,690	3,696	3,704	3,711	
Silver Bow County	35,147	35,268	35,380	35,470	35,542	35,584	35,600	35,590	35,556	35,487	
Stillwater County	9,747	9,729	9,694	9,643	9,576	9,496	9,408	9,303	9,186	9,060	
Sweet Grass County	4,266	4,285	4,301	4,312	4,322	4,326	4,328	4,328	4,328	4,323	
Teton County	6,324	6,332	6,335	6,344	6,350	6,358	6,364	6,368	6,365	6,361	
Toole County	5,729	5,749	5,757	5,755	5,752	5,749	5,746	5,739	5,727	5,711	
Treasure County	828	836	843	847	852	855	860	863	865	865	
Valley County	8,100	8,125	8,146	8,159	8,171	8,178	8,186	8,188	8,185	8,178	
Wheatland County	2,659	2,692	2,719	2,746	2,766	2,779	2,789	2,796	2,799	2,799	
Wibaux County	1,129	1,136	1,145	1,152	1,161	1,170	1,181	1,189	1,196	1,203	
Yellowstone County	172,202	173,656	174,948	176,095	177,106	178,002	178,782	179,464	180,040	180,520	



Montana County Population Projections - County Comparison, 1990 - 2060

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Montana Counties - Total Population

	Projected Figures									
	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
Madison County	8,849	8,831	8,811	8,788	8,761	8,730	8,696	8,662	8,628	8,595
McCone County	2,000	1,994	1,986	1,977	1,968	1,957	1,947	1,936	1,925	1,913
Meagher County	1,908	1,900	1,892	1,883	1,872	1,860	1,848	1,835	1,820	1,807
Mineral County	4,293	4,268	4,242	4,212	4,180	4,147	4,114	4,082	4,049	4,017
Missoula County	134,719	135,327	135,906	136,483	137,055	137,637	138,262	138,897	139,585	140,339
Musselshell County	5,798	5,763	5,721	5,673	5,618	5,556	5,492	5,422	5,349	5,275
Park County	15,932	15,921	15,909	15,896	15,883	15,869	15,858	15,848	15,838	15,836
Petroleum County	804	812	819	826	834	840	847	852	858	863
Phillips County	4,223	4,210	4,195	4,177	4,156	4,133	4,109	4,086	4,061	4,038
Pondera County	7,155	7,161	7,161	7,154	7,142	7,128	7,108	7,085	7,063	7,041
Powder River County	1,880	1,876	1,872	1,866	1,859	1,847	1,835	1,821	1,808	1,793
Powell County	7,343	7,325	7,306	7,283	7,256	7,224	7,186	7,146	7,101	7,053
Prairie County	1,483	1,478	1,472	1,465	1,457	1,448	1,439	1,429	1,419	1,409
Ravalli County	44,837	44,970	45,086	45,186	45,265	45,321	45,354	45,367	45,373	45,371
Richland County	13,378	13,391	13,396	13,395	13,389	13,381	13,375	13,373	13,379	13,393
Roosevelt County	11,288	11,234	11,173	11,106	11,033	10,957	10,877	10,792	10,709	10,626
Rosebud County	9,351	9,281	9,201	9,111	9,016	8,913	8,804	8,690	8,576	8,463
Sanders County	11,992	11,959	11,917	11,869	11,813	11,748	11,680	11,605	11,529	11,450
Sheridan County	3,715	3,717	3,719	3,720	3,719	3,716	3,710	3,705	3,699	3,693
Silver Bow County	35,393	35,277	35,147	35,003	34,845	34,678	34,509	34,333	34,166	34,005
Stillwater County	8,926	8,786	8,641	8,492	8,341	8,185	8,027	7,870	7,715	7,565
Sweet Grass County	4,316	4,308	4,299	4,290	4,280	4,268	4,257	4,244	4,234	4,223
Teton County	6,353	6,342	6,325	6,302	6,273	6,242	6,208	6,173	6,136	6,097
Toole County	5,692	5,669	5,641	5,610	5,576	5,540	5,506	5,471	5,438	5,406
Treasure County	864	864	863	861	859	856	854	850	845	840
Valley County	8,166	8,152	8,135	8,117	8,093	8,067	8,039	8,004	7,971	7,938
Wheatland County	2,795	2,786	2,777	2,764	2,749	2,733	2,716	2,698	2,680	2,662
Wibaux County	1,210	1,217	1,224	1,229	1,234	1,238	1,241	1,243	1,244	1,245
Yellowstone County	180,937	181,304	181,624	181,915	182,191	182,466	182,763	183,077	183,452	183,881



Montana County Population Projections - County Comparison, 1990 - 2060

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Montana Counties - Total Population

	Projected Figures									
	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
Madison County	8,566	8,537	8,511	8,488	8,469	8,452	8,440	8,431	8,428	8,430
McCone County	1,902	1,892	1,881	1,872	1,863	1,855	1,848	1,841	1,836	1,833
Meagher County	1,794	1,781	1,769	1,757	1,746	1,735	1,726	1,718	1,711	1,706
Mineral County	3,986	3,957	3,933	3,909	3,888	3,871	3,858	3,847	3,841	3,836
Missoula County	141,152	142,041	142,989	144,047	145,167	146,335	147,615	148,954	150,369	151,878
Musselshell County	5,199	5,126	5,054	4,985	4,918	4,854	4,796	4,740	4,691	4,647
Park County	15,832	15,832	15,834	15,840	15,849	15,859	15,873	15,889	15,909	15,933
Petroleum County	867	871	875	879	883	888	893	899	904	913
Phillips County	4,014	3,991	3,972	3,954	3,937	3,923	3,910	3,898	3,889	3,881
Pondera County	7,019	6,999	6,979	6,962	6,946	6,933	6,922	6,915	6,911	6,914
Powder River County	1,776	1,759	1,742	1,724	1,708	1,690	1,674	1,660	1,644	1,632
Powell County	7,002	6,951	6,900	6,850	6,798	6,748	6,699	6,653	6,609	6,567
Prairie County	1,399	1,391	1,382	1,375	1,369	1,364	1,360	1,356	1,354	1,352
Ravalli County	45,360	45,342	45,319	45,294	45,269	45,247	45,237	45,233	45,245	45,277
Richland County	13,415	13,447	13,491	13,548	13,616	13,695	13,785	13,887	14,002	14,129
Roosevelt County	10,548	10,471	10,397	10,329	10,267	10,210	10,162	10,118	10,077	10,042
Rosebud County	8,348	8,233	8,120	8,008	7,901	7,800	7,705	7,619	7,539	7,464
Sanders County	11,373	11,299	11,225	11,156	11,091	11,030	10,979	10,932	10,891	10,859
Sheridan County	3,686	3,677	3,668	3,660	3,653	3,646	3,640	3,636	3,634	3,633
Silver Bow County	33,863	33,739	33,635	33,555	33,496	33,456	33,441	33,445	33,476	33,528
Stillwater County	7,418	7,277	7,144	7,018	6,901	6,793	6,693	6,602	6,518	6,440
Sweet Grass County	4,213	4,203	4,195	4,188	4,184	4,181	4,181	4,185	4,191	4,200
Teton County	6,057	6,019	5,980	5,943	5,908	5,877	5,849	5,824	5,803	5,788
Toole County	5,376	5,350	5,323	5,300	5,279	5,261	5,249	5,238	5,232	5,229
Treasure County	835	830	825	821	818	815	812	809	806	803
Valley County	7,902	7,868	7,834	7,801	7,771	7,742	7,719	7,698	7,681	7,667
Wheatland County	2,646	2,630	2,615	2,601	2,588	2,579	2,572	2,567	2,564	2,565
Wibaux County	1,244	1,243	1,242	1,240	1,237	1,235	1,232	1,230	1,227	1,226
Yellowstone County	184,384	184,972	185,628	186,392	187,225	188,118	189,140	190,217	191,373	192,599



Montana County Population Projections - County Comparison, 1990 - 2060

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Montana Counties - Total Population

	Projected Figures										
	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	
Madison County	8,435	8,445	8,458	8,477	8,501	8,529	8,561	8,594	8,627	8,659	
McCone County	1,831	1,831	1,832	1,834	1,839	1,844	1,851	1,859	1,869	1,879	
Meagher County	1,701	1,698	1,695	1,694	1,693	1,693	1,693	1,695	1,696	1,698	
Mineral County	3,836	3,840	3,847	3,859	3,873	3,892	3,914	3,937	3,960	3,983	
Missoula County	153,458	155,118	156,867	158,599	160,307	162,001	163,550	165,028	166,422	167,735	
Musselshell County	4,610	4,580	4,556	4,540	4,528	4,522	4,521	4,523	4,528	4,537	
Park County	15,957	15,980	16,004	16,033	16,065	16,097	16,135	16,174	16,216	16,260	
Petroleum County	920	929	939	949	958	969	981	992	1,005	1,017	
Phillips County	3,874	3,870	3,868	3,869	3,873	3,881	3,892	3,903	3,917	3,932	
Pondera County	6,922	6,935	6,953	6,974	7,002	7,034	7,071	7,108	7,145	7,186	
Powder River County	1,620	1,609	1,603	1,596	1,591	1,587	1,584	1,583	1,582	1,583	
Powell County	6,528	6,494	6,464	6,437	6,414	6,394	6,379	6,367	6,354	6,344	
Prairie County	1,350	1,350	1,348	1,348	1,349	1,349	1,350	1,351	1,352	1,350	
Ravalli County	45,323	45,395	45,495	45,627	45,782	45,958	46,160	46,370	46,591	46,826	
Richland County	14,265	14,412	14,567	14,734	14,913	15,101	15,301	15,503	15,707	15,914	
Roosevelt County	10,011	9,987	9,969	9,952	9,938	9,930	9,922	9,915	9,905	9,889	
Rosebud County	7,393	7,328	7,276	7,234	7,196	7,164	7,134	7,107	7,081	7,055	
Sanders County	10,836	10,823	10,821	10,832	10,853	10,884	10,927	10,973	11,019	11,070	
Sheridan County	3,635	3,639	3,646	3,656	3,668	3,682	3,699	3,717	3,736	3,758	
Silver Bow County	33,610	33,719	33,851	34,004	34,180	34,373	34,583	34,798	35,008	35,219	
Stillwater County	6,368	6,301	6,243	6,191	6,145	6,106	6,074	6,048	6,030	6,017	
Sweet Grass County	4,212	4,227	4,245	4,265	4,289	4,316	4,347	4,379	4,411	4,446	
Teton County	5,776	5,769	5,764	5,765	5,770	5,778	5,790	5,803	5,816	5,830	
Toole County	5,230	5,235	5,244	5,258	5,276	5,296	5,322	5,350	5,381	5,414	
Treasure County	802	800	799	799	798	798	798	798	797	798	
Valley County	7,658	7,653	7,656	7,664	7,678	7,700	7,726	7,753	7,783	7,813	
Wheatland County	2,569	2,574	2,581	2,590	2,601	2,613	2,628	2,642	2,657	2,672	
Wibaux County	1,225	1,224	1,224	1,225	1,227	1,230	1,232	1,236	1,240	1,246	
Yellowstone County	193,874	195,225	196,606	198,020	199,459	200,926	202,417	203,859	205,259	206,628	



APPENDIX D

FlightAware Data

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time
1	N43TL	BE20/G	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	6/21/2011 8:49
2	N43TL	BE20/G	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	6/21/2011 17:30
3	EJA938	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	6/23/2011 9:36
4	SBE787	H25B/Q	British Aerospace	800	Hawker Beechcraft	54.3	51.2	28,000	100	Dual	C	II	2	6/23/2011 12:54
5	EJA938	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	6/23/2011 13:32
6	SBE787	H25B/Q	British Aerospace	800	Hawker Beechcraft	54.3	51.2	28,000	100	Dual	C	II	2	6/24/2011 9:22
7	BLK1	F2TH/Q	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	6/24/2011 14:37
8	BLK1	F2TH/Q	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	6/24/2011 17:50
9	OPT468	BE40/Q	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	6/25/2011 8:47
10	OPT468	BE40/Q	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	6/25/2011 10:42
11	BLK1	F2TH/Q	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	6/26/2011 13:42
12	EJA914	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	6/26/2011 17:30
13	EJA950	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	6/26/2011 17:48
14	EJA950	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	6/27/2011 9:00
15	N121GV	GALX/Q	Gulfstream	200	IAI Galaxy -1126	58.1	62.3	35,450	100	Dual	C	II	2	6/27/2011 15:17
16	N922LL	BE20/G	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	6/28/2011 10:01
17	N922LL	BE20/G	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	6/28/2011 14:02
18	N252CV	C560/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	6/28/2011 14:13
19	N252CV	C560/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	6/28/2011 15:23
20	EJA914	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	6/29/2011 8:12
21	N922LL	BE20/G	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	7/1/2011 7:46
22	BLK1	F2TH/Q	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	7/1/2011 9:14
23	OPT474	BE40/Q	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/1/2011 10:02
24	N69DE	BE60/G	Beechcraft	60	Duke	39.3	33.8	6,775	0	Single	B	II	1	7/1/2011 11:17
25	N922LL	BE20/G	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	7/1/2011 12:18
26	OPT474	BE40/Q	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/1/2011 14:01
27	N69DE	BE60/G	Beechcraft	60	Duke	39.3	33.8	6,775	0	Single	B	II	1	7/4/2011 6:31
28	EJA984	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	7/4/2011 11:21
29	EJA984	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	7/4/2011 13:23
30	N91A	C525/Q	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	7/5/2011 7:44
31	BLK2	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/5/2011 8:04
32	BLK3	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/5/2011 8:08
33	N2615S	CL60/Q	Bombardier	600	Challenger	64.3	68.4	48,200	100	Dual	C	II	3	7/5/2011 8:12
34	BLK1	F2TH/Q	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	7/6/2011 8:15
35	N5LN	SW4/G	Fairchild	C-26	Metroliner	46.3	42.2	14,000	75	Dual	C	I	2	7/6/2011 8:17
36	EJA644P	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/6/2011 8:31
37	N376J	C310/G	Cessna	310	310	35.0	27.0	4,600	0	Single	A	I	1	7/7/2011 7:06
38	EJA938	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	7/7/2011 9:07
39	EJA961	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	7/7/2011 9:39
40	N376J	C310/G	Cessna	310	310	35.0	27.0	4,600	0	Single	A	I	1	7/7/2011 10:11
41	N2615S	CL60/Q	Bombardier	600	Challenger	64.3	68.4	48,200	100	Dual	C	II	3	7/7/2011 10:14
42	BLK3	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/7/2011 10:19
43	N91A	C525/Q	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	7/7/2011 10:24
44	BLK2	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/7/2011 10:28
45	EJA938	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	7/7/2011 13:38
46	EJA938P	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	7/7/2011 13:38
47	EJA938P	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	7/7/2011 13:40
48	EJA961	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	7/7/2011 13:46
49	EJA644P	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/7/2011 19:28
50	VNR162	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	7/8/2011 10:20
51	BLK1	F2TH/Q	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	7/8/2011 12:33
52	EJA967	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	7/9/2011 6:29
53	EJA967	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	7/9/2011 10:14
54	N5LN	SW4/G	Fairchild	C-26	Metroliner	46.3	42.2	14,000	75	Dual	C	I	2	7/9/2011 11:01

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time
55	EJA313	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	7/10/2011 6:55
56	EJA313	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	7/10/2011 10:28
57	BLK1	F2TH/Q	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	7/10/2011 12:56
58	EJA377	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	7/12/2011 11:09
59	EJA377	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	7/12/2011 14:32
60	N20LU	TRIN/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	7/13/2011 8:43
61	N922LL	BE20/G	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	7/14/2011 6:44
62	N777GP	BE35/G	Beechcraft	35	Bonanza	33.4	26.3	3,400	0	Single	A	I	1	7/14/2011 9:19
63	N922LL	BE20/G	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	7/14/2011 10:51
64	N6654Z	PA31/G	Piper		Navajo	40.7	32.7	6,500	0	Single	A	I	1	7/14/2011 12:03
65	N515CK	BE20/R	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	7/15/2011 16:52
66	VNR131	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	7/16/2011 12:54
67	VNR131	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	7/16/2011 13:57
68	EJA377	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	7/16/2011 14:14
69	EJA377	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	7/16/2011 16:24
70	LXJ618	LJ40/Q	Learjet	40	Learjet 40	47.8	55.6	21,000	75	Dual	C	I	2	7/17/2011 13:34
71	LXJ618	LJ40/Q	Learjet	40	Learjet 40	47.8	55.6	21,000	75	Dual	C	I	2	7/17/2011 18:38
72	BLK4	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/19/2011 5:35
73	BLK4	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/19/2011 8:01
74	EJA913	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	7/22/2011 10:56
75	EJA913	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	7/22/2011 14:46
76	OPT311	E55P/Q	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	7/23/2011 14:38
77	OPT311	E55P/Q	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	7/24/2011 10:10
78	N793DC	BE20/G	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	7/24/2011 10:46
79	N793DC	BE20/G	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	7/24/2011 12:42
80	EJA601	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/25/2011 13:59
81	EJA904	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	7/25/2011 16:16
82	EJA904	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	7/25/2011 19:13
83	EJA601	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/26/2011 12:23
84	N20LU	TRIN/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	7/27/2011 11:46
85	OPT311	E55P/Q	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	7/29/2011 9:48
86	OPT311	E55P/Q	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	7/29/2011 13:28
87	N497KK	C680/Q	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	7/30/2011 13:50
88	N497KK	C680/Q	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	8/2/2011 9:01
89	VNR146	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	8/3/2011 9:58
90	VNR146	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	8/3/2011 13:51
91	EJA726	GALX/L	Gulfstream	200	IAI Galaxy -1126	58.1	62.3	35,450	100	Dual	C	II	2	8/4/2011 9:39
92	EJA726	GALX/L	Gulfstream	200	IAI Galaxy -1126	58.1	62.3	35,450	100	Dual	C	II	2	8/4/2011 12:58
93	N20LU	TRIN/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	8/5/2011 9:42
94	N252CV	C560/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/6/2011 6:54
95	N252CV	C560/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/6/2011 10:45
96	VNR163	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	8/6/2011 15:01
97	VNR163	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	8/6/2011 18:07
98	N20LU	TRIN/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	8/7/2011 8:30
99	N3RS	BE58/G	Beechcraft	58	Baron	37.7	27.9	5,071	0	Single	A	I	1	8/10/2011 5:53
100	VNR157	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	8/10/2011 15:48
101	VNR157	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	8/11/2011 11:24
102	VNR180	P180/L	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	8/13/2011 15:48
103	N3RS	BE58/G	Beechcraft	58	Baron	37.7	27.9	5,071	0	Single	A	I	1	8/14/2011 8:51
104	N3952A		Beechcraft	V35B	Bonanza	33.5	27.5	3,600	0	Single	A	I	1	8/14/2011 10:33
105	LXJ526	CL30/Q	Bombardier	300	Challenger	63.8	68.7	38,850	75	Dual	C	II	2	8/14/2011 10:53
106	LXJ526	CL30/Q	Bombardier	300	Challenger	63.8	68.7	38,850	75	Dual	C	II	2	8/14/2011 14:35
107	N93202	C185/G	Cessna	185	Skywagon	35.8	25.8	3,350	0	Single	A	I	1	8/15/2011 8:07
108	N206HH	C206/G	Cessna	206	Stationair	35.8	28.2	3,638	0	Single	A	I	1	8/15/2011 8:33

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time
109	N2209R	C210/G	Cessna	210	Centurion	36.8	28.2	4,000	0	Single	A	I	1	8/15/2011 9:50
110	XSR707	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/15/2011 13:10
111	N2209R	C210/G	Cessna	210	Centurion	36.8	28.2	4,000	0	Single	A	I	1	8/15/2011 14:50
112	N731PS	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	8/17/2011 6:04
113	VNR109	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	8/17/2011 7:13
114	N731PS	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	8/17/2011 10:49
115	VNR109	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	8/17/2011 11:04
116	N707MT	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/19/2011 7:18
117	LXJ542							Unknown Identifier						8/19/2011 7:56
118	XSR707	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/19/2011 8:45
119	LXJ542	CL30/Q	Bombardier	300	Challenger	63.8	68.7	38,850	75	Dual	C	II	2	8/19/2011 9:18
120	LXJ542	CL30/Q	Bombardier	300	Challenger	63.8	68.7	38,850	75	Dual	C	II	2	8/19/2011 13:56
121	LXJ437	LJ45/Q	Learjet	45	Learjet 45	47.8	58.0	21,500	75	Dual	C	I	2	8/20/2011 8:13
122	LXJ437	LJ45/Q	Learjet	45	Learjet 45	47.8	58.0	21,500	75	Dual	C	I	2	8/20/2011 11:01
123	DCM1236	F900/Q	Dassault Aviation	900	Falcon	63.5	66.3	45,503	100	Dual	C	II	2	8/21/2011 12:20
124	LXJ437	LJ45/Q	Learjet	45	Learjet 45	47.8	58.0	21,500	75	Dual	C	I	2	8/23/2011 8:19
125	N431MC	C25A/K	Cessna	CJ2	Citation	49.8	47.7	12,500	0	Single	B	II	2	8/23/2011 9:11
126	LXJ437	LJ45/Q	Learjet	45	Learjet 45	47.8	58.0	21,500	75	Dual	C	I	2	8/23/2011 9:56
127	N431MC	C25A/K	Cessna	CJ2	Citation	49.8	47.7	12,500	0	Single	B	II	2	8/23/2011 11:22
128	N95LM	BE20/G	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	8/24/2011 6:54
129	N95LM	BE20/G	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	8/24/2011 9:27
130	VNR176	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	8/25/2011 14:08
131	VNR176	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	8/25/2011 15:24
132	N431MC	C25A/K	Cessna	CJ2	Citation	49.8	47.7	12,500	0	Single	B	II	2	8/26/2011 14:09
133	N431MC	C25A/K	Cessna	CJ2	Citation	49.8	47.7	12,500	0	Single	B	II	2	8/26/2011 17:28
134	OPT402	BE40/Q	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	8/27/2011 6:35
135	OPT402	BE40/Q	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	8/27/2011 9:54
136	VNR132	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	8/28/2011 10:36
137	BLK5	GLF3/Q	Gulfstream	III	Gulfstream	77.8	83.1	69,700	100	Dual	C	II	3	9/1/2011 8:39
138	EJA919P		Cessna	X / Ten	Citation	63.9	72.3	36,100	100	Single	C	II	1	9/1/2011 10:20
139	OPT402	BE40/Q	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	9/2/2011 9:51
140	BLK6	C560/W	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/2/2011 11:42
141	OPT402	BE40/Q	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	9/2/2011 13:55
142	EJA999	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	9/3/2011 10:46
143	EJA999	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	9/3/2011 15:38
144	EJA958P	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	9/5/2011 8:35
145	EJA958P	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	9/5/2011 10:49
146	BLK5	GLF3/Q	Gulfstream	III	Gulfstream	77.8	83.1	69,700	100	Dual	C	II	3	9/5/2011 13:45
147	BLK5	GLF3/Q	Gulfstream	III	Gulfstream	77.8	83.1	69,700	100	Dual	C	II	3	9/5/2011 15:35
148	EJA901	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	9/6/2011 7:23
149	BLK6	C560/W	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/6/2011 8:40
150	EJA313	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/6/2011 8:44
151	EJA313	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/6/2011 10:30
152	EJA901	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	9/6/2011 10:54
153	N20LU	TRIN/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	9/8/2011 8:06
154	BLK7	TBM8/L	Daher-Socata	TB	TB-8	32.0	25.0	2,530	0	Single	A	I	1	9/9/2011 12:03
155	N450PC	PC12/R	Pilatus Aircraft	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	9/10/2011 11:58
156	N565EJ	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/11/2011 10:42
157	EJA364	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/11/2011 12:38
158	EJA317	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/11/2011 12:59
159	N565EJ	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/11/2011 14:34
160	EJA928	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	9/11/2011 14:37
161	EJA317	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/11/2011 16:39
162	EJA928	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	9/11/2011 18:54

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time
163	EJA364	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/11/2011 19:19
164	N20LU	TRIN/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	9/12/2011 7:39
165	N565EJ	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/12/2011 9:43
166	N565EJ	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/12/2011 12:22
167	N450PC	PC12/R	Pilatus Aircraft	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	9/14/2011 8:07
168	EJA369	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/15/2011 9:12
169	N791DC	BE20/G	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	9/15/2011 9:37
170	N791DC	BE20/G	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	9/15/2011 11:40
171	EJA369	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/15/2011 13:13
172	N361WM	RV8/G	Vans Aircraft	RV-8	Vans	24.0	21.0	1,800	0	Single	A	I	1	9/16/2011 8:39
173	N19ZA	C550/Q	Cessna	550	Citation II	51.7	47.7	15,100	75	Single	B	II	1	9/16/2011 13:39
174	EJA378	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/17/2011 14:50
175	EJA106P	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	9/18/2011 9:14
176	EJA378	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/18/2011 9:40
177	EJA106P	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	9/18/2011 10:57
178	N3725L	PRM1/Q	Beechcraft		Premier I	44.5	46.0	12,500	0	Single	C	I	2	9/19/2011 12:16
179	N3725L	PRM1/Q	Beechcraft		Premier I	44.5	46.0	12,500	0	Single	C	I	2	9/20/2011 10:48
180	N252CV	C560/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/23/2011 9:37
181	EJA998	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	9/23/2011 13:09
182	EJA998P	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	9/23/2011 15:41
183	N21242		Cessna	182P	Skylane	36.0	29.0	3,100	0	Single	A	I	1	9/25/2011 2:40
184	N252CV	C560/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/25/2011 12:30
185	EJA999	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	9/25/2011 15:10
186	EJA960	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	9/25/2011 17:41
187	EJA960	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	9/25/2011 19:00
188	N20LU	TRIN/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	9/26/2011 11:08
189	EJA999	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	9/26/2011 17:11
190	N5LN	SW4/G	Fairchild	C-26	Metroliner	46.3	42.2	14,000	75	Dual	C	I	2	9/27/2011 10:05
191	N888AS	BE30/R	Beechcraft	300	Super King Air	54.5	43.8	14,000	75	Dual	B	II	2	9/30/2011 7:11
192	N20LU	TRIN/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	9/30/2011 11:37
193	XSR707	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	10/1/2011 8:09
194	XSR707	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	10/1/2011 9:59
195	N5LN	SW4/G	Fairchild	C-26	Metroliner	46.3	42.2	14,000	75	Dual	C	I	2	10/1/2011 11:15
196	BLK8	B350/Q	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	10/2/2011 10:19
197	BLK8	B350/Q	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	10/2/2011 13:12
198	N888AS	BE30/G	Beechcraft	300	Super King Air	54.5	43.8	14,000	75	Dual	B	II	2	10/2/2011 13:54
199	EJA357	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	10/2/2011 15:24
200	N570EJ	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	10/3/2011 8:02
201	EJA357	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	10/3/2011 8:09
202	N570EJ	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	10/3/2011 10:31
203	OPT846	H25B/Q	British Aerospace	800	Hawker Beechcraft	54.3	51.2	28,000	100	Dual	C	II	2	10/4/2011 9:13
204	XSR707	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	10/4/2011 9:42
205	OPT846	H25B/Q	British Aerospace	800	Hawker Beechcraft	54.3	51.2	28,000	100	Dual	C	II	2	10/4/2011 10:58
206	VNR191	P180/L	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	10/4/2011 11:40
207	XSR707	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	10/4/2011 13:25
208	VNR191	P180/L	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	10/5/2011 8:58
209	BJS620	LJ40/Q	Learjet	40	Learjet 40	47.8	55.6	21,000	75	Dual	C	I	2	10/13/2011 10:15
210	BJS620	LJ40/Q	Learjet	40	Learjet 40	47.8	55.6	21,000	75	Dual	C	I	2	10/13/2011 13:59
211	TWY416	BE40/Q	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	10/14/2011 6:36
212	TWY416	BE40/Q	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	10/14/2011 9:05
213	BJS620	LJ40/Q	Learjet	40	Learjet 40	47.8	55.6	21,000	75	Dual	C	I	2	10/14/2011 13:58
214	BJS620	LJ40/Q	Learjet	40	Learjet 40	47.8	55.6	21,000	75	Dual	C	I	2	10/14/2011 16:22
215	N9700T	C560/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	10/16/2011 11:15
216	BLK9	C25B/Q	Cessna	CJ3	Citation	53.3	51.2	13,870	75	Single	B	II	2	10/19/2011 6:10

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time
217	EJA910	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	10/21/2011 7:07
218	BLK9	C25B/Q	Cessna	CJ3	Citation	53.3	51.2	13,870	75	Single	B	II	2	10/21/2011 9:23
219	EJA910	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	10/21/2011 9:29
220	N71587	C182/G	Cessna	182	Skylane	36.1	28.2	2,800	0	Single	B	I	1	10/21/2011 15:26
221	EJA725P	GALX/L	Gulfstream	200	IAI Galaxy -1126	58.1	62.3	35,450	100	Dual	C	II	2	10/26/2011 8:15
222	N713WD	C560/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	10/26/2011 8:30
223	VNR102	P180/L	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	10/26/2011 8:32
224	VNR102	P180/L	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	10/26/2011 12:15
225	EJA725P	GALX/L	Gulfstream	200	IAI Galaxy -1126	58.1	62.3	35,450	100	Dual	C	II	2	10/26/2011 12:21
226	N713WD	C560/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	10/30/2011 13:14
227	LXJ522	CL30/Q	Bombardier	300	Challenger	63.8	68.7	38,850	75	Dual	C	II	2	10/31/2011 11:13
228	LXJ522	CL30/Q	Bombardier	300	Challenger	63.8	68.7	38,850	75	Dual	C	II	2	10/31/2011 14:54
229	EJA315	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	11/2/2011 13:58
230	EJA315	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	11/3/2011 13:43
231	VNR184	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	11/8/2011 12:21
232	LXJ622	LJ40/Q	Learjet	40	Learjet 40	47.8	55.6	21,000	75	Dual	C	I	2	11/8/2011 12:49
233	N60BC	U60/Q	Learjet	60	Learjet 60	43.8	58.7	23,500	100	Dual	C	I	2	11/8/2011 13:18
234	VNR184	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	11/8/2011 13:43
235	LXJ622	LJ40/Q	Learjet	40	Learjet 40	47.8	55.6	21,000	75	Dual	C	I	2	11/8/2011 15:47
236	EJA361	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	12/9/2011 8:13
237	EJA361	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	12/9/2011 11:24
238	EJA938P	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	12/13/2011 13:13
239	EJA938P	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	12/13/2011 15:15
240	N376J	C310/G	Cessna	310	310	35.0	27.0	4,600	0	Single	A	I	1	12/18/2011 8:16
241	N376J	C310/G	Cessna	310	310	35.0	27.0	4,600	0	Single	A	I	1	12/18/2011 10:53
242	EJA361	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	12/19/2011 10:06
243	EJA361	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	12/19/2011 12:22
244	EJA324	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	12/26/2011 13:14
245	EJA324	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	12/26/2011 16:08
246	N431MC	C25A/K	Cessna	CJ2	Citation	49.8	47.7	12,500	0	Single	B	II	2	1/4/2012 16:21
247	DCM609J	F900/Q	Dassault Aviation	900	Falcon	63.5	66.3	45,503	100	Dual	C	II	2	2/24/2012 11:58
248	DCM1411	F900/Q	Dassault Aviation	900	Falcon	63.5	66.3	45,503	100	Dual	C	II	2	2/26/2012 11:23
249	XSR707	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	2/26/2012 12:58
250	N68MU	BE10/G	Beechcraft	100	King Air	45.9	40.0	11,795	0	Dual	B	II	2	3/11/2012 15:02
251	N68MU	BE10/G	Beechcraft	100	King Air	45.9	40.0	11,795	0	Dual	B	II	2	3/11/2012 16:52
252	N376J	C310/G	Cessna	310	310	35.0	27.0	4,600	0	Single	A	I	1	3/22/2012 13:06
253	N376J	C310/G	Cessna	310	310	35.0	27.0	4,600	0	Single	A	I	1	3/22/2012 15:42
254	VNR164	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	3/23/2012 17:31
255	VNR164	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	3/23/2012 18:57
256	EJA826	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	3/30/2012 6:54
257	EJA826	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	3/30/2012 10:00
258	EJA940	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	4/8/2012 12:28
259	EJA940	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	4/8/2012 19:43
260	LXJ608	LJ40/Q	Learjet	40	Learjet 40	47.8	55.6	21,000	75	Dual	C	I	2	5/6/2012 12:27
261	LXJ608	LJ40/Q	Learjet	40	Learjet 40	47.8	55.6	21,000	75	Dual	C	I	2	5/6/2012 15:28
262	N4521T	PA28/A	Piper	PA-28	Cherokee	36.0	25.0	3,200	0	Single	A	I	1	5/8/2012 13:49
263	N4521T	PA28/U	Piper	PA-28	Cherokee	35.1	24.0	2,425	0	Single	A	I	1	5/9/2012 19:18
264	EJA362	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	5/11/2012 9:25
265	BJS608	LJ40/Q	Learjet	40	Learjet 40	47.8	55.6	21,000	75	Dual	C	I	2	5/11/2012 10:26
266	EJA362	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	5/11/2012 11:40
267	LXJ608	LJ40/Q	Learjet	40	Learjet 40	47.8	55.6	21,000	75	Dual	C	I	2	5/11/2012 12:59
268	VNR175	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	5/12/2012 9:55
269	N888AS	BE30/G	Beechcraft	300	Super King Air	54.5	43.8	14,000	75	Dual	B	II	2	5/14/2012 9:13
270	N888AS	BE30/G	Beechcraft	300	Super King Air	54.5	43.8	14,000	75	Dual	B	II	2	5/14/2012 13:20

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time	
271	N20LU	TRIN/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	5/17/2012 6:56	
272	EJA724	GALX/L	Gulfstream	200	IAI Galaxy -1126	58.1	62.3	35,450	100	Dual	C	II	2	5/19/2012 11:05	
273	EJA724	GALX/L	Gulfstream	200	IAI Galaxy -1126	58.1	62.3	35,450	100	Dual	C	II	2	5/19/2012 13:02	
274	DCM834C	F2TH/Q	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	5/24/2012 12:03	
275	N8343Z		Cessna	210	Centurion	36.8	28.2	4,000	0	Single	A	I	1	5/24/2012 13:04	
276	N20LU	TRIN/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	5/29/2012 10:56	
277	OPT322	E55P/Q	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	6/3/2012 10:36	
278	OPT322	E55P/Q	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	6/3/2012 14:38	
279	N818CJ	BE36/G	Beechcraft	36	Bonanza	33.5	27.5	3,650	0	Single	A	I	1	6/7/2012 7:32	
280	N51558					Reserved / On Hold - No Information Available									6/7/2012 12:24
281	N291CC	BE9L/G	Beechcraft	90	King Air	45.9	39.8	10,950	0	Dual	B	II	1	6/13/2012 16:52	
282	N20LU	TRIN/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	6/14/2012 7:48	
283	N20LU	TRIN/A	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	6/14/2012 16:21	
284	N291CC	BE9L/G	Beechcraft	90	King Air	45.9	39.8	10,950	0	Dual	B	II	1	6/15/2012 10:41	
285	EJA903	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	6/16/2012 14:11	
286	EJA903	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	6/16/2012 17:10	
287	N20LU	TRIN/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	6/17/2012 7:47	
288	EJA376	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	6/17/2012 18:51	
289	N95LM	BE20/Q	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	6/18/2012 8:29	
290	EJA376	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	6/18/2012 10:05	
291	N95LM	BE20/Q	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	6/18/2012 11:59	
292	EJA346	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	6/19/2012 12:44	
293	EJA683	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	6/19/2012 14:06	
294	EJA683	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	6/19/2012 16:03	
295	EJA346	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	6/21/2012 10:44	
296	EJA943	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	6/21/2012 14:55	
297	EJA943	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	6/21/2012 16:34	
298	N888AS	BE30/G	Beechcraft	300	Super King Air	54.5	43.8	14,000	75	Dual	B	II	2	6/22/2012 9:34	
299	N546SL	PC12/G	Pilatus Aircraft	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	6/23/2012 7:32	
300	EJA914	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	6/24/2012 16:43	
301	DCM933C	F2TH/Q	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	6/25/2012 7:09	
302	N546SL	PC12/G	Pilatus Aircraft	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	6/25/2012 8:07	
303	EJA914	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	6/25/2012 10:26	
304	N5LN	SW4/G	Fairchild	C-26	Metroliner	46.3	42.2	14,000	75	Dual	C	I	2	6/26/2012 8:58	
305	DCM4740	F900/Q	Dassault Aviation	900	Falcon	63.5	66.3	45,503	100	Dual	C	II	2	6/29/2012 12:01	
306	BLK10	SR22/R	Cirrus Aircraft	SR22	Cirrus	38.3	26.0	3,600	0	Single	A	I	1	6/29/2012 12:56	
307	N665DM	SR22/R	Cirrus Aircraft	SR22	Cirrus	38.3	26.0	3,600	0	Single	A	I	1	6/29/2012 13:00	
308	EJA904	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	6/29/2012 19:00	
309	EJA904	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	6/30/2012 9:56	
310	N5LN	SW4/G	Fairchild	C-26	Metroliner	46.3	42.2	14,000	75	Dual	C	I	2	6/30/2012 10:25	
311	N888RL	C550/L	Cessna	550	Citation II	51.7	47.7	15,100	75	Single	B	II	1	7/1/2012 21:06	
312	VNR143	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	7/2/2012 8:43	
313	VNR143	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	7/2/2012 12:34	
314	N46HA	F2TH/Q	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	7/3/2012 12:01	
315	N46HA	F2TH/Q	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	7/3/2012 15:07	
316	BLK11	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/3/2012 15:22	
317	BLK11	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/3/2012 19:06	
318	N9120Y	PA46/G	Piper		Malibu Mirage	43.0	28.4	4,100	0	Single	A	I	1	7/4/2012 8:12	
319	VNR146	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	7/5/2012 7:19	
320	BLK2	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/5/2012 8:01	
321	BLK12	BE40/Q	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/5/2012 8:09	
322	BLK13	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/5/2012 8:13	
323	BLK11	BE40/Q	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/5/2012 8:17	
324	VNR146	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	7/5/2012 10:34	

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time
325	BLK13	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/7/2012 9:13
326	BLK12	BE40/Q	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/7/2012 9:14
327	BLK11	BE40/Q	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/7/2012 9:19
328	BLK2	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/7/2012 9:23
329	N888AS	BE30/G	Beechcraft	300	Super King Air	54.5	43.8	14,000	75	Dual	B	II	2	7/8/2012 7:38
330	EJA339	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	7/8/2012 8:58
331	N888AS	BE30/G	Beechcraft	300	Super King Air	54.5	43.8	14,000	75	Dual	B	II	2	7/8/2012 11:13
332	DCM6456	F2TH/Q	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	7/8/2012 13:46
333	EJA339	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	7/8/2012 14:22
334	OPT852	H25B/Q	British Aerospace	800	Hawker Beechcraft	54.3	51.2	28,000	100	Dual	C	II	2	7/9/2012 7:40
335	OPT852	H25B/Q	British Aerospace	800	Hawker Beechcraft	54.3	51.2	28,000	100	Dual	C	II	2	7/9/2012 10:12
336	VNR191	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	7/12/2012 9:06
337	N60BC	LJ60/Q	Learjet	60	Learjet 60	43.8	58.7	23,500	100	Dual	C	I	2	7/12/2012 9:14
338	EJA384	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	7/12/2012 11:07
339	EJA384	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	7/12/2012 11:55
340	BLK14	F2TH/Q	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	7/12/2012 11:58
341	VNR191	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	7/12/2012 12:43
342	VNR159	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	7/12/2012 12:44
343	BLK14	F2TH/Q	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	7/12/2012 14:28
344	OPT322	E55P/Q	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	7/13/2012 9:49
345	OPT322	E55/Q	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	7/13/2012 13:35
346	VNR106	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	7/17/2012 10:21
347	N60BC	LJ60/Q	Learjet	60	Learjet 60	43.8	58.7	23,500	100	Dual	C	I	2	7/17/2012 12:22
348	VNR106	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	7/17/2012 12:24
349	N740CD	SR22/G	Cirrus Aircraft	SR22	Cirrus	38.3	26.0	3,600	0	Single	A	I	1	7/17/2012 16:11
350	N431MC	C25A/L	Cessna	CJ2	Citation	49.8	47.7	12,500	0	Single	B	II	2	7/18/2012 14:40
351	N431MC	C25A/L	Cessna	CJ2	Citation	49.8	47.7	12,500	0	Single	B	II	2	7/18/2012 16:48
352	N20LU	TRIN/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	7/27/2012 11:43
353	N292A	BE9L/G	Beechcraft	90	King Air	45.9	39.8	10,950	0	Dual	B	II	1	7/27/2012 15:11
354	BLK15	B350/L	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	7/28/2012 11:54
355	BLK15	B350/L	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	7/28/2012 14:41
356	N468CD	SR22/G	Cirrus Aircraft	SR22	Cirrus	38.3	26.0	3,600	0	Single	A	I	1	7/29/2012 6:25
357	N20LU	TRIN/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	7/29/2012 7:46
358	BLK15	B350/L	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	7/30/2012 13:30
359	N468CD	SR22/G	Cirrus Aircraft	SR22	Cirrus	38.3	26.0	3,600	0	Single	A	I	1	7/31/2012 6:40
360	BLK16	H25B/Q	British Aerospace	800	Hawker Beechcraft	54.3	51.2	28,000	100	Dual	C	II	2	8/1/2012 7:54
361	EJA952	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	8/1/2012 10:36
362	BLK16	H25B/Q	British Aerospace	800	Hawker Beechcraft	54.3	51.2	28,000	100	Dual	C	II	2	8/1/2012 10:42
363	EJA952	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	8/1/2012 15:49
364	N95LM	BE20/K	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	8/3/2012 7:31
365	N46HP	PA46/G	Piper		Malibu Mirage	43.0	28.4	4,100	0	Single	A	I	1	8/3/2012 10:35
366	EJA601	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/4/2012 16:01
367	N477GJ	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	8/5/2012 12:57
368	N477GJ	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	8/5/2012 16:22
369	JTL904	LJ45/Q	Learjet	45	Learjet 45	47.8	58.0	21,500	75	Dual	C	I	2	8/6/2012 7:42
370	N95LM	BE20/K	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	8/6/2012 9:00
371	EJA625	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/7/2012 11:20
372	JTL904	LJ45/Q	Learjet	45	Learjet 45	47.8	58.0	21,500	75	Dual	C	I	2	8/7/2012 15:19
373	EJA625	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/8/2012 7:57
374	N20LU	TRIN/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	8/10/2012 7:36
375	N375CP	B350/L	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	8/10/2012 8:02
376	N375CP	B350/L	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	8/10/2012 9:24
377	EJA624	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/11/2012 6:26
378	EJA624	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/11/2012 9:38

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time
379	XSR707	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/11/2012 11:44
380	XSR707	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/11/2012 14:44
381	BLK17	F900/Q	Dassault Aviation	900	Falcon	63.5	66.3	45,503	100	Dual	C	II	2	8/12/2012 10:38
382	LXJ522	CL30/Q	Bombardier	300	Challenger	63.8	68.7	38,850	75	Dual	C	II	2	8/12/2012 10:56
383	LXJ522	CL30/Q	Bombardier	300	Challenger	63.8	68.7	38,850	75	Dual	C	II	2	8/12/2012 15:28
384	N68MU	BE10/G	Beechcraft	100	King Air	45.9	40.0	11,795	0	Dual	B	II	2	8/13/2012 11:18
385	N408CT	C550/Q	Cessna	550	Citation II	51.7	47.7	15,100	75	Single	B	II	1	8/14/2012 11:16
386	VNR165	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	8/15/2012 14:51
387	VNR165	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	8/15/2012 17:02
388	N903MC	C25B/L	Cessna	CJ3	Citation	53.3	51.2	13,870	75	Single	B	II	2	8/17/2012 10:50
389	N903MC	C25B/L	Cessna	CJ3	Citation	53.3	51.2	13,870	75	Single	B	II	2	8/17/2012 13:51
390	LXJ522	CL30/Q	Bombardier	300	Challenger	63.8	68.7	38,850	75	Dual	C	II	2	8/18/2012 6:06
391	XSR707	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/18/2012 7:46
392	LXJ522	CL30/Q	Bombardier	300	Challenger	63.8	68.7	38,850	75	Dual	C	II	2	8/18/2012 9:05
393	DCM4878	F2TH/Q	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	8/18/2012 9:24
394	XSR707	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/18/2012 10:43
395	N903MC	C25B/L	Cessna	CJ3	Citation	53.3	51.2	13,870	75	Single	B	II	2	8/20/2012 14:49
396	N903MC	C25B/L	Cessna	CJ3	Citation	53.3	51.2	13,870	75	Single	B	II	2	8/20/2012 17:21
397	EJA382	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	8/22/2012 13:29
398	EJA382	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	8/22/2012 17:34
399	VNR108	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	8/24/2012 8:14
400	VNR108	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	8/24/2012 11:28
401	VNR167	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	8/26/2012 13:26
402	VNR167	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	8/26/2012 14:48
403	BLK18	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/27/2012 11:49
404	N20LU	TRIN/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	8/29/2012 7:35
405	EJA964	C750/L	Cessna	751	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	8/30/2012 10:30
406	EJA964	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	8/30/2012 12:30
407	N101PA		Beechcraft	A36TC	Bonanza	33.5	27.5	3,600	0	Single	A	I	1	9/1/2012 10:29
408	DCM5600	F2TH/Q	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	9/1/2012 12:17
409	XSR707	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/1/2012 12:27
410	BLK18	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/1/2012 14:19
411	N220CL	PC12/G	Pilatus Aircraft	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	9/1/2012 15:59
412	EJA349	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/3/2012 7:41
413	EJA931	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	9/3/2012 11:33
414	EJA349	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/3/2012 12:32
415	EJA931	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	9/3/2012 15:10
416	N35WP	H25A/L	British Aerospace	HS-125	Hawker Siddeley	47.0	50.5	25,000	75	Dual	B	I	2	9/4/2012 10:17
417	EJA317	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/4/2012 10:41
418	N35WP	H25A/L	British Aerospace	HS-125	Hawker Siddeley	47.0	50.5	25,000	75	Dual	B	I	2	9/4/2012 14:14
419	EJA317	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/4/2012 17:35
420	BLK19	PRM1/Q	Beechcraft		Premier I	44.5	46.0	12,500	0	Single	C	I	2	9/6/2012 5:38
421	N565EJ	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/6/2012 8:56
422	BLK19	PRM1/Q	Beechcraft		Premier I	44.5	46.0	12,500	0	Single	C	I	2	9/6/2012 10:27
423	BLK20	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/6/2012 12:17
424	EJA378	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/6/2012 14:25
425	N565EJ	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/6/2012 14:57
426	BLK20	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/6/2012 15:13
427	EJA378	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/7/2012 11:11
428	XSR707	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/8/2012 8:31
429	XSR707	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/8/2012 10:03
430	N456TM	BE40/W	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	9/9/2012 11:25
431	N456TM	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	9/10/2012 7:17
432	N977XT	PAY3/G	Piper	3	Cheyenne 3	47.7	43.4	11,200	0	Single	B	I	1	9/10/2012 13:14

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time
433	N35WP	H25A/Q	British Aerospace	HS-125	Hawker Siddeley	47.0	50.5	25,000	75	Dual	B	I	2	9/11/2012 7:39
434	N35WP	H25A/Q	British Aerospace	HS-125	Hawker Siddeley	47.0	50.5	25,000	75	Dual	B	I	2	9/11/2012 11:43
435	EJA385	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/12/2012 8:59
436	XSR707	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/12/2012 9:06
437	EJA385	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/12/2012 11:31
438	XSR707	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/12/2012 12:13
439	N12252	T34P/G	Beechcraft		Mentor	33.3	28.8	4,300	0	Single	A	I	1	9/14/2012 7:23
440	EJA739	GALX/L	Gulfstream	200	IAI Galaxy - 1126	58.1	62.3	35,450	100	Dual	C	II	2	9/14/2012 9:23
441	EJA739	GALX/L	Gulfstream	200	IAI Galaxy - 1126	58.1	62.3	35,450	100	Dual	C	II	2	9/14/2012 14:02
442	EJA701	GALX/L	Gulfstream	200	IAI Galaxy - 1126	58.1	62.3	35,450	100	Dual	C	II	2	9/16/2012 14:35
443	EJA701	G200/F	Gulfstream	200	IAI Galaxy - 1126	58.1	62.3	35,450	100	Dual	C	II	2	9/16/2012 19:05
444	EJA341	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/17/2012 13:56
445	EJA341	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/17/2012 16:18
446	VNR150	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	9/18/2012 7:25
447	VNR150	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	9/18/2012 11:00
448	VNR145	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	9/19/2012 6:55
449	VNR145	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	9/19/2012 11:18
450	VNR137	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	9/19/2012 11:25
451	VNR178	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	9/19/2012 12:38
452	VNR178	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	9/19/2012 14:58
453	N414RB	C414/G	Cessna	414	Chancellor	44.2	36.5	6,750	0	Single	B	I	1	9/21/2012 11:27
454	N888AS	BE30/G	Beechcraft	300	Super King Air	54.5	43.8	14,000	75	Dual	B	II	2	9/22/2012 8:02
455	OPT311	E55P/Q	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	9/22/2012 9:30
456	OPT311	E55P/Q	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	9/22/2012 10:54
457	N888AS	BE30/G	Beechcraft	300	Super King Air	54.5	43.8	14,000	75	Dual	B	II	2	9/22/2012 11:34
458	EJA716	GALX/L	Gulfstream	200	IAI Galaxy - 1126	58.1	62.3	35,450	100	Dual	C	II	2	9/23/2012 14:58
459	EJA609	C56X/W	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/23/2012 15:25
460	EJA716	GALX/L	Gulfstream	200	IAI Galaxy - 1126	58.1	62.3	35,450	100	Dual	C	II	2	9/23/2012 17:28
461	EJA609	C56X/W	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/24/2012 9:01
462	EJA601	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/25/2012 15:29
463	EJA601	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/26/2012 8:08
464	XSR707	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/26/2012 8:15
465	NSI200	C340/G	Cessna	340	340	38.1	34.4	5,990	0	Single	B	I	1	9/27/2012 6:56
466	NSI200	C340/G	Cessna	340	340	38.1	34.4	5,990	0	Single	B	I	1	9/27/2012 12:17
467	N926LC	BE36/G	Beechcraft	36	Bonanza	33.5	27.5	3,650	0	Single	A	I	1	9/29/2012 13:04
468	N926LC	BE36/G	Beechcraft	36	Bonanza	33.5	27.5	3,650	0	Single	A	I	1	10/2/2012 7:28
469	N416RX	BE40/Q	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	10/3/2012 7:55
470	N416RX	BE40/Q	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	10/3/2012 10:10
471	N3828G	C310/A	Cessna	310	310	35.0	27.0	4,600	0	Single	A	I	1	10/4/2012 11:27
472	N3828G	C310/A	Cessna	310	310	35.0	27.0	4,600	0	Single	A	I	1	10/4/2012 15:51
473	EJA364	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	10/14/2012 6:16
474	EJA364	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	10/14/2012 9:25
475	N373KM	PC12/G	Pilatus Aircraft	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	10/17/2012 8:21
476	BLK11	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	10/17/2012 10:33
477	N373KM	PC12/G	Pilatus Aircraft	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	10/17/2012 14:27
478	BLK21	C500/Q	Cessna	500	Citation I	47.1	43.5	11,850	0	Dual	B	I	1	10/18/2012 7:48
479	BLK11	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	10/18/2012 10:26
480	VNR104	P180/A	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	10/19/2012 7:04
481	VNR104	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	10/19/2012 9:39
482	N888AS	BE30/G	Beechcraft	300	Super King Air	54.5	43.8	14,000	75	Dual	B	II	2	10/21/2012 7:28
483	N888AS	BE30/G	Beechcraft	300	Super King Air	54.5	43.8	14,000	75	Dual	B	II	2	10/21/2012 11:12
484	N3725L	PRM1/Q	Beechcraft		Premier I	44.5	46.0	12,500	0	Single	C	I	2	10/21/2012 15:07
485	N3725L	PRM1/Q	Beechcraft		Premier I	44.5	46.0	12,500	0	Single	C	I	2	10/21/2012 18:49
486	N71WD	C310/G	Cessna	310	310	35.0	27.0	4,600	0	Single	A	I	1	11/5/2012 9:08

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time
487	DCM9159	F2TH/Q	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	11/12/2012 9:51
488	N220CL	PC12/R	Pilatus Aircraft	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	12/3/2012 11:01
489	N1944E	C340/G	Cessna	340	340	38.1	34.4	5,990	0	Single	B	I	1	12/11/2012 20:52
490	N1944E	C340/G	Cessna	340	340	38.1	34.4	5,990	0	Single	B	I	1	12/11/2012 21:50
491	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	12/22/2012 7:35
492	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	12/22/2012 9:28
493	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	12/23/2012 18:31
494	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	12/23/2012 22:06
495	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	1/1/2013 14:05
496	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	1/1/2013 15:17
497	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	1/5/2013 13:52
498	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	1/5/2013 15:25
499	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	1/17/2013 16:49
500	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	1/17/2013 17:58
501	EJA966	C750/Q	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	1/18/2013 13:26
502	EJA966	C750/Q	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	1/18/2013 16:36
503	EJA986	C750/Q	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	1/21/2013 7:58
504	EJA986	C750/Q	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	1/21/2013 10:43
505	EJA382P	C680/Q	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	1/22/2013 6:55
506	EJA382	C680/G	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	1/22/2013 12:07
507	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	1/26/2013 10:57
508	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	1/26/2013 12:50
509	N465TP	P46T/G	Piper	PA46	Malibu	43.0	28.4	4,100	0	Single	A	I	1	1/26/2013 13:41
510	N376J	C310/G	Cessna	310	310	35.0	27.0	4,600	0	Single	A	I	1	2/3/2013 10:06
511	N376J	C310/G	Cessna	310	310	35.0	27.0	4,600	0	Single	A	I	1	2/3/2013 12:43
512	N231MW	M20T/G	Mooney Airplace Co.	M-20	Mooney Turbo	36.4	26.8	3,374	0	Single	A	I	1	2/16/2013 18:07
513	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	2/26/2013 15:41
514	BLK22	E55P/G	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	2/27/2013 10:10
515	BLK22	E55P/G	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	3/2/2013 14:50
516	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	3/3/2013 12:50
517	EJA301	C680/Q	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	3/8/2013 8:05
518	EJA301	C680/Q	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	3/8/2013 11:19
519	OPT925	E135/Q	Embraer	ERJ135	ERJ135	65.8	86.4	44,092	100	Dual	C	II	2	3/13/2013 10:16
520	OPT925	E135/Q	Embraer	ERJ135	ERJ135	65.8	86.4	44,092	100	Dual	C	II	2	3/13/2013 13:23
521	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	3/13/2013 16:16
522	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	3/13/2013 17:36
523	EJA315	C680/Q	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	3/16/2013 13:46
524	EJA315	C680/Q	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	3/16/2013 16:50
525	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	3/18/2013 15:00
526	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	3/18/2013 16:44
527	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	3/21/2013 7:59
528	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	3/21/2013 11:59
529	N577BF	PC12/R	Pilatus Aircraft	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	3/29/2013 12:57
530	N577BF	PC12/R	Pilatus Aircraft	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	3/29/2013 18:35
531	N793DC	BE20/G	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	4/1/2013 23:45
532	N793DC	BE20/G	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	4/2/2013 2:22
533	N537V	SR22/G	Cirrus Aircraft	SR22	Cirrus	38.3	26.0	3,600	0	Single	A	I	1	4/12/2013 14:58
534	N465TP	P46T/R	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	4/23/2013 9:28
535	N465TP	P46T/R	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	4/23/2013 10:31
536	N465TP	P46T/R	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	4/24/2013 14:54
537	N465TP	P46T/R	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	4/24/2013 16:41
538	N791DC	BE20/G	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	4/25/2013 11:54
539	N791DC	BE20/G	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	4/25/2013 13:52
540	N416RX	BE40/Q	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	4/26/2013 12:18

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time
541	N416RX	BE40/Q	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	4/26/2013 14:05
542	N465TP	P46T/R	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	4/27/2013 16:45
543	N465TP	P46T/R	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	4/27/2013 17:58
544	EJA307	C680/Q	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	5/6/2013 18:33
545	EJA307	C680/Q	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	5/7/2013 9:32
546	VNR167	P180/L	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	5/10/2013 11:30
547	VNR167	P180/L	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	5/10/2013 16:07
548	N20LU	TRIN/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	5/11/2013 7:37
549	N20LU	TRIN/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	5/12/2013 11:08
550	N3911G	C340/R	Cessna	340	340	38.1	34.4	5,990	0	Single	B	I	1	5/12/2013 12:15
551	N3911G	C340/R	Cessna	340	340	38.1	34.4	5,990	0	Single	B	I	1	5/13/2013 15:57
552	N60KA	B350/Q	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	5/15/2013 9:14
553	N60KA	B350/Q	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	5/15/2013 13:31
554	N68MU	BE10/R	Beechcraft	100	King Air	45.9	40.0	11,795	0	Dual	B	II	2	5/16/2013 10:40
555	N68MU	B10/G	Beechcraft	100	King Air	45.9	39.8	11,795	0	Dual	B	II	2	5/16/2013 13:48
556	N68MU	BE10/R	Beechcraft	100	King Air	45.9	40.0	11,795	0	Dual	B	II	2	5/16/2013 14:05
557	N68MU	BE10/R	Beechcraft	100	King Air	45.9	40.0	11,795	0	Dual	B	II	2	5/16/2013 15:56
558	VNR188	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	5/18/2013 10:04
559	VNR188	P180/Q	Piaggio	P180	Avanti	46.0	47.3	11,550	0	Single	C	I	2	5/18/2013 13:57
560	N20LU	TRIN/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	5/21/2013 9:50
561	N20LU	TRIN/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	5/21/2013 9:55
562	EJA916	C750/Q	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	5/25/2013 10:50
563	EJA916	C750/Q	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	5/25/2013 14:19
564	N3196W	BE56/G	Beechcraft	56	TurboBaron	37.7	27.9	5,071	0	Single	A	I	1	5/26/2013 6:52
565	N375CP	B350/Q	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	5/26/2013 10:54
566	N375CP	B350/Q	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	5/26/2013 13:12
567	DCM9419	F2TH/Q	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	5/26/2013 17:25
568	EJA906	C750/Q	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	5/27/2013 15:15
569	EJA906	C750/Q	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	5/27/2013 19:54
570	N3196W	BE58/G	Beechcraft	58	Baron	37.7	27.9	5,071	0	Single	A	I	1	5/28/2013 12:34
571	N82HC	BE35/G	Beechcraft	35	Bonanza	33.4	26.3	3,400	0	Single	A	I	1	6/4/2013 6:38
572	EJA346	C680/Q	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	6/5/2013 10:35
573	EJA346	C680/Q	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	6/5/2013 13:12
574	N467CJ	C25A/Q	Cessna	CJ2	Citation	49.8	47.7	12,500	0	Single	B	II	2	6/10/2013 14:39
575	N467CJ	C25A/Q	Cessna	CJ2	Citation	49.8	47.7	12,500	0	Single	B	II	2	6/10/2013 15:54
576	N465TP	P46T/R	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	6/11/2013 15:25
577	N465TP	P46T/R	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	6/11/2013 16:28
578	N744CA	C421/G	Cessna	421	Golden Eagle	41.1	36.9	7,450	0	Single	B	I	1	6/12/2013 20:32
579	DCM5932	F2TH/Q	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	6/16/2013 10:09
580	N5379A	C210/G	Cessna	210	Centurion	36.8	28.2	4,000	0	Single	A	I	1	6/16/2013 11:34
581	N416RX	BE40/Q	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	6/16/2013 15:54
582	N416RX	BE40/Q	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	6/17/2013 9:12
583	N5379A	C210/G	Cessna	210	Centurion	36.8	28.2	4,000	0	Single	A	I	1	6/17/2013 9:56
584	XSR707	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	6/18/2013 12:22
585	TWY267	GLF4/Q	Gulfstream	IV / 450	Gulfstream	77.8	89.3	74,600	100	Dual	C	II	3	6/19/2013 6:10
586	TWY267	GLF4/Q	Gulfstream	IV / 450	Gulfstream	77.8	89.3	74,600	100	Dual	C	II	3	6/19/2013 9:35
587	TWY267	GLF4/Q	Gulfstream	IV / 450	Gulfstream	77.8	89.3	74,600	100	Dual	C	II	3	6/21/2013 14:49
588	TWY267	GLF4/Q	Gulfstream	IV / 450	Gulfstream	77.8	89.3	74,600	100	Dual	C	II	3	6/21/2013 18:01
589	DCM9023	F2TH/Q	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	6/22/2013 14:03
590	XSR707	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	6/23/2013 9:41
591	N5LN	SW4/G	Fairchild	C-26	Metroliner	46.3	42.2	14,000	75	Dual	C	I	2	6/23/2013 10:36
592	N470SK	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	6/23/2013 13:57
593	N793DC	BE20/G	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	6/23/2013 17:20
594	N793DC	BE20/G	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	6/23/2013 19:16

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time
595	PJC79	C25B/Q	Cessna	CJ3	Citation	53.3	51.2	13,870	75	Single	B	II	2	6/24/2013 14:32
596	PJC79	C25B/Q	Cessna	CJ3	Citation	53.3	51.2	13,870	75	Single	B	II	2	6/25/2013 9:18
597	N470SK	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	6/25/2013 13:56
598	N1944E	C340/R	Cessna	340	340	38.1	34.4	5,990	0	Single	B	I	1	6/25/2013 19:09
599	N95LM	BE20/Q	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	6/26/2013 8:32
600	N888AS	BE30/G	Beechcraft	300	Super King Air	54.5	43.8	14,000	75	Dual	B	II	2	6/26/2013 10:10
601	N95LM	BE20/Q	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	6/26/2013 12:42
602	N888AS	BE30/G	Beechcraft	300	Super King Air	54.5	43.8	14,000	75	Dual	B	II	2	6/26/2013 14:06
603	N5LN	SW4/G	Fairchild	C-26	Metroliner	46.3	42.2	14,000	75	Dual	C	I	2	6/27/2013 10:16
604	N888AS	BE30/R	Beechcraft	300	Super King Air	54.5	43.8	14,000	75	Dual	B	II	2	6/27/2013 17:40
605	N888AS	BE30/R	Beechcraft	300	Super King Air	54.5	43.8	14,000	75	Dual	B	II	2	6/27/2013 21:49
606	BLK23	LJ35/L	Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	6/28/2013 8:12
607	BLK23	LJ35/L	Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	6/30/2013 7:50
608	N527TB	PA46/G	Piper		Malibu Mirage	43.0	28.4	4,100	0	Single	A	I	1	7/1/2013 7:49
609	DCM7584	F2TH/Q	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	7/1/2013 8:50
610	DCM9577	F2TH/Q	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	7/1/2013 12:40
611	BLK24	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/1/2013 15:17
612	BLK24	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/1/2013 17:42
613	N527TB	PA46/G	Piper		Malibu Mirage	43.0	28.4	4,100	0	Single	A	I	1	7/1/2013 20:17
614	N465TP	P46T/R	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	7/2/2013 10:13
615	N465TP	P46T/R	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	7/2/2013 11:14
616	EJA982	C750/Q	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	7/3/2013 13:32
617	EJA982	C750/Q	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	7/3/2013 17:52
618	OPT328	E55P/Q	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	7/5/2013 8:13
619	OPT328	E55P/Q	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	7/5/2013 11:16
620	N220CL	PC12/R	Pilatus Aircraft	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	7/6/2013 11:48
621	N376J	C310/G	Cessna	310	310	35.0	27.0	4,600	0	Single	A	I	1	7/7/2013 10:00
622	N376J	C310/G	Cessna	310	310	35.0	27.0	4,600	0	Single	A	I	1	7/7/2013 12:41
623	N465TP	P46T/R	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	7/7/2013 15:44
624	N465TP	P46T/R	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	7/7/2013 18:13
625	N82HC	BE35/A	Beechcraft	35	Bonanza	33.4	26.3	3,400	0	Single	A	I	1	7/9/2013 7:26
626	N3236T	BE36/G	Beechcraft	36	Bonanza	33.5	27.5	3,650	0	Single	A	I	1	7/9/2013 14:30
627	N82HC	BE35/A	Beechcraft	35	Bonanza	33.4	26.3	3,400	0	Single	A	I	1	7/9/2013 15:20
628	DCM4955	F2TH/Q	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	7/10/2013 11:04
629	N999HW	B350/G	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	7/10/2013 11:23
630	BLK25	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/10/2013 11:46
631	BLK25	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/10/2013 15:04
632	N999HW	B350/G	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	7/11/2013 13:27
633	N999HW	B350/G	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	7/11/2013 18:42
634	N999HW	B350/G	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	7/12/2013 7:28
635	N999HW	B350/G	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	7/12/2013 13:25
636	DCM8936	F2TH/Q	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	7/12/2013 13:32
637	BLK26	BE40/Q	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/12/2013 17:20
638	BLK26	BE40/Q	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/12/2013 19:08
639	N999HW	B350/G	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	7/13/2013 10:41
640	N465TP	P46T/R	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	7/13/2013 16:08
641	N465TP	P46T/R	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	7/13/2013 17:09
642	DCM563M	F2TH/Q	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	7/14/2013 11:10
643	N888RL	C550/G	Cessna	550	Citation II	51.7	47.7	15,100	75	Single	B	II	1	7/14/2013 13:27
644	EJM92	C680/Q	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	7/14/2013 14:07
645	EJA568	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/14/2013 16:55
646	EJA568	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/14/2013 18:49
647	N129TK	LJ35/Q	Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	7/16/2013 9:55
648	N129TK	LJ35/Q	Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	7/16/2013 14:16

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time
649	N465TP	P46T/R	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	7/16/2013 15:56
650	N465TP	P46T/R	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	7/16/2013 17:29
651	EJA380	C680/Q	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	7/17/2013 8:54
652	EJM92	C680/Q	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	7/17/2013 9:22
653	EJA380	C680/Q	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	7/17/2013 11:18
654	EJM92	C680/Q	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	7/17/2013 15:27
655	EJA943	C750/Q	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	7/18/2013 16:07
656	EJA943	C750/Q	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	7/18/2013 16:27
657	EJA943	C750/Q	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	7/18/2013 19:34
658	N1114K	BE20/R	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	7/19/2013 7:37
659	N1114K	BE20/R	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	7/19/2013 12:01
660	N100JD	BE9L/R	Beechcraft	90	King Air	45.9	39.8	10,950	0	Dual	B	II	1	7/20/2013 7:12
661	EJA975	C750/Q	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	7/20/2013 10:53
662	EJA999	C750/Q	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	7/20/2013 13:34
663	N100JD	BE9L/U	Beechcraft	90	King Air	45.9	39.8	10,950	0	Dual	B	II	1	7/20/2013 14:42
664	EJA999	C750/Q	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	7/20/2013 15:26
665	N161SD	C650/Q	Cessna	650	Citation III	53.5	55.5	22,000	100	Dual	C	II	2	7/20/2013 16:23
666	EJA975	C750/Q	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	7/20/2013 17:14
667	N161SD	C650/Q	Cessna	650	Citation III	53.5	55.5	22,000	100	Dual	C	II	2	7/20/2013 19:15
668	N340DS	C340/G	Cessna	340	340	38.1	34.4	5,990	0	Single	B	I	1	7/21/2013 6:36
669	N340DS	C340/G	Cessna	340	340	38.1	34.4	5,990	0	Single	B	I	1	7/21/2013 11:44
670	N290KA	BE9L/G	Beechcraft	90	King Air	45.9	39.8	10,950	0	Dual	B	II	1	7/22/2013 14:03
671	GTH1	H25B/Q	British Aerospace	800	Hawker Beechcraft	54.3	51.2	28,000	100	Dual	C	II	2	7/22/2013 19:52
672	N161SD	C650/Q	Cessna	650	Citation III	53.5	55.5	22,000	100	Dual	C	II	2	7/23/2013 7:04
673	N161SD	C650/Q	Cessna	650	Citation III	53.5	55.5	22,000	100	Dual	C	II	2	7/23/2013 8:48
674	N290KA	BE9L/G	Beechcraft	90	King Air	45.9	39.8	10,950	0	Dual	B	II	1	7/25/2013 10:47
675	N262CW	PA46/T	Piper		Malibu Mirage	43.0	28.4	4,100	0	Single	A	I	1	7/26/2013 8:49
676	N1910A	H25B/Q	British Aerospace	800	Hawker Beechcraft	54.3	51.2	28,000	100	Dual	C	II	2	7/26/2013 8:57
677	BLK27	E50P/Q	Embraer	100	Phenom	40.3	42.1	10,472	0	Single	B	I	1	7/26/2013 12:28
678	N1910A	H25B/Q	British Aerospace	800	Hawker Beechcraft	54.3	51.2	28,000	100	Dual	C	II	2	7/26/2013 13:06
679	N465TP	P46T/R	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	7/26/2013 18:23
680	N465TP	P46T/R	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	7/26/2013 19:22
681	BLK27	E50P/Q	Embraer	100	Phenom	40.3	42.1	10,472	0	Single	B	I	1	7/27/2013 8:44
682	BLK28	CL30/Q	Bombardier	300	Challenger	63.8	68.7	38,850	75	Dual	C	II	2	7/27/2013 13:41
683	BLK29	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/27/2013 15:00
684	BLK30	CL30/Q	Bombardier	300	Challenger	63.8	68.7	38,850	75	Dual	C	II	2	7/27/2013 15:35
685	BLK29	C56X/G	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/27/2013 16:08
686	BLK28	CL30/Q	Bombardier	300	Challenger	63.8	68.7	38,850	75	Dual	C	II	2	7/27/2013 16:16
687	BLK28	CL30/Q	Bombardier	300	Challenger	63.8	68.7	38,850	75	Dual	C	II	2	7/28/2013 17:15
688	BLK28	CL30/Q	Bombardier	300	Challenger	63.8	68.7	38,850	75	Dual	C	II	2	7/28/2013 19:07
689	BLK30	CL30/Q	Bombardier	300	Challenger	63.8	68.7	38,850	75	Dual	C	II	2	7/29/2013 7:50
690	BLK29	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/30/2013 6:00
691	BLK29	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/30/2013 8:46
692	BLK27	E50P/Q	Embraer	100	Phenom	40.3	42.1	10,472	0	Single	B	I	1	7/30/2013 12:34
693	BLK27	E50P/Q	Embraer	100	Phenom	40.3	42.1	10,472	0	Single	B	I	1	7/31/2013 9:27
694	EJA802	C560/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/31/2013 14:47
695	EJA802	C560/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/31/2013 17:03
696	N9831K	PA34/G	Piper		Seneca	38.9	28.7	4,750	0	Single	A	I	1	7/31/2013 18:30
697	EJA904	C750/Q	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	8/2/2013 17:17
698	N416CC	C550/Q	Cessna	550	Citation II	51.7	47.7	15,100	75	Single	B	II	1	8/4/2013 8:46
699	EJA834	C560/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/4/2013 16:58
700	EJA834	C560/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/5/2013 6:53
701	N9831K	PA34/G	Piper		Seneca	38.9	28.7	4,750	0	Single	A	I	1	8/5/2013 8:46
702	N999DM	C421/G	Cessna	421	Golden Eagle	41.1	36.9	7,450	0	Single	B	I	1	8/6/2013 11:55

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time
703	EJA884P	H25B/Q	British Aerospace	800	Hawker Beechcraft	54.3	51.2	28,000	100	Dual	C	II	2	8/6/2013 17:57
704	N999DM	C421/G	Cessna	421	Golden Eagle	41.1	36.9	7,450	0	Single	B	I	1	8/6/2013 18:55
705	OPT404	BE40/Q	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	8/7/2013 8:45
706	OPT404	BE40/Q	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	8/7/2013 12:18
707	EJA884P	H25B/Q	British Aerospace	800	Hawker Beechcraft	54.3	51.2	28,000	100	Dual	C	II	2	8/7/2013 13:22
708	N465TP	P46T/R	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	8/8/2013 6:25
709	N465TP	P46T/R	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	8/8/2013 7:54
710	N465TP	P46T/R	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	8/8/2013 16:24
711	N465TP	P46T/R	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	8/8/2013 17:26
712	N956PC	PC12/G	Pilatus Aircraft	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	8/9/2013 8:46
713	N375CP	B350/Q	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	8/11/2013 12:06
714	HRC395	H25B/Q	British Aerospace	800	Hawker Beechcraft	54.3	51.2	28,000	100	Dual	C	II	2	8/11/2013 14:26
715	N375CP	B350/Q	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	8/11/2013 14:27
716	N465TP	P46T/R	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	8/11/2013 15:05
717	N465TP	P46T/R	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	8/11/2013 16:32
718	N956PC	PC12/G	Pilatus Aircraft	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	8/11/2013 19:56
719	N375CP	B350/Q	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	8/14/2013 6:35
720	N375CP	B350/Q	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	8/14/2013 7:37
721	N375CP	B350/Q	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	8/14/2013 17:52
722	N375CP	B350/Q	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	8/14/2013 20:15
723	OPT713	C750/Q	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	8/15/2013 13:50
724	EJA604	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/15/2013 14:03
725	OPT713	C750/Q	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	8/15/2013 17:19
726	EJA604	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/15/2013 17:35
727	BLK31	GLF4/Q	Gulfstream	IV / 450	Gulfstream	77.8	89.3	74,600	100	Dual	C	II	3	8/16/2013 8:04
728	N375CP	B350/Q	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	8/16/2013 9:54
729	N375CP	B350/Q	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	8/16/2013 11:21
730	EJA933	C750/Q	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	8/16/2013 16:20
731	N375CP	B350/Q	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	8/16/2013 17:41
732	EJA933	C750/Q	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	8/16/2013 18:31
733	N375CP	B350/Q	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	8/16/2013 18:42
734	HRC395	H25B/Q	British Aerospace	800	Hawker Beechcraft	54.3	51.2	28,000	100	Dual	C	II	2	8/17/2013 8:40
735	N375CP	B350/Q	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	8/18/2013 9:09
736	N375CP	B350/Q	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	8/18/2013 11:20
737	BLK31	GLF4/Q	Gulfstream	IV / 450	Gulfstream	77.8	89.3	74,600	100	Dual	C	II	3	8/18/2013 15:54
738	XSR707	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/19/2013 11:26
739	XSR707	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/19/2013 14:16
740	N63CM	PAY2/G	Piper	2	Cheyenne 2	47.7	43.4	11,200	0	Single	B	I	1	8/20/2013 15:06
741	N963CM									Not Assigned / Reserved				8/20/2013 15:06
742	N63CM	PAY2/G	Piper	2	Cheyenne 2	47.7	43.4	11,200	0	Single	B	I	1	8/20/2013 16:43
743	N8434Z		Cessna	210	Centurion	36.8	28.2	4,000	0	Single	A	I	1	8/20/2013 20:25
744	EJA372	C680/Q	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	8/21/2013 10:31
745	N465TP	P46T/R	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	8/21/2013 12:39
746	EJA372	C680/Q	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	8/21/2013 13:47
747	N465TP	P46T/R	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	8/21/2013 16:48
748	EJA698P	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/24/2013 7:45
749	XSR707	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/24/2013 7:59
750	EJA698P	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/24/2013 9:37
751	XSR707	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/24/2013 10:24
752	N465TP	P46T/R	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	8/24/2013 19:12
753	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	8/25/2013 0:17
754	EJA820	C560/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/25/2013 7:54
755	DCM433T	F2TH/Q	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	8/25/2013 8:27
756	EJA820	C560/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/25/2013 11:12

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time
757	DCM9274	F2TH/Q	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	8/25/2013 11:44
758	N946PC	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/26/2013 8:09
759	N946PC	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/26/2013 10:34
760	N465TP	P46T/R	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	8/26/2013 11:13
761	N465TP	P46T/R	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	8/26/2013 12:31
762	N722KR	BE9L/G	Beechcraft	90	King Air	45.9	39.8	10,950	0	Dual	B	II	1	8/27/2013 10:05
763	N903MC	C25B/Q	Cessna	CJ3	Citation	53.3	51.2	13,870	75	Single	B	II	2	8/27/2013 11:01
764	N1087S	BE36/G	Beechcraft	36	Bonanza	33.5	27.5	3,650	0	Single	A	I	1	8/27/2013 12:30
765	N903MC	C25B/Q	Cessna	CJ3	Citation	53.3	51.2	13,870	75	Single	B	II	2	8/27/2013 13:11
766	EJA697	C56X/R	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/27/2013 17:02
767	N722KR	BE9L/G	Beechcraft	90	King Air	45.9	39.8	10,950	0	Dual	B	II	1	8/27/2013 17:44
768	EJA697	C56X/R	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/28/2013 10:31
769	N465TP	P46T/R	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	8/28/2013 17:04
770	N465TP	P46T/R	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	8/28/2013 18:02
771	N95LM	BE20/Q	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	8/29/2013 7:38
772	N665DM	SR22/G	Cirrus Aircraft	SR22	Cirrus	38.3	26.0	3,600	0	Single	A	I	1	8/29/2013 9:11
773	N95LM	BE20/Q	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	8/29/2013 10:25
774	N13NS	M20P/T	Mooney Airplace Co.	M-20	Mooney	36.4	26.8	3,374	0	Single	A	I	1	8/30/2013 8:56
775	N427DW	BE55/T	Beechcraft	55	Baron	37.7	27.9	5,071	0	Single	A	I	1	8/30/2013 9:51
776	EJA752	GALX/Q	Gulfstream	200	IAI Galaxy - 1126	58.1	62.3	35,450	100	Dual	C	II	2	8/30/2013 13:52
777	XSR707	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/31/2013 9:28
778	XSR707	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/31/2013 12:31
779	EJA752	GALX/Q	Gulfstream	200	IAI Galaxy - 1126	58.1	62.3	35,450	100	Dual	C	II	2	9/1/2013 10:05
780	N850GS	TBM8/L	Daher-Socata	TB	TB-8	32.0	25.0	2,530	0	Single	A	I	1	9/1/2013 10:36
781	EJA387	C680/Q	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/2/2013 12:58
782	EJA349	C680/Q	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/2/2013 14:11
783	EJA387	C680/Q	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/2/2013 14:15
784	EJA349	C680/Q	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/3/2013 7:11
785	N120EA	EA50/L	Eclipse Aviation	500	Eclipse	37.3	33.1	5,950	0	Single	B	I	1	9/3/2013 11:06
786	EJA918	C750/Q	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	9/3/2013 11:58
787	EJA918	C750/Q	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	9/3/2013 17:54
788	N120EA	EA50/L	Eclipse Aviation	500	Eclipse	37.3	33.1	5,950	0	Single	B	I	1	9/4/2013 10:19
789	EJA302	E55P/Q	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	9/4/2013 13:18
790	EJA302	E55P/Q	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	9/4/2013 18:16
791	N850GS	TBM8/L	Daher-Socata	TB	TB-8	32.0	25.0	2,530	0	Single	A	I	1	9/5/2013 10:55
792	N416RX	BE40/Q	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	9/7/2013 5:02
793	N416RX	BE40/Q	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	9/7/2013 7:07
794	N416RX	BE40/Q	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	9/7/2013 9:56
795	N20LU	TRIN/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	9/10/2013 8:17
796	N20LU	TRIN/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	9/12/2013 9:14
797	N888AS	BE30/G	Beechcraft	300	Super King Air	54.5	43.8	14,000	75	Dual	B	II	2	9/12/2013 9:17
798	N20LU	TRIN/G	Daher-Socata	TB-21	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	9/12/2013 12:25
799	N888AS	BE30/G	Beechcraft	300	Super King Air	54.5	43.8	14,000	75	Dual	B	II	2	9/12/2013 13:27
800	N875P	WW24/R	Israel Aircraft Industries	II	Westwind	44.8	52.3	23,500	75	Single	C	I	1	9/13/2013 13:47
801	N450PC	PC12/G	Pilatus Aircraft	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	9/13/2013 15:02
802	N875P	WW24/R	Israel Aircraft Industries	II	Westwind	44.8	52.3	23,500	75	Single	C	I	1	9/13/2013 16:19
803	N791DC	BE20/G	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	9/14/2013 22:20
804	N791DC	BE20/G	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	9/15/2013 0:14
805	N450PC	PC12/G	Pilatus Aircraft	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	9/17/2013 9:48
806	N6691P	PA24/G	Piper	PA-24	Comanche	36.0	25.0	3,200	0	Single	A	I	1	9/17/2013 13:33
807	N524S	FA50/Q	Dassault Aviation	50	Falcon	61.9	60.9	38,800	75	Dual	C	II	2	9/19/2013 9:56
808	BLK32	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/19/2013 12:30
809	BLK32	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/19/2013 14:36
810	N100JD	BE9L/R	Beechcraft	90	King Air	45.9	39.8	10,950	0	Dual	B	II	1	9/19/2013 14:39

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time
811	N100JD	BE9L/R	Beechcraft	90	King Air	45.9	39.8	10,950	0	Dual	B	II	1	9/19/2013 15:36
812	LXJ522	CL30/Q	Bombardier	300	Challenger	63.8	68.7	38,850	75	Dual	C	II	2	9/20/2013 6:57
813	LXJ522	CL30/Q	Bombardier	300	Challenger	63.8	68.7	38,850	75	Dual	C	II	2	9/20/2013 10:27
814	BLK29	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/22/2013 7:54
815	LXJ263	LJ60/Q	Learjet	60	Learjet 60	43.8	58.7	23,500	100	Dual	C	I	2	9/22/2013 8:16
816	BLK29	C56X/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/22/2013 10:44
817	LXJ263	LJ60/Q	Learjet	60	Learjet 60	43.8	58.7	23,500	100	Dual	C	I	2	9/22/2013 12:12
818	N524S	FA50/Q	Dassault Aviation	50	Falcon	61.9	60.9	38,800	75	Dual	C	II	2	9/22/2013 12:20
819	N465TP	P46T/R	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	9/23/2013 11:31
820	N465TP	P46T/R	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	9/23/2013 13:27
821	N20LU	TRIN/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	9/27/2013 11:04
822	BLK33	H25B/Q	British Aerospace	800	Hawker Beechcraft	54.3	51.2	28,000	100	Dual	C	II	2	9/28/2013 16:21
823	OPT335	E55P/Q	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	9/29/2013 12:04
824	N553V	LJ35/L	Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	9/30/2013 14:37
825	N553V	LJ35/L	Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	9/30/2013 17:44
826	N20LU	TRIN/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	10/1/2013 7:40
827	EJA809	C560/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	10/1/2013 16:56
828	OPT307	E55P/Q	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	10/2/2013 6:57
829	EJA809	C560/Q	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	10/2/2013 9:33
830	OPT307	E55P/Q	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	10/2/2013 10:29
831	N722KR	BE9L/G	Beechcraft	90	King Air	45.9	39.8	10,950	0	Dual	B	II	1	10/3/2013 10:45
832	N421WK	C421/G	Cessna	421	Golden Eagle	41.1	36.9	7,450	0	Single	B	I	1	10/4/2013 11:39
833	N850TJ	TBM8/Q	Daher-Socata	TB	TB-8	32.0	25.0	2,530	0	Single	A	I	1	10/4/2013 12:19
834	N850TJ	TBM8/Q	Daher-Socata	TB	TB-8	32.0	25.0	2,530	0	Single	A	I	1	10/6/2013 16:45
835	N421WK	C421/G	Cessna	421	Golden Eagle	41.1	36.9	7,450	0	Single	B	I	1	10/7/2013 10:46
836	N376J	C310/G	Cessna	310	310	35.0	27.0	4,600	0	Single	A	I	1	10/9/2013 8:20
837	N376J	C310/G	Cessna	310	310	35.0	27.0	4,600	0	Single	A	I	1	10/9/2013 10:46
838	BLK34	C25A/Q	Cessna	CJ2	Citation	49.8	47.7	12,500	0	Single	B	II	2	10/10/2013 12:12
839	BLK34	C25A/L	Cessna	CJ2	Citation	49.8	47.7	12,500	0	Single	B	II	2	10/15/2013 9:57
840	EJA815	H25B/Q	British Aerospace	800	Hawker Beechcraft	54.3	51.2	28,000	100	Dual	C	II	2	10/16/2013 13:44
841	EJA935	C750/Q	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	10/16/2013 14:18
842	EJA815	H25B/Q	British Aerospace	800	Hawker Beechcraft	54.3	51.2	28,000	100	Dual	C	II	2	10/16/2013 15:37
843	EJA935	C750/Q	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	10/16/2013 16:37
844	N167R	AC90/G	Rockwell Intl	900	Aero Commander	49.0	36.8	6,750	0	Single	A	II	1	10/18/2013 10:28
845	EJA907	C750/Q	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	10/18/2013 13:01
846	EJA907	C750/Q	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	10/18/2013 16:41
847	N19ZA	C550/L	Cessna	550	Citation II	51.7	47.7	15,100	75	Single	B	II	1	10/19/2013 7:18
848	N19ZA	C550/L	Cessna	550	Citation II	51.7	47.7	15,100	75	Single	B	II	1	10/19/2013 11:11
849	N518MV	C551/Q	Cessna	551	Citation II	51.7	47.7	15,100	75	Single	B	II	1	10/20/2013 10:14
850	EJA914	C750/Q	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	10/20/2013 10:24
851	EJA947	C750/Q	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	10/20/2013 14:09
852	EJA914	C750/Q	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	10/20/2013 16:25
853	EJA947	C750/Q	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	10/21/2013 8:35
854	N12252	T34P/G	Beechcraft		Mentor	33.3	28.8	4,300	0	Single	A	I	1	10/21/2013 10:00
855	EJA958	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	10/24/2013 7:48
856	EJA958	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	10/24/2013 9:31
857	DCM9792	F2TH/L	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	10/25/2013 12:58
858	N64VM	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	10/27/2013 7:47
859	BLK35	PC12/L	Pilatus Aircraft	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	10/27/2013 9:35
860	N64VM	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	10/27/2013 12:03
861	DCM1744	F2TH/L	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	10/27/2013 12:30
862	EJA577	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	10/27/2013 12:52
863	EJA577	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	10/27/2013 15:54
864	EJA372	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	10/30/2013 11:53

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time
865	BLK35	PC12/L	Pilatus Aircraft	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	10/30/2013 12:56
866	EJA372	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	10/30/2013 13:45
867	EJA384	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	11/6/2013 13:04
868	EJA384	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	11/6/2013 15:32
869	N220CL	PC12/G	Pilatus Aircraft	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	11/11/2013 11:40
870	EJA837	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	11/11/2013 15:38
871	EJA837	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	11/12/2013 7:50
872	XSR707	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	11/23/2013 12:24
873	XSR707	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	11/23/2013 14:56
874	EJA301	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	11/24/2013 13:25
875	BLK36	BE20/L	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	11/24/2013 19:17
876	EJA301	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	11/25/2013 13:26
877	EJA900	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	11/29/2013 13:11
878	XSR707	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	11/30/2013 10:08
879	EJA900	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	11/30/2013 11:03
880	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	12/10/2013 13:20
881	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	12/10/2013 14:33
882	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	12/14/2013 10:22
883	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	12/14/2013 14:44
884	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	12/16/2013 12:31
885	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	12/16/2013 13:44
886	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	1/4/2014 12:14
887	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	1/4/2014 13:17
888	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	1/10/2014 9:47
889	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	1/10/2014 11:26
890	N20LU	TRIN/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	1/17/2014 10:54
891	N20LU	TRIN/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	1/17/2014 14:14
892	N475DH	C25A/L	Cessna	CJ2	Citation	49.8	47.7	12,500	0	Single	B	II	2	1/17/2014 16:58
893	N475DH	C25A/L	Cessna	CJ2	Citation	49.8	47.7	12,500	0	Single	B	II	2	1/21/2014 20:37
894	TTE299	BE20/A	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	1/31/2014 14:21
895	TTE299	BE20/A	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	1/31/2014 15:23
896	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	2/1/2014 16:02
897	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	2/2/2014 14:26
898	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	2/6/2014 13:54
899	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	2/6/2014 16:12
900	N1944E	C340/G	Cessna	340	340	38.1	34.4	5,990	0	Single	B	I	1	2/7/2014 16:37
901	N1944E	C340/G	Cessna	340	340	38.1	34.4	5,990	0	Single	B	I	1	2/7/2014 17:32
902	EJA918	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	2/9/2014 11:16
903	EJA918	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	2/9/2014 14:54
904	N20LU	TRIN/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	2/10/2014 14:39
905	EJA387	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	2/19/2014 6:00
906	EJA387	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	2/19/2014 10:38
907	BJS547	CL30/L	Bombardier	300	Challenger	63.8	68.7	38,850	75	Dual	C	II	2	3/7/2014 15:33
908	XSR707	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	3/8/2014 10:15
909	EJA375	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	3/8/2014 13:54
910	EJA375	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	3/8/2014 15:53
911	XSR707	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	3/13/2014 12:55
912	N649SP	LJ60/L	Learjet	60	Learjet 60	43.8	58.7	23,500	100	Dual	C	I	2	3/14/2014 7:08
913	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	3/15/2014 13:57
914	EJA843	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	3/16/2014 14:37
915	EJA843	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	3/16/2014 18:48
916	N649SP	LJ60/L	Learjet	60	Learjet 60	43.8	58.7	23,500	100	Dual	C	I	2	3/17/2014 14:41
917	XSR707	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	3/21/2014 11:24
918	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	3/23/2014 10:46

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time
919	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	3/23/2014 12:48
920	XSR707	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	3/24/2014 10:05
921	EJA755	GALX/L	Gulfstream	200	IAI Galaxy - 1126	58.1	62.3	35,450	100	Dual	C	II	2	3/28/2014 11:12
922	EJA755	GALX/L	Gulfstream	200	IAI Galaxy - 1126	58.1	62.3	35,450	100	Dual	C	II	2	3/28/2014 15:17
923	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	3/29/2014 14:17
924	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	3/29/2014 15:29
925	EJA914	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	3/30/2014 13:40
926	EJA914	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	3/30/2014 18:16
927	N100JD	BE9L/G	Beechcraft	90	King Air	45.9	39.8	10,950	0	Dual	B	II	1	3/31/2014 7:23
928	N100JD	BE9L/G	Beechcraft	90	King Air	45.9	39.8	10,950	0	Dual	B	II	1	3/31/2014 9:55
929	N68MU	B100	Beechcraft	100	King Air	45.9	39.8	11,795	0	Dual	B	II	2	3/31/2014 18:20
930	N68MU	BE10/G	Beechcraft	100	King Air	45.9	40.0	11,795	0	Dual	B	II	2	3/31/2014 19:06
931	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	4/3/2014 11:11
932	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	4/3/2014 12:27
933	EJA819	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	4/6/2014 16:22
934	EJA819	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	4/7/2014 7:39
935	EJA310	E55P/L	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	4/11/2014 16:20
936	EJA310	E55P/L	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	4/12/2014 7:43
937	EJA837	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	4/16/2014 9:00
938	EJA837	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	4/16/2014 10:32
939	EJA837	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	4/16/2014 17:39
940	EJA837	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	4/16/2014 19:25
941	EJA342	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	4/24/2014 6:31
942	EJA342	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	4/24/2014 8:05
943	N550WS	C550/Z	Cessna	550	Citation II	51.7	47.7	15,100	75	Single	B	II	1	4/29/2014 11:25
944	N550WS	C550/L	Cessna	550	Citation II	51.7	47.7	15,100	75	Single	B	II	1	4/29/2014 13:48
945	EJA346	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	4/30/2014 6:50
946	N82HC	BE35	Beechcraft	35	Bonanza	33.4	26.3	3,400	0	Single	A	I	1	4/30/2014 8:36
947	EJA346	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	4/30/2014 9:34
948	N416RX	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	4/30/2014 11:44
949	N416RX	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	4/30/2014 13:45
950	N220CL	PC12/G	Pilatus Aircraft	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	5/1/2014 12:02
951	N82HC	BE35	Beechcraft	35	Bonanza	33.4	26.3	3,400	0	Single	A	I	1	5/3/2014 8:24
952	OPT473	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	5/5/2014 11:47
953	OPT473	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	5/5/2014 16:33
954	N602TM	TBM8/L	Daher-Socata	TB	TB-8	32.0	25.0	2,530	0	Single	A	I	1	5/9/2014 13:28
955	EJA346	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	5/12/2014 14:21
956	EJA346	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	5/12/2014 16:38
957	EJA807	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	5/13/2014 16:01
958	EJA807	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	5/14/2014 7:26
959	OPT451	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	5/14/2014 8:36
960	OPT451	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	5/14/2014 10:10
961	N386CM	LJ35/L	Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	5/14/2014 16:46
962	N386CM	LJ35/L	Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	5/14/2014 19:42
963	N3136S	C182	Cessna	182	Skylane	36.1	28.2	2,800	0	Single	B	I	1	5/16/2014 10:49
964	OPT311	E55P/L	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	5/17/2014 10:57
965	OPT311	E55P/L	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	5/18/2014 7:47
966	EJA829	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	5/18/2014 14:00
967	EJA829	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	5/18/2014 16:49
968	N386CM	LJ35/L	Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	5/22/2014 7:03
969	N386CM	LJ35/L	Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	5/22/2014 10:08
970	BLK37	PC12/G	Pilatus Aircraft	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	5/22/2014 10:16
971	EJA372	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	5/22/2014 11:01
972	EJA372	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	5/22/2014 15:02

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time
973	EJA622	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	5/22/2014 19:00
974	EJA622	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	5/22/2014 22:35
975	BLK37	PC12/G	Pilatus Aircraft	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	5/23/2014 11:42
976	EJA350	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	5/24/2014 7:28
977	EJA350	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	5/24/2014 10:28
978	DCM8102	F2TH/L	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	5/26/2014 15:00
979	EJA643	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	5/27/2014 15:57
980	EJA643	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	5/28/2014 9:19
981	N161SD	C650/L	Cessna	650	Citation III	53.5	55.5	22,000	100	Dual	C	II	2	5/29/2014 16:45
982	EJA807	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	5/30/2014 15:32
983	EJA807	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	5/31/2014 7:53
984	N161SD	C650/L	Cessna	650	Citation III	53.5	55.5	22,000	100	Dual	C	II	2	5/31/2014 12:18
985	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	6/1/2014 10:33
986	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	6/1/2014 11:59
987	OPT427	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	6/3/2014 12:23
988	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	6/3/2014 12:31
989	OPT427	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	6/3/2014 14:09
990	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	6/3/2014 14:31
991	LXJ545	CL30/L	Bombardier	300	Challenger	63.8	68.7	38,850	75	Dual	C	II	2	6/5/2014 13:16
992	BJS545	CL30/L	Bombardier	300	Challenger	63.8	68.7	38,850	75	Dual	C	II	2	6/5/2014 17:08
993	LXJ525	CL30/L	Bombardier	300	Challenger	63.8	68.7	38,850	75	Dual	C	II	2	6/7/2014 10:55
994	LXJ525	CL30/L	Bombardier	300	Challenger	63.8	68.7	38,850	75	Dual	C	II	2	6/7/2014 13:36
995	BJS618	LJ40/L	Learjet	40	Learjet 40	47.8	55.6	21,000	75	Dual	C	I	2	6/8/2014 11:27
996	EJA387	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	6/8/2014 12:55
997	BJS618	LJ40/L	Learjet	40	Learjet 40	47.8	55.6	21,000	75	Dual	C	I	2	6/8/2014 13:48
998	EJA387	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	6/8/2014 16:24
999	N20LU	TB21/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	6/10/2014 8:00
1000	BJS440	LJ45/L	Learjet	45	Learjet 45	47.8	58.0	21,500	75	Dual	C	I	2	6/10/2014 16:50
1001	WCC18	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	6/11/2014 9:51
1002	LXJ440	LJ45/L	Learjet	45	Learjet 45	47.8	58.0	21,500	75	Dual	C	I	2	6/12/2014 11:57
1003	WCC18	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	6/13/2014 8:24
1004	N578WY	A500/A	Rockwell Intl	A-500	Aero Commander	49.0	36.8	6,750	0	Single	A	II	1	6/16/2014 13:05
1005	BLK38	GLF3/G	Gulfstream	III	Gulfstream	77.8	83.1	69,700	100	Dual	C	II	3	6/16/2014 13:24
1006	EJA640	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	6/17/2014 15:28
1007	EJA640	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	6/17/2014 17:34
1008	BLK38	GLF3/G	Gulfstream	III	Gulfstream	77.8	83.1	69,700	100	Dual	C	II	3	6/18/2014 13:01
1009	EJA737	GALX/L	Gulfstream	200	IAI Galaxy - 1126	58.1	62.3	35,450	100	Dual	C	II	2	6/19/2014 8:01
1010	EJA737	GALX/L	Gulfstream	200	IAI Galaxy - 1126	58.1	62.3	35,450	100	Dual	C	II	2	6/19/2014 12:30
1011	JTL270	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	6/21/2014 7:22
1012	JTL270	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	6/21/2014 10:29
1013	EJA323	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	6/21/2014 15:08
1014	EJA323	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	6/21/2014 19:04
1015	BLK39	C550/L	Cessna	550	Citation II	51.7	47.7	15,100	75	Single	B	II	1	6/24/2014 8:53
1016	N95LM	BE20/L	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	6/24/2014 9:19
1017	N95LM	BE20/L	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	6/24/2014 11:53
1018	BLK39	C550/L	Cessna	550	Citation II	51.7	47.7	15,100	75	Single	B	II	1	6/25/2014 8:19
1019	N888RL	C550/L	Cessna	550	Citation II	51.7	47.7	15,100	75	Single	B	II	1	6/25/2014 22:00
1020	OPT444	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	6/26/2014 11:50
1021	OPT444	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	6/26/2014 16:25
1022	HRC395	H25B/L	British Aerospace	800	Hawker Beechcraft	54.3	51.2	28,000	100	Dual	C	II	2	6/27/2014 14:32
1023	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	6/29/2014 12:51
1024	N722KR	BE9L/G	Beechcraft	90	King Air	45.9	39.8	10,950	0	Dual	B	II	1	6/29/2014 14:14
1025	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	6/29/2014 16:55
1026	N819RB		Beechcraft	B36TC	Bonanza	33.5	27.5	3,600	0	Single	A	I	1	6/30/2014 6:53

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time
1027	HRC395	H25B/L	British Aerospace	800	Hawker Beechcraft	54.3	51.2	28,000	100	Dual	C	II	2	6/30/2014 17:04
1028	N32KE	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	7/1/2014 7:55
1029	N722KR	BE9L/L	Beechcraft	90	King Air	45.9	39.8	10,950	0	Dual	B	II	1	7/1/2014 9:12
1030	N32KE	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	7/1/2014 16:21
1031	EJM585	GLF5/L	Gulfstream	V / 500	Gulfstream	93.5	96.4	90,500	100	Dual	C	III	3	7/2/2014 17:37
1032	EJM585	GLF5/L	Gulfstream	V / 500	Gulfstream	93.5	96.4	90,500	100	Dual	C	III	3	7/2/2014 20:08
1033	GTH43	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/3/2014 10:22
1034	DCM4471	F2TH/L	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	7/3/2014 13:56
1035	DCM1491	F2TH/L	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	7/3/2014 17:13
1036	N454RM	EPIC/G	Epic Aircraft	LT	Canada PT-6	43.0	35.9	7,300	0	Single	B	I	1	7/4/2014 8:28
1037	GTH43	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/4/2014 14:08
1038	EJM585	GLF5/L	Gulfstream	V / 500	Gulfstream	93.5	96.4	90,500	100	Dual	C	III	3	7/6/2014 8:57
1039	EJM585	GLF5/L	Gulfstream	V / 500	Gulfstream	93.5	96.4	90,500	100	Dual	C	III	3	7/6/2014 11:28
1040	N375CP	B350/L	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	7/6/2014 12:16
1041	OPT730	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	7/7/2014 7:31
1042	BLK16	H25B/L	British Aerospace	800	Hawker Beechcraft	54.3	51.2	28,000	100	Dual	C	II	2	7/7/2014 8:16
1043	BLK16	H25B/L	British Aerospace	800	Hawker Beechcraft	54.3	51.2	28,000	100	Dual	C	II	2	7/7/2014 10:21
1044	OPT730	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	7/7/2014 10:41
1045	N83ZA	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/7/2014 14:10
1046	N83ZA	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/7/2014 19:22
1047	BLK40	LJ31/L	LearJet	31	Learjet 31	43.8	48.7	15,500	75	Dual	B	I	1	7/8/2014 7:15
1048	BLK40	LJ31/L	LearJet	31	Learjet 31	43.8	48.7	15,500	75	Dual	B	I	1	7/8/2014 10:00
1049	N386CM	LJ35/L	Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	7/8/2014 12:50
1050	N386CM	LJ35/L	Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	7/8/2014 16:41
1051	EJA292	F2TH/L	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	7/9/2014 11:40
1052	BLK40	LJ31/L	LearJet	31	Learjet 31	43.8	48.7	15,500	75	Dual	B	I	1	7/9/2014 14:57
1053	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	7/9/2014 15:20
1054	EJA292	F2TH/L	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	7/9/2014 16:14
1055	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	7/9/2014 16:45
1056	BLK40	LJ31/L	LearJet	31	Learjet 31	43.8	48.7	15,500	75	Dual	B	I	1	7/9/2014 16:57
1057	EJA334	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	7/11/2014 11:45
1058	LXJ530	CL30/L	Bombardier	300	Challenger	63.8	68.7	38,850	75	Dual	C	II	2	7/11/2014 12:55
1059	EJA251	F2TH/L	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	7/11/2014 12:55
1060	EJA251	F2TH/L	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	7/11/2014 15:01
1061	LXJ530	CL30/L	Bombardier	300	Challenger	63.8	68.7	38,850	75	Dual	C	II	2	7/11/2014 15:52
1062	EJA334	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	7/11/2014 16:08
1063	DCM6603	F2TH/L	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	7/11/2014 18:22
1064	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	7/12/2014 5:53
1065	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	7/12/2014 7:09
1066	N375CP	B350/L	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	7/12/2014 11:52
1067	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	7/12/2014 16:03
1068	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	7/12/2014 17:48
1069	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	7/13/2014 14:37
1070	GTH1	H25B/L	British Aerospace	800	Hawker Beechcraft	54.3	51.2	28,000	100	Dual	C	II	2	7/13/2014 15:11
1071	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	7/13/2014 16:20
1072	BLK41	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/14/2014 12:18
1073	BLK42	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/14/2014 12:20
1074	BLK43	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/14/2014 12:25
1075	BLK44	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/14/2014 12:58
1076	GTH1	H25B/L	British Aerospace	800	Hawker Beechcraft	54.3	51.2	28,000	100	Dual	C	II	2	7/14/2014 15:23
1077	BLK43	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/14/2014 16:09
1078	BLK44	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/14/2014 16:31
1079	BLK41	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/14/2014 16:56
1080	BLK42	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/14/2014 16:58

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time
1081	BLK44	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/15/2014 8:06
1082	BLK42	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/15/2014 8:07
1083	BLK41	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/15/2014 8:11
1084	BLK43	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/15/2014 8:12
1085	BLK45	BE20/G	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	7/16/2014 8:02
1086	N991BB	C510/L	Cessna	510	Citation Mustang	43.2	40.6	8,645	0	Single	B	I	1	7/16/2014 17:43
1087	EJA320	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	7/17/2014 7:20
1088	BLK44	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/17/2014 8:15
1089	BLK41	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/17/2014 8:19
1090	TMC484	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/17/2014 8:20
1091	BLK45	BE20/G	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	7/17/2014 8:23
1092	BLK42	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/17/2014 8:24
1093	BLK43	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/17/2014 8:27
1094	BLK41	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/17/2014 9:54
1095	BLK43	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/17/2014 10:16
1096	EJA320	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	7/17/2014 10:35
1097	TMC4844	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/17/2014 13:05
1098	TMC484	BE40	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/17/2014 13:07
1099	BLK41	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/17/2014 14:19
1100	BLK43	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/17/2014 14:26
1101	N386CM	LJ35/L	Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	7/18/2014 13:24
1102	DCM877C	F2TH/L	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	7/18/2014 16:24
1103	N386CM	LJ35/L	Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	7/18/2014 16:30
1104	N923BW	BE10/G	Beechcraft	100	King Air	45.9	40.0	11,795	0	Dual	B	II	2	7/19/2014 7:03
1105	N421AA	C421/G	Cessna	421	Golden Eagle	41.1	36.9	7,450	0	Single	B	I	1	7/19/2014 10:33
1106	N923BW	BE10/G	Beechcraft	100	King Air	45.9	40.0	11,795	0	Dual	B	II	2	7/19/2014 13:48
1107	EJA921	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	7/19/2014 14:04
1108	N330SR	SR22/G	Cirrus Aircraft	SR22	Cirrus	38.3	26.0	3,600	0	Single	A	I	1	7/20/2014 11:40
1109	TMC452	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/20/2014 12:55
1110	EJA921	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	7/20/2014 18:47
1111	N991BB	C510/L	Cessna	510	Citation Mustang	43.2	40.6	8,645	0	Single	B	I	1	7/21/2014 12:04
1112	DCM417C	F2TH/L	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	7/21/2014 15:01
1113	EJA900	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	7/21/2014 16:44
1114	EJA900	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	7/21/2014 19:01
1115	TMC452	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/22/2014 12:27
1116	N330SR	SR22/G	Cirrus Aircraft	SR22	Cirrus	38.3	26.0	3,600	0	Single	A	I	1	7/23/2014 9:20
1117	N991BB	C510/L	Cessna	510	Citation Mustang	43.2	40.6	8,645	0	Single	B	I	1	7/23/2014 15:47
1118	N421AA	C421/G	Cessna	421	Golden Eagle	41.1	36.9	7,450	0	Single	B	I	1	7/24/2014 7:29
1119	N732HD	C210	Cessna	210	Centurion	36.8	28.2	4,000	0	Single	A	I	1	7/24/2014 8:28
1120	N427DW		Beechcraft	58TC	Baron	37.8	28.0	5,100	0	Single	A	I	1	7/24/2014 8:54
1121	BLK46	PC12/G	Pilatus Aircraft	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	7/28/2014 21:01
1122	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	7/30/2014 16:22
1123	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	7/30/2014 18:08
1124	EJA702	GALX/L	Gulfstream	200	IAI Galaxy - 1126	58.1	62.3	35,450	100	Dual	C	II	2	7/31/2014 10:57
1125	EJA888	H25B/L	British Aerospace	800	Hawker Beechcraft	54.3	51.2	28,000	100	Dual	C	II	2	7/31/2014 16:40
1126	N416P	BE9T/G	Beechcraft	90	King Air	45.9	39.8	10,950	0	Dual	B	II	1	8/1/2014 1:45
1127	EJA888	H25B/L	British Aerospace	800	Hawker Beechcraft	54.3	51.2	28,000	100	Dual	C	II	2	8/1/2014 7:47
1128	N465TP	P46T/L	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	8/1/2014 12:09
1129	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	8/1/2014 13:42
1130	BLK47	C650/L	Cessna	650	Citation III	53.5	55.5	22,000	100	Dual	C	II	2	8/2/2014 11:44
1131	BLK47	C650/L	Cessna	650	Citation III	53.5	55.5	22,000	100	Dual	C	II	2	8/2/2014 14:54
1132	N1087S	BE36/T	Beechcraft	36	Bonanza	33.5	27.5	3,650	0	Single	A	I	1	8/2/2014 15:29
1133	BLK46	PC12/G	Pilatus Aircraft	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	8/2/2014 22:32
1134	BLK46	PC12/G	Pilatus Aircraft	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	8/3/2014 0:35

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time
1135	N180XV	C180	Cessna	180	Skywagon	35.8	25.8	2,800	0	Single	A	I	1	8/3/2014 8:01
1136	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	8/3/2014 10:11
1137	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	8/3/2014 11:40
1138	EJA702	GALX/L	Gulfstream	200	IAI Galaxy - 1126	58.1	62.3	35,450	100	Dual	C	II	2	8/4/2014 13:47
1139	EJA812	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/5/2014 6:05
1140	EJA812	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/5/2014 7:23
1141	N991BB	C510/L	Cessna	510	Citation Mustang	43.2	40.6	8,645	0	Single	B	I	1	8/5/2014 11:28
1142	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	8/5/2014 12:07
1143	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	8/5/2014 13:13
1144	EJA375	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	8/7/2014 6:07
1145	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	8/7/2014 13:34
1146	N991BB	C510/L	Cessna	510	Citation Mustang	43.2	40.6	8,645	0	Single	B	I	1	8/7/2014 14:29
1147	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	8/7/2014 14:36
1148	EJA670	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/7/2014 16:38
1149	EJA670	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/7/2014 19:03
1150	N20LU	TB20/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	8/8/2014 7:14
1151	N888RL	C550/L	Cessna	550	Citation II	51.7	47.7	15,100	75	Single	B	II	1	8/8/2014 12:47
1152	BLK48	F2TH/L	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	8/8/2014 15:01
1153	DCM9778	F2TH/L	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	8/9/2014 8:23
1154	EJA311	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	8/9/2014 14:21
1155	BLK49	H25B/L	British Aerospace	800	Hawker Beechcraft	54.3	51.2	28,000	100	Dual	C	II	2	8/9/2014 14:38
1156	EJA311	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	8/9/2014 16:44
1157	N888RL	C550/L	Cessna	550	Citation II	51.7	47.7	15,100	75	Single	B	II	1	8/10/2014 10:02
1158	BLK49	H25B/L	British Aerospace	800	Hawker Beechcraft	54.3	51.2	28,000	100	Dual	C	II	2	8/10/2014 10:22
1159	EJA230	F2TH/L	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	8/11/2014 15:48
1160	EJA230	F2TH/L	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	8/12/2014 9:05
1161	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	8/12/2014 12:52
1162	BLK50	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/12/2014 12:54
1163	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	8/12/2014 14:24
1164	N30397	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	8/13/2014 9:09
1165	N103BM	PA44/A	Piper	PA-44	Seminole	38.7	27.6	3,800	0	Single	A	I	1	8/14/2014 10:05
1166	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	8/14/2014 12:20
1167	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	8/14/2014 13:25
1168	N30397	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	8/15/2014 13:04
1169	N3911G	C340/G	Cessna	340	340	38.1	34.4	5,990	0	Single	B	I	1	8/16/2014 8:19
1170	BLK50	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/16/2014 8:24
1171	BLK51	C550/L	Cessna	550	Citation II	51.7	47.7	15,100	75	Single	B	II	1	8/16/2014 10:46
1172	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	8/16/2014 15:53
1173	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	8/16/2014 17:38
1174	N129JW	PC12/G	Pilatus Aircraft	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	8/16/2014 19:44
1175	N129JW	PC12/G	Pilatus Aircraft	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	8/16/2014 21:27
1176	N892AM	SR22	Cirrus Aircraft	SR22	Cirrus	38.3	26.0	3,600	0	Single	A	I	1	8/17/2014 7:40
1177	N103BM	PA44	Piper	PA-44	Seminole	38.7	27.6	3,800	0	Single	A	I	1	8/17/2014 8:03
1178	N20LU	TRIN/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	8/17/2014 8:54
1179	DCM8934	F2TH/L	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	8/17/2014 11:55
1180	EJA350	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	8/18/2014 9:06
1181	EJA350	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	8/18/2014 12:47
1182	N3911G	C340/G	Cessna	340	340	38.1	34.4	5,990	0	Single	B	I	1	8/18/2014 14:12
1183	N178SF	C510/L	Cessna	510	Citation Mustang	43.2	40.6	8,645	0	Single	B	I	1	8/18/2014 14:53
1184	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	8/19/2014 6:35
1185	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	8/19/2014 7:37
1186	N991BB	C510/L	Cessna	510	Citation Mustang	43.2	40.6	8,645	0	Single	B	I	1	8/19/2014 11:04
1187	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	8/19/2014 12:13
1188	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	8/19/2014 13:23

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time
1189	XSR707	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/20/2014 18:40
1190	N5880K	C206/G	Cessna	206	Stationair	35.8	28.2	3,638	0	Single	A	I	1	8/21/2014 8:17
1191	N991BB	C510/L	Cessna	510	Citation Mustang	43.2	40.6	8,645	0	Single	B	I	1	8/21/2014 15:15
1192	N5880K	C206/G	Cessna	206	Stationair	35.8	28.2	3,638	0	Single	A	I	1	8/22/2014 8:37
1193	N178SF	C510/L	Cessna	510	Citation Mustang	43.2	40.6	8,645	0	Single	B	I	1	8/22/2014 9:06
1194	N178SF	C510/L	Cessna	510	Citation Mustang	43.2	40.6	8,645	0	Single	B	I	1	8/22/2014 14:10
1195	XSR707	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/23/2014 10:04
1196	N991BB	C510/L	Cessna	510	Citation Mustang	43.2	40.6	8,645	0	Single	B	I	1	8/23/2014 11:45
1197	OPT410	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	8/24/2014 8:32
1198	OPT410	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	8/24/2014 11:26
1199	EJA706	GALX/L	Gulfstream	200	IAI Galaxy - 1126	58.1	62.3	35,450	100	Dual	C	II	2	8/24/2014 12:56
1200	EJA706	GALX/L	Gulfstream	200	IAI Galaxy - 1126	58.1	62.3	35,450	100	Dual	C	II	2	8/24/2014 15:19
1201	TMC405	H25B/L	British Aerospace	800	Hawker Beechcraft	54.3	51.2	28,000	100	Dual	C	II	2	8/24/2014 15:41
1202	N991BB	C510/L	Cessna	510	Citation Mustang	43.2	40.6	8,645	0	Single	B	I	1	8/24/2014 15:56
1203	TMC405	H25B/L	British Aerospace	800	Hawker Beechcraft	54.3	51.2	28,000	100	Dual	C	II	2	8/25/2014 7:48
1204	BLK52	PC12/G	Pilatus Aircraft	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	8/25/2014 13:37
1205	BLK52	PC12/G	Pilatus Aircraft	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	8/25/2014 17:31
1206	N95LM	BE20/L	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	8/27/2014 8:22
1207	N95LM	BE20/L	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	8/27/2014 10:56
1208	N1087S	BE36/G	Beechcraft	36	Bonanza	33.5	27.5	3,650	0	Single	A	I	1	8/28/2014 5:28
1209	N578CD	SR22/G	Cirrus Aircraft	SR22	Cirrus	38.3	26.0	3,600	0	Single	A	I	1	8/29/2014 11:56
1210	DCM7512	F2TH/L	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	8/31/2014 12:17
1211	OPT318	E55P/L	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	9/1/2014 10:53
1212	N991BB	C510/L	Cessna	510	Citation Mustang	43.2	40.6	8,645	0	Single	B	I	1	9/1/2014 12:13
1213	OPT318	E55P/L	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	9/1/2014 14:52
1214	EJA916	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	9/3/2014 12:20
1215	EJA953	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	9/3/2014 13:28
1216	N991BB	C510/L	Cessna	510	Citation Mustang	43.2	40.6	8,645	0	Single	B	I	1	9/3/2014 14:08
1217	EJA916	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	9/3/2014 17:43
1218	BLK38	GLF3/L	Gulfstream	III	Gulfstream	77.8	83.1	69,700	100	Dual	C	II	3	9/3/2014 17:59
1219	EJA611	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/4/2014 8:40
1220	EJA953	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	9/4/2014 11:44
1221	EJA916	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	9/4/2014 17:55
1222	EJA916	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	9/4/2014 20:11
1223	EJA382	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/7/2014 7:59
1224	N578WY	A500/G	Rockwell Intl	A-500	Aero Commander	49.0	36.8	6,750	0	Single	A	II	1	9/7/2014 8:21
1225	BLK53	BE30/L	Beechcraft	300	Super King Air	54.5	43.8	14,000	75	Dual	B	II	2	9/7/2014 8:38
1226	BLK53	BE30/L	Beechcraft	300	Super King Air	54.5	43.8	14,000	75	Dual	B	II	2	9/7/2014 11:44
1227	EJA382	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/7/2014 12:03
1228	N460QS	GLF4/L	Gulfstream	IV / 450	Gulfstream	77.8	89.3	74,600	100	Dual	C	II	3	9/8/2014 6:44
1229	N460QS	GLF4/L	Gulfstream	IV / 450	Gulfstream	77.8	89.3	74,600	100	Dual	C	II	3	9/8/2014 10:13
1230	BLK38	GLF3/L	Gulfstream	III	Gulfstream	77.8	83.1	69,700	100	Dual	C	II	3	9/8/2014 16:58
1231	N991BB	C510/L	Cessna	510	Citation Mustang	43.2	40.6	8,645	0	Single	B	I	1	9/8/2014 20:08
1232	N921EW	FA50/G	Dassault Aviation	50	Falcon	61.9	60.9	38,800	75	Dual	C	II	2	9/9/2014 9:39
1233	N865EC	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/10/2014 8:23
1234	BLK53	BE30/L	Beechcraft	300	Super King Air	54.5	43.8	14,000	75	Dual	B	II	2	9/10/2014 8:45
1235	BLK53	BE30/L	Beechcraft	300	Super King Air	54.5	43.8	14,000	75	Dual	B	II	2	9/10/2014 9:25
1236	N921EW	FA50/L	Dassault Aviation	50	Falcon	61.9	60.9	38,800	75	Dual	C	II	2	9/10/2014 17:38
1237	EJA611	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/10/2014 19:35
1238	N347BC	C525/G	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	9/11/2014 10:19
1239	N578WY	A500/G	Rockwell Intl	A-500	Aero Commander	49.0	36.8	6,750	0	Single	A	II	1	9/11/2014 11:50
1240	N991BB	C510/L	Cessna	510	Citation Mustang	43.2	40.6	8,645	0	Single	B	I	1	9/11/2014 15:06
1241	DCM8284	F2TH/L	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	9/12/2014 16:08
1242	N865EC	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/13/2014 9:32

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time
1243	FWK772	F2TH/L	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	9/13/2014 11:47
1244	N1944E	C340/G	Cessna	340	340	38.1	34.4	5,990	0	Single	B	I	1	9/13/2014 12:13
1245	FWK772	F2TH/L	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	9/13/2014 14:06
1246	N850TJ	TBM8/L	Daher-Socata	TB	TB-8	32.0	25.0	2,530	0	Single	A	I	1	9/13/2014 14:17
1247	N1944E	C340/G	Cessna	340	340	38.1	34.4	5,990	0	Single	B	I	1	9/13/2014 14:50
1248	N347BC	C525/G	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	9/14/2014 9:04
1249	EJA109	GL5T/L	Bombardier	5000	Global	94.0	96.8	92,750	100	Dual	C	III	3	9/14/2014 13:16
1250	DCM9860	F2TH/L	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	9/14/2014 15:22
1251	EJA109	GL5T/L	Bombardier	5000	Global	94.0	96.8	92,750	100	Dual	C	III	3	9/14/2014 16:31
1252	EJA686	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/15/2014 6:15
1253	EJA686	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/15/2014 9:53
1254	N850TJ	TBM8/L	Daher-Socata	TB	TB-8	32.0	25.0	2,530	0	Single	A	I	1	9/16/2014 10:41
1255	N1944E	C340/G	Cessna	340	340	38.1	34.4	5,990	0	Single	B	I	1	9/16/2014 12:00
1256	N1944E	C340/G	Cessna	340	340	38.1	34.4	5,990	0	Single	B	I	1	9/16/2014 14:13
1257	N991BB	C510/L	Cessna	510	Citation Mustang	43.2	40.6	8,645	0	Single	B	I	1	9/17/2014 8:25
1258	EJA320	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/18/2014 7:39
1259	BLK54	CL60/L	Bombardier	600	Challenger	64.3	68.4	48,200	100	Dual	C	II	3	9/18/2014 8:57
1260	EJA604	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/18/2014 9:30
1261	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	9/18/2014 11:07
1262	EJA604	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/18/2014 11:17
1263	EJA320	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/18/2014 11:17
1264	BLK54	CL60/L	Bombardier	600	Challenger	64.3	68.4	48,200	100	Dual	C	II	3	9/18/2014 11:24
1265	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	9/18/2014 12:22
1266	BLK55	F900/L	Dassault Aviation	900	Falcon	63.5	66.3	45,503	100	Dual	C	II	2	9/19/2014 6:37
1267	EJA960	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	9/19/2014 9:47
1268	BLK55	F900/L	Dassault Aviation	900	Falcon	63.5	66.3	45,503	100	Dual	C	II	2	9/19/2014 10:01
1269	N217GM	SR22	Cirrus Aircraft	SR22	Cirrus	38.3	26.0	3,600	0	Single	A	I	1	9/19/2014 11:21
1270	EJA960	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	9/19/2014 14:57
1271	N416RX	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	9/20/2014 7:01
1272	N416RX	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	9/20/2014 8:49
1273	N5LN	SW4/G	Fairchild	C-26	Metroliner	46.3	42.2	14,000	75	Dual	C	I	2	9/20/2014 10:45
1274	BLK54	CL60/L	Bombardier	600	Challenger	64.3	68.4	48,200	100	Dual	C	II	3	9/21/2014 9:55
1275	BLK54	CL60/L	Bombardier	600	Challenger	64.3	68.4	48,200	100	Dual	C	II	3	9/21/2014 12:11
1276	EJA975	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	9/21/2014 13:26
1277	EJA940	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	9/21/2014 13:58
1278	EJA940	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	9/21/2014 18:19
1279	BLK56	FA50/L	Dassault Aviation	50	Falcon	61.9	60.9	38,800	75	Dual	C	II	2	9/21/2014 18:39
1280	EJA975	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	9/22/2014 11:51
1281	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	9/22/2014 13:42
1282	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	9/22/2014 15:18
1283	N991BB	C510/L	Cessna	510	Citation Mustang	43.2	40.6	8,645	0	Single	B	I	1	9/23/2014 12:51
1284	N991BB	C510/L	Cessna	510	Citation Mustang	43.2	40.6	8,645	0	Single	B	I	1	9/24/2014 10:27
1285	N5LN	SW4/G	Fairchild	C-26	Metroliner	46.3	42.2	14,000	75	Dual	C	I	2	9/24/2014 10:47
1286	OPT422	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	9/26/2014 9:08
1287	OPT422	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	9/26/2014 11:13
1288	N991BB	C510/L	Cessna	510	Citation Mustang	43.2	40.6	8,645	0	Single	B	I	1	9/26/2014 14:59
1289	N386CM	LJ35/L	Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	9/28/2014 12:00
1290	EJA558	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/28/2014 12:34
1291	N386CM	LJ35/L	Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	9/28/2014 15:14
1292	N350JB	BE30/G	Beechcraft	300	Super King Air	54.5	43.8	14,000	75	Dual	B	II	2	9/28/2014 15:50
1293	N350JB	BE30/G	Beechcraft	300	Super King Air	54.5	43.8	14,000	75	Dual	B	II	2	9/28/2014 18:01
1294	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	9/29/2014 12:53
1295	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	9/29/2014 14:01
1296	EJA996	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	9/30/2014 8:29

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time
1297	EJA996	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	9/30/2014 10:30
1298	EJA388	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/30/2014 13:24
1299	EJA727	GALX/L	Gulfstream	200	IAI Galaxy - 1126	58.1	62.3	35,450	100	Dual	C	II	2	9/30/2014 14:04
1300	EJA727	GALX/L	Gulfstream	200	IAI Galaxy - 1126	58.1	62.3	35,450	100	Dual	C	II	2	9/30/2014 17:16
1301	EJA388	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/30/2014 17:24
1302	OPT329	E55P/L	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	10/1/2014 5:59
1303	N202TT	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	10/1/2014 7:18
1304	OPT329	E55P/L	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	10/1/2014 9:29
1305	N202TT	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	10/1/2014 9:35
1306	EJA576	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	10/1/2014 12:07
1307	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	10/1/2014 14:32
1308	EJA576	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	10/1/2014 15:45
1309	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	10/1/2014 15:51
1310	N386CM	LJ35/L	Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	10/2/2014 8:55
1311	N82HC		Beechcraft	V35B	Bonanza	33.5	27.5	3,600	0	Single	A	I	1	10/2/2014 9:28
1312	N20LU	TB20/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	10/2/2014 10:34
1313	N386CM	LJ35/L	Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	10/2/2014 12:39
1314	N20LU	TB20/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	10/2/2014 15:08
1315	EJA952	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	10/3/2014 13:18
1316	N20LU	TB20/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	10/4/2014 9:09
1317	EJA659	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	10/4/2014 13:20
1318	N20LU	TB20/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	10/5/2014 11:02
1319	EJA659	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	10/5/2014 12:15
1320	N510BT	C510/L	Cessna	510	Citation Mustang	43.2	40.6	8,645	0	Single	B	I	1	10/7/2014 9:48
1321	N991BB	C510/L	Cessna	510	Citation Mustang	43.2	40.6	8,645	0	Single	B	I	1	10/7/2014 11:26
1322	N510BT	C510/L	Cessna	510	Citation Mustang	43.2	40.6	8,645	0	Single	B	I	1	10/7/2014 13:38
1323	EJA952	C750/L	Cessna	751	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	10/8/2014 15:58
1324	EJA745	GALX/L	Gulfstream	200	IAI Galaxy - 1126	58.1	62.3	35,450	100	Dual	C	II	2	10/9/2014 8:43
1325	EJA258	F2TH/L	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	10/9/2014 10:13
1326	N386CM	LJ35/L	Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	10/9/2014 13:25
1327	EJA258	F2TH/L	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	10/9/2014 13:27
1328	N386CM	LJ35/L	Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	10/11/2014 20:44
1329	EJA745	GALX/L	Gulfstream	200	IAI Galaxy - 1126	58.1	62.3	35,450	100	Dual	C	II	2	10/12/2014 10:42
1330	LAK331	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	10/13/2014 6:47
1331	LAK344	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	10/13/2014 10:07
1332	N818CR	GALX/L	Gulfstream	200	IAI Galaxy - 1126	58.1	62.3	35,450	100	Dual	C	II	2	10/13/2014 13:50
1333	N818CR	GALX/L	Gulfstream	200	IAI Galaxy - 1126	58.1	62.3	35,450	100	Dual	C	II	2	10/13/2014 16:10
1334	EJA357	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	10/18/2014 14:39
1335	EJA357	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	10/18/2014 17:15
1336	N20LU	TB20/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	10/19/2014 7:59
1337	N347BC	C525/G	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	10/20/2014 5:55
1338	BLK38	GLF3/L	Gulfstream	III	Gulfstream	77.8	83.1	69,700	100	Dual	C	II	3	10/20/2014 9:16
1339	N347BC	C525/G	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	10/20/2014 10:10
1340	N991BB	C510/L	Cessna	510	Citation Mustang	43.2	40.6	8,645	0	Single	B	I	1	10/21/2014 10:31
1341	BLK38	GLF3/L	Gulfstream	III	Gulfstream	77.8	83.1	69,700	100	Dual	C	II	3	10/21/2014 18:26
1342	N20LU	TB20/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	10/22/2014 10:20
1343	N20LU	TB20/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	10/22/2014 15:18
1344	N550WS	C550/L	Cessna	550	Citation II	51.7	47.7	15,100	75	Single	B	II	1	10/24/2014 8:16
1345	DCM1267	F2TH/L	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	10/24/2014 16:04
1346	N550WS	C550/G	Cessna	550	Citation II	51.7	47.7	15,100	75	Single	B	II	1	10/25/2014 13:53
1347	DCM246	F2TH/L	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	10/26/2014 12:24
1348	SIS245	C525/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	10/27/2014 14:26
1349	SIS245	C525/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	10/27/2014 15:42
1350	BLK38	GLF3/L	Gulfstream	III	Gulfstream	77.8	83.1	69,700	100	Dual	C	II	3	11/3/2014 16:08

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time
1351	N20LU	TB20/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	11/5/2014 10:02
1352	N20LU	TB20/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	11/5/2014 14:43
1353	EJA905	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	11/6/2014 11:05
1354	EJA905	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	11/6/2014 13:22
1355	BLK38	GLF3/L	Gulfstream	III	Gulfstream	77.8	83.1	69,700	100	Dual	C	II	3	11/7/2014 12:42
1356	EJA380	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	11/15/2014 13:23
1357	EJA380	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	11/15/2014 16:25
1358	EJA307	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	11/24/2014 9:03
1359	EJA307	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	11/24/2014 12:13
1360	N709MA	BE36/G	Beechcraft	36	Bonanza	33.5	27.5	3,650	0	Single	A	I	1	11/26/2014 21:31
1361	BLK38	GLF3/L	Gulfstream	III	Gulfstream	77.8	83.1	69,700	100	Dual	C	II	3	11/30/2014 12:56
1362	N709MA	BE36	Beechcraft	36	Bonanza	33.5	27.5	3,650	0	Single	A	I	1	11/30/2014 15:28
1363	BLK38	GLF3/L	Gulfstream	III	Gulfstream	77.8	83.1	69,700	100	Dual	C	II	3	12/2/2014 15:45
1364	EJA832	H25B/L	British Aerospace	800	Hawker Beechcraft	54.3	51.2	28,000	100	Dual	C	II	2	12/4/2014 15:01
1365	EJA832	H25B/L	British Aerospace	800	Hawker Beechcraft	54.3	51.2	28,000	100	Dual	C	II	2	12/5/2014 8:49
1366	N650BD		Cessna	414	Chancellor	44.1	36.4	6,750	0	Single	B	I	1	12/7/2014 9:10
1367	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	12/9/2014 13:08
1368	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	12/9/2014 14:08
1369	N82HC	BE33	Beechcraft	33	Bonanza	33.4	26.3	3,400	0	Single	A	I	1	12/10/2014 8:38
1370	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	12/14/2014 14:30
1371	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	12/14/2014 15:40
1372	N32KE	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	12/18/2014 7:07
1373	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	12/23/2014 11:57
1374	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	12/23/2014 16:43
1375	N530CH	BE9L/G	Beechcraft	90	King Air	45.9	39.8	10,950	0	Dual	B	II	1	12/29/2014 13:59
1376	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	1/1/2015 9:41
1377	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	1/1/2015 12:09
1378	N530CH	BE9L/G	Beechcraft	90	King Air	45.9	39.8	10,950	0	Dual	B	II	1	1/4/2015 14:46
1379	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	1/7/2015 12:03
1380	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	1/7/2015 13:07
1381	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	1/10/2015 10:56
1382	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	1/10/2015 12:16
1383	N32KE	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	1/14/2015 10:09
1384	EJA375	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	1/20/2015 7:53
1385	N578WY	A500/G	Rockwell Intl	A-500	Aero Commander	49.0	36.8	6,750	0	Single	A	II	1	1/20/2015 10:42
1386	EJA375	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	1/20/2015 11:02
1387	EJA375	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	1/20/2015 12:36
1388	EJA375	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	1/20/2015 14:00
1389	N956EA	C340	Cessna	340	340	38.1	34.4	5,990	0	Single	B	I	1	1/21/2015 12:18
1390	N578WY	A500/G	Rockwell Intl	A-500	Aero Commander	49.0	36.8	6,750	0	Single	A	II	1	1/22/2015 10:45
1391	N32KE	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	1/22/2015 21:20
1392	N32KE	PA46	Piper		Malibu Mirage	43.0	28.4	4,100	0	Single	A	I	1	1/23/2015 0:34
1393	EJA397	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	1/25/2015 13:13
1394	EJA397	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	1/25/2015 15:21
1395	N416RX	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	1/26/2015 12:31
1396	N416RX	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	1/26/2015 14:30
1397	BLK57	C25C/L	Cessna	CJ4	Citation	50.8	53.3	16,950	75	Single	C	II	1	1/30/2015 7:05
1398	BLK57	C25C/L	Cessna	CJ4	Citation	50.8	53.3	16,950	75	Single	C	II	1	1/30/2015 10:37
1399	BLK57	C25C	Cessna	CJ4	Citation	50.8	53.3	16,950	75	Single	C	II	1	2/2/2015 10:45
1400	BLK57	C25C/L	Cessna	CJ4	Citation	50.8	53.3	16,950	75	Single	C	II	1	2/13/2015 12:02
1401	N709MA	BE36/G	Beechcraft	36	Bonanza	33.5	27.5	3,650	0	Single	A	I	1	2/19/2015 11:04
1402	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	2/21/2015 7:25
1403	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	2/21/2015 9:35
1404	N923BW	BE10/G	Beechcraft	100	King Air	45.9	40.0	11,795	0	Dual	B	II	2	2/23/2015 15:57

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time
1405	N578WY	AC50/G	Rockwell Intl	100	Aero Commander	49.0	36.8	6,750	0	Single	A	II	1	2/24/2015 11:45
1406	N709MA	BE36/G	Beechcraft	36	Bonanza	33.5	27.5	3,650	0	Single	A	I	1	2/24/2015 14:20
1407	N1944E	C340/G	Cessna	340	340	38.1	34.4	5,990	0	Single	B	I	1	2/26/2015 15:21
1408	N1944E	C340/G	Cessna	340	340	38.1	34.4	5,990	0	Single	B	I	1	2/26/2015 17:54
1409	EJA767	CL30/L	Bombardier	300	Challenger	63.8	68.7	38,850	75	Dual	C	II	2	3/9/2015 8:01
1410	EJA767	CL30/L	Bombardier	300	Challenger	63.8	68.7	38,850	75	Dual	C	II	2	3/9/2015 13:03
1411	ORK901	BE10/G	Beechcraft	100	King Air	45.9	40.0	11,795	0	Dual	B	II	2	3/13/2015 9:54
1412	BLK57	C25C/L	Cessna	CJ4	Citation	50.8	53.3	16,950	75	Single	C	II	1	3/13/2015 9:56
1413	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	3/13/2015 16:37
1414	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	3/13/2015 17:36
1415	EJA975	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	3/15/2015 13:38
1416	ORK901	BE10/G	Beechcraft	100	King Air	45.9	40.0	11,795	0	Dual	B	II	2	3/15/2015 15:16
1417	EJA975	C750/G	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	3/15/2015 16:14
1418	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	3/16/2015 11:02
1419	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	3/16/2015 12:11
1420	N1087S	BE36	Beechcraft	36	Bonanza	33.5	27.5	3,650	0	Single	A	I	1	3/18/2015 14:48
1421	N578WY	AC50/G	Rockwell Intl	36	Aero Commander	49.0	36.8	6,750	0	Single	A	II	1	3/23/2015 15:39
1422	N457HR	DA40/G	Diamond Aircraft	DA40	Diamond Star	39.2	26.4	2,645	0	Single	A	I	1	3/25/2015 13:56
1423	EJA755	GALX/L	Gulfstream	200	IAI Galaxy - 1126	58.1	62.3	35,450	100	Dual	C	II	2	4/1/2015 11:57
1424	EJM23	GLF4/L	Gulfstream	IV / 450	Gulfstream	77.8	89.3	74,600	100	Dual	C	II	3	4/1/2015 13:55
1425	N421V	C421/G	Cessna	421	Golden Eagle	41.1	36.9	7,450	0	Single	B	I	1	4/1/2015 17:58
1426	N421V	C421/G	Cessna	421	Golden Eagle	41.1	36.9	7,450	0	Single	B	I	1	4/1/2015 19:54
1427	EJA755	GALX/L	Gulfstream	200	IAI Galaxy - 1126	58.1	62.3	35,450	100	Dual	C	II	2	4/2/2015 8:01
1428	EJA755	GALX/L	Gulfstream	200	IAI Galaxy - 1126	58.1	62.3	35,450	100	Dual	C	II	2	4/2/2015 9:42
1429	EJM23	GLF4/L	Gulfstream	IV / 450	Gulfstream	77.8	89.3	74,600	100	Dual	C	II	3	4/4/2015 9:31
1430	BLK58	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	4/6/2015 9:38
1431	BLK58	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	4/6/2015 12:35
1432	EJA940	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	4/16/2015 14:27
1433	N963WC	P28A	Piper	PA-28	Cherokee	30.0	23.3	2,150	0	Single	A	I	1	4/19/2015 9:21
1434	EJA940	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	4/19/2015 17:59
1435	EJA381	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	4/20/2015 11:29
1436	N212C	DA40/G	Diamond Aircraft	DA40	Diamond Star	39.2	26.4	2,645	0	Single	A	I	1	4/20/2015 13:59
1437	EJA381	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	4/20/2015 14:57
1438	DCM6032	F2TH/L	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	4/23/2015 17:10
1439	DCM5577	F2TH/L	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	4/24/2015 8:57
1440	N20LU	TRIN	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	4/24/2015 9:12
1441	N20LU	TB21/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	4/25/2015 16:51
1442	DCM9505	F900/L	Dassault Aviation	900	Falcon	63.5	66.3	45,503	100	Dual	C	II	2	4/27/2015 7:45
1443	N416RX	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	4/27/2015 10:50
1444	N416RX	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	4/27/2015 12:41
1445	OPT467	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	5/1/2015 10:32
1446	EJA222	F2TH/L	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	5/1/2015 12:59
1447	N5000J	SR22/G	Cirrus Aircraft	SR22	Cirrus	38.3	26.0	3,600	0	Single	A	I	1	5/2/2015 11:30
1448	OPT467	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	5/2/2015 13:01
1449	EJA222	F2TH/L	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	5/2/2015 14:45
1450	N5000J	SR22/G	Cirrus Aircraft	SR22	Cirrus	38.3	26.0	3,600	0	Single	A	I	1	5/2/2015 14:56
1451	BLK59	E50P/L	Embraer	100	Phenom	40.3	42.1	10,472	0	Single	B	I	1	5/6/2015 8:09
1452	N416RX	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	5/9/2015 6:29
1453	N416RX	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	5/9/2015 7:56
1454	N64VM	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	5/11/2015 11:03
1455	N64VM	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	5/11/2015 17:01
1456	N347BC	C525/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	5/12/2015 9:59
1457	N567MC	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	5/12/2015 11:27
1458	N347BC	C525/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	5/12/2015 13:41

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time
1459	N386CM	LJ35/L	Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	5/13/2015 17:04
1460	N386CM	LJ35/L	Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	5/13/2015 19:53
1461	N6252X	AC50/G	Rockwell Intl	35	Aero Commander	49.0	36.8	6,750	0	Single	A	II	1	5/15/2015 8:08
1462	N6252X	AC50/G	Rockwell Intl	35	Aero Commander	49.0	36.8	6,750	0	Single	A	II	1	5/15/2015 14:38
1463	N567MC	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	5/16/2015 12:17
1464	DCM775H	F2TH/L	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	5/18/2015 8:46
1465	DCM801V	F2TH/L	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	5/18/2015 12:06
1466	N621ZC	DA42/G	Diamond Aircraft	DA42	Diamond Star	39.2	26.4	2,645	0	Single	A	I	1	5/19/2015 11:06
1467	N621ZC	DA42/G	Diamond Aircraft	DA42	Diamond Star	39.2	26.4	2,645	0	Single	A	I	1	5/19/2015 13:41
1468	N386CM	LJ35/L	Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	5/20/2015 8:38
1469	N386CM	LJ35/L	Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	5/20/2015 11:37
1470	N592DR	C25A/L	Cessna	CJ2	Citation	49.8	47.7	12,500	0	Single	B	II	2	5/21/2015 9:34
1471	EJA955	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	5/21/2015 14:55
1472	EJA955	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	5/21/2015 18:34
1473	EJA935	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	5/22/2015 15:00
1474	EJA935	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	5/22/2015 17:17
1475	BLK38	GLF3/L	Gulfstream	III	Gulfstream	77.8	83.1	69,700	100	Dual	C	II	3	5/22/2015 17:54
1476	N308GT	C25B/L	Cessna	CJ3	Citation	53.3	51.2	13,870	75	Single	B	II	2	5/24/2015 11:00
1477	N375CP	B350/Z	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	5/24/2015 12:53
1478	N707MT	F2TH/L	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	5/24/2015 12:56
1479	EJA951	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	5/24/2015 13:03
1480	EJA951	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	5/25/2015 9:45
1481	BLK38	GLF3/L	Gulfstream	III	Gulfstream	77.8	83.1	69,700	100	Dual	C	II	3	5/25/2015 17:12
1482	N707MT	F2TH/L	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	5/26/2015 9:00
1483	N375CP	B350/Z	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	5/26/2015 15:03
1484	N347BC	C525/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	5/27/2015 6:38
1485	N347BC	C525/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	5/27/2015 10:09
1486	N515CT	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	5/28/2015 6:58
1487	N515CT	P46T	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	5/28/2015 15:31
1488	N32KE	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	5/28/2015 15:31
1489	N347BC	C525/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	5/29/2015 11:23
1490	N347BC	C525/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	5/29/2015 14:50
1491	OPT365	E55P/L	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	5/30/2015 9:11
1492	EJA362	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	5/30/2015 10:49
1493	OPT365	E55P/L	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	5/30/2015 10:59
1494	EJA763	CL30/L	Bombardier	300	Challenger	63.8	68.7	38,850	75	Dual	C	II	2	5/30/2015 11:08
1495	EJA763	CL30/L	Bombardier	300	Challenger	63.8	68.7	38,850	75	Dual	C	II	2	5/30/2015 16:08
1496	EJA362	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	5/31/2015 12:46
1497	N129JW	PC12/G	Pilatus Aircraft	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	6/1/2015 19:10
1498	N129JW	PC12/G	Pilatus Aircraft	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	6/1/2015 20:56
1499	EJA930	C750	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	6/2/2015 8:14
1500	EJA930	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	6/2/2015 10:32
1501	N64VM	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	6/3/2015 10:10
1502	N64VM	BE40/L	Beechcraft	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	6/3/2015 13:55
1503	N20LU	TB21/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	6/4/2015 11:15
1504	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	6/4/2015 12:32
1505	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	6/4/2015 13:41
1506	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	6/6/2015 11:25
1507	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	6/6/2015 13:14
1508	N20LU	TB21/G	Daher-Socata	TB	Trinidad	32.0	25.0	2,530	0	Single	A	I	1	6/7/2015 9:21
1509	OPT329	E55P/L	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	6/8/2015 10:48
1510	OPT329	E55P/L	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	6/8/2015 14:31
1511	WCC18	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	6/9/2015 11:27
1512	EJA381	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	6/10/2015 17:21

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time
1513	WCC18	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	6/11/2015 11:49
1514	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	6/12/2015 8:25
1515	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	6/12/2015 9:50
1516	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	6/12/2015 18:20
1517	N465TP	P46T/G	Piper		Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	6/12/2015 19:06
1518	N707MT	F2TH/L	Dassault Aviation	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	6/14/2015 14:54
1519	N82HC	BE36	Beechcraft	36	Bonanza	33.5	27.5	3,650	0	Single	A	I	1	6/15/2015 11:57
1520	N1087S		Beechcraft	B36TC	Bonanza	33.5	27.5	3,650	0	Single	A	I	1	6/16/2015 15:47
1521	N465TP	P46T/G	Piper	PA-46	Malibu	43.0	28.4	4,100	0	Single	A	I	1	6/17/2015 15:15
1522	N465TP	P46T/G	Piper	PA-46	Malibu	43.0	28.4	4,100	0	Single	A	I	1	6/17/2015 17:30
1523	N386CM	LJ35/L	Gates Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	6/19/2015 11:58
1524	N386CM	LJ35/L	Gates Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	6/19/2015 14:42
1525	N707MT	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	6/20/2015 9:37
1526	N4447R	R182	Cessna	182	Skylane	36.0	28.2	3,100	0	Single	A	I	1	6/21/2015 8:47
1527	N1087S	BE35	Beech	B36TC	Bonanza	33.5	27.5	3,650	0	Single	A	I	1	6/21/2015 10:43
1528	N1087S	B36TC	Beech	B36TC	Bonanza	33.5	27.5	3,650	0	Single	A	I	1	6/21/2015 10:43
1529	N1MM	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	6/21/2015 11:23
1530	OPT314	E55P/L	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	6/21/2015 13:15
1531	EJA740	GALX/L	Gulfstream	200	IAI - 1126	58.1	62.3	35,450	100	Dual	C	II	2	6/21/2015 14:13
1532	N1MM	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	6/21/2015 14:46
1533	OPT314	E55P/L	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	6/21/2015 16:31
1534	EJA740	GALX/L	Gulfstream	200	IAI - 1126	58.1	62.3	35,450	100	Dual	C	II	2	6/21/2015 17:26
1535	N386CM	LJ35/L	Gates Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	6/23/2015 8:41
1536	N386CM	LJ35/L	Gates Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	6/23/2015 11:36
1537	EJA213	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	6/23/2015 14:48
1538	EJA928P	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	6/23/2015 14:52
1539	EJA928P	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	6/23/2015 17:37
1540	EJA213	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	6/23/2015 18:49
1541	OPT307	E55P/L	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	6/25/2015 13:47
1542	N465TP	P46T/G	Beech	B36TC	Bonanza	33.5	27.5	3,650	0	Single	A	I	1	6/25/2015 16:48
1543	N465TP	P46T/G	Beech	B36TC	Bonanza	33.5	27.5	3,650	0	Single	A	I	1	6/25/2015 17:45
1544	OPT307	E55P/L	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	6/26/2015 8:26
1545	N392SM	C525/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	6/27/2015 11:25
1546	EJA827	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	6/28/2015 12:24
1547	N1087S	BE36	Beech	B36TC	Bonanza	33.5	27.5	3,650	0	Single	A	I	1	6/28/2015 15:19
1548	N814PE	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	6/29/2015 9:37
1549	N592DR	C525A	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	6/29/2015 10:20
1550	EJA827	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	6/29/2015 14:10
1551	N82HC	BE35	Beech	V35B	Bonanza	33.5	27.5	3,650	0	Single	A	I	1	6/30/2015 6:57
1552	N392SM	C525/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	7/1/2015 9:36
1553	EJA808	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/1/2015 11:23
1554	EJA808	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/1/2015 13:56
1555	EJA606	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/1/2015 14:10
1556	EJA606	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/2/2015 8:06
1557	N392SM	C525/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	7/2/2015 8:11
1558	N8195U	PA34/G	Piper	PA-34	Seneca	38.9	28.7	4,750	0	Single	A	I	1	7/2/2015 8:29
1559	DCM6982	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	7/2/2015 10:05
1560	N592DR	C25A/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	7/2/2015 14:46
1561	N592DR	C25A/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	7/2/2015 18:11
1562	N525M	C525/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	7/3/2015 20:42
1563	N392SM	C525/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	7/4/2015 13:59
1564	BLK2	PC12	Pilatus	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	7/5/2015 6:31
1565	N814PE	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/5/2015 9:27
1566	N63HA	C550/G	Cessna	550	Citation II	52.3	47.3	15,100	75	Single	B	II	1	7/5/2015 10:36

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time
1567	N8195U	PA34/G	Piper	PA-34	Seneca	38.9	28.7	4,750	0	Single	A	I	1	7/5/2015 14:37
1568	EJA894	H25B/L	Raytheon	800	Hawker	54.3	51.2	28,000	100	Dual	C	II	2	7/6/2015 5:49
1569	EJA894	H25B/L	Raytheon	800	Hawker	54.3	51.2	28,000	100	Dual	C	II	2	7/6/2015 8:40
1570	BLK3	BE20/L	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	7/6/2015 11:13
1571	N490QS	GLF4/L	Gulfstream	IV / 450	Gulfstream	77.8	89.3	74,600	100	Dual	C	II	3	7/6/2015 11:59
1572	BLK4	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/6/2015 12:07
1573	BLK5	BE40/L	Beech	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/6/2015 12:11
1574	BLK6	BE40/L	Beech	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/6/2015 12:22
1575	N465TP	P46T/G	Piper	PA-46	Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	7/6/2015 14:48
1576	BLK4	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/6/2015 15:22
1577	BLK3	BE20/L	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	7/6/2015 15:23
1578	BLK5	BE40/L	Beech	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/6/2015 15:44
1579	N490QS	GLF4/L	Gulfstream	IV / 450	Gulfstream	77.8	89.3	74,600	100	Dual	C	II	3	7/6/2015 16:03
1580	N465TP	P46T/G	Piper	PA-46	Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	7/6/2015 16:19
1581	BLK1	GLF3/L	Gulfstream	III	Gulfstream	77.8	83.1	69,700	100	Dual	C	II	3	7/6/2015 17:17
1582	C-GEKA	C172	Cessna	172	Skyhawk	35.8	27.0	2,425	0	Single	A	I	1	7/6/2015 17:28
1583	BLK5	BE40/L	Beech	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/7/2015 7:55
1584	BLK4	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/7/2015 8:02
1585	BLK7	BE40/L	Beech	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/7/2015 8:06
1586	BLK8	BE40/L	Beech	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/7/2015 8:19
1587	DCM7625	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	7/7/2015 11:41
1588	DCM490Q	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	7/7/2015 16:29
1589	N465TP	P46T/G	Piper	PA-46	Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	7/8/2015 12:59
1590	N465TP	P46T/G	Piper	PA-46	Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	7/8/2015 14:13
1591	EJA146	GLEX/L	Gulfstream	200	IAI - 1126	58.1	62.3	35,450	100	Dual	C	II	2	7/9/2015 8:19
1592	BLK4	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/9/2015 8:26
1593	BLK5	BE40/L	Beech	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/9/2015 8:27
1594	BLK8	BE40/L	Beech	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/9/2015 8:29
1595	BLK7	BE40/L	Beech	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/9/2015 8:32
1596	BLK6	BE40/L	Beech	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/9/2015 9:02
1597	BLK4	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/9/2015 10:05
1598	N448QS	GLF4/L	Gulfstream	IV / 450	Gulfstream	77.8	89.3	74,600	100	Dual	C	II	3	7/9/2015 10:21
1599	EJA146	GLEX/L	Gulfstream	200	IAI - 1126	58.1	62.3	35,450	100	Dual	C	II	2	7/9/2015 11:53
1600	BLK4	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/9/2015 13:45
1601	WCC35	B350/L	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	7/9/2015 14:32
1602	DCM6322	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	7/9/2015 14:41
1603	DCM1504	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	7/9/2015 16:01
1604	N448QS	GLF4/L	Gulfstream	IV / 450	Gulfstream	77.8	89.3	74,600	100	Dual	C	II	3	7/9/2015 16:37
1605	N950KM	PC12/G	Pilatus	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	7/10/2015 7:02
1606	N950KM	PC12/G	Pilatus	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	7/10/2015 9:21
1607	WCC35	B350/G	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	7/10/2015 10:36
1608	DCM638	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	7/11/2015 9:51
1609	BLK1	GLF3/L	Gulfstream	III	Gulfstream	77.8	83.1	69,700	100	Dual	C	II	3	7/11/2015 16:33
1610	N200FT	C25A/L	Cessna	525 / C14	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	7/12/2015 7:14
1611	N200FT	C25A/L	Cessna	525 / C14	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	7/12/2015 10:56
1612	BLK9	CL60/L	Bombardier	600	Challenger	64.3	68.4	48,200	100	Dual	C	II	3	7/12/2015 11:26
1613	EJA311	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	7/12/2015 13:02
1614	DCM5945	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	7/12/2015 13:54
1615	EJA311	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	7/12/2015 14:12
1616	BLK9	CL60/L	Bombardier	600	Challenger	64.3	68.4	48,200	100	Dual	C	II	3	7/12/2015 14:17
1617	EJM332	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/12/2015 15:56
1618	EJM332	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/12/2015 19:06
1619	BLK10	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/13/2015 9:08
1620	N8251M	C210/G	Cessna	210	Centurion	36.8	28.2	4,300	0	Single	A	I	1	7/13/2015 9:22

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time
1621	BLK10	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/13/2015 11:38
1622	N465TP	P46T/G	Piper	PA-46	Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	7/14/2015 7:26
1623	N465TP	P46T/G	Piper	PA-46	Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	7/14/2015 8:31
1624	EJA376	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	7/14/2015 13:14
1625	EJA376	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	7/14/2015 15:27
1626	N63HA	C550/L	Cessna	550	Citation II	52.3	47.3	15,100	75	Single	B	II	1	7/15/2015 15:57
1627	N386CM	LJ35/L	Gates Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	7/16/2015 8:41
1628	N386CM	LJ35/L	Gates Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	7/16/2015 11:39
1629	N3828G	C310/A	Cessna	310	310	35.0	27.0	4,600	0	Single	A	I	1	7/18/2015 4:34
1630	N68MU	BE10/G	Beechcraft	100	King Air	45.9	40.0	11,795	0	Dual	B	II	2	7/18/2015 7:14
1631	BLK11	SR22/G	Cirrus	SR22	Cirrus	38.3	26.0	3,600	0	Single	A	II	1	7/18/2015 8:03
1632	BLK11	SR22/G	Cirrus	SR22	Cirrus	38.3	26.0	3,600	0	Single	A	II	1	7/18/2015 13:35
1633	N33644	DC3	Douglas	DC-3	DC-3	95.0	64.5	28,000	100	Single	A	III	3	7/18/2015 13:37
1634	N3828G	C310/A	Cessna	310	310	35.0	27.0	4,600	0	Single	A	I	1	7/18/2015 13:47
1635	N68MU	BE10/G	Beechcraft	100	King Air	45.9	40.0	11,795	0	Dual	B	II	2	7/18/2015 13:57
1636	OPT467	BE40/L	Beech	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/19/2015 8:11
1637	OPT467	BE40/L	Beech	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/19/2015 8:11
1638	OPT467	BE40	Beech	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/19/2015 11:15
1639	CNS72	PC12/L	Pilatus	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	7/19/2015 11:29
1640	CNS72	PC12/L	Pilatus	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	7/19/2015 14:56
1641	EJA774	CL30/L	Bombardier	300	Challenger	63.8	68.7	38,850	75	Dual	C	II	2	7/20/2015 7:23
1642	EJA774	CL30/L	Bombardier	300	Challenger	63.8	68.7	38,850	75	Dual	C	II	2	7/20/2015 10:30
1643	OHC904	LJ45/L	Gates Learjet	45	Learjet 45	47.8	58.0	21,500	75	Dual	C	I	2	7/21/2015 11:37
1644	OHC904	LJ45/L	Gates Learjet	45	Learjet 45	47.8	58.0	21,500	75	Dual	C	I	2	7/21/2015 14:38
1645	OHC904	LJ45/L	Gates Learjet	45	Learjet 45	47.8	58.0	21,500	75	Dual	C	I	2	7/21/2015 16:13
1646	N68MU	BE10/G	Beechcraft	100	King Air	45.9	40.0	11,795	0	Dual	B	II	2	7/22/2015 10:30
1647	N68MU	BE10/G	Beechcraft	100	King Air	45.9	40.0	11,795	0	Dual	B	II	2	7/22/2015 12:15
1648	EJA381	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	7/22/2015 13:11
1649	N386CM	LJ35/L	Gates Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	7/22/2015 14:26
1650	N386CM	LJ35/L	Gates Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	7/22/2015 17:26
1651	BLK12	PC12/G	Pilatus	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	7/22/2015 18:52
1652	EJA381	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	7/23/2015 7:41
1653	DCM7818	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	7/23/2015 13:08
1654	N33644	DC3	Douglas	DC-3	DC-3	95.0	64.5	28,000	100	Single	A	III	3	7/23/2015 14:56
1655	N91FR	C182/G	Cessna	182	Skylane	36.0	28.2	3,100	0	Single	A	I	1	7/25/2015 8:18
1656	N465TP	P46T	Piper	PA-46	Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	7/25/2015 13:11
1657	N1087S	BE36	Beech	B36TC	Bonanza	33.5	27.5	3,650	0	Single	A	I	1	7/25/2015 13:48
1658	N465TP	P46T/G	Piper	PA-46	Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	7/25/2015 14:13
1659	OPT477	BE40/L	Beech	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/26/2015 9:56
1660	OPT477	BE40/L	Beech	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	7/26/2015 13:45
1661	N814PE	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/26/2015 15:24
1662	N814PE	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	7/26/2015 18:30
1663	N46AE	BE9L/G	Raytheon	C90A	King Air	50.3	35.5	10,100	0	Dual	B	II	1	7/27/2015 17:28
1664	N46AE	BE9L/G	Raytheon	C90A	King Air	50.3	35.5	10,100	0	Dual	B	II	1	7/27/2015 18:49
1665	N291FR	C182/G	Cessna	182	Skylane	36.0	28.2	3,100	0	Single	A	I	1	7/28/2015 6:01
1666	N971WC	P28A/G	Piper	PA-28	Arrow	30.0	23.3	2,150	0	Single	A	I	1	7/28/2015 8:05
1667	N505JH	C501/L	Cessna	501	Citation 1/SP	47.1	43.5	11,850	0	Single	B	I	1	7/28/2015 9:05
1668	N1234M	M20P/G	Mooney	M20R	Ovation	36.4	26.8	3,374	0	Single	A	I	1	7/28/2015 13:47
1669	N505JH	C501/L	Cessna	501	Citation 1/SP	47.1	43.5	11,850	0	Single	B	I	1	7/28/2015 14:13
1670	N320MF	C320/G	Cessna	320	Skyknight	35.0	27.0	4,600	0	Single	A	I	1	7/29/2015 11:17
1671	N291FR	C182/G	Cessna	182	Skylane	36.0	28.2	3,100	0	Single	A	I	1	7/30/2015 5:59
1672	N91FR	C182/G	Cessna	182	Skylane	36.0	28.2	3,100	0	Single	A	I	1	7/30/2015 6:03
1673	N350BV	C25A/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	7/31/2015 9:51
1674	N350BV	C25A/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	7/31/2015 15:03

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time
1675	N814PE	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/1/2015 11:24
1676	BLK13	SR22/G	Cirrus	SR22	Cirrus	38.3	26.0	3,600	0	Single	A	II	1	8/2/2015 9:15
1677	N411KQ	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/2/2015 10:11
1678	BLK14	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/2/2015 10:19
1679	N923BW	BE10/G	Beech	100	King Air	45.9	40.0	11,795	0	Dual	B	II	2	8/2/2015 17:56
1680	N386CM	LJ35/L	Gates Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	8/4/2015 6:38
1681	N386CM	LJ35/L	Gates Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	8/4/2015 10:00
1682	N1234M	M20P/G	Mooney	M20R	Ovation	36.4	26.8	3,374	0	Single	A	I	1	8/5/2015 10:20
1683	N125GH	GLF5/L	Gulfstream	V / 500	Gulfstream	93.5	96.4	90,500	100	Dual	C	III	3	8/6/2015 9:43
1684	N411KQ	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/6/2015 10:43
1685	BLK14	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/6/2015 10:45
1686	N125GH	GLF5/L	Gulfstream	V / 500	Gulfstream	93.5	96.4	90,500	100	Dual	C	III	3	8/6/2015 12:19
1687	N1087S	BE35	Beechcraft	B36TC	Bonanza	33.5	27.5	3,650	0	Single	A	I	1	8/7/2015 12:17
1688	DCM5990	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	8/7/2015 15:12
1689	DCM4565	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	8/7/2015 17:54
1690	N814PE	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/8/2015 10:47
1691	BLK15	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/8/2015 15:02
1692	BLK15	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/8/2015 17:13
1693	N1904S	LJ45/L	Gates Learjet	45	Learjet 45	47.8	58.0	21,500	75	Dual	C	I	2	8/9/2015 8:00
1694	N1904S	LJ45/L	Gates Learjet	45	Learjet 45	47.8	58.0	21,500	75	Dual	C	I	2	8/9/2015 9:45
1695	XOJ578	CL30/L	Bombardier	300	Challenger	63.8	68.7	38,850	75	Dual	C	II	2	8/10/2015 14:03
1696	BLK15	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/11/2015 6:26
1697	BLK15	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	8/11/2015 9:44
1698	DCM5084	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	8/11/2015 16:25
1699	DCM6138	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	8/13/2015 13:02
1700	XOJ578	CL30/L	Bombardier	300	Challenger	63.8	68.7	38,850	75	Dual	C	II	2	8/14/2015 7:15
1701	N707MT	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	8/15/2015 13:25
1702	DCM6874	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	8/16/2015 12:02
1703	N950KM	PC12/G	Pilatus	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	8/18/2015 7:18
1704	N1354T	PA28	Piper	PA-28	Arrow	30.0	23.3	2,150	0	Single	A	I	1	8/19/2015 8:54
1705	N386CM	LJ35/L	Gates Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	8/19/2015 12:20
1706	N386CM	LJ35/L	Gates Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	8/19/2015 15:29
1707	N950KM	PC12/G	Pilatus	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	8/19/2015 20:04
1708	EJA901	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	8/20/2015 11:54
1709	N719RM	C500/L	Cessna	500	Citation I	47.1	43.5	11,850	0	Single	B	I	1	8/20/2015 13:38
1710	OPT444	BE40/L	Beech	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	8/21/2015 8:51
1711	OPT444	BE40/L	Beech	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	8/21/2015 10:53
1712	BLK13	SR22/G	Cirrus	SR22	Cirrus	38.3	26.0	3,600	0	Single	A	II	1	8/21/2015 14:52
1713	N707MT	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	8/22/2015 10:08
1714	N386CM	LJ35/L	Gates Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	8/23/2015 8:45
1715	CNS818	PC12/L	Pilatus	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	8/23/2015 11:38
1716	CNS818	PC12/L	Pilatus	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	8/23/2015 13:09
1717	N386CM	LJ35/L	Gates Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	8/23/2015 13:30
1718	N719RM	C500/L	Cessna	500	Citation I	47.1	43.5	11,850	0	Single	B	I	1	8/23/2015 14:21
1719	EJA389	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	8/24/2015 9:47
1720	EJA389	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	8/24/2015 13:09
1721	N515CT	P46T/G	Piper	PA-46	Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	8/27/2015 7:03
1722	EJA296	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	8/27/2015 7:47
1723	EJA296	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	8/27/2015 12:01
1724	XSR605	E50P/L	Embraer	100	Phenom	40.3	42.1	10,472	0	Single	B	I	1	8/31/2015 10:30
1725	EJA339	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	8/31/2015 14:10
1726	XSR605	E50P/L	Embraer	100	Phenom	40.3	42.1	10,472	0	Single	B	I	1	8/31/2015 14:54
1727	EJA339	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/1/2015 8:03
1728	JPB515	H25B/L	Raytheon	800	Hawker	54.3	51.2	28,000	100	Dual	C	II	2	9/1/2015 12:08

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time
1729	N386CM	LJ35/L	Gates Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	9/1/2015 12:51
1730	JPB515	H25B/L	Raytheon	800	Hawker	54.3	51.2	28,000	100	Dual	C	II	2	9/1/2015 15:42
1731	N386CM	LJ35/L	Gates Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	9/1/2015 15:55
1732	OPT410	BE40/L	Beech	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	9/3/2015 11:20
1733	OPT410	BE40/L	Beech	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	9/3/2015 15:35
1734	BLK16	GALX/L	Gulfstream	200	IAI - 1126	58.1	62.3	35,450	100	Dual	C	II	2	9/4/2015 9:24
1735	DCM230G	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	9/4/2015 14:13
1736	N3117S	P46T/G	Piper	PA-46	Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	9/4/2015 16:19
1737	BLK17	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/4/2015 16:29
1738	N308GT	C25B/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	9/5/2015 11:10
1739	N386CM	LJ35/L	Gates Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	9/5/2015 11:11
1740	N386CM	LJ35/L	Gates Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	9/5/2015 14:04
1741	N308GT	C25B/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	9/5/2015 14:43
1742	BLK16	GALX/L	Gulfstream	200	IAI - 1126	58.1	62.3	35,450	100	Dual	C	II	2	9/6/2015 10:11
1743	N386CM	LJ35/L	Gates Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	9/7/2015 7:41
1744	N386CM	LJ35/L	Gates Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	9/7/2015 9:14
1745	N6252X	A500/G	Aero Comander	500-B	Aero Commander	49	36.8	6,750	0	Single	A	II	1	9/7/2015 9:21
1746	N3117S	P46T/G	Piper	PA-46	Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	9/7/2015 17:29
1747	N525KR	C25C/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	9/8/2015 7:14
1748	N525KR	C25C/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	9/8/2015 12:43
1749	N392SM	C525/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	9/9/2015 8:10
1750	N865EC	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/9/2015 10:16
1751	N392SM	C525/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	9/9/2015 11:31
1752	N865EC	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/9/2015 12:47
1753	BLK17	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/9/2015 13:44
1754	OPT365	E55P/L	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	9/10/2015 6:45
1755	OPT365	E55P/L	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	9/10/2015 9:32
1756	N950P	C525/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	9/10/2015 11:43
1757	N465TP	P46T/G	Piper	PA-46	Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	9/11/2015 14:06
1758	BLK18	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/12/2015 6:52
1759	BLK18	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/12/2015 10:39
1760	N392SM	C525/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	9/13/2015 8:57
1761	N950P	C525/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	9/13/2015 10:22
1762	N392SM	C525/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	9/13/2015 10:54
1763	XSR335	E55P/L	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	9/13/2015 13:20
1764	XSR335	E55P/L	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	9/13/2015 15:54
1765	OPT452	BE40/L	Beech	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	9/14/2015 12:45
1766	OPT452	BE40/L	Beech	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	9/14/2015 15:03
1767	OPT329	E55P/L	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	9/15/2015 8:07
1768	EJA367	E55P/L	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	9/15/2015 11:14
1769	OPT329	E55P/L	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	9/15/2015 12:02
1770	EJA367	E55P/L	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	9/15/2015 14:49
1771	XSR301	E55P/L	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	9/16/2015 8:19
1772	XSR301	E55P/L	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	9/16/2015 11:03
1773	BLK19	CL60/L	Bombardier	600	Challenger	64.3	68.4	48,200	100	Dual	C	II	3	9/17/2015 8:51
1774	N200FT	C25A/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	9/17/2015 8:59
1775	N200FT	C25A/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	9/17/2015 12:22
1776	N303RB	BE95	Raytheon	C90A	King Air	50.3	35.5	10,100	0	Dual	B	II	1	9/18/2015 14:59
1777	N727LH	C206	Cessna	206		35.8	28.2	3,638	0	Single	A	I	1	9/19/2015 9:45
1778	EJA829	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/20/2015 9:00
1779	N1944E	C340/G	Cessna	340	340	38.1	34.4	5,990	0	Single	B	I	1	9/20/2015 9:28
1780	BLK19	CL60/L	Bombardier	600	Challenger	64.3	68.4	48,200	100	Dual	C	II	3	9/20/2015 10:40
1781	N1944E	C340/G	Cessna	340	340	38.1	34.4	5,990	0	Single	B	I	1	9/20/2015 10:42
1782	N5LN	SW4/G	Fairchild	SA227-DC	Metro 23	57.0	59.3	16,500	75	Dual	A	II	2	9/20/2015 10:44

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time
1783	EJA829	C560/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/20/2015 11:16
1784	N465TP	P46T/G	Piper	PA-46	Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	9/20/2015 13:01
1785	N465TP	P46T/G	Piper	PA-46	Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	9/20/2015 14:00
1786	BLK1	GLF3/L	Gulfstream	III	Gulfstream	77.8	83.1	69,700	100	Dual	C	II	3	9/20/2015 17:06
1787	N592DR	C25A/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	9/21/2015 6:26
1788	EJA657	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/21/2015 8:16
1789	EJA315	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/21/2015 8:59
1790	EJA657	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	9/21/2015 10:42
1791	N95LM	BE20/L	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	9/21/2015 10:47
1792	N592DR	C25A/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	9/21/2015 10:54
1793	EJA315	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/21/2015 11:00
1794	N95LM	BE20/L	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	9/22/2015 12:01
1795	BLK1	GLF3/L	Gulfstream	III	Gulfstream	77.8	83.1	69,700	100	Dual	C	II	3	9/23/2015 15:47
1796	N5LN	SW4/G	Fairchild	SA227-DC	Metro 23	57.0	59.3	16,500	75	Dual	A	II	2	9/24/2015 9:34
1797	N416RX	BE40/L	Beech	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	9/25/2015 7:08
1798	N416RX	BE40/L	Beech	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	9/25/2015 9:35
1799	N578CD	SR22/G	Cirrus	SR22	Cirrus	38.3	26.0	3,600	0	Single	A	II	1	9/25/2015 10:24
1800	EJA334	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/25/2015 11:27
1801	EJA334	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	9/25/2015 17:08
1802	OPT314	E55P/L	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	9/27/2015 10:25
1803	OPT314	E55P/L	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	9/27/2015 13:42
1804	N465TP	P46T/G	Piper	PA-46	Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	9/27/2015 14:22
1805	BLK20	LJ75/L	Gates Learjet	75	Learjet 75	45.8	57.6	21,500	100	Dual	C	I	2	9/27/2015 14:43
1806	N465TP	P46T/G	Piper	PA-46	Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	9/27/2015 15:22
1807	N592DR	C25A/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	9/28/2015 12:09
1808	N592DR	C25A/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	9/28/2015 15:18
1809	FTH122	BE9L/G	Raytheon	C90A	King Air	50.3	35.5	10,100	0	Dual	B	II	1	9/28/2015 15:27
1810	FTH122	BE9L/G	Raytheon	C90A	King Air	50.3	35.5	10,100	0	Dual	B	II	1	9/28/2015 18:44
1811	BLK20	LJ75/L	Gates Learjet	75	Learjet 75	45.8	57.6	21,500	100	Dual	C	I	2	9/29/2015 7:09
1812	OPT314	E55P/L	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	9/29/2015 10:51
1813	OPT314	E55P/L	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	9/29/2015 16:03
1814	N386CM	LJ35/L	Gates Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	9/30/2015 10:26
1815	N386CM	LJ35/L	Gates Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	9/30/2015 13:44
1816	N578CD	SR22/G	Cirrus	SR22	Cirrus	38.3	26.0	3,600	0	Single	A	II	1	10/1/2015 11:03
1817	OPT436	BE40/L	Beech	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	10/3/2015 8:58
1818	OPT436	BE40/L	Beech	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	10/3/2015 10:45
1819	N490QS	GLF4/L	Gulfstream	IV / 450	Gulfstream	77.8	89.3	74,600	100	Dual	C	II	3	10/4/2015 7:25
1820	N490QS	GLF4/L	Gulfstream	IV / 450	Gulfstream	77.8	89.3	74,600	100	Dual	C	II	3	10/4/2015 10:02
1821	EJA946	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	10/5/2015 13:16
1822	EJA946	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	10/5/2015 14:56
1823	N386CM	LJ35	Gates Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	10/8/2015 9:45
1824	N386CM	LJ35	Gates Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	10/8/2015 13:50
1825	N95LM	BE20/L	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	10/9/2015 7:26
1826	N95LM	BE20/L	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	10/9/2015 10:33
1827	EJA955	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	10/9/2015 14:19
1828	EJA955	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	10/9/2015 16:45
1829	N375CP	B350/L	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	10/10/2015 12:34
1830	N375CP	B350/L	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	10/10/2015 15:04
1831	N375CP	B350/L	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	10/11/2015 12:40
1832	N375CP	B350/L	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	10/14/2015 8:26
1833	OPT365	E55P/L	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	10/14/2015 13:09
1834	N707MT	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	10/14/2015 13:56
1835	OPT365	E55P/L	Embraer	300	Phenom	53.2	52.2	17,968	75	Single	C	II	2	10/15/2015 10:19
1836	N707MT	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	10/16/2015 7:08

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time
1837	N375CP	B350/L	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	10/16/2015 7:13
1838	BLK21	BE40/L	Beech	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	10/16/2015 7:21
1839	BLK21	BE40/L	Beech	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	10/16/2015 10:43
1840	KEY900	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	10/17/2015 7:29
1841	KEY900	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	10/17/2015 11:05
1842	N375CP	B350/L	Beechcraft	350	Super King Air	57.9	43.8	15,000	75	Dual	B	II	2	10/17/2015 11:12
1843	N707MT	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	10/19/2015 13:14
1844	N707MT	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	10/19/2015 15:54
1845	N707MT	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	10/21/2015 12:03
1846	BLK22	C550/L	Cessna	550	Citation II	52.3	47.3	15,100	75	Single	B	II	1	10/22/2015 6:29
1847	BLK22	C550/L	Cessna	550	Citation II	52.3	47.3	15,100	75	Single	B	II	1	10/22/2015 10:12
1848	N477GJ	BE40/L	Beech	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	10/26/2015 7:15
1849	N477GJ	BE40/L	Beech	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	10/26/2015 11:29
1850	BLK23	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	10/27/2015 6:13
1851	N707MT	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	10/27/2015 9:46
1852	BLK23	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	10/27/2015 9:49
1853	EJA265	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	10/30/2015 15:23
1854	DCM9263	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	10/30/2015 16:13
1855	EJA265	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	10/30/2015 18:44
1856	EJA265	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	10/30/2015 19:49
1857	EJA946	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	11/1/2015 11:45
1858	DCM611M	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	11/1/2015 12:58
1859	EJA654	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	11/1/2015 13:57
1860	EJA946	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	11/1/2015 16:41
1861	EJA654	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	11/1/2015 17:49
1862	N791DC	BE20/G	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	11/1/2015 19:00
1863	N791DC	BE20/G	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	11/1/2015 21:11
1864	N309KR	H25B/L	Raytheon	800	Hawker	54.3	51.2	28,000	100	Dual	C	II	2	11/5/2015 9:19
1865	EJA913	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	11/6/2015 15:05
1866	N3911G	C340/G	Cessna	340	340	38.1	34.4	5,990	0	Single	B	I	1	11/7/2015 9:22
1867	NGF7051	C210/G	Cessna	210	Centurion	36.8	28.2	4,300	0	Single	A	I	1	11/8/2015 10:18
1868	EJA933	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	11/8/2015 11:07
1869	EJA941	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	11/8/2015 11:51
1870	N309KR	H25B/L	Raytheon	800	Hawker	54.3	51.2	28,000	100	Dual	C	II	2	11/8/2015 14:18
1871	EJA933	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	11/8/2015 17:15
1872	EJA941	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	11/8/2015 18:16
1873	N910GF	C510/L	Cessna	510	Citation Mustang	43.2	40.6	8,645	0	Single	B	I	1	11/9/2015 13:50
1874	N910GF	C510/L	Cessna	510	Citation Mustang	43.2	40.6	8,645	0	Single	B	I	1	11/9/2015 16:14
1875	EJA913	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	11/10/2015 13:40
1876	N3911G	C340/G	Cessna	340	340	38.1	34.4	5,990	0	Single	B	I	1	11/10/2015 14:07
1877	EJA389	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	11/12/2015 8:54
1878	WCC18	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	11/12/2015 12:14
1879	EJA389	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	11/12/2015 13:26
1880	WCC18	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	11/14/2015 12:43
1881	N63HA	C550/L	Cessna	550	Citation II	52.3	47.3	15,100	75	Single	B	II	1	11/15/2015 10:46
1882	N63HA	C550/G	Cessna	550	Citation II	52.3	47.3	15,100	75	Single	B	II	1	11/15/2015 14:32
1883	BLK24	WW24/L	Israel Aircraft Industries	1124	Westwind	44.8	52.3	23,500	75	Single	C	I	2	11/17/2015 8:06
1884	DCM6537	WW24/L	Israel Aircraft Industries	1124	Westwind	44.8	52.3	23,500	75	Single	C	I	2	11/17/2015 10:54
1885	DPJ885	CL30/L	Bombardier	300	Challenger	63.8	68.7	38,850	75	Dual	C	II	2	11/20/2015 13:10
1886	EJA368	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	11/20/2015 14:11
1887	DPJ885	CL30/L	Bombardier	300	Challenger	63.8	68.7	38,850	75	Dual	C	II	2	11/20/2015 14:30
1888	EJA368	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	11/20/2015 16:24
1889	N1087S	BE35	Beechcraft	B36TC	Bonanza	33.5	27.5	3,650	0	Single	A	I	1	11/20/2015 17:49
1890	BLK25	BE40/L	Beech	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	11/21/2015 11:03

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time
1891	BLK25	BE40/L	Beech	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	11/22/2015 8:13
1892	N265EJ	BE20/G	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	11/28/2015 11:36
1893	N265EJ	BE20/G	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	11/28/2015 13:21
1894	N881VP	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	11/30/2015 7:53
1895	N881VP	C56X/L	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	11/30/2015 11:48
1896	N963WC	P28A	Piper	PA-28	Arrow	30.0	23.3	2,150	0	Single	A	I	1	12/6/2015 8:42
1897	N3828G	C310/A	Cessna	310	310	35.0	27.0	4,600	0	Single	A	I	1	12/15/2015 9:11
1898	N3828G	C310/A	Cessna	310	310	35.0	27.0	4,600	0	Single	A	I	1	12/15/2015 11:16
1899	EJA384	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	12/18/2015 10:24
1900	EJA384	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	12/18/2015 14:10
1901	BLK12	PC12/G	Pilatus	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	12/19/2015 9:31
1902	BLK12	PC12/G	Pilatus	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	12/19/2015 11:27
1903	EJA787P	CL35/L	Bombardier	350	Challenger	69.2	68.6	40,600	75	Dual	C	II	3	12/28/2015 10:51
1904	EJA787P	CL35/L	Bombardier	350	Challenger	69.2	68.6	40,600	75	Dual	C	II	3	12/28/2015 14:02
1905	BLK1	GLF3/L	Gulfstream	III	Gulfstream	77.8	83.1	69,700	100	Dual	C	II	3	12/30/2015 8:00
1906	BLK1	GLF3/L	Gulfstream	III	Gulfstream	77.8	83.1	69,700	100	Dual	C	II	3	12/30/2015 16:57
1907	EJA774	CL35/L	Bombardier	350	Challenger	69.2	68.6	40,600	75	Dual	C	II	3	12/31/2015 7:54
1908	EJA774	CL35	Bombardier	350	Challenger	69.2	68.6	40,600	75	Dual	C	II	3	12/31/2015 13:42
1909	EJA382	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	12/31/2015 14:16
1910	EJA382	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	1/1/2016 8:37
1911	N311TJ	BE9L/G	Beech	C90	King Air	50.3	35.5	10,100	0	Single	B	II	2	1/5/2016 10:45
1912	N311TJ	BE9L/G	Beech	C90	King Air	50.3	35.5	10,100	0	Single	B	II	2	1/5/2016 12:49
1913	BLK26	C25C/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	1/8/2016 6:24
1914	N311TJ	BE9L/G	Beech	C90	King Air	50.3	35.5	10,100	0	Single	B	II	2	1/8/2016 7:37
1915	N311TJ	BE9L/G	Beech	C90	King Air	50.3	35.5	10,100	0	Single	B	II	2	1/8/2016 10:29
1916	BLK26	C25C/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	1/11/2016 9:28
1917	BLK26	C25C/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	1/15/2016 15:56
1918	BLK26	C25C/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	1/18/2016 14:23
1919	N559PB	PC12/L	Pilatus	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	1/21/2016 9:03
1920	N559PB	PC12/L	Pilatus	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	1/21/2016 17:35
1921	EJA777	CL35/L	Bombardier	350	Challenger	69.2	68.6	40,600	75	Dual	C	II	3	1/22/2016 9:05
1922	N559PB	PC12/L	Pilatus	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	1/22/2016 12:02
1923	EJA777	CL35/L	Bombardier	350	Challenger	69.2	68.6	40,600	75	Dual	C	II	3	1/22/2016 13:47
1924	N559PB	PC12/L	Pilatus	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	1/22/2016 14:37
1925	EJA381	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	2/3/2016 13:36
1926	EJA381	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	2/3/2016 16:17
1927	N945SK	C650/L	Cessna	650	Citation III	53.5	55.5	22,000	100	Dual	B	II	2	2/9/2016 17:41
1928	BLK26	C25C/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	2/10/2016 6:58
1929	CNS33	PC12/L	Pilatus	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	2/11/2016 20:41
1930	EJA905	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	2/12/2016 10:24
1931	EJA905	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	2/12/2016 13:47
1932	CNS33	PC12/L	Pilatus	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	2/12/2016 14:25
1933	CNS1776	PC12/L	Pilatus	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	2/14/2016 13:14
1934	CNS1776	PC12/L	Pilatus	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	2/15/2016 16:07
1935	N461QS	GLF4/L	Gulfstream	IV / 450	Gulfstream	77.8	89.3	74,600	100	Dual	C	II	3	2/16/2016 8:45
1936	N461QS	GLF4/L	Gulfstream	IV / 450	Gulfstream	77.8	89.3	74,600	100	Dual	C	II	3	2/16/2016 10:13
1937	N223JM	C182/G	Cessna	182	Skylane	36.0	28.2	3,100	0	Single	A	I	1	2/17/2016 10:24
1938	BLK27	GLF4/L	Gulfstream	IV / 450	Gulfstream	77.8	89.3	74,600	100	Dual	C	II	3	2/17/2016 12:51
1939	BLK27	GLF4/L	Gulfstream	IV / 450	Gulfstream	77.8	89.3	74,600	100	Dual	C	II	3	2/17/2016 13:49
1940	EJA362	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	2/19/2016 9:56
1941	N709MA	BA36	Beech	A36	Bonanza	33.5	27.5	3,650	0	Single	A	I	1	2/19/2016 10:30
1942	BLK27	GLF4/L	Gulfstream	IV / 450	Gulfstream	77.8	89.3	74,600	100	Dual	C	II	3	2/19/2016 12:32
1943	BLK27	GLF4/L	Gulfstream	IV / 450	Gulfstream	77.8	89.3	74,600	100	Dual	C	II	3	2/19/2016 13:54
1944	EJA362	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	2/19/2016 14:14

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time
1945	BLK12	PC12/G	Pilatus	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	2/25/2016 6:51
1946	BLK12	PC12/G	Pilatus	PC-12	Pilatus	53.3	47.3	10,450	0	Single	A	II	2	2/25/2016 12:04
1947	BLK28	C525/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	2/25/2016 15:51
1948	BLK28	C525/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	2/25/2016 17:24
1949	BLK28	C25C/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	2/28/2016 13:48
1950	BLK28	C25C/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	2/28/2016 16:00
1951	N465TP	P46T/G	Piper	PA-46	Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	3/1/2016 9:51
1952	N465TP	P46T/G	Piper	PA-46	Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	3/1/2016 11:06
1953	EJA323	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	3/2/2016 13:14
1954	EJA323	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	3/2/2016 15:33
1955	N707MT	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	3/3/2016 11:35
1956	N707MT	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	3/3/2016 14:06
1957	BLK26	C25C/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	3/4/2016 6:56
1958	N707MT	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	3/4/2016 12:49
1959	BLK26	C25C/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	3/7/2016 12:47
1960	JTL369	BE40/L	Beech	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	3/10/2016 9:19
1961	JTL369	BE40/L	Beech	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	3/10/2016 13:26
1962	N707MT	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	3/12/2016 9:55
1963	JTL118	H25B/L	Raytheon	800	Hawker	54.3	51.2	28,000	100	Dual	C	II	2	3/14/2016 13:36
1964	JTL118	H25B/L	Raytheon	800	Hawker	54.3	51.2	28,000	100	Dual	C	II	2	3/14/2016 16:06
1965	N599AS	C441/G	Cessna	441	Conquest 2	49.2	39.0	9,700	0	Single	B	II	1	3/15/2016 10:58
1966	N599AS	C441/G	Cessna	441	Conquest 2	49.2	39.0	9,700	0	Single	B	II	1	3/19/2016 14:55
1967	EJA290	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	3/20/2016 12:44
1968	EJA290	F2TH/L	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	3/20/2016 15:17
1969	BLK26	C25C/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	3/23/2016 17:52
1970	EJA907	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	3/27/2016 9:36
1971	EJA907	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	3/27/2016 14:02
1972	BLK26	C25C/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	3/31/2016 11:39
1973	BLK26	C25C/L	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	3/31/2016 14:12
1974	N263MC	D228/G	Fairchild	228-202	Dornier	55.7	54.3	13,700	75	Single	A	II	2	3/31/2016 15:12
1975	N263MC	D228/G	Fairchild	228-202	Dornier	55.7	54.3	13,700	75	Single	A	II	2	3/31/2016 17:06
1976	DPJ604	CL60/L	Bombardier	600	Challenger	64.3	68.4	48,200	100	Dual	C	II	3	4/3/2016 10:31
1977	DPJ604	CL60/L	Bombardier	600	Challenger	64.3	68.4	48,200	100	Dual	C	II	3	4/3/2016 13:42
1978	N161SD	C650/L	Cessna	650	Citation III	53.5	55.5	22,000	100	Dual	B	II	2	4/18/2016 17:49
1979	N161SD	C650/L	Cessna	650	Citation III	53.5	55.5	22,000	100	Dual	B	II	2	4/18/2016 18:57
1980	EJA387	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	4/20/2016 14:25
1981	N161SD	C650/L	Cessna	650	Citation III	53.5	55.5	22,000	100	Dual	B	II	2	4/20/2016 17:49
1982	EJA387	C680/L	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	4/20/2016 18:14
1983	N161SD	C650/L	Cessna	650	Citation III	53.5	55.5	22,000	100	Dual	B	II	2	4/20/2016 21:23
1984	EJA966	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	4/26/2016 11:24
1985	EJA966	C750/L	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	4/26/2016 15:21
1986	N465TP	P46T/G	Piper	PA-34	Seneca	38.9	28.7	4,750	0	Single	A	I	1	4/30/2016 11:39
1987	N465TP	P46T/G	Piper	PA-34	Seneca	38.9	28.7	4,750	0	Single	A	I	1	4/30/2016 13:09
1988	JTL91	GALX/L	Gulfstream	200	IAI - 1126	58.1	62.3	35,450	100	Dual	C	II	2	5/1/2016 14:01
1989	JTL91	GALX/L	Gulfstream	200	IAI - 1126	58.1	62.3	35,450	100	Dual	C	II	2	5/1/2016 15:47
1990	N64VM	BE40	Beech	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	5/2/2016 10:47
1991	N64VM	BE40/L	Beech	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	5/2/2016 14:30
1992	N68MU	BE10/G	Beechcraft	100	King Air	45.9	40.0	11,795	0	Dual	B	II	2	5/4/2016 16:05
1993	N68MU	BE10/G	Beechcraft	100	King Air	45.9	40.0	11,795	0	Dual	B	II	2	5/4/2016 20:16
1994	DCM5159	F2TH	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	5/6/2016 16:28
1995	DCM1684	F2TH	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	5/6/2016 19:44
1996	N793DC	BE20	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	5/11/2016 20:45
1997	N793DC	BE20	Beechcraft	200	Super King Air	54.5	43.8	12,500	0	Dual	B	II	2	5/11/2016 22:53
1998	EJA982	C750	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	5/12/2016 10:14

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time
1999	EJA900	C750	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	5/12/2016 10:26
2000	EJA982	C750	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	5/13/2016 9:42
2001	LXJ519	CL30	Bombardier	300	Challenger	63.8	68.7	38,850	75	Dual	C	II	2	5/13/2016 10:52
2002	N416RX	BE40	Beech	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	5/13/2016 11:26
2003	N416RX	BE40	Beech	400	Hawker	43.5	48.5	16,100	75	Single	C	I	2	5/13/2016 13:45
2004	LXJ519	CL30	Bombardier	300	Challenger	63.8	68.7	38,850	75	Dual	C	II	2	5/13/2016 14:08
2005	N1MM	C56X	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	5/14/2016 11:33
2006	N1MM	C56X	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	5/15/2016 7:42
2007	N200FT	C25A	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	5/15/2016 9:24
2008	N96SK	H25B	Raytheon	800	Hawker	54.3	51.2	28,000	100	Dual	C	II	2	5/15/2016 10:10
2009	EJA206	CL60	Bombardier	600	Challenger	64.3	68.4	48,200	100	Dual	C	II	3	5/16/2016 12:54
2010	EJA206	CL60	Bombardier	600	Challenger	64.3	68.4	48,200	100	Dual	C	II	3	5/16/2016 15:19
2011	N597BJ	C56X	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	5/17/2016 7:45
2012	N597BJ	C56X	Cessna	560	Excel / XLS	56.3	52.5	20,200	75	Dual	C	II	2	5/17/2016 12:08
2013	N386CM	LJ35	Gates Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	5/18/2016 16:55
2014	N386CM	LJ35	Gates Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	5/18/2016 19:54
2015	N592DR	C25A	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	5/19/2016 15:28
2016	N592DR	C25A	Cessna	525 / CJ4	CitationJet	50.8	53.3	17,110	75	Single	C	II	2	5/19/2016 16:41
2017	BLK29	SR22	Cirrus	SR22	Cirrus	38.3	26.0	3,600	0	Single	A	II	1	5/20/2016 5:48
2018	N386CM	LJ35	Gates Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	5/20/2016 13:34
2019	N386CM	LJ35	Gates Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	5/20/2016 16:37
2020	N494KQ	KODI100	Quest	100	Kodiak	45.0	33.4	7,255	0	Single	A	I	1	5/22/2016 15:19
2021	N386CM	LJ35	Gates Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	5/26/2016 8:58
2022	N386CM	LJ35	Gates Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	5/26/2016 12:06
2023	DCM7935	F2TH	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	5/31/2016 8:08
2024	EJA370P	C680	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	6/1/2016 10:23
2025	EJA370P	C680	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	6/1/2016 13:50
2026	N386CM	LJ35	Gates Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	6/2/2016 11:32
2027	N386CM	LJ35	Gates Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	6/2/2016 14:26
2028	N386CM	LJ35/L	Gates Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	6/7/2016 8:55
2029	N386CM	LJ35/L	Gates Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	6/7/2016 12:26
2030	EJA372	C680	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	6/9/2016 9:29
2031	EJA372	C680	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	6/9/2016 12:23
2032	DCM9837	F2TH	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	6/9/2016 14:43
2033	DCM407X	F2TH	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	6/9/2016 17:43
2034	N352TV	LJ35	Gates Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	6/10/2016 9:14
2035	DCM4337	F2TH	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	6/12/2016 11:47
2036	DCM9075	F2TH	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	6/12/2016 14:11
2037	N352TV	LJ35	Gates Learjet	35	Learjet 35	39.5	48.6	18,000	75	Dual	C	I	1	6/12/2016 14:12
2038	N132LT	PA46	Piper	PA-46	Malibu Meridian	43.0	28.4	4,100	0	Single	A	I	1	6/13/2016 11:29
2039	EJA317	C680	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	6/13/2016 13:08
2040	EJA317	C680	Cessna	680	Sovereign	72.3	63.5	30,300	75	Dual	C	II	1	6/13/2016 15:55
2041	N789CA	ASTRA	Gulfstream	100	IAI-1125 Westwind Astra	54.6	55.6	23,500	75	Dual	B	II	2	6/16/2016 10:33
2042	TMC404	H25B	Raytheon	800	Hawker	54.3	51.2	28,000	100	Dual	C	II	2	6/16/2016 11:51
2043	N1354T	P28R	Piper	PA-28	Arrow	30.0	23.3	2,150	0	Single	A	I	1	6/16/2016 13:05
2044	N789CA	ASTR	Israel Aircraft Industries	1124	Westwind	44.8	52.3	23,500	75	Single	C	I	2	6/16/2016 15:35
2045	TMC404	H25B	Raytheon	800	Hawker	54.3	51.2	28,000	100	Dual	C	II	2	6/16/2016 17:25
2046	N707MT	F2TH	Dassault	2000	Falcon	63.4	66.3	41,000	100	Dual	C	II	2	6/19/2016 13:48
2047	BLK30	TBM8	Daher-Socata	850	TBM	32.0	25.0	2,530	0	Single	A	I	1	6/19/2016 15:10
2048	BLK30	TBM8	Daher-Socata	850	TBM	32.0	25.0	2,530	0	Single	A	I	1	6/19/2016 16:46
2049	EJA776	CL35	Bombardier	350	Challenger	69.2	68.6	40,600	75	Dual	C	II	3	6/20/2016 15:44
2050	EJA933	C750	Cessna	750	X / Ten	63.9	72.3	36,100	100	Dual	C	II	1	6/20/2016 16:13

Operations	Identity	Type	Manufacturer	Model	Aircraft	Wing Span (ft)	Length (ft)	MTOW (lbs)	Percent Fleet	Landing Configuration	AAC	ADG	TDG	Departure Time
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06/21/2011 - 06/20/2012

294

Operations By Month						Operations By MTOW		% Fleet	Operations By Runway / Taxiway Design Code				
Jan.	Feb.	March	April	May	June	Unknown:	2	2	Unknown:	2	2	2	
1	3	8	2	17	38	≤12,500-lbs:	92	92	A / I / 1:	37	99	117	
July	August	Sept.	Oct.	Nov.	Dec.	>12,500-lbs, ≤60,000-lbs:	197	129 - 75%	B / II / 2:	38	193	170	
67	49	56	36	7	10	>60,000-lbs:	3	71 - 100%	C / III / 3:	217	0	5	
					Σ=	294	Operations:	292	292	Operations:	292	292	292

06/21/2012 - 06/20/2013

292

Operations By Month						Operations By MTOW		% Fleet	Operations By Runway / Taxiway Design Codes				
Jan.	Feb.	March	April	May	June	Unknown:	0	0	Unknown:	0	0	0	
15	5	16	13	27	32	≤12,500-lbs:	126	126	A / I / 1:	68	132	122	
July	August	Sept.	Oct.	Nov.	Dec.	>12,500-lbs, ≤60,000-lbs:	164	117 - 75%	B / II / 2:	52	160	168	
49	47	61	18	2	7	>60,000-lbs:	2	49 - 100%	C / III / 3:	172	0	2	
					Σ=	292	Operations:	292	292	Operations:	292	292	292

06/21/2013 - 06/20/2014

424

Operations By Month						Operations By MTOW		% Fleet	Operations By Runway / Taxiway Design Codes				
Jan.	Feb.	March	April	May	June	Unknown:	1	1	Unknown:	1	1	1	
10	11	24	19	35	47	≤12,500-lbs:	147	147	A / I / 1:	99	143	201	
July	August	Sept.	Oct.	Nov.	Dec.	>12,500-lbs, ≤60,000-lbs:	270	201 - 75%	B / II / 2:	83	280	216	
89	82	47	41	13	6	>60,000-lbs:	6	75 - 100%	C / III / 3:	241	0	6	
					Σ=	424	Operations:	423	423	Operations:	423	423	423

06/21/2014 - 06/18/2015

512

Operations By Month						Operations By MTOW		% Fleet	Operations By Runway / Taxiway Design Codes				
Jan.	Feb.	March	April	May	June	Unknown:	0	0	Unknown:	0	0	0	
23	10	14	22	52	43	≤12,500-lbs:	199	199	A / I / 1:	142	228	281	
July	August	Sept.	Oct.	Nov.	Dec.	>12,500-lbs, ≤60,000-lbs:	293	189 - 75%	B / II / 2:	80	278	207	
98	85	91	48	13	13	>60,000-lbs:	20	124 - 100%	C / III / 3:	290	6	24	
					Σ=	512	Operations:	512	512	Operations:	512	512	512

06/19/2015 - 06/20/2016

528

Operations By Month						Operations By MTOW		% Fleet	Operations By Runway / Taxiway Design Codes				
Jan.	Feb.	March	April	May	June	Unknown:	0	0	Unknown:	0	0	0	
15	26	25	12	36	56	≤12,500-lbs:	129	129	A / I / 1:	93	152	189	
July	August	Sept.	Oct.	Nov.	Dec.	>12,500-lbs, ≤60,000-lbs:	379	268 - 75%	B / II / 2:	62	372	302	
123	52	89	41	39	14	>60,000-lbs:	20	131 - 100%	C / III / 3:	373	4	37	
					Σ=	528	Operations:	528	528	Operations:	528	528	528

APPENDIX E

Survey Responses

Owner / Company	Aircraft Type	Wing Span	Stall Speed	MTOW	Main Gear Width	Cockpit to Main Gear Distance	Current - # of Annual Landings	Anticipated - # of Annual Landings	Do these Ops occur during a "peak" period of less than 3-months in duration?	If Yes, what months (typ)?	Do you currently hangar at EKS?	Would you hangar if access were improved?
Bill Witt	Cessna 180	x < 49'	x < 70 Knots	w < 12,500 lbs.	0-10	0-20	10	10	No		No	
	Taylorcraft BC12D	x < 49'	x < 70 Knots	w < 12,500 lbs.	0-10	0-20	4	4	No		No	
Verne L Brown	Mooney	x < 49'	x < 70 Knots	w < 12,500 lbs.	0-10	0-20	20	36	No		Yes	
	Citabria	x < 49'	x < 70 Knots	w < 12,500 lbs.	0-10	0-20	36	48	No		Yes	
Kirk Engineering	Cessna 182	x < 49'	x < 70 Knots	w < 12,500 lbs.	0-10	0-20	10	11	No			50 x 50 Expanded Apron / Aircraft Parking
Bridger Aerospace	AC500	49' ≤ x < 79'	70 Knots ≤ x < 93 Knots	w < 12,500 lbs.	15-20	0-20	100	100	No	all year	Yes	
	AC500	x < 49'	70 Knots ≤ x < 93 Knots	w < 12,500 lbs.	15-20	0-20	100	100	No		Yes	
Montana Aircraft, Inc.	Pilatus PC12	49' ≤ x < 79'	70 Knots ≤ x < 93 Knots	w < 12,500 lbs.	10/15/2015	0-20	4	6	No			
	Cessna 182	x < 49'	x < 70 Knots	w < 12,500 lbs.	0-10	0-20	8	8	No		No	no Expanded Apron / Aircraft Parking
	Citation CJ525	x < 49'	x ≥ 93 Knots	w < 12,500 lbs.	10/15/2015	0-20	3	6	No		No	
	Cessna 210	x < 49'	x < 70 Knots	w < 12,500 lbs.	0-10	0-20	4	6	No		No	
Chuck Hall Aviation, Inc.	B36 tc. Bonanza	x < 49'	x < 70 Knots	w < 12,500 lbs.	0-10	0-20	8	10	No		Yes	
	PA-18	x < 49'	x < 70 Knots	w < 12,500 lbs.	0-10	0-20	24	24	No		No	
	North American P-51D	x < 49'	70 Knots ≤ x < 93 Knots	w < 12,500 lbs.	10/15/2015	0-20	N/A	5	No		No	
Solairus Aviation	G550	x ≥ 79'	x ≥ 93 Knots	60,000 < w < 100,000	10/15/2015	>30	As many as our clients dictate	As many as our clients dictate	Yes	Year round	No	Yes, Large enough to fit a G550 Expanded Apron / Aircraft Parking
Flight Options LLC	Nextant 400XT	x < 49'					5	5	No		No	Hangar requests are determined on a daily basis depending on potential frost or severe weather.
	Embraer Phenom 300 (EMB-505)	49' ≤ x < 79'					2	2	No		No	
Cutter Aviation	Citations	49' ≤ x < 79'	70 Knots ≤ x < 93 Knots	12,500 < w < 30,000	0-10	0-20	4	4	Yes	July	No	Yes
	Latitude	x ≥ 79'	x ≥ 93 Knots	30,000 < w < 60,000	15-20	0-20	4	4	Yes		No	Yes
ACI Jet	CE-560XL	49' ≤ x < 79'	70 Knots ≤ x < 93 Knots	12,500 < w < 30,000			10	10	No		No	
Tom Miller	Cessna P-210 & Piper PA-12	x < 49'	70 Knots ≤ x < 93 Knots	w < 12,500 lbs.	0-10	0-20	12	12	Yes	March-November	Yes	Expanded Apron / Aircraft Parking
	Piper PA 12	x < 49'	x < 70 Knots	w < 12,500 lbs.	0-10	0-20	25	25	Yes		Yes	
Charity Fechter	Cessna 172	x < 49'	x < 70 Knots	w < 12,500 lbs.	0-10	0-20	10	15	Yes	April - October 12	Yes	
Dennis Mecklenburg	High Wing Tail Dragger	x < 49'	x < 70 Knots	w < 12,500 lbs.	0-10	0-20	5	10	No		No	Maybe single plane
NetJets Aviation, Inc.	GIV-SP	49' ≤ x < 79'	x ≥ 93 Knots	60,000 < w < 100,000	15-20	>30	below 10	about same	No		No	only in inclement weather up Bombardier Global size
	CE-750	49' ≤ x < 79'	x ≥ 93 Knots	30,000 < w < 60,000	10/15/2015	25-30	15	15	No		No	99.5' x 94' x 25.5'
T-L Irrigation	Beech King Air 200	x < 49'	70 Knots ≤ x < 93 Knots	w < 12,500 lbs.	20-30	0-20	2	2	Yes	june-august	No	No, we currently drop off / pick up and leave the same day
Switchback Aviation LLC	c525	49' ≤ x < 79'	70 Knots ≤ x < 93 Knots	12,500 < w < 30,000	10/15/2015	20-25	5	10	Yes	JAN-MAR		
	S312	x < 49'	x < 70 Knots	w < 12,500 lbs.	0-10	0-20	4	5	No			
	PC6	49' ≤ x < 79'	x < 70 Knots	w < 12,500 lbs.	0-10	0-20	2	5	Yes	JUN to AUG		
Deeside Aviation	Gulfstream III	49' ≤ x < 79'	x ≥ 93 Knots	60,000 < w < 100,000	10/15/2015	>30	8	8	Yes	Between May and November	Yes	
	G450	49' ≤ x < 79'	x ≥ 93 Knots	60,000 < w < 100,000	10/15/2015	>30	0	8 to 10	Yes		Yes	
Executive Jet Management	G-V	x ≥ 79'	x ≥ 93 Knots	60,000 < w < 100,000	15-20	25-30	2	4	Yes	June, July, August	No	based at Dulles international Expanded Apron / Aircraft Parking
Choice Aviation	Beechcraft B100	49' ≤ x < 79'	70 Knots ≤ x < 93 Knots	w < 12,500 lbs.	15-20	0-20	6	12	No			
	Cessna 182RG	x < 49'	x < 70 Knots	w < 12,500 lbs.	0-10	0-20	12	24	No		Yes	
	Cessna 340A	x < 49'	x < 70 Knots	w < 12,500 lbs.	10/15/2015	0-20	12	12	No			
	Piper Meridian PA46TP	49' ≤ x < 79'	70 Knots ≤ x < 93 Knots	w < 12,500 lbs.	10/15/2015	0-20	50	50	No			
Choice Aviation	Single/Multi Engine Cessnas	x < 49'	x ≥ 93 Knots	w < 12,500 lbs.	0-10	0-20	20	20	No		No	
VMI Holdings	be40	x < 49'	70 Knots ≤ x < 93 Knots	12,500 < w < 30,000	0-10	0-20	2	4	No			no
Comcast Flight Operations	Falcon 2000 and Falcon 900	49' ≤ x < 79'	x ≥ 93 Knots	30,000 < w < 60,000	10/15/2015	25-30	25	25	No		Yes	Expanded Apron / Aircraft Parking
	TB21	x < 49'	70 Knots ≤ x < 93 Knots	w < 12,500 lbs.	0-10	0-20	36	36	No		Yes	Expanded Apron / Aircraft Parking
Combs Aviation Co.	Beechcraft Bonanza	x < 49'		w < 12,500 lbs.			25	25-50	Yes	June-August	Yes	Expanded Apron / Aircraft Parking

Please indicate airport improvements you would recommend

Additional Comments

										It's fine the way it is.	
Extended Parallel Taxiway - to make it full length	Widen Taxiway Fillets	Additional Hangar Locations				Stengthen Runway Pavement (currently rated to 30,000lbs.)	Stengthen Other Pavements (currently rated to 12,500 lbs.)	Runway Widening	Taxiway Lighting	Wildlife Fencing	Topless support staff at Choice
Extended Parallel Taxiway - to make it full length	Widen Taxiway Fillets	Additional Hangar Locations	Large Hangar Locations and Access	Additional Navigational Aids	Stengthen Runway Pavement (currently rated to 30,000lbs.)	Stengthen Other Pavements (currently rated to 12,500 lbs.)	Runway Widening	Taxiway Lighting			
Extended Parallel Taxiway - to make it full length	Widen Taxiway Fillets	Additional Hangar Locations	Large Hangar Locations and Access				Stengthen Runway Pavement (currently rated to 30,000lbs.)	Stengthen Other Pavements (currently rated to 12,500 lbs.)	Runway Widening	Taxiway Lighting	
								Runway Widening	Wildlife Fencing		
None for me											
Extended Parallel Taxiway - to make it full length	Widen Taxiway Fillets	Additional Hangar Locations	Large Hangar Locations and Access	Additional Navigational Aids	Stengthen Runway Pavement (currently rated to 30,000lbs.)	Stengthen Other Pavements (currently rated to 12,500 lbs.)	Runway Widening	Taxiway Lighting	Wildlife Fencing		
										The specific routes and locations we fly to are selected by our owners needs, and we fly into EKS when requested. We have not had any issues with our flights into EKS, and did not have any specific suggestions for	
Extended Parallel Taxiway - to make it full length					Stengthen Runway Pavement (currently rated to 30,000lbs.)	Stengthen Other Pavements (currently rated to 12,500 lbs.)			Taxiway Lighting	Wildlife Fencing	
Extended Parallel Taxiway - to make it full length				Additional Navigational Aids	Stengthen Runway Pavement (currently rated to 30,000lbs.)	Stengthen Other Pavements (currently rated to 12,500 lbs.)			Wildlife Fencing	Charter aircraft, use could be more depending on customer requests	
Extended Parallel Taxiway - to make it full length	Widen Taxiway Fillets	Additional Hangar Locations			Stengthen Runway Pavement (currently rated to 30,000lbs.)	Stengthen Other Pavements (currently rated to 12,500 lbs.)			Taxiway Lighting	Wildlife Fencing	
Extended Parallel Taxiway - to make it full length			Large Hangar Locations and Access				Stengthen Runway Pavement (currently rated to 30,000lbs.)	Stengthen Other Pavements (currently rated to 12,500 lbs.)	Wildlife Fencing	Vehicular control on taxiways; improve corner to taxiway C where culvert is crushed; signage; address/hangar #s as required by County; wash rack; clean vault toilet - Choice is not always open, and vault is closer to fuel	
			Additional Hangar Locations				Stengthen Runway Pavement (currently rated to 30,000lbs.)	Stengthen Other Pavements (currently rated to 12,500 lbs.)			
					Widen Taxiway Fillets	Stengthen Runway Pavement (currently rated to 30,000lbs.)	Stengthen Other Pavements (currently rated to 12,500 lbs.)	Taxiway Lighting			
Extended Parallel Taxiway - to make it full length				Additional Navigational Aids					Wildlife Fencing	if taxi way not extended to end of runway then a larger turnaround are would be nice.	
Extended Parallel Taxiway - to make it full length	Widen Taxiway Fillets	Additional Hangar Locations				Stengthen Runway Pavement (currently rated to 30,000lbs.)	Stengthen Other Pavements (currently rated to 12,500 lbs.)	Runway Widening	Taxiway Lighting		
Extended Parallel Taxiway - to make it full length	Widen Taxiway Fillets				Large Hangar Locations and Access	Stengthen Runway Pavement (currently rated to 30,000lbs.)	Stengthen Other Pavements (currently rated to 12,500 lbs.)			Taxiway Lighting	Wildlife Fencing
Extended Parallel Taxiway - to make it full length	Widen Taxiway Fillets					Stengthen Runway Pavement (currently rated to 30,000lbs.)	Stengthen Other Pavements (currently rated to 12,500 lbs.)				
Extended Parallel Taxiway - to make it full length	Widen Taxiway Fillets			Large Hangar Locations and Access						Wildlife Fencing	As an operator, the above, as a business at the airport then all the above
										Conventional GPS departure, not RNAV 1	
Extended Parallel Taxiway - to make it full length	Widen Taxiway Fillets				Stengthen Runway Pavement (currently rated to 30,000lbs.)			Runway Widening	Taxiway Lighting	Wildlife Fencing	We'd like to have the ability to bring a larger aircraft into EKS but are restricted to our current wingspan. Widening the runway would greatly enhance the ability to do so.
Extended Parallel Taxiway - to make it full length	Widen Taxiway Fillets	Additional Hangar Locations			Additional Navigational Aids	Stengthen Runway Pavement (currently rated to 30,000lbs.)			Runway Widening		
				Widen Taxiway Fillets	Additional Navigational Aids	Stengthen Runway Pavement (currently rated to 30,000lbs.)				Wildlife Fencing	

APPENDIX F

Forecast Levels and Growth Rates

FORECAST LEVELS AND GROWTH RATES - SUMMARY

	Operations (Annual)					Average Annual Compound Growth Rates (%)			
	Base Year Level (2015)	Base Yr. + 1 yr. (2016)	Base Yr. + 5 yrs. (2020)	Base Yr. + 10 yrs. (2025)	Base Yr. + 15 yrs. (2030)	Base Yr. to +1	Base Yr. to +5	Base Yr. to +10	Base Yr. to +15
Itinerant	5,000	5,019	5,096	5,193	5,293	0.38%	0.38%	0.38%	0.38%
Commuter / Air Taxi	600	671	1,047	1,179	1,327	11.78%	11.78%	6.99%	5.43%
Military	100	103	116	134	156	3.00%	3.00%	3.00%	3.00%
Local	6,500	6,539	6,697	6,901	7,110	0.60%	0.60%	0.60%	0.60%
TOTAL OPERATIONS	12,200	12,332	12,956	13,407	13,886	1.08%	1.21%	0.95%	0.87%
BASED AIRCRAFT	21	22	22	23	24	0.60%	0.60%	0.60%	0.60%

APPENDIX G

Comparing Airport Planning and TAF Forecasts

COMPARING AIRPORT PLANNING AND TAF FORECASTS

	Year	Airport Forecast	TAF ⁽²⁾	AF/TAF (% Difference)
TOTAL OPERATIONS				
Base Year	2015	12,200 ⁽¹⁾	11,000	110.91%
Base Year + 5 years	2020	12,956	11,000	117.78%
Base Year + 10 years	2025	13,407	11,000	121.88%
Base Year + 15 years	2030	13,886	11,000	126.24%

(1) Base Total Operations is as established in the current FAA 5010 *Airport Master Record*

(2) Ennis Big Sky Airport does not constitute enough of the "market share" to garner direct airport forecasting as part of the TAF; therefore, zero growth has been shown for the Ennis Big Sky Airport since 2006.

APPENDIX H

Public Involvement – Preliminary Forecasting

ENNIS BIG SKY AIRPORT IMPROVEMENTS
 MASTER PLAN UPDATE – FORECASTING
 April 11, 2016 Meeting

SIGN-IN SHEET

Name	Address	Email
Lance Bowser	825 Custer Ave., Helena, MT	lance@rpa-hh.com
Ellis Thompson	Box 241, Virginia City, MT	
JIM FREY	111 SHINING MTS, HOOD ENNIS MT	jstfrey@spivues.net
Joel Simmons	3001 Duglady Drive Cody, WY	jsimmons@choiceaviation.com
Troy Hunter	35 Running Red Ennis, MT	THUNTER@CHOICEAVIATION.COM
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Tom Miller	P.O. Box 687 Ennis 59729	tmiller@baser.net
TOOP SIMMONS	Box 1570 Cody, WY 82414	TSIMMONS@CHOICEAVIATION.COM
ERINIE BOCK	Box 126 SHERIDAN 5749	ERINIEBOCK@ME.COM
ROY HILL	23 EWALO LN ENNIS, MT	chill2@madison.mt.gov
Peter Fitzgerald	P.O. BOX 709 ENNIS MT 59729	pefr@3tiVERS.NET



Robert Peccia & Associates

Civil Engineering, Planning, Surveying, Landscape Architecture

Helena, Bozeman, and Kalispell, Montana

Fort Collins, Colorado

Who We Are



- **Multi-Disciplined Firm**
- **Located in Helena, Bozeman, Kalispell & Fort Collins, CO**
- **Work Throughout The United States**
- **Employee Owned Firm of 60 People**
- **In Business Since 1978**



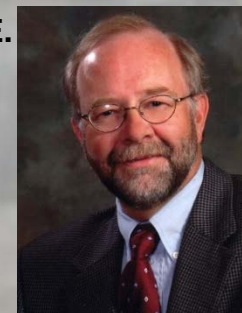
Lance Bowser, P.E.
Project Manager

Over 12-years of
Airport
Engineering
Experience



Rick Donaldson, P.E.
Airports Group
Manager

Over 24-years of
Airport Engineering
Experience



Dan Norderud, AICP
Environmental
Planner

Over 36-years of
Professional
Experience
Developing
Environmental
Impact Documents

What We Do

- **Streets & Highways**
- **Traffic & Transportation**
- **Environmental Studies**
- **Site Development**
- **Water & Wastewater**
- **Natural Resources**
- **Surveying & Subsurface Utility**
- **Engineering Landscape Architecture**
- **Structures**
- **Airports**



Typical Airport Project Work Elements

- **Project Management**
- **Planning**
- **Facility Development**
- **Design**
- **Construction Management**



Airport Planning

- **Airport Master Plans**
- **Airport Layout Plans**
- **System Plan Studies**
- **Site Selection Studies**
- **Environmental Studies**



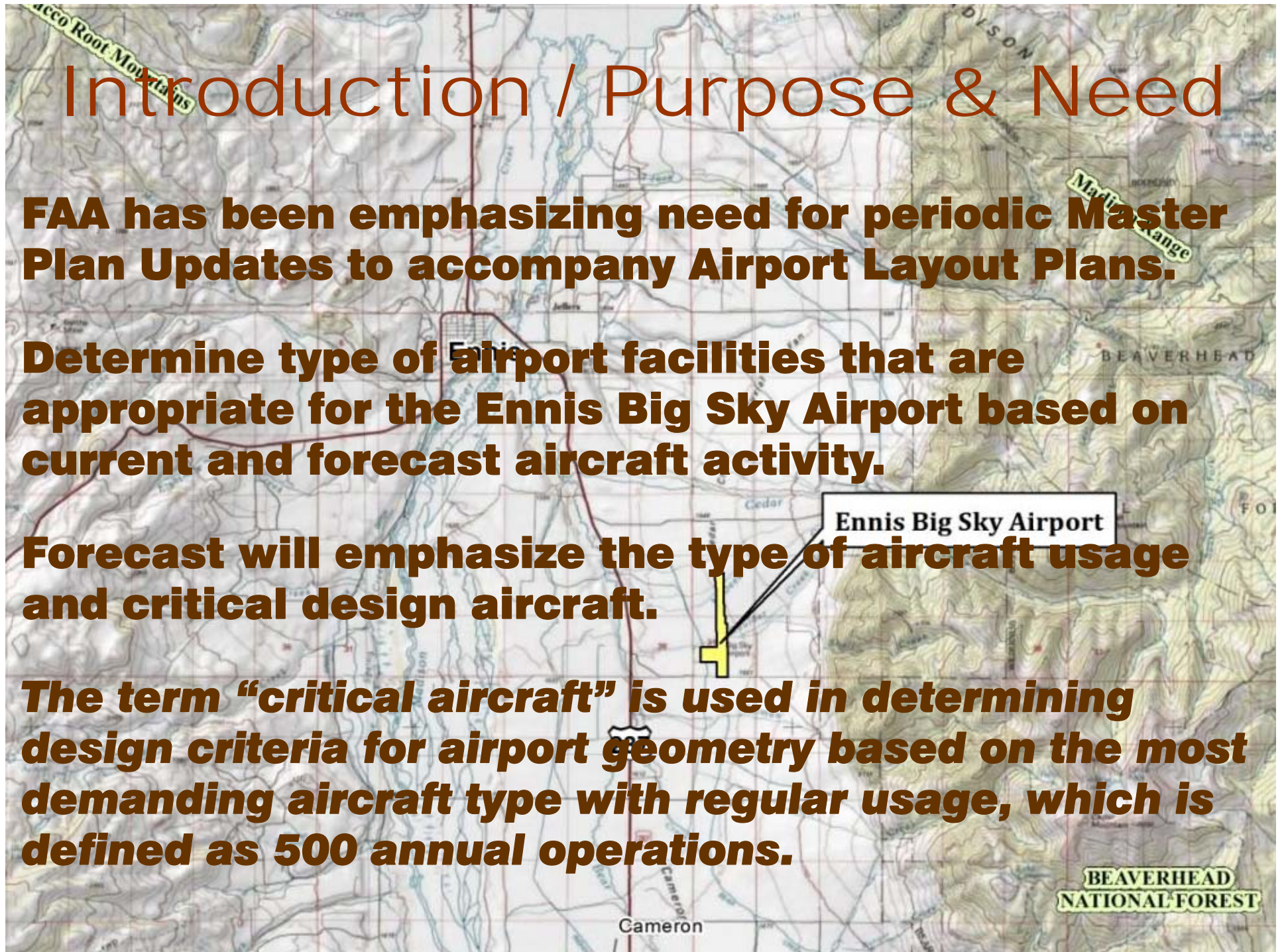
Introduction / Purpose & Need

FAA has been emphasizing need for periodic Master Plan Updates to accompany Airport Layout Plans.

Determine type of airport facilities that are appropriate for the Ennis Big Sky Airport based on current and forecast aircraft activity.

Forecast will emphasize the type of aircraft usage and critical design aircraft.

The term “critical aircraft” is used in determining design criteria for airport geometry based on the most demanding aircraft type with regular usage, which is defined as 500 annual operations.



Public Participation - Goals

Keep the public informed throughout the Master Planning Process.

Share forecasts and provide background information as a source for future Master Planning steps.

<https://rpa-hln.sharefile.com/d-s6421fdee7684f7c9>

Provide opportunity for comments in early stages, while many alternatives are still being considered.



Master Plan Elements

Chapter 1. Introduction and Project Description

Chapter 2. Existing Facilities and Airport History

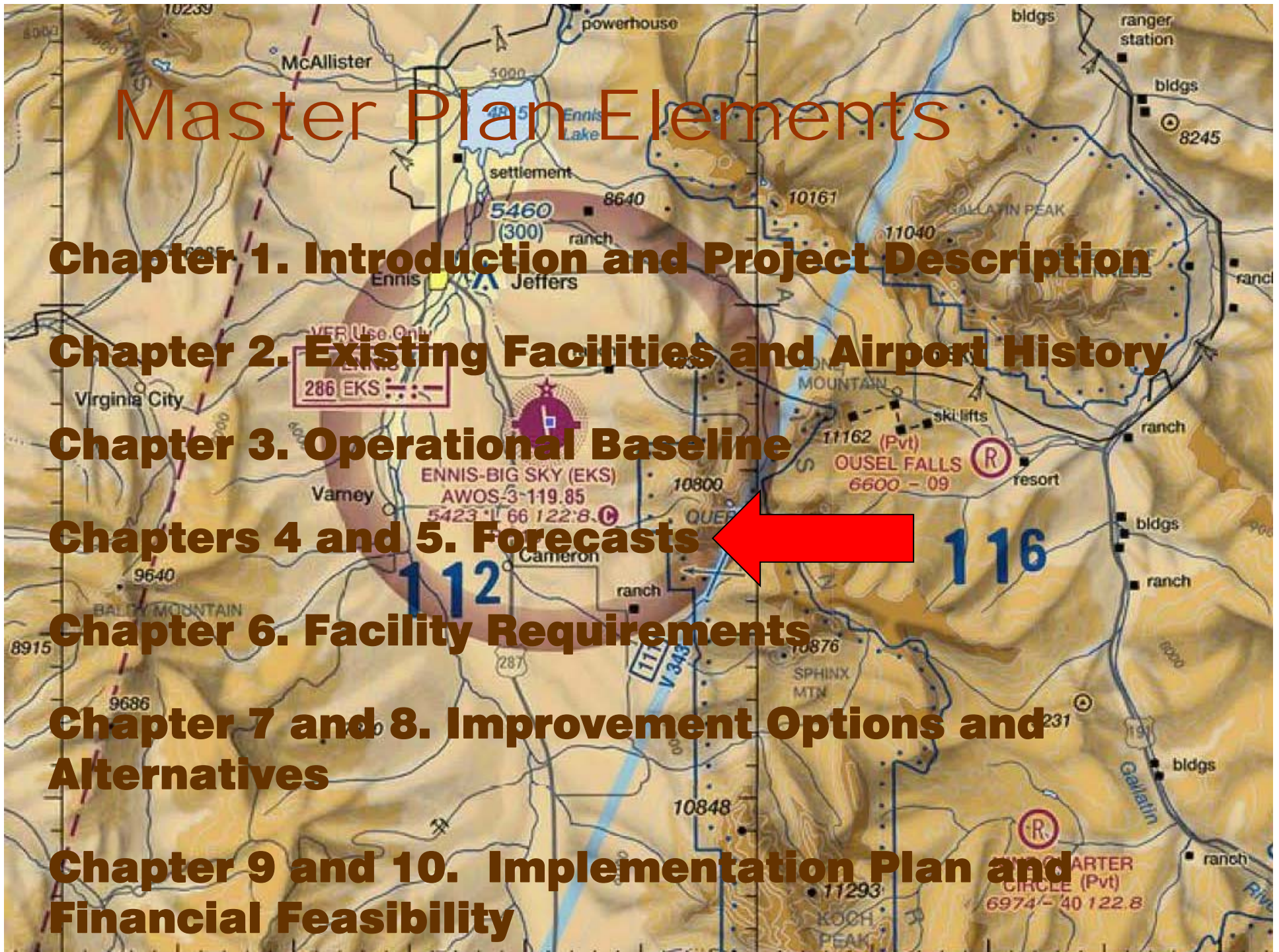
Chapter 3. Operational Baseline

Chapters 4 and 5. Forecasts

Chapter 6. Facility Requirements

Chapter 7 and 8. Improvement Options and Alternatives

Chapter 9 and 10. Implementation Plan and Financial Feasibility



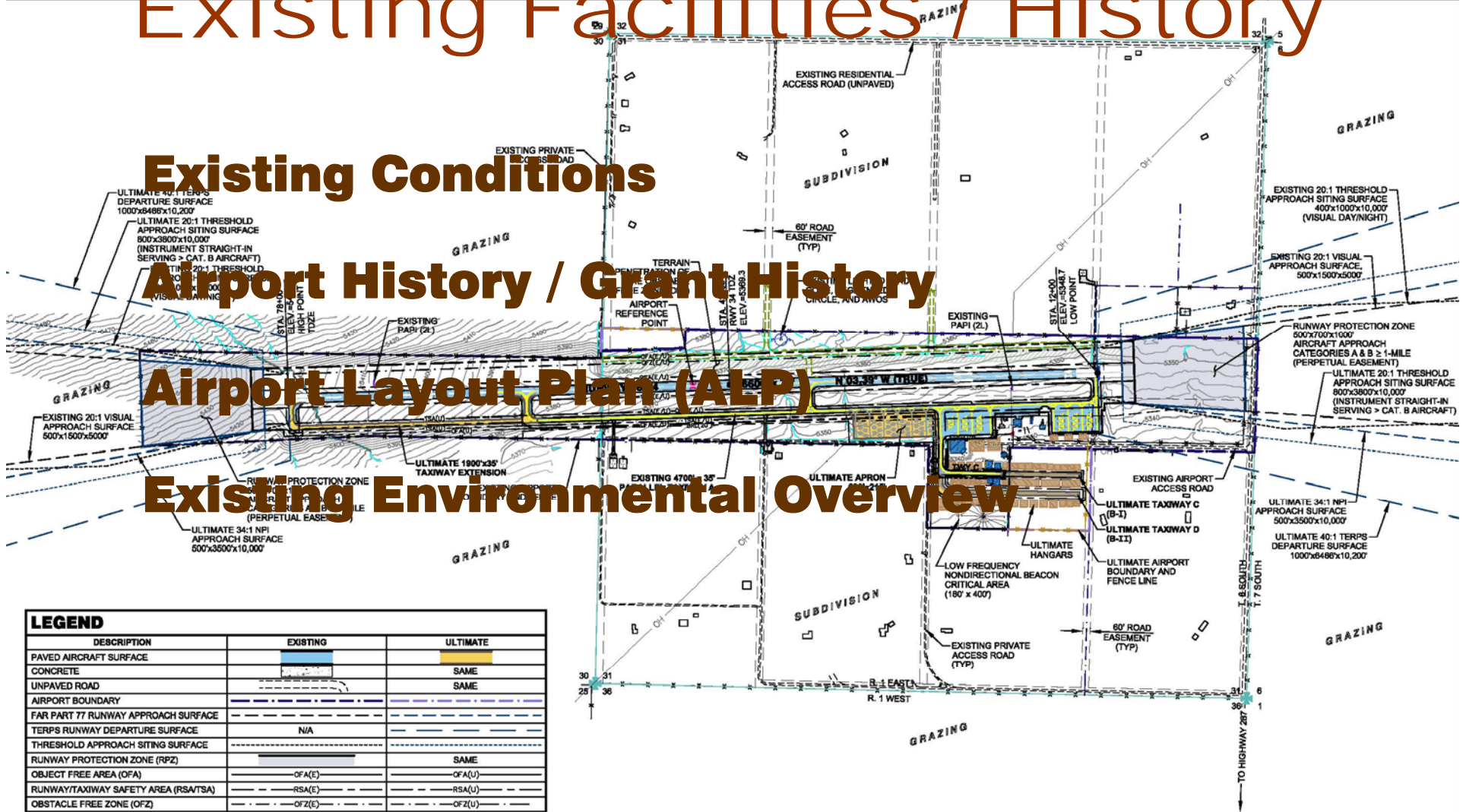
Existing Facilities / History

Existing Conditions

Airport History / Grant History

Airport Layout Plan (ALP)

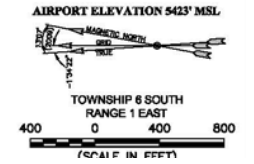
Existing Environmental Overview



DESCRIPTION	EXISTING	ULTIMATE
PAVED AIRCRAFT SURFACE		
CONCRETE		
UNPAVED ROAD		
AIRPORT BOUNDARY		
FAR PART 77 RUNWAY APPROACH SURFACE		
TERPS RUNWAY DEPARTURE SURFACE		
THRESHOLD APPROACH SITING SURFACE		
RUNWAY PROTECTION ZONE (RPZ)		
OBJECT FREE AREA (OFA)		
RUNWAY/TAXIWAY SAFETY AREA (RSA/TSA)		
OBSTACLE FREE ZONE (OFZ)		
BUILDING RESTRICTION LINE (BRL)		
AIRPORT REFERENCE POINT (ARP)		
ON-AIRPORT BUILDING / STRUCTURE		
BUILDING / STRUCTURE (OTHER)		
FENCE LINE		
CONTOUR LINE (2 FT. INTERVAL)		
LIGHTED WIND CONE & SEGMENTED CIRCLE		
MEDIUM-INTENSITY LIGHTING (MIRL)		
ROTATING BEACON		
DRAINAGE (DITCH AND CULVERT)		
OVERHEAD POWER / UNDERGROUND POWER		
UNDERGROUND TELEPHONE CONDUIT		
FOUND SECTION CORNER		

NOTE
 A.I.P. 3-30-0090-01-1989 Spedal Grant Condition 11 acknowledged the agreements between the Madison County Airport Authority and Shining Mountains Airpark Association, and the Madison County Airport Authority and Mustang Ranches Homeowners Association. These agreements provide rules on through-the-fence access.

CONDITIONALLY APPROVED
 Subject to comments of our letter dated: _____
 Airports District Office Date _____
 Federal Aviation Administration
 Airspace Approval Date _____
 Airspace Case No. _____



Operational Baseline

5010 Airport Master Record

Based Aircraft	
Single Engine	21
Multi-Engine	1
Jet	0

Annual Operations	
Air Carrier	0
Air Taxi	600
General Aviation – Local	6,500
General Aviation – Itinerant	5,000
Military	100
Total:	12,200



07.06.2011

Forecast Indicators

US Census Bureau

- **Permanent population growth 0.95% annual average increase - 1990 - 2010**
- **Seasonal, recreational, or occasional use housing 11.3% average annual increase - 2000 - 2010**

Madison County Growth Policy

- **Predicts annual growth rates of 1.0% to 1.5%.**
- **Seasonal residents will continue to play a significant role in Madison County's growth and development pattern.**

Montana Department of Commerce

- **Population projections of 0.52% growth average annually.**
- **Historical growth have been nearly double that projection**

FAA Terminal Area Forecast Summary

- **EKS does not have direct airport forecasts.**
- **Northwest Mountain Region trend predicts approximate 10% growth average annual aircraft operations**

Forecast Indicators – Contd.

FAA Aerospace Forecast

- **0.4% average annual increase in General Aviation.**
- **2.8% average annual increase in turbine jet traffic.**

Flight Aware Data

- **Aviation flight tracking data – all IFR departures / arrivals to EKS.**
- **“C” category aircraft have seen a 29.8% average annual growth past two years.**

Survey of Known Users

- **Survey sent to based aircraft and known users being identified on FlightAware data.**
- **Users estimated a total operational increase of 19.8% total (equates to 3.7% average annual growth for short-term).**

Historic Operational Growth

- **Based upon 5010 Airport Master Record**

Forecasts

- **Local Operations**
- **Itinerant Operations**
- **Air Taxi Operations**
- **Military Operations**

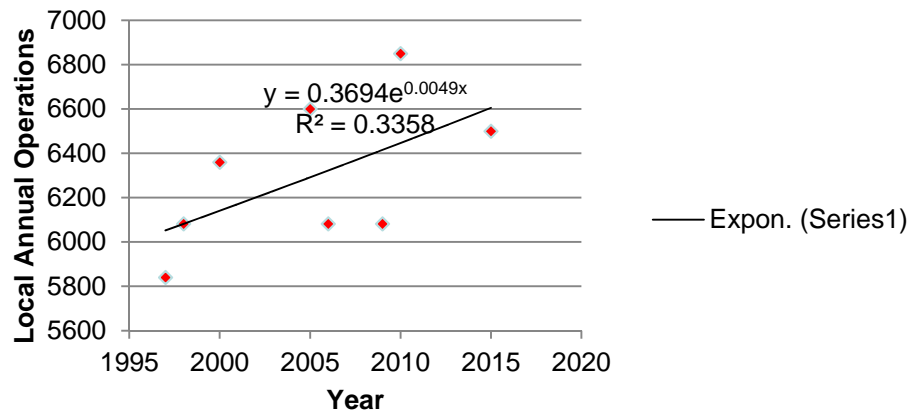
Total Operations



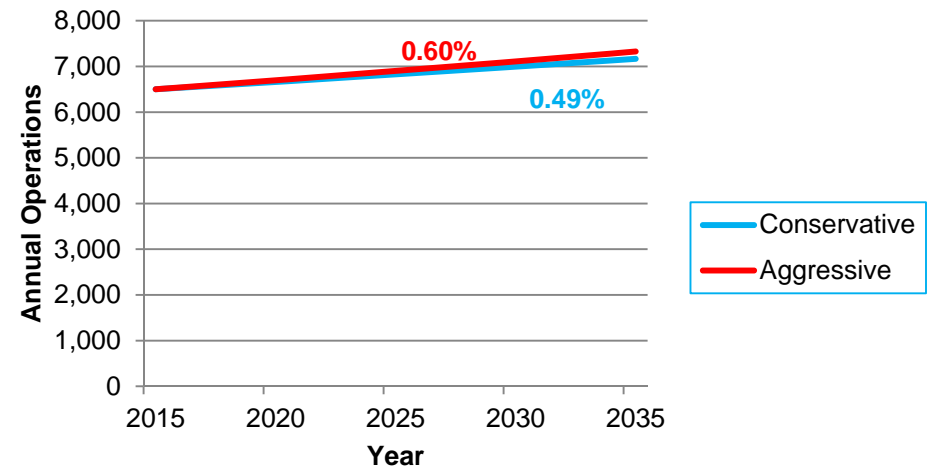
Forecasts - Local Operations

Local Operations – Operations performed by aircraft which operate in the local traffic pattern, or are known to be departing for, or arriving from flight in local practice areas located within a 20-mile radius of the airport.

Local Operations - 5010 Historical



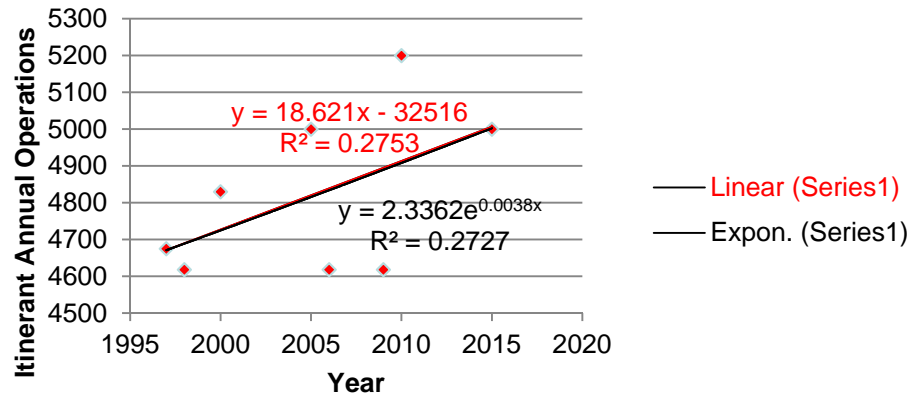
Local Operations - Forecast



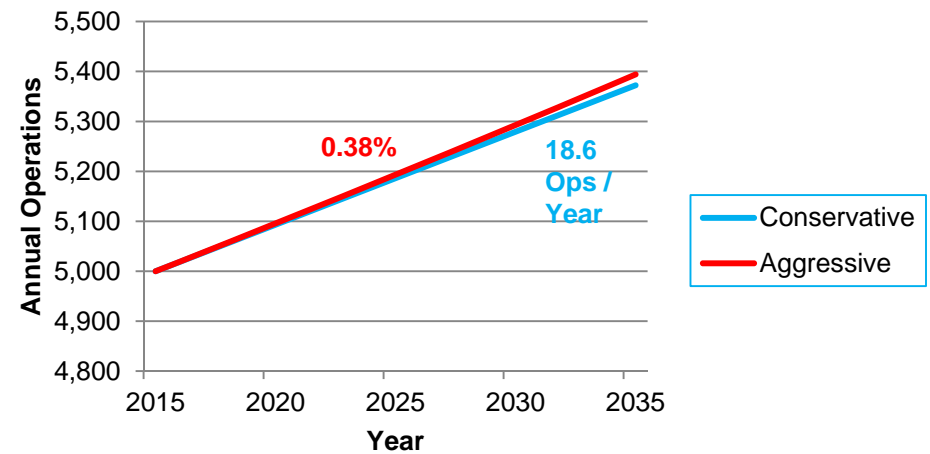
Forecasts - Itinerant Operations

Itinerant Operations – operations other than local operations.

Itinerant Operations - 5010 Historical



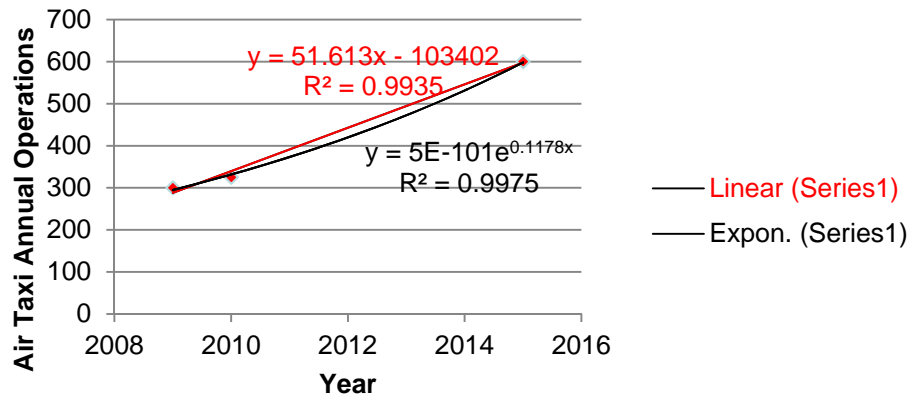
Itinerant Operations



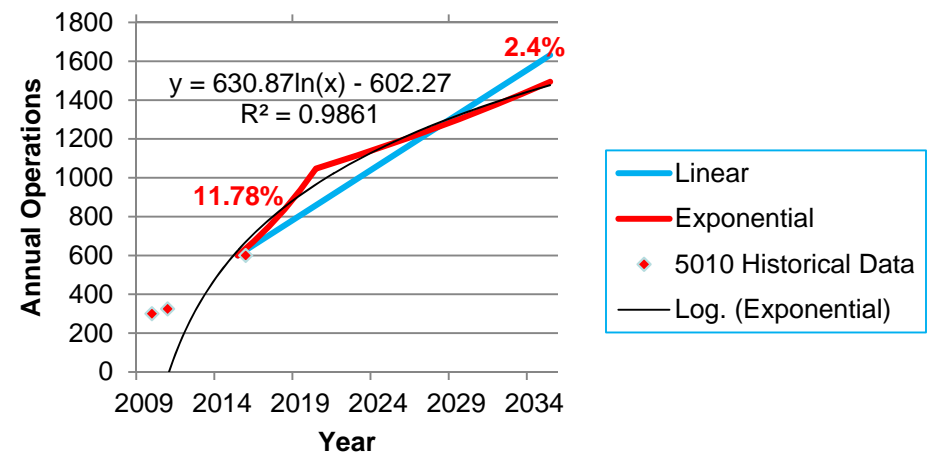
Forecasts - Air Taxi Operations

Air taxi or air charter operations are generally “unscheduled” small commercial aircraft which make flights on demand. Air taxis are required to be less than 60 passenger seats and are governed by the FAA Part 135 Federal Aviation Regulations (FAR).

Air Taxi Operations - 5010 Historical

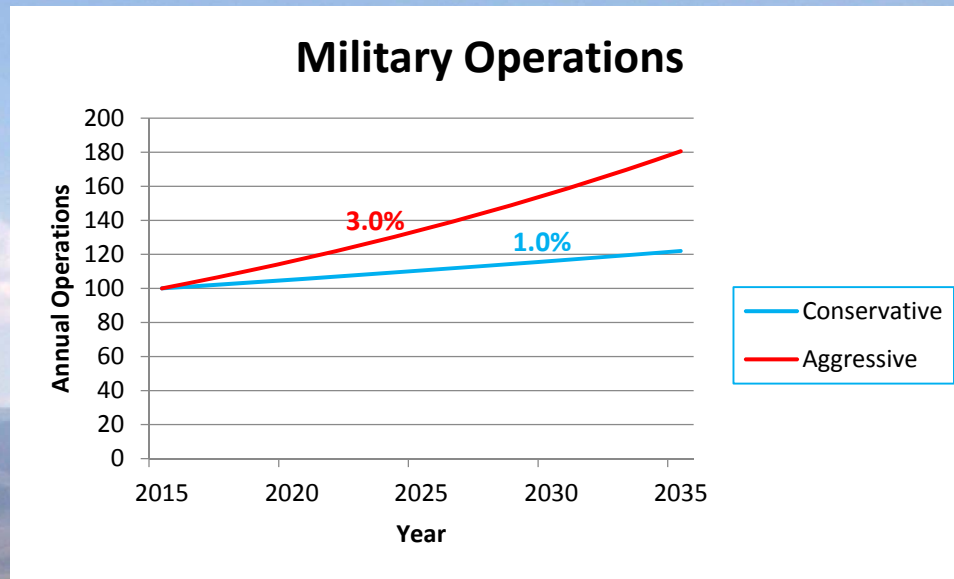


Air Taxi Operations



Forecasts – Military Operations

Operations by any fixed-wing or rotary-wing aircraft that is operated by armed service of any type.



Forecasts - Critical Aircraft

A-I

Air Tractor 301
Beech Baron 55
Beech Bonanza ▶
Cessna 150, 172, 177
Piper Archer
Piper Seneca



C-I, D-I

Hawker 400-700
Israeli Westwind
Lear 24, 25, 54, 55, 56
Lear 55 ▶
Lear 35, 36



A-II

less than or equal to 12,500 lbs

Air Tractor 402, 502
Beech 18-Twin Beech
DeHavilland Twin Otter ▶



greater than 12,500 lbs

Air Tractor 602, 802 ▶
IAI Arava 101, 201



C-II, D-II

Challenger 600
Gulfstream II, III, IV ▶



B-I

less than or equal to 12,500 lbs

Beech Baron 58
Beech King Air F90 ▶
Cessna Citation I
Piper PA 31, 42



greater than 12,500 lbs

Dassault Falcon 10
Learjet 28/29 ▶



C-III, D-III

Airbus A318-A321
B 727
B 737
MD-80, DC-9
Gulfstream 550 ▶



B-II

less than or equal to 12,500 lbs

Beech King Air C90, B200
Cessna 441 ▶
Aero & Turbo Commander



greater than 12,500 lbs

Beech 1900
Cessna Citation II, III, IV, V
Dassault Falcon 50, 90, 2000 ▶
Gulfstream I



C-IV, D-IV

Airbus A300
B 707
B-757 ▶
B-767
DC-8
DC-10
MD-11
L1011
C141



A-III, B-III

ART 42-72
Convair 580
DC-3, 4
DHC Dash 7, 8 ▶
Fairchild F-27, 28



C-V, D-V

B-747 Series ▶
B-777
B-52



Airport Reference Code (ARC) Categories

Aircraft Approach Category	Approach Speed (knots)*	
A	speed < 91	
B	91 ≤ speed < 121	
C	121 ≤ speed < 141	
D	141 ≤ speed < 166	
E	166 ≤ speed	
Airplane Design Group (ADG)	Wingspan (feet)	Tail Height (feet)
I	wingspan < 49	Height < 20
II	49 ≤ wingspan < 79	20 ≤ height < 30
III	79 ≤ wingspan < 118	30 ≤ height < 45
IV	118 ≤ wingspan < 171	45 ≤ height < 60
V	171 ≤ wingspan < 214	60 ≤ height < 66
VI	214 ≤ wingspan < 262	66 ≤ height < 80

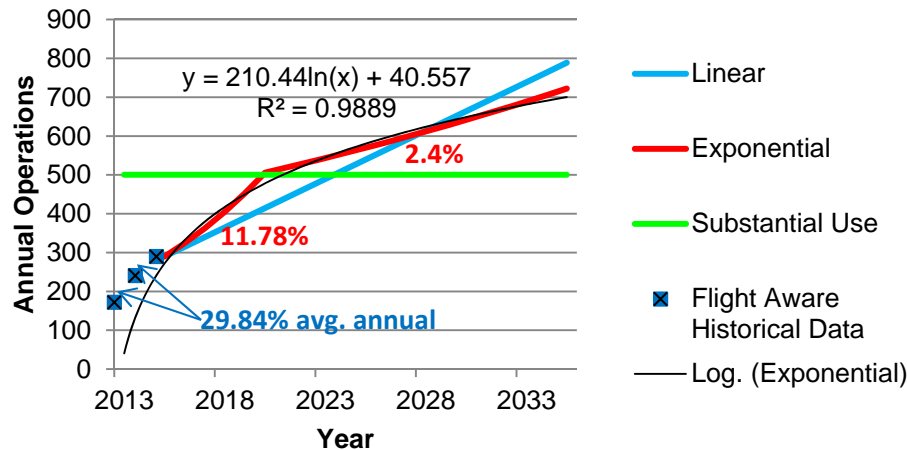
Forecasts - Critical Aircraft

FlightAware is a privately held company that provides aviation flight tracking in over 50 countries. Data of all Instrument Flight Rules (IFR) departures and arrivals to Ennis Big Sky Airport (KEKS) were purchased for the period of 06/21/2011 to 06/17/2015. The data includes the aircraft type filed, origin and destination information, departure and arrival time, and Owner information.

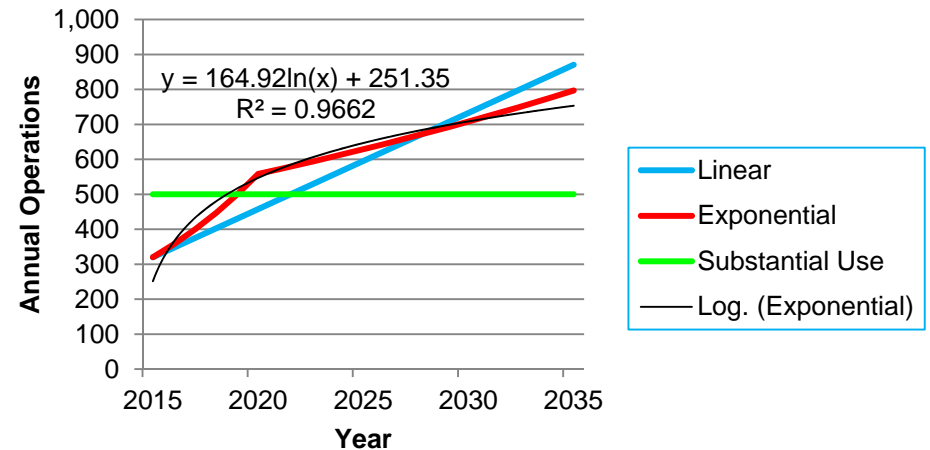
06/21/2012 - 06/20/2013						
Operations By MTOW		% Fleet	Operations By Runway / Taxiway Design Codes			
Unknown:	0	0	Unknown:	0	0	0
<12,500-lbs:	112	112	A / I / 1:	68	132	73
>12,500-lbs, <60,000-lbs:	178	125 - 75%	B / II / 2:	52	160	162
>60,000-lbs:	2	55 - 100%	C / III / 3:	172	0	57
Operations:	292	292	Operations:	292	292	292
06/21/2013 - 06/20/2014						
Operations By MTOW		% Fleet	Operations By Runway / Taxiway Design Codes			
Unknown:	1	1	Unknown:	1	1	1
<12,500-lbs:	130	130	A / I / 1:	99	143	136
>12,500-lbs, <60,000-lbs:	287	216 - 75%	B / II / 2:	83	280	203
>60,000-lbs:	6	77 - 100%	C / III / 3:	241	0	84
Operations:	423	423	Operations:	423	423	423
06/21/2014 - 06/20/2015						
Operations By MTOW		% Fleet	Operations By Runway / Taxiway Design Codes			
Unknown:	0	0	Unknown:	0	0	0
<12,500-lbs:	192	192	A / I / 1:	142	228	209
>12,500-lbs, <60,000-lbs:	300	196 - 75%	B / II / 2:	80	278	201
>60,000-lbs:	20	124 - 100%	C / III / 3:	290	6	102
Operations:	512	512	Operations:	512	512	512

Forecasts - Critical Aircraft

Aircraft Approach Category - "C"



MTOW - >12,500, <60,000-lbs



The Critical Design Aircraft for the short-term (5-years), medium-term (10-years), and long term (20-years) has been forecasted to be "C-II-2" with a Maximum Take-Off Weight (MTOW) of >12,500-lbs and <60,000-lbs in the year 2021.

If short-term trend of 29.84% average annual growth continues, the Critical Design Aircraft will change to "C-II-2" with a Maximum MTOW of >12,500-lbs and <60,000-lbs in the year 2018.

Airport Reference Code (ARC) Categories

Aircraft Approach Category	Approach Speed (knots)*	
A	speed < 91	
B	91 ≤ speed < 121	
C	121 ≤ speed < 141	
D	141 ≤ speed < 166	
E	166 ≤ speed	
Airplane Design Group (ADG)	Wingspan (feet)	Tail Height (feet)
I	wingspan < 49	Height < 20
II	49 ≤ wingspan < 79	20 ≤ height < 30
III	79 ≤ wingspan < 118	30 ≤ height < 45
IV	118 ≤ wingspan < 171	45 ≤ height < 60
V	171 ≤ wingspan < 214	60 ≤ height < 66
VI	214 ≤ wingspan < 262	66 ≤ height < 80



WHERE DO WE GO FROM HERE?

Determine type of airport facilities that are appropriate for the Ennis Big Sky Airport based on current and forecast aircraft activity.

Develop alternatives to meet those facility needs. Facility requirements will include environmental considerations and future public involvement.

Develop an implementation plan / Capital Improvement Plan.

Track the trends and usage to determine if the usage is remaining consistent with forecasts.

COMMENTS or QUESTIONS?



Link to Survey Monkey:

https://www.surveymonkey.com/r/EKS-Forecast_Comments

Link to Forecasting Report:

<https://rpa-hln.sharefile.com/d-s6421fdee7684f7c9>



Robert Peccia & Associates

Civil Engineering, Planning, Surveying, Landscape Architecture
Helena, Bozeman and Kalispell, Montana
Fort Collins, Colorado

ENNIS BIG SKY AIRPORT IMPROVEMENTS

MASTER PLAN UPDATE – FORECASTING

April 11, 2016 Meeting – *Minutes*

COMMENT FORM

Please Submit Your Comments:

James Hart - Comment: The Madison County planning department estimates that only 50% of the available land has been built upon, for subdivision purposes. Still a lot of room within the County for continued growth.

John Hauck – Question: Does that forecasting consider that much of the growth may be occurring in the Big Sky area, and not the Madison Valley.

Lance Bowser – Answer: Yes, the seasonal, recreational, or occasional use housing growth (11.3% average annual) is for the Madison Valley and does not include Big Sky. Additionally, Ennis Big Sky Airport is capturing a small percentage of traffic to Big Sky area. They will likely continue to capture that same percentage as the Big Sky area grows.

John Hauck – Question: Is improved road access to Big Sky being considered?

Lance Bowser – Answer: Improved access of Jack Creek Road has been being discussed for several decades. It seems very unlikely. If access was improved, this would be a large impact, triggering the need for another Master Plan update.

Jim Hart – Answer: There are no serious considerations to improving the road that Madison County is aware of, only rumors. Unlikely to be improved / made public in his opinion.

Tom Miller – Question: Has the state expressed any interest in these improvements:

Jim Hart – Answer: Not in 20-years.

Todd Simmons – Comment: from Choice Aviation’s perspective, providing an improved access to the Big Sky area would increase property values in the Madison Value. Choice has been educating land owner to that effect, because it would provide them return on their investments for the expenses of the land they own along Jack Creek road.

Eli Thompson – Question: Do I see similar growth occurring in the Twin Bridges area.

Lance Bowser – Answer: No, Twin Bridges does not afford the same accommodations as Ennis (hotels, restaurants, etc.). Additionally, Dillon is located less than 30 road miles away, which affords those accommodations and is already established. Growth percentages may be similar, but Twin Bridges will likely be limited for those reasons.

Roy Hill - Comment: Shining Mountain Homeowners Association is interested in what’s likely to happen for ultimate facility requirements. What the airport will look like.

Lance Bowser – Answer: Future public meetings will be held, following determination of the necessary facility requirements and Airport Layout Plan.

APPENDIX I

Forecasting – FAA Approval

Lance Bowser

From: Scott.Eaton@faa.gov
Sent: Wednesday, February 24, 2016 1:02 PM
To: madco@madison.mt.gov
Cc: Lance Bowser; Roxanne.Trotta@faa.gov
Subject: Ennis Big Sky Airport Forecast FAA Approval

Chairman Hart,

The Helena ADO has reviewed the locally developed forecast for the Ennis Big Sky Airport, Ennis, MT, provided in the FY 2015 Master Plan. The FAA concurs that submitted comments by this office have been addressed in the revised chapter and the following forecasts, as submitted in the FY 2015 Ennis Big Sky Airport Master Plan, are approved:

FORECAST LEVELS AND GROWTH RATES - SUMMARY

	Operations (Annual)					Average Annual Compound Growth Rates (%)			
	Base Year Level (2015)	Base Yr. + 1 yr. (2016)	Base Yr. + 5 yrs. (2020)	Base Yr. + 10 yrs. (2025)	Base Yr. + 15 yrs. (2030)	Base Yr. to +1	Base Yr. to +5	Base Yr. to +10	Base Yr. to +15
Itinerant	5,000	5,019	5,096	5,193	5,293	0.38%	0.38%	0.38%	0.38%
Commuter /	600	671	1,047	1,179	1,327	11.78%	11.78%	6.99%	5.43%
Military	100	103	116	134	156	3.00%	3.00%	3.00%	3.00%
Local	6,500	6,539	6,697	6,901	7,110	0.60%	0.60%	0.60%	0.60%
TOTAL	12,200	12,332	12,956	13,407	13,886	1.08%	1.21%	0.95%	0.83%
BASED	21	22	22	23	24	0.60%	0.60%	0.60%	0.60%

COMPARING AIRPORT PLANNING AND TAF FORECASTS

	Year	Airport Forecast	TAF ⁽²⁾	AF/TAF (% Difference)
TOTAL OPERATIONS				
Base Year	2015	12,200 ⁽¹⁾	11,000	110.91%
Base Year + 5 years	2020	12,956	11,000	117.78%
Base Year + 10 years	2025	13,407	11,000	121.88%
Base Year + 15 years	2030	13,886	11,000	126.24%

(1) Base Total Operations is as established in the current FAA 5010 *Airport Master Record*

(2) Ennis Big Sky Airport does not constitute enough of the "market share" to garner direct airport forecasting as part of the TAF; therefore, zero growth has been shown for the Ennis Big Sky Airport since 2006.

Existing Critical Aircraft:

"The current design aircraft is that of an Aircraft Approach Category "B", Airplane Design Group "II", and Taxiway Design Group 2, with a Maximum Takeoff Weight of less than 12,500-lbs."

Forecasted Critical Aircraft:

"In summary, the *Critical Design Aircraft* for the short (5-years), medium-terms (10-years), and long-terms (20-years) has been forecasted to be "C-II-2" with an aircraft of **MTOW of ">12,500-lbs and <60,000-lbs"** in the year 2021, when utilizing the aggressive growth trends."

Let me know if we need to discuss.

Scott Eaton
 Community Planner
 Helena Airports District Office
 Federal Aviation Administration

Helena, MT
(406) 449-5291

APPENDIX J

Pavement Design – Fleet-Mix, FAARFIELD Analysis

Ennis Big Sky Airport Improvements
A.I.P. 3-30-0090-014-2015 & 3-30-0090-017-2016
AC 150/5320-6E Design Aircraft - "Fleet Mix"

Departures	Aircraft Model	Gross Weight	Landing Gear
2,910	Sngl Whl-3	3,000	S
2,910	Sngl Whl-5	5,000	S
2	Cessna Conquest	9,700	S
5	King Air C90	10,100	S
10	Sngl Whl-10 (Pilatus PC-12)	10,450	S
2	Sngl Whl-10 (Phenom 100)	10,472	S
5	King Air 100	11,795	D
5	Sngl Whl-12.5 (Citation I)	11,850	S
10	Super King Air 200	12,500	D
2	Sngl Whl-12.5 (Fairchild Dornier)	13,700	S
10	Super King Air 350	15,000	D
5	Citation II (550B)	15,100	S
20	BeechJet-400A	16,100	S
2	Dual Whl-20 (Metro 23)	16,500	D
25	Citation Jet CJ4 / V	17,110	S
4	Sngl Whl-15 (Phenom 300)	17,968	S
20	Learjet 35	18,000	D
25	Dual Whl-20 (Cessna 560 Excel / XLS)	20,200	D
10	Learjet 45/55/75	21,500	D
5	Citation III / VI / VII	22,000	D
5	Sngl Whl-20 (IAI - Westwind)	23,500	S
10	Hawker-800	28,000	D
2	DC-3	28,000	S
20	Dual Whl-30 (Cessna Sovereign)	30,300	D
5	Dual Whl-30 (IAI - Gulfstream 200)	35,450	D
15	Citation-X	36,100	D
10	Dual Whl-45 (Challenger 300)	38,850	D
4	Dual Whl-60 (Callenger 350)	40,600	D
25	Falcon-2000	41,000	D
5	Challenger 600	48,200	D
5	Gulfstream-G-III	69,700	D
5	Gulfstream-G-IV	74,600	D
2	Gulfstream-G-V	90,500	D
6,100			

FAARFIELD - Airport Pavement Design (V 1.305, 9/28/10 64-bit)

Section FleetMix in Job EKS_MasterPlan.
Working directory is C:\Program Files (x86)\FAA\FAARFIELD\

The structure is New Flexible. Asphalt CDF was not computed.
Design Life = 20 years.
A design for this section was completed on 08/18/16 at 11:26:26.

Pavement Structure Information by Layer, Top First

No.	Type	Thickness in	Modulus psi	Poisson's Ratio	Strength R,psi
1	P-401/ P-403 HMA Surface	4.00	200,000	0.35	0
2	P-209 Cr Ag	8.00	43,889	0.35	0
3	P-154 UnCr Ag	9.89	14,722	0.35	0
4	Subgrade	0.00	6,000	0.35	0

Total thickness to the top of the subgrade = 21.89 in

CBR = 4.0 meeting Reduced Subgrade Strength

Airplane Information

No.	Name	Gross Wt. lbs	Annual Departures	% Annual Growth
1	Sngl Whl-3	3,000	2,910	0.49
2	Sngl Whl-5	5,000	2,910	0.49
3	BeechJet-400A	16,100	20	5.14
4	Challenger-CL-604	48,200	5	5.14
5	Citation-550B	15,100	5	5.14
6	Citation-V	17,110	25	5.14
7	Citation-VI/VII	22,000	5	5.14
8	Citation-X	36,100	15	5.14
9	DC-3	28,000	2	5.14
10	Falcon-2000	41,000	25	5.14
11	Gulfstream-G-III	69,700	5	5.14
12	Gulfstream-G-IV	74,600	5	5.14
13	Gulfstream-G-V	90,500	2	5.14
14	Hawker-800	28,000	10	5.14
15	Learjet-35A/65A	18,000	20	5.14
16	Learjet-55	21,500	10	5.14
17	Conquest-441	9,700	2	5.14
18	KingAir-C-90	10,100	5	5.14
19	KingAir-B-100	11,795	5	5.14
20	SuperKingAir-350	15,000	10	5.14
21	SuperKingAir-B200	12,500	10	5.14
22	Dual Whl-45	38,850	10	5.14
23	Dual Whl-30	35,450	5	5.14
24	Dual Whl-30	30,300	20	5.14
25	Sngl Whl-20	23,500	5	5.14
26	Sngl Whl-15	17,968	4	5.14
27	Dual Whl-20	16,500	2	5.14
28	Sngl Whl-12.5	13,700	2	5.14
29	Sngl Whl-12.5	11,850	5	5.14
30	Dual Whl-60	40,600	4	5.14
31	Sngl Whl-10	10,450	10	5.14
32	Sngl Whl-10	10,472	2	5.14
33	Dual Whl-20	20,000	25	5.14

Additional Airplane Information

Subgrade CDF

No.	Name	CDF Contribution	CDF Max for Airplane	P/C Ratio
1	Sngl Whl-3	0.00	0.00	3.05
2	Sngl Whl-5	0.00	0.00	2.93
3	BeechJet-400A	0.00	0.00	2.68
4	Challenger-CL-604	0.01	0.01	1.78
5	Citation-550B	0.00	0.00	2.78
6	Citation-V	0.00	0.00	2.75
7	Citation-VI/VII	0.00	0.00	2.21
8	Citation-X	0.00	0.00	2.05
9	DC-3	0.00	0.00	2.19
10	Falcon-2000	0.01	0.01	1.98
11	Gulfstream-G-III	0.21	0.21	1.81
12	Gulfstream-G-IV	0.36	0.36	1.81
13	Gulfstream-G-V	0.40	0.41	1.71
14	Hawker-800	0.00	0.00	2.00
15	Learjet-35A/65A	0.00	0.00	2.10
16	Learjet-55	0.00	0.00	2.10
17	Conquest-441	0.00	0.00	2.80
18	KingAir-C-90	0.00	0.00	2.66
19	KingAir-B-100	0.00	0.00	2.07
20	SuperKingAir-350	0.00	0.00	2.10
21	SuperKingAir-B200	0.00	0.00	2.13
22	Dual Whl-45	0.00	0.00	1.89
23	Dual Whl-30	0.00	0.00	2.07
24	Dual Whl-30	0.00	0.00	2.07
25	Sngl Whl-20	0.00	0.00	2.50
26	Sngl Whl-15	0.00	0.00	2.60
27	Dual Whl-20	0.00	0.00	2.11
28	Sngl Whl-12.5	0.00	0.00	2.72
29	Sngl Whl-12.5	0.00	0.00	2.72
30	Dual Whl-60	0.00	0.00	1.80
31	Sngl Whl-10	0.00	0.00	2.73
32	Sngl Whl-10	0.00	0.00	2.73
33	Dual Whl-20	0.00	0.00	2.11

FAARFIELD - Airport Pavement Design (V 1.305, 9/28/10 64-bit)

Section FleetMixPCC in Job EKS_MasterPlan.

Working directory is C:\Program Files (x86)\FAA\FAARFIELD\

The structure is New Rigid.

Design Life = 20 years.

A design for this section was completed on 08/18/16 at 11:34:45.

Pavement Structure Information by Layer, Top First

No.	Type	Thickness in	Modulus psi	Poisson's Ratio	Strength R,psi
1	PCC Surface	8.94	4,000,000	0.15	700
2	P-209 Cr Ag	6.00	40,320	0.35	0
3	P-154 UnCr Ag	9.89	14,722	0.35	0
4	Subgrade	0.00	6,000	0.40	0

Total thickness to the top of the subgrade = 24.83 in

**CBR = 4.0 meeting Reduced Subgrade Strength only
Additional non-frost susceptible material shall be included to 65% of frost depth (45.83" minimum total pavement section)**

Airplane Information

No.	Name	Gross Wt. lbs	Annual Departures	% Annual Growth
1	Sngl Whl-3	3,000	2,910	0.49
2	Sngl Whl-5	5,000	2,910	0.49
3	BeechJet-400A	16,100	20	5.14
4	Challenger-CL-604	48,200	5	5.14
5	Citation-550B	15,100	5	5.14
6	Citation-V	17,110	25	5.14
7	Citation-VI/VII	22,000	5	5.14
8	Citation-X	36,100	15	5.14
9	DC-3	28,000	2	5.14
10	Falcon-2000	41,000	25	5.14
11	Gulfstream-G-III	69,700	5	5.14
12	Gulfstream-G-IV	74,600	5	5.14
13	Gulfstream-G-V	90,500	2	5.14
14	Hawker-800	28,000	10	5.14
15	Learjet-35A/65A	18,000	20	5.14
16	Learjet-55	21,500	10	5.14
17	Conquest-441	9,700	2	5.14
18	KingAir-C-90	10,100	5	5.14
19	KingAir-B-100	11,795	5	5.14
20	SuperKingAir-350	15,000	10	5.14
21	SuperKingAir-B200	12,500	10	5.14
22	Dual Whl-45	38,850	10	5.14
23	Dual Whl-30	35,450	5	5.14
24	Dual Whl-30	30,300	20	5.14
25	Sngl Whl-20	23,500	5	5.14
26	Sngl Whl-15	17,968	4	5.14
27	Dual Whl-20	16,500	2	5.14
28	Sngl Whl-12.5	13,700	2	5.14
29	Sngl Whl-12.5	11,850	5	5.14
30	Dual Whl-60	40,600	4	5.14
31	Sngl Whl-10	10,450	10	5.14
32	Sngl Whl-10	10,472	2	5.14
33	Dual Whl-20	20,000	25	5.14

Additional Airplane Information

No.	Name	CDF Contribution	CDF Max for Airplane	P/C Ratio
1	Sngl Whl-3	0.00	0.00	9.82
2	Sngl Whl-5	0.00	0.00	7.61
3	BeechJet-400A	0.00	0.00	4.99
4	Challenger-CL-604	0.00	0.00	5.04
5	Citation-550B	0.00	0.00	5.79
6	Citation-V	0.00	0.00	5.52
7	Citation-VI/VII	0.00	0.00	7.61
8	Citation-X	0.00	0.00	6.54
9	DC-3	0.00	0.00	2.56
10	Falcon-2000	0.00	0.00	6.80
11	Gulfstream-G-III	0.14	0.14	4.55
12	Gulfstream-G-IV	0.30	0.30	4.53
13	Gulfstream-G-V	0.56	0.57	4.23
14	Hawker-800	0.00	0.00	6.36
15	Learjet-35A/65A	0.00	0.00	8.68
16	Learjet-55	0.00	0.00	8.61
17	Conquest-441	0.00	0.00	6.08
18	KingAir-C-90	0.00	0.00	4.81
19	KingAir-B-100	0.00	0.00	6.07
20	SuperKingAir-350	0.00	0.00	7.02
21	SuperKingAir-B200	0.00	0.00	7.93
22	Dual Whl-45	0.00	0.00	5.30
23	Dual Whl-30	0.00	0.00	6.42
24	Dual Whl-30	0.00	0.00	6.42
25	Sngl Whl-20	0.00	0.00	3.82
26	Sngl Whl-15	0.00	0.00	4.40
27	Dual Whl-20	0.00	0.00	7.59
28	Sngl Whl-12.5	0.00	0.00	5.28
29	Sngl Whl-12.5	0.00	0.00	5.28
30	Dual Whl-60	0.00	0.00	5.02
31	Sngl Whl-10	0.00	0.00	5.39
32	Sngl Whl-10	0.00	0.00	5.39
33	Dual Whl-20	0.00	0.00	7.59

FAARFIELD - Airport Pavement Design (V 1.305, 9/28/10 64-bit)

Section TaxilaneC in Job EKS_MasterPlan.
Working directory is C:\Program Files (x86)\FAA\FAARFIELD\

The structure is New Flexible. Asphalt CDF was not computed.
Design Life = 20 years.
A design for this section was completed on 08/18/16 at 11:26:48.

Pavement Structure Information by Layer, Top First

No.	Type	Thickness in	Modulus psi	Poisson's Ratio	Strength R,psi
1	P-401/ P-403 HMA Surface	3.00	200,000	0.35	0
2	P-209 Cr Ag	3.00	21,620	0.35	0
3	P-154 UnCr Ag	4.40	10,967	0.35	0
4	Subgrade	0.00	6,000	0.35	0

Total thickness to the top of the subgrade = 10.40 in

CBR = 4.0 meeting Reduced Subgrade Strength

Airplane Information

No.	Name	Gross Wt. lbs	Annual Departures	% Annual Growth
1	Sngl Whl-3	3,000	1,000	0.49
2	Sngl Whl-5	5,000	1,000	0.49
3	Sngl Whl-10	10,000	200	0.49
4	Sngl Whl-12.5	12,500	200	0.49

Additional Airplane Information

Subgrade CDF

No.	Name	CDF Contribution	CDF Max for Airplane	P/C Ratio
1	Sngl Whl-3	0.00	0.00	5.39
2	Sngl Whl-5	0.00	0.00	5.00
3	Sngl Whl-10	0.14	0.14	4.42
4	Sngl Whl-12.5	0.86	0.86	4.38

APPENDIX K

Facility Requirements – Supplemental Data

ENNIS, MONTANA (242793)

Period of Record Monthly Climate Summary

Period of Record : 7/ 2/1948 to 12/31/2005

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	33.2	38.4	45.2	55.6	65.5	73.6	82.7	81.5	71.2	59.6	43.4	34.7	57.0
Average Min. Temperature (F)	14.5	17.8	22.3	29.2	36.7	43.2	47.7	46.0	38.5	31.5	23.4	16.8	30.6
Average Total Precipitation (in.)	0.38	0.39	0.71	1.12	2.04	2.35	1.24	1.21	1.16	0.92	0.57	0.42	12.49
Average Total SnowFall (in.)	5.8	4.4	5.8	3.3	1.1	0.1	0.0	0.0	0.2	2.0	5.0	5.2	33.0
Average Snow Depth (in.)	1	0	0	0	0	0	0	0	0	0	0	1	0

Percent of possible observations for period of record.

Max. Temp.: 99.6% Min. Temp.: 99.3% Precipitation: 99.6% Snowfall: 69.4% Snow Depth: 59.5%

Check [Station Metadata](#) or [Metadata graphics](#) for more detail about data completeness.

Western Regional Climate Center, wrcc@dri.edu

Snow Plow Calculations

Ennis Big Sky Airport

Assumptions:

Minimum taxiway area from both runway ends to the main terminal apron will be in Priority 1 clearing.

9-foot blade

- 35 degree cutting angle
- 7.4-foot effective width
- 0.65 efficient plow
- 15 mph plowing speed
- 0.50 minute turnaround time
- 2 speed reduction factor for short or small areas (aprons, connecting taxiways, taxilanes, etc.)

Existing Pavement

Operations

2016 12,200

AC 150/5200-30D
 "Other than commercial service ..."
 10k-40k annual operations
 clearance time = 3 hours

	length (feet)	width (feet)	# of passes	speed (mph)	turn time (min)	plow time (minutes)	snow density (lb/ft ³)	snow depth (inches)	Area (SF)	Weight (tons)
Runway 16-34	6600	75	16	15	0.5	88	25	1	495,000	516
Principal Taxiway to the Ramp (TSA)	1150	35	8	15	0.5	11	25	1	40,250	42
Terminal Apron (North @ 50% and Central Apron @ 100%)	195	650	136	7.5	0.5	108	25	1	126,750	132

TOTAL:	207 minutes	SF:	662,000	690
	3.5 hours	acres:	15.2	

Snow Plow Calculations

Ennis Big Sky Airport

Assumptions:

Minimum taxiway area from both runway ends to the main terminal apron will be in Priority 1 clearing.

16 -foot blade

- 35 degree cutting angle
- 13.1 -foot effective width
- 0.75 efficient plow
- 35 mph plowing speed
- 1.50 minute turnaround time
- 4 speed reduction factor for short or small areas (aprons, connecting taxiways, taxilanes, etc.)

Existing Pavement

Operations

2016 12,200

AC 150/5200-30D
 "Other than commercial service ..."
 10k-40k annual operations
 clearance time = 3 hours

	length (feet)	width (feet)	# of passes	speed (mph)	turn time (min)	plow time (minutes)	snow density (lb/ft ³)	snow depth (inches)	Area (SF)	Weight (tons)
Runway 16-34	6600	75	8	35	1.5	29	25	1	495,000	516
Principal Taxiway to the Ramp (TSA)	1150	35	4	35	1.5	7	25	1	40,250	42
Terminal Apron (North @ 50% and Central Apron @ 100%)	195	650	67	8.8	1.5	117	25	1	126,750	132
TOTAL:						154 minutes 2.6 hours		SF:	662,000	690
							acres:	15.2		

Snow Plow Calculations

FUTURE (1) (est. 2-5-YEARS)

Ennis Big Sky Airport

Assumptions:

Minimum taxiway area from both runway ends to the main terminal apron will be in Priority 1 clearing.

16 -foot blade

- 35 degree cutting angle
- 13.1 -foot effective width
- 0.75 efficient plow
- 35 mph plowing speed
- 1.50 minute turnaround time
- 4 speed reduction factor for short or small areas (aprons, connecting taxiways, taxilanes, etc.)

Operations

2016 12,200

AC 150/5200-30D
 "Other than commercial service ..."
 10k-40k annual operations
 clearance time = 3 hours

	length (feet)	width (feet)	# of passes	speed (mph)	turn time (min)	plow time (minutes)	snow density (lb/ft ³)	snow depth (inches)	Area (SF)	Weight (tons)
Runway 16-34	6600	100	11	35	1.5	40	25	1	660,000	688
Principal Taxiway to the Ramp (TSA)	1150	35	4	35	1.5	7	25	1	40,250	42
Terminal Apron (North @ 50% and Central Apron @ 100%)	195	650	67	8.8	1.5	117	25	1	126,750	132

TOTAL:	165 minutes	SF:	827,000	861
	2.8 hours	acres:	19.0	

Snow Plow Calculations

FUTURE (2) (est. 5-7-YEARS)

Ennis Big Sky Airport

Assumptions:

Minimum taxiway area from both runway ends to the main terminal apron will be in Priority 1 clearing.

16 -foot blade

- 35 degree cutting angle
- 13.1 -foot effective width
- 0.75 efficient plow
- 35 mph plowing speed
- 1.50 minute turnaround time
- 4 speed reduction factor for short or small areas (aprons, connecting taxiways, taxilanes, etc.)

Operations

2016 12,200

AC 150/5200-30D
 "Other than commercial service ..."
 10k-40k annual operations
 clearance time = 3 hours

	length (feet)	width (feet)	# of passes	speed (mph)	turn time (min)	plow time (minutes)	snow density (lb/ft ³)	snow depth (inches)	Area (SF)	Weight (tons)
Runway 16-34	7600	100	11	35	1.5	44	25	1	760,000	792
Principal Taxiway to the Ramp (TSA)	1150	35	4	35	1.5	7	25	1	40,250	42
Terminal Apron (North @ 50% and Central Apron @ 100%)	195	650	67	8.8	1.5	117	25	1	126,750	132
TOTAL:						169 minutes 2.8 hours		SF:	927,000	966
							acres:	21.3		

Snow Plow Calculations

ULTIMATE (est. 10+ YEARS)

Ennis Big Sky Airport

Assumptions:

Minimum taxiway area from both runway ends to the main terminal apron will be in Priority 1 clearing.

16 -foot blade

- 35 degree cutting angle
- 13.1 -foot effective width
- 0.75 efficient plow
- 35 mph plowing speed
- 1.50 minute turnaround time
- 4 speed reduction factor for short or small areas (aprons, connecting taxiways, taxilanes, etc.)

Operations

2016 12,200

AC 150/5200-30D
 "Other than commercial service ..."
 10k-40k annual operations
 clearance time = 3 hours

	length (feet)	width (feet)	# of passes	speed (mph)	turn time (min)	plow time (minutes)	snow density (lb/ft ³)	snow depth (inches)	Area (SF)	Weight (tons)	
Runway 16-34	8700	100	11	35	1.5	48	25	1	870,000	906	
Principal Taxiway to the Ramp (TSA)	1150	35	4	35	1.5	7	25	1	40,250	42	
Terminal Apron (North @ 50% and Central Apron @ 100%)	195	650	67	8.8	1.5	117	25	1	126,750	132	
TOTAL:						173 minutes 2.9 hours	SF:	1,037,000	acres:	23.8	1,080

Takeoff Performance Chart Description

- **Chart Heading** – The chart heading specifies the performance criteria that were used in the Runway Analysis. Items included are Aircraft Type, Engine Type, Airplane Flight Manual Revision Number, Flap Setting, Airport IATA/ICAO identifier, Airport Name, Airport City/State/Territory, Airport Elevation, and Obstacle Criteria.
- **Configuration** – This section provides a list of variables that affect aircraft performance. A few examples of configuration items are Bleeds On/Off, APR On/Off, Anti-Skid Inoperative, Runway Contaminants, etc. These options are selectable when computing a new analysis.
- **Runway Notes** – This section provides information about the selected runways, including intersection information, temporary runway details, etc.
- **Temperature** – The surface temperature upon which the performance data is based. The maximum temperature shown on the chart corresponds to the maximum operational temperature for airport elevation.
- **Takeoff Power Setting** – The takeoff thrust power setting, whether in torque, EPR, or N1, for airport surface temperature and elevation.
- **Runway/Obstacle Weight Limits** – The zero wind, standard atmospheric pressure weight limit which takes into account the following limitations: Accel-Go, Accel-Stop, Minimum Control Speeds, All-Engines Operating Go, Brake Energy, Tire Speed, Obstacle Clearance, and Flight Path/ Level-Off Altitude Limitations. Corrections are given for wind and non-standard pressure.
- **V-Speeds** – Takeoff speeds are presented for use at the zero-wind, standard pressure limit weight. These speeds may be optimized for the corresponding takeoff weight limit and should not be used for any deviation from the limit weight, or for non-standard conditions.
- **Climb Limit** – The climb limit is a weight that meets the minimum climb gradients required for each takeoff flight path segment as defined in the certification regulations. The climb limit is based on reported surface temperature and airport elevation only. The Climb Limit is INDEPENDENT of runway in use or any obstruction/terrain clearance criteria.

Limit Codes

- **ST** = Structurally Limited – the maximum certified structural weight limit*
- **FL** = Field Length Limited – the maximum weight at which an aircraft complies with the appropriate airworthiness rules governing runway length, runway gradient (slope), airport elevation, temperature, wind, pressure altitude (QNH), and runway contamination.
- **O** = Obstacle Limited – the maximum weight at which obstacle clearance is achieved in compliance with the appropriate airworthiness standards.
- **TS** = Tire Speed Limited – the maximum weight at which an aircraft will not exceed maximum tire speed ratings.
- **BE** = Brake Energy Limited – the maximum weight at which the brakes are still able to absorb the amount of energy required to stop the aircraft.
- **FP** = Flight Path/Level-Off Altitude Limited – the maximum weight at which an aircraft will complete those portions of the flight path profile that require takeoff thrust within the takeoff thrust time limits.
- **NA** – Takeoff/Landing is Not Authorized.

** Structural weight limits are aircraft-specific and must always be followed. In some circumstances APG may provide takeoff or landing weights that exceed those allowed for the operator's individual aircraft. It is up to the operator to ensure that structural weight limitations are always followed.*

Runway Identifiers

- Full-length runways are indicated by the basic identifier, i.e. 34L
- Intersection departures include the intersection identifier, i.e. 34L-A
- Temporary/construction runway lengths are designated by the letters "TMP" or "TP", i.e. 34LTMP
- Special Departure Procedures include the text "DP", i.e. 34LDP
- Runways designated with the letters "SHP" are for use when a ship is present on the departure end
- Non-standard runway identifiers, such as intersections, temporary runways, etc. will be accompanied by a "Runway Note" on the report page. These notes help to further clarify what is being taken into account for that particular runway.
 - Intersections will list the intersection identifier and available runway length
 - i.e. RWY 34L-K INTXN T/O FROM K - 9341 FT
 - Temporary runways will include what temporary considerations are taken
 - i.e. RWY 34LTMP FOR USE WHEN SOUTH 370 FT CLOSED

NOTE: *Some runways/airports require a "Special Departure Procedure" in order to optimize takeoff weight in terrain/obstacle sensitive areas. The specific description of the Special Departure Procedure is outlined on a separate page attached to the takeoff airport analysis. These procedures describe the non-standard, one engine inoperative, departure flight path. The maximum allowable takeoff weights presented in the subsequent analyses are based upon the specific procedure(s) outlined. If there is no "DP" attached to the runway identifier, the takeoff weights are predicated upon a STRAIGHT OUT departure.*

Definitions/Abbreviations

Obstacle Criteria – Obstacle clearance criteria including horizontal and vertical obstacle clearance requirements. The available options are FAA_CIRC, ICAO, AUS, and HKG.

- **FAA_CIRC** – Obstacle clearance criteria as outlined in FAA AC 120-91 "Area Analysis Method"
- **ICAO** - Obstacle clearance criteria as outlined in EASA-OPS 1.495
- **AUS** - Obstacle clearance criteria as outlined in CASA CAO Section 20.7.1B
- **HKG** - Obstacle clearance criteria as outlined in CAD Cap 448C Schedule 15.

TORA – Takeoff Run Available – the runway length declared available and suitable for the ground run of an aircraft taking off

TODA – Takeoff Distance Available - the TORA plus the length of any remaining runway or clearway beyond the far end of the TORA

ASDA – Accelerate Stop Distance Available – the runway plus stopway length declared available and suitable for the acceleration and deceleration of an aircraft aborting a takeoff

LDA – Landing Distance Available – the runway length declared available and suitable for landing an aircraft

LVL OFF – The level-off altitude/acceleration altitude in Height above Mean Sea Level (AMSL) to be used with the Runway Analysis. This altitude must be used in accordance with the flight path profile in the aircraft's AFM. Leveling off above or below the APG provided level-off altitude may result in obstacle clearance violations or exceed engine takeoff thrust time limits. Customers may have APG set a minimum level-off height of at least 400 ft. Depending on aircraft type, this height may be increased to allow for an extended second segment climb for obstacle clearance requirements.

For answers to your questions, visit our FAQ page at www.flyapg.com/FAQ.aspx



Ver. 1.1

Procedure for Determining Maximum Allowable Weight – Takeoff

1. Locate the row that corresponds with the desired temperature
2. Read the Power Setting to be used at this temperature
3. Determine the Uncorrected Runway/Obstacle Weight Limit for the desired runway

Runway/Obstacle Weight Limits:

TEMP (°C)		PWR	LIMIT WT/CODE	V1/VR/V2/VENR	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VENR	LVLOFF	CLIMB
8	93.08		43731 FL	137/142/148/177	7916	43731 FL	137/142/148/177	7916	48200

Runway Identifier: 33DP, 33DP5

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+29	0	+30	0	0
TWD per KT	-132	0	-115	0	0
QNH per +0.1	+71	0	+68	0	0
QNH per -0.1	-83	-1	-81	-1	-26
COWL A/I	0	0	-370	0	+172
COWL+WING	-1549	0	-2272	0	-389

4. Make the appropriate corrections for wind, QNH, and/or Anti-Ice. This is the Corrected Runway/Obstacle Weight Limit
5. Determine the Uncorrected Level-Off Height
6. Make the appropriate corrections for wind, QNH, and/or Anti-Ice. This is the Corrected Level Off Height
7. Determine the Uncorrected Climb Weight Limit for the given temperature
8. Make the appropriate corrections for QNH and/or Anti-Ice. This is the Corrected Climb Weight Limit

The Maximum Takeoff Weight is the lowest of the Corrected Runway/Obstacle Weight Limit, the Corrected Climb Weight Limit, and the Structural Takeoff Weight Limit.

EXAMPLE:

Runway 33DP
 Temperature = 8 degrees
 Wind = 4 kt headwind
 QNH = 29.75 in Hg

Power Setting = 93.08

Uncorrected Runway/Obstacle Weight Limit = 43,731 lbs
 Wind Correction = 29 lbs * 4 kts = 116 lbs
 QNH Correction = 29.92 - 29.75 = 0.17 * -83 lbs per 0.1 = 1.7 * -83 lbs = -141.1 lbs
Corrected Runway/Obstacle Weight Limit = 43,731 + 116 - 141.1 = 43,705 lbs

Uncorrected Level-Off Height = 7,916 ft MSL
 QNH Correction = 29.92 - 29.75 = 0.17 * -1 ft per 0.1 = 1.7 * -1 ft = -1.7 ft
Corrected Level Off Height = 7,916 ft MSL - 1.7 ft = 7,914 ft MSL

Uncorrected Climb Limit = 48,200 lbs
 QNH Correction = 29.92 - 29.75 = 0.17 * -26 lbs per 0.1 = 1.7 * -26 lbs = -44.2 lbs
Corrected Climb Weight Limit = 48,200 lbs - 44.2 lbs = 48,155 lbs

Structural Takeoff Weight Limit = 48,200 lbs

Maximum Takeoff Weight is the lowest of the Runway/Obstacle, Climb, and Structural Limit Weights. **Therefore, the Maximum Takeoff Weight for this example is 43,705 lbs**

Landing Performance Chart Description

- **Chart Heading** – The chart heading specifies the performance criteria that were used in the Runway Analysis. Items included are Aircraft Type, Engine Type, Airplane Flight Manual Revision Number, Flap Setting, Airport IATA/ICAO identifier, Airport Name, Airport City/State/Territory, and Airport Elevation.
- **Configuration** – This section provides a list of variables that affect aircraft performance. A few examples of configuration items are Bleeds On/Off, APR On/Off, Anti-Skid Inoperative, Runway Contaminants, etc. These options are selectable when computing a new analysis.
- **Runway Notes** – This section provides information about the selected runways, including intersection information, temporary runway details, etc.
- **Approach Climb Limits** – The approach climb weight limit meets the minimum climb gradients required for the approach climb (go-around) phase of landing as defined in the certification regulations. The approach climb weight limit is based on reported surface temperature and airport altitude only. The approach climb weight limit is independent of runway in use, missed approach procedure to be used, and any obstacle/terrain clearance criteria.
- **Field Length Weight Limits/Distances** – The zero wind runway weight limit corresponding to the runway's landing distance available (LDA). Landing weight limits and distances required are shown for:

Dry runway and WET runway (note: The WET runway performance data is based upon a factor of 115% as outlined within applicable regulations)

Regulatory Destination Airport factors of:

60% (1.67)

80% (1.43)

100% - UNFACTORED

Wind components of -10 Tailwind, 0 wind, 10 and 40 knots of Headwind.

Destination airport temperature.

Runway Identifiers

- Full-length runways are indicated by the basic identifier, i.e. 34L
- Temporary/construction runway lengths are designated by the letters "TMP" or "TP", i.e. 34LTMP
- Non-standard runway identifiers, such as temporary runways, etc. will be accompanied by a "Runway Note" on the report page. These notes help to further clarify what is being taken into account for that particular runway.
 - Temporary runways will include what temporary considerations are taken
 - i.e. RWY 34LTMP FOR USE WHEN SOUTH 370 FT CLOSED

Procedure for Determining Maximum Allowable Weight – Landing

1. Locate the limit weight for the required Approach Climb Gradient and temperature. This becomes your Approach Climb Weight Limit.

Approach Climb Limits:

GRAD	30	32	34	36	38
2.1%	38000	38000	38000	38000	38000
2.5%	38000	38000	38000	38000	38000

Field Length Weight Limits/Distances:

WIND (KT)	OAT (°C)	60%		70%		80%		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
	30	34107	4800	38000	4458	38000	3901	38000	3121
	32	34107	4800	38000	4458	38000	3901	38000	3121
	34	34107	4800	38000	4458	38000	3901	38000	3121
	36	34107	4800	38000	4458	38000	3901	38000	3121
	38	34107	4800	38000	4458	38000	3901	38000	3121

2 RWY: 10
 LDA: 4800FT
 SLOPE: -0.63%
 COND: DRY

2. Locate the section under Field Length Weight Limits/Distances that corresponds with the desired runway. LDA, Slope, and Runway Condition are provided for your information.
3. Locate the set of rows that correspond with the actual headwind, reported by ATIS or METAR
4. Locate the row that corresponds with the desired temperature
5. Locate the column that corresponds with the desired landing factor
6. Read the Field Length Weight Limit from the appropriate column/row
7. Read the corresponding Landing Distance Required for that limit weight
 - a. This distance already takes into account the landing factor required, NOT the actual landing distance.

The Maximum Landing Weight is the lowest of the Approach Climb Weight Limit, the Field Length Weight Limit, and the Structural Landing Weight Limit.

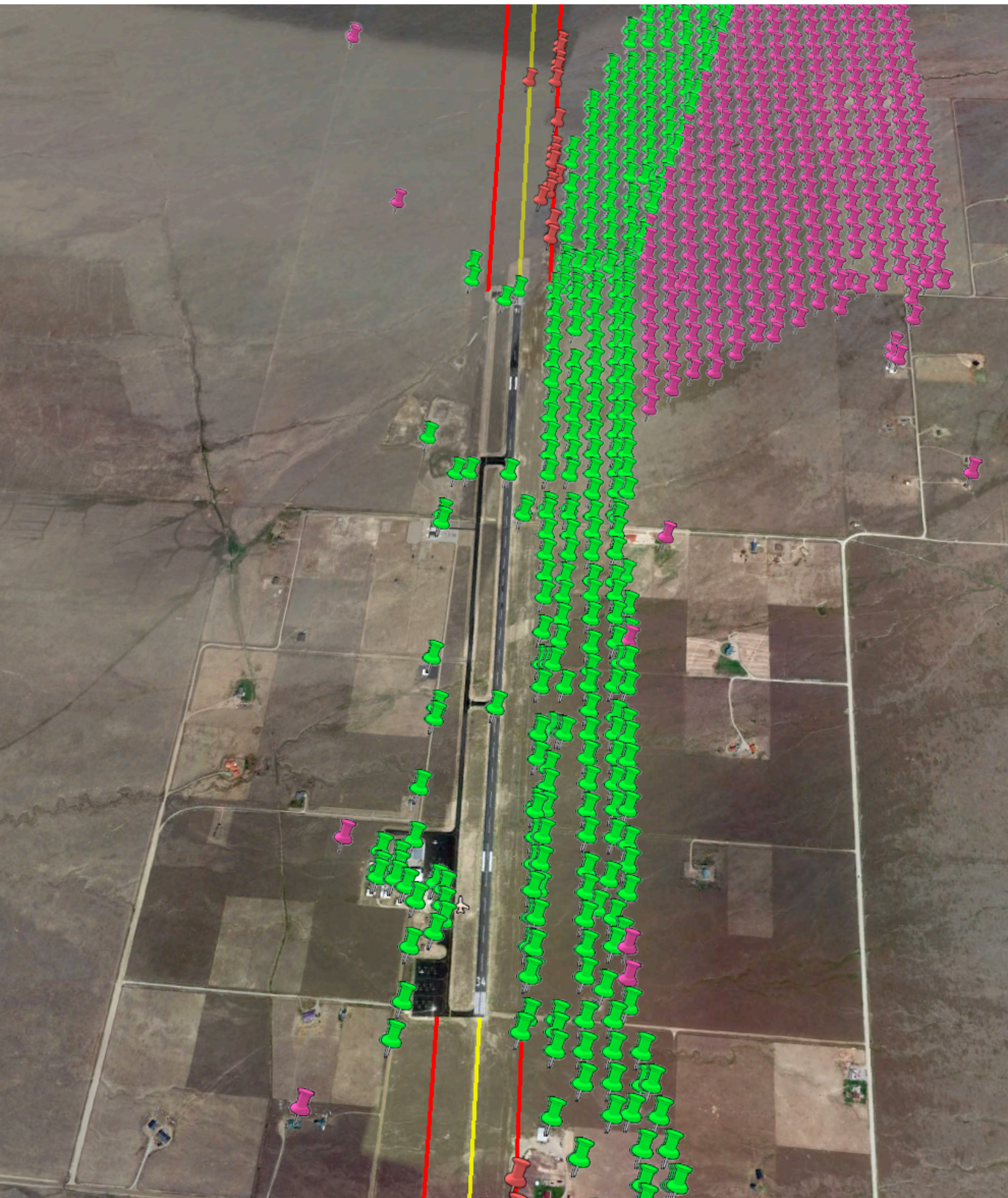
EXAMPLE:

Runway 10
 Temperature = 32 degrees
 Wind = 10 kt headwind
 Required Approach Climb Gradient = 2.1%
 Operational Landing Factor Required = 60%

Approach Climb Weight Limit = 38,000 lbs
Field Length Weight Limit = 34,107 lbs
Landing Distance Required = 4,800 ft
Structural Landing Weight Limit = 38,000 lbs

Maximum Landing Weight is the lowest of the Approach, Field Length, and Structural Landing Weight Limit. **Therefore, the Maximum Landing Weight for this example is 34,107 lbs.**

NOTE: Landing pages only display a limited number of temperatures due to the amount of data presented. If a different landing temperature is desired, use the “Use Temp” feature just prior to clicking “Compute” when running a new analysis. Be sure to specify the desired temperature and ensure the “Use Temp” box is checked before clicking compute. Alternatively, temperature step size can be adjusted for each aircraft by request. Please contact APG for further information.



SPECIAL DEPARTURE PROCEDURES

Rwy 16DP
Elevation: 5422.9
Obstacle Criteria: FAA AC 120-91

KEKS
ENNIS-BIG SKY
ENNIS, MT
15Dec16

- TAKEOFF WEIGHTS FOR RWY 16DP REQUIRE THE USE OF THIS TAILORED RNAV DEPARTURE PROCEDURE
- *** RNAV PROCEDURE. ALL FIXES ARE FLY-BY FIXES UNLESS OTHERWISE NOTED. ***
- AT DEPARTURE END OF RUNWAY TURN RIGHT DIRECT TO MDISN
- CLIMB IN HOLDING PATTERN AT MDISN (HOLD SOUTH, LEFT TURNS, 5NM LEGS, 354 COURSE INBOUND)
- ###

These procedures describe the non-standard, one engine inoperative departure flight path. The maximum takeoff weights presented in the attached analysis are based upon the procedure(s) outlined above.

Rwy 34DP
Elevation: 5348.8
Obstacle Criteria: FAA AC 120-91

KEKS
ENNIS-BIG SKY
ENNIS, MT
15Dec16

- TAKEOFF WEIGHTS FOR RWY 34DP REQUIRE THE USE OF THIS TAILORED RNAV DEPARTURE PROCEDURE
- *** RNAV PROCEDURE. ALL FIXES ARE FLY-BY FIXES UNLESS OTHERWISE NOTED. ***
- MAINTAIN RUNWAY HEADING DIRECT TO SPHNX NOTE: SPHNX IS A FLYOVER WAYPOINT
- THEN DIRECT TO MDISN
- CLIMB IN HOLDING PATTERN AT MDISN (HOLD SOUTH, LEFT TURNS, 5NM LEGS, 344 COURSE INBOUND)
- ###

These procedures describe the non-standard, one engine inoperative departure flight path. The maximum takeoff weights presented in the attached analysis are based upon the procedure(s) outlined above.

Cessna Citation EXCEL
 Engine: PW545A
 AFM: 56XFM-13
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 7

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- STATIC TAKEOFF

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	-1.12	-1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-15	87.6	20200 ST	108/109/126/160	7216	20200 ST	108/109/126/160	7216	20200
-10	88.5	20200 ST	108/109/126/160	7181	20200 ST	108/109/126/160	7181	20200
-5	89.3	20200 ST	108/109/126/160	7147	20200 ST	108/109/126/160	7147	20200
0	90.1	20200 ST	108/109/126/160	7118	20200 ST	108/109/126/160	7118	20200
2	90.4	20200 ST	108/109/126/160	7109	20200 ST	108/109/126/160	7109	20200
4	90.8	20200 ST	108/109/126/160	7100	20200 ST	108/109/126/160	7100	20200
6	90.9	20200 ST	108/109/126/160	7097	20200 ST	108/109/126/160	7097	20200
8	90.7	20200 ST	108/109/126/160	7100	20200 ST	108/109/126/160	7100	20200
10	90.5	20200 ST	109/109/126/160	7102	20200 ST	109/109/126/160	7102	20200
12	90.3	20200 ST	109/109/126/160	7112	20200 ST	109/109/126/160	7112	20200
14	90.0	20200 ST	109/109/126/160	7122	20200 ST	109/109/126/160	7122	20200
16	89.7	20200 ST	109/109/126/160	7138	20200 ST	109/109/126/160	7138	20200
18	89.3	20200 ST	109/109/126/160	7158	20200 ST	109/109/126/160	7158	20200
20	88.9	20200 ST	109/109/126/160	7179	20200 ST	109/109/126/160	7179	20200
22	88.5	19802 -O	108/108/124/160	7185	19853 -O	109/109/125/160	7190	20200
24	88.1	19431 -O	107/107/123/160	7182	19482 -O	107/107/124/160	7188	20200
26	87.7	19058 -O	106/106/122/160	7178	19108 -O	106/106/122/160	7185	20200
28	87.3	18663 -O	105/105/121/160	7180	18714 -O	105/105/121/160	7186	19992
30	86.8	18261 -O	104/104/120/160	7167	18350 -O	104/104/120/160	7178	19724
32	86.3	17824 -O	102/102/118/160	7169	17943 -O	103/103/119/160	7182	19195
34	85.8	17404 -O	101/101/117/160	7162	17551 -O	102/102/118/160	7182	18666
36	85.2	16968 -O	100/100/116/160	7153	17150 -O	100/100/116/160	7182	18131
38	84.6	16517 -O	99/99/115/160	7161	16725 -O	99/99/115/160	7191	17592
40	83.9	16085 -O	97/97/113/160	7139	16327 -O	98/98/114/160	7717	17052
43	82.6	15373 -O	95/95/110/160	7136	15195 -O	95/95/110/160	7107	16236

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+16	+2	+16	+20	
TWD per KT	-207	+1	-204	+1	
QNH per +0.1	+64	+1	+65	+63	+42
QNH per -0.1	-83	+4	-81	+49	-111
EECINOP	-1643	0	-1467	+1136	-1172
ANTI ICE ON	0	+134	0	+134	0
DEICE	-418	0	-180	0	0
ROLLING	-240	-5	-66	0	0
TRINOP	0	0	0	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Cessna Citation EXCEL
 Engine: PW545A
 AFM: 56XFM-13
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 7

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- STATIC TAKEOFF

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	1.12	1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-15	87.6	20200 ST	109/109/126/160	7338	20200 ST	109/109/126/160	7338	20200
-10	88.5	20200 ST	109/109/126/160	7302	20200 ST	109/109/126/160	7302	20200
-5	89.3	20200 ST	109/109/126/160	7268	20200 ST	109/109/126/160	7268	20200
0	90.1	20200 ST	109/109/126/160	7239	20200 ST	109/109/126/160	7239	20200
2	90.4	20200 ST	109/109/126/160	7231	20200 ST	109/109/126/160	7231	20200
4	90.8	20200 ST	109/109/126/160	7222	20200 ST	109/109/126/160	7222	20200
6	90.9	20200 ST	109/109/126/160	7220	20200 ST	109/109/126/160	7220	20200
8	90.7	20200 ST	109/109/126/160	7225	20200 ST	109/109/126/160	7225	20200
10	90.5	20200 ST	109/109/126/160	7230	20200 ST	109/109/126/160	7230	20200
12	90.3	20050 FL	109/109/126/160	7235	20050 FL	109/109/126/160	7235	20200
14	90.0	19683 -O	108/108/125/160	7227	19683 -O	108/108/125/160	7227	20200
16	89.7	19310 -O	107/107/124/160	7217	19310 -O	107/107/124/160	7217	20200
18	89.3	18950 -O	106/106/123/160	7207	18950 -O	106/106/123/160	7207	20200
20	88.9	18595 -O	105/105/121/160	7197	18595 -O	105/105/121/160	7197	20200
22	88.5	18206 -O	104/104/120/160	7190	18206 -O	104/104/120/160	7190	20200
24	88.1	17849 -O	103/103/119/160	7180	17849 -O	103/103/119/160	7180	20200
26	87.7	17464 -O	101/101/117/160	7172	17464 -O	101/101/117/160	7172	20200
28	87.3	17089 -O	100/100/116/160	7162	17089 -O	100/100/116/160	7162	19992
30	86.8	16726 -O	99/99/115/160	7151	16726 -O	99/99/115/160	7151	19724
32	86.3	16310 -O	98/98/114/160	7145	16310 -O	98/98/114/160	7145	19195
34	85.8	15940 -O	97/97/113/160	7133	15940 -O	97/97/113/160	7133	18666
36	85.2	15520 -O	96/96/111/160	7127	15520 -O	96/96/111/160	7127	18131
38	84.6	15083 -O	94/94/109/160	7116	15083 -O	94/94/109/160	7116	17592
40	83.9	14667 -O	93/93/108/160	7103	14667 -O	93/93/108/160	7103	17052
43	82.6	14005 -O	91/91/106/160	7084	14005 -O	91/91/106/160	7084	16236

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+19	0	+19	0	
TWD per KT	NA	NA	NA	NA	
QNH per +0.1	+58	0	+58	0	+42
QNH per -0.1	-82	0	-82	0	-111
EECINOP	NA	NA	NA	NA	-1172
ANTI ICE ON	-1438	0	-1438	0	0
DEICE	-305	0	-305	0	0
ROLLING	-141	0	-141	0	0
TRINOP	0	0	0	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Cessna Citation EXCEL
 Engine: PW545A
 AFM: 56XFM-13
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 15

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- STATIC TAKEOFF

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	-1.12	-1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-15	87.6	20200 ST	99/106/119/160	7262	20200 ST	99/106/119/160	7262	20200
-10	88.5	20200 ST	99/106/119/160	7225	20200 ST	99/106/119/160	7225	20200
-5	89.3	20200 ST	99/106/119/160	7191	20200 ST	99/106/119/160	7191	20200
0	90.1	20200 ST	99/106/119/160	7162	20200 ST	99/106/119/160	7162	20200
2	90.4	20200 ST	99/106/119/160	7155	20200 ST	99/106/119/160	7155	20200
4	90.8	20200 ST	99/106/119/160	7147	20200 ST	99/106/119/160	7147	20200
6	90.9	20200 ST	99/106/119/160	7148	20200 ST	99/106/119/160	7148	20200
8	90.7	20200 ST	100/106/119/160	7156	20200 ST	100/106/119/160	7156	20200
10	90.5	20200 ST	100/106/119/160	7165	20200 ST	100/106/119/160	7165	20200
12	90.3	20200 ST	101/106/119/160	7189	20200 ST	101/106/119/160	7189	20200
14	90.0	20200 ST	101/106/119/160	7214	20200 ST	101/106/119/160	7214	20200
16	89.7	20200 ST	102/106/119/160	7251	20200 ST	102/106/119/160	7251	20200
18	89.3	20200 ST	103/106/119/160	7302	20200 ST	103/106/119/160	7302	20200
20	88.9	20200 ST	103/106/119/160	7354	20200 ST	103/106/119/160	7354	20200
22	88.5	20166 FP	103/106/119/160	7463	20166 FP	103/106/119/160	8104	20200
24	88.1	20132 FP	104/105/119/160	7569	20085 -O	104/105/119/160	8725	20021
26	87.7	19715 -O	103/104/118/160	7578	19610 -O	103/104/118/160	8699	19830
28	87.3	19281 -O	102/103/117/160	7578	19155 -O	101/103/116/160	8671	19342
30	86.8	18864 -O	101/102/116/160	7558	18745 -O	100/102/115/160	8646	18854
32	86.3	18414 -O	100/102/114/160	7555	18278 -O	100/101/114/160	8618	18353
34	85.8	17980 -O	99/101/113/160	7549	17833 -O	99/100/112/160	8593	17851
36	85.2	17531 -O	98/99/111/160	7531	17411 -O	97/99/111/160	8563	17341
38	84.6	17060 -O	96/98/110/160	7513	16948 -O	96/97/109/160	8531	16821
40	83.9	16577 FP	95/96/108/160	7500	16489 -O	95/96/108/160	8506	16301
43	82.6	14435 -O	87/89/101/160	7135	14053 -O	85/88/100/160	7066	15503

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	0	+2	0	+1	
TWD per KT	-114	+3	-104	+4	
QNH per +0.1	+46	+132	+56	+142	+60
QNH per -0.1	-130	+18	-122	+135	-110
EECINOP	-902	+1754	NA	NA	-1170
ANTI ICE ON	0	+239	0	+239	0
DEICE	NA	NA	NA	NA	0
ROLLING	-23	0	-21	+4	0
TRINOP	0	0	0	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Cessna Citation EXCEL
 Engine: PW545A
 AFM: 56XFM-13
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 15

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- STATIC TAKEOFF

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	1.12	1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-15	87.6	20200 ST	104/106/119/160	7365	20200 ST	104/106/119/160	7365	20200
-10	88.5	20200 ST	104/106/119/160	7328	20200 ST	104/106/119/160	7328	20200
-5	89.3	20200 ST	104/106/119/160	7294	20200 ST	104/106/119/160	7294	20200
0	90.1	20200 ST	104/106/119/160	7265	20200 ST	104/106/119/160	7265	20200
2	90.4	20200 ST	104/106/119/160	7257	20200 ST	104/106/119/160	7257	20200
4	90.8	20200 ST	104/106/119/160	7250	20200 ST	104/106/119/160	7250	20200
6	90.9	20200 ST	105/106/119/160	7251	20200 ST	105/106/119/160	7251	20200
8	90.7	20200 ST	105/106/119/160	7261	20200 ST	105/106/119/160	7261	20200
10	90.5	20200 ST	106/106/119/160	7271	20200 ST	106/106/119/160	7271	20200
12	90.3	20200 ST	106/106/119/160	7298	20200 ST	106/106/119/160	7298	20200
14	90.0	20200 ST	106/106/119/160	7325	20200 ST	106/106/119/160	7325	20200
16	89.7	20119 -O	106/106/119/160	7356	20119 -O	106/106/119/160	7356	20200
18	89.3	19707 -O	105/105/118/160	7353	19707 -O	105/105/118/160	7353	20200
20	88.9	19314 -O	104/104/117/160	7336	19314 -O	104/104/117/160	7336	20200
22	88.5	18880 -O	103/103/115/160	7331	18880 -O	103/103/115/160	7331	20200
24	88.1	18462 -O	101/101/114/160	7321	18462 -O	101/101/114/160	7321	20021
26	87.7	18060 -O	100/100/113/160	7308	18060 -O	100/100/113/160	7308	19830
28	87.3	17646 -O	99/99/112/160	7305	17646 -O	99/99/112/160	7305	19342
30	86.8	17255 -O	98/98/111/160	7285	17255 -O	98/98/111/160	7285	18854
32	86.3	16823 -O	96/97/109/160	7284	16823 -O	96/97/109/160	7284	18353
34	85.8	16412 -O	95/95/108/160	7273	16412 -O	95/95/108/160	7273	17851
36	85.2	15957 -O	94/94/106/160	7255	15957 -O	94/94/106/160	7255	17341
38	84.6	15501 -O	93/93/105/160	7259	15501 -O	93/93/105/160	7259	16821
40	83.9	15040 -O	91/91/103/160	7218	15040 -O	91/91/103/160	7218	16301
43	82.6	13626 -O	87/87/99/160	7096	13626 -O	87/87/99/160	7096	15503

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+15	0	+15	0	
TWD per KT	NA	NA	NA	NA	
QNH per +0.1	+61	+12	+61	+12	+60
QNH per -0.1	-82	+6	-82	+6	-110
EECINOP	NA	NA	NA	NA	-1170
ANTI ICE ON	-796	+159	-796	+159	0
DEICE	NA	NA	NA	NA	0
ROLLING	-9	0	-9	0	0
TRINOP	0	0	0	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Cessna Citation EXCEL
 Engine: PW545A
 AFM: 56XFM-13
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 7

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- WET RWY
- STATIC TAKEOFF

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	-1.12	-1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-15	87.6	20200 ST	96/109/126/160	7218	20200 ST	96/109/126/160	7218	20200
-10	88.5	20200 ST	96/109/126/160	7183	20200 ST	96/109/126/160	7183	20200
-5	89.3	20200 ST	96/109/126/160	7149	20200 ST	96/109/126/160	7149	20200
0	90.1	20200 ST	96/109/126/160	7120	20200 ST	96/109/126/160	7120	20200
2	90.4	20200 ST	96/109/126/160	7111	20200 ST	96/109/126/160	7111	20200
4	90.8	20200 ST	97/109/126/160	7102	20200 ST	97/109/126/160	7102	20200
6	90.9	20200 ST	97/109/126/160	7099	20200 ST	97/109/126/160	7099	20200
8	90.7	20200 ST	97/109/126/160	7102	20200 ST	97/109/126/160	7102	20200
10	90.5	20200 ST	97/109/126/160	7105	20200 ST	97/109/126/160	7105	20200
12	90.3	20200 ST	98/109/126/160	7115	20200 ST	98/109/126/160	7115	20200
14	90.0	20200 ST	99/109/126/160	7126	20200 ST	99/109/126/160	7126	20200
16	89.7	20120 -O	99/109/126/160	7137	20168 -O	99/109/126/160	7140	20200
18	89.3	19771 -O	98/108/125/160	7134	19816 -O	99/108/125/160	7137	20200
20	88.9	19428 -O	98/107/124/160	7127	19474 -O	98/107/124/160	7130	20200
22	88.5	19069 -O	97/106/123/160	7126	19113 -O	97/106/123/160	7130	20200
24	88.1	18718 -O	96/105/121/160	7121	18763 -O	97/105/121/160	7125	20200
26	87.7	18357 -O	96/104/120/160	7120	18401 -O	96/104/120/160	7124	20200
28	87.3	17995 -O	95/103/119/160	7113	18037 -O	95/103/119/160	7118	19992
30	86.8	17639 -O	94/102/118/160	7108	17681 -O	94/102/118/160	7112	19724
32	86.3	17243 -O	93/101/117/160	7111	17284 -O	93/101/117/160	7116	19195
34	85.8	16869 -O	92/100/116/160	7101	16910 -O	92/100/116/160	7105	18666
36	85.2	16468 -O	91/98/114/160	7106	16508 -O	91/99/115/160	7110	18131
38	84.6	16049 -O	90/97/113/160	7100	16088 -O	90/97/113/160	7106	17592
40	83.9	15652 -O	89/96/112/160	7094	15690 -O	89/96/112/160	7098	17052
43	82.6	14992 -O	88/94/109/160	7080	15042 -O	88/94/109/160	7088	16236

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+21	+3	+19	+3	
TWD per KT	-173	+1	-174	+1	
QNH per +0.1	+63	+2	+63	+2	+42
QNH per -0.1	-80	+2	-81	+2	-111
EECINOP	-1262	0	-1314	0	0
ANTI ICE ON	-524	+106	-476	+109	0
DEICE	-588	0	-605	0	0
ROLLING	-389	0	-404	0	0
TRINOP	-148	-3	-162	-3	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Cessna Citation EXCEL
 Engine: PW545A
 AFM: 56XFM-13
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 7

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- WET RWY
- STATIC TAKEOFF

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	1.12	1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-15	87.6	20200 ST	102/109/126/160	7337	20200 ST	102/109/126/160	7337	20200
-10	88.5	20200 ST	102/109/126/160	7301	20200 ST	102/109/126/160	7301	20200
-5	89.3	20200 ST	102/109/126/160	7267	20200 ST	102/109/126/160	7267	20200
0	90.1	20200 ST	102/109/126/160	7238	20200 ST	102/109/126/160	7238	20200
2	90.4	20200 ST	103/109/126/160	7230	20200 ST	103/109/126/160	7230	20200
4	90.8	20200 ST	103/109/126/160	7221	20200 ST	103/109/126/160	7221	20200
6	90.9	20200 ST	103/109/126/160	7219	20200 ST	103/109/126/160	7219	20200
8	90.7	20200 ST	103/109/126/160	7223	20200 ST	103/109/126/160	7223	20200
10	90.5	19973 -O	103/109/126/160	7216	19973 -O	103/109/126/160	7216	20200
12	90.3	19600 -O	102/108/125/160	7209	19600 -O	102/108/125/160	7209	20200
14	90.0	19231 -O	101/107/124/160	7197	19231 -O	101/107/124/160	7197	20200
16	89.7	18865 -O	101/106/123/160	7187	18865 -O	101/106/123/160	7187	20200
18	89.3	18505 -O	100/105/121/160	7178	18505 -O	100/105/121/160	7178	20200
20	88.9	18146 -O	99/103/120/160	7166	18146 -O	99/103/120/160	7166	20200
22	88.5	17777 -O	98/102/119/160	7158	17777 -O	98/102/119/160	7158	20200
24	88.1	17415 -O	97/101/117/160	7148	17415 -O	97/101/117/160	7148	20200
26	87.7	17040 -O	96/100/116/160	7137	17040 -O	96/100/116/160	7137	20200
28	87.3	16668 -O	95/99/115/160	7129	16668 -O	95/99/115/160	7129	19992
30	86.8	16295 -O	94/98/114/160	7116	16295 -O	94/98/114/160	7116	19724
32	86.3	15902 -O	93/97/113/160	7108	15902 -O	93/97/113/160	7108	19195
34	85.8	15521 -O	92/96/111/160	7098	15521 -O	92/96/111/160	7098	18666
36	85.2	15117 -O	91/94/109/160	7088	15117 -O	91/94/109/160	7088	18131
38	84.6	14712 -O	90/93/108/160	7081	14712 -O	90/93/108/160	7081	17592
40	83.9	14305 -O	88/92/107/160	7068	14305 -O	88/92/107/160	7068	17052
43	82.6	13667 -O	86/90/105/160	7052	13667 -O	86/90/105/160	7052	16236

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+22	0	+22	0	
TWD per KT	NA	NA	NA	NA	
QNH per +0.1	+57	0	+57	0	+42
QNH per -0.1	-80	0	-80	0	-111
EECINOP	NA	NA	NA	NA	0
ANTI ICE ON	-1680	0	-1680	0	0
DEICE	NA	NA	NA	NA	0
ROLLING	NA	NA	NA	NA	0
TRINOP	-125	0	-125	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Cessna Citation EXCEL
 Engine: PW545A
 AFM: 56XFM-13
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 15

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- WET RWY
- STATIC TAKEOFF

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	-1.12	-1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-15	87.6	20200 ST	89/106/119/160	7264	20200 ST	89/106/119/160	7264	20200
-10	88.5	20200 ST	89/106/119/160	7227	20200 ST	89/106/119/160	7227	20200
-5	89.3	20200 ST	89/106/119/160	7193	20200 ST	89/106/119/160	7193	20200
0	90.1	20200 ST	89/106/119/160	7164	20200 ST	89/106/119/160	7164	20200
2	90.4	20200 ST	89/106/119/160	7157	20200 ST	89/106/119/160	7157	20200
4	90.8	20200 ST	89/106/119/160	7149	20200 ST	89/106/119/160	7149	20200
6	90.9	20200 ST	89/106/119/160	7150	20200 ST	89/106/119/160	7150	20200
8	90.7	20200 ST	90/106/119/160	7159	20200 ST	90/106/119/160	7159	20200
10	90.5	20200 ST	90/106/119/160	7168	20200 ST	90/106/119/160	7168	20200
12	90.3	20200 ST	91/106/119/160	7192	20200 ST	91/106/119/160	7192	20200
14	90.0	20200 ST	92/106/119/160	7217	20200 ST	92/106/119/160	7217	20200
16	89.7	20200 ST	92/106/119/160	7255	20200 ST	92/106/119/160	7255	20200
18	89.3	20200 ST	93/106/119/160	7307	20200 ST	93/106/119/160	7307	20200
20	88.9	20096 -O	93/105/118/160	7339	20145 -O	94/106/119/160	7349	20200
22	88.5	19707 -O	93/104/117/160	7373	19756 -O	93/104/118/160	7383	20200
24	88.1	19326 -O	92/104/116/160	7371	19374 -O	92/104/117/160	7383	20021
26	87.7	18936 -O	91/103/115/160	7363	18982 -O	91/103/116/160	7372	19830
28	87.3	18542 -O	90/102/114/160	7382	18588 -O	90/102/115/160	7393	19342
30	86.8	18151 -O	89/100/113/160	7354	18197 -O	89/101/113/160	7368	18854
32	86.3	17739 -O	88/100/112/160	7378	17783 -O	88/100/112/160	7977	18353
34	85.8	17335 -O	87/98/111/160	7372	17379 -O	87/98/111/160	7969	17851
36	85.2	16910 -O	87/97/109/160	7354	16952 -O	87/97/109/160	7946	17341
38	84.6	16476 -O	86/96/108/160	7372	16516 -O	86/96/108/160	8331	16821
40	83.9	16047 -O	84/94/106/160	7353	16087 -O	85/94/106/160	8305	16301
43	82.6	14371 -O	78/89/101/160	7129	14010 -O	76/88/100/160	7064	15503

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+13	+4	+13	+41	
TWD per KT	-150	+2	-150	+2	
QNH per +0.1	+64	+26	+64	+127	+60
QNH per -0.1	-82	+8	-82	+58	-110
EECINOP	-838	+1017	NA	NA	0
ANTI ICE ON	0	+240	0	+240	0
DEICE	NA	NA	NA	NA	0
ROLLING	-26	0	-22	0	0
TRINOP	-10	0	-9	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Cessna Citation EXCEL
 Engine: PW545A
 AFM: 56XFM-13
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 15

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- WET RWY
- STATIC TAKEOFF

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	1.12	1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP				34				CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF		
-15	87.6	20200 ST	95/106/119/160	7370		20200 ST	95/106/119/160	7370		20200
-10	88.5	20200 ST	95/106/119/160	7333		20200 ST	95/106/119/160	7333		20200
-5	89.3	20200 ST	95/106/119/160	7299		20200 ST	95/106/119/160	7299		20200
0	90.1	20200 ST	95/106/119/160	7270		20200 ST	95/106/119/160	7270		20200
2	90.4	20200 ST	96/106/119/160	7262		20200 ST	96/106/119/160	7262		20200
4	90.8	20200 ST	96/106/119/160	7255		20200 ST	96/106/119/160	7255		20200
6	90.9	20200 ST	96/106/119/160	7257		20200 ST	96/106/119/160	7257		20200
8	90.7	20200 ST	97/106/119/160	7267		20200 ST	97/106/119/160	7267		20200
10	90.5	20200 ST	97/106/119/160	7277		20200 ST	97/106/119/160	7277		20200
12	90.3	19920 -O	97/106/119/160	7280		19920 -O	97/106/119/160	7280		20200
14	90.0	19532 -O	96/105/117/160	7271		19532 -O	96/105/117/160	7271		20200
16	89.7	19143 -O	95/103/116/160	7260		19143 -O	95/103/116/160	7260		20200
18	89.3	18763 -O	94/102/115/160	7251		18763 -O	94/102/115/160	7251		20200
20	88.9	18387 -O	93/101/114/160	7238		18387 -O	93/101/114/160	7238		20200
22	88.5	17993 -O	92/100/113/160	7229		17993 -O	92/100/113/160	7229		20200
24	88.1	17617 -O	91/99/112/160	7221		17617 -O	91/99/112/160	7221		20021
26	87.7	17225 -O	90/98/111/160	7212		17225 -O	90/98/111/160	7212		19830
28	87.3	16830 -O	89/97/109/160	7200		16830 -O	89/97/109/160	7200		19342
30	86.8	16447 -O	88/96/108/160	7187		16447 -O	88/96/108/160	7187		18854
32	86.3	16060 -O	88/95/107/160	7180		16060 -O	88/95/107/160	7180		18353
34	85.8	15688 -O	87/93/106/160	7172		15688 -O	87/93/106/160	7172		17851
36	85.2	15300 -O	86/92/104/160	7170		15300 -O	86/92/104/160	7170		17341
38	84.6	14893 -O	85/91/103/160	7160		14893 -O	85/91/103/160	7160		16821
40	83.9	14503 -O	84/90/102/160	7150		14503 -O	84/90/102/160	7150		16301
43	NA	NA -O	NA	NA		NA -O	NA	NA		NA

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+24	+2	+24	+2	
TWD per KT	-122	0	-122	0	
QNH per +0.1	+57	0	+57	0	+60
QNH per -0.1	-81	0	-81	0	-110
EECINOP	-611	0	-611	0	0
ANTI ICE ON	-1696	+79	-1696	+79	0
DEICE	NA	NA	NA	NA	0
ROLLING	-279	0	-279	0	0
TRINOP	-138	0	-138	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Cessna Citation EXCEL
 Engine: PW545A
 AFM: 56XFM-13

LANDING PERFORMANCE FLAPS 15/35

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- WITH THRUST REVERSERS

Approach Climb Limits:

Approach Flaps 15

GRAD	-20	-10	0	10	20	25	30	35	40	43
2.1%	18700	18700	18700	18700	18700	18700	18700	18139	16787	15970

Field Length Weight Limits/Distances:

Landing Flaps 35

RWY: 16
LDA: 6601FT
SLOPE: -1.12%
COND: DRY

WIND (KT)	OAT (°C)	60% FACTOR		DISPATCH		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	3	13349	6601	17587	6164	17579	5996	17579	4797
	13	NA	NA	17283	6099	17282	6081	17282	4865
	23	NA	NA	16991	6038	16998	6162	16998	4930
	33	NA	NA	16713	5979	16726	6249	16726	4999
	43	NA	NA	15858	5796	15970	6196	15970	4957
0	3	17170	6601	18700	5514	18700	5293	18700	4234
	13	16559	6601	18647	5503	18700	5444	18700	4355
	23	15974	6601	18510	5476	18688	5584	18688	4467
	33	15458	6601	18167	5407	18374	5668	18374	4535
	43	14973	6601	15883	4950	15970	5217	15970	4174
10	3	18387	6601	18700	5230	18700	5019	18700	4015
	13	17742	6601	18700	5230	18700	5166	18700	4133
	23	17132	6601	18695	5229	18700	5316	18700	4253
	33	16544	6601	18341	5158	18671	5460	18671	4368
	43	15970	6594	15883	4671	15970	4946	15970	3957
30	3	18700	5991	18700	4740	18700	4493	18700	3595
	13	18700	6177	18700	4740	18700	4633	18700	3707
	23	18700	6366	18700	4740	18700	4775	18700	3820
	33	18671	6548	18359	4673	18671	4911	18671	3929
	43	15970	5900	15883	4207	15970	4425	15970	3540

RWY: 16
LDA: 6601FT
SLOPE: -1.12%
COND: Wet [115%]

WIND (KT)	OAT (°C)	60% FACTOR		DISPATCH		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	3	NA	NA	15628	6601	16483	6601	17579	5516
	13	NA	NA	15628	6601	15900	6601	17282	5595
	23	NA	NA	15628	6601	15378	6601	16998	5669
	33	NA	NA	15628	6601	14882	6601	16726	5749
	43	NA	NA	15628	6601	14414	6601	15970	5701
0	3	14334	6601	18700	6341	18700	6087	18700	4869
	13	13850	6601	18647	6329	18700	6260	18700	5008
	23	13375	6601	18510	6297	18688	6421	18688	5137
	33	NA	NA	18167	6218	18374	6519	18374	5215
	43	NA	NA	15883	5692	15970	6000	15970	4800
10	3	15418	6601	18700	6014	18700	5771	18700	4617
	13	14903	6601	18700	6014	18700	5941	18700	4753
	23	14411	6601	18695	6013	18700	6114	18700	4891
	33	13942	6601	18341	5932	18671	6279	18671	5023
	43	13485	6601	15883	5372	15970	5688	15970	4550
30	3	17782	6601	18700	5451	18700	5167	18700	4134
	13	17162	6601	18700	5451	18700	5328	18700	4263
	23	16557	6601	18700	5451	18700	5491	18700	4393
	33	15985	6601	18359	5374	18671	5648	18671	4518
	43	15483	6601	15883	4838	15970	5089	15970	4071

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Cessna Citation EXCEL
 Engine: PW545A
 AFM: 56XFM-13

LANDING PERFORMANCE FLAPS 15/35

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- WITH THRUST REVERSERS

Approach Climb Limits:

Approach Flaps 15

GRAD	-20	-10	0	10	20	25	30	35	40	43
2.1%	18700	18700	18700	18700	18700	18700	18700	18139	16787	15970

Field Length Weight Limits/Distances:

Landing Flaps 35

RWY: 34
 LDA: 6601FT
 SLOPE: 1.12%
 COND: DRY

WIND (KT)	OAT (°C)	60% FACTOR		DISPATCH		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	3	17120	6601	18380	6339	18377	5161	18377	4129
	13	16519	6601	18066	6272	18063	5230	18063	4184
	23	15946	6601	17762	6204	17764	5314	17764	4251
	33	15434	6601	17471	6138	17481	5386	17481	4309
	43	14953	6601	15883	5802	15970	5181	15970	4145
0	3	18700	6018	18700	5514	18700	4513	18700	3611
	13	18700	6176	18700	5514	18700	4632	18700	3706
	23	18700	6336	18700	5514	18700	4752	18700	3802
	33	18671	6491	18359	5446	18671	4869	18671	3895
	43	15970	5935	15883	4950	15970	4451	15970	3561
10	3	18700	5727	18700	5230	18700	4295	18700	3436
	13	18700	5882	18700	5230	18700	4411	18700	3529
	23	18700	6040	18700	5230	18700	4530	18700	3624
	33	18671	6192	18359	5162	18671	4644	18671	3715
	43	15970	5646	15883	4671	15970	4235	15970	3388
30	3	18700	5164	18700	4740	18700	3873	18700	3099
	13	18700	5313	18700	4740	18700	3985	18700	3188
	23	18700	5464	18700	4740	18700	4098	18700	3279
	33	18671	5609	18359	4673	18671	4207	18671	3366
	43	15970	5088	15883	4207	15970	3816	15970	3053

RWY: 34
 LDA: 6601FT
 SLOPE: 1.12%
 COND: Wet [115%]

WIND (KT)	OAT (°C)	60% FACTOR		DISPATCH		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	3	13818	6601	15628	6601	18377	5935	18377	4748
	13	13352	6601	15628	6601	18063	6014	18063	4811
	23	NA	NA	15628	6601	17764	6110	17764	4888
	33	NA	NA	15628	6601	17481	6194	17481	4956
	43	NA	NA	15628	6601	15970	5958	15970	4767
0	3	17526	6601	18700	6341	18700	5190	18700	4152
	13	16918	6601	18700	6341	18700	5327	18700	4261
	23	16326	6601	18700	6341	18700	5465	18700	4372
	33	15778	6601	18359	6263	18671	5599	18671	4479
	43	15285	6601	15883	5692	15970	5119	15970	4095
10	3	18700	6585	18700	6014	18700	4939	18700	3951
	13	18104	6601	18700	6014	18700	5073	18700	4058
	23	17485	6601	18700	6014	18700	5209	18700	4167
	33	16901	6601	18359	5936	18671	5340	18671	4272
	43	15970	6493	15883	5372	15970	4870	15970	3896
30	3	18700	5939	18700	5451	18700	4454	18700	3563
	13	18700	6110	18700	5451	18700	4583	18700	3666
	23	18700	6284	18700	5451	18700	4713	18700	3771
	33	18671	6450	18359	5374	18671	4838	18671	3870
	43	15970	5851	15883	4838	15970	4388	15970	3511

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Cessna Citation Sovereign
 Engine: PW306C
 AFM: 68FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 7

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- STATIC TAKEOFF
- WITH THRUST REVERSERS

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	-1.12	-1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	96.4	30300 ST	109/113/122/180	7225	30300 ST	109/113/122/180	7225	30300
-15	97.4	30300 ST	109/113/122/180	7189	30300 ST	109/113/122/180	7189	30300
-10	98.3	30300 ST	109/113/122/180	7154	30300 ST	109/113/122/180	7154	30300
-5	99.2	30300 ST	109/113/122/180	7120	30300 ST	109/113/122/180	7120	30300
0	100.1	30300 ST	109/113/122/180	7089	30300 ST	109/113/122/180	7089	30300
2	100.5	30300 ST	109/113/122/180	7078	30300 ST	109/113/122/180	7078	30300
4	100.8	30300 ST	109/113/122/180	7067	30300 ST	109/113/122/180	7067	30300
6	101.0	30300 ST	109/113/122/180	7059	30300 ST	109/113/122/180	7059	30300
8	100.9	30300 ST	109/113/122/180	7054	30300 ST	109/113/122/180	7054	30300
10	100.8	30300 ST	109/113/122/180	7049	30300 ST	109/113/122/180	7049	30300
12	100.7	30300 ST	109/113/121/180	7049	30300 ST	109/113/121/180	7049	30300
14	100.6	30300 ST	110/113/121/180	7048	30300 ST	110/113/121/180	7048	30300
16	100.4	30300 ST	110/114/121/180	7049	30300 ST	110/114/121/180	7049	30300
18	100.1	30300 ST	111/114/122/180	7051	30300 ST	111/114/122/180	7051	30300
20	99.9	30300 ST	111/114/122/180	7053	30300 ST	111/114/122/180	7053	30300
22	99.6	30300 ST	112/114/122/180	7059	30300 ST	112/114/122/180	7059	30300
24	99.4	30300 ST	113/115/122/180	7066	30300 ST	113/115/122/180	7066	30300
26	99.1	30300 ST	113/115/122/180	7075	30300 ST	113/115/122/180	7075	30300
28	98.9	30300 ST	114/115/122/180	7088	30300 ST	114/115/122/180	7088	30300
30	98.6	30300 ST	114/115/122/180	7101	30300 ST	114/115/122/180	7101	30300
32	98.3	30300 ST	115/116/122/180	7124	30300 ST	115/116/122/180	7124	30300
34	98.0	30300 ST	115/116/122/180	7148	30300 ST	115/116/122/180	7148	30300
36	97.7	30274 FP	116/116/122/180	7179	30274 FP	116/116/122/180	7179	30300
38	97.4	29944 -O	115/115/121/180	7192	30029 -O	115/115/121/180	7757	30213
40	97.1	29482 -O	114/114/120/180	7186	29587 -O	115/115/120/180	7753	30039
43	96.7	28753 -O	113/113/119/180	7183	28886 -O	114/114/119/180	8094	29507

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	0	+36	0	+3	
TWD per KT	-310	+2	-312	+2	
QNH per +0.1	+109	+1	+109	0	+65
QNH per -0.1	-112	+6	-112	+59	-78
ANTI ICE ON	0	+202	0	+202	0
DEICE	-1463	0	-1527	0	0
ROLLING	-836	0	-888	-1	0
TRINOP	0	0	0	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Cessna Citation Sovereign
 Engine: PW306C
 AFM: 68FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 7

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- STATIC TAKEOFF
- WITH THRUST REVERSERS

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	1.12	1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	96.4	30300 ST	114/114/122/180	7328	30300 ST	114/114/122/180	7328	30300
-15	97.4	30300 ST	114/114/122/180	7292	30300 ST	114/114/122/180	7292	30300
-10	98.3	30300 ST	114/114/122/180	7257	30300 ST	114/114/122/180	7257	30300
-5	99.2	30300 ST	114/114/122/180	7223	30300 ST	114/114/122/180	7223	30300
0	100.1	30300 ST	114/114/122/180	7191	30300 ST	114/114/122/180	7191	30300
2	100.5	30300 ST	114/114/122/180	7180	30300 ST	114/114/122/180	7180	30300
4	100.8	30300 ST	114/114/122/180	7169	30300 ST	114/114/122/180	7169	30300
6	101.0	30300 ST	114/114/122/180	7162	30300 ST	114/114/122/180	7162	30300
8	100.9	30300 ST	114/114/122/180	7158	30300 ST	114/114/122/180	7158	30300
10	100.8	30300 ST	114/114/122/180	7154	30300 ST	114/114/122/180	7154	30300
12	100.7	30300 ST	114/114/122/180	7156	30300 ST	114/114/122/180	7156	30300
14	100.6	30300 ST	114/114/122/180	7158	30300 ST	114/114/122/180	7158	30300
16	100.4	30300 ST	114/114/122/180	7161	30300 ST	114/114/122/180	7161	30300
18	100.1	30300 ST	114/114/122/180	7166	30300 ST	114/114/122/180	7166	30300
20	99.9	30300 ST	114/114/122/180	7170	30300 ST	114/114/122/180	7170	30300
22	99.6	30300 ST	115/115/122/180	7180	30300 ST	115/115/122/180	7180	30300
24	99.4	30300 ST	115/115/122/180	7189	30300 ST	115/115/122/180	7189	30300
26	99.1	29834 -O	114/114/121/180	7181	29834 -O	114/114/121/180	7181	30300
28	98.9	29358 -O	113/113/120/180	7172	29358 -O	113/113/120/180	7172	30300
30	98.6	28927 -O	113/113/119/180	7162	28927 -O	113/113/119/180	7162	30300
32	98.3	28441 -O	112/112/118/180	7154	28441 -O	112/112/118/180	7154	30300
34	98.0	28014 -O	111/111/117/180	7144	28014 -O	111/111/117/180	7144	30300
36	97.7	27547 -O	110/110/116/180	7136	27547 -O	110/110/116/180	7136	30300
38	97.4	27093 -O	109/109/115/180	7127	27093 -O	109/109/115/180	7127	30213
40	97.1	26660 -O	109/109/114/180	7117	26660 -O	109/109/114/180	7117	30039
43	96.7	25982 -O	107/107/113/180	7103	25982 -O	107/107/113/180	7103	29507

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+37	0	+37	0	
TWD per KT	-322	0	-322	0	
QNH per +0.1	+98	0	+98	0	+65
QNH per -0.1	-111	0	-111	0	-78
ANTI ICE ON	0	+215	0	+215	0
DEICE	-1035	0	-1035	0	0
ROLLING	-528	0	-528	0	0
TRINOP	0	0	0	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Cessna Citation Sovereign
 Engine: PW306C
 AFM: 68FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 15

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- STATIC TAKEOFF
- WITH THRUST REVERSERS

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	-1.12	-1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	96.4	30300 ST	103/109/115/180	7266	30300 ST	103/109/115/180	7266	30300
-15	97.4	30300 ST	103/109/115/180	7229	30300 ST	103/109/115/180	7229	30300
-10	98.3	30300 ST	103/109/115/180	7193	30300 ST	103/109/115/180	7193	30300
-5	99.2	30300 ST	103/109/115/180	7159	30300 ST	103/109/115/180	7159	30300
0	100.1	30300 ST	103/109/115/180	7126	30300 ST	103/109/115/180	7126	30300
2	100.5	30300 ST	103/109/115/180	7116	30300 ST	103/109/115/180	7116	30300
4	100.8	30300 ST	103/109/115/180	7106	30300 ST	103/109/115/180	7106	30300
6	101.0	30300 ST	103/109/115/180	7100	30300 ST	103/109/115/180	7100	30300
8	100.9	30300 ST	103/109/115/180	7099	30300 ST	103/109/115/180	7099	30300
10	100.8	30300 ST	103/109/115/180	7097	30300 ST	103/109/115/180	7097	30300
12	100.7	30300 ST	104/109/114/180	7104	30300 ST	104/109/114/180	7104	30300
14	100.6	30300 ST	104/109/114/180	7111	30300 ST	104/109/114/180	7111	30300
16	100.4	30300 ST	104/109/114/180	7121	30300 ST	104/109/114/180	7121	30300
18	100.1	30300 ST	105/109/114/180	7133	30300 ST	105/109/114/180	7133	30300
20	99.9	30300 ST	105/109/114/180	7145	30300 ST	105/109/114/180	7145	30300
22	99.6	30300 ST	106/109/114/180	7169	30300 ST	106/109/114/180	7169	30300
24	99.4	30300 ST	106/109/114/180	7193	30300 ST	106/109/114/180	7193	30300
26	99.1	30300 ST	106/109/113/180	7228	30300 ST	106/109/113/180	7228	30300
28	98.9	30300 ST	107/110/113/180	7275	30300 ST	107/110/113/180	7275	30300
30	98.6	30300 ST	107/110/113/180	7321	30300 ST	107/110/113/180	7321	30300
32	98.3	30249 FP	108/110/113/180	7402	30249 FP	108/110/113/180	8500	30300
34	98.0	30198 FP	108/110/113/180	7479	30051 -O	108/109/113/180	8667	30103
36	97.7	30053 FP	109/110/113/180	7556	29468 -O	107/109/112/180	8647	29888
38	97.4	29501 -O	108/110/113/180	7556	28901 -O	107/108/111/180	8626	29396
40	97.1	28959 -O	108/109/112/180	9254	28418 -O	106/107/110/180	8606	28905
43	96.7	28214 -O	106/107/110/180	9217	27688 -O	104/106/109/180	8556	28066

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	0	+1	0	+1	
TWD per KT	-190	+2	-136	+63	
QNH per +0.1	+21	+2	+80	+4	+67
QNH per -0.1	-109	+172	-112	+136	-109
ANTI ICE ON	0	+418	0	+1494	-119
DEICE	NA	NA	NA	NA	0
ROLLING	-9	-2	-17	+6	0
TRINOP	0	0	0	+1	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Cessna Citation Sovereign
 Engine: PW306C
 AFM: 68FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 15

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- STATIC TAKEOFF
- WITH THRUST REVERSERS

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	1.12	1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	96.4	30300 ST	108/110/115/180	7361	30300 ST	108/110/115/180	7361	30300
-15	97.4	30300 ST	108/110/115/180	7324	30300 ST	108/110/115/180	7324	30300
-10	98.3	30300 ST	108/110/115/180	7288	30300 ST	108/110/115/180	7288	30300
-5	99.2	30300 ST	108/110/115/180	7254	30300 ST	108/110/115/180	7254	30300
0	100.1	30300 ST	108/110/115/180	7221	30300 ST	108/110/115/180	7221	30300
2	100.5	30300 ST	108/110/115/180	7210	30300 ST	108/110/115/180	7210	30300
4	100.8	30300 ST	108/110/115/180	7200	30300 ST	108/110/115/180	7200	30300
6	101.0	30300 ST	109/110/115/180	7195	30300 ST	109/110/115/180	7195	30300
8	100.9	30300 ST	109/110/115/180	7194	30300 ST	109/110/115/180	7194	30300
10	100.8	30300 ST	109/110/115/180	7193	30300 ST	109/110/115/180	7193	30300
12	100.7	30300 ST	109/109/115/180	7201	30300 ST	109/109/115/180	7201	30300
14	100.6	30300 ST	109/109/114/180	7210	30300 ST	109/109/114/180	7210	30300
16	100.4	30300 ST	109/109/114/180	7222	30300 ST	109/109/114/180	7222	30300
18	100.1	30300 ST	109/109/114/180	7237	30300 ST	109/109/114/180	7237	30300
20	99.9	30300 ST	109/109/114/180	7251	30300 ST	109/109/114/180	7251	30300
22	99.6	30300 ST	109/109/114/180	7279	30300 ST	109/109/114/180	7279	30300
24	99.4	30239 -O	109/109/114/180	7301	30239 -O	109/109/114/180	7301	30300
26	99.1	29730 -O	109/109/112/180	7293	29730 -O	109/109/112/180	7293	30300
28	98.9	29229 -O	108/108/111/180	7283	29229 -O	108/108/111/180	7283	30300
30	98.6	28753 -O	107/107/111/180	7267	28753 -O	107/107/111/180	7267	30300
32	98.3	28253 -O	106/106/110/180	7262	28253 -O	106/106/110/180	7262	30300
34	98.0	27786 -O	105/105/109/180	7249	27786 -O	105/105/109/180	7249	30103
36	97.7	27297 -O	104/104/108/180	7241	27297 -O	104/104/108/180	7241	29888
38	97.4	26812 -O	103/103/107/180	7230	26812 -O	103/103/107/180	7230	29396
40	97.1	26344 -O	103/103/106/180	7216	26344 -O	103/103/106/180	7216	28905
43	96.7	25615 -O	101/101/104/180	7200	25615 -O	101/101/104/180	7200	28066

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+31	0	+31	0	
TWD per KT	-241	0	-241	0	
QNH per +0.1	+97	0	+97	0	+67
QNH per -0.1	-111	0	-111	0	-109
ANTI ICE ON	0	+428	0	+428	-119
DEICE	NA	NA	NA	NA	0
ROLLING	-276	0	-276	0	0
TRINOP	0	0	0	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Cessna Citation Sovereign
 Engine: PW306C
 AFM: 68FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 7

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- WET RWY
- WITH THRUST REVERSERS
- STATIC TAKEOFF

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	-1.12	-1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	96.4	30300 ST	101/113/122/180	7220	30300 ST	101/113/122/180	7220	30300
-15	97.4	30300 ST	101/113/122/180	7183	30300 ST	101/113/122/180	7183	30300
-10	98.3	30300 ST	101/113/122/180	7148	30300 ST	101/113/122/180	7148	30300
-5	99.2	30300 ST	101/113/122/180	7115	30300 ST	101/113/122/180	7115	30300
0	100.1	30300 ST	101/113/122/180	7083	30300 ST	101/113/122/180	7083	30300
2	100.5	30300 ST	101/113/122/180	7072	30300 ST	101/113/122/180	7072	30300
4	100.8	30300 ST	100/113/122/180	7061	30300 ST	100/113/122/180	7061	30300
6	101.0	30300 ST	100/113/122/180	7054	30300 ST	100/113/122/180	7054	30300
8	100.9	30300 ST	100/113/122/180	7049	30300 ST	100/113/122/180	7049	30300
10	100.8	30300 ST	99/113/122/180	7045	30300 ST	99/113/122/180	7045	30300
12	100.7	30300 ST	99/113/121/180	7046	30300 ST	99/113/121/180	7046	30300
14	100.6	30300 ST	98/113/121/180	7047	30300 ST	98/113/121/180	7047	30300
16	100.4	30300 ST	98/114/121/180	7048	30300 ST	98/114/121/180	7048	30300
18	100.1	30300 ST	99/114/122/180	7051	30300 ST	99/114/122/180	7051	30300
20	99.9	30300 ST	99/114/122/180	7053	30300 ST	99/114/122/180	7053	30300
22	99.6	30300 ST	100/114/122/180	7060	30300 ST	100/114/122/180	7060	30300
24	99.4	30300 ST	101/115/122/180	7066	30300 ST	101/115/122/180	7066	30300
26	99.1	30300 ST	101/115/122/180	7076	30300 ST	101/115/122/180	7076	30300
28	98.9	30119 -O	102/115/121/180	7081	30184 -O	102/115/122/180	7084	30300
30	98.6	29694 -O	101/114/120/180	7074	29760 -O	101/114/121/180	7077	30300
32	98.3	29263 -O	101/113/120/180	7071	29328 -O	101/113/120/180	7074	30300
34	98.0	28846 -O	100/113/119/180	7064	28909 -O	100/113/119/180	7066	30300
36	97.7	28423 -O	99/112/118/180	7060	28486 -O	100/112/118/180	7063	30300
38	97.4	27996 -O	99/111/117/180	7054	28059 -O	99/111/117/180	7058	30213
40	97.1	27580 -O	98/110/116/180	7048	27643 -O	98/111/116/180	7052	30039
43	96.7	26941 -O	98/109/115/180	7041	27002 -O	98/109/115/180	7045	29507

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+58	+3	+58	+3	
TWD per KT	-293	0	-292	+1	
QNH per +0.1	+102	+1	+103	+1	+65
QNH per -0.1	-112	+2	-112	+1	-78
ANTI ICE ON	0	+207	0	+207	0
DEICE	-940	-5	-946	-5	0
ROLLING	-887	-5	-890	-5	0
TRINOP	-191	-1	-192	-1	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Cessna Citation Sovereign
 Engine: PW306C
 AFM: 68FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 7

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- WET RWY
- STATIC TAKEOFF
- WITH THRUST REVERSERS

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	1.12	1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	96.4	30300 ST	102/114/122/180	7334	30300 ST	102/114/122/180	7334	30300
-15	97.4	30300 ST	102/114/122/180	7297	30300 ST	102/114/122/180	7297	30300
-10	98.3	30300 ST	102/114/122/180	7262	30300 ST	102/114/122/180	7262	30300
-5	99.2	30300 ST	101/114/122/180	7229	30300 ST	101/114/122/180	7229	30300
0	100.1	30300 ST	101/114/122/180	7196	30300 ST	101/114/122/180	7196	30300
2	100.5	30300 ST	101/114/122/180	7185	30300 ST	101/114/122/180	7185	30300
4	100.8	30300 ST	101/114/122/180	7174	30300 ST	101/114/122/180	7174	30300
6	101.0	30300 ST	102/114/122/180	7167	30300 ST	102/114/122/180	7167	30300
8	100.9	30300 ST	102/114/122/180	7163	30300 ST	102/114/122/180	7163	30300
10	100.8	30300 ST	103/114/122/180	7158	30300 ST	103/114/122/180	7158	30300
12	100.7	30300 ST	103/114/122/180	7160	30300 ST	103/114/122/180	7160	30300
14	100.6	30300 ST	104/114/122/180	7161	30300 ST	104/114/122/180	7161	30300
16	100.4	30300 ST	105/114/122/180	7165	30300 ST	105/114/122/180	7165	30300
18	100.1	30300 ST	106/114/122/180	7169	30300 ST	106/114/122/180	7169	30300
20	99.9	29918 -O	105/114/121/180	7161	29918 -O	105/114/121/180	7161	30300
22	99.6	29420 -O	105/113/120/180	7151	29420 -O	105/113/120/180	7151	30300
24	99.4	28975 -O	104/112/119/180	7140	28975 -O	104/112/119/180	7140	30300
26	99.1	28513 -O	103/111/118/180	7131	28513 -O	103/111/118/180	7131	30300
28	98.9	28071 -O	103/110/117/180	7121	28071 -O	103/110/117/180	7121	30300
30	98.6	27646 -O	102/110/116/180	7111	27646 -O	102/110/116/180	7111	30300
32	98.3	27191 -O	102/109/115/180	7102	27191 -O	102/109/115/180	7102	30300
34	98.0	26768 -O	101/108/115/180	7092	26768 -O	101/108/115/180	7092	30300
36	97.7	26327 -O	100/107/114/180	7083	26327 -O	100/107/114/180	7083	30300
38	97.4	25887 -O	100/106/113/180	7073	25887 -O	100/106/113/180	7073	30213
40	97.1	25466 -O	99/106/112/180	7064	25466 -O	99/106/112/180	7064	30039
43	96.7	24806 -O	98/104/111/180	7050	24806 -O	98/104/111/180	7050	29507

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+39	0	+39	0	
TWD per KT	-272	0	-272	0	
QNH per +0.1	+94	0	+94	0	+65
QNH per -0.1	-111	0	-111	0	-78
ANTI ICE ON	-119	+207	-119	+207	0
DEICE	-533	0	-533	0	0
ROLLING	-497	0	-497	0	0
TRINOP	-24	0	-24	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Cessna Citation Sovereign
 Engine: PW306C
 AFM: 68FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 15

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- WET RWY
- STATIC TAKEOFF
- WITH THRUST REVERSERS

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	-1.12	-1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	96.4	30300 ST	102/109/115/180	7257	30300 ST	102/109/115/180	7257	30300
-15	97.4	30300 ST	102/109/115/180	7219	30300 ST	102/109/115/180	7219	30300
-10	98.3	30300 ST	102/109/115/180	7183	30300 ST	102/109/115/180	7183	30300
-5	99.2	30300 ST	102/109/115/180	7149	30300 ST	102/109/115/180	7149	30300
0	100.1	30300 ST	102/109/115/180	7116	30300 ST	102/109/115/180	7116	30300
2	100.5	30300 ST	102/109/115/180	7106	30300 ST	102/109/115/180	7106	30300
4	100.8	30300 ST	101/109/115/180	7096	30300 ST	101/109/115/180	7096	30300
6	101.0	30300 ST	101/109/115/180	7090	30300 ST	101/109/115/180	7090	30300
8	100.9	30300 ST	100/109/115/180	7090	30300 ST	100/109/115/180	7090	30300
10	100.8	30300 ST	100/109/115/180	7089	30300 ST	100/109/115/180	7089	30300
12	100.7	30300 ST	99/109/114/180	7097	30300 ST	99/109/114/180	7097	30300
14	100.6	30300 ST	99/109/114/180	7105	30300 ST	99/109/114/180	7105	30300
16	100.4	30300 ST	98/109/114/180	7116	30300 ST	98/109/114/180	7116	30300
18	100.1	30300 ST	97/109/114/180	7131	30300 ST	97/109/114/180	7131	30300
20	99.9	30300 ST	96/109/114/180	7145	30300 ST	96/109/114/180	7145	30300
22	99.6	30300 ST	96/109/114/180	7170	30300 ST	96/109/114/180	7170	30300
24	99.4	30300 ST	96/109/114/180	7195	30300 ST	96/109/114/180	7195	30300
26	99.1	30300 ST	96/109/113/180	7231	30300 ST	96/109/113/180	7231	30300
28	98.9	30300 ST	96/110/113/180	7278	30300 ST	96/110/113/180	7278	30300
30	98.6	30089 -O	97/109/113/180	7296	30163 -O	97/109/113/180	7306	30300
32	98.3	29628 -O	96/108/112/180	7313	29702 -O	96/109/112/180	7911	30300
34	98.0	29176 -O	95/108/111/180	7304	29250 -O	96/108/111/180	7902	30103
36	97.7	28723 -O	95/107/111/180	7307	28795 -O	95/107/111/180	8314	29888
38	97.4	28264 -O	94/106/110/180	7311	28334 -O	94/107/110/180	8338	29396
40	97.1	27810 -O	94/106/109/180	7294	27879 -O	94/106/109/180	8304	28905
43	96.7	27118 -O	93/104/107/180	7291	27185 -O	93/104/107/180	8279	28066

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+20	+7	+18	+20	
TWD per KT	-363	0	-344	0	
QNH per +0.1	+103	+2	+104	+11	+67
QNH per -0.1	-111	+6	-111	+37	-109
ANTI ICE ON	0	+427	0	+1503	-119
DEICE	NA	NA	NA	NA	0
ROLLING	-716	0	-716	0	0
TRINOP	-126	-1	-126	-1	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Cessna Citation Sovereign
 Engine: PW306C
 AFM: 68FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 15

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- WET RWY
- WITH THRUST REVERSERS
- STATIC TAKEOFF

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	1.12	1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	96.4	30300 ST	101/110/115/180	7371	30300 ST	101/110/115/180	7371	30300
-15	97.4	30300 ST	101/110/115/180	7333	30300 ST	101/110/115/180	7333	30300
-10	98.3	30300 ST	101/110/115/180	7298	30300 ST	101/110/115/180	7298	30300
-5	99.2	30300 ST	101/110/115/180	7263	30300 ST	101/110/115/180	7263	30300
0	100.1	30300 ST	101/110/115/180	7230	30300 ST	101/110/115/180	7230	30300
2	100.5	30300 ST	101/110/115/180	7220	30300 ST	101/110/115/180	7220	30300
4	100.8	30300 ST	101/110/115/180	7210	30300 ST	101/110/115/180	7210	30300
6	101.0	30300 ST	101/110/115/180	7204	30300 ST	101/110/115/180	7204	30300
8	100.9	30300 ST	101/110/115/180	7203	30300 ST	101/110/115/180	7203	30300
10	100.8	30300 ST	100/110/115/180	7201	30300 ST	100/110/115/180	7201	30300
12	100.7	30300 ST	100/109/115/180	7208	30300 ST	100/109/115/180	7208	30300
14	100.6	30300 ST	100/109/114/180	7216	30300 ST	100/109/114/180	7216	30300
16	100.4	30300 ST	100/109/114/180	7227	30300 ST	100/109/114/180	7227	30300
18	100.1	30220 -O	101/109/114/180	7238	30220 -O	101/109/114/180	7238	30300
20	99.9	29777 -O	100/109/113/180	7227	29777 -O	100/109/113/180	7227	30300
22	99.6	29277 -O	99/108/112/180	7219	29277 -O	99/108/112/180	7219	30300
24	99.4	28831 -O	99/107/111/180	7209	28831 -O	99/107/111/180	7209	30300
26	99.1	28372 -O	98/106/110/180	7200	28372 -O	98/106/110/180	7200	30300
28	98.9	27926 -O	98/105/109/180	7190	27926 -O	98/105/109/180	7190	30300
30	98.6	27504 -O	97/104/108/180	7180	27504 -O	97/104/108/180	7180	30300
32	98.3	27053 -O	96/103/107/180	7172	27053 -O	96/103/107/180	7172	30300
34	98.0	26624 -O	96/103/107/180	7163	26624 -O	96/103/107/180	7163	30103
36	97.7	26190 -O	95/102/106/180	7155	26190 -O	95/102/106/180	7155	29888
38	97.4	25737 -O	95/101/105/180	7146	25737 -O	95/101/105/180	7146	29396
40	97.1	25327 -O	94/101/104/180	7136	25327 -O	94/101/104/180	7136	28905
43	96.7	24662 -O	93/99/103/180	7123	24662 -O	93/99/103/180	7123	28066

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+38	0	+38	0	
TWD per KT	-278	0	-278	0	
QNH per +0.1	+92	0	+92	0	+67
QNH per -0.1	-112	0	-112	0	-109
ANTI ICE ON	-665	+326	-665	+326	-119
DEICE	NA	NA	NA	NA	0
ROLLING	-470	0	-470	0	0
TRINOP	-36	0	-36	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Cessna Citation Sovereign
 Engine: PW306C
 AFM: 68FM-11

LANDING PERFORMANCE FLAPS 15/35

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- WITH THRUST REVERSERS

Approach Climb Limits:

Approach Flaps 15										
GRAD	-20	-10	0	10	20	25	30	35	40	43
2.1%	27100	27100	27100	27100	27100	27100	27100	27100	27100	27100

Field Length Weight Limits/Distances:

Landing Flaps 35

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	3	24793	6601	27100	5257	27100	4206
	13	23874	6601	27100	5396	27100	4317
	23	23042	6601	27100	5535	27100	4428
	33	22275	6601	27100	5675	27100	4540
	43	21561	6601	27100	5814	27100	4651
0	3	27100	5831	27100	4373	27100	3499
	13	27100	5997	27100	4498	27100	3598
	23	27100	6166	27100	4624	27100	3700
	33	27100	6333	27100	4750	27100	3800
	43	27100	6500	27100	4875	27100	3900
10	3	27100	5512	27100	4134	27100	3307
	13	27100	5673	27100	4255	27100	3404
	23	27100	5836	27100	4377	27100	3502
	33	27100	6000	27100	4500	27100	3600
	43	27100	6162	27100	4622	27100	3697
30	3	27100	4904	27100	3678	27100	2942
	13	27100	5056	27100	3792	27100	3034
	23	27100	5209	27100	3907	27100	3126
	33	27100	5362	27100	4022	27100	3218
	43	27100	5515	27100	4136	27100	3309

RWY: 16
 LDA: 6601FT
 SLOPE: -1.12%
 COND: DRY

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	3	20246	6601	27100	6046	27100	4837
	13	19538	6601	27100	6205	27100	4964
	23	18861	6601	27100	6365	27100	5092
	33	18229	6601	27100	6526	27100	5221
	43	NA	NA	26613	6601	27100	5349
0	3	26534	6601	27100	5029	27100	4023
	13	25547	6601	27100	5173	27100	4138
	23	24623	6601	27100	5318	27100	4255
	33	23770	6601	27100	5463	27100	4370
	43	22999	6601	27100	5607	27100	4485
10	3	27100	6339	27100	4754	27100	3804
	13	27100	6524	27100	4893	27100	3915
	23	26521	6601	27100	5034	27100	4027
	33	25589	6601	27100	5175	27100	4140
	43	24725	6601	27100	5315	27100	4252
30	3	27100	5639	27100	4229	27100	3384
	13	27100	5814	27100	4361	27100	3489
	23	27100	5990	27100	4493	27100	3594
	33	27100	6166	27100	4625	27100	3700
	43	27100	6342	27100	4756	27100	3805

RWY: 16
 LDA: 6601FT
 SLOPE: -1.12%
 COND: Wet [115%]

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Cessna Citation Sovereign
 Engine: PW306C
 AFM: 68FM-11

LANDING PERFORMANCE FLAPS 15/35

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- WITH THRUST REVERSERS

Approach Climb Limits:

Approach Flaps 15										
GRAD	-20	-10	0	10	20	25	30	35	40	43
2.1%	27100	27100	27100	27100	27100	27100	27100	27100	27100	27100

Field Length Weight Limits/Distances:

Landing Flaps 35

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	3	27100	5772	27100	4329	27100	3464
	13	27100	5908	27100	4431	27100	3545
	23	27100	6044	27100	4533	27100	3627
	33	27100	6180	27100	4635	27100	3708
	43	27100	6315	27100	4736	27100	3789
0	3	27100	4918	27100	3689	27100	2951
	13	27100	5045	27100	3784	27100	3027
	23	27100	5174	27100	3880	27100	3104
	33	27100	5301	27100	3976	27100	3181
	43	27100	5427	27100	4070	27100	3256
10	3	27100	4670	27100	3503	27100	2802
	13	27100	4794	27100	3596	27100	2877
	23	27100	4920	27100	3690	27100	2952
	33	27100	5044	27100	3783	27100	3027
	43	27100	5168	27100	3876	27100	3101
30	3	27100	4192	27100	3144	27100	2515
	13	27100	4311	27100	3233	27100	2587
	23	27100	4430	27100	3322	27100	2658
	33	27100	4549	27100	3412	27100	2730
	43	27100	4667	27100	3500	27100	2800

RWY: 34
 LDA: 6601FT
 SLOPE: 1.12%
 COND: DRY

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	3	26852	6601	27100	4979	27100	3983
	13	25845	6601	27100	5096	27100	4077
	23	24897	6601	27100	5213	27100	4171
	33	24009	6601	27100	5330	27100	4264
	43	23221	6601	27100	5446	27100	4357
0	3	27100	5656	27100	4242	27100	3394
	13	27100	5802	27100	4352	27100	3481
	23	27100	5950	27100	4462	27100	3570
	33	27100	6096	27100	4572	27100	3658
	43	27100	6241	27100	4681	27100	3745
10	3	27100	5371	27100	4028	27100	3223
	13	27100	5513	27100	4135	27100	3308
	23	27100	5658	27100	4244	27100	3395
	33	27100	5801	27100	4351	27100	3481
	43	27100	5943	27100	4458	27100	3566
30	3	27100	4820	27100	3615	27100	2892
	13	27100	4957	27100	3718	27100	2975
	23	27100	5094	27100	3821	27100	3057
	33	27100	5231	27100	3923	27100	3139
	43	27100	5367	27100	4025	27100	3220

RWY: 34
 LDA: 6601FT
 SLOPE: 1.12%
 COND: Wet [115%]

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Cessna Citation X (1-172)
 Engine: AE3007C
 AFM: 75FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 5

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- WITHOUT THRUST REVERSERS
- STATIC TAKEOFF

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	-1.12	-1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.5	35700 ST	135/135/144/190	7373	35700 ST	135/135/144/190	7373	36100
-15	84.3	35700 ST	135/135/144/190	7333	35700 ST	135/135/144/190	7333	36100
-10	85.1	35700 ST	134/135/144/190	7294	35700 ST	134/135/144/190	7294	36100
-5	86.0	35700 ST	134/135/144/190	7257	35700 ST	134/135/144/190	7257	36100
0	86.8	35451 -O	133/134/144/190	7213	35532 -O	134/135/144/190	7216	36100
2	87.1	35344 -O	133/134/143/190	7196	35425 -O	133/134/144/190	7199	36100
4	87.5	35241 -O	133/134/143/190	7179	35320 -O	133/134/143/190	7182	36100
6	87.8	35070 -O	133/133/143/190	7165	35146 -O	133/133/143/190	7168	36100
8	87.9	34836 -O	132/133/143/190	7155	34910 -O	132/133/143/190	7158	36100
10	87.9	34611 -O	132/132/142/190	7145	34685 -O	132/132/142/190	7147	36100
12	87.8	34167 -O	131/132/141/190	7139	34239 -O	131/132/141/190	7142	36100
14	87.7	33719 -O	130/131/140/190	7132	33797 -O	130/131/141/190	7134	36100
16	87.5	33234 -O	129/130/139/190	7124	33309 -O	130/130/140/190	7127	36100
18	87.3	32741 -O	128/129/138/190	7116	32815 -O	129/129/138/190	7119	36100
20	87.0	32282 -O	128/128/137/190	7107	32354 -O	128/128/137/190	7110	36100
22	86.8	31809 -O	127/127/136/190	7102	31881 -O	127/127/136/190	7105	35700
24	86.5	31368 -O	125/125/135/190	7096	31439 -O	126/126/135/190	7099	35269
26	86.2	30932 -O	124/124/134/190	7090	31006 -O	125/125/134/190	7093	34647
28	86.0	30492 -O	123/123/132/190	7086	30562 -O	123/123/133/190	7090	33998
30	85.7	30082 -O	122/122/131/190	7079	30153 -O	122/122/131/190	7083	33348
32	85.4	29652 -O	121/121/130/190	7078	29729 -O	122/122/130/190	7082	32756
34	85.2	29246 -O	121/121/129/190	7073	29321 -O	121/121/130/190	7078	32164
36	84.9	28826 -O	120/120/129/190	7069	28905 -O	120/120/129/190	7074	31568
38	84.6	28390 -O	119/119/128/190	7067	28468 -O	119/119/128/190	7071	30967
40	84.4	27989 -O	118/118/127/190	7058	28065 -O	118/118/127/190	7063	30367
43	NA	NA CF	NA	NA	NA CF	NA	NA	NA

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+40	+2	+41	+2	
TWD per KT	-331	0	-329	0	
QNH per +0.1	+43	+4	+49	+4	+60
QNH per -0.1	NA	NA	NA	NA	-41
ANTI ICE ON	-2009	+62	-2003	+68	-1204
WITHTR	0	0	0	0	0
ROLLING	-824	-21	-828	-17	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Cessna Citation X (1-172)
 Engine: AE3007C
 AFM: 75FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 5

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- WITHOUT THRUST REVERSERS
- STATIC TAKEOFF

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	1.12	1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.5	33530 -O	130/130/140/190	7442	33530 -O	130/130/140/190	7442	36100
-15	84.3	33356 FL	129/129/140/190	7397	33356 FL	129/129/140/190	7397	36100
-10	85.1	33182 FL	129/129/139/190	7354	33182 FL	129/129/139/190	7354	36100
-5	86.0	33008 FL	128/128/139/190	7312	33008 FL	128/128/139/190	7312	36100
0	86.8	32817 FL	127/127/138/190	7273	32817 FL	127/127/138/190	7273	36100
2	87.1	32748 FL	127/127/138/190	7258	32748 FL	127/127/138/190	7258	36100
4	87.5	32679 FL	127/127/138/190	7243	32679 FL	127/127/138/190	7243	36100
6	87.8	32531 FL	127/127/138/190	7230	32531 FL	127/127/138/190	7230	36100
8	87.9	32315 FL	126/126/137/190	7217	32315 FL	126/126/137/190	7217	36100
10	87.9	32112 FL	126/126/136/190	7205	32112 FL	126/126/136/190	7205	36100
12	87.8	31640 FL	125/125/135/190	7196	31640 FL	125/125/135/190	7196	36100
14	87.7	31242 FL	124/124/135/190	7187	31242 FL	124/124/135/190	7187	36100
16	87.5	30810 FL	123/123/134/190	7177	30810 FL	123/123/134/190	7177	36100
18	87.3	30347 FL	122/122/132/190	7168	30347 FL	122/122/132/190	7168	36100
20	87.0	29962 FL	121/121/131/190	7159	29962 FL	121/121/131/190	7159	36100
22	86.8	29464 FL	120/120/130/190	7150	29464 FL	120/120/130/190	7150	35700
24	86.5	29039 -O	119/119/129/190	7140	29039 -O	119/119/129/190	7140	35269
26	86.2	28557 -O	118/118/128/190	7129	28557 -O	118/118/128/190	7129	34647
28	86.0	28096 -O	117/117/127/190	7119	28096 -O	117/117/127/190	7119	33998
30	85.7	27657 -O	116/116/126/190	7109	27657 -O	116/116/126/190	7109	33348
32	85.4	27218 -O	115/115/125/190	7100	27218 -O	115/115/125/190	7100	32756
34	85.2	26798 -O	114/114/124/190	7091	26798 -O	114/114/124/190	7091	32164
36	84.9	26349 -O	113/113/123/190	7083	26349 -O	113/113/123/190	7083	31568
38	84.6	25913 -O	112/112/121/190	7075	25913 -O	112/112/121/190	7075	30967
40	84.4	25535 -O	111/111/120/190	7066	25535 -O	111/111/120/190	7066	30367
43	NA	NA CF	NA	NA	NA CF	NA	NA	NA

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+31	0	+31	0	
TWD per KT	NA	NA	NA	NA	
QNH per +0.1	+19	0	+19	0	+60
QNH per -0.1	NA	NA	NA	NA	-41
ANTI ICE ON	-1935	0	-1935	0	-1204
WITHTR	0	0	0	0	0
ROLLING	-427	0	-427	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Cessna Citation X (1-172)
 Engine: AE3007C
 AFM: 75FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 15

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- WITHOUT THRUST REVERSERS
- STATIC TAKEOFF

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	-1.12	-1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.5	35700 ST	127/133/137/190	7426	35700 ST	127/133/137/190	7426	36100
-15	84.3	35700 ST	127/133/137/190	7385	35700 ST	127/133/137/190	7385	36100
-10	85.1	35700 ST	127/133/137/190	7345	35700 ST	127/133/137/190	7345	36100
-5	86.0	35700 ST	127/133/137/190	7307	35700 ST	127/133/137/190	7307	36100
0	86.8	35700 ST	126/133/137/190	7271	35700 ST	126/133/137/190	7271	36100
2	87.1	35700 ST	126/133/137/190	7258	35700 ST	126/133/137/190	7258	36100
4	87.5	35700 ST	126/133/137/190	7245	35700 ST	126/133/137/190	7245	36100
6	87.8	35700 ST	126/133/137/190	7240	35700 ST	126/133/137/190	7240	36100
8	87.9	35700 ST	127/133/137/190	7244	35700 ST	127/133/137/190	7244	36100
10	87.9	35700 ST	127/133/137/190	7247	35700 ST	127/133/137/190	7247	36100
12	87.8	35700 ST	127/133/137/190	7279	35700 ST	127/133/137/190	7279	36100
14	87.7	35268 -O	127/133/136/190	7277	35363 -O	127/133/137/190	7284	36100
16	87.5	34793 -O	126/132/136/190	7275	34883 -O	126/132/136/190	7282	36100
18	87.3	34316 -O	125/131/135/190	7276	34406 -O	125/131/135/190	7284	35700
20	87.0	33853 -O	124/130/134/190	7266	33950 -O	125/130/134/190	7273	35562
22	86.8	33365 -O	124/129/133/190	7271	33457 -O	124/129/133/190	7280	34898
24	86.5	32896 -O	123/128/132/190	7262	32993 -O	124/129/132/190	7271	34234
26	86.2	32414 -O	122/127/131/190	7262	32509 -O	123/128/131/190	7271	33586
28	86.0	31939 -O	121/126/130/190	7259	32032 -O	122/126/130/190	7269	32955
30	85.7	31487 -O	120/125/128/190	7254	31580 -O	121/125/129/190	7264	32324
32	85.4	31056 -O	120/124/127/190	7262	31151 -O	120/125/128/190	7273	31753
34	85.2	30633 -O	119/123/126/190	7267	30726 -O	119/123/127/190	7822	31181
36	84.9	30211 -O	118/122/125/190	7269	30313 -O	118/122/125/190	7827	30609
38	84.6	29755 -O	117/121/124/190	7273	29879 -O	117/121/124/190	7834	30037
40	84.4	29285 -O	116/120/123/190	7264	29428 -O	116/120/123/190	7828	29465
43	NA	NA CF	NA	NA	NA CF	NA	NA	NA

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+42	+4	+43	+22	
TWD per KT	-302	0	-299	0	
QNH per +0.1	+69	+6	+72	+62	+58
QNH per -0.1	NA	NA	NA	NA	-56
ANTI ICE ON	-1473	+172	-1371	+181	-2156
WITHTR	0	0	0	0	0
ROLLING	-759	0	-809	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Cessna Citation X (1-172)
 Engine: AE3007C
 AFM: 75FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 15

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- WITHOUT THRUST REVERSERS
- STATIC TAKEOFF

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	1.12	1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP				34				CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF		
-20	83.5	35552 -O	132/133/137/190	7558		35552 -O	132/133/137/190	7558		36100
-15	84.3	35444 -O	132/133/137/190	7510		35444 -O	132/133/137/190	7510		36100
-10	85.1	35327 -O	131/132/136/190	7464		35327 -O	131/132/136/190	7464		36100
-5	86.0	35196 -O	131/132/136/190	7418		35196 -O	131/132/136/190	7418		36100
0	86.8	35044 -O	131/132/136/190	7375		35044 -O	131/132/136/190	7375		36100
2	87.1	34989 -O	130/132/136/190	7359		34989 -O	130/132/136/190	7359		36100
4	87.5	34934 -O	130/132/136/190	7343		34934 -O	130/132/136/190	7343		36100
6	87.8	34788 -O	130/131/136/190	7330		34788 -O	130/131/136/190	7330		36100
8	87.9	34554 -O	130/131/135/190	7320		34554 -O	130/131/135/190	7320		36100
10	87.9	34325 -O	129/130/135/190	7308		34325 -O	129/130/135/190	7308		36100
12	87.8	33826 -O	128/129/134/190	7300		33826 -O	128/129/134/190	7300		36100
14	87.7	33340 -O	127/128/133/190	7289		33340 -O	127/128/133/190	7289		36100
16	87.5	32833 -O	126/127/132/190	7278		32833 -O	126/127/132/190	7278		36100
18	87.3	32301 -O	125/126/131/190	7268		32301 -O	125/126/131/190	7268		35700
20	87.0	31793 -O	124/125/129/190	7255		31793 -O	124/125/129/190	7255		35562
22	86.8	31260 -O	123/124/128/190	7246		31260 -O	123/124/128/190	7246		34898
24	86.5	30760 -O	122/122/127/190	7234		30760 -O	122/122/127/190	7234		34234
26	86.2	30246 -O	121/121/125/190	7223		30246 -O	121/121/125/190	7223		33586
28	86.0	29736 -O	120/120/124/190	7212		29736 -O	120/120/124/190	7212		32955
30	85.7	29227 -O	119/119/123/190	7198		29227 -O	119/119/123/190	7198		32324
32	85.4	28740 -O	118/118/122/190	7191		28740 -O	118/118/122/190	7191		31753
34	85.2	28290 -O	117/117/121/190	7181		28290 -O	117/117/121/190	7181		31181
36	84.9	27819 -O	116/116/120/190	7171		27819 -O	116/116/120/190	7171		30609
38	84.6	27330 -O	115/115/119/190	7162		27330 -O	115/115/119/190	7162		30037
40	84.4	26900 -O	114/114/118/190	7150		26900 -O	114/114/118/190	7150		29465
43	NA	NA CF	NA	NA		NA CF	NA	NA		NA

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+33	0	+33	0	
TWD per KT	-265	0	-265	0	
QNH per +0.1	+12	0	+12	0	+58
QNH per -0.1	NA	NA	NA	NA	-56
ANTI ICE ON	-2435	0	-2435	0	-2156
WITHTR	0	0	0	0	0
ROLLING	-332	0	-332	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Cessna Citation X (1-172)
 Engine: AE3007C
 AFM: 75FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 5

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- WET RWY
- WITHOUT THRUST REVERSERS
- STATIC TAKEOFF

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	-1.12	-1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.5	33605 -O	117/130/140/190	7296	33669 -O	117/130/140/190	7298	36100
-15	84.3	33383 -O	116/129/140/190	7251	33445 -O	116/129/140/190	7253	36100
-10	85.1	33165 -O	115/128/139/190	7209	33225 -O	116/129/139/190	7210	36100
-5	86.0	32941 -O	115/128/139/190	7168	33003 -O	115/128/139/190	7170	36100
0	86.8	32707 -O	114/127/138/190	7130	32766 -O	114/127/138/190	7131	36100
2	87.1	32621 -O	114/127/138/190	7115	32679 -O	114/127/138/190	7117	36100
4	87.5	32537 -O	114/127/138/190	7101	32593 -O	114/127/138/190	7102	36100
6	87.8	32389 -O	113/126/137/190	7089	32445 -O	113/126/137/190	7090	36100
8	87.9	32187 -O	113/126/137/190	7078	32241 -O	113/126/137/190	7079	36100
10	87.9	31996 -O	112/125/136/190	7068	32050 -O	112/126/136/190	7069	36100
12	87.8	31516 -O	112/124/135/190	7059	31578 -O	112/125/135/190	7060	36100
14	87.7	31173 -O	111/124/134/190	7052	31229 -O	111/124/135/190	7053	36100
16	87.5	30784 -O	110/123/133/190	7045	30848 -O	111/123/134/190	7047	36100
18	87.3	30351 -O	110/122/132/190	7038	30408 -O	110/122/132/190	7039	36100
20	87.0	30013 -O	109/121/131/190	7031	30063 -O	109/121/131/190	7033	36100
22	86.8	29554 -O	108/120/130/190	7024	29612 -O	109/120/130/190	7026	35700
24	86.5	29149 -O	108/119/129/190	7016	29203 -O	108/119/129/190	7018	35269
26	86.2	28741 -O	107/118/128/190	7009	28798 -O	107/118/129/190	7011	34647
28	86.0	28323 -O	106/117/128/190	7002	28378 -O	107/118/128/190	7004	33998
30	85.7	27924 -O	106/117/127/190	6993	27979 -O	106/117/127/190	6995	33348
32	85.4	27540 -O	105/116/126/190	6989	27593 -O	105/116/126/190	6991	32756
34	85.2	27170 -O	104/115/125/190	6983	27223 -O	105/115/125/190	6985	32164
36	84.9	26762 -O	104/114/123/190	6977	26824 -O	104/114/124/190	6979	31568
38	84.6	26371 -O	103/113/123/190	6973	26426 -O	104/113/123/190	6975	30967
40	84.4	26037 -O	103/112/122/190	6969	26091 -O	103/112/122/190	6971	30367
43	NA	NA CF	NA	NA	NA CF	NA	NA	NA

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+49	+2	+49	+2	
TWD per KT	-870	0	-858	0	
QNH per +0.1	+35	+2	+35	+2	+60
QNH per -0.1	NA	NA	NA	NA	-41
ANTI ICE ON	-1695	+41	-1697	+42	-1204
WITHTR	+279	+15	+279	+15	0
ROLLING	-795	-29	-799	-30	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Cessna Citation X (1-172)
 Engine: AE3007C
 AFM: 75FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 5

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- WET RWY
- STATIC TAKEOFF
- WITHOUT THRUST REVERSERS

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	1.12	1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP				34				CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF		
-20	83.5	32053 -O	120/125/136/190	7394		32053 -O	120/125/136/190	7394		36100
-15	84.3	31893 -O	119/125/136/190	7352		31893 -O	119/125/136/190	7352		36100
-10	85.1	31712 -O	119/125/136/190	7311		31712 -O	119/125/136/190	7311		36100
-5	86.0	31521 -O	118/125/136/190	7271		31521 -O	118/125/136/190	7271		36100
0	86.8	31318 -O	117/124/136/190	7234		31318 -O	117/124/136/190	7234		36100
2	87.1	31241 -O	117/124/136/190	7219		31241 -O	117/124/136/190	7219		36100
4	87.5	31163 -O	117/124/136/190	7204		31163 -O	117/124/136/190	7204		36100
6	87.8	31032 -O	117/124/135/190	7192		31032 -O	117/124/135/190	7192		36100
8	87.9	30824 -O	116/123/135/190	7180		30824 -O	116/123/135/190	7180		36100
10	87.9	30619 -O	116/123/134/190	7168		30619 -O	116/123/134/190	7168		36100
12	87.8	30187 -O	115/122/133/190	7158		30187 -O	115/122/133/190	7158		36100
14	87.7	29834 -O	115/121/132/190	7149		29834 -O	115/121/132/190	7149		36100
16	87.5	29378 -O	114/120/131/190	7138		29378 -O	114/120/131/190	7138		36100
18	87.3	28970 -O	113/119/130/190	7128		28970 -O	113/119/130/190	7128		36100
20	87.0	28557 -O	112/118/129/190	7118		28557 -O	112/118/129/190	7118		36100
22	86.8	28068 -O	111/117/128/190	7107		28068 -O	111/117/128/190	7107		35700
24	86.5	27648 -O	110/116/127/190	7097		27648 -O	110/116/127/190	7097		35269
26	86.2	27222 -O	109/115/126/190	7086		27222 -O	109/115/126/190	7086		34647
28	86.0	26764 -O	109/114/125/190	7076		26764 -O	109/114/125/190	7076		33998
30	85.7	26321 -O	108/113/124/190	7066		26321 -O	108/113/124/190	7066		33348
32	85.4	25884 -O	107/112/123/190	7057		25884 -O	107/112/123/190	7057		32756
34	85.2	25545 -O	106/111/121/190	7049		25545 -O	106/111/121/190	7049		32164
36	84.9	25206 -O	105/110/120/190	7040		25206 -O	105/110/120/190	7040		31568
38	84.6	24810 -O	105/109/119/190	7031		24810 -O	105/109/119/190	7031		30967
40	84.4	24394 -O	104/108/118/190	7022		24394 -O	104/108/118/190	7022		30367
43	NA	NA CF	NA	NA		NA CF	NA	NA		NA

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+15	0	+15	0	
TWD per KT	NA	NA	NA	NA	
QNH per +0.1	+19	0	+19	0	+60
QNH per -0.1	NA	NA	NA	NA	-41
ANTI ICE ON	-1799	0	-1799	0	-1204
WITHTR	+62	0	+62	0	0
ROLLING	-627	0	-627	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Cessna Citation X (1-172)
 Engine: AE3007C
 AFM: 75FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 15

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- WET RWY
- STATIC TAKEOFF
- WITHOUT THRUST REVERSERS

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	-1.12	-1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.5	34754 -O	113/131/136/190	7375	34850 -O	113/132/136/190	7379	36100
-15	84.3	34457 -O	113/130/135/190	7321	34550 -O	113/131/135/190	7325	36100
-10	85.1	34179 -O	112/130/134/190	7271	34268 -O	112/130/135/190	7275	36100
-5	86.0	33840 -O	111/129/134/190	7222	34010 -O	111/129/134/190	7229	36100
0	86.8	33315 -O	111/128/133/190	7170	33506 -O	111/128/133/190	7176	36100
2	87.1	33101 -O	111/127/132/190	7150	33294 -O	111/128/133/190	7156	36100
4	87.5	32888 -O	111/127/132/190	7130	33077 -O	111/127/132/190	7136	36100
6	87.8	32698 -O	111/126/131/190	7117	32886 -O	111/127/132/190	7122	36100
8	87.9	32531 -O	110/126/131/190	7108	32721 -O	110/126/131/190	7114	36100
10	87.9	32365 -O	110/125/131/190	7099	32552 -O	110/126/131/190	7105	36100
12	87.8	32053 -O	109/125/130/190	7096	32165 -O	109/125/130/190	7100	36100
14	87.7	31831 -O	108/124/129/190	7096	31981 -O	108/125/130/190	7101	36100
16	87.5	31426 -O	108/123/128/190	7090	31538 -O	108/124/129/190	7094	36100
18	87.3	31122 -O	106/123/127/190	7088	31198 -O	107/123/128/190	7092	35700
20	87.0	30900 -O	105/123/127/190	7089	31012 -O	105/123/127/190	7093	35562
22	86.8	30334 -O	105/121/126/190	7079	30416 -O	105/121/126/190	7083	34898
24	86.5	30044 -O	104/120/125/190	7077	30108 -O	105/120/125/190	7080	34234
26	86.2	29593 -O	104/119/124/190	7071	29681 -O	104/119/124/190	7075	33586
28	86.0	29170 -O	103/118/123/190	7066	29241 -O	103/119/123/190	7069	32955
30	85.7	28848 -O	102/118/123/190	7062	28926 -O	102/118/123/190	7066	32324
32	85.4	28397 -O	102/117/121/190	7058	28466 -O	102/117/122/190	7062	31753
34	85.2	28043 -O	101/116/121/190	7054	28105 -O	101/116/121/190	7057	31181
36	84.9	27643 -O	100/115/120/190	7051	27710 -O	100/115/120/190	7055	30609
38	84.6	27239 -O	100/114/119/190	7047	27301 -O	100/115/119/190	7051	30037
40	84.4	26843 -O	99/114/118/190	7040	26926 -O	99/114/118/190	7044	29465
43	NA	NA CF	NA	NA	NA CF	NA	NA	NA

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+52	+3	+51	+3	
TWD per KT	NA	NA	NA	NA	
QNH per +0.1	+42	+4	+40	+4	+58
QNH per -0.1	NA	NA	NA	NA	-56
ANTI ICE ON	-1107	+83	-1232	+81	-2156
WITHTR	+322	+50	+299	+48	0
ROLLING	-1222	0	-1222	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Cessna Citation X (1-172)
 Engine: AE3007C
 AFM: 75FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 15

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- WET RWY
- STATIC TAKEOFF
- WITHOUT THRUST REVERSERS

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	1.12	1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.5	32855 -O	115/127/132/190	7436	32855 -O	115/127/132/190	7436	36100
-15	84.3	32719 -O	115/126/131/190	7393	32719 -O	115/126/131/190	7393	36100
-10	85.1	32585 -O	114/126/131/190	7351	32585 -O	114/126/131/190	7351	36100
-5	86.0	32449 -O	113/125/131/190	7311	32449 -O	113/125/131/190	7311	36100
0	86.8	32297 -O	113/125/131/190	7272	32297 -O	113/125/131/190	7272	36100
2	87.1	32242 -O	112/125/130/190	7258	32242 -O	112/125/130/190	7258	36100
4	87.5	32187 -O	112/125/130/190	7243	32187 -O	112/125/130/190	7243	36100
6	87.8	32053 -O	112/124/130/190	7230	32053 -O	112/124/130/190	7230	36100
8	87.9	31791 -O	112/124/129/190	7218	31791 -O	112/124/129/190	7218	36100
10	87.9	31574 -O	112/123/129/190	7206	31574 -O	112/123/129/190	7206	36100
12	87.8	31130 -O	111/122/127/190	7197	31130 -O	111/122/127/190	7197	36100
14	87.7	30702 -O	110/121/126/190	7186	30702 -O	110/121/126/190	7186	36100
16	87.5	30285 -O	109/120/126/190	7177	30285 -O	109/120/126/190	7177	36100
18	87.3	29805 -O	109/119/125/190	7167	29805 -O	109/119/125/190	7167	35700
20	87.0	29387 -O	107/118/124/190	7157	29387 -O	107/118/124/190	7157	35562
22	86.8	28896 -O	107/117/123/190	7146	28896 -O	107/117/123/190	7146	34898
24	86.5	28432 -O	106/116/122/190	7135	28432 -O	106/116/122/190	7135	34234
26	86.2	28036 -O	105/115/121/190	7126	28036 -O	105/115/121/190	7126	33586
28	86.0	27557 -O	105/114/119/190	7116	27557 -O	105/114/119/190	7116	32955
30	85.7	27180 -O	104/114/118/190	7106	27180 -O	104/114/118/190	7106	32324
32	85.4	26729 -O	103/112/117/190	7099	26729 -O	103/112/117/190	7099	31753
34	85.2	26327 -O	103/111/116/190	7091	26327 -O	103/111/116/190	7091	31181
36	84.9	25960 -O	102/110/116/190	7085	25960 -O	102/110/116/190	7085	30609
38	84.6	25586 -O	101/110/115/190	7078	25586 -O	101/110/115/190	7078	30037
40	84.4	25239 -O	100/109/114/190	7068	25239 -O	100/109/114/190	7068	29465
43	NA	NA CF	NA	NA	NA CF	NA	NA	NA

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+46	0	+46	0	
TWD per KT	-534	0	-534	0	
QNH per +0.1	+20	0	+20	0	+58
QNH per -0.1	NA	NA	NA	NA	-56
ANTI ICE ON	-1988	0	-1988	0	-2156
WITHTR	+220	0	+220	0	0
ROLLING	-754	0	-754	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Cessna Citation X (1-172)
 Engine: AE3007C
 AFM: 75FM-11

LANDING PERFORMANCE FLAPS 5/15

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- WITH THRUST REVERSERS

Approach Climb Limits:

Approach Flaps 5										
GRAD	-20	-10	0	10	20	25	30	35	40	43
2.1%	31800	31800	31800	31800	31800	31800	31800	31800	31422	30488
2.5%	31800	31800	31800	31800	31800	31800	31800	31800	30460	29560

Field Length Weight Limits/Distances:

Landing Flaps 15

RWY: 16
 LDA: 6601FT
 SLOPE: -1.12%
 COND: DRY

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	23	NA	NA	26235	6601	27982	5866
	28	NA	NA	25935	6601	27763	5922
	33	NA	NA	25628	6601	27554	5949
	38	NA	NA	25338	6601	27352	5996
	43	NA	NA	25066	6601	27154	6008
0	23	23916	6601	30109	6601	30313	5355
	28	23548	6601	29783	6601	30095	5367
	33	23194	6601	29466	6601	29881	5407
	38	NA	NA	29139	6601	29666	5423
	43	NA	NA	28783	6601	29448	5453
10	23	25321	6601	31042	6560	31042	5248
	28	24944	6601	30811	6601	30818	5284
	33	24575	6601	30513	6601	30598	5312
	38	24217	6601	30251	6601	30384	5322
	43	23866	6601	29922	6601	30172	5430
30	23	28241	6601	31800	5973	31800	4779
	28	27791	6601	31800	6111	31800	4889
	33	27384	6601	31800	6251	31800	5001
	38	26992	6601	31790	6386	31790	5109
	43	26605	6601	30488	5946	30488	4757

RWY: 16
 LDA: 6601FT
 SLOPE: -1.12%
 COND: Wet [115%]

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	23	NA	NA	23192	6601	27583	6601
	28	NA	NA	NA	NA	27276	6601
	33	NA	NA	NA	NA	26982	6601
	38	NA	NA	NA	NA	26672	6601
	43	NA	NA	NA	NA	26381	6601
0	23	NA	NA	27659	6601	30313	6158
	28	NA	NA	27328	6601	30095	6172
	33	NA	NA	27012	6601	29881	6218
	38	NA	NA	26651	6601	29666	6236
	43	NA	NA	26340	6601	29448	6271
10	23	NA	NA	28980	6601	31042	6035
	28	NA	NA	28575	6601	30818	6076
	33	NA	NA	28196	6601	30598	6109
	38	NA	NA	27837	6601	30384	6121
	43	NA	NA	27513	6601	30172	6244
30	23	24390	6601	31206	6601	31800	5495
	28	24024	6601	30888	6601	31800	5622
	33	23663	6601	30573	6601	31800	5751
	38	23314	6601	30262	6601	31790	5875
	43	NA	NA	29958	6601	30488	5471

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Cessna Citation X (1-172)
 Engine: AE3007C
 AFM: 75FM-11

LANDING PERFORMANCE FLAPS 5/15

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- WITH THRUST REVERSERS

Approach Climb Limits:

Approach Flaps 5										
GRAD	-20	-10	0	10	20	25	30	35	40	43
2.1%	31800	31800	31800	31800	31800	31800	31800	31800	31422	30488
2.5%	31800	31800	31800	31800	31800	31800	31800	31800	30460	29560

Field Length Weight Limits/Distances:

Landing Flaps 15

RWY: 34
 LDA: 6601FT
 SLOPE: 1.12%
 COND: DRY

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	23	25190	6601	29344	6381	29344	5105
	28	24878	6601	29112	6447	29112	5158
	33	24534	6601	28878	6510	28878	5208
	38	24262	6601	28648	6546	28648	5237
	43	24025	6601	28423	6588	28423	5271
0	23	28860	6601	31505	5981	31505	4785
	28	28484	6601	31286	6016	31286	4813
	33	28134	6601	31066	6048	31066	4839
	38	27807	6601	30851	6082	30851	4866
	43	27497	6601	30488	6033	30488	4826
10	23	30015	6601	31800	5649	31800	4519
	28	29667	6601	31800	5767	31800	4614
	33	29340	6601	31744	5896	31744	4717
	38	29036	6601	31568	5964	31568	4771
	43	28678	6601	30488	5577	30488	4462
30	23	31800	6481	31800	4861	31800	3889
	28	31743	6601	31800	4970	31800	3976
	33	31426	6601	31800	5081	31800	4065
	38	31133	6601	31800	5189	31800	4152
	43	30488	6439	30488	4829	30488	3864

RWY: 34
 LDA: 6601FT
 SLOPE: 1.12%
 COND: Wet [115%]

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	23	NA	NA	27653	6601	29344	5871
	28	NA	NA	27355	6601	29112	5931
	33	NA	NA	27079	6601	28878	5989
	38	NA	NA	26789	6601	28648	6023
	43	NA	NA	26503	6601	28423	6061
0	23	25605	6601	31020	6601	31505	5502
	28	25222	6601	30724	6601	31286	5534
	33	24846	6601	30442	6601	31066	5565
	38	24481	6601	30160	6601	30851	5595
	43	24124	6601	29872	6601	30488	5550
10	23	27069	6601	31800	6496	31800	5197
	28	26674	6601	31725	6601	31800	5306
	33	26270	6601	31391	6601	31744	5424
	38	25888	6601	31112	6601	31568	5487
	43	25519	6601	30488	6413	30488	5131
30	23	29837	6601	31800	5590	31800	4472
	28	29455	6601	31800	5715	31800	4572
	33	29135	6601	31800	5843	31800	4675
	38	28724	6601	31800	5968	31800	4774
	43	28304	6601	30488	5554	30488	4443

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Cessna Citation X (1-172)
 Engine: AE3007C
 AFM: 75FM-11

LANDING PERFORMANCE FLAPS 15/FULL

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- WITH THRUST REVERSERS

Approach Climb Limits:

Approach Flaps 15										
GRAD	-20	-10	0	10	20	25	30	35	40	43
2.1%	31800	31800	31800	31800	31800	31800	31800	31690	30242	29360
2.5%	31800	31800	31800	31800	31800	31800	31800	30778	29373	28519

Field Length Weight Limits/Distances:

Landing Flaps FULL

RWY: 16
 LDA: 6601FT
 SLOPE: -1.12%
 COND: DRY

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	23	NA	NA	28118	6601	29893	5844
	28	NA	NA	27790	6601	29696	5891
	33	NA	NA	27487	6601	29494	5920
	38	NA	NA	27201	6601	29288	5947
	43	NA	NA	26922	6601	29084	5962
0	23	25836	6601	31628	6601	31800	5350
	28	25475	6601	31346	6601	31755	5449
	33	25126	6601	31079	6601	31568	5492
	38	24787	6601	30821	6594	30821	5275
	43	24453	6601	29360	6048	29360	4838
10	23	27234	6601	31800	6212	31800	4969
	28	26859	6601	31800	6348	31800	5078
	33	26491	6601	31800	6486	31800	5189
	38	26132	6601	30821	6138	30821	4911
	43	25787	6601	29360	5657	29360	4525
30	23	30172	6601	31800	5400	31800	4320
	28	29813	6601	31800	5512	31800	4409
	33	29428	6601	31800	5624	31800	4499
	38	29057	6601	30821	5336	30821	4269
	43	28608	6601	29360	5065	29360	4052

RWY: 16
 LDA: 6601FT
 SLOPE: -1.12%
 COND: Wet [115%]

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	23	NA	NA	25138	6601	29583	6601
	28	NA	NA	24783	6601	29269	6601
	33	NA	NA	24438	6601	28957	6601
	38	NA	NA	24104	6601	28598	6601
	43	NA	NA	23777	6601	28267	6601
0	23	NA	NA	29662	6601	31800	6152
	28	NA	NA	29344	6601	31755	6266
	33	NA	NA	29041	6601	31568	6315
	38	NA	NA	28639	6601	30821	6066
	43	NA	NA	28279	6601	29360	5564
10	23	23588	6601	30703	6601	31800	5715
	28	23250	6601	30422	6601	31800	5840
	33	NA	NA	30144	6601	31800	5967
	38	NA	NA	29842	6601	30821	5647
	43	NA	NA	29360	6505	29360	5204
30	23	26342	6601	31800	6210	31800	4968
	28	25978	6601	31800	6338	31800	5071
	33	25623	6601	31800	6467	31800	5174
	38	25279	6601	30821	6136	30821	4909
	43	24947	6601	29360	5825	29360	4660

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Cessna Citation X (1-172)
 Engine: AE3007C
 AFM: 75FM-11

LANDING PERFORMANCE FLAPS 15/FULL

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- WITH THRUST REVERSERS

Approach Climb Limits:

Approach Flaps 15										
GRAD	-20	-10	0	10	20	25	30	35	40	43
2.1%	31800	31800	31800	31800	31800	31800	31800	31690	30242	29360
2.5%	31800	31800	31800	31800	31800	31800	31800	30778	29373	28519

Field Length Weight Limits/Distances:

Landing Flaps FULL

RWY: 34
 LDA: 6601FT
 SLOPE: 1.12%
 COND: DRY

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	23	26810	6601	31137	6595	31137	5276
	28	26466	6601	30889	6601	30939	5305
	33	26192	6601	30644	6601	30744	5331
	38	25918	6601	30405	6601	30552	5352
	43	25559	6601	29360	6154	29360	4924
0	23	30466	6601	31800	5470	31800	4376
	28	30192	6601	31800	5592	31800	4474
	33	29918	6601	31800	5715	31800	4572
	38	29607	6601	30821	5385	30821	4308
	43	29360	6590	29360	4943	29360	3954
10	23	31409	6601	31800	5089	31800	4072
	28	31135	6601	31800	5198	31800	4158
	33	30866	6601	31800	5306	31800	4245
	38	30616	6601	30821	5022	30821	4017
	43	29360	6172	29360	4629	29360	3703
30	23	31800	5929	31800	4447	31800	3558
	28	31800	6045	31800	4534	31800	3627
	33	31800	6162	31800	4622	31800	3697
	38	30821	5864	30821	4398	30821	3518
	43	29360	5598	29360	4199	29360	3359

RWY: 34
 LDA: 6601FT
 SLOPE: 1.12%
 COND: Wet [115%]

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	23	NA	NA	29431	6601	31137	6067
	28	NA	NA	29151	6601	30939	6101
	33	NA	NA	28848	6601	30744	6130
	38	NA	NA	28511	6601	30552	6155
	43	NA	NA	28198	6601	29360	5662
0	23	27189	6601	31800	6291	31800	5033
	28	26811	6601	31800	6431	31800	5145
	33	26441	6601	31800	6573	31800	5258
	38	26082	6601	30821	6193	30821	4954
	43	25736	6601	29360	5684	29360	4548
10	23	28756	6601	31800	5853	31800	4682
	28	28269	6601	31800	5977	31800	4782
	33	27838	6601	31800	6102	31800	4882
	38	27466	6601	30821	5775	30821	4620
	43	27104	6601	29360	5323	29360	4259
30	23	31215	6601	31800	5114	31800	4091
	28	30933	6601	31800	5214	31800	4171
	33	30622	6601	31800	5315	31800	4252
	38	30331	6601	30821	5057	30821	4046
	43	29360	6438	29360	4829	29360	3863

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Falcon 2000
 Engine: CFE 738-1-1B
 AFM: DTM537 Revision 16
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 10

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- NO OPTIONS SELECTED

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	-1.12	-1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.1	36500 ST	126/129/132/169	6423	36500 ST	126/129/132/169	6423	36500
-15	83.9	36500 ST	126/129/132/169	6423	36500 ST	126/129/132/169	6423	36500
-10	84.7	36500 ST	126/129/132/169	6423	36500 ST	126/129/132/169	6423	36500
-5	85.5	36500 ST	126/129/132/169	6423	36500 ST	126/129/132/169	6423	36500
0	86.3	36500 ST	126/129/132/169	6423	36500 ST	126/129/132/169	6423	36500
2	86.7	36375 -O	126/129/131/168	6423	36463 -O	126/129/131/169	6423	36500
4	87.0	36209 -O	125/128/131/168	6423	36297 -O	125/128/131/168	6423	36500
6	87.3	36047 -O	125/128/131/168	6423	36131 -O	125/128/131/168	6423	36500
8	87.5	35887 -O	124/128/130/167	6423	35969 -O	125/128/131/167	6423	36500
10	87.5	35729 -O	124/127/130/167	6423	35811 -O	124/128/130/167	6423	36500
12	87.3	35511 -O	123/127/130/166	6423	35590 -O	124/127/130/167	6423	36500
14	86.9	35298 -O	123/127/129/166	6423	35375 -O	123/127/129/166	6423	36500
16	86.6	34982 -O	122/126/129/165	6423	35056 -O	123/126/129/165	6423	36500
18	86.2	34584 -O	122/125/128/164	6423	34658 -O	122/125/128/164	6423	36500
20	85.8	34183 -O	121/125/127/163	6423	34261 -O	122/125/127/163	6423	36500
22	85.5	33711 -O	121/124/126/162	6423	33785 -O	121/124/127/162	6423	36500
24	85.1	33272 -O	120/123/126/161	6423	33344 -O	120/123/126/161	6423	36500
26	84.7	32798 -O	119/122/125/160	6423	32869 -O	120/122/125/160	6423	36500
28	84.4	32326 -O	119/121/124/159	6423	32399 -O	119/121/124/159	6423	36500
30	84.0	31896 -O	118/120/123/158	6423	31967 -O	118/120/123/158	6423	36110
32	83.6	31347 -O	117/119/122/156	6423	31414 -O	117/119/122/157	6423	35400
34	83.3	30912 -O	116/118/121/155	6423	30982 -O	116/119/121/155	6423	34671
36	82.9	30376 -O	115/117/120/154	6423	30439 -O	116/118/120/154	6423	33944
38	82.6	29885 -O	115/116/119/153	6423	29941 -O	115/117/119/153	6423	33224
40	82.2	29464 -O	114/116/118/152	6423	29522 -O	114/116/118/152	6423	32499
41	82.1	29131 -O	114/115/118/151	6423	29184 -O	114/115/118/151	6423	32136

Corrections		LBS	FT	LBS	FT	LBS
HWD	per KT	+48	0	+48	0	
TWD	per KT	-361	0	-361	0	
QNH	per +0.1	+60	0	+63	0	+101
QNH	per -0.1	-113	0	-114	0	-112
	TRINOP	0	0	0	0	0
	ANTI ICE ON	-1317	0	-1399	0	-373

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Falcon 2000
 Engine: CFE 738-1-1B
 AFM: DTM537 Revision 16
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 10

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- NO OPTIONS SELECTED

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	1.12	1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.1	33519 FL	123/123/126/162	6423	33519 FL	123/123/126/162	6423	36500
-15	83.9	33216 FL	123/123/126/161	6423	33216 FL	123/123/126/161	6423	36500
-10	84.7	32924 FL	122/122/125/160	6423	32924 FL	122/122/125/160	6423	36500
-5	85.5	32633 FL	122/122/124/159	6423	32633 FL	122/122/124/159	6423	36500
0	86.3	32358 FL	121/121/124/159	6423	32358 FL	121/121/124/159	6423	36500
2	86.7	32194 FL	121/121/124/158	6423	32194 FL	121/121/124/158	6423	36500
4	87.0	32032 FL	121/121/123/158	6423	32032 FL	121/121/123/158	6423	36500
6	87.3	31864 FL	120/120/123/158	6423	31864 FL	120/120/123/158	6423	36500
8	87.5	31700 FL	120/120/123/157	6423	31700 FL	120/120/123/157	6423	36500
10	87.5	31540 FL	120/120/122/157	6423	31540 FL	120/120/122/157	6423	36500
12	87.3	31325 FL	119/119/122/156	6423	31325 FL	119/119/122/156	6423	36500
14	86.9	31111 FL	119/119/122/156	6423	31111 FL	119/119/122/156	6423	36500
16	86.6	30823 FL	118/118/121/155	6423	30823 FL	118/118/121/155	6423	36500
18	86.2	30473 FL	118/118/120/154	6423	30473 FL	118/118/120/154	6423	36500
20	85.8	30138 FL	117/117/120/153	6423	30138 FL	117/117/120/153	6423	36500
22	85.5	29736 FL	116/116/119/152	6423	29736 FL	116/116/119/152	6423	36500
24	85.1	29362 FL	115/115/118/151	6423	29362 FL	115/115/118/151	6423	36500
26	84.7	28988 FL	115/115/117/150	6423	28988 FL	115/115/117/150	6423	36500
28	84.4	28606 FL	114/114/117/150	6423	28606 FL	114/114/117/150	6423	36500
30	84.0	28232 FL	112/113/116/149	6423	28232 FL	112/113/116/149	6423	36110
32	83.6	27834 FL	111/112/115/148	6423	27834 FL	111/112/115/148	6423	35400
34	83.3	27463 FL	111/112/114/147	6423	27463 FL	111/112/114/147	6423	34671
36	82.9	27088 FL	110/111/113/146	6423	27088 FL	110/111/113/146	6423	33944
38	82.6	26698 FL	109/110/113/144	6423	26698 FL	109/110/113/144	6423	33224
40	82.2	26344 FL	109/109/112/144	6423	26344 FL	109/109/112/144	6423	32499
41	82.1	26140 FL	108/109/111/143	6423	26140 FL	108/109/111/143	6423	32136

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+54	0	+54	0	
TWD per KT	-118	0	-118	0	
QNH per +0.1	+53	0	+53	0	+101
QNH per -0.1	-101	0	-101	0	-112
TRINOP	0	0	0	0	0
ANTI ICE ON	-566	0	-566	0	-373

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Falcon 2000
 Engine: CFE 738-1-1B
 AFM: DTM537 Revision 16
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 20

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- NO OPTIONS SELECTED

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	-1.12	-1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.1	36500 ST	121/124/126/169	6423	36500 ST	121/124/126/169	6423	36500
-15	83.9	36500 ST	121/124/126/169	6423	36500 ST	121/124/126/169	6423	36500
-10	84.7	36500 ST	121/124/126/169	6423	36500 ST	121/124/126/169	6423	36500
-5	85.5	36500 ST	121/124/126/169	6423	36500 ST	121/124/126/169	6423	36500
0	86.3	36409 FP	121/124/126/169	6423	36409 FP	121/124/126/169	6423	36500
2	86.7	36352 FP	121/124/126/168	6423	36352 FP	121/124/126/168	6423	36500
4	87.0	36289 FP	121/124/126/168	6423	36289 FP	121/124/126/168	6423	36500
6	87.3	36229 FP	121/123/126/168	6423	36229 FP	121/123/126/168	6423	36500
8	87.5	36129 -O	120/123/126/168	6423	36169 FP	120/123/126/168	6423	36500
10	87.5	35993 -O	120/123/126/168	6423	36077 -O	120/123/126/168	6423	36500
12	87.3	35795 -O	119/123/125/167	6423	35877 -O	120/123/125/167	6423	36500
14	86.9	35603 -O	119/122/125/167	6423	35683 -O	119/122/125/167	6423	36500
16	86.6	35270 -O	118/122/124/166	6423	35343 -O	118/122/124/166	6423	36500
18	86.2	34874 -O	118/121/124/165	6423	34942 -O	118/121/124/165	6423	36500
20	85.8	34476 -O	117/120/123/164	6423	34552 -O	117/120/123/164	6423	36500
22	85.5	33929 -O	116/119/122/163	6423	33995 -O	116/119/122/163	6423	36293
24	85.1	33499 -O	116/119/121/162	6423	33527 FP	116/119/121/162	6423	35654
26	84.7	32894 FP	115/117/120/160	6423	32894 FP	115/117/120/160	6423	35015
28	84.4	32256 FP	114/116/119/159	6423	32256 FP	114/116/119/159	6423	34375
30	84.0	31666 FP	113/115/118/157	6423	31666 FP	113/115/118/157	6423	33735
32	83.6	31016 FP	111/114/117/156	6423	31016 FP	111/114/117/156	6423	33083
34	83.3	30350 FP	110/113/115/154	6423	30350 FP	110/113/115/154	6423	32429
36	82.9	29716 FP	109/112/114/152	6423	29716 FP	109/112/114/152	6423	31772
38	82.6	29070 FP	108/110/113/151	6423	29070 FP	108/110/113/151	6423	31075
40	82.2	28391 FP	107/109/112/149	6423	28391 FP	107/109/112/149	6423	30366
41	82.1	28033 FP	106/108/111/148	6423	28033 FP	106/108/111/148	6423	30012

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+31	0	+31	0	
TWD per KT	-354	0	-352	0	
QNH per +0.1	+12	0	+12	0	+96
QNH per -0.1	-112	0	-114	0	-113
TRINOP	0	0	0	0	0
ANTI ICE ON	-3854	0	-3938	0	-2752

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Falcon 2000
 Engine: CFE 738-1-1B
 AFM: DTM537 Revision 16
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 20

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- NO OPTIONS SELECTED

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	1.12	1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.1	33609 -O	119/119/121/162	6423	33609 -O	119/119/121/162	6423	36500
-15	83.9	33423 -O	118/118/121/161	6423	33423 -O	118/118/121/161	6423	36500
-10	84.7	33210 FL	118/118/121/161	6423	33210 FL	118/118/121/161	6423	36500
-5	85.5	32954 FL	118/118/120/160	6423	32954 FL	118/118/120/160	6423	36500
0	86.3	32704 FL	117/117/120/160	6423	32704 FL	117/117/120/160	6423	36500
2	86.7	32550 FL	117/117/119/159	6423	32550 FL	117/117/119/159	6423	36500
4	87.0	32392 FL	117/117/119/159	6423	32392 FL	117/117/119/159	6423	36500
6	87.3	32231 FL	116/116/119/158	6423	32231 FL	116/116/119/158	6423	36500
8	87.5	32074 FL	116/116/119/158	6423	32074 FL	116/116/119/158	6423	36500
10	87.5	31920 FL	116/116/118/158	6423	31920 FL	116/116/118/158	6423	36500
12	87.3	31706 FL	115/115/118/157	6423	31706 FL	115/115/118/157	6423	36500
14	86.9	31503 FL	115/115/118/157	6423	31503 FL	115/115/118/157	6423	36500
16	86.6	31213 FL	114/114/117/156	6423	31213 FL	114/114/117/156	6423	36500
18	86.2	30854 FL	114/114/116/155	6423	30854 FL	114/114/116/155	6423	36500
20	85.8	30511 FL	113/113/116/154	6423	30511 FL	113/113/116/154	6423	36500
22	85.5	30119 FL	112/112/115/153	6423	30119 FL	112/112/115/153	6423	36293
24	85.1	29748 FL	112/112/114/152	6423	29748 FL	112/112/114/152	6423	35654
26	84.7	29358 FL	111/111/113/151	6423	29358 FL	111/111/113/151	6423	35015
28	84.4	28958 FL	110/110/113/150	6423	28958 FL	110/110/113/150	6423	34375
30	84.0	28592 FL	109/109/112/149	6423	28592 FL	109/109/112/149	6423	33735
32	83.6	28182 FL	109/109/111/148	6423	28182 FL	109/109/111/148	6423	33083
34	83.3	27806 FL	108/108/110/147	6423	27806 FL	108/108/110/147	6423	32429
36	82.9	27404 FL	107/107/110/146	6423	27404 FL	107/107/110/146	6423	31772
38	82.6	26979 FL	106/106/109/145	6423	26979 FL	106/106/109/145	6423	31075
40	82.2	26584 FL	105/105/108/144	6423	26584 FL	105/105/108/144	6423	30366
41	82.1	26327 -O	105/105/108/143	6423	26327 -O	105/105/108/143	6423	30012

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+54	0	+54	0	
TWD per KT	-509	0	-509	0	
QNH per +0.1	+37	0	+37	0	+96
QNH per -0.1	-110	0	-110	0	-113
TRINOP	0	0	0	0	0
ANTI ICE ON	-1294	0	-1294	0	-2752

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Falcon 2000
 Engine: CFE 738-1-1B
 AFM: DTM537 Revision 16
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 10

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- WET RWY

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	-1.12	-1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.1	35060 -O	111/126/129/165	6423	35136 -O	111/126/129/166	6423	36500
-15	83.9	34786 -O	110/126/128/165	6423	34863 -O	110/126/129/165	6423	36500
-10	84.7	34503 -O	110/125/128/164	6423	34580 -O	110/125/128/164	6423	36500
-5	85.5	34220 -O	109/125/127/163	6423	34297 -O	109/125/128/164	6423	36500
0	86.3	33945 -O	108/124/127/163	6423	34022 -O	109/124/127/163	6423	36500
2	86.7	33793 -O	108/124/127/162	6423	33868 -O	108/124/127/162	6423	36500
4	87.0	33643 -O	108/124/126/162	6423	33716 -O	108/124/126/162	6423	36500
6	87.3	33495 -O	107/123/126/162	6423	33567 -O	107/123/126/162	6423	36500
8	87.5	33352 -O	107/123/126/161	6423	33420 -O	107/123/126/161	6423	36500
10	87.5	33212 -O	107/123/126/161	6423	33278 -O	107/123/126/161	6423	36500
12	87.3	33032 -O	106/122/125/160	6423	33098 -O	106/123/125/161	6423	36500
14	86.9	32859 -O	106/122/125/160	6423	32922 -O	106/122/125/160	6423	36500
16	86.6	32587 -O	105/122/124/159	6423	32649 -O	105/122/124/160	6423	36500
18	86.2	32239 -O	105/121/124/159	6423	32300 -O	105/121/124/159	6423	36500
20	85.8	31902 -O	104/120/123/158	6423	31965 -O	104/120/123/158	6423	36500
22	85.5	31491 -O	104/120/122/157	6423	31553 -O	104/120/122/157	6423	36500
24	85.1	31098 -O	103/119/122/156	6423	31161 -O	103/119/122/156	6423	36500
26	84.7	30688 -O	102/118/121/155	6423	30750 -O	103/118/121/155	6423	36500
28	84.4	30277 -O	102/117/120/154	6423	30341 -O	102/117/120/154	6423	36500
30	84.0	29890 -O	101/116/119/153	6423	29954 -O	102/117/119/153	6423	36110
32	83.6	29454 -O	101/116/118/152	6423	29516 -O	101/116/118/152	6423	35400
34	83.3	29039 -O	101/115/117/151	6423	29100 -O	101/115/118/151	6423	34671
36	82.9	28632 -O	101/114/117/150	6423	28693 -O	101/114/117/150	6423	33944
38	82.6	28217 -O	101/113/116/149	6423	28289 -O	101/113/116/149	6423	33224
40	82.2	27848 -O	101/112/115/148	6423	27908 -O	100/113/115/148	6423	32499
41	82.1	27597 -O	100/112/114/147	6423	27687 -O	100/112/115/147	6423	32136

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+79	0	+78	0	
TWD per KT	NA	NA	NA	NA	
QNH per +0.1	+50	0	+51	0	+101
QNH per -0.1	-119	0	-113	0	-112
TRINOP	0	0	0	0	0
ANTI ICE ON	-731	0	-714	0	-373

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Falcon 2000
 Engine: CFE 738-1-1B
 AFM: DTM537 Revision 16
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 10

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- WET RWY

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	1.12	1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.1	33519 FL	117/125/128/164	6423	33519 FL	117/125/128/164	6423	36500
-15	83.9	33216 FL	117/124/127/163	6423	33216 FL	117/124/127/163	6423	36500
-10	84.7	32924 FL	116/124/126/162	6423	32924 FL	116/124/126/162	6423	36500
-5	85.5	32633 FL	115/123/126/161	6423	32633 FL	115/123/126/161	6423	36500
0	86.3	32358 FL	114/123/125/161	6423	32358 FL	114/123/125/161	6423	36500
2	86.7	32194 FL	114/122/125/160	6423	32194 FL	114/122/125/160	6423	36500
4	87.0	32032 FL	114/122/125/160	6423	32032 FL	114/122/125/160	6423	36500
6	87.3	31864 FL	113/122/125/160	6423	31864 FL	113/122/125/160	6423	36500
8	87.5	31700 FL	113/121/124/159	6423	31700 FL	113/121/124/159	6423	36500
10	87.5	31540 FL	112/121/124/159	6423	31540 FL	112/121/124/159	6423	36500
12	87.3	31325 FL	112/121/124/158	6423	31325 FL	112/121/124/158	6423	36500
14	86.9	31111 FL	111/121/123/158	6423	31111 FL	111/121/123/158	6423	36500
16	86.6	30823 FL	111/120/123/157	6423	30823 FL	111/120/123/157	6423	36500
18	86.2	30473 FL	110/119/122/156	6423	30473 FL	110/119/122/156	6423	36500
20	85.8	30138 FL	110/119/121/156	6423	30138 FL	110/119/121/156	6423	36500
22	85.5	29736 FL	109/118/121/155	6423	29736 FL	109/118/121/155	6423	36500
24	85.1	29362 FL	108/117/120/154	6423	29362 FL	108/117/120/154	6423	36500
26	84.7	28988 FL	108/117/119/153	6423	28988 FL	108/117/119/153	6423	36500
28	84.4	28606 FL	107/116/118/152	6423	28606 FL	107/116/118/152	6423	36500
30	84.0	28232 FL	107/115/118/151	6423	28232 FL	107/115/118/151	6423	36110
32	83.6	27834 FL	106/114/117/150	6423	27834 FL	106/114/117/150	6423	35400
34	83.3	27463 FL	105/113/116/149	6423	27463 FL	105/113/116/149	6423	34671
36	82.9	27088 FL	104/112/115/148	6423	27088 FL	104/112/115/148	6423	33944
38	82.6	26698 FL	102/111/113/146	6423	26698 FL	102/111/113/146	6423	33224
40	82.2	26239 FL	101/109/112/143	6423	26239 FL	101/109/112/143	6423	32499
41	82.1	25722 FL	101/108/111/142	6423	25722 FL	101/108/111/142	6423	32136

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+57	0	+57	0	
TWD per KT	NA	NA	NA	NA	
QNH per +0.1	+53	0	+53	0	+101
QNH per -0.1	-281	0	-281	0	-112
TRINOP	0	0	0	0	0
ANTI ICE ON	-566	0	-566	0	-373

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Falcon 2000
 Engine: CFE 738-1-1B
 AFM: DTM537 Revision 16
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 20

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- WET RWY

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	-1.12	-1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.1	35798 -O	107/123/125/167	6423	35903 -O	107/123/125/167	6423	36500
-15	83.9	35521 -O	106/122/125/166	6423	35622 -O	107/122/125/167	6423	36500
-10	84.7	35258 -O	106/122/124/166	6423	35354 -O	106/122/124/166	6423	36500
-5	85.5	35006 -O	105/121/124/165	6423	35098 -O	106/121/124/165	6423	36500
0	86.3	34756 -O	105/121/123/165	6423	34847 -O	105/121/124/165	6423	36500
2	86.7	34623 -O	105/121/123/164	6423	34712 -O	105/121/123/165	6423	36500
4	87.0	34490 -O	104/120/123/164	6423	34578 -O	104/121/123/164	6423	36500
6	87.3	34357 -O	104/120/123/164	6423	34445 -O	104/120/123/164	6423	36500
8	87.5	34225 -O	104/120/123/163	6423	34313 -O	104/120/123/164	6423	36500
10	87.5	34095 -O	103/120/122/163	6423	34181 -O	104/120/122/163	6423	36500
12	87.3	33919 -O	103/119/122/163	6423	34003 -O	103/119/122/163	6423	36500
14	86.9	33743 -O	102/119/122/162	6423	33825 -O	103/119/122/162	6423	36500
16	86.6	33471 -O	102/119/121/162	6423	33555 -O	102/119/121/162	6423	36500
18	86.2	33102 -O	101/118/120/161	6423	33188 -O	102/118/121/161	6423	36500
20	85.8	32745 -O	101/117/120/160	6423	32827 -O	101/117/120/160	6423	36500
22	85.5	32315 -O	101/116/119/159	6423	32394 -O	101/117/119/159	6423	36293
24	85.1	31904 -O	101/116/118/158	6423	31986 -O	101/116/118/158	6423	35654
26	84.7	31474 -O	101/115/117/157	6423	31554 -O	101/115/118/157	6423	35015
28	84.4	31013 -O	101/114/117/156	6423	31107 -O	101/114/117/156	6423	34375
30	84.0	30641 -O	101/113/116/155	6423	30717 -O	101/113/116/155	6423	33735
32	83.6	29995 -O	101/112/115/153	6423	30131 -O	101/112/115/153	6423	33083
34	83.3	29303 -O	101/111/113/151	6423	29539 -O	101/111/114/152	6423	32429
36	82.9	28402 -O	101/109/112/149	6423	28674 -O	101/110/112/150	6423	31772
38	82.6	27513 -O	101/107/110/147	6423	27795 -O	101/108/110/147	6423	31075
40	82.2	26627 -O	101/105/108/144	6423	26929 -O	101/106/109/145	6423	30366
41	82.1	26150 -O	101/105/108/143	6423	26429 -O	101/105/108/144	6423	30012

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+53	0	+49	0	
TWD per KT	NA	NA	NA	NA	
QNH per +0.1	+48	0	+48	0	+96
QNH per -0.1	-279	0	-281	0	-113
TRINOP	0	0	0	0	0
ANTI ICE ON	-1989	0	-2075	0	-2752

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Falcon 2000
 Engine: CFE 738-1-1B
 AFM: DTM537 Revision 16
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 20

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- WET RWY

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	1.12	1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.1	33609 -O	112/121/123/165	6423	33609 -O	112/121/123/165	6423	36500
-15	83.9	33423 -O	112/121/123/164	6423	33423 -O	112/121/123/164	6423	36500
-10	84.7	33210 FL	111/120/123/164	6423	33210 FL	111/120/123/164	6423	36500
-5	85.5	32954 FL	111/120/123/163	6423	32954 FL	111/120/123/163	6423	36500
0	86.3	32704 FL	111/120/122/163	6423	32704 FL	111/120/122/163	6423	36500
2	86.7	32550 FL	110/119/122/163	6423	32550 FL	110/119/122/163	6423	36500
4	87.0	32392 FL	110/119/122/162	6423	32392 FL	110/119/122/162	6423	36500
6	87.3	32231 FL	110/119/122/162	6423	32231 FL	110/119/122/162	6423	36500
8	87.5	32074 FL	110/119/121/162	6423	32074 FL	110/119/121/162	6423	36500
10	87.5	31920 FL	109/119/121/162	6423	31920 FL	109/119/121/162	6423	36500
12	87.3	31706 FL	109/118/121/161	6423	31706 FL	109/118/121/161	6423	36500
14	86.9	31503 FL	109/118/121/161	6423	31503 FL	109/118/121/161	6423	36500
16	86.6	31213 FL	108/118/120/160	6423	31213 FL	108/118/120/160	6423	36500
18	86.2	30854 FL	107/117/120/159	6423	30854 FL	107/117/120/159	6423	36500
20	85.8	30511 FL	107/116/119/158	6423	30511 FL	107/116/119/158	6423	36500
22	85.5	30119 FL	106/115/118/157	6423	30119 FL	106/115/118/157	6423	36293
24	85.1	29748 FL	105/115/117/156	6423	29748 FL	105/115/117/156	6423	35654
26	84.7	29358 FL	104/114/116/155	6423	29358 FL	104/114/116/155	6423	35015
28	84.4	28958 FL	103/113/115/154	6423	28958 FL	103/113/115/154	6423	34375
30	84.0	28592 FL	102/111/114/152	6423	28592 FL	102/111/114/152	6423	33735
32	83.6	28147 FL	101/108/111/148	6423	28147 FL	101/108/111/148	6423	33083
34	83.3	26994 FL	101/106/109/145	6423	26994 FL	101/106/109/145	6423	32429
36	82.9	25905 FL	101/105/108/142	6423	25905 FL	101/105/108/142	6423	31772
38	82.6	24708 FL	101/105/108/139	6423	24708 FL	101/105/108/139	6423	31075
40	82.2	23660 FL	101/105/107/136	6423	23660 FL	101/105/107/136	6423	30366
41	82.1	23097 FL	101/105/107/134	6423	23097 FL	101/105/107/134	6423	30012

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+68	0	+68	0	
TWD per KT	NA	NA	NA	NA	
QNH per +0.1	+37	0	+37	0	+96
QNH per -0.1	-414	0	-414	0	-113
TRINOP	0	0	0	0	0
ANTI ICE ON	-1294	0	-1294	0	-2752

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



LANDING PERFORMANCE FLAPS 40

Configuration:

- NO OPTIONS SELECTED

Approach Climb Limits:

GRAD	-20	-10	0	10	20	25	30	35	40	41
2.1%	34500	34500	34500	34500	34500	34500	34500	34500	33000	32938

Field Length Weight Limits/Distances:

RWY: 16
LDA: 6601FT
SLOPE: -1.12%
COND: DRY

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	1	32260	6601	33000	5044	33000	4036
	11	32260	6601	33000	5044	33000	4036
	21	32260	6601	33000	5044	33000	4036
	31	32260	6601	33000	5044	33000	4036
	41	32260	6601	32938	5037	32938	4030
0	1	33000	5850	33000	4388	33000	3510
	11	33000	5850	33000	4388	33000	3510
	21	33000	5850	33000	4388	33000	3510
	31	33000	5850	33000	4388	33000	3510
	41	32938	5840	32938	4380	32938	3504
10	1	33000	5587	33000	4190	33000	3352
	11	33000	5587	33000	4190	33000	3352
	21	33000	5587	33000	4190	33000	3352
	31	33000	5587	33000	4190	33000	3352
	41	32938	5578	32938	4183	32938	3347
50	1	33000	4535	33000	3401	33000	2721
	11	33000	4535	33000	3401	33000	2721
	21	33000	4535	33000	3401	33000	2721
	31	33000	4535	33000	3401	33000	2721
	41	32938	4527	32938	3395	32938	2716

RWY: 16
LDA: 6601FT
SLOPE: -1.12%
COND: Wet [115%]

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	1	26673	6601	33000	5801	33000	4641
	11	26673	6601	33000	5801	33000	4641
	21	26673	6601	33000	5801	33000	4641
	31	26673	6601	33000	5801	33000	4641
	41	26673	6601	32938	5792	32938	4634
0	1	32288	6601	33000	5046	33000	4037
	11	32288	6601	33000	5046	33000	4037
	21	32288	6601	33000	5046	33000	4037
	31	32288	6601	33000	5046	33000	4037
	41	32288	6601	32938	5037	32938	4030
10	1	33000	6425	33000	4819	33000	3855
	11	33000	6425	33000	4819	33000	3855
	21	33000	6425	33000	4819	33000	3855
	31	33000	6425	33000	4819	33000	3855
	41	32938	6414	32938	4811	32938	3849
50	1	33000	5215	33000	3912	33000	3129
	11	33000	5215	33000	3912	33000	3129
	21	33000	5215	33000	3912	33000	3129
	31	33000	5215	33000	3912	33000	3129
	41	32938	5206	32938	3905	32938	3124

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16

LANDING PERFORMANCE FLAPS 40

Configuration:

- NO OPTIONS SELECTED

Approach Climb Limits:

GRAD	-20	-10	0	10	20	25	30	35	40	41
2.1%	34500	34500	34500	34500	34500	34500	34500	34500	33000	32938

Field Length Weight Limits/Distances:

RWY: 34
 LDA: 6601FT
 SLOPE: 1.12%
 COND: DRY

	WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
			WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
	-10	1	32260	6601	33000	5044	33000	4036
		11	32260	6601	33000	5044	33000	4036
		21	32260	6601	33000	5044	33000	4036
		31	32260	6601	33000	5044	33000	4036
		41	32260	6601	32938	5037	32938	4030
	0	1	33000	5850	33000	4388	33000	3510
		11	33000	5850	33000	4388	33000	3510
		21	33000	5850	33000	4388	33000	3510
		31	33000	5850	33000	4388	33000	3510
		41	32938	5840	32938	4380	32938	3504
	10	1	33000	5587	33000	4190	33000	3352
		11	33000	5587	33000	4190	33000	3352
		21	33000	5587	33000	4190	33000	3352
		31	33000	5587	33000	4190	33000	3352
		41	32938	5578	32938	4183	32938	3347
	50	1	33000	4535	33000	3401	33000	2721
		11	33000	4535	33000	3401	33000	2721
		21	33000	4535	33000	3401	33000	2721
		31	33000	4535	33000	3401	33000	2721
		41	32938	4527	32938	3395	32938	2716

RWY: 34
 LDA: 6601FT
 SLOPE: 1.12%
 COND: Wet [115%]

	WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
			WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
	-10	1	26673	6601	33000	5801	33000	4641
		11	26673	6601	33000	5801	33000	4641
		21	26673	6601	33000	5801	33000	4641
		31	26673	6601	33000	5801	33000	4641
		41	26673	6601	32938	5792	32938	4634
	0	1	32288	6601	33000	5046	33000	4037
		11	32288	6601	33000	5046	33000	4037
		21	32288	6601	33000	5046	33000	4037
		31	32288	6601	33000	5046	33000	4037
		41	32288	6601	32938	5037	32938	4030
	10	1	33000	6425	33000	4819	33000	3855
		11	33000	6425	33000	4819	33000	3855
		21	33000	6425	33000	4819	33000	3855
		31	33000	6425	33000	4819	33000	3855
		41	32938	6414	32938	4811	32938	3849
	50	1	33000	5215	33000	3912	33000	3129
		11	33000	5215	33000	3912	33000	3129
		21	33000	5215	33000	3912	33000	3129
		31	33000	5215	33000	3912	33000	3129
		41	32938	5206	32938	3905	32938	3124

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16

Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 0

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- ECS ON
- ANTI ICE OFF
- THRUST REVERSERS OPERATIVE

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	-1.12	-1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	99.5	16300 ST	118/121/133/140	5874	16300 ST	118/121/133/140	5874	16300
-15	100.5	16300 ST	118/121/133/140	5864	16300 ST	118/121/133/140	5864	16300
-10	101.4	16300 ST	118/121/133/140	5856	16300 ST	118/121/133/140	5856	16300
-5	101.2	16291 BE	118/121/133/140	5850	16291 BE	118/121/133/140	5850	16300
0	101.1	16068 BE	118/121/132/140	5843	16068 BE	118/121/132/140	5843	16300
2	100.9	15990 BE	118/121/132/140	5841	15990 BE	118/121/132/140	5841	16300
4	100.9	15912 BE	118/120/131/140	5839	15912 BE	118/120/131/140	5839	16300
6	100.6	15834 BE	118/120/131/140	5838	15834 BE	118/120/131/140	5838	16300
8	100.4	15756 BE	117/120/131/140	5837	15756 BE	117/120/131/140	5837	16300
10	100.2	15678 BE	117/120/131/140	5836	15678 BE	117/120/131/140	5836	16300
12	99.9	15596 BE	117/119/130/140	5838	15596 BE	117/119/130/140	5838	16300
14	99.9	15514 BE	117/119/130/140	5839	15514 BE	117/119/130/140	5839	16300
16	99.6	15289 -O	116/118/129/140	5838	15331 -O	117/118/129/140	5839	16300
18	99.4	15064 -O	116/117/128/140	5837	15129 -O	116/118/129/140	5838	16300
20	99.2	14868 -O	115/116/127/140	5836	14951 -O	115/117/128/140	5838	16300
22	99.0	14674 -O	114/116/127/140	5836	14734 -O	115/116/127/140	5837	16300
24	98.8	14469 -O	113/115/126/140	5836	14540 -O	114/115/126/140	5837	16300
26	98.5	14258 -O	112/114/125/140	5834	14348 -O	113/114/125/140	5835	16300
28	98.3	14085 -O	112/113/124/140	5832	14182 -O	112/114/124/140	5833	16179
30	98.1	13917 -O	111/113/123/140	5829	14035 -O	112/113/123/140	5832	15971
32	97.9	13717 -O	110/112/122/140	5825	13825 -O	111/112/122/140	5827	15756
34	97.7	13536 -O	110/111/121/140	5822	13640 -O	110/112/122/140	5825	15542
36	97.5	13337 -O	109/110/120/140	5820	13469 -O	109/111/121/140	5822	15317
38	97.3	13128 -O	108/109/120/140	5818	13288 -O	109/110/120/140	5820	15081
39	97.2	13025 -O	108/109/119/140	5817	13205 -O	108/110/120/140	5819	14964

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+12	+1	+14	+1	
TWD per KT	-144	0	-144	0	
QNH per +0.1	+34	0	+34	0	+53
QNH per -0.1	-54	0	-53	0	-58
ASINOP	NA	NA	NA	NA	0
ECS OFF	+102	0	+40	0	NA
ANTI ICE ON	-1693	+6	-1891	+5	NA
TRINOP	0	0	0	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 0

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- ECS ON
- ANTI ICE OFF
- THRUST REVERSERS OPERATIVE

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	1.12	1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	NA	NA SL	NA	NA	NA SL	NA	NA	NA
-15	NA	NA SL	NA	NA	NA SL	NA	NA	NA
-10	NA	NA SL	NA	NA	NA SL	NA	NA	NA
-5	NA	NA SL	NA	NA	NA SL	NA	NA	NA
0	NA	NA SL	NA	NA	NA SL	NA	NA	NA
2	NA	NA SL	NA	NA	NA SL	NA	NA	NA
4	NA	NA SL	NA	NA	NA SL	NA	NA	NA
6	NA	NA SL	NA	NA	NA SL	NA	NA	NA
8	NA	NA SL	NA	NA	NA SL	NA	NA	NA
10	NA	NA SL	NA	NA	NA SL	NA	NA	NA
12	NA	NA SL	NA	NA	NA SL	NA	NA	NA
14	NA	NA SL	NA	NA	NA SL	NA	NA	NA
16	NA	NA SL	NA	NA	NA SL	NA	NA	NA
18	NA	NA SL	NA	NA	NA SL	NA	NA	NA
20	NA	NA SL	NA	NA	NA SL	NA	NA	NA
22	NA	NA SL	NA	NA	NA SL	NA	NA	NA
24	NA	NA SL	NA	NA	NA SL	NA	NA	NA
26	NA	NA SL	NA	NA	NA SL	NA	NA	NA
28	NA	NA SL	NA	NA	NA SL	NA	NA	NA
30	NA	NA SL	NA	NA	NA SL	NA	NA	NA
32	NA	NA SL	NA	NA	NA SL	NA	NA	NA
34	NA	NA SL	NA	NA	NA SL	NA	NA	NA
36	NA	NA SL	NA	NA	NA SL	NA	NA	NA
38	NA	NA SL	NA	NA	NA SL	NA	NA	NA
39	NA	NA SL	NA	NA	NA SL	NA	NA	NA

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	NA	NA	NA	NA	
TWD per KT	NA	NA	NA	NA	
QNH per +0.1	NA	NA	NA	NA	+53
QNH per -0.1	NA	NA	NA	NA	-58
ASINOP	NA	NA	NA	NA	0
ECS OFF	NA	NA	NA	NA	NA
ANTI ICE ON	NA	NA	NA	NA	NA
TRINOP	NA	NA	NA	NA	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 10

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- ECS ON
- ANTI ICE OFF
- THRUST REVERSERS OPERATIVE

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	-1.12	-1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	99.5	16300 ST	106/115/123/140	5893	16300 ST	106/115/123/140	5893	16300
-15	100.5	16300 ST	106/115/123/140	5883	16300 ST	106/115/123/140	5883	16300
-10	101.4	16300 ST	106/115/123/140	5876	16300 ST	106/115/123/140	5876	16300
-5	101.2	16300 ST	107/116/123/140	5871	16300 ST	107/116/123/140	5871	16300
0	101.1	16300 ST	108/116/123/140	5872	16300 ST	108/116/123/140	5872	16300
2	100.9	16300 ST	108/116/123/140	5873	16300 ST	108/116/123/140	5873	16300
4	100.9	16300 ST	108/116/123/140	5875	16300 ST	108/116/123/140	5875	16300
6	100.6	16300 ST	109/116/123/140	5880	16300 ST	109/116/123/140	5880	16300
8	100.4	16300 ST	109/116/123/140	5887	16300 ST	109/116/123/140	5887	16300
10	100.2	16300 ST	110/116/123/140	5894	16300 ST	110/116/123/140	5894	16300
12	99.9	16249 -O	110/116/123/140	5900	16300 ST	110/117/123/140	5903	16300
14	99.9	15998 -O	109/115/122/140	5894	16247 -O	110/117/123/140	5910	16300
16	99.6	15764 -O	108/115/121/140	5897	15989 -O	109/116/122/140	5904	16300
18	99.4	15517 -O	107/114/120/140	5900	15737 -O	108/115/121/140	5913	16196
20	99.2	15267 -O	106/113/119/140	5899	15463 -O	107/114/120/140	5919	15892
22	99.0	15049 -O	105/112/118/140	5897	15220 -O	106/113/119/140	5916	15622
24	98.8	14824 -O	105/111/117/140	5901	14983 -O	105/112/118/140	5915	15352
26	98.5	14629 -O	104/110/117/140	5906	14780 -O	105/111/117/140	5919	15122
28	98.3	14465 -O	103/110/116/140	5907	14620 -O	104/110/116/140	5922	14932
30	98.1	14286 -O	103/109/115/140	5904	14455 -O	104/110/116/140	5923	14742
32	97.9	14075 -O	103/108/114/140	5901	14234 -O	103/109/115/140	5919	14542
34	97.7	13886 -O	102/108/114/140	5902	14019 -O	103/108/114/140	5916	14342
36	97.5	13716 -O	101/107/113/140	5905	13846 -O	102/107/113/140	5918	14128
38	97.3	13552 -O	101/106/112/140	5910	13686 -O	102/107/113/140	5922	13901
39	97.2	13472 -O	101/106/112/140	5913	13606 -O	101/106/112/140	5925	13788

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+15	+2	+7	+1	
TWD per KT	-77	0	-77	0	
QNH per +0.1	+45	0	+46	0	+50
QNH per -0.1	-56	+1	-57	+1	-57
ASINOP	NA	NA	NA	NA	0
ECS OFF	+112	0	+54	0	NA
ANTI ICE ON	-2324	+7	-2550	+3	NA
TRINOP	0	0	0	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 10

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- ECS ON
- ANTI ICE OFF
- THRUST REVERSERS OPERATIVE

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	1.12	1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	99.5	16300 ST	112/115/123/140	6009	16300 ST	112/115/123/140	6009	16300
-15	100.5	16300 ST	112/115/123/140	5999	16300 ST	112/115/123/140	5999	16300
-10	101.4	16300 ST	112/115/123/140	5993	16300 ST	112/115/123/140	5993	16300
-5	101.2	16300 ST	112/116/123/140	5991	16300 ST	112/116/123/140	5991	16300
0	101.1	16112 -O	112/115/122/140	5989	16112 -O	112/115/122/140	5989	16300
2	100.9	15935 -O	111/114/121/140	5985	15935 -O	111/114/121/140	5985	16300
4	100.9	15753 -O	111/114/121/140	5982	15753 -O	111/114/121/140	5982	16300
6	100.6	15567 -O	110/113/120/140	5980	15567 -O	110/113/120/140	5980	16300
8	100.4	15370 -O	109/112/119/140	5976	15370 -O	109/112/119/140	5976	16300
10	100.2	15154 -O	109/112/119/140	5972	15154 -O	109/112/119/140	5972	16300
12	99.9	14880 -O	108/110/118/140	5969	14880 -O	108/110/118/140	5969	16300
14	99.9	14621 -O	106/109/116/140	5965	14621 -O	106/109/116/140	5965	16300
16	99.6	14400 -O	106/109/116/140	5963	14400 -O	106/109/116/140	5963	16300
18	99.4	14198 -O	105/108/115/140	5961	14198 -O	105/108/115/140	5961	16196
20	99.2	13988 -O	105/107/114/140	5959	13988 -O	105/107/114/140	5959	15892
22	99.0	13769 -O	104/106/113/140	5955	13769 -O	104/106/113/140	5955	15622
24	98.8	13539 -O	103/105/112/140	5951	13539 -O	103/105/112/140	5951	15352
26	98.5	13334 -O	102/104/111/140	5947	13334 -O	102/104/111/140	5947	15122
28	98.3	13185 -O	101/104/111/140	5943	13185 -O	101/104/111/140	5943	14932
30	98.1	13045 -O	101/103/110/140	5941	13045 -O	101/103/110/140	5941	14742
32	97.9	12879 -O	100/102/110/140	5939	12879 -O	100/102/110/140	5939	14542
34	97.7	12688 -O	99/102/109/140	5935	12688 -O	99/102/109/140	5935	14342
36	97.5	12504 -O	99/101/108/140	5931	12504 -O	99/101/108/140	5931	14128
38	97.3	12365 -O	98/100/107/140	5929	12365 -O	98/100/107/140	5929	13901
39	97.2	12294 -O	98/100/107/140	5928	12294 -O	98/100/107/140	5928	13788

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+10	0	+10	0	
TWD per KT	NA	NA	NA	NA	
QNH per +0.1	+41	0	+41	0	+50
QNH per -0.1	-57	0	-57	0	-57
ASINOP	NA	NA	NA	NA	0
ECS OFF	0	0	0	0	NA
ANTI ICE ON	-2384	-7	-2384	-7	NA
TRINOP	0	0	0	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 20

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- ECS ON
- ANTI ICE OFF
- THRUST REVERSERS OPERATIVE

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	-1.12	-1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	99.5	16300 ST	99/110/116/140	5955	16300 ST	99/110/116/140	5955	16300
-15	100.5	16300 ST	99/110/116/140	5944	16300 ST	99/110/116/140	5944	16300
-10	101.4	16300 ST	100/110/116/140	5939	16300 ST	100/110/116/140	5939	16300
-5	101.2	16300 ST	100/110/116/140	5945	16300 ST	100/110/116/140	5945	16300
0	101.1	16300 ST	100/110/116/140	5966	16300 ST	100/110/116/140	5966	16300
2	100.9	16300 ST	101/110/116/140	5990	16300 ST	101/110/116/140	5990	16300
4	100.9	16300 ST	101/110/116/140	6013	16300 ST	101/110/116/140	6013	16155
6	100.6	16263 -O	102/110/116/140	6031	16300 ST	102/110/116/140	6037	15925
8	100.4	16032 -O	101/109/116/140	6020	16152 -O	102/110/116/140	6038	15683
10	100.2	15818 -O	101/109/115/140	6017	15952 -O	101/109/115/140	6031	15442
12	99.9	15534 -O	100/107/113/140	6017	15649 -O	100/108/114/140	6028	15172
14	99.9	15277 -O	99/107/112/140	6016	15377 -O	100/107/113/140	6028	14902
16	99.6	15028 -O	99/106/111/140	6015	15120 -O	99/106/111/140	6025	14631
18	99.4	14781 -O	98/105/111/140	6015	14857 -O	98/105/111/140	6023	14360
20	99.2	14543 -O	97/104/110/140	6015	14601 -O	98/104/110/140	6022	14088
22	99.0	14312 -O	97/103/109/140	6015	14355 -O	97/103/109/140	6020	13856
24	98.8	14094 -O	96/102/108/140	6016	14115 -O	96/102/108/140	6018	13625
26	98.5	13903 -O	95/101/108/140	6016	13902 -O	95/101/108/140	6016	13425
28	98.3	13731 -O	95/101/107/140	6014	13720 -O	95/101/107/140	6013	13256
30	98.1	13557 -O	94/100/106/140	6013	13539 -O	94/100/106/140	6011	13088
32	97.9	13376 -O	94/100/106/140	6005	13373 -O	94/99/105/140	6005	12926
34	97.7	13206 -O	93/99/105/140	5999	13213 -O	94/99/105/140	6000	12765
36	97.5	13034 -O	93/98/104/140	5994	13045 -O	93/98/104/140	5995	12590
38	97.3	12866 -O	93/97/103/140	5989	12882 -O	93/97/103/140	5991	12401
39	97.2	12785 -O	92/97/103/140	5986	12802 -O	92/97/103/140	5989	12307

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+4	+3	+4	+1	
TWD per KT	-64	+2	-56	+1	
QNH per +0.1	+43	+1	+40	0	+39
QNH per -0.1	-57	+3	-59	+5	-56
ASINOP	NA	NA	NA	NA	0
ECS OFF	+62	+3	+122	+2	NA
ANTI ICE ON	-1918	+19	-2384	+10	NA
TRINOP	0	0	0	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 20

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- ECS ON
- THRUST REVERSERS OPERATIVE
- ANTI ICE OFF

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	1.12	1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	99.5	16187 -O	105/109/116/140	6057	16187 -O	105/109/116/140	6057	16300
-15	100.5	16090 -O	104/109/116/140	6042	16090 -O	104/109/116/140	6042	16300
-10	101.4	15984 -O	104/108/115/140	6030	15984 -O	104/108/115/140	6030	16300
-5	101.2	15690 -O	103/107/114/140	6021	15690 -O	103/107/114/140	6021	16300
0	101.1	15375 -O	101/106/113/140	6010	15375 -O	101/106/113/140	6010	16300
2	100.9	15189 -O	101/105/112/140	6006	15189 -O	101/105/112/140	6006	16300
4	100.9	15011 -O	100/105/111/140	6003	15011 -O	100/105/111/140	6003	16155
6	100.6	14826 -O	100/104/111/140	5999	14826 -O	100/104/111/140	5999	15925
8	100.4	14623 -O	99/103/110/140	5996	14623 -O	99/103/110/140	5996	15683
10	100.2	14412 -O	98/103/110/140	5992	14412 -O	98/103/110/140	5992	15442
12	99.9	14168 -O	97/102/109/140	5989	14168 -O	97/102/109/140	5989	15172
14	99.9	13932 -O	96/101/108/140	5987	13932 -O	96/101/108/140	5987	14902
16	99.6	13716 -O	95/100/107/140	5983	13716 -O	95/100/107/140	5983	14631
18	99.4	13502 -O	94/99/106/140	5982	13502 -O	94/99/106/140	5982	14360
20	99.2	13266 -O	94/98/105/140	5978	13266 -O	94/98/105/140	5978	14088
22	99.0	13042 -O	93/97/104/140	5974	13042 -O	93/97/104/140	5974	13856
24	98.8	12851 -O	93/97/103/140	5970	12851 -O	93/97/103/140	5970	13625
26	98.5	12685 -O	92/96/102/140	5967	12685 -O	92/96/102/140	5967	13425
28	98.3	12537 -O	92/95/101/140	5964	12537 -O	92/95/101/140	5964	13256
30	98.1	12350 -O	91/94/100/140	5957	12350 -O	91/94/100/140	5957	13088
32	97.9	12130 -O	92/94/100/140	5948	12130 -O	92/94/100/140	5948	12926
34	NA	NA -O	NA	NA	NA -O	NA	NA	NA
36	NA	NA -O	NA	NA	NA -O	NA	NA	NA
38	NA	NA -O	NA	NA	NA -O	NA	NA	NA
39	NA	NA -O	NA	NA	NA -O	NA	NA	NA

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+9	+1	+9	+1	
TWD per KT	NA	NA	NA	NA	
QNH per +0.1	+10	+1	+10	+1	+39
QNH per -0.1	NA	NA	NA	NA	-56
ASINOP	NA	NA	NA	NA	0
ECS OFF	0	0	0	0	NA
ANTI ICE ON	-1875	-5	-1875	-5	NA
TRINOP	0	0	0	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 0

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- WET
- ANTI ICE OFF
- ECS ON
- THRUST REVERSERS OPERATIVE

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	-1.12	-1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	NA	Flap 0 takeoff data is not available for wet or contaminated runways.			Flap 0 takeoff data is not available for wet or contaminated runways.			NA
-15	NA							NA
-10	NA							NA
-5	NA							NA
0	NA							NA
2	NA							NA
4	NA							NA
6	NA							NA
8	NA							NA
10	NA							NA
12	NA							NA
14	NA							NA
16	NA							NA
18	NA							NA
20	NA							NA
22	NA							NA
24	NA							NA
26	NA							NA
28	NA	NA						
30	NA	NA						

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16

Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 0

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- WET
- ANTI ICE OFF
- ECS ON
- THRUST REVERSERS OPERATIVE

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	1.12	1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	NA	Flap 0 takeoff data is not available for wet or contaminated runways.			Flap 0 takeoff data is not available for wet or contaminated runways.			NA
-15	NA							NA
-10	NA							NA
-5	NA							NA
0	NA							NA
2	NA							NA
4	NA							NA
6	NA							NA
8	NA							NA
10	NA							NA
12	NA							NA
14	NA							NA
16	NA							NA
18	NA							NA
20	NA							NA
22	NA							NA
24	NA	NA						
26	NA	NA						
28	NA	NA						
30	NA	NA						

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16

Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 10

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- WET
- ANTI ICE OFF
- ECS ON
- THRUST REVERSERS OPERATIVE

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	-1.12	-1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	99.5	16300 ST	95/116/123/140	5884	16300 ST	95/116/123/140	5884	16300
-15	100.5	16300 ST	95/116/123/140	5874	16300 ST	95/116/123/140	5874	16300
-10	101.4	16300 ST	95/116/123/140	5867	16300 ST	95/116/123/140	5867	16300
-5	101.2	16300 ST	96/116/123/140	5861	16300 ST	96/116/123/140	5861	16300
0	101.1	16300 ST	96/116/123/140	5862	16300 ST	96/116/123/140	5862	16300
2	100.9	16300 ST	97/117/123/140	5863	16300 ST	97/117/123/140	5863	16300
4	100.9	16300 ST	97/117/123/140	5864	16300 ST	97/117/123/140	5864	16300
6	100.6	16232 -O	98/117/123/140	5865	16278 -O	98/117/123/140	5867	16300
8	100.4	16043 -O	97/116/122/140	5860	16083 -O	97/116/122/140	5863	16300
10	100.2	15858 -O	97/115/121/140	5859	15904 -O	97/116/121/140	5861	16300
12	99.9	15623 -O	96/115/120/140	5861	15667 -O	96/115/121/140	5862	16300
14	99.9	15381 -O	96/114/120/140	5863	15444 -O	96/114/120/140	5865	16300
16	99.6	15118 -O	95/112/118/140	5864	15214 -O	95/113/119/140	5867	16300
18	99.4	14886 -O	95/111/118/140	5864	14997 -O	95/112/118/140	5868	16196
20	99.2	14677 -O	94/111/117/140	5866	14803 -O	95/111/117/140	5870	15892
22	99.0	14475 -O	94/110/116/140	5868	14618 -O	95/111/116/140	5872	15622
24	98.8	14249 -O	94/109/115/140	5866	14428 -O	94/110/116/140	5874	15352
26	98.5	14040 -O	93/108/114/140	5864	14245 -O	94/109/115/140	5872	15122
28	98.3	13868 -O	93/108/113/140	5861	14079 -O	94/109/114/140	5869	14932
30	98.1	13703 -O	93/107/113/140	5858	13917 -O	93/108/114/140	5867	14742
32	97.9	13522 -O	93/106/112/140	5858	13732 -O	93/107/113/140	5866	14542
34	97.7	13359 -O	93/105/111/140	5859	13562 -O	93/106/112/140	5867	14342
36	97.5	13203 -O	93/105/111/140	5859	13403 -O	93/106/112/140	5867	14128
38	97.3	13054 -O	93/104/110/140	5860	13249 -O	93/105/111/140	5867	13901
39	97.2	12976 -O	93/104/110/140	5859	13174 -O	93/105/111/140	5870	13788

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+18	+2	+16	+2	
TWD per KT	NA	NA	NA	NA	
QNH per +0.1	+42	0	+43	0	+50
QNH per -0.1	-58	0	-56	0	-57
ANTI ICE ON	-1889	+10	-2167	+7	NA
TRINOP	NA	NA	NA	NA	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 10

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- WET
- ANTI ICE OFF
- ECS ON
- THRUST REVERSERS OPERATIVE

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	1.12	1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	99.5	16300 ST	106/116/123/140	6020	16300 ST	106/116/123/140	6020	16300
-15	100.5	16300 ST	106/116/123/140	6010	16300 ST	106/116/123/140	6010	16300
-10	101.4	16300 ST	106/116/123/140	6003	16300 ST	106/116/123/140	6003	16300
-5	101.2	16190 -O	106/116/122/140	5997	16190 -O	106/116/122/140	5997	16300
0	101.1	15843 -O	104/114/121/140	5987	15843 -O	104/114/121/140	5987	16300
2	100.9	15658 -O	104/114/121/140	5984	15658 -O	104/114/121/140	5984	16300
4	100.9	15477 -O	103/113/120/140	5982	15477 -O	103/113/120/140	5982	16300
6	100.6	15283 -O	102/112/119/140	5978	15283 -O	102/112/119/140	5978	16300
8	100.4	15074 -O	102/112/118/140	5974	15074 -O	102/112/118/140	5974	16300
10	100.2	14851 -O	101/111/117/140	5970	14851 -O	101/111/117/140	5970	16300
12	99.9	14594 -O	99/110/116/140	5967	14594 -O	99/110/116/140	5967	16300
14	99.9	14355 -O	98/109/115/140	5964	14355 -O	98/109/115/140	5964	16300
16	99.6	14145 -O	97/108/115/140	5963	14145 -O	97/108/115/140	5963	16300
18	99.4	13925 -O	96/107/114/140	5960	13925 -O	96/107/114/140	5960	16196
20	99.2	13685 -O	94/106/113/140	5957	13685 -O	94/106/113/140	5957	15892
22	99.0	13414 -O	93/105/112/140	5952	13414 -O	93/105/112/140	5952	15622
24	98.8	13134 -O	93/103/111/140	5946	13134 -O	93/103/111/140	5946	15352
26	98.5	12939 -O	92/102/110/140	5943	12939 -O	92/102/110/140	5943	15122
28	98.3	12783 -O	92/102/109/140	5940	12783 -O	92/102/109/140	5940	14932
30	98.1	12608 -O	92/101/108/140	5936	12608 -O	92/101/108/140	5936	14742
32	97.9	12416 -O	92/100/108/140	5934	12416 -O	92/100/108/140	5934	14542
34	97.7	12256 -O	92/99/107/140	5932	12256 -O	92/99/107/140	5932	14342
36	97.5	12093 -O	92/99/106/140	5931	12093 -O	92/99/106/140	5931	14128
38	NA	NA -O	NA	NA	NA -O	NA	NA	NA
39	NA	NA -O	NA	NA	NA -O	NA	NA	NA

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+19	+1	+19	+1	
TWD per KT	NA	NA	NA	NA	
QNH per +0.1	+42	0	+42	0	+50
QNH per -0.1	NA	NA	NA	NA	-57
ANTI ICE ON	-2081	+6	-2081	+6	NA
TRINOP	NA	NA	NA	NA	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 20

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- WET
- ANTI ICE OFF
- ECS ON
- THRUST REVERSERS OPERATIVE

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	-1.12	-1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	NA	Flap 20 takeoff data is not available for wet or contaminated runways.			Flap 20 takeoff data is not available for wet or contaminated runways.			NA
-15	NA							NA
-10	NA							NA
-5	NA							NA
0	NA							NA
2	NA							NA
4	NA							NA
6	NA							NA
8	NA							NA
10	NA							NA
12	NA							NA
14	NA							NA
16	NA							NA
18	NA							NA
20	NA							NA
22	NA							NA
24	NA							NA
26	NA							NA
28	NA							NA
30	NA							NA

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16

Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 20

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- WET
- ANTI ICE OFF
- ECS ON
- THRUST REVERSERS OPERATIVE

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	6601	6601	0
TODA (FT)	6601	6601	0
ASDA (FT)	6601	6601	0
SLOPE (%)	1.12	1.12	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	NA	Flap 20 takeoff data is not available for wet or contaminated runways.			Flap 20 takeoff data is not available for wet or contaminated runways.			NA
-15	NA							NA
-10	NA							NA
-5	NA							NA
0	NA							NA
2	NA							NA
4	NA							NA
6	NA							NA
8	NA							NA
10	NA							NA
12	NA							NA
14	NA							NA
16	NA							NA
18	NA							NA
20	NA							NA
22	NA							NA
24	NA							NA
26	NA							NA
28	NA	NA						
30	NA	NA						

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16

Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19

LANDING PERFORMANCE FLAPS 10/30

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- THRUST REVERSERS OPERATIVE

Approach Climb Limits:

Approach Flaps 10									
GRAD	-20	-10	0	10	20	25	30	35	39
2.1%	15700	15700	15700	15700	15700	15700	15700	15574	15090

Field Length Weight Limits/Distances:

Landing Flaps 30

RWY: 16
 LDA: 6601FT
 SLOPE: -1.12%
 COND: DRY

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	19	12938	6354	12938	4758	12938	4308
	24	12837	6389	12837	4784	12837	4334
	29	12738	6422	12738	4811	12738	4359
	34	12632	6456	12632	4838	12632	4380
	39	12526	6489	12526	4866	12526	4399
0	19	14300	5798	14300	4323	14300	3949
	24	14185	5829	14185	4356	14185	3976
	29	14072	5859	14072	4388	14072	4003
	34	13950	5889	13950	4415	13950	4024
	39	13825	5922	13825	4439	13825	4041
10	19	14833	5696	14833	4219	14833	3859
	24	14715	5727	14715	4252	14715	3887
	29	14599	5756	14599	4283	14599	3915
	34	14468	5784	14468	4309	14468	3935
	39	14328	5808	14328	4331	14328	3952
30	19	15700	5297	15700	3983	15700	3662
	24	15700	5371	15700	4046	15700	3713
	29	15583	5416	15583	4084	15583	3741
	34	15441	5458	15441	4112	15441	3760
	39	15090	5446	15090	4096	15090	3736

RWY: 16
 LDA: 6601FT
 SLOPE: -1.12%
 COND: Wet [115%]

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	19	10920	6601	12938	5472	12938	4954
	24	10745	6601	12837	5501	12837	4983
	29	10572	6601	12738	5533	12738	5013
	34	10388	6601	12632	5563	12632	5036
	39	10202	6601	12526	5595	12526	5058
0	19	14120	6601	14300	4971	14300	4541
	24	13910	6601	14185	5009	14185	4573
	29	13698	6601	14072	5046	14072	4604
	34	13474	6601	13950	5077	13950	4627
	39	13246	6601	13825	5105	13825	4647
10	19	14833	6550	14833	4852	14833	4437
	24	14715	6586	14715	4889	14715	4470
	29	14547	6601	14599	4926	14599	4502
	34	14329	6601	14468	4955	14468	4526
	39	14117	6601	14328	4980	14328	4545
30	19	15700	6092	15700	4580	15700	4211
	24	15700	6176	15700	4653	15700	4269
	29	15583	6228	15583	4696	15583	4302
	34	15441	6276	15441	4729	15441	4324
	39	15090	6263	15090	4710	15090	4296

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16



Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19

LANDING PERFORMANCE FLAPS 10/30

KEKS
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5423

Configuration:

- THRUST REVERSERS OPERATIVE

Approach Climb Limits:

Approach Flaps 10									
GRAD	-20	-10	0	10	20	25	30	35	39
2.1%	15700	15700	15700	15700	15700	15700	15700	15574	15090

Field Length Weight Limits/Distances:

Landing Flaps 30

RWY: 34
 LDA: 6601FT
 SLOPE: 1.12%
 COND: DRY

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	19	13517	6208	13517	4645	13517	4254
	24	13413	6242	13413	4675	13413	4279
	29	13311	6275	13311	4706	13311	4303
	34	13200	6310	13200	4731	13200	4322
	39	13087	6346	13087	4754	13087	4339
0	19	14962	5660	14962	4223	14962	3890
	24	14843	5691	14843	4257	14843	3917
	29	14727	5722	14727	4292	14727	3943
	34	14600	5751	14600	4320	14600	3962
	39	14471	5779	14471	4346	14471	3979
10	19	15511	5522	15511	4131	15511	3792
	24	15389	5562	15389	4161	15389	3819
	29	15270	5603	15270	4192	15270	3845
	34	15140	5643	15140	4219	15140	3865
	39	15008	5682	15008	4244	15008	3883
30	19	15700	4959	15700	3731	15700	3473
	24	15700	5029	15700	3787	15700	3519
	29	15700	5099	15700	3845	15700	3564
	34	15674	5167	15674	3895	15674	3602
	39	15090	5101	15090	3832	15090	3540

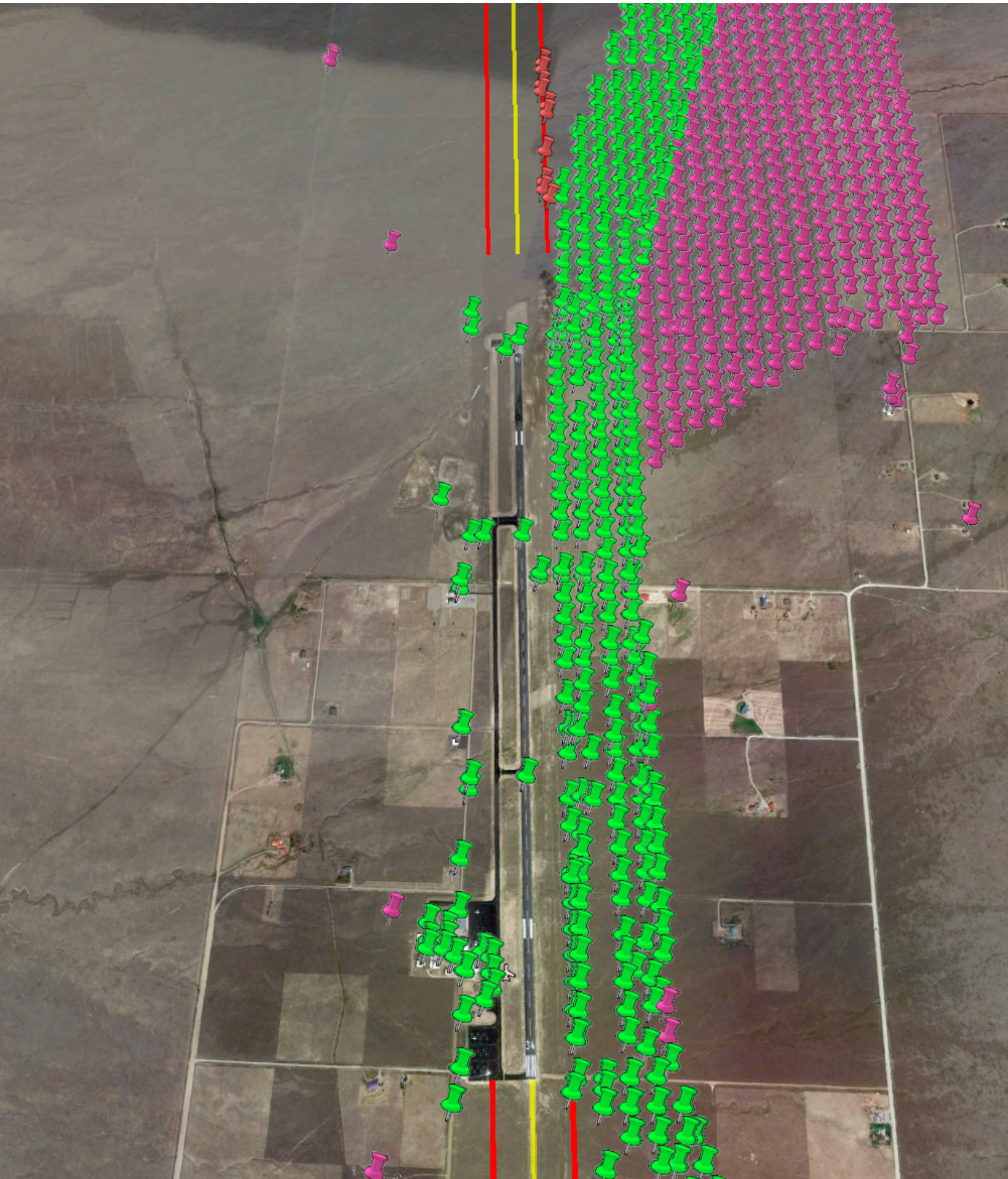
RWY: 34
 LDA: 6601FT
 SLOPE: 1.12%
 COND: Wet [115%]

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	19	12032	6601	13517	5341	13517	4892
	24	11815	6601	13413	5377	13413	4921
	29	11604	6601	13311	5412	13311	4949
	34	11390	6601	13200	5441	13200	4970
	39	11183	6601	13087	5467	13087	4990
0	19	14962	6509	14962	4856	14962	4474
	24	14843	6545	14843	4896	14843	4505
	29	14727	6580	14727	4935	14727	4534
	34	14567	6601	14600	4968	14600	4556
	39	14350	6601	14471	4998	14471	4576
10	19	15511	6350	15511	4751	15511	4361
	24	15389	6397	15389	4786	15389	4391
	29	15270	6443	15270	4821	15270	4422
	34	15140	6490	15140	4851	15140	4445
	39	15008	6534	15008	4881	15008	4466
30	19	15700	5703	15700	4290	15700	3994
	24	15700	5784	15700	4356	15700	4046
	29	15700	5864	15700	4421	15700	4099
	34	15674	5942	15674	4479	15674	4142
	39	15090	5867	15090	4407	15090	4070

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 15Dec16





SPECIAL DEPARTURE PROCEDURES

Rwy 16DP
Elevation: 5440
Obstacle Criteria: FAA AC 120-91

TST1
ENNIS-BIG SKY
ENNIS, MT
16Dec16

- TAKEOFF WEIGHTS FOR RWY 16DP REQUIRE THE USE OF THIS TAILORED RNAV DEPARTURE PROCEDURE
- *** RNAV PROCEDURE. ALL FIXES ARE FLY-BY FIXES UNLESS OTHERWISE NOTED. ***
- AT DEPARTURE END OF RUNWAY TURN RIGHT DIRECT TO MDISN
- CLIMB IN HOLDING PATTERN AT MDISN (HOLD SOUTH, LEFT TURNS, 5NM LEGS, 354 COURSE INBOUND)
- ###

These procedures describe the non-standard, one engine inoperative departure flight path. The maximum takeoff weights presented in the attached analysis are based upon the procedure(s) outlined above.

Rwy 34DP
Elevation: 5349
Obstacle Criteria: FAA AC 120-91

TST1
ENNIS-BIG SKY
ENNIS, MT
16Dec16

- TAKEOFF WEIGHTS FOR RWY 34DP REQUIRE THE USE OF THIS TAILORED RNAV DEPARTURE PROCEDURE
- *** RNAV PROCEDURE. ALL FIXES ARE FLY-BY FIXES UNLESS OTHERWISE NOTED. ***
- MAINTAIN RUNWAY HEADING DIRECT TO SPHNX NOTE: SPHNX IS A FLYOVER WAYPOINT
- THEN DIRECT TO MDISN
- CLIMB IN HOLDING PATTERN AT MDISN (HOLD SOUTH, LEFT TURNS, 5NM LEGS, 344 COURSE INBOUND)
- ###

These procedures describe the non-standard, one engine inoperative departure flight path. The maximum takeoff weights presented in the attached analysis are based upon the procedure(s) outlined above.

Cessna Citation EXCEL
 Engine: PW545A
 AFM: 56XFM-13
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 7

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- STATIC TAKEOFF

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	-1.20	-1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-15	87.7	20200 ST	108/109/126/160	7229	20200 ST	108/109/126/160	7229	20200
-10	88.5	20200 ST	108/109/126/160	7194	20200 ST	108/109/126/160	7194	20200
-5	89.3	20200 ST	108/109/126/160	7160	20200 ST	108/109/126/160	7160	20200
0	90.1	20200 ST	108/109/126/160	7131	20200 ST	108/109/126/160	7131	20200
2	90.5	20200 ST	108/109/126/160	7122	20200 ST	108/109/126/160	7122	20200
4	90.8	20200 ST	108/109/126/160	7114	20200 ST	108/109/126/160	7114	20200
6	91.0	20200 ST	108/109/126/160	7111	20200 ST	108/109/126/160	7111	20200
8	90.8	20200 ST	108/109/126/160	7114	20200 ST	108/109/126/160	7114	20200
10	90.5	20200 ST	109/109/126/160	7116	20200 ST	109/109/126/160	7116	20200
12	90.3	20200 ST	109/109/126/160	7126	20200 ST	109/109/126/160	7126	20200
14	90.0	20200 ST	109/109/126/160	7136	20200 ST	109/109/126/160	7136	20200
16	89.7	20200 ST	109/109/126/160	7152	20200 ST	109/109/126/160	7152	20200
18	89.3	20200 ST	109/109/126/160	7173	20200 ST	109/109/126/160	7173	20200
20	88.9	20200 ST	109/109/126/160	7194	20200 ST	109/109/126/160	7194	20200
22	88.5	20200 ST	109/109/126/160	7240	20200 ST	109/109/126/160	7240	20200
24	88.1	20200 ST	109/109/126/160	7287	20200 ST	109/109/126/160	7287	20200
26	87.7	19801 -O	109/109/125/160	7294	20063 -O	109/109/125/160	7333	20200
28	87.3	19355 -O	107/107/123/160	7294	19623 -O	108/108/124/160	7924	19984
30	86.8	18926 -O	106/106/122/160	7270	19205 -O	107/107/123/160	7902	19709
32	86.3	18459 -O	104/104/120/160	7276	18736 -O	105/105/121/160	7896	19181
34	85.8	18016 -O	103/103/119/160	7262	18284 -O	104/104/120/160	7881	18653
36	85.2	17582 -O	102/102/118/160	7269	17816 -O	102/102/118/160	7874	18119
38	84.6	17135 -O	100/100/116/160	7273	17333 -O	101/101/117/160	8229	17579
40	83.9	16709 -O	99/99/115/160	7268	16868 -O	100/100/116/160	8198	17040
43	82.6	15578 -O	96/96/111/160	7186	15205 -O	95/95/110/160	7124	16223

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+12	+3	+3	+4	
TWD per KT	-162	+1	-181	+1	
QNH per +0.1	+66	+10	+67	+111	+43
QNH per -0.1	-82	+5	-83	+57	-113
EECINOP	-1164	0	-1531	+1392	-1171
ANTI ICE ON	0	+134	0	+134	0
DEICE	-193	0	-51	0	0
ROLLING	-102	-5	-27	0	0
TRINOP	0	0	0	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation EXCEL
 Engine: PW545A
 AFM: 56XFM-13
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 7

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- STATIC TAKEOFF

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	1.20	1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-15	87.7	20200 ST	109/109/126/160	7360	20200 ST	109/109/126/160	7360	20200
-10	88.5	20200 ST	109/109/126/160	7324	20200 ST	109/109/126/160	7324	20200
-5	89.3	20200 ST	109/109/126/160	7290	20200 ST	109/109/126/160	7290	20200
0	90.1	20200 ST	109/109/126/160	7261	20200 ST	109/109/126/160	7261	20200
2	90.5	20200 ST	109/109/126/160	7253	20200 ST	109/109/126/160	7253	20200
4	90.8	20200 ST	109/109/126/160	7244	20200 ST	109/109/126/160	7244	20200
6	91.0	20200 ST	109/109/126/160	7243	20200 ST	109/109/126/160	7243	20200
8	90.8	20200 ST	109/109/126/160	7248	20200 ST	109/109/126/160	7248	20200
10	90.5	20200 ST	109/109/126/160	7253	20200 ST	109/109/126/160	7253	20200
12	90.3	20200 ST	109/109/126/160	7268	20200 ST	109/109/126/160	7268	20200
14	90.0	20200 ST	109/109/126/160	7283	20126 -O	109/109/126/160	7278	20200
16	89.7	20200 ST	109/109/126/160	7305	19720 -O	108/108/125/160	7269	20200
18	89.3	19829 FL	108/108/125/160	7300	19322 -O	107/107/124/160	7259	20200
20	88.9	19481 FL	107/107/124/160	7291	18948 -O	106/106/122/160	7244	20200
22	88.5	19085 FL	106/106/123/160	7286	18530 -O	105/105/121/160	7239	20200
24	88.1	18716 FL	105/105/121/160	7278	18141 -O	103/103/120/160	7226	20200
26	87.7	18327 FL	104/104/120/160	7273	17736 -O	102/102/118/160	7216	20200
28	87.3	17959 FL	103/103/119/160	7265	17323 -O	101/101/117/160	7207	19984
30	86.8	17596 FL	102/102/118/160	7257	16934 -O	100/100/116/160	7190	19709
32	86.3	17167 FL	101/101/117/160	7253	16499 -O	98/98/114/160	7185	19181
34	85.8	16802 FL	99/99/115/160	7245	16089 -O	97/97/113/160	7169	18653
36	85.2	16376 FL	98/98/114/160	7244	15659 -O	96/96/112/160	7163	18119
38	84.6	15926 -O	97/97/113/160	7232	15216 -O	95/95/110/160	7153	17579
40	83.9	15452 -O	95/95/111/160	7215	14793 -O	93/93/108/160	7137	17040
43	82.6	14611 -O	93/93/108/160	7179	14115 -O	91/91/106/160	7120	16223

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+15	0	+17	0	
TWD per KT	-203	0	NA	NA	
QNH per +0.1	+61	0	+59	0	+43
QNH per -0.1	-82	0	-83	0	-113
EECINOP	NA	NA	NA	NA	-1171
ANTI ICE ON	-508	+127	-1139	+93	0
DEICE	-234	0	-234	0	0
ROLLING	-31	0	-121	0	0
TRINOP	0	0	0	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation EXCEL
 Engine: PW545A
 AFM: 56XFM-13
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 15

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- STATIC TAKEOFF

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	-1.20	-1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-15	87.7	20200 ST	99/106/119/160	7275	20200 ST	99/106/119/160	7275	20200
-10	88.5	20200 ST	99/106/119/160	7239	20200 ST	99/106/119/160	7239	20200
-5	89.3	20200 ST	99/106/119/160	7204	20200 ST	99/106/119/160	7204	20200
0	90.1	20200 ST	99/106/119/160	7176	20200 ST	99/106/119/160	7176	20200
2	90.5	20200 ST	99/106/119/160	7169	20200 ST	99/106/119/160	7169	20200
4	90.8	20200 ST	99/106/119/160	7161	20200 ST	99/106/119/160	7161	20200
6	91.0	20200 ST	99/106/119/160	7162	20200 ST	99/106/119/160	7162	20200
8	90.8	20200 ST	100/106/119/160	7171	20200 ST	100/106/119/160	7171	20200
10	90.5	20200 ST	100/106/119/160	7180	20200 ST	100/106/119/160	7180	20200
12	90.3	20200 ST	101/106/119/160	7204	20200 ST	101/106/119/160	7204	20200
14	90.0	20200 ST	101/106/119/160	7229	20200 ST	101/106/119/160	7229	20200
16	89.7	20200 ST	102/106/119/160	7267	20200 ST	102/106/119/160	7267	20200
18	89.3	20200 ST	102/106/119/160	7318	20200 ST	102/106/119/160	7318	20200
20	88.9	20200 ST	103/106/119/160	7370	20200 ST	103/106/119/160	7370	20200
22	88.5	20164 FP	103/106/119/160	7480	20164 FP	103/106/119/160	8093	20200
24	88.1	20129 FP	104/105/119/160	7586	20110 -O	104/105/119/160	8743	20014
26	87.7	20001 FP	104/105/119/160	7680	19637 -O	103/104/118/160	8717	19816
28	87.3	19780 FP	104/104/119/160	7765	19179 -O	101/103/117/160	8689	19328
30	86.8	19345 -O	103/103/118/160	7748	18770 -O	100/102/115/160	8663	18840
32	86.3	18907 -O	102/104/116/160	9321	18304 -O	100/102/114/160	8635	18339
34	85.8	18312 FP	101/102/114/160	7671	17860 -O	99/100/113/160	8610	17839
36	85.2	17712 FP	99/100/112/160	7605	17437 -O	97/99/111/160	8578	17329
38	84.6	17136 FP	97/98/110/160	7552	16979 -O	96/97/109/160	8547	16809
40	83.9	16560 FP	95/96/108/160	7512	16516 -O	95/96/108/160	8521	16289
43	82.6	14397 -O	87/89/101/160	7144	14007 -O	85/88/100/160	7074	15491

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	0	0	0	+1	
TWD per KT	-86	+102	-47	+65	
QNH per +0.1	+17	+135	+54	+142	+60
QNH per -0.1	-132	+161	-128	+134	-112
EECINOP	-885	+1727	NA	NA	-1169
ANTI ICE ON	0	+240	0	+240	0
DEICE	NA	NA	NA	NA	0
ROLLING	-25	-1	-19	+4	0
TRINOP	0	0	0	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation EXCEL
 Engine: PW545A
 AFM: 56XFM-13
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 15

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- STATIC TAKEOFF

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	1.20	1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-15	87.7	20200 ST	105/106/119/160	7385	20200 ST	105/106/119/160	7385	20200
-10	88.5	20200 ST	105/106/119/160	7349	20200 ST	105/106/119/160	7349	20200
-5	89.3	20200 ST	104/106/119/160	7314	20200 ST	104/106/119/160	7314	20200
0	90.1	20200 ST	104/106/119/160	7285	20200 ST	104/106/119/160	7285	20200
2	90.5	20200 ST	104/106/119/160	7278	20200 ST	104/106/119/160	7278	20200
4	90.8	20200 ST	105/106/119/160	7271	20200 ST	105/106/119/160	7271	20200
6	91.0	20200 ST	105/106/119/160	7272	20200 ST	105/106/119/160	7272	20200
8	90.8	20200 ST	105/106/119/160	7283	20200 ST	105/106/119/160	7283	20200
10	90.5	20200 ST	106/106/119/160	7293	20200 ST	106/106/119/160	7293	20200
12	90.3	20200 ST	106/106/119/160	7321	20200 ST	106/106/119/160	7321	20200
14	90.0	20200 ST	106/106/119/160	7348	20200 ST	106/106/119/160	7348	20200
16	89.7	20200 ST	106/106/119/160	7390	20200 ST	106/106/119/160	7390	20200
18	89.3	20200 ST	106/106/119/160	7446	19806 -O	105/105/118/160	7388	20200
20	88.9	20200 ST	106/106/119/160	7502	19416 -O	104/104/117/160	7375	20200
22	88.5	19769 -O	105/105/118/160	7527	18996 -O	103/103/116/160	7369	20200
24	88.1	19341 -O	104/104/117/160	7515	18592 -O	102/102/115/160	7364	20014
26	87.7	18907 -O	103/103/115/160	7496	18184 -O	101/101/113/160	7355	19816
28	87.3	18458 -O	101/101/114/160	7497	17762 -O	99/99/112/160	7346	19328
30	86.8	18033 -O	100/100/113/160	7453	17364 -O	98/98/111/160	7328	18840
32	86.3	17570 -O	99/99/112/160	7471	16925 -O	97/97/110/160	7321	18339
34	85.8	17125 -O	97/97/110/160	7439	16509 -O	96/96/108/160	7313	17839
36	85.2	16675 -O	96/96/109/160	7432	16079 -O	94/94/107/160	7301	17329
38	84.6	16193 -O	95/95/107/160	7426	15628 -O	93/93/105/160	7305	16809
40	83.9	15744 -O	93/93/105/160	7405	15200 -O	92/92/104/160	7278	16289
43	82.6	13764 -O	88/88/99/160	7134	13615 -O	87/87/98/160	7116	15491

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+13	0	+15	0	
TWD per KT	NA	NA	NA	NA	
QNH per +0.1	+63	+28	+61	+16	+60
QNH per -0.1	-83	+13	-81	0	-112
EECINOP	NA	NA	NA	NA	-1169
ANTI ICE ON	0	+259	-647	+178	0
DEICE	NA	NA	NA	NA	0
ROLLING	+19	0	+4	0	0
TRINOP	0	0	0	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation EXCEL
 Engine: PW545A
 AFM: 56XFM-13
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 7

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- WET RWY
- STATIC TAKEOFF

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	-1.20	-1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-15	87.7	20200 ST	96/109/126/160	7231	20200 ST	96/109/126/160	7231	20200
-10	88.5	20200 ST	96/109/126/160	7196	20200 ST	96/109/126/160	7196	20200
-5	89.3	20200 ST	96/109/126/160	7162	20200 ST	96/109/126/160	7162	20200
0	90.1	20200 ST	96/109/126/160	7133	20200 ST	96/109/126/160	7133	20200
2	90.5	20200 ST	96/109/126/160	7124	20200 ST	96/109/126/160	7124	20200
4	90.8	20200 ST	96/109/126/160	7116	20200 ST	96/109/126/160	7116	20200
6	91.0	20200 ST	97/109/126/160	7113	20200 ST	97/109/126/160	7113	20200
8	90.8	20200 ST	97/109/126/160	7116	20200 ST	97/109/126/160	7116	20200
10	90.5	20200 ST	97/109/126/160	7118	20200 ST	97/109/126/160	7118	20200
12	90.3	20200 ST	98/109/126/160	7129	20200 ST	98/109/126/160	7129	20200
14	90.0	20200 ST	99/109/126/160	7140	20200 ST	99/109/126/160	7140	20200
16	89.7	20200 ST	99/109/126/160	7156	20200 ST	99/109/126/160	7156	20200
18	89.3	20200 ST	100/109/126/160	7178	20200 ST	100/109/126/160	7178	20200
20	88.9	20200 ST	101/109/126/160	7199	20200 ST	101/109/126/160	7199	20200
22	88.5	20200 ST	102/109/126/160	7248	20200 ST	102/109/126/160	7248	20200
24	88.1	19843 -O	101/109/125/160	7250	19888 -O	101/109/125/160	7255	20200
26	87.7	19438 -O	100/107/123/160	7253	19484 -O	100/108/124/160	7260	20200
28	87.3	19026 -O	99/106/122/160	7246	19070 -O	99/106/122/160	7254	19984
30	86.8	18630 -O	98/105/121/160	7240	18674 -O	98/105/121/160	7246	19709
32	86.3	18188 -O	97/104/120/160	7242	18231 -O	97/104/120/160	7249	19181
34	85.8	17766 -O	96/102/118/160	7236	17806 -O	96/102/118/160	7242	18653
36	85.2	17324 -O	95/101/117/160	7236	17365 -O	95/101/117/160	7243	18119
38	84.6	16866 -O	94/100/116/160	7236	16905 -O	94/100/116/160	7762	17579
40	83.9	16417 -O	93/98/114/160	7224	16461 -O	93/98/114/160	7749	17040
43	82.6	15388 -O	89/95/110/160	7163	15160 -O	88/94/109/160	7123	16223

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+17	+3	+16	+3	
TWD per KT	-149	+2	-148	+2	
QNH per +0.1	+66	+8	+67	+65	+43
QNH per -0.1	-82	+6	-83	+49	-113
EECINOP	-975	0	-1486	+612	0
ANTI ICE ON	0	+138	0	+138	0
DEICE	-270	0	-100	0	0
ROLLING	-129	0	-62	0	0
TRINOP	-47	-3	-23	-1	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation EXCEL
 Engine: PW545A
 AFM: 56XFM-13
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 7

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- WET RWY
- STATIC TAKEOFF

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	1.20	1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-15	87.7	20200 ST	103/109/126/160	7358	20200 ST	103/109/126/160	7358	20200
-10	88.5	20200 ST	103/109/126/160	7323	20200 ST	103/109/126/160	7323	20200
-5	89.3	20200 ST	103/109/126/160	7288	20200 ST	103/109/126/160	7288	20200
0	90.1	20200 ST	103/109/126/160	7259	20200 ST	103/109/126/160	7259	20200
2	90.5	20200 ST	103/109/126/160	7251	20200 ST	103/109/126/160	7251	20200
4	90.8	20200 ST	103/109/126/160	7243	20200 ST	103/109/126/160	7243	20200
6	91.0	20200 ST	103/109/126/160	7241	20200 ST	103/109/126/160	7241	20200
8	90.8	20200 ST	104/109/126/160	7245	20200 ST	104/109/126/160	7245	20200
10	90.5	20200 ST	104/109/126/160	7249	20200 ST	104/109/126/160	7249	20200
12	90.3	20200 ST	105/109/126/160	7263	20117 -O	104/109/126/160	7258	20200
14	90.0	20200 ST	106/109/126/160	7277	19721 -O	104/108/125/160	7248	20200
16	89.7	20200 ST	106/109/126/160	7296	19324 -O	103/107/124/160	7237	20200
18	89.3	19829 FL	106/109/125/160	7293	18934 -O	102/106/123/160	7225	20200
20	88.9	19444 -O	105/107/124/160	7279	18563 -O	101/105/121/160	7214	20200
22	88.5	19032 -O	104/106/122/160	7271	18169 -O	100/104/120/160	7205	20200
24	88.1	18644 -O	103/105/121/160	7263	17805 -O	99/102/119/160	7195	20200
26	87.7	18227 -O	102/104/120/160	7253	17434 -O	98/101/117/160	7188	20200
28	87.3	17796 -O	101/102/118/160	7241	17062 -O	97/100/116/160	7177	19984
30	86.8	17370 -O	99/101/117/160	7225	16705 -O	96/99/115/160	7167	19709
32	86.3	16917 -O	98/100/116/160	7214	16316 -O	95/98/114/160	7162	19181
34	85.8	16484 -O	97/98/114/160	7202	15946 -O	94/97/113/160	7150	18653
36	85.2	16018 -O	95/97/113/160	7187	15553 -O	93/96/111/160	7147	18119
38	84.6	15563 -O	94/96/111/160	7183	15150 -O	92/94/110/160	7139	17579
40	83.9	15178 -O	93/95/110/160	7169	14771 -O	91/93/108/160	7128	17040
43	82.6	14291 -O	90/92/107/160	7132	13843 -O	88/90/105/160	7086	16223

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+18	0	+20	0	
TWD per KT	-203	0	NA	NA	
QNH per +0.1	+60	0	+58	0	+43
QNH per -0.1	-82	0	-82	0	-113
EECINOP	NA	NA	NA	NA	0
ANTI ICE ON	-612	+115	-1489	0	0
DEICE	-125	0	-211	0	0
ROLLING	-74	0	-139	0	0
TRINOP	-43	0	-84	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation EXCEL
 Engine: PW545A
 AFM: 56XFM-13
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 15

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- WET RWY
- STATIC TAKEOFF

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	-1.20	-1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-15	87.7	20200 ST	88/106/119/160	7278	20200 ST	88/106/119/160	7278	20200
-10	88.5	20200 ST	89/106/119/160	7241	20200 ST	89/106/119/160	7241	20200
-5	89.3	20200 ST	89/106/119/160	7206	20200 ST	89/106/119/160	7206	20200
0	90.1	20200 ST	89/106/119/160	7178	20200 ST	89/106/119/160	7178	20200
2	90.5	20200 ST	89/106/119/160	7171	20200 ST	89/106/119/160	7171	20200
4	90.8	20200 ST	89/106/119/160	7163	20200 ST	89/106/119/160	7163	20200
6	91.0	20200 ST	89/106/119/160	7164	20200 ST	89/106/119/160	7164	20200
8	90.8	20200 ST	89/106/119/160	7173	20200 ST	89/106/119/160	7173	20200
10	90.5	20200 ST	90/106/119/160	7182	20200 ST	90/106/119/160	7182	20200
12	90.3	20200 ST	91/106/119/160	7207	20200 ST	91/106/119/160	7207	20200
14	90.0	20200 ST	91/106/119/160	7232	20200 ST	91/106/119/160	7232	20200
16	89.7	20200 ST	92/106/119/160	7270	20200 ST	92/106/119/160	7270	20200
18	89.3	20200 ST	93/106/119/160	7323	20200 ST	93/106/119/160	7323	20200
20	88.9	20200 ST	94/106/119/160	7375	20200 ST	94/106/119/160	7375	20200
22	88.5	20164 FP	94/106/119/160	7487	20164 FP	94/106/119/160	8103	20200
24	88.1	20129 FP	95/105/119/160	7595	20086 -O	95/105/119/160	8738	20014
26	87.7	19847 -O	95/104/118/160	7644	19613 -O	94/104/118/160	8713	19816
28	87.3	19409 -O	94/104/118/160	7648	19158 -O	92/103/116/160	8685	19328
30	86.8	18994 -O	93/103/116/160	7624	18748 -O	91/102/115/160	8660	18840
32	86.3	18536 -O	91/102/115/160	7621	18283 -O	90/101/114/160	8633	18339
34	85.8	18092 -O	90/101/113/160	7613	17838 -O	89/100/112/160	8607	17839
36	85.2	17624 -O	89/100/112/160	7588	17417 -O	88/99/111/160	8576	17329
38	84.6	17136 FP	88/98/110/160	7562	16958 -O	87/97/109/160	8545	16809
40	83.9	16560 FP	87/96/108/160	7522	16497 -O	86/96/108/160	8520	16289
43	82.6	14337 -O	77/89/101/160	7138	13969 -O	76/88/100/160	7074	15491

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	0	+1	0	+1	
TWD per KT	-117	+7	-98	+1	
QNH per +0.1	+33	+137	+56	+142	+60
QNH per -0.1	-132	+19	-126	+134	-112
EECINOP	-825	+1105	NA	NA	0
ANTI ICE ON	0	+243	0	+243	0
DEICE	NA	NA	NA	NA	0
ROLLING	-25	0	-19	+4	0
TRINOP	-10	0	-7	+2	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation EXCEL
 Engine: PW545A
 AFM: 56XFM-13
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 15

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- WET RWY
- STATIC TAKEOFF

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	1.20	1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-15	87.7	20200 ST	96/106/119/160	7391	20200 ST	96/106/119/160	7391	20200
-10	88.5	20200 ST	96/106/119/160	7354	20200 ST	96/106/119/160	7354	20200
-5	89.3	20200 ST	96/106/119/160	7319	20200 ST	96/106/119/160	7319	20200
0	90.1	20200 ST	96/106/119/160	7291	20200 ST	96/106/119/160	7291	20200
2	90.5	20200 ST	96/106/119/160	7283	20200 ST	96/106/119/160	7283	20200
4	90.8	20200 ST	96/106/119/160	7276	20200 ST	96/106/119/160	7276	20200
6	91.0	20200 ST	96/106/119/160	7278	20200 ST	96/106/119/160	7278	20200
8	90.8	20200 ST	97/106/119/160	7288	20200 ST	97/106/119/160	7288	20200
10	90.5	20200 ST	97/106/119/160	7299	20200 ST	97/106/119/160	7299	20200
12	90.3	20200 ST	98/106/119/160	7326	20200 ST	98/106/119/160	7326	20200
14	90.0	20200 ST	99/106/119/160	7354	19967 -O	98/106/119/160	7330	20200
16	89.7	20200 ST	100/106/119/160	7396	19586 -O	97/105/117/160	7327	20200
18	89.3	19904 -O	99/105/118/160	7406	19196 -O	96/103/116/160	7317	20200
20	88.9	19484 -O	98/104/117/160	7390	18823 -O	95/102/115/160	7301	20200
22	88.5	19045 -O	97/103/116/160	7383	18433 -O	95/101/114/160	7304	20200
24	88.1	18651 -O	97/102/115/160	7377	18044 -O	94/100/113/160	7286	20014
26	87.7	18247 -O	96/101/114/160	7372	17661 -O	93/99/112/160	7284	19816
28	87.3	17837 -O	95/100/112/160	7361	17259 -O	92/98/111/160	7275	19328
30	86.8	17439 -O	94/98/111/160	7346	16875 -O	91/97/110/160	7254	18840
32	86.3	17008 -O	93/97/110/160	7338	16469 -O	90/96/108/160	7260	18339
34	85.8	16601 -O	92/96/108/160	7333	16063 -O	89/94/107/160	7237	17839
36	85.2	16172 -O	90/95/107/160	7325	15662 -O	88/93/105/160	7241	17329
38	84.6	15731 -O	89/93/105/160	7328	15227 -O	87/92/104/160	7235	16809
40	83.9	15299 -O	88/92/104/160	7304	14814 -O	86/90/102/160	7211	16289
43	82.6	13514 -O	80/87/98/160	7108	NA -O	NA	NA	15491

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+16	0	+22	0	
TWD per KT	NA	NA	-109	0	
QNH per +0.1	+60	+20	+59	0	+60
QNH per -0.1	-83	0	-81	0	-112
EECINOP	NA	NA	-876	0	0
ANTI ICE ON	-603	+185	-1204	+119	0
DEICE	NA	NA	NA	NA	0
ROLLING	-4	0	-191	0	0
TRINOP	-1	0	-99	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation EXCEL
 Engine: PW545A
 AFM: 56XFM-13

LANDING PERFORMANCE FLAPS 15/35

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- WITH THRUST REVERSERS

Approach Climb Limits:

Approach Flaps 15										
GRAD	-20	-10	0	10	20	25	30	35	40	43
2.1%	18700	18700	18700	18700	18700	18700	18700	18126	16775	15957

Field Length Weight Limits/Distances:

Landing Flaps 35									
WIND (KT)	OAT (°C)	60% FACTOR		DISPATCH		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	3	15939	7600	17554	6159	17547	6093	17547	4874
	13	15409	7600	17251	6095	17250	6176	17250	4941
	23	14902	7600	16959	6033	16967	6260	16967	5008
	33	14420	7600	16682	5975	16695	6350	16695	5080
	43	13965	7600	15846	5795	15957	6301	15957	5041
0	3	18700	7162	18700	5516	18700	5372	18700	4297
	13	18700	7368	18641	5505	18700	5526	18700	4421
	23	18654	7554	18493	5475	18654	5665	18654	4532
	33	18131	7600	18147	5406	18342	5749	18342	4599
	43	15957	7054	15870	4949	15957	5291	15957	4233
10	3	18700	6787	18700	5232	18700	5091	18700	4073
	13	18700	6989	18700	5232	18700	5242	18700	4194
	23	18700	7194	18695	5231	18700	5396	18700	4317
	33	18657	7386	18331	5158	18657	5539	18657	4432
	43	15957	6684	15870	4671	15957	5013	15957	4010
30	3	18700	6071	18700	4742	18700	4553	18700	3643
	13	18700	6262	18700	4742	18700	4697	18700	3757
	23	18700	6455	18700	4742	18700	4842	18700	3873
	33	18657	6637	18352	4674	18657	4978	18657	3983
	43	15957	5974	15870	4206	15957	4481	15957	3585

RWY: 16
 LDA: 7600FT
 SLOPE: -1.20%
 COND: DRY

WIND (KT)	OAT (°C)	60% FACTOR		DISPATCH		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	3	13081	7600	17554	7083	17547	7007	17547	5605
	13	NA	NA	17251	7009	17250	7103	17250	5682
	23	NA	NA	16959	6938	16967	7199	16967	5759
	33	NA	NA	16682	6871	16695	7303	16695	5842
	43	NA	NA	15846	6664	15957	7246	15957	5797
0	3	16885	7600	18700	6344	18700	6177	18700	4942
	13	16278	7600	18641	6330	18700	6355	18700	5084
	23	15722	7600	18493	6296	18654	6515	18654	5212
	33	15214	7600	18147	6217	18342	6611	18342	5289
	43	14737	7600	15870	5691	15957	6084	15957	4868
10	3	18094	7600	18700	6017	18700	5854	18700	4683
	13	17462	7600	18700	6017	18700	6028	18700	4822
	23	16857	7600	18695	6016	18700	6205	18700	4964
	33	16273	7600	18331	5932	18657	6370	18657	5096
	43	15746	7600	15870	5371	15957	5765	15957	4612
30	3	18700	6982	18700	5453	18700	5236	18700	4189
	13	18700	7201	18700	5453	18700	5401	18700	4321
	23	18700	7424	18700	5453	18700	5568	18700	4454
	33	18566	7600	18352	5375	18657	5725	18657	4580
	43	15957	6870	15870	4837	15957	5153	15957	4122

RWY: 16
 LDA: 7600FT
 SLOPE: -1.20%
 COND: Wet [115%]

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation EXCEL
 Engine: PW545A
 AFM: 56XFM-13

LANDING PERFORMANCE FLAPS 15/35

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- WITH THRUST REVERSERS

Approach Climb Limits:

Approach Flaps 15

GRAD	-20	-10	0	10	20	25	30	35	40	43
2.1%	18700	18700	18700	18700	18700	18700	18700	18126	16775	15957

Field Length Weight Limits/Distances:

Landing Flaps 35

RWY: 34
 LDA: 7600FT
 SLOPE: 1.20%
 COND: DRY

WIND (KT)	OAT (°C)	60% FACTOR		DISPATCH		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	3	18398	6888	18394	6344	18398	5166	18398	4133
	13	18083	6981	18087	6279	18083	5236	18083	4189
	23	17784	7093	17781	6211	17784	5320	17784	4256
	33	17500	7191	17490	6144	17500	5394	17500	4315
	43	15957	6907	15870	5801	15957	5181	15957	4145
0	3	18700	6021	18700	5516	18700	4516	18700	3613
	13	18700	6179	18700	5516	18700	4634	18700	3708
	23	18700	6340	18700	5516	18700	4755	18700	3804
	33	18657	6491	18352	5447	18657	4868	18657	3895
	43	15957	5934	15870	4949	15957	4451	15957	3561
10	3	18700	5730	18700	5232	18700	4297	18700	3438
	13	18700	5885	18700	5232	18700	4414	18700	3531
	23	18700	6043	18700	5232	18700	4532	18700	3626
	33	18657	6192	18352	5162	18657	4644	18657	3715
	43	15957	5646	15870	4671	15957	4234	15957	3388
30	3	18700	5167	18700	4742	18700	3875	18700	3100
	13	18700	5316	18700	4742	18700	3987	18700	3190
	23	18700	5468	18700	4742	18700	4101	18700	3281
	33	18657	5609	18352	4674	18657	4207	18657	3365
	43	15957	5087	15870	4206	15957	3815	15957	3052

RWY: 34
 LDA: 7600FT
 SLOPE: 1.20%
 COND: Wet [115%]

WIND (KT)	OAT (°C)	60% FACTOR		DISPATCH		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	3	17137	7600	18394	7296	18398	5941	18398	4753
	13	16537	7600	18087	7221	18083	6021	18083	4817
	23	15961	7600	17781	7142	17784	6118	17784	4895
	33	15449	7600	17490	7066	17500	6203	17500	4962
	43	14968	7600	15870	6671	15957	5958	15957	4766
0	3	18700	6924	18700	6344	18700	5193	18700	4155
	13	18700	7106	18700	6344	18700	5329	18700	4264
	23	18700	7291	18700	6344	18700	5468	18700	4375
	33	18657	7465	18352	6264	18657	5599	18657	4479
	43	15957	6825	15870	5691	15957	5119	15957	4095
10	3	18700	6589	18700	6017	18700	4942	18700	3954
	13	18700	6767	18700	6017	18700	5076	18700	4061
	23	18700	6949	18700	6017	18700	5212	18700	4170
	33	18657	7120	18352	5937	18657	5340	18657	4272
	43	15957	6493	15870	5371	15957	4870	15957	3896
30	3	18700	5942	18700	5453	18700	4457	18700	3565
	13	18700	6114	18700	5453	18700	4585	18700	3668
	23	18700	6288	18700	5453	18700	4716	18700	3773
	33	18657	6450	18352	5375	18657	4838	18657	3870
	43	15957	5850	15870	4837	15957	4388	15957	3510

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation Sovereign
 Engine: PW306C
 AFM: 68FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 7

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- STATIC TAKEOFF
- WITH THRUST REVERSERS

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	-1.20	-1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	96.4	30300 ST	108/113/122/180	7239	30300 ST	108/113/122/180	7239	30300
-15	97.4	30300 ST	108/113/122/180	7203	30300 ST	108/113/122/180	7203	30300
-10	98.3	30300 ST	108/113/122/180	7168	30300 ST	108/113/122/180	7168	30300
-5	99.2	30300 ST	108/113/122/180	7134	30300 ST	108/113/122/180	7134	30300
0	100.1	30300 ST	108/113/122/180	7102	30300 ST	108/113/122/180	7102	30300
2	100.5	30300 ST	108/113/122/180	7091	30300 ST	108/113/122/180	7091	30300
4	100.9	30300 ST	108/113/122/180	7081	30300 ST	108/113/122/180	7081	30300
6	101.0	30300 ST	108/113/122/180	7073	30300 ST	108/113/122/180	7073	30300
8	100.9	30300 ST	108/113/122/180	7068	30300 ST	108/113/122/180	7068	30300
10	100.8	30300 ST	108/113/122/180	7063	30300 ST	108/113/122/180	7063	30300
12	100.7	30300 ST	109/113/121/180	7063	30300 ST	109/113/121/180	7063	30300
14	100.6	30300 ST	110/113/121/180	7062	30300 ST	110/113/121/180	7062	30300
16	100.4	30300 ST	110/114/121/180	7063	30300 ST	110/114/121/180	7063	30300
18	100.1	30300 ST	111/114/122/180	7065	30300 ST	111/114/122/180	7065	30300
20	99.9	30300 ST	111/114/122/180	7067	30300 ST	111/114/122/180	7067	30300
22	99.6	30300 ST	112/114/122/180	7073	30300 ST	112/114/122/180	7073	30300
24	99.4	30300 ST	112/115/122/180	7080	30300 ST	112/115/122/180	7080	30300
26	99.1	30300 ST	113/115/122/180	7089	30300 ST	113/115/122/180	7089	30300
28	98.9	30300 ST	114/115/122/180	7102	30300 ST	114/115/122/180	7102	30300
30	98.6	30300 ST	114/115/122/180	7115	30300 ST	114/115/122/180	7115	30300
32	98.3	30300 ST	115/116/122/180	7139	30300 ST	115/116/122/180	7139	30300
34	98.0	30300 ST	115/116/122/180	7162	30300 ST	115/116/122/180	7162	30300
36	97.7	30273 FP	115/116/122/180	7194	30273 FP	115/116/122/180	7194	30300
38	97.4	30220 FP	116/116/122/180	7233	30220 FP	116/116/122/180	7775	30209
40	97.1	30168 FP	116/116/122/180	7270	30168 FP	116/116/122/180	8211	30028
43	96.7	30042 FP	114/114/120/180	8382	30042 FP	114/114/120/180	8358	29487

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	0	0	0	0	
TWD per KT	-255	+1	-249	+2	
QNH per +0.1	+13	0	+13	0	+66
QNH per -0.1	-55	+112	-55	+101	-79
ANTI ICE ON	0	+203	0	+203	0
DEICE	-1123	-1	-950	+5	0
ROLLING	-556	-1	-248	+3	0
TRINOP	0	0	0	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation Sovereign
 Engine: PW306C
 AFM: 68FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 7

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- STATIC TAKEOFF
- WITH THRUST REVERSERS

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	1.20	1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	96.4	30300 ST	114/114/122/180	7349	30300 ST	114/114/122/180	7349	30300
-15	97.4	30300 ST	114/114/122/180	7313	30300 ST	114/114/122/180	7313	30300
-10	98.3	30300 ST	114/114/122/180	7278	30300 ST	114/114/122/180	7278	30300
-5	99.2	30300 ST	114/114/122/180	7244	30300 ST	114/114/122/180	7244	30300
0	100.1	30300 ST	114/114/122/180	7212	30300 ST	114/114/122/180	7212	30300
2	100.5	30300 ST	114/114/122/180	7201	30300 ST	114/114/122/180	7201	30300
4	100.9	30300 ST	114/114/122/180	7190	30300 ST	114/114/122/180	7190	30300
6	101.0	30300 ST	114/114/122/180	7183	30300 ST	114/114/122/180	7183	30300
8	100.9	30300 ST	114/114/122/180	7179	30300 ST	114/114/122/180	7179	30300
10	100.8	30300 ST	114/114/122/180	7175	30300 ST	114/114/122/180	7175	30300
12	100.7	30300 ST	114/114/122/180	7177	30300 ST	114/114/122/180	7177	30300
14	100.6	30300 ST	114/114/122/180	7179	30300 ST	114/114/122/180	7179	30300
16	100.4	30300 ST	114/114/122/180	7183	30300 ST	114/114/122/180	7183	30300
18	100.1	30300 ST	114/114/122/180	7188	30300 ST	114/114/122/180	7188	30300
20	99.9	30300 ST	114/114/122/180	7193	30300 ST	114/114/122/180	7193	30300
22	99.6	30300 ST	115/115/122/180	7203	30300 ST	115/115/122/180	7203	30300
24	99.4	30300 ST	115/115/122/180	7213	30300 ST	115/115/122/180	7213	30300
26	99.1	30300 ST	115/115/122/180	7226	30300 ST	115/115/122/180	7226	30300
28	98.9	30300 ST	115/115/122/180	7244	29965 -O	115/115/121/180	7225	30300
30	98.6	30176 FL	115/115/122/180	7253	29484 -O	114/114/120/180	7214	30300
32	98.3	29646 FL	114/114/120/180	7246	28986 -O	113/113/119/180	7205	30300
34	98.0	29206 FL	114/114/119/180	7237	28510 -O	112/112/118/180	7195	30300
36	97.7	28730 FL	113/113/118/180	7230	28030 -O	111/111/117/180	7184	30300
38	97.4	28248 FL	112/112/117/180	7222	27537 -O	110/110/116/180	7176	30209
40	97.1	27840 FL	111/111/117/180	7214	27079 -O	110/110/115/180	7163	30028
43	96.7	27135 FL	110/110/115/180	7203	26346 -O	108/108/114/180	7149	29487

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+40	0	+33	0	
TWD per KT	-299	0	-240	0	
QNH per +0.1	+100	0	+100	0	+66
QNH per -0.1	-111	0	-111	0	-79
ANTI ICE ON	0	+217	0	+217	0
DEICE	-1102	0	-682	0	0
ROLLING	-539	0	-325	0	0
TRINOP	0	0	0	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation Sovereign
 Engine: PW306C
 AFM: 68FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 15

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- STATIC TAKEOFF
- WITH THRUST REVERSERS

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	-1.20	-1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	96.4	30300 ST	103/109/115/180	7280	30300 ST	103/109/115/180	7280	30300
-15	97.4	30300 ST	103/109/115/180	7243	30300 ST	103/109/115/180	7243	30300
-10	98.3	30300 ST	103/109/115/180	7207	30300 ST	103/109/115/180	7207	30300
-5	99.2	30300 ST	103/109/115/180	7173	30300 ST	103/109/115/180	7173	30300
0	100.1	30300 ST	103/109/115/180	7140	30300 ST	103/109/115/180	7140	30300
2	100.5	30300 ST	103/109/115/180	7130	30300 ST	103/109/115/180	7130	30300
4	100.9	30300 ST	103/109/115/180	7120	30300 ST	103/109/115/180	7120	30300
6	101.0	30300 ST	103/109/115/180	7114	30300 ST	103/109/115/180	7114	30300
8	100.9	30300 ST	103/109/115/180	7113	30300 ST	103/109/115/180	7113	30300
10	100.8	30300 ST	103/109/115/180	7112	30300 ST	103/109/115/180	7112	30300
12	100.7	30300 ST	103/109/114/180	7119	30300 ST	103/109/114/180	7119	30300
14	100.6	30300 ST	104/109/114/180	7126	30300 ST	104/109/114/180	7126	30300
16	100.4	30300 ST	104/109/114/180	7135	30300 ST	104/109/114/180	7135	30300
18	100.1	30300 ST	105/109/114/180	7148	30300 ST	105/109/114/180	7148	30300
20	99.9	30300 ST	105/109/114/180	7160	30300 ST	105/109/114/180	7160	30300
22	99.6	30300 ST	105/109/114/180	7184	30300 ST	105/109/114/180	7184	30300
24	99.4	30300 ST	106/109/113/180	7209	30300 ST	106/109/113/180	7209	30300
26	99.1	30300 ST	106/109/113/180	7244	30300 ST	106/109/113/180	7244	30300
28	98.9	30300 ST	107/109/113/180	7291	30300 ST	107/109/113/180	7291	30300
30	98.6	30300 ST	107/110/113/180	7338	30300 ST	107/110/113/180	7338	30300
32	98.3	30247 FP	108/110/113/180	7419	30247 FP	108/110/113/180	8498	30300
34	98.0	30194 FP	108/110/113/180	7496	30064 -O	108/109/113/180	8677	30095
36	97.7	30046 FP	109/110/113/180	7573	29481 -O	107/109/112/180	8656	29871
38	97.4	29513 -O	108/110/113/180	7577	28914 -O	106/108/111/180	8635	29378
40	97.1	28964 -O	108/109/112/180	9262	28429 -O	106/107/110/180	8615	28884
43	96.7	28222 -O	106/107/110/180	9226	27721 -O	104/106/109/180	8578	28047

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	0	+1	0	+1	
TWD per KT	-61	+162	-56	+18	
QNH per +0.1	+22	+2	+78	+2	+68
QNH per -0.1	-108	+171	-112	+135	-109
ANTI ICE ON	0	+419	0	+1475	-124
DEICE	NA	NA	NA	NA	0
ROLLING	-9	-2	-17	+6	0
TRINOP	0	0	0	+1	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation Sovereign
 Engine: PW306C
 AFM: 68FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 15

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- STATIC TAKEOFF
- WITH THRUST REVERSERS

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	1.20	1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	96.4	30300 ST	109/110/115/180	7381	30300 ST	109/110/115/180	7381	30300
-15	97.4	30300 ST	109/110/115/180	7344	30300 ST	109/110/115/180	7344	30300
-10	98.3	30300 ST	109/110/115/180	7308	30300 ST	109/110/115/180	7308	30300
-5	99.2	30300 ST	109/110/115/180	7274	30300 ST	109/110/115/180	7274	30300
0	100.1	30300 ST	109/110/115/180	7241	30300 ST	109/110/115/180	7241	30300
2	100.5	30300 ST	109/110/115/180	7231	30300 ST	109/110/115/180	7231	30300
4	100.9	30300 ST	109/110/115/180	7221	30300 ST	109/110/115/180	7221	30300
6	101.0	30300 ST	109/110/115/180	7215	30300 ST	109/110/115/180	7215	30300
8	100.9	30300 ST	109/110/115/180	7215	30300 ST	109/110/115/180	7215	30300
10	100.8	30300 ST	109/110/115/180	7214	30300 ST	109/110/115/180	7214	30300
12	100.7	30300 ST	109/109/115/180	7223	30300 ST	109/109/115/180	7223	30300
14	100.6	30300 ST	109/109/114/180	7232	30300 ST	109/109/114/180	7232	30300
16	100.4	30300 ST	109/109/114/180	7244	30300 ST	109/109/114/180	7244	30300
18	100.1	30300 ST	109/109/114/180	7259	30300 ST	109/109/114/180	7259	30300
20	99.9	30300 ST	109/109/114/180	7274	30300 ST	109/109/114/180	7274	30300
22	99.6	30300 ST	109/109/114/180	7302	30300 ST	109/109/114/180	7302	30300
24	99.4	30300 ST	109/109/114/180	7330	30300 ST	109/109/114/180	7330	30300
26	99.1	30300 ST	110/110/113/180	7369	30007 -O	109/109/113/180	7340	30300
28	98.9	30300 ST	110/110/113/180	7421	29498 -O	108/108/112/180	7333	30300
30	98.6	30194 -O	110/110/113/180	7457	29040 -O	108/108/111/180	7316	30300
32	98.3	29649 -O	109/109/112/180	7461	28526 -O	107/107/110/180	7314	30300
34	98.0	29164 -O	108/108/111/180	7445	28071 -O	106/106/109/180	7299	30095
36	97.7	28649 -O	107/107/110/180	7438	27580 -O	105/105/108/180	7294	29871
38	97.4	28139 -O	106/106/109/180	7429	27101 -O	104/104/107/180	7283	29378
40	97.1	27662 -O	105/105/108/180	7411	26646 -O	103/103/106/180	7270	28884
43	96.7	26912 -O	104/104/107/180	7392	25932 -O	102/102/105/180	7253	28047

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+19	0	+32	0	
TWD per KT	-249	0	-202	0	
QNH per +0.1	+101	0	+97	0	+68
QNH per -0.1	-111	+10	-111	0	-109
ANTI ICE ON	0	+432	0	+432	-124
DEICE	NA	NA	NA	NA	0
ROLLING	-228	0	-317	0	0
TRINOP	0	0	0	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation Sovereign
 Engine: PW306C
 AFM: 68FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 7

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- WET RWY
- WITH THRUST REVERSERS
- STATIC TAKEOFF

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	-1.20	-1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	96.4	30300 ST	101/113/122/180	7233	30300 ST	101/113/122/180	7233	30300
-15	97.4	30300 ST	101/113/122/180	7196	30300 ST	101/113/122/180	7196	30300
-10	98.3	30300 ST	101/113/122/180	7161	30300 ST	101/113/122/180	7161	30300
-5	99.2	30300 ST	101/113/122/180	7128	30300 ST	101/113/122/180	7128	30300
0	100.1	30300 ST	101/113/122/180	7096	30300 ST	101/113/122/180	7096	30300
2	100.5	30300 ST	101/113/122/180	7085	30300 ST	101/113/122/180	7085	30300
4	100.9	30300 ST	100/113/122/180	7074	30300 ST	100/113/122/180	7074	30300
6	101.0	30300 ST	100/113/122/180	7067	30300 ST	100/113/122/180	7067	30300
8	100.9	30300 ST	100/113/122/180	7063	30300 ST	100/113/122/180	7063	30300
10	100.8	30300 ST	99/113/122/180	7058	30300 ST	99/113/122/180	7058	30300
12	100.7	30300 ST	99/113/121/180	7059	30300 ST	99/113/121/180	7059	30300
14	100.6	30300 ST	98/113/121/180	7060	30300 ST	98/113/121/180	7060	30300
16	100.4	30300 ST	98/114/121/180	7062	30300 ST	98/114/121/180	7062	30300
18	100.1	30300 ST	98/114/122/180	7065	30300 ST	98/114/122/180	7065	30300
20	99.9	30300 ST	99/114/122/180	7067	30300 ST	99/114/122/180	7067	30300
22	99.6	30300 ST	100/114/122/180	7074	30300 ST	100/114/122/180	7074	30300
24	99.4	30300 ST	100/115/122/180	7080	30300 ST	100/115/122/180	7080	30300
26	99.1	30300 ST	101/115/122/180	7090	30300 ST	101/115/122/180	7090	30300
28	98.9	30300 ST	102/115/122/180	7103	30300 ST	102/115/122/180	7103	30300
30	98.6	30300 ST	103/115/122/180	7116	30300 ST	103/115/122/180	7116	30300
32	98.3	30300 ST	103/116/122/180	7140	30300 ST	103/116/122/180	7140	30300
34	98.0	30300 ST	104/116/122/180	7164	30300 ST	104/116/122/180	7164	30300
36	97.7	30214 -O	105/116/122/180	7192	30273 FP	105/116/122/180	7197	30300
38	97.4	29747 -O	104/115/121/180	7193	29813 -O	104/115/121/180	7728	30209
40	97.1	29286 -O	103/114/120/180	7186	29352 -O	103/114/120/180	7719	30028
43	96.7	28579 -O	102/113/118/180	7184	28645 -O	103/113/118/180	7968	29487

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+1	+33	0	+9	
TWD per KT	-246	+2	-247	+1	
QNH per +0.1	+110	+1	+110	0	+66
QNH per -0.1	-113	+4	-113	+50	-79
ANTI ICE ON	0	+209	0	+209	0
DEICE	-895	0	-902	0	0
ROLLING	-746	0	-748	-1	0
TRINOP	-203	-1	-206	-1	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation Sovereign
 Engine: PW306C
 AFM: 68FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 7

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- WET RWY
- WITH THRUST REVERSERS
- STATIC TAKEOFF

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	1.20	1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	96.4	30300 ST	102/114/122/180	7354	30300 ST	102/114/122/180	7354	30300
-15	97.4	30300 ST	102/114/122/180	7317	30300 ST	102/114/122/180	7317	30300
-10	98.3	30300 ST	102/114/122/180	7282	30300 ST	102/114/122/180	7282	30300
-5	99.2	30300 ST	102/114/122/180	7249	30300 ST	102/114/122/180	7249	30300
0	100.1	30300 ST	102/114/122/180	7217	30300 ST	102/114/122/180	7217	30300
2	100.5	30300 ST	102/114/122/180	7206	30300 ST	102/114/122/180	7206	30300
4	100.9	30300 ST	102/114/122/180	7195	30300 ST	102/114/122/180	7195	30300
6	101.0	30300 ST	102/114/122/180	7188	30300 ST	102/114/122/180	7188	30300
8	100.9	30300 ST	103/114/122/180	7184	30300 ST	103/114/122/180	7184	30300
10	100.8	30300 ST	103/114/122/180	7180	30300 ST	103/114/122/180	7180	30300
12	100.7	30300 ST	104/114/122/180	7181	30300 ST	104/114/122/180	7181	30300
14	100.6	30300 ST	104/114/122/180	7183	30300 ST	104/114/122/180	7183	30300
16	100.4	30300 ST	105/114/122/180	7186	30300 ST	105/114/122/180	7186	30300
18	100.1	30300 ST	106/114/122/180	7192	30300 ST	106/114/122/180	7192	30300
20	99.9	30300 ST	107/114/122/180	7197	30300 ST	107/114/122/180	7197	30300
22	99.6	30300 ST	108/115/122/180	7207	30275 -O	108/115/122/180	7206	30300
24	99.4	30300 ST	109/115/122/180	7217	29800 -O	107/114/121/180	7195	30300
26	99.1	30300 ST	110/115/122/180	7230	29324 -O	107/113/120/180	7185	30300
28	98.9	30043 -O	110/115/121/180	7233	28860 -O	106/112/119/180	7176	30300
30	98.6	29565 -O	109/114/120/180	7223	28417 -O	105/112/118/180	7165	30300
32	98.3	29067 -O	109/113/119/180	7214	27950 -O	104/111/117/180	7156	30300
34	98.0	28594 -O	108/112/118/180	7203	27507 -O	104/110/116/180	7147	30300
36	97.7	28115 -O	107/111/117/180	7193	27065 -O	103/109/115/180	7137	30300
38	97.4	27624 -O	106/110/116/180	7185	26601 -O	103/108/114/180	7129	30209
40	97.1	27170 -O	106/110/115/180	7173	26181 -O	102/107/113/180	7118	30028
43	96.7	26441 -O	105/108/114/180	7160	25501 -O	101/106/112/180	7105	29487

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+32	0	+40	0	
TWD per KT	-251	0	-236	0	
QNH per +0.1	+100	0	+96	0	+66
QNH per -0.1	-111	0	-112	0	-79
ANTI ICE ON	0	+216	0	+216	0
DEICE	-474	0	-521	0	0
ROLLING	-353	0	-455	0	0
TRINOP	0	0	-6	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation Sovereign
 Engine: PW306C
 AFM: 68FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 15

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- WET RWY
- STATIC TAKEOFF
- WITH THRUST REVERSERS

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	-1.20	-1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	96.4	30300 ST	102/109/115/180	7270	30300 ST	102/109/115/180	7270	30300
-15	97.4	30300 ST	102/109/115/180	7232	30300 ST	102/109/115/180	7232	30300
-10	98.3	30300 ST	102/109/115/180	7196	30300 ST	102/109/115/180	7196	30300
-5	99.2	30300 ST	102/109/115/180	7162	30300 ST	102/109/115/180	7162	30300
0	100.1	30300 ST	102/109/115/180	7129	30300 ST	102/109/115/180	7129	30300
2	100.5	30300 ST	102/109/115/180	7119	30300 ST	102/109/115/180	7119	30300
4	100.9	30300 ST	101/109/115/180	7109	30300 ST	101/109/115/180	7109	30300
6	101.0	30300 ST	101/109/115/180	7104	30300 ST	101/109/115/180	7104	30300
8	100.9	30300 ST	100/109/115/180	7103	30300 ST	100/109/115/180	7103	30300
10	100.8	30300 ST	100/109/115/180	7102	30300 ST	100/109/115/180	7102	30300
12	100.7	30300 ST	99/109/114/180	7111	30300 ST	99/109/114/180	7111	30300
14	100.6	30300 ST	99/109/114/180	7119	30300 ST	99/109/114/180	7119	30300
16	100.4	30300 ST	98/109/114/180	7131	30300 ST	98/109/114/180	7131	30300
18	100.1	30300 ST	97/109/114/180	7145	30300 ST	97/109/114/180	7145	30300
20	99.9	30300 ST	96/109/114/180	7160	30300 ST	96/109/114/180	7160	30300
22	99.6	30300 ST	96/109/114/180	7185	30300 ST	96/109/114/180	7185	30300
24	99.4	30300 ST	96/109/113/180	7210	30300 ST	96/109/113/180	7210	30300
26	99.1	30300 ST	96/109/113/180	7247	30300 ST	96/109/113/180	7247	30300
28	98.9	30300 ST	96/109/113/180	7294	30300 ST	96/109/113/180	7294	30300
30	98.6	30300 ST	97/110/113/180	7341	30300 ST	97/110/113/180	7341	30300
32	98.3	30247 FP	98/110/113/180	7433	30247 FP	98/110/113/180	8539	30300
34	98.0	30194 FP	98/110/113/180	7524	30032 -O	98/109/113/180	8674	30095
36	97.7	30046 FP	98/110/114/180	7606	29447 -O	97/109/112/180	8653	29871
38	97.4	29454 -O	97/110/113/180	9284	28872 -O	96/108/111/180	8633	29378
40	97.1	28926 -O	96/109/112/180	9260	28391 -O	95/107/110/180	8613	28884
43	96.7	28158 -O	96/107/110/180	9223	27673 -O	94/106/109/180	8573	28047

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	0	+1	0	+1	
TWD per KT	-189	+2	-138	+61	
QNH per +0.1	+22	+2	+82	+2	+68
QNH per -0.1	-111	+167	-112	+135	-109
ANTI ICE ON	0	+430	0	+1487	-124
DEICE	NA	NA	NA	NA	0
ROLLING	-282	0	-17	+6	0
TRINOP	-2	0	-3	+2	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation Sovereign
 Engine: PW306C
 AFM: 68FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 15

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- WET RWY
- STATIC TAKEOFF
- WITH THRUST REVERSERS

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	1.20	1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	96.4	30300 ST	101/110/115/180	7392	30300 ST	101/110/115/180	7392	30300
-15	97.4	30300 ST	101/110/115/180	7354	30300 ST	101/110/115/180	7354	30300
-10	98.3	30300 ST	101/110/115/180	7318	30300 ST	101/110/115/180	7318	30300
-5	99.2	30300 ST	101/110/115/180	7284	30300 ST	101/110/115/180	7284	30300
0	100.1	30300 ST	101/110/115/180	7251	30300 ST	101/110/115/180	7251	30300
2	100.5	30300 ST	101/110/115/180	7241	30300 ST	101/110/115/180	7241	30300
4	100.9	30300 ST	101/110/115/180	7231	30300 ST	101/110/115/180	7231	30300
6	101.0	30300 ST	101/110/115/180	7225	30300 ST	101/110/115/180	7225	30300
8	100.9	30300 ST	101/110/115/180	7224	30300 ST	101/110/115/180	7224	30300
10	100.8	30300 ST	100/110/115/180	7222	30300 ST	100/110/115/180	7222	30300
12	100.7	30300 ST	100/109/115/180	7230	30300 ST	100/109/115/180	7230	30300
14	100.6	30300 ST	100/109/114/180	7238	30300 ST	100/109/114/180	7238	30300
16	100.4	30300 ST	101/109/114/180	7249	30300 ST	101/109/114/180	7249	30300
18	100.1	30300 ST	101/109/114/180	7264	30300 ST	101/109/114/180	7264	30300
20	99.9	30300 ST	102/109/114/180	7279	30300 ST	102/109/114/180	7279	30300
22	99.6	30300 ST	103/109/114/180	7307	30121 -O	102/109/113/180	7294	30300
24	99.4	30300 ST	104/109/114/180	7335	29631 -O	101/108/112/180	7284	30300
26	99.1	30007 -O	104/109/113/180	7345	29146 -O	101/107/111/180	7274	30300
28	98.9	29493 -O	103/108/112/180	7339	28660 -O	100/107/110/180	7264	30300
30	98.6	29044 -O	102/108/111/180	7322	28215 -O	99/106/109/180	7251	30300
32	98.3	28526 -O	101/107/110/180	7319	27729 -O	99/105/109/180	7244	30300
34	98.0	28076 -O	101/106/109/180	7305	27282 -O	98/104/108/180	7234	30095
36	97.7	27588 -O	100/105/108/180	7300	26822 -O	98/103/107/180	7224	29871
38	97.4	27109 -O	100/104/107/180	7290	26345 -O	97/103/106/180	7216	29378
40	97.1	26657 -O	99/103/106/180	7277	25914 -O	96/102/105/180	7202	28884
43	96.7	25948 -O	98/102/105/180	7261	25208 -O	95/100/104/180	7189	28047

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+32	0	+34	0	
TWD per KT	-195	0	-237	0	
QNH per +0.1	+97	0	+95	0	+68
QNH per -0.1	-111	0	-111	0	-109
ANTI ICE ON	0	+430	-485	+355	-124
DEICE	NA	NA	NA	NA	0
ROLLING	-336	0	-338	0	0
TRINOP	-5	0	-6	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation Sovereign
 Engine: PW306C
 AFM: 68FM-11

LANDING PERFORMANCE FLAPS 15/35

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- WITH THRUST REVERSERS

Approach Climb Limits:

Approach Flaps 15										
GRAD	-20	-10	0	10	20	25	30	35	40	43
2.1%	27100	27100	27100	27100	27100	27100	27100	27100	27100	27100

Field Length Weight Limits/Distances:

Landing Flaps 35

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	3	27100	7142	27100	5357	27100	4285
	13	27100	7333	27100	5500	27100	4400
	23	27100	7526	27100	5645	27100	4516
	33	26511	7600	27100	5789	27100	4631
	43	25607	7600	27100	5933	27100	4747
0	3	27100	5923	27100	4442	27100	3554
	13	27100	6094	27100	4571	27100	3657
	23	27100	6267	27100	4701	27100	3761
	33	27100	6440	27100	4830	27100	3864
	43	27100	6612	27100	4959	27100	3967
10	3	27100	5596	27100	4197	27100	3358
	13	27100	5761	27100	4321	27100	3457
	23	27100	5929	27100	4447	27100	3558
	33	27100	6097	27100	4573	27100	3658
	43	27100	6264	27100	4698	27100	3759
30	3	27100	4973	27100	3730	27100	2984
	13	27100	5128	27100	3846	27100	3077
	23	27100	5286	27100	3964	27100	3172
	33	27100	5443	27100	4082	27100	3266
	43	27100	5599	27100	4200	27100	3360

RWY: 16
 LDA: 7600FT
 SLOPE: -1.20%
 COND: DRY

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	3	24190	7600	27100	6160	27100	4928
	13	23321	7600	27100	6325	27100	5060
	23	22517	7600	27100	6491	27100	5193
	33	21767	7600	27100	6658	27100	5326
	43	21070	7600	27100	6823	27100	5459
0	3	27100	6811	27100	5109	27100	4087
	13	27100	7008	27100	5256	27100	4205
	23	27100	7207	27100	5406	27100	4325
	33	27100	7406	27100	5555	27100	4444
	43	27084	7600	27100	5703	27100	4563
10	3	27100	6435	27100	4826	27100	3861
	13	27100	6625	27100	4969	27100	3975
	23	27100	6818	27100	5114	27100	4091
	33	27100	7011	27100	5259	27100	4207
	43	27100	7204	27100	5403	27100	4322
30	3	27100	5718	27100	4289	27100	3431
	13	27100	5898	27100	4423	27100	3539
	23	27100	6079	27100	4559	27100	3647
	33	27100	6259	27100	4694	27100	3756
	43	27100	6439	27100	4830	27100	3864

RWY: 16
 LDA: 7600FT
 SLOPE: -1.20%
 COND: Wet [115%]

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation Sovereign
 Engine: PW306C
 AFM: 68FM-11

LANDING PERFORMANCE FLAPS 15/35

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- WITH THRUST REVERSERS

Approach Climb Limits:

Approach Flaps 15										
GRAD	-20	-10	0	10	20	25	30	35	40	43
2.1%	27100	27100	27100	27100	27100	27100	27100	27100	27100	27100

Field Length Weight Limits/Distances:

Landing Flaps 35

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	3	27100	5775	27100	4331	27100	3465
	13	27100	5910	27100	4433	27100	3546
	23	27100	6047	27100	4535	27100	3628
	33	27100	6182	27100	4637	27100	3710
	43	27100	6317	27100	4738	27100	3791
0	3	27100	4921	27100	3691	27100	2953
	13	27100	5048	27100	3786	27100	3029
	23	27100	5176	27100	3882	27100	3106
	33	27100	5303	27100	3978	27100	3182
	43	27100	5429	27100	4072	27100	3258
10	3	27100	4673	27100	3505	27100	2804
	13	27100	4797	27100	3598	27100	2878
	23	27100	4922	27100	3692	27100	2954
	33	27100	5047	27100	3785	27100	3028
	43	27100	5171	27100	3878	27100	3103
30	3	27100	4194	27100	3145	27100	2516
	13	27100	4313	27100	3235	27100	2588
	23	27100	4432	27100	3324	27100	2659
	33	27100	4551	27100	3413	27100	2731
	43	27100	4669	27100	3502	27100	2802

RWY: 34
 LDA: 7600FT
 SLOPE: 1.20%
 COND: DRY

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	3	27100	6641	27100	4981	27100	3985
	13	27100	6797	27100	5098	27100	4078
	23	27100	6953	27100	5215	27100	4172
	33	27100	7110	27100	5332	27100	4266
	43	27100	7265	27100	5449	27100	4359
0	3	27100	5659	27100	4244	27100	3395
	13	27100	5805	27100	4354	27100	3483
	23	27100	5952	27100	4464	27100	3572
	33	27100	6099	27100	4574	27100	3659
	43	27100	6244	27100	4683	27100	3747
10	3	27100	5373	27100	4030	27100	3224
	13	27100	5516	27100	4137	27100	3310
	23	27100	5661	27100	4246	27100	3397
	33	27100	5804	27100	4353	27100	3482
	43	27100	5946	27100	4460	27100	3568
30	3	27100	4823	27100	3617	27100	2894
	13	27100	4960	27100	3720	27100	2976
	23	27100	5097	27100	3823	27100	3058
	33	27100	5234	27100	3925	27100	3140
	43	27100	5369	27100	4027	27100	3222

RWY: 34
 LDA: 7600FT
 SLOPE: 1.20%
 COND: Wet [115%]

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation X (1-172)
 Engine: AE3007C
 AFM: 75FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 5

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- WITHOUT THRUST REVERSERS
- STATIC TAKEOFF

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	-1.20	-1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.6	35700 ST	135/135/144/190	7385	35700 ST	135/135/144/190	7385	36100
-15	84.4	35700 ST	134/135/144/190	7345	35700 ST	134/135/144/190	7345	36100
-10	85.2	35700 ST	134/135/144/190	7306	35700 ST	134/135/144/190	7306	36100
-5	86.0	35700 ST	134/135/144/190	7269	35700 ST	134/135/144/190	7269	36100
0	86.8	35700 ST	134/135/144/190	7235	35700 ST	134/135/144/190	7235	36100
2	87.1	35700 ST	134/135/144/190	7221	35700 ST	134/135/144/190	7221	36100
4	87.5	35700 ST	134/135/144/190	7208	35700 ST	134/135/144/190	7208	36100
6	87.8	35700 ST	134/135/144/190	7201	35700 ST	134/135/144/190	7201	36100
8	88.0	35700 ST	134/135/144/190	7200	35700 ST	134/135/144/190	7200	36100
10	87.9	35700 ST	134/135/144/190	7200	35700 ST	134/135/144/190	7200	36100
12	87.8	35700 ST	134/135/144/190	7219	35700 ST	134/135/144/190	7219	36100
14	87.7	35695 -O	135/135/144/190	7239	35700 ST	135/135/144/190	7239	36100
16	87.5	35161 -O	134/134/143/190	7232	35249 -O	134/135/143/190	7238	36100
18	87.3	34609 -O	133/133/142/190	7225	34693 -O	133/134/142/190	7230	36100
20	87.0	34094 -O	132/132/141/190	7212	34179 -O	132/132/141/190	7218	36100
22	86.8	33554 -O	131/131/140/190	7209	33638 -O	131/131/140/190	7215	35700
24	86.5	33046 -O	130/130/139/190	7198	33129 -O	130/130/139/190	7205	35260
26	86.2	32549 -O	129/129/138/190	7195	32630 -O	129/129/138/190	7201	34640
28	86.0	32065 -O	128/128/136/190	7190	32144 -O	128/128/136/190	7196	33992
30	85.7	31607 -O	127/127/135/190	7183	31686 -O	127/127/135/190	7189	33344
32	85.4	31146 -O	126/126/134/190	7187	31244 -O	126/126/135/190	7195	32752
34	85.2	30702 -O	125/125/133/190	7184	30821 -O	125/125/133/190	7194	32160
36	84.9	30253 -O	124/124/132/190	7185	30387 -O	124/124/132/190	7197	31564
38	84.7	29783 -O	122/122/131/190	7185	29948 -O	123/123/131/190	7199	30963
40	84.4	29315 -O	121/121/130/190	7175	29499 -O	121/121/130/190	7194	30363
43	NA	NA CF	NA	NA	NA CF	NA	NA	NA

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+36	+2	+38	+20	
TWD per KT	-318	0	-313	0	
QNH per +0.1	+66	+4	+67	+57	+59
QNH per -0.1	NA	NA	NA	NA	-40
ANTI ICE ON	-1313	+145	-1221	+153	-1217
WITHTR	0	0	0	0	0
ROLLING	-534	-6	-635	-6	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation X (1-172)
 Engine: AE3007C
 AFM: 75FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 5

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- WITHOUT THRUST REVERSERS
- STATIC TAKEOFF

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	1.20	1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.6	34895 FL	133/133/143/190	7527	34215 -O	131/131/141/190	7495	36100
-15	84.4	34724 FL	132/132/142/190	7480	34122 -O	131/131/141/190	7452	36100
-10	85.2	34557 FL	132/132/142/190	7434	34025 -O	131/131/141/190	7410	36100
-5	86.0	34389 FL	132/132/142/190	7390	33917 -O	131/131/141/190	7370	36100
0	86.8	34213 FL	131/131/141/190	7348	33791 -O	130/130/141/190	7331	36100
2	87.1	34151 FL	131/131/141/190	7333	33750 -O	130/130/141/190	7317	36100
4	87.5	34091 FL	131/131/141/190	7317	33709 -O	130/130/140/190	7302	36100
6	87.8	33938 FL	131/131/141/190	7303	33569 -O	130/130/140/190	7289	36100
8	88.0	33690 FL	130/130/140/190	7291	33334 -O	129/129/140/190	7277	36100
10	87.9	33457 FL	129/129/140/190	7279	33108 -O	128/128/139/190	7264	36100
12	87.8	32958 FL	128/128/139/190	7268	32597 -O	127/127/138/190	7254	36100
14	87.7	32499 FL	127/127/137/190	7259	32124 -O	126/126/136/190	7243	36100
16	87.5	32031 FL	126/126/136/190	7249	31619 -O	125/125/135/190	7232	36100
18	87.3	31531 FL	125/125/135/190	7239	31110 -O	124/124/134/190	7220	36100
20	87.0	31113 FL	124/124/134/190	7229	30624 -O	123/123/133/190	7209	36100
22	86.8	30599 FL	123/123/133/190	7221	30115 -O	122/122/131/190	7198	35700
24	86.5	30163 FL	122/122/131/190	7211	29612 -O	120/120/130/190	7187	35260
26	86.2	29692 FL	121/121/130/190	7202	29108 -O	119/119/129/190	7175	34640
28	86.0	29225 FL	120/120/129/190	7193	28609 -O	118/118/128/190	7164	33992
30	85.7	28810 FL	119/119/129/190	7183	28144 -O	117/117/127/190	7151	33344
32	85.4	28327 FL	118/118/128/190	7175	27674 -O	116/116/126/190	7143	32752
34	85.2	27934 FL	117/117/127/190	7167	27232 -O	115/115/125/190	7132	32160
36	84.9	27483 FL	116/116/125/190	7159	26772 -O	114/114/123/190	7123	31564
38	84.7	27070 FL	115/115/124/190	7152	26304 -O	113/113/122/190	7115	30963
40	84.4	26645 FL	114/114/123/190	7144	25900 -O	112/112/121/190	7106	30363
43	NA	NA CF	NA	NA	NA CF	NA	NA	NA

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+34	0	+29	0	
TWD per KT	-324	0	-287	0	
QNH per +0.1	+23	0	+11	0	+59
QNH per -0.1	NA	NA	NA	NA	-40
ANTI ICE ON	-2139	0	-2389	0	-1217
WITHTR	0	0	0	0	0
ROLLING	-534	0	-318	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation X (1-172)
 Engine: AE3007C
 AFM: 75FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 15

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- WITHOUT THRUST REVERSERS
- STATIC TAKEOFF

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	-1.20	-1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.6	35700 ST	127/133/137/190	7439	35700 ST	127/133/137/190	7439	36100
-15	84.4	35700 ST	127/133/137/190	7397	35700 ST	127/133/137/190	7397	36100
-10	85.2	35700 ST	127/133/137/190	7357	35700 ST	127/133/137/190	7357	36100
-5	86.0	35700 ST	127/133/137/190	7319	35700 ST	127/133/137/190	7319	36100
0	86.8	35700 ST	126/133/137/190	7284	35700 ST	126/133/137/190	7284	36100
2	87.1	35700 ST	126/133/137/190	7271	35700 ST	126/133/137/190	7271	36100
4	87.5	35700 ST	126/133/137/190	7258	35700 ST	126/133/137/190	7258	36100
6	87.8	35700 ST	126/133/137/190	7253	35700 ST	126/133/137/190	7253	36100
8	88.0	35700 ST	126/133/137/190	7257	35700 ST	126/133/137/190	7257	36100
10	87.9	35700 ST	127/133/137/190	7260	35700 ST	127/133/137/190	7260	36100
12	87.8	35700 ST	127/133/137/190	7293	35700 ST	127/133/137/190	7293	36100
14	87.7	35700 ST	127/134/137/190	7325	35700 ST	127/134/137/190	7325	36100
16	87.5	35700 ST	128/134/137/190	7373	35700 ST	128/134/137/190	7373	36100
18	87.3	35700 ST	128/134/137/190	7437	35700 ST	128/134/137/190	8032	35700
20	87.0	35476 -O	128/133/136/190	7468	35700 ST	128/134/137/190	8522	35551
22	86.8	34945 -O	129/132/135/190	7460	35251 -O	129/133/136/190	8529	34888
24	86.5	34418 -O	128/131/134/190	7457	34735 -O	129/132/135/190	8516	34226
26	86.2	33874 -O	126/131/133/190	7445	34194 -O	128/131/134/190	8489	33579
28	86.0	33330 -O	126/130/132/190	7438	33649 -O	127/131/133/190	8467	32950
30	85.7	32803 -O	125/129/131/190	7430	33117 -O	126/129/131/190	8448	32320
32	85.4	32344 -O	124/128/130/190	7427	32662 -O	125/129/131/190	8450	31748
34	85.2	31876 -O	123/127/129/190	7428	32199 -O	124/128/130/190	8451	31177
36	84.9	31420 -O	122/126/128/190	7435	31729 -O	123/127/128/190	8463	30605
38	84.7	30958 -O	121/124/126/190	7443	31253 -O	122/125/126/190	8475	30033
40	84.4	30495 -O	120/122/125/190	7445	30766 -O	120/123/125/190	8473	29462
43	NA	NA CF	NA	NA	NA CF	NA	NA	NA

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+38	+3	+21	+5	
TWD per KT	-257	+2	-272	+3	
QNH per +0.1	+67	+8	+33	+12	+57
QNH per -0.1	NA	NA	NA	NA	-56
ANTI ICE ON	0	+314	0	+1470	-2169
WITHTR	0	0	0	0	0
ROLLING	-553	0	-532	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation X (1-172)
 Engine: AE3007C
 AFM: 75FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 15

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- WITHOUT THRUST REVERSERS
- STATIC TAKEOFF

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	1.20	1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.6	35700 ST	132/133/137/190	7589	35700 ST	132/133/137/190	7589	36100
-15	84.4	35700 ST	132/133/137/190	7548	35700 ST	132/133/137/190	7548	36100
-10	85.2	35700 ST	132/133/137/190	7508	35700 ST	132/133/137/190	7508	36100
-5	86.0	35700 ST	132/133/137/190	7470	35700 ST	132/133/137/190	7470	36100
0	86.8	35700 ST	132/133/137/190	7434	35637 -O	132/133/137/190	7431	36100
2	87.1	35700 ST	132/133/137/190	7421	35578 -O	132/133/137/190	7414	36100
4	87.5	35700 ST	132/133/137/190	7408	35519 -O	132/133/137/190	7398	36100
6	87.8	35700 ST	132/133/137/190	7404	35363 -O	131/133/137/190	7384	36100
8	88.0	35700 ST	132/133/137/190	7410	35113 -O	131/132/136/190	7373	36100
10	87.9	35700 ST	132/133/137/190	7415	34874 -O	131/132/136/190	7361	36100
12	87.8	35700 ST	133/133/137/190	7452	34347 -O	130/131/135/190	7354	36100
14	87.7	35421 FL	133/133/137/190	7463	33857 -O	129/130/134/190	7342	36100
16	87.5	34855 FL	132/132/136/190	7452	33334 -O	128/128/133/190	7332	36100
18	87.3	34270 -O	131/131/135/190	7441	32798 -O	127/127/132/190	7321	35700
20	87.0	33736 -O	130/130/133/190	7424	32291 -O	126/126/131/190	7308	35551
22	86.8	33110 -O	129/129/132/190	7412	31745 -O	125/125/129/190	7299	34888
24	86.5	32557 -O	127/128/131/190	7398	31247 -O	124/124/128/190	7288	34226
26	86.2	32010 -O	126/126/130/190	7383	30736 -O	122/122/126/190	7278	33579
28	86.0	31452 -O	125/125/128/190	7375	30237 -O	121/121/125/190	7269	32950
30	85.7	30965 -O	124/124/127/190	7357	29764 -O	120/120/125/190	7256	32320
32	85.4	30444 -O	122/122/126/190	7359	29256 -O	119/119/124/190	7250	31748
34	85.2	29988 -O	121/121/125/190	7347	28803 -O	118/118/122/190	7240	31177
36	84.9	29468 -O	120/120/124/190	7341	28332 -O	117/117/121/190	7233	30605
38	84.7	28958 -O	119/119/123/190	7330	27862 -O	116/116/120/190	7223	30033
40	84.4	28482 -O	118/118/122/190	7319	27407 -O	115/115/119/190	7212	29462
43	NA	NA CF	NA	NA	NA CF	NA	NA	NA

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+27	0	+31	0	
TWD per KT	-319	0	-218	0	
QNH per +0.1	+59	0	+27	0	+57
QNH per -0.1	NA	NA	NA	NA	-56
ANTI ICE ON	-1879	+147	-2461	0	-2169
WITHTR	0	0	0	0	0
ROLLING	-232	0	-336	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation X (1-172)
 Engine: AE3007C
 AFM: 75FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 5

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- WET RWY
- STATIC TAKEOFF
- WITHOUT THRUST REVERSERS

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	-1.20	-1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.6	35700 ST	124/135/144/190	7381	35700 ST	124/135/144/190	7381	36100
-15	84.4	35475 -O	123/134/144/190	7332	35545 -O	123/135/144/190	7335	36100
-10	85.2	35251 -O	122/134/143/190	7285	35318 -O	122/134/143/190	7287	36100
-5	86.0	35022 -O	121/133/143/190	7240	35087 -O	122/133/143/190	7243	36100
0	86.8	34795 -O	121/133/143/190	7198	34857 -O	121/133/143/190	7200	36100
2	87.1	34711 -O	121/132/142/190	7183	34771 -O	121/133/143/190	7184	36100
4	87.5	34626 -O	120/132/142/190	7167	34686 -O	120/132/142/190	7169	36100
6	87.8	34463 -O	120/132/142/190	7154	34523 -O	120/132/142/190	7156	36100
8	88.0	34227 -O	119/131/141/190	7143	34285 -O	120/132/142/190	7145	36100
10	87.9	34000 -O	119/131/141/190	7132	34058 -O	119/131/141/190	7134	36100
12	87.8	33538 -O	118/130/140/190	7126	33597 -O	119/130/140/190	7128	36100
14	87.7	33093 -O	118/129/139/190	7118	33151 -O	118/129/139/190	7120	36100
16	87.5	32642 -O	117/128/138/190	7111	32698 -O	117/128/138/190	7113	36100
18	87.3	32179 -O	116/127/137/190	7104	32235 -O	117/127/137/190	7106	36100
20	87.0	31735 -O	116/126/135/190	7096	31790 -O	116/126/136/190	7098	36100
22	86.8	31292 -O	115/125/135/190	7092	31347 -O	115/125/135/190	7094	35700
24	86.5	30862 -O	114/124/134/190	7085	30917 -O	114/124/134/190	7087	35260
26	86.2	30435 -O	113/123/132/190	7081	30488 -O	113/123/132/190	7083	34640
28	86.0	30013 -O	112/122/131/190	7075	30067 -O	113/122/131/190	7078	33992
30	85.7	29576 -O	112/121/130/190	7068	29633 -O	112/121/130/190	7070	33344
32	85.4	29161 -O	111/120/129/190	7066	29218 -O	111/120/129/190	7068	32752
34	85.2	28755 -O	110/119/129/190	7060	28812 -O	110/119/129/190	7063	32160
36	84.9	28340 -O	109/118/128/190	7056	28397 -O	110/118/128/190	7059	31564
38	84.7	27922 -O	109/117/127/190	7051	27979 -O	109/118/127/190	7054	30963
40	84.4	27511 -O	108/117/126/190	7045	27566 -O	108/117/126/190	7048	30363
43	NA	NA CF	NA	NA	NA CF	NA	NA	NA

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+48	+2	+48	+2	
TWD per KT	-270	0	-268	0	
QNH per +0.1	+34	+3	+34	+3	+59
QNH per -0.1	NA	NA	NA	NA	-40
ANTI ICE ON	-1993	+51	-1993	+52	-1217
WITHTR	+256	+19	+258	+18	0
ROLLING	-670	-32	-670	-32	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation X (1-172)
 Engine: AE3007C
 AFM: 75FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 5

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- WET RWY
- STATIC TAKEOFF
- WITHOUT THRUST REVERSERS

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	1.20	1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.6	34285 -O	129/132/142/190	7503	33187 -O	125/129/139/190	7457	36100
-15	84.4	34182 -O	128/131/141/190	7459	33039 -O	124/128/139/190	7412	36100
-10	85.2	34075 -O	128/131/141/190	7416	32889 -O	123/128/139/190	7371	36100
-5	86.0	33951 -O	127/131/141/190	7375	32735 -O	123/127/138/190	7330	36100
0	86.8	33798 -O	126/130/141/190	7335	32571 -O	122/127/138/190	7292	36100
2	87.1	33745 -O	126/130/140/190	7321	32526 -O	122/127/138/190	7278	36100
4	87.5	33690 -O	126/130/140/190	7306	32483 -O	122/126/137/190	7264	36100
6	87.8	33542 -O	126/130/140/190	7292	32351 -O	121/126/137/190	7251	36100
8	88.0	33311 -O	125/129/140/190	7280	32134 -O	121/126/136/190	7239	36100
10	87.9	33096 -O	125/128/139/190	7268	31917 -O	120/125/136/190	7227	36100
12	87.8	32575 -O	124/127/138/190	7258	31426 -O	119/124/135/190	7216	36100
14	87.7	32124 -O	123/126/136/190	7247	31013 -O	118/123/134/190	7206	36100
16	87.5	31626 -O	122/125/135/190	7236	30554 -O	118/122/133/190	7196	36100
18	87.3	31125 -O	121/124/134/190	7225	30106 -O	117/121/132/190	7186	36100
20	87.0	30664 -O	120/123/133/190	7214	29685 -O	116/120/130/190	7176	36100
22	86.8	30151 -O	119/122/131/190	7204	29187 -O	115/119/129/190	7165	35700
24	86.5	29662 -O	118/120/130/190	7192	28728 -O	114/118/129/190	7154	35260
26	86.2	29172 -O	117/119/129/190	7181	28268 -O	113/117/128/190	7144	34640
28	86.0	28667 -O	116/118/128/190	7170	27802 -O	112/116/127/190	7133	33992
30	85.7	28213 -O	115/117/127/190	7158	27390 -O	112/115/125/190	7123	33344
32	85.4	27743 -O	114/116/126/190	7149	26957 -O	111/114/124/190	7115	32752
34	85.2	27302 -O	113/115/125/190	7139	26500 -O	110/113/123/190	7106	32160
36	84.9	26850 -O	112/114/124/190	7129	26077 -O	109/112/122/190	7097	31564
38	84.7	26375 -O	111/113/123/190	7122	25669 -O	108/111/121/190	7089	30963
40	84.4	25951 -O	110/112/121/190	7112	25327 -O	107/110/120/190	7080	30363
43	NA	NA CF	NA	NA	NA CF	NA	NA	NA

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+12	0	+12	0	
TWD per KT	-286	0	-273	0	
QNH per +0.1	+12	0	+19	0	+59
QNH per -0.1	NA	NA	NA	NA	-40
ANTI ICE ON	-2312	0	-2038	0	-1217
WITHTR	0	0	0	0	0
ROLLING	-317	0	-429	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation X (1-172)
 Engine: AE3007C
 AFM: 75FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 15

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- WET RWY
- WITHOUT THRUST REVERSERS
- STATIC TAKEOFF

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	-1.20	-1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.6	35700 ST	115/133/137/190	7435	35700 ST	115/133/137/190	7435	36100
-15	84.4	35700 ST	115/133/137/190	7394	35700 ST	115/133/137/190	7394	36100
-10	85.2	35700 ST	115/133/137/190	7354	35700 ST	115/133/137/190	7354	36100
-5	86.0	35700 ST	115/133/137/190	7316	35700 ST	115/133/137/190	7316	36100
0	86.8	35700 ST	115/133/137/190	7280	35700 ST	115/133/137/190	7280	36100
2	87.1	35700 ST	115/133/137/190	7267	35700 ST	115/133/137/190	7267	36100
4	87.5	35700 ST	115/133/137/190	7254	35700 ST	115/133/137/190	7254	36100
6	87.8	35700 ST	115/133/137/190	7249	35700 ST	115/133/137/190	7249	36100
8	88.0	35506 -O	115/133/137/190	7243	35576 -O	115/133/137/190	7246	36100
10	87.9	35248 -O	115/132/136/190	7231	35318 -O	115/132/136/190	7235	36100
12	87.8	34745 -O	114/132/135/190	7227	34812 -O	114/132/136/190	7231	36100
14	87.7	34272 -O	113/131/135/190	7220	34339 -O	114/131/135/190	7224	36100
16	87.5	33785 -O	113/130/134/190	7214	33850 -O	113/130/134/190	7217	36100
18	87.3	33275 -O	112/128/133/190	7208	33340 -O	112/129/133/190	7212	35700
20	87.0	32784 -O	111/127/132/190	7197	32848 -O	111/128/132/190	7200	35551
22	86.8	32303 -O	110/126/131/190	7196	32365 -O	111/127/131/190	7200	34888
24	86.5	31834 -O	110/125/130/190	7188	31895 -O	110/126/130/190	7191	34226
26	86.2	31382 -O	109/124/128/190	7186	31440 -O	109/124/128/190	7191	33579
28	86.0	30932 -O	108/123/127/190	7182	30993 -O	108/124/127/190	7186	32950
30	85.7	30494 -O	107/122/126/190	7177	30552 -O	107/123/126/190	7181	32320
32	85.4	30080 -O	106/121/125/190	7181	30139 -O	107/121/125/190	7187	31748
34	85.2	29655 -O	106/120/124/190	7179	29717 -O	106/120/124/190	7184	31177
36	84.9	29220 -O	105/119/123/190	7178	29282 -O	105/120/124/190	7184	30605
38	84.7	28796 -O	104/119/122/190	7179	28845 -O	105/119/123/190	7183	30033
40	84.4	28383 -O	104/118/121/190	7174	28432 -O	104/118/122/190	7179	29462
43	NA	NA CF	NA	NA	NA CF	NA	NA	NA

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+51	+4	+51	+22	
TWD per KT	-447	0	-431	0	
QNH per +0.1	+69	+5	+69	+5	+57
QNH per -0.1	NA	NA	NA	NA	-56
ANTI ICE ON	-2191	+122	-2195	+128	-2169
WITHTR	+293	+32	+293	+34	0
ROLLING	-687	-14	-676	-10	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation X (1-172)
 Engine: AE3007C
 AFM: 75FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 15

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- WET RWY
- STATIC TAKEOFF
- WITHOUT THRUST REVERSERS

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	1.20	1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.6	35320 -O	124/132/136/190	7581	34175 -O	120/130/134/190	7518	36100
-15	84.4	35217 -O	124/132/136/190	7534	34025 -O	120/129/134/190	7470	36100
-10	85.2	35108 -O	123/132/136/190	7488	33872 -O	119/129/134/190	7426	36100
-5	86.0	34988 -O	123/132/136/190	7444	33712 -O	118/128/133/190	7383	36100
0	86.8	34848 -O	122/132/136/190	7402	33544 -O	118/128/133/190	7341	36100
2	87.1	34800 -O	122/131/136/190	7386	33482 -O	118/128/133/190	7326	36100
4	87.5	34750 -O	122/131/136/190	7371	33421 -O	117/128/133/190	7310	36100
6	87.8	34600 -O	122/131/135/190	7358	33275 -O	117/128/133/190	7297	36100
8	88.0	34359 -O	121/130/135/190	7346	33041 -O	117/127/132/190	7285	36100
10	87.9	34127 -O	121/130/134/190	7334	32814 -O	116/127/132/190	7273	36100
12	87.8	33618 -O	120/129/133/190	7326	32356 -O	115/126/131/190	7265	36100
14	87.7	33120 -O	119/128/132/190	7313	31907 -O	114/125/130/190	7254	36100
16	87.5	32607 -O	118/127/131/190	7303	31451 -O	114/124/128/190	7246	36100
18	87.3	32079 -O	117/125/130/190	7291	30982 -O	113/123/127/190	7235	35700
20	87.0	31564 -O	116/124/129/190	7278	30525 -O	112/122/126/190	7225	35551
22	86.8	31048 -O	115/123/127/190	7268	30065 -O	111/120/125/190	7216	34888
24	86.5	30549 -O	114/122/126/190	7257	29590 -O	110/119/124/190	7206	34226
26	86.2	30051 -O	113/120/125/190	7245	29118 -O	109/118/123/190	7195	33579
28	86.0	29550 -O	112/119/124/190	7236	28655 -O	109/117/122/190	7186	32950
30	85.7	29093 -O	111/118/123/190	7223	28206 -O	108/116/121/190	7175	32320
32	85.4	28657 -O	111/118/122/190	7220	27778 -O	107/115/120/190	7168	31748
34	85.2	28237 -O	110/117/121/190	7212	27356 -O	106/114/119/190	7159	31177
36	84.9	27807 -O	109/116/120/190	7205	26929 -O	106/113/118/190	7150	30605
38	84.7	27368 -O	108/115/119/190	7198	26504 -O	105/112/117/190	7146	30033
40	84.4	26944 -O	108/114/118/190	7186	26098 -O	104/111/116/190	7138	29462
43	NA	NA CF	NA	NA	NA CF	NA	NA	NA

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+40	0	+41	0	
TWD per KT	-218	0	-226	0	
QNH per +0.1	+12	0	+21	0	+57
QNH per -0.1	NA	NA	NA	NA	-56
ANTI ICE ON	-2465	0	-2115	0	-2169
WITHTR	+189	0	+179	0	0
ROLLING	-473	0	-460	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation X (1-172)
 Engine: AE3007C
 AFM: 75FM-11

LANDING PERFORMANCE FLAPS 5/15

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- WITH THRUST REVERSERS

Approach Climb Limits:

Approach Flaps 5										
GRAD	-20	-10	0	10	20	25	30	35	40	43
2.1%	31800	31800	31800	31800	31800	31800	31800	31800	31418	30485
2.5%	31800	31800	31800	31800	31800	31800	31800	31800	30456	29556

Field Length Weight Limits/Distances:

Landing Flaps 15

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	23	NA	NA	27933	7498	27933	5998
	28	NA	NA	27715	7565	27715	6052
	33	NA	NA	27507	7588	27507	6070
	38	NA	NA	27192	7600	27306	6123
	43	NA	NA	26944	7600	27108	6127
0	23	27149	7600	30267	6814	30267	5452
	28	26778	7600	30050	6841	30050	5473
	33	26409	7600	29835	6881	29835	5505
	38	26103	7600	29619	6903	29619	5523
	43	25752	7600	29399	6946	29399	5557
10	23	28404	7600	30996	6679	30996	5344
	28	28021	7600	30772	6725	30772	5380
	33	27646	7600	30553	6765	30553	5412
	38	27320	7600	30339	6784	30339	5427
	43	27025	7600	30128	6883	30128	5507
30	23	30792	7600	31800	6099	31800	4879
	28	30471	7600	31800	6241	31800	4993
	33	30151	7600	31800	6385	31800	5108
	38	29818	7600	31751	6506	31751	5205
	43	29471	7600	30485	6072	30485	4858

RWY: 16
 LDA: 7600FT
 SLOPE: -1.20%
 COND: DRY

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	23	NA	NA	25852	7600	27933	6898
	28	NA	NA	25539	7600	27715	6960
	33	NA	NA	25245	7600	27507	6981
	38	NA	NA	24961	7600	27306	7042
	43	NA	NA	24662	7600	27108	7046
0	23	23444	7600	29793	7600	30267	6269
	28	23084	7600	29456	7600	30050	6294
	33	NA	NA	29132	7600	29835	6331
	38	NA	NA	28775	7600	29619	6351
	43	NA	NA	28412	7600	29399	6390
10	23	24848	7600	30846	7600	30996	6145
	28	24473	7600	30536	7600	30772	6187
	33	24112	7600	30230	7600	30553	6224
	38	23757	7600	29929	7600	30339	6241
	43	23411	7600	29598	7600	30128	6333
30	23	27710	7600	31800	7014	31800	5611
	28	27297	7600	31800	7177	31800	5741
	33	26897	7600	31800	7343	31800	5874
	38	26506	7600	31751	7482	31751	5986
	43	26125	7600	30485	6982	30485	5586

RWY: 16
 LDA: 7600FT
 SLOPE: -1.20%
 COND: Wet [115%]

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation X (1-172)
 Engine: AE3007C
 AFM: 75FM-11

LANDING PERFORMANCE FLAPS 5/15

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- WITH THRUST REVERSERS

Approach Climb Limits:

Approach Flaps 5										
GRAD	-20	-10	0	10	20	25	30	35	40	43
2.1%	31800	31800	31800	31800	31800	31800	31800	31800	31418	30485
2.5%	31800	31800	31800	31800	31800	31800	31800	31800	30456	29556

Field Length Weight Limits/Distances:

Landing Flaps 15

RWY: 34
 LDA: 7600FT
 SLOPE: 1.20%
 COND: DRY

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	23	27535	7600	29382	6410	29382	5128
	28	27243	7600	29151	6472	29151	5177
	33	26967	7600	28919	6542	28919	5234
	38	26667	7600	28689	6572	28689	5257
	43	26387	7600	28463	6614	28463	5291
0	23	30922	7600	31536	6002	31536	4802
	28	30628	7600	31320	6040	31320	4832
	33	30342	7600	31100	6072	31100	4858
	38	30066	7600	30885	6106	30885	4885
	43	29759	7600	30485	6037	30485	4830
10	23	31800	7538	31800	5654	31800	4523
	28	31596	7600	31800	5777	31800	4621
	33	31296	7600	31770	5915	31770	4732
	38	31021	7600	31594	5983	31594	4786
	43	30485	7441	30485	5581	30485	4465
30	23	31800	6487	31800	4865	31800	3892
	28	31800	6632	31800	4974	31800	3979
	33	31800	6780	31800	5085	31800	4068
	38	31800	6925	31800	5194	31800	4155
	43	30485	6443	30485	4832	30485	3866

RWY: 34
 LDA: 7600FT
 SLOPE: 1.20%
 COND: Wet [115%]

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	23	25200	7600	29382	7371	29382	5897
	28	24894	7600	29151	7442	29151	5954
	33	24549	7600	28919	7523	28919	6019
	38	24275	7600	28689	7557	28689	6046
	43	24038	7600	28453	7600	28463	6085
0	23	28869	7600	31536	6902	31536	5522
	28	28492	7600	31320	6945	31320	5556
	33	28142	7600	31100	6983	31100	5587
	38	27815	7600	30885	7022	30885	5618
	43	27505	7600	30485	6942	30485	5554
10	23	30021	7600	31800	6502	31800	5201
	28	29675	7600	31800	6643	31800	5314
	33	29347	7600	31770	6802	31770	5442
	38	29042	7600	31594	6880	31594	5504
	43	28686	7600	30485	6418	30485	5134
30	23	31800	7459	31800	5595	31800	4476
	28	31749	7600	31800	5720	31800	4576
	33	31431	7600	31800	5848	31800	4678
	38	31138	7600	31800	5973	31800	4778
	43	30485	7409	30485	5557	30485	4446

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation X (1-172)
 Engine: AE3007C
 AFM: 75FM-11

LANDING PERFORMANCE FLAPS 15/FULL

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- WITH THRUST REVERSERS

Approach Climb Limits:

Approach Flaps 15										
GRAD	-20	-10	0	10	20	25	30	35	40	43
2.1%	31800	31800	31800	31800	31800	31800	31800	31686	30238	29357
2.5%	31800	31800	31800	31800	31800	31800	31800	30774	29370	28516

Field Length Weight Limits/Distances:

Landing Flaps FULL

RWY: 16
 LDA: 7600FT
 SLOPE: -1.20%
 COND: DRY

	WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
			WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
	-10	23	24369	7600	29846	7441	29846	5953
		28	24024	7600	29648	7505	29648	6004
		33	23683	7600	29443	7535	29443	6028
		38	23353	7600	29234	7585	29234	6068
		43	23036	7600	29027	7595	29027	6076
	0	23	29199	7600	31800	6825	31800	5460
		28	28835	7600	31712	6930	31712	5544
		33	28400	7600	31522	6982	31522	5586
		38	28041	7600	30817	6730	30817	5384
		43	27662	7600	29357	6170	29357	4936
	10	23	30319	7600	31800	6337	31800	5070
		28	30040	7600	31800	6477	31800	5182
		33	29686	7600	31800	6619	31800	5295
		38	29368	7600	30817	6261	30817	5009
		43	29110	7600	29357	5768	29357	4615
	30	23	31800	7338	31800	5504	31800	4403
		28	31800	7491	31800	5619	31800	4495
		33	31713	7600	31800	5734	31800	4587
		38	30817	7249	30817	5437	30817	4349
		43	29357	6876	29357	5157	29357	4126

RWY: 16
 LDA: 7600FT
 SLOPE: -1.20%
 COND: Wet [115%]

	WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
			WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
	-10	23	NA	NA	27742	7600	29846	6846
		28	NA	NA	27432	7600	29648	6904
		33	NA	NA	27140	7600	29443	6933
		38	NA	NA	26846	7600	29234	6979
		43	NA	NA	26554	7600	29027	6988
	0	23	25406	7600	31377	7600	31800	6279
		28	25052	7600	31103	7600	31712	6376
		33	24705	7600	30830	7600	31522	6424
		38	24369	7600	30576	7600	30817	6191
		43	24042	7600	29357	7096	29357	5677
	10	23	26796	7600	31800	7288	31800	5830
		28	26423	7600	31800	7449	31800	5959
		33	26062	7600	31780	7600	31800	6089
		38	25709	7600	30817	7201	30817	5761
		43	25370	7600	29357	6633	29357	5307
	30	23	29771	7600	31800	6329	31800	5064
		28	29380	7600	31800	6461	31800	5169
		33	29004	7600	31800	6594	31800	5275
		38	28535	7600	30817	6252	30817	5002
		43	28078	7600	29357	5930	29357	4744

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation X (1-172)
 Engine: AE3007C
 AFM: 75FM-11

LANDING PERFORMANCE FLAPS 15/FULL

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- WITH THRUST REVERSERS

Approach Climb Limits:

Approach Flaps 15										
GRAD	-20	-10	0	10	20	25	30	35	40	43
2.1%	31800	31800	31800	31800	31800	31800	31800	31686	30238	29357
2.5%	31800	31800	31800	31800	31800	31800	31800	30774	29370	28516

Field Length Weight Limits/Distances:

Landing Flaps FULL

RWY: 34
 LDA: 7600FT
 SLOPE: 1.20%
 COND: DRY

	WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
			WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
	-10	23	29320	7600	31175	6625	31175	5300
		28	29045	7600	30976	6660	30976	5328
		33	28708	7600	30782	6694	30782	5355
		38	28377	7600	30589	6719	30589	5375
		43	28070	7600	29357	6158	29357	4926
	0	23	31800	7299	31800	5474	31800	4380
		28	31800	7462	31800	5597	31800	4478
		33	31755	7600	31800	5720	31800	4576
		38	30817	7183	30817	5388	30817	4310
		43	29357	6594	29357	4945	29357	3956
	10	23	31800	6791	31800	5093	31800	4075
		28	31800	6935	31800	5202	31800	4161
		33	31800	7081	31800	5311	31800	4249
		38	30817	6698	30817	5024	30817	4019
		43	29357	6175	29357	4631	29357	3705
	30	23	31800	5933	31800	4450	31800	3560
		28	31800	6049	31800	4537	31800	3630
		33	31800	6167	31800	4625	31800	3700
		38	30817	5866	30817	4399	30817	3520
		43	29357	5600	29357	4200	29357	3360

RWY: 34
 LDA: 7600FT
 SLOPE: 1.20%
 COND: Wet [115%]

	WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
			WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
	-10	23	26826	7600	31149	7600	31175	6095
		28	26481	7600	30892	7600	30976	6127
		33	26205	7600	30646	7600	30782	6159
		38	25939	7600	30408	7600	30589	6181
		43	25578	7600	29357	7082	29357	5665
	0	23	30472	7600	31800	6296	31800	5037
		28	30199	7600	31800	6436	31800	5149
		33	29926	7600	31800	6578	31800	5263
		38	29615	7600	30817	6196	30817	4957
		43	29357	7583	29357	5687	29357	4550
	10	23	31415	7600	31800	5857	31800	4686
		28	31141	7600	31800	5982	31800	4786
		33	30872	7600	31800	6107	31800	4886
		38	30623	7600	30817	5777	30817	4622
		43	29357	7101	29357	5326	29357	4261
	30	23	31800	6823	31800	5117	31800	4094
		28	31800	6957	31800	5218	31800	4174
		33	31800	7092	31800	5319	31800	4255
		38	30817	6746	30817	5059	30817	4048
		43	29357	6440	29357	4830	29357	3864

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Falcon 2000
 Engine: CFE 738-1-1B
 AFM: DTM537 Revision 16
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 10

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- NO OPTIONS SELECTED

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	-1.20	-1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.1	36500 ST	126/129/132/169	6440	36500 ST	126/129/132/169	6440	36500
-15	83.9	36500 ST	126/129/132/169	6440	36500 ST	126/129/132/169	6440	36500
-10	84.7	36500 ST	126/129/132/169	6440	36500 ST	126/129/132/169	6440	36500
-5	85.5	36500 ST	126/129/132/169	6440	36500 ST	126/129/132/169	6440	36500
0	86.3	36500 ST	126/129/132/169	6440	36500 ST	126/129/132/169	6440	36500
2	86.7	36500 ST	126/129/132/169	6440	36500 ST	126/129/132/169	6440	36500
4	87.0	36500 ST	126/129/132/169	6440	36500 ST	126/129/132/169	6440	36500
6	87.3	36500 ST	126/129/132/169	6440	36500 ST	126/129/132/169	6440	36500
8	87.5	36500 ST	126/129/132/169	6440	36500 ST	126/129/132/169	6440	36500
10	87.5	36500 ST	126/129/132/169	6440	36500 ST	126/129/132/169	6440	36500
12	87.3	36500 ST	126/129/132/169	6440	36500 ST	126/129/132/169	6440	36500
14	86.9	36500 ST	126/129/132/169	6440	36500 ST	126/129/132/169	6440	36500
16	86.6	36500 ST	126/129/132/169	6440	36500 ST	126/129/132/169	6440	36500
18	86.2	36500 ST	126/129/132/169	6440	36500 ST	126/129/132/169	6440	36500
20	85.8	36500 ST	127/129/132/169	6440	36500 ST	127/129/132/169	6440	36500
22	85.5	35893 -O	126/128/130/167	6440	35951 -O	126/128/131/167	6440	36500
24	85.1	35405 -O	125/127/130/166	6440	35462 -O	126/127/130/166	6440	36500
26	84.7	34822 -O	125/126/128/165	6440	34877 -O	125/126/129/165	6440	36500
28	84.4	34238 -O	124/125/127/163	6440	34287 -O	124/125/128/163	6440	36500
30	84.0	33753 FP	123/124/127/162	6440	33753 FP	123/124/127/162	6440	36090
32	83.6	33037 FP	121/122/125/160	6440	33037 FP	121/122/125/160	6440	35380
34	83.3	32361 FP	120/121/124/159	6440	32361 FP	120/121/124/159	6440	34651
36	82.9	31628 FP	119/120/123/157	6440	31628 FP	119/120/123/157	6440	33925
38	82.6	30939 FP	118/119/121/155	6440	30939 FP	118/119/121/155	6440	33204
40	82.2	30288 FP	117/117/120/154	6440	30288 FP	117/117/120/154	6440	32480
41	82.1	29950 FP	116/117/119/153	6440	29950 FP	116/117/119/153	6440	32117

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+32	0	+32	0	
TWD per KT	-286	0	-279	0	
QNH per +0.1	+93	0	+93	0	+101
QNH per -0.1	-119	0	-120	0	-112
TRINOP	0	0	0	0	0
ANTI ICE ON	-2134	0	-2134	0	-390

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Falcon 2000
 Engine: CFE 738-1-1B
 AFM: DTM537 Revision 16
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 10

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- NO OPTIONS SELECTED

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	1.20	1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.1	34504 FL	125/125/128/164	6440	34476 -O	125/125/128/164	6440	36500
-15	83.9	34222 FL	125/125/127/163	6440	34222 FL	125/125/127/163	6440	36500
-10	84.7	33925 FL	124/124/127/163	6440	33925 FL	124/124/127/163	6440	36500
-5	85.5	33629 FL	124/124/126/162	6440	33629 FL	124/124/126/162	6440	36500
0	86.3	33340 FL	123/123/126/161	6440	33340 FL	123/123/126/161	6440	36500
2	86.7	33168 FL	123/123/125/161	6440	33168 FL	123/123/125/161	6440	36500
4	87.0	33004 FL	122/122/125/160	6440	33004 FL	122/122/125/160	6440	36500
6	87.3	32842 FL	122/122/125/160	6440	32842 FL	122/122/125/160	6440	36500
8	87.5	32678 FL	122/122/125/160	6440	32678 FL	122/122/125/160	6440	36500
10	87.5	32516 FL	121/121/124/159	6440	32516 FL	121/121/124/159	6440	36500
12	87.3	32284 FL	121/121/124/159	6440	32284 FL	121/121/124/159	6440	36500
14	86.9	32061 FL	121/121/123/158	6440	32061 FL	121/121/123/158	6440	36500
16	86.6	31766 FL	120/120/123/157	6440	31766 FL	120/120/123/157	6440	36500
18	86.2	31411 FL	119/119/122/157	6440	31411 FL	119/119/122/157	6440	36500
20	85.8	31058 FL	119/119/121/156	6440	31058 FL	119/119/121/156	6440	36500
22	85.5	30652 FL	118/118/121/155	6440	30652 FL	118/118/121/155	6440	36500
24	85.1	30258 FL	117/117/120/154	6440	30258 FL	117/117/120/154	6440	36500
26	84.7	29858 FL	116/116/119/153	6440	29858 FL	116/116/119/153	6440	36500
28	84.4	29459 FL	116/116/118/152	6440	29459 FL	116/116/118/152	6440	36500
30	84.0	29078 FL	115/115/117/151	6440	29078 FL	115/115/117/151	6440	36090
32	83.6	28657 FL	114/114/117/150	6440	28657 FL	114/114/117/150	6440	35380
34	83.3	28272 FL	113/113/116/149	6440	28272 FL	113/113/116/149	6440	34651
36	82.9	27870 FL	112/112/115/148	6440	27870 FL	112/112/115/148	6440	33925
38	82.6	27475 FL	112/112/114/147	6440	27475 FL	112/112/114/147	6440	33204
40	82.2	27094 FL	111/111/113/146	6440	27094 FL	111/111/113/146	6440	32480
41	82.1	26877 FL	110/110/113/145	6440	26877 FL	110/110/113/145	6440	32117

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+67	0	+61	0	
TWD per KT	-129	0	-129	0	
QNH per +0.1	+52	0	+42	0	+101
QNH per -0.1	-103	0	-103	0	-112
TRINOP	0	0	0	0	0
ANTI ICE ON	-651	0	-999	0	-390

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Falcon 2000
 Engine: CFE 738-1-1B
 AFM: DTM537 Revision 16
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 20

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- NO OPTIONS SELECTED

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	-1.20	-1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.1	36500 ST	121/124/126/169	6440	36500 ST	121/124/126/169	6440	36500
-15	83.9	36500 ST	121/124/126/169	6440	36500 ST	121/124/126/169	6440	36500
-10	84.7	36500 ST	121/124/126/169	6440	36500 ST	121/124/126/169	6440	36500
-5	85.5	36500 ST	121/124/126/169	6440	36500 ST	121/124/126/169	6440	36500
0	86.3	36379 FP	121/124/126/168	6440	36379 FP	121/124/126/168	6440	36500
2	86.7	36319 FP	121/124/126/168	6440	36319 FP	121/124/126/168	6440	36500
4	87.0	36257 FP	120/123/126/168	6440	36257 FP	120/123/126/168	6440	36500
6	87.3	36195 FP	120/123/126/168	6440	36195 FP	120/123/126/168	6440	36500
8	87.5	36135 FP	120/123/126/168	6440	36135 FP	120/123/126/168	6440	36500
10	87.5	36075 FP	120/123/126/168	6440	36075 FP	120/123/126/168	6440	36500
12	87.3	36011 FP	120/123/126/168	6440	36011 FP	120/123/126/168	6440	36500
14	86.9	35949 FP	120/123/126/167	6440	35949 FP	120/123/126/167	6440	36500
16	86.6	35633 FP	119/122/125/167	6440	35633 FP	119/122/125/167	6440	36500
18	86.2	35103 FP	118/121/124/165	6440	35103 FP	118/121/124/165	6440	36500
20	85.8	34605 FP	117/121/123/164	6440	34605 FP	117/121/123/164	6440	36500
22	85.5	34089 FP	116/120/122/163	6440	34089 FP	116/120/122/163	6440	36273
24	85.1	33483 FP	116/119/121/162	6440	33483 FP	116/119/121/162	6440	35635
26	84.7	32848 FP	115/117/120/160	6440	32848 FP	115/117/120/160	6440	34996
28	84.4	32214 FP	113/116/119/158	6440	32214 FP	113/116/119/158	6440	34357
30	84.0	31627 FP	112/115/118/157	6440	31627 FP	112/115/118/157	6440	33716
32	83.6	30974 FP	111/114/117/155	6440	30974 FP	111/114/117/155	6440	33065
34	83.3	30311 FP	110/113/115/154	6440	30311 FP	110/113/115/154	6440	32411
36	82.9	29679 FP	109/111/114/152	6440	29679 FP	109/111/114/152	6440	31754
38	82.6	29031 FP	108/110/113/151	6440	29031 FP	108/110/113/151	6440	31057
40	82.2	28353 FP	107/109/112/149	6440	28353 FP	107/109/112/149	6440	30348
41	82.1	27994 FP	106/108/111/148	6440	27994 FP	106/108/111/148	6440	29993

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+31	0	+31	0	
TWD per KT	-110	0	-110	0	
QNH per +0.1	+11	0	+11	0	+96
QNH per -0.1	-114	0	-114	0	-113
TRINOP	0	0	0	0	0
ANTI ICE ON	-3973	0	-3973	0	-2768

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Falcon 2000
 Engine: CFE 738-1-1B
 AFM: DTM537 Revision 16
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 20

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- NO OPTIONS SELECTED

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	1.20	1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.1	36030 FL	123/123/126/168	6440	34436 -O	120/120/123/164	6440	36500
-15	83.9	35755 FL	123/123/125/167	6440	34325 -O	120/120/123/164	6440	36500
-10	84.7	35496 FL	122/122/125/166	6440	34207 -O	120/120/122/163	6440	36500
-5	85.5	35240 FL	122/122/124/166	6440	34075 -O	120/120/122/163	6440	36500
0	86.3	34994 FL	121/121/124/165	6440	33937 -O	119/119/122/163	6440	36500
2	86.7	34840 FL	121/121/124/165	6440	33852 -O	119/119/122/162	6440	36500
4	87.0	34688 FL	121/121/123/164	6440	33764 -O	119/119/122/162	6440	36500
6	87.3	34533 FL	120/120/123/164	6440	33675 -O	119/119/122/162	6440	36500
8	87.5	34377 FL	120/120/123/164	6440	33585 -O	119/119/121/162	6440	36500
10	87.5	34223 FL	120/120/123/163	6440	33495 -O	119/119/121/162	6440	36500
12	87.3	34001 FL	119/119/122/163	6440	33368 -O	118/118/121/161	6440	36500
14	86.9	33787 FL	119/119/122/162	6440	33240 -O	118/118/121/161	6440	36500
16	86.6	33477 FL	119/119/121/162	6440	32964 -O	118/118/120/160	6440	36500
18	86.2	33075 FL	118/118/120/161	6440	32547 -O	117/117/119/159	6440	36500
20	85.8	32706 FL	117/117/120/160	6440	32144 -O	116/116/119/158	6440	36500
22	85.5	32258 FL	116/116/119/159	6440	31700 -O	115/115/118/157	6440	36273
24	85.1	31842 FL	116/116/118/158	6440	31241 -O	114/114/117/156	6440	35635
26	84.7	31413 FL	115/115/117/157	6440	30768 -O	114/114/116/155	6440	34996
28	84.4	30980 FL	114/114/117/155	6440	30299 -O	113/113/115/154	6440	34357
30	84.0	30555 FL	113/113/116/154	6440	29835 -O	112/112/114/153	6440	33716
32	83.6	30024 FL	112/112/115/153	6440	29343 -O	111/111/113/151	6440	33065
34	83.3	29615 FL	111/111/114/152	6440	28870 -O	110/110/113/150	6440	32411
36	82.9	29150 FL	110/110/113/151	6440	28353 -O	109/109/112/149	6440	31754
38	82.6	28641 FL	109/109/112/150	6440	27827 -O	108/108/111/148	6440	31057
40	82.2	28279 FL	109/109/111/149	6440	27360 -O	107/107/110/146	6440	30348
41	82.1	27930 FL	108/108/111/148	6440	27059 -O	106/106/109/145	6440	29993

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+47	0	+45	0	
TWD per KT	-309	0	-251	0	
QNH per +0.1	+39	0	+22	0	+96
QNH per -0.1	-108	0	-104	0	-113
TRINOP	0	0	0	0	0
ANTI ICE ON	-1413	0	-2435	0	-2768

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Falcon 2000
 Engine: CFE 738-1-1B
 AFM: DTM537 Revision 16
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 10

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- WET RWY

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	-1.20	-1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.1	36500 ST	114/129/132/169	6440	36500 ST	114/129/132/169	6440	36500
-15	83.9	36500 ST	114/129/132/169	6440	36500 ST	114/129/132/169	6440	36500
-10	84.7	36500 ST	114/129/132/169	6440	36500 ST	114/129/132/169	6440	36500
-5	85.5	36500 ST	114/129/132/169	6440	36500 ST	114/129/132/169	6440	36500
0	86.3	36500 ST	114/129/132/169	6440	36500 ST	114/129/132/169	6440	36500
2	86.7	36500 ST	114/129/132/169	6440	36500 ST	114/129/132/169	6440	36500
4	87.0	36500 ST	114/129/132/169	6440	36500 ST	114/129/132/169	6440	36500
6	87.3	36500 ST	114/129/132/169	6440	36500 ST	114/129/132/169	6440	36500
8	87.5	36379 -O	114/129/131/168	6440	36478 -O	114/129/131/169	6440	36500
10	87.5	36229 -O	114/128/131/168	6440	36326 -O	114/128/131/168	6440	36500
12	87.3	36033 -O	113/128/131/168	6440	36128 -O	113/128/131/168	6440	36500
14	86.9	35840 -O	113/128/130/167	6440	35933 -O	113/128/131/167	6440	36500
16	86.6	35535 -O	112/127/130/166	6440	35625 -O	113/127/130/167	6440	36500
18	86.2	35146 -O	112/126/129/166	6440	35236 -O	112/127/129/166	6440	36500
20	85.8	34778 -O	111/126/128/165	6440	34866 -O	112/126/129/165	6440	36500
22	85.5	34339 -O	111/125/128/164	6440	34427 -O	111/125/128/164	6440	36500
24	85.1	33911 -O	110/124/127/163	6440	34003 -O	110/124/127/163	6440	36500
26	84.7	33454 -O	110/123/126/161	6440	33545 -O	110/123/126/162	6440	36500
28	84.4	32990 -O	109/122/125/160	6440	33080 -O	109/123/125/161	6440	36500
30	84.0	32558 -O	108/122/124/159	6440	32648 -O	109/122/124/160	6440	36090
32	83.6	32070 -O	108/121/123/158	6440	32159 -O	108/121/124/158	6440	35380
34	83.3	31605 -O	107/120/122/157	6440	31695 -O	107/120/123/157	6440	34651
36	82.9	31123 -O	107/119/122/156	6440	31209 -O	107/119/122/156	6440	33925
38	82.6	30660 -O	106/118/121/155	6440	30747 -O	106/118/121/155	6440	33204
40	82.2	30211 -O	105/117/120/154	6440	30257 FP	106/117/120/154	6440	32480
41	82.1	29923 FP	105/117/119/153	6440	29923 FP	105/117/119/153	6440	32117

Corrections		LBS	FT	LBS	FT	LBS
HWD	per KT	+33	0	+33	0	
TWD	per KT	-608	0	-589	0	
QNH	per +0.1	+83	0	+84	0	+101
QNH	per -0.1	-112	0	-113	0	-112
	TRINOP	0	0	0	0	0
	ANTI ICE ON	-1919	0	-2016	0	-390

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Falcon 2000
 Engine: CFE 738-1-1B
 AFM: DTM537 Revision 16
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 10

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- WET RWY

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	1.20	1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.1	34504 FL	124/129/132/169	6440	34476 -O	122/128/130/167	6440	36500
-15	83.9	34222 FL	123/128/131/168	6440	34222 FL	121/127/130/167	6440	36500
-10	84.7	33925 FL	122/128/131/168	6440	33925 FL	121/127/130/166	6440	36500
-5	85.5	33629 FL	122/127/130/167	6440	33629 FL	121/127/129/166	6440	36500
0	86.3	33340 FL	121/127/130/166	6440	33340 FL	120/126/129/165	6440	36500
2	86.7	33168 FL	121/127/129/166	6440	33168 FL	120/126/129/165	6440	36500
4	87.0	33004 FL	120/126/129/165	6440	33004 FL	120/126/129/165	6440	36500
6	87.3	32842 FL	120/126/129/165	6440	32842 FL	119/126/128/165	6440	36500
8	87.5	32678 FL	119/126/128/165	6440	32678 FL	119/125/128/164	6440	36500
10	87.5	32516 FL	119/125/128/164	6440	32516 FL	119/125/128/164	6440	36500
12	87.3	32284 FL	119/125/128/164	6440	32284 FL	118/125/128/164	6440	36500
14	86.9	32061 FL	118/125/127/163	6440	32061 FL	118/125/127/163	6440	36500
16	86.6	31766 FL	117/124/127/163	6440	31766 FL	117/124/127/163	6440	36500
18	86.2	31411 FL	117/123/126/162	6440	31411 FL	117/123/126/162	6440	36500
20	85.8	31058 FL	116/123/126/161	6440	31058 FL	116/123/125/161	6440	36500
22	85.5	30652 FL	116/122/125/160	6440	30652 FL	115/122/125/160	6440	36500
24	85.1	30258 FL	115/121/124/159	6440	30258 FL	115/121/124/159	6440	36500
26	84.7	29858 FL	114/120/123/158	6440	29858 FL	114/120/123/158	6440	36500
28	84.4	29459 FL	114/120/122/157	6440	29459 FL	113/119/122/157	6440	36500
30	84.0	29078 FL	113/119/122/156	6440	29078 FL	113/119/121/155	6440	36090
32	83.6	28657 FL	113/118/121/155	6440	28657 FL	112/118/120/154	6440	35380
34	83.3	28272 FL	112/117/120/154	6440	28272 FL	111/117/119/153	6440	34651
36	82.9	27870 FL	111/116/119/153	6440	27870 FL	110/116/118/152	6440	33925
38	82.6	27475 FL	111/116/118/152	6440	27475 FL	110/115/117/151	6440	33204
40	82.2	27094 FL	111/115/117/151	6440	27094 FL	109/114/116/149	6440	32480
41	82.1	26877 FL	110/114/117/150	6440	26877 FL	108/113/116/149	6440	32117

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+67	0	+61	0	
TWD per KT	-598	0	-598	0	
QNH per +0.1	+52	0	+42	0	+101
QNH per -0.1	-103	0	-103	0	-112
TRINOP	0	0	0	0	0
ANTI ICE ON	-651	0	-999	0	-390

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Falcon 2000
 Engine: CFE 738-1-1B
 AFM: DTM537 Revision 16
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 20

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- WET RWY

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	-1.20	-1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.1	36500 ST	108/124/126/169	6440	36500 ST	108/124/126/169	6440	36500
-15	83.9	36500 ST	108/124/126/169	6440	36500 ST	108/124/126/169	6440	36500
-10	84.7	36500 ST	109/124/126/169	6440	36500 ST	109/124/126/169	6440	36500
-5	85.5	36451 FP	109/124/126/169	6440	36451 FP	109/124/126/169	6440	36500
0	86.3	36315 FP	108/124/126/168	6440	36315 FP	108/124/126/168	6440	36500
2	86.7	36253 FP	108/123/126/168	6440	36253 FP	108/123/126/168	6440	36500
4	87.0	36193 FP	108/123/126/168	6440	36193 FP	108/123/126/168	6440	36500
6	87.3	36131 FP	108/123/126/168	6440	36131 FP	108/123/126/168	6440	36500
8	87.5	36072 FP	108/123/126/168	6440	36072 FP	108/123/126/168	6440	36500
10	87.5	36011 FP	108/123/126/168	6440	36011 FP	108/123/126/168	6440	36500
12	87.3	35950 FP	108/123/126/167	6440	35950 FP	108/123/126/167	6440	36500
14	86.9	35889 FP	108/123/125/167	6440	35889 FP	108/123/125/167	6440	36500
16	86.6	35577 FP	107/122/125/167	6440	35577 FP	107/122/125/167	6440	36500
18	86.2	35054 FP	106/121/124/165	6440	35054 FP	106/121/124/165	6440	36500
20	85.8	34554 FP	105/120/123/164	6440	34554 FP	105/120/123/164	6440	36500
22	85.5	34044 FP	105/120/122/163	6440	34044 FP	105/120/122/163	6440	36273
24	85.1	33435 FP	104/118/121/161	6440	33435 FP	104/118/121/161	6440	35635
26	84.7	32800 FP	102/117/120/160	6440	32800 FP	102/117/120/160	6440	34996
28	84.4	32174 FP	101/116/119/158	6440	32174 FP	101/116/119/158	6440	34357
30	84.0	31585 FP	101/115/118/157	6440	31585 FP	101/115/118/157	6440	33716
32	83.6	30934 FP	101/114/116/155	6440	30934 FP	101/114/116/155	6440	33065
34	83.3	30273 FP	100/113/115/154	6440	30273 FP	100/113/115/154	6440	32411
36	82.9	29642 FP	100/111/114/152	6440	29642 FP	100/111/114/152	6440	31754
38	82.6	28991 FP	100/110/113/150	6440	28991 FP	100/110/113/150	6440	31057
40	82.2	28300 FP	100/109/111/149	6440	28300 FP	100/109/111/149	6440	30348
41	82.1	27949 FP	100/108/111/148	6440	27949 FP	100/108/111/148	6440	29993

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+32	0	+32	0	
TWD per KT	NA	NA	NA	NA	
QNH per +0.1	+12	0	+12	0	+96
QNH per -0.1	-114	0	-114	0	-113
TRINOP	0	0	0	0	0
ANTI ICE ON	-3945	0	-3945	0	-2768

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Falcon 2000
 Engine: CFE 738-1-1B
 AFM: DTM537 Revision 16
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 20

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- WET RWY

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	1.20	1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.1	36030 FL	117/124/126/169	6440	34436 -O	114/122/124/166	6440	36500
-15	83.9	35755 FL	117/124/126/169	6440	34325 -O	114/121/124/165	6440	36500
-10	84.7	35496 FL	118/124/126/169	6440	34207 -O	113/121/124/165	6440	36500
-5	85.5	35240 FL	118/124/126/169	6440	34075 -O	113/121/124/165	6440	36500
0	86.3	34994 FL	117/123/126/168	6440	33937 -O	113/121/123/165	6440	36500
2	86.7	34840 FL	117/123/126/168	6440	33852 -O	113/121/123/164	6440	36500
4	87.0	34688 FL	116/123/125/167	6440	33764 -O	112/120/123/164	6440	36500
6	87.3	34533 FL	116/123/125/167	6440	33675 -O	112/120/123/164	6440	36500
8	87.5	34377 FL	116/122/125/167	6440	33585 -O	112/120/123/164	6440	36500
10	87.5	34223 FL	115/122/125/166	6440	33495 -O	112/120/123/164	6440	36500
12	87.3	34001 FL	115/122/124/166	6440	33368 -O	112/120/123/163	6440	36500
14	86.9	33787 FL	114/121/124/165	6440	33240 -O	111/120/122/163	6440	36500
16	86.6	33477 FL	113/121/123/165	6440	32964 -O	111/119/122/163	6440	36500
18	86.2	33075 FL	113/120/123/164	6440	32547 -O	110/119/121/162	6440	36500
20	85.8	32706 FL	112/120/122/163	6440	32144 -O	109/118/120/161	6440	36500
22	85.5	32258 FL	111/119/121/162	6440	31700 -O	109/117/120/159	6440	36273
24	85.1	31842 FL	111/118/121/161	6440	31241 -O	108/116/119/158	6440	35635
26	84.7	31413 FL	110/117/120/160	6440	30768 -O	107/115/118/157	6440	34996
28	84.4	30980 FL	110/116/119/159	6440	30299 -O	106/114/117/156	6440	34357
30	84.0	30555 FL	109/116/118/158	6440	29835 -O	105/113/116/155	6440	33716
32	83.6	30024 FL	108/115/117/157	6440	29343 -O	104/112/115/153	6440	33065
34	83.3	29615 FL	108/114/117/155	6440	28870 -O	103/111/114/152	6440	32411
36	82.9	29150 FL	107/113/116/154	6440	28353 -O	102/110/112/150	6440	31754
38	82.6	28641 FL	106/112/114/153	6440	27827 -O	100/108/111/148	6440	31057
40	82.2	28279 FL	105/111/113/151	6440	27360 -O	100/107/110/147	6440	30348
41	82.1	27930 FL	104/110/112/150	6440	27059 -O	100/106/109/146	6440	29993

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+45	0	+45	0	
TWD per KT	NA	NA	NA	NA	
QNH per +0.1	+39	0	+22	0	+96
QNH per -0.1	-108	0	-104	0	-113
TRINOP	0	0	0	0	0
ANTI ICE ON	-1413	0	-2435	0	-2768

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



LANDING PERFORMANCE FLAPS 40

Configuration:

- NO OPTIONS SELECTED

Approach Climb Limits:

GRAD	-20	-10	0	10	20	25	30	35	40	41
2.1%	34500	34500	34500	34500	34500	34500	34500	34500	33000	32918

Field Length Weight Limits/Distances:

RWY: 16
 LDA: 7600FT
 SLOPE: -1.20%
 COND: DRY

	WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
			WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
	-10	1	33000	6728	33000	5046	33000	4037
		11	33000	6728	33000	5046	33000	4037
		21	33000	6728	33000	5046	33000	4037
		31	33000	6728	33000	5046	33000	4037
		41	32918	6715	32918	5036	32918	4029
	0	1	33000	5852	33000	4389	33000	3512
		11	33000	5852	33000	4389	33000	3512
		21	33000	5852	33000	4389	33000	3512
		31	33000	5852	33000	4389	33000	3512
		41	32918	5840	32918	4380	32918	3504
	10	1	33000	5589	33000	4192	33000	3354
		11	33000	5589	33000	4192	33000	3354
		21	33000	5589	33000	4192	33000	3354
		31	33000	5589	33000	4192	33000	3354
		41	32918	5577	32918	4183	32918	3346
	50	1	33000	4537	33000	3403	33000	2722
		11	33000	4537	33000	3403	33000	2722
		21	33000	4537	33000	3403	33000	2722
		31	33000	4537	33000	3403	33000	2722
		41	32918	4526	32918	3395	32918	2716

RWY: 16
 LDA: 7600FT
 SLOPE: -1.20%
 COND: Wet [115%]

	WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
			WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
	-10	1	32291	7600	33000	5803	33000	4643
		11	32291	7600	33000	5803	33000	4643
		21	32291	7600	33000	5803	33000	4643
		31	32291	7600	33000	5803	33000	4643
		41	32291	7600	32918	5792	32918	4633
	0	1	33000	6730	33000	5048	33000	4038
		11	33000	6730	33000	5048	33000	4038
		21	33000	6730	33000	5048	33000	4038
		31	33000	6730	33000	5048	33000	4038
		41	32918	6715	32918	5037	32918	4029
	10	1	33000	6427	33000	4821	33000	3857
		11	33000	6427	33000	4821	33000	3857
		21	33000	6427	33000	4821	33000	3857
		31	33000	6427	33000	4821	33000	3857
		41	32918	6413	32918	4810	32918	3848
	50	1	33000	5217	33000	3913	33000	3131
		11	33000	5217	33000	3913	33000	3131
		21	33000	5217	33000	3913	33000	3131
		31	33000	5217	33000	3913	33000	3131
		41	32918	5205	32918	3904	32918	3123

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16

LANDING PERFORMANCE FLAPS 40

Configuration:

- NO OPTIONS SELECTED

Approach Climb Limits:

GRAD	-20	-10	0	10	20	25	30	35	40	41
2.1%	34500	34500	34500	34500	34500	34500	34500	34500	33000	32918

Field Length Weight Limits/Distances:

RWY: 34
 LDA: 7600FT
 SLOPE: 1.20%
 COND: DRY

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	1	33000	6728	33000	5046	33000	4037
	11	33000	6728	33000	5046	33000	4037
	21	33000	6728	33000	5046	33000	4037
	31	33000	6728	33000	5046	33000	4037
	41	32918	6715	32918	5036	32918	4029
0	1	33000	5852	33000	4389	33000	3512
	11	33000	5852	33000	4389	33000	3512
	21	33000	5852	33000	4389	33000	3512
	31	33000	5852	33000	4389	33000	3512
	41	32918	5840	32918	4380	32918	3504
10	1	33000	5589	33000	4192	33000	3354
	11	33000	5589	33000	4192	33000	3354
	21	33000	5589	33000	4192	33000	3354
	31	33000	5589	33000	4192	33000	3354
	41	32918	5577	32918	4183	32918	3346
50	1	33000	4537	33000	3403	33000	2722
	11	33000	4537	33000	3403	33000	2722
	21	33000	4537	33000	3403	33000	2722
	31	33000	4537	33000	3403	33000	2722
	41	32918	4526	32918	3395	32918	2716

RWY: 34
 LDA: 7600FT
 SLOPE: 1.20%
 COND: Wet [115%]

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	1	32291	7600	33000	5803	33000	4643
	11	32291	7600	33000	5803	33000	4643
	21	32291	7600	33000	5803	33000	4643
	31	32291	7600	33000	5803	33000	4643
	41	32291	7600	32918	5792	32918	4633
0	1	33000	6730	33000	5048	33000	4038
	11	33000	6730	33000	5048	33000	4038
	21	33000	6730	33000	5048	33000	4038
	31	33000	6730	33000	5048	33000	4038
	41	32918	6715	32918	5037	32918	4029
10	1	33000	6427	33000	4821	33000	3857
	11	33000	6427	33000	4821	33000	3857
	21	33000	6427	33000	4821	33000	3857
	31	33000	6427	33000	4821	33000	3857
	41	32918	6413	32918	4810	32918	3848
50	1	33000	5217	33000	3913	33000	3131
	11	33000	5217	33000	3913	33000	3131
	21	33000	5217	33000	3913	33000	3131
	31	33000	5217	33000	3913	33000	3131
	41	32918	5205	32918	3904	32918	3123

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16

Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 0

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- ECS ON
- THRUST REVERSERS OPERATIVE
- ANTI ICE OFF

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	-1.20	-1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	99.6	16300 ST	118/121/133/140	5887	16300 ST	118/121/133/140	5887	16300
-15	100.6	16300 ST	118/121/133/140	5877	16300 ST	118/121/133/140	5877	16300
-10	101.4	16300 ST	118/121/133/140	5869	16300 ST	118/121/133/140	5869	16300
-5	101.2	16281 BE	118/121/133/140	5863	16281 BE	118/121/133/140	5863	16300
0	101.1	16057 BE	118/121/132/140	5856	16057 BE	118/121/132/140	5856	16300
2	100.9	15978 BE	118/121/132/140	5854	15978 BE	118/121/132/140	5854	16300
4	100.9	15900 BE	117/120/131/140	5852	15900 BE	117/120/131/140	5852	16300
6	100.6	15821 BE	117/120/131/140	5851	15821 BE	117/120/131/140	5851	16300
8	100.4	15743 BE	117/120/131/140	5850	15743 BE	117/120/131/140	5850	16300
10	100.2	15664 BE	117/120/131/140	5849	15664 BE	117/120/131/140	5849	16300
12	99.9	15582 BE	117/119/130/140	5851	15582 BE	117/119/130/140	5851	16300
14	99.9	15501 BE	117/119/130/140	5852	15501 BE	117/119/130/140	5852	16300
16	99.6	15433 BE	117/119/130/140	5853	15433 BE	117/119/130/140	5853	16300
18	99.4	15366 BE	117/119/129/140	5855	15366 BE	117/119/129/140	5855	16300
20	99.2	15298 BE	117/118/129/140	5856	15298 BE	117/118/129/140	5856	16300
22	99.0	15124 -O	116/118/128/140	5855	15240 BE	117/118/129/140	5857	16300
24	98.8	14894 -O	115/117/128/140	5854	15100 -O	116/118/128/140	5856	16300
26	98.5	14703 -O	115/116/127/140	5853	14895 -O	116/117/128/140	5855	16300
28	98.3	14535 -O	114/116/126/140	5851	14725 -O	115/116/127/140	5853	16169
30	98.1	14357 -O	113/115/125/140	5849	14558 -O	114/116/126/140	5854	15961
32	97.9	14155 -O	113/114/124/140	5846	14352 -O	113/115/125/140	5850	15746
34	97.7	13982 -O	112/113/123/140	5844	14169 -O	113/114/124/140	5849	15532
36	97.5	13786 -O	111/112/122/140	5841	13997 -O	112/114/123/140	5848	15307
38	97.3	13580 -O	110/111/121/140	5838	13788 -O	111/113/122/140	5842	15071
39	97.2	13477 -O	109/111/121/140	5836	13685 -O	111/112/122/140	5840	14953

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+12	+1	+9	+1	
TWD per KT	-144	0	-144	0	
QNH per +0.1	+28	0	+26	0	+53
QNH per -0.1	-55	0	-54	0	-58
ASINOP	-1394	-32	-1573	-32	0
ECS OFF	+112	0	+112	0	NA
ANTI ICE ON	-1679	+6	-1866	+5	NA
TRINOP	0	0	0	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 0

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- ECS ON
- ANTI ICE OFF
- THRUST REVERSERS OPERATIVE

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	1.20	1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	NA	NA SL	NA	NA	NA SL	NA	NA	NA
-15	NA	NA SL	NA	NA	NA SL	NA	NA	NA
-10	NA	NA SL	NA	NA	NA SL	NA	NA	NA
-5	NA	NA SL	NA	NA	NA SL	NA	NA	NA
0	NA	NA SL	NA	NA	NA SL	NA	NA	NA
2	NA	NA SL	NA	NA	NA SL	NA	NA	NA
4	NA	NA SL	NA	NA	NA SL	NA	NA	NA
6	NA	NA SL	NA	NA	NA SL	NA	NA	NA
8	NA	NA SL	NA	NA	NA SL	NA	NA	NA
10	NA	NA SL	NA	NA	NA SL	NA	NA	NA
12	NA	NA SL	NA	NA	NA SL	NA	NA	NA
14	NA	NA SL	NA	NA	NA SL	NA	NA	NA
16	NA	NA SL	NA	NA	NA SL	NA	NA	NA
18	NA	NA SL	NA	NA	NA SL	NA	NA	NA
20	NA	NA SL	NA	NA	NA SL	NA	NA	NA
22	NA	NA SL	NA	NA	NA SL	NA	NA	NA
24	NA	NA SL	NA	NA	NA SL	NA	NA	NA
26	NA	NA SL	NA	NA	NA SL	NA	NA	NA
28	NA	NA SL	NA	NA	NA SL	NA	NA	NA
30	NA	NA SL	NA	NA	NA SL	NA	NA	NA
32	NA	NA SL	NA	NA	NA SL	NA	NA	NA
34	NA	NA SL	NA	NA	NA SL	NA	NA	NA
36	NA	NA SL	NA	NA	NA SL	NA	NA	NA
38	NA	NA SL	NA	NA	NA SL	NA	NA	NA
39	NA	NA SL	NA	NA	NA SL	NA	NA	NA

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	NA	NA	NA	NA	
TWD per KT	NA	NA	NA	NA	
QNH per +0.1	NA	NA	NA	NA	+53
QNH per -0.1	NA	NA	NA	NA	-58
ASINOP	NA	NA	NA	NA	0
ECS OFF	NA	NA	NA	NA	NA
ANTI ICE ON	NA	NA	NA	NA	NA
TRINOP	NA	NA	NA	NA	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 10

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- ECS ON
- ANTI ICE OFF
- THRUST REVERSERS OPERATIVE

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	-1.20	-1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	99.6	16300 ST	106/115/123/140	5907	16300 ST	106/115/123/140	5907	16300
-15	100.6	16300 ST	106/115/123/140	5897	16300 ST	106/115/123/140	5897	16300
-10	101.4	16300 ST	106/115/123/140	5889	16300 ST	106/115/123/140	5889	16300
-5	101.2	16300 ST	107/116/123/140	5884	16300 ST	107/116/123/140	5884	16300
0	101.1	16300 ST	107/116/123/140	5885	16300 ST	107/116/123/140	5885	16300
2	100.9	16300 ST	108/116/123/140	5887	16300 ST	108/116/123/140	5887	16300
4	100.9	16300 ST	108/116/123/140	5888	16300 ST	108/116/123/140	5888	16300
6	100.6	16300 ST	109/116/123/140	5894	16300 ST	109/116/123/140	5894	16300
8	100.4	16300 ST	109/116/123/140	5901	16300 ST	109/116/123/140	5901	16300
10	100.2	16300 ST	109/116/123/140	5907	16300 ST	109/116/123/140	5907	16300
12	99.9	16300 ST	110/117/123/140	5917	16300 ST	110/117/123/140	5917	16300
14	99.9	16300 ST	110/117/123/140	5932	16300 ST	110/117/123/140	5932	16300
16	99.6	16300 ST	111/117/123/140	5960	16207 -O	110/117/123/140	5946	16300
18	99.4	16181 -O	110/117/122/140	5969	15955 -O	109/116/122/140	5946	16186
20	99.2	15933 -O	110/116/121/140	5975	15684 -O	108/115/121/140	5953	15883
22	99.0	15663 -O	109/115/121/140	5976	15403 -O	107/114/120/140	5951	15613
24	98.8	15427 -O	108/114/120/140	5976	15134 -O	106/112/119/140	5945	15343
26	98.5	15227 -O	107/113/119/140	5974	14911 -O	105/112/118/140	5944	15113
28	98.3	15054 -O	106/112/118/140	5973	14720 -O	104/111/117/140	5944	14923
30	98.1	14881 -O	106/112/118/140	5974	14540 -O	104/110/116/140	5946	14733
32	97.9	14675 -O	105/111/117/140	5978	14352 -O	104/110/115/140	5947	14533
34	97.7	14494 -O	105/110/116/140	5983	14160 -O	103/109/115/140	5946	14333
36	97.5	14291 -O	104/110/115/140	5980	13957 -O	103/108/114/140	5943	14119
38	97.3	14103 -O	104/109/114/140	5976	13743 -O	102/107/113/140	5942	13891
39	97.2	14011 -O	103/108/114/140	5975	13628 -O	101/107/113/140	5941	13777

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+7	+1	+6	+1	
TWD per KT	-95	0	-86	0	
QNH per +0.1	+49	0	+46	0	+50
QNH per -0.1	-58	+2	-56	+2	-57
ASINOP	-1395	-35	-964	-34	0
ECS OFF	+140	0	+52	0	NA
ANTI ICE ON	-2326	+7	-2536	+4	NA
TRINOP	0	0	0	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 10

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- ECS ON
- ANTI ICE OFF
- THRUST REVERSERS OPERATIVE

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	1.20	1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	99.6	16300 ST	112/115/123/140	6030	16300 ST	112/115/123/140	6030	16300
-15	100.6	16300 ST	112/115/123/140	6021	16300 ST	112/115/123/140	6021	16300
-10	101.4	16300 ST	112/115/123/140	6015	16300 ST	112/115/123/140	6015	16300
-5	101.2	16300 ST	112/116/123/140	6014	16300 ST	112/116/123/140	6014	16300
0	101.1	16300 ST	113/116/123/140	6019	16183 -O	113/115/122/140	6015	16300
2	100.9	16300 ST	114/116/123/140	6024	15995 -O	112/115/122/140	6010	16300
4	100.9	16300 ST	114/116/123/140	6030	15815 -O	111/114/121/140	6007	16300
6	100.6	16186 -O	114/116/122/140	6029	15621 -O	110/113/120/140	6004	16300
8	100.4	15984 -O	113/115/122/140	6023	15417 -O	109/112/120/140	6001	16300
10	100.2	15789 -O	112/114/121/140	6021	15214 -O	109/112/119/140	5997	16300
12	99.9	15555 -O	111/113/120/140	6021	14954 -O	108/111/118/140	5994	16300
14	99.9	15307 -O	110/113/119/140	6021	14717 -O	107/110/117/140	5991	16300
16	99.6	15040 -O	110/111/118/140	6018	14497 -O	106/109/116/140	5989	16300
18	99.4	14809 -O	109/111/117/140	6016	14295 -O	106/108/115/140	5987	16186
20	99.2	14600 -O	108/110/116/140	6017	14086 -O	105/107/114/140	5985	15883
22	99.0	14394 -O	107/109/116/140	6015	13869 -O	105/107/113/140	5981	15613
24	98.8	14165 -O	107/108/115/140	6011	13640 -O	104/106/113/140	5977	15343
26	98.5	13957 -O	106/107/114/140	6006	13446 -O	103/105/112/140	5973	15113
28	98.3	13791 -O	105/107/113/140	6002	13294 -O	102/104/111/140	5969	14923
30	98.1	13628 -O	105/106/113/140	5999	13148 -O	102/104/111/140	5967	14733
32	97.9	13446 -O	104/105/112/140	5997	12988 -O	101/103/110/140	5967	14533
34	97.7	13277 -O	103/105/111/140	5996	12808 -O	100/102/109/140	5964	14333
36	97.5	13111 -O	103/104/110/140	5995	12636 -O	100/101/109/140	5960	14119
38	97.3	12945 -O	102/103/110/140	5993	12476 -O	99/101/108/140	5957	13891
39	97.2	12860 -O	102/103/109/140	5991	12404 -O	99/100/108/140	5957	13777

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+8	+1	+12	+1	
TWD per KT	-54	+2	NA	NA	
QNH per +0.1	+43	0	+43	0	+50
QNH per -0.1	-57	+2	-56	0	-57
ASINOP	-629	+28	NA	NA	0
ECS OFF	+122	+8	0	0	NA
ANTI ICE ON	-2109	+22	-2075	+22	NA
TRINOP	0	0	0	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 20

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- ECS ON
- ANTI ICE OFF
- THRUST REVERSERS OPERATIVE

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	-1.20	-1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	99.6	16300 ST	99/110/116/140	5969	16300 ST	99/110/116/140	5969	16300
-15	100.6	16300 ST	99/110/116/140	5957	16300 ST	99/110/116/140	5957	16300
-10	101.4	16300 ST	99/110/116/140	5952	16300 ST	99/110/116/140	5952	16300
-5	101.2	16300 ST	100/110/116/140	5958	16300 ST	100/110/116/140	5958	16300
0	101.1	16300 ST	100/110/116/140	5981	16300 ST	100/110/116/140	5981	16300
2	100.9	16300 ST	101/110/116/140	6004	16300 ST	101/110/116/140	6004	16300
4	100.9	16300 ST	101/110/116/140	6027	16300 ST	101/110/116/140	6027	16145
6	100.6	16300 ST	102/110/116/140	6051	16300 ST	102/110/116/140	6051	15915
8	100.4	16300 ST	102/110/116/140	6074	16283 -O	102/110/116/140	6072	15674
10	100.2	16236 -O	103/110/116/140	6086	16095 -O	102/110/116/140	6065	15433
12	99.9	15983 -O	102/109/115/140	6074	15835 -O	101/109/115/140	6060	15163
14	99.9	15686 -O	101/108/114/140	6071	15524 -O	100/108/113/140	6058	14893
16	99.6	15423 -O	101/107/113/140	6072	15269 -O	100/107/112/140	6055	14622
18	99.4	15541 -O	102/108/113/140	6107	14995 -O	99/106/111/140	6053	14351
20	99.2	15264 -O	101/107/112/140	6105	14737 -O	98/105/110/140	6051	14080
22	99.0	14498 FL	97/104/110/140	6050	14488 -O	97/104/110/140	6049	13848
24	98.8	14411 -O	97/104/110/140	6065	14242 -O	96/103/109/140	6047	13617
26	98.5	14197 -O	97/103/109/140	6063	14020 -O	96/102/108/140	6044	13417
28	98.3	14017 -O	96/102/108/140	6060	13837 -O	95/101/107/140	6041	13248
30	98.1	13839 -O	96/101/107/140	6058	13654 -O	95/101/107/140	6038	13080
32	97.9	13499 FL	94/100/106/140	6036	13474 -O	94/100/106/140	6033	12918
34	97.7	13469 -O	95/100/106/140	6048	13317 -O	94/99/105/140	6028	12757
36	97.5	13308 -O	94/99/105/140	6042	13153 -O	94/99/105/140	6023	12582
38	97.3	13139 -O	94/99/105/140	6037	12983 -O	93/98/104/140	6019	12393
39	97.2	13053 -O	94/98/104/140	6035	12903 -O	93/98/103/140	6017	12299

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	0	+2	0	+1	
TWD per KT	-75	+1	-32	0	
QNH per +0.1	+15	+3	+40	0	+39
QNH per -0.1	-92	+3	-59	+4	-56
ASINOP	-983	-62	-658	-42	0
ECS OFF	+134	0	+143	-3	NA
ANTI ICE ON	-2336	+20	-2513	+11	NA
TRINOP	0	0	0	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 20

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- ECS ON
- THRUST REVERSERS OPERATIVE
- ANTI ICE OFF

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	1.20	1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	99.6	16300 ST	105/110/116/140	6086	16300 ST	105/110/116/140	6086	16300
-15	100.6	16300 ST	106/110/116/140	6076	16286 -O	106/110/116/140	6076	16300
-10	101.4	16300 ST	106/110/116/140	6074	16135 -O	105/109/116/140	6065	16300
-5	101.2	16300 ST	106/110/116/140	6087	15833 -O	104/108/115/140	6055	16300
0	101.1	15941 -O	105/108/115/140	6075	15512 -O	102/107/113/140	6043	16300
2	100.9	15750 -O	104/108/114/140	6071	15323 -O	102/106/112/140	6039	16300
4	100.9	15564 -O	104/107/113/140	6067	15138 -O	101/105/112/140	6035	16145
6	100.6	15367 -O	103/106/112/140	6062	14949 -O	101/105/111/140	6031	15915
8	100.4	15154 -O	103/106/112/140	6057	14740 -O	100/104/110/140	6027	15674
10	100.2	14926 -O	102/105/111/140	6052	14523 -O	99/103/110/140	6023	15433
12	99.9	14663 -O	101/104/110/140	6049	14272 -O	98/102/109/140	6019	15163
14	99.9	14405 -O	99/103/110/140	6044	14023 -O	97/101/108/140	6016	14893
16	99.6	14151 -O	98/102/109/140	6039	13805 -O	96/100/107/140	6012	14622
18	99.4	13914 -O	97/101/108/140	6036	13592 -O	95/99/106/140	6010	14351
20	99.2	13692 -O	96/100/107/140	6035	13366 -O	94/98/105/140	6006	14080
22	99.0	13480 -O	95/99/106/140	6038	13140 -O	93/98/105/140	6002	13848
24	98.8	13265 -O	94/98/105/140	6031	12939 -O	93/97/104/140	5998	13617
26	98.5	13079 -O	94/98/104/140	6026	12773 -O	93/96/103/140	5995	13417
28	98.3	12926 -O	93/97/104/140	6021	12623 -O	92/96/102/140	5991	13248
30	98.1	12779 -O	93/97/103/140	6018	12468 -O	91/95/101/140	5987	13080
32	97.9	12617 -O	92/96/102/140	6014	12274 -O	92/94/100/140	5981	12918
34	97.7	12448 -O	92/95/101/140	6007	12082 -O	92/94/99/140	5974	12757
36	97.5	12270 -O	92/95/100/140	5997	NA -O	NA	NA	12582
38	97.3	12105 -O	92/94/99/140	5991	NA -O	NA	NA	12393
39	97.2	12028 -O	91/94/99/140	5988	NA -O	NA	NA	12299

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+6	0	+8	0	
TWD per KT	NA	NA	NA	NA	
QNH per +0.1	+38	+1	+28	+1	+39
QNH per -0.1	NA	NA	NA	NA	-56
ASINOP	NA	NA	NA	NA	0
ECS OFF	0	0	0	0	NA
ANTI ICE ON	-1643	+29	-1884	-10	NA
TRINOP	0	0	0	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 0

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- WET
- ANTI ICE OFF
- ECS ON
- THRUST REVERSERS OPERATIVE

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	-1.20	-1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	NA	Flap 0 takeoff data is not available for wet or contaminated runways.			Flap 0 takeoff data is not available for wet or contaminated runways.			NA
-15	NA							NA
-10	NA							NA
-5	NA							NA
0	NA							NA
2	NA							NA
4	NA							NA
6	NA							NA
8	NA							NA
10	NA							NA
12	NA							NA
14	NA							NA
16	NA							NA
18	NA							NA
20	NA							NA
22	NA							NA
24	NA							NA
26	NA							NA
28	NA							NA
30	NA							NA

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16

Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 0

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- WET
- ANTI ICE OFF
- ECS ON
- THRUST REVERSERS OPERATIVE

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	1.20	1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	NA	Flap 0 takeoff data is not available for wet or contaminated runways.			Flap 0 takeoff data is not available for wet or contaminated runways.			NA
-15	NA							NA
-10	NA							NA
-5	NA							NA
0	NA							NA
2	NA							NA
4	NA							NA
6	NA							NA
8	NA							NA
10	NA							NA
12	NA							NA
14	NA							NA
16	NA							NA
18	NA							NA
20	NA							NA
22	NA							NA
24	NA							NA
26	NA							NA
28	NA	NA						
30	NA	NA						

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16

Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 10

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- WET
- ANTI ICE OFF
- ECS ON
- THRUST REVERSERS OPERATIVE

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	-1.20	-1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	99.6	16300 ST	95/116/123/140	5897	16300 ST	95/116/123/140	5897	16300
-15	100.6	16300 ST	95/116/123/140	5887	16300 ST	95/116/123/140	5887	16300
-10	101.4	16300 ST	95/116/123/140	5879	16300 ST	95/116/123/140	5879	16300
-5	101.2	16300 ST	95/116/123/140	5874	16300 ST	95/116/123/140	5874	16300
0	101.1	16300 ST	96/116/123/140	5874	16300 ST	96/116/123/140	5874	16300
2	100.9	16300 ST	97/117/123/140	5875	16300 ST	97/117/123/140	5875	16300
4	100.9	16300 ST	97/117/123/140	5876	16300 ST	97/117/123/140	5876	16300
6	100.6	16300 ST	98/117/123/140	5881	16300 ST	98/117/123/140	5881	16300
8	100.4	16300 ST	98/117/123/140	5888	16300 ST	98/117/123/140	5888	16300
10	100.2	16300 ST	99/117/123/140	5894	16300 ST	99/117/123/140	5894	16300
12	99.9	16133 -O	99/117/122/140	5893	16300 ST	100/118/123/140	5902	16300
14	99.9	15909 -O	98/116/121/140	5891	16115 -O	99/117/122/140	5900	16300
16	99.6	15669 -O	98/115/121/140	5894	15895 -O	99/116/121/140	5901	16300
18	99.4	15410 -O	97/114/120/140	5896	15647 -O	98/115/120/140	5905	16186
20	99.2	15171 -O	96/113/119/140	5896	15387 -O	97/114/120/140	5911	15883
22	99.0	14960 -O	95/112/118/140	5894	15154 -O	97/113/119/140	5909	15613
24	98.8	14748 -O	95/111/117/140	5896	14924 -O	96/112/118/140	5911	15343
26	98.5	14560 -O	95/111/116/140	5902	14728 -O	95/112/117/140	5915	15113
28	98.3	14392 -O	95/110/116/140	5901	14569 -O	95/111/116/140	5919	14923
30	98.1	14217 -O	94/110/115/140	5898	14398 -O	95/110/116/140	5918	14733
32	97.9	14019 -O	94/109/114/140	5897	14188 -O	95/109/115/140	5915	14533
34	97.7	13842 -O	94/108/113/140	5900	13982 -O	94/109/114/140	5914	14333
36	97.5	13676 -O	94/107/113/140	5904	13814 -O	94/108/113/140	5917	14119
38	97.3	13519 -O	93/106/112/140	5910	13652 -O	94/107/113/140	5922	13891
39	97.2	13442 -O	93/106/112/140	5912	13574 -O	94/107/112/140	5925	13777

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+18	+2	+8	+2	
TWD per KT	-96	0	-111	0	
QNH per +0.1	+45	0	+45	0	+50
QNH per -0.1	-57	+1	-56	+1	-57
ANTI ICE ON	-2330	+9	-2549	+6	NA
TRINOP	-331	-9	-258	-12	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 10

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- WET
- ANTI ICE OFF
- ECS ON
- THRUST REVERSERS OPERATIVE

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	1.20	1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	99.6	16300 ST	106/116/123/140	6043	16300 ST	106/116/123/140	6043	16300
-15	100.6	16300 ST	106/116/123/140	6033	16300 ST	106/116/123/140	6033	16300
-10	101.4	16300 ST	106/116/123/140	6026	16300 ST	106/116/123/140	6026	16300
-5	101.2	16300 ST	107/116/123/140	6024	16300 ST	107/116/123/140	6024	16300
0	101.1	16300 ST	108/116/123/140	6029	15973 -O	105/115/122/140	6016	16300
2	100.9	16300 ST	109/117/123/140	6033	15789 -O	105/114/121/140	6013	16300
4	100.9	16300 ST	110/117/123/140	6037	15606 -O	105/114/120/140	6010	16300
6	100.6	16081 -O	108/116/122/140	6032	15412 -O	104/113/120/140	6007	16300
8	100.4	15883 -O	108/115/121/140	6027	15201 -O	103/112/119/140	6003	16300
10	100.2	15666 -O	107/115/121/140	6024	14975 -O	102/111/118/140	5998	16300
12	99.9	15406 -O	106/114/120/140	6021	14715 -O	101/110/117/140	5995	16300
14	99.9	15092 -O	105/112/118/140	6017	14468 -O	100/109/116/140	5992	16300
16	99.6	14817 -O	104/111/117/140	6013	14254 -O	99/108/115/140	5990	16300
18	99.4	14575 -O	103/110/116/140	6011	14040 -O	97/107/114/140	5987	16186
20	99.2	14363 -O	102/109/115/140	6011	13803 -O	95/106/113/140	5984	15883
22	99.0	14152 -O	101/108/115/140	6008	13549 -O	94/105/112/140	5979	15613
24	98.8	13912 -O	99/107/114/140	6004	13266 -O	94/104/111/140	5974	15343
26	98.5	13700 -O	97/107/113/140	5999	13062 -O	93/103/110/140	5970	15113
28	98.3	13537 -O	97/106/112/140	5996	12917 -O	92/102/110/140	5967	14923
30	98.1	13380 -O	96/105/112/140	5992	12753 -O	92/102/109/140	5964	14733
32	97.9	13209 -O	95/104/111/140	5992	12537 -O	92/101/108/140	5960	14533
34	97.7	13048 -O	94/104/110/140	5992	12371 -O	92/100/107/140	5959	14333
36	97.5	12856 -O	94/103/109/140	5988	12216 -O	92/99/107/140	5957	14119
38	97.3	12671 -O	93/102/109/140	5984	12054 -O	92/99/106/140	5956	13891
39	97.2	12587 -O	93/101/108/140	5982	NA -O	NA	NA	13777

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+12	+1	+19	+1	
TWD per KT	NA	NA	NA	NA	
QNH per +0.1	+43	0	+42	0	+50
QNH per -0.1	-60	+1	NA	NA	-57
ANTI ICE ON	-1986	+35	-1836	+17	NA
TRINOP	-142	+4	NA	NA	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 20

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- WET
- ANTI ICE OFF
- ECS ON
- THRUST REVERSERS OPERATIVE

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	-1.20	-1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	NA	Flap 20 takeoff data is not available for wet or contaminated runways.			Flap 20 takeoff data is not available for wet or contaminated runways.			NA
-15	NA							NA
-10	NA							NA
-5	NA							NA
0	NA							NA
2	NA							NA
4	NA							NA
6	NA							NA
8	NA							NA
10	NA							NA
12	NA							NA
14	NA							NA
16	NA							NA
18	NA							NA
20	NA							NA
22	NA							NA
24	NA							NA
26	NA							NA
28	NA	NA						
30	NA	NA						

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16

Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 20

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- WET
- ANTI ICE OFF
- ECS ON
- THRUST REVERSERS OPERATIVE

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	7600	7600	0
TODA (FT)	7600	7600	0
ASDA (FT)	7600	7600	0
SLOPE (%)	1.20	1.20	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	NA	Flap 20 takeoff data is not available for wet or contaminated runways.			Flap 20 takeoff data is not available for wet or contaminated runways.			NA
-15	NA							NA
-10	NA							NA
-5	NA							NA
0	NA							NA
2	NA							NA
4	NA							NA
6	NA							NA
8	NA							NA
10	NA							NA
12	NA							NA
14	NA							NA
16	NA							NA
18	NA							NA
20	NA							NA
22	NA							NA
24	NA							NA
26	NA							NA
28	NA	NA						
30	NA	NA						

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16

Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19

LANDING PERFORMANCE FLAPS 10/30

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- THRUST REVERSERS OPERATIVE

Approach Climb Limits:

Approach Flaps 10									
GRAD	-20	-10	0	10	20	25	30	35	39
2.1%	15700	15700	15700	15700	15700	15700	15700	15565	15080

Field Length Weight Limits/Distances:

Landing Flaps 30							
WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	19	12915	6361	12915	4762	12915	4311
	24	12814	6396	12814	4788	12814	4336
	29	12716	6429	12716	4816	12716	4362
	34	12611	6463	12611	4843	12611	4383
	39	12505	6496	12505	4871	12505	4402
0	19	14274	5804	14274	4327	14274	3952
	24	14159	5835	14159	4360	14159	3980
	29	14047	5865	14047	4393	14047	4007
	34	13925	5896	13925	4419	13925	4027
	39	13800	5929	13800	4443	13800	4044
10	19	14806	5702	14806	4224	14806	3862
	24	14688	5733	14688	4256	14688	3891
	29	14573	5763	14573	4288	14573	3919
	34	14440	5789	14440	4313	14440	3939
	39	14300	5814	14300	4335	14300	3955
30	19	15700	5312	15700	3994	15700	3671
	24	15683	5382	15683	4054	15683	3718
	29	15554	5424	15554	4089	15554	3745
	34	15411	5466	15411	4117	15411	3764
	39	15080	5459	15080	4105	15080	3743

RWY: 16
 LDA: 7600FT
 SLOPE: -1.20%
 COND: DRY

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	19	12915	7315	12915	5476	12915	4957
	24	12814	7355	12814	5506	12814	4987
	29	12716	7393	12716	5538	12716	5016
	34	12611	7432	12611	5569	12611	5040
	39	12505	7471	12505	5601	12505	5062
0	19	14274	6675	14274	4977	14274	4545
	24	14159	6710	14159	5014	14159	4577
	29	14047	6745	14047	5051	14047	4608
	34	13925	6781	13925	5082	13925	4631
	39	13800	6818	13800	5110	13800	4651
10	19	14806	6557	14806	4857	14806	4441
	24	14688	6593	14688	4894	14688	4474
	29	14573	6627	14573	4931	14573	4507
	34	14440	6658	14440	4960	14440	4529
	39	14300	6686	14300	4985	14300	4549
30	19	15700	6109	15700	4593	15700	4221
	24	15683	6189	15683	4662	15683	4276
	29	15554	6238	15554	4702	15554	4306
	34	15411	6286	15411	4735	15411	4328
	39	15080	6277	15080	4721	15080	4305

RWY: 16
 LDA: 7600FT
 SLOPE: -1.20%
 COND: Wet [115%]

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19

LANDING PERFORMANCE FLAPS 10/30

TST1
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5440

Configuration:

- THRUST REVERSERS OPERATIVE

Approach Climb Limits:

Approach Flaps 10									
GRAD	-20	-10	0	10	20	25	30	35	39
2.1%	15700	15700	15700	15700	15700	15700	15700	15565	15080

Field Length Weight Limits/Distances:

Landing Flaps 30

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	19	13532	6205	13532	4642	13532	4253
	24	13428	6238	13428	4673	13428	4278
	29	13326	6272	13326	4703	13326	4303
	34	13215	6307	13215	4729	13215	4321
	39	13102	6343	13102	4752	13102	4338
0	19	14980	5657	14980	4221	14980	3890
	24	14860	5688	14860	4255	14860	3916
	29	14744	5718	14744	4290	14744	3942
	34	14617	5747	14617	4319	14617	3961
	39	14488	5776	14488	4345	14488	3978
10	19	15529	5518	15529	4130	15529	3791
	24	15407	5558	15407	4160	15407	3818
	29	15288	5599	15288	4190	15288	3844
	34	15158	5639	15158	4217	15158	3864
	39	15025	5678	15025	4242	15025	3882
30	19	15700	4952	15700	3725	15700	3469
	24	15700	5021	15700	3782	15700	3515
	29	15700	5091	15700	3839	15700	3560
	34	15665	5157	15665	3887	15665	3596
	39	15080	5091	15080	3825	15080	3534

RWY: 34
 LDA: 7600FT
 SLOPE: 1.20%
 COND: DRY

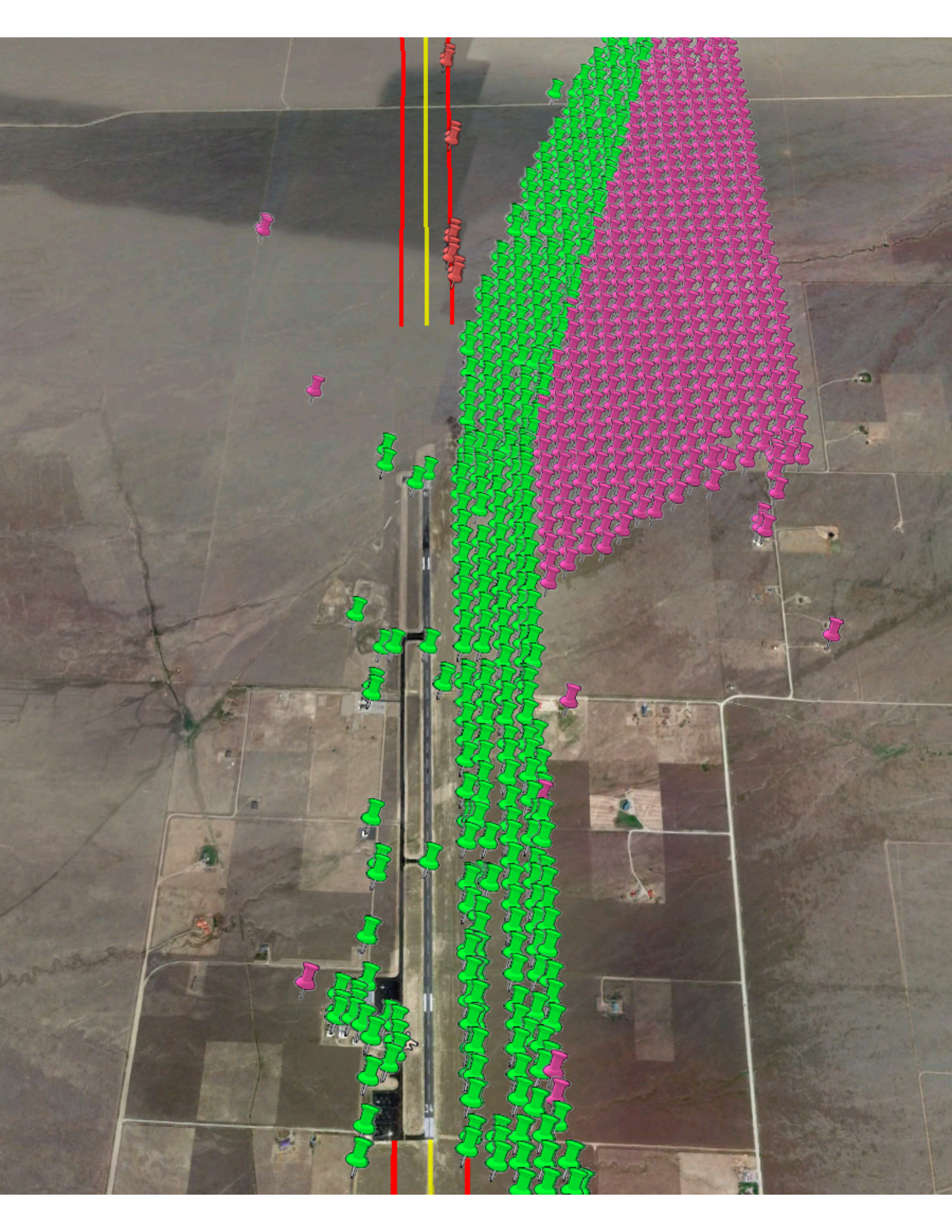
WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	19	13532	7135	13532	5338	13532	4891
	24	13428	7174	13428	5373	13428	4920
	29	13326	7213	13326	5409	13326	4948
	34	13215	7253	13215	5438	13215	4970
	39	13102	7294	13102	5464	13102	4989
0	19	14980	6506	14980	4854	14980	4473
	24	14860	6541	14860	4894	14860	4504
	29	14744	6576	14744	4933	14744	4533
	34	14617	6610	14617	4966	14617	4555
	39	14488	6642	14488	4997	14488	4575
10	19	15529	6345	15529	4749	15529	4360
	24	15407	6392	15407	4784	15407	4390
	29	15288	6439	15288	4819	15288	4421
	34	15158	6485	15158	4849	15158	4444
	39	15025	6530	15025	4878	15025	4464
30	19	15700	5694	15700	4284	15700	3990
	24	15700	5775	15700	4349	15700	4042
	29	15700	5855	15700	4415	15700	4094
	34	15665	5930	15665	4470	15665	4135
	39	15080	5855	15080	4398	15080	4064

RWY: 34
 LDA: 7600FT
 SLOPE: 1.20%
 COND: Wet [115%]

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16





SPECIAL DEPARTURE PROCEDURES

Rwy 16DP
Elevation: 5455
Obstacle Criteria: FAA AC 120-91

TST2
ENNIS-BIG SKY
ENNIS, MT
16Dec16

- TAKEOFF WEIGHTS FOR RWY 16DP REQUIRE THE USE OF THIS TAILORED RNAV DEPARTURE PROCEDURE
- *** RNAV PROCEDURE. ALL FIXES ARE FLY-BY FIXES UNLESS OTHERWISE NOTED. ***
- AT DEPARTURE END OF RUNWAY TURN RIGHT DIRECT TO MDISN
- CLIMB IN HOLDING PATTERN AT MDISN (HOLD SOUTH, LEFT TURNS, 5NM LEGS, 354 COURSE INBOUND)
- ###

These procedures describe the non-standard, one engine inoperative departure flight path. The maximum takeoff weights presented in the attached analysis are based upon the procedure(s) outlined above.

Rwy 34DP
Elevation: 5349
Obstacle Criteria: FAA AC 120-91

TST2
ENNIS-BIG SKY
ENNIS, MT
16Dec16

- TAKEOFF WEIGHTS FOR RWY 34DP REQUIRE THE USE OF THIS TAILORED RNAV DEPARTURE PROCEDURE
- *** RNAV PROCEDURE. ALL FIXES ARE FLY-BY FIXES UNLESS OTHERWISE NOTED. ***
- MAINTAIN RUNWAY HEADING DIRECT TO SPHNX NOTE: SPHNX IS A FLYOVER WAYPOINT
- THEN DIRECT TO MDISN
- CLIMB IN HOLDING PATTERN AT MDISN (HOLD SOUTH, LEFT TURNS, 5NM LEGS, 344 COURSE INBOUND)
- ###

These procedures describe the non-standard, one engine inoperative departure flight path. The maximum takeoff weights presented in the attached analysis are based upon the procedure(s) outlined above.

Cessna Citation EXCEL
 Engine: PW545A
 AFM: 56XFM-13
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 7

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- STATIC TAKEOFF

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	-1.22	-1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-15	87.7	20200 ST	108/109/126/160	7243	20200 ST	108/109/126/160	7243	20200
-10	88.5	20200 ST	108/109/126/160	7207	20200 ST	108/109/126/160	7207	20200
-5	89.3	20200 ST	108/109/126/160	7174	20200 ST	108/109/126/160	7174	20200
0	90.2	20200 ST	108/109/126/160	7145	20200 ST	108/109/126/160	7145	20200
2	90.5	20200 ST	108/109/126/160	7136	20200 ST	108/109/126/160	7136	20200
4	90.8	20200 ST	108/109/126/160	7128	20200 ST	108/109/126/160	7128	20200
6	91.0	20200 ST	108/109/126/160	7125	20200 ST	108/109/126/160	7125	20200
8	90.8	20200 ST	108/109/126/160	7128	20200 ST	108/109/126/160	7128	20200
10	90.5	20200 ST	109/109/126/160	7131	20200 ST	109/109/126/160	7131	20200
12	90.3	20200 ST	109/109/126/160	7141	20200 ST	109/109/126/160	7141	20200
14	90.0	20200 ST	109/109/126/160	7151	20200 ST	109/109/126/160	7151	20200
16	89.7	20200 ST	109/109/126/160	7166	20200 ST	109/109/126/160	7166	20200
18	89.3	20200 ST	109/109/126/160	7187	20200 ST	109/109/126/160	7187	20200
20	88.9	20200 ST	109/109/126/160	7209	20200 ST	109/109/126/160	7209	20200
22	88.5	20200 ST	109/109/126/160	7256	20200 ST	109/109/126/160	7256	20200
24	88.1	20200 ST	109/109/126/160	7303	20200 ST	109/109/126/160	7303	20200
26	87.7	20181 FP	109/109/126/160	7370	20181 FP	109/109/126/160	7370	20200
28	87.3	20052 -O	109/109/126/160	7434	20145 FP	110/110/126/160	8498	19977
30	86.8	19628 -O	108/108/124/160	7429	19772 -O	109/109/125/160	8509	19696
32	86.3	19169 -O	107/107/123/160	7412	19304 -O	107/107/123/160	8479	19168
34	85.8	18727 -O	105/105/121/160	7409	18857 FP	106/106/122/160	8461	18641
36	85.2	18271 -O	104/104/120/160	7410	18345 FP	104/104/120/160	8434	18108
38	84.6	17797 -O	102/102/118/160	8268	17931 -O	103/103/119/160	8463	17568
40	83.8	17347 -O	101/101/117/160	8260	17479 -O	101/101/117/160	8458	17029
43	82.6	15587 -O	96/96/111/160	7203	15187 -O	95/95/109/160	7136	16212

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	0	0	0	+1	
TWD per KT	-136	+1	-135	+1	
QNH per +0.1	+68	+108	+59	+131	+44
QNH per -0.1	-124	+109	-137	+117	-115
EECINOP	-1068	+583	-1559	+1581	-1170
ANTI ICE ON	0	+134	0	+134	0
DEICE	-53	0	-41	0	0
ROLLING	-29	-1	-25	0	0
TRINOP	0	0	0	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation EXCEL
 Engine: PW545A
 AFM: 56XFM-13
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 7

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- STATIC TAKEOFF

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	1.22	1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-15	87.7	20200 ST	109/109/126/160	7376	20200 ST	109/109/126/160	7376	20200
-10	88.5	20200 ST	109/109/126/160	7340	20200 ST	109/109/126/160	7340	20200
-5	89.3	20200 ST	109/109/126/160	7306	20200 ST	109/109/126/160	7306	20200
0	90.2	20200 ST	109/109/126/160	7277	20200 ST	109/109/126/160	7277	20200
2	90.5	20200 ST	109/109/126/160	7269	20200 ST	109/109/126/160	7269	20200
4	90.8	20200 ST	109/109/126/160	7261	20200 ST	109/109/126/160	7261	20200
6	91.0	20200 ST	109/109/126/160	7260	20200 ST	109/109/126/160	7260	20200
8	90.8	20200 ST	109/109/126/160	7265	20200 ST	109/109/126/160	7265	20200
10	90.5	20200 ST	109/109/126/160	7270	20200 ST	109/109/126/160	7270	20200
12	90.3	20200 ST	109/109/126/160	7285	20200 ST	109/109/126/160	7285	20200
14	90.0	20200 ST	109/109/126/160	7301	20200 ST	109/109/126/160	7301	20200
16	89.7	20200 ST	109/109/126/160	7322	20140 -O	109/109/126/160	7318	20200
18	89.3	20200 ST	109/109/126/160	7350	19720 -O	108/108/125/160	7309	20200
20	88.9	20200 ST	109/109/126/160	7378	19310 -O	107/107/123/160	7293	20200
22	88.5	19860 FL	109/109/125/160	7391	18883 -O	106/106/122/160	7284	20200
24	88.1	19466 FL	107/107/123/160	7385	18468 -O	104/104/121/160	7273	20200
26	87.7	19075 FL	106/106/122/160	7378	18037 -O	103/103/119/160	7259	20200
28	87.3	18639 FL	105/105/121/160	7374	17607 -O	102/102/118/160	7250	19977
30	86.8	18284 FL	104/104/120/160	7365	17226 -O	101/101/117/160	7236	19696
32	86.3	17822 FL	102/102/118/160	7362	16798 -O	99/99/115/160	7230	19168
34	85.8	17420 FL	101/101/117/160	7356	16400 -O	98/98/114/160	7220	18641
36	85.2	17019 FL	100/100/116/160	7350	15989 -O	97/97/113/160	7210	18108
38	84.6	16537 FL	99/99/115/160	7353	15547 -O	96/96/111/160	7208	17568
40	83.8	16176 FL	98/98/114/160	7344	15150 -O	94/94/110/160	7192	17029
43	82.6	14908 -O	94/94/109/160	7232	14246 -O	92/92/107/160	7153	16212

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+13	0	+17	0	
TWD per KT	-188	0	-128	0	
QNH per +0.1	+64	+12	+60	0	+44
QNH per -0.1	-81	0	-83	0	-115
EECINOP	-1287	0	NA	NA	-1170
ANTI ICE ON	0	+165	-809	+109	0
DEICE	+66	0	-145	0	0
ROLLING	+25	0	-70	0	0
TRINOP	0	0	0	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation EXCEL
 Engine: PW545A
 AFM: 56XFM-13
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 15

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- STATIC TAKEOFF

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	-1.22	-1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-15	87.7	20200 ST	99/106/119/160	7289	20200 ST	99/106/119/160	7289	20200
-10	88.5	20200 ST	99/106/119/160	7253	20200 ST	99/106/119/160	7253	20200
-5	89.3	20200 ST	99/106/119/160	7218	20200 ST	99/106/119/160	7218	20200
0	90.2	20200 ST	99/106/119/160	7190	20200 ST	99/106/119/160	7190	20200
2	90.5	20200 ST	99/106/119/160	7183	20200 ST	99/106/119/160	7183	20200
4	90.8	20200 ST	99/106/119/160	7175	20200 ST	99/106/119/160	7175	20200
6	91.0	20200 ST	99/106/119/160	7176	20200 ST	99/106/119/160	7176	20200
8	90.8	20200 ST	100/106/119/160	7186	20200 ST	100/106/119/160	7186	20200
10	90.5	20200 ST	100/106/119/160	7195	20200 ST	100/106/119/160	7195	20200
12	90.3	20200 ST	101/106/119/160	7219	20200 ST	101/106/119/160	7219	20200
14	90.0	20200 ST	101/106/119/160	7244	20200 ST	101/106/119/160	7244	20200
16	89.7	20200 ST	102/106/119/160	7282	20200 ST	102/106/119/160	7282	20200
18	89.3	20200 ST	102/106/119/160	7334	20200 ST	102/106/119/160	7334	20200
20	88.9	20200 ST	103/106/119/160	7387	20200 ST	103/106/119/160	7387	20200
22	88.5	20163 FP	103/106/119/160	7497	20163 FP	103/106/119/160	8090	20200
24	88.1	20127 FP	104/105/119/160	7604	20127 FP	104/105/119/160	8753	20007
26	87.7	19996 FP	104/105/119/160	7697	19659 -O	103/104/118/160	8730	19802
28	87.3	19770 FP	104/104/119/160	7780	19201 -O	102/103/117/160	8703	19315
30	86.8	19359 -O	103/103/118/160	7772	18792 -O	100/102/115/160	8676	18828
32	86.3	18899 -O	102/104/116/160	9311	18326 -O	100/102/114/160	8648	18328
34	85.8	18309 FP	101/102/114/160	7688	17882 -O	99/101/113/160	8622	17828
36	85.2	17709 FP	99/100/112/160	7622	17459 -O	97/99/111/160	8591	17318
38	84.6	17127 FP	97/98/110/160	7567	17005 -O	96/97/110/160	8559	16798
40	83.8	16545 FP	95/96/108/160	7525	16524 -O	95/96/108/160	8524	16278
43	82.6	14368 -O	87/89/101/160	7154	13974 -O	84/88/100/160	7085	15480

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	0	0	0	+1	
TWD per KT	-46	+168	-47	+67	
QNH per +0.1	+18	+133	+51	+141	+61
QNH per -0.1	-134	+160	-131	+132	-113
EECINOP	NA	NA	NA	NA	-1168
ANTI ICE ON	0	+241	0	+241	0
DEICE	NA	NA	NA	NA	0
ROLLING	-22	+7	-18	+4	0
TRINOP	0	0	0	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation EXCEL
 Engine: PW545A
 AFM: 56XFM-13
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 15

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- STATIC TAKEOFF

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	1.22	1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-15	87.7	20200 ST	105/106/119/160	7401	20200 ST	105/106/119/160	7401	20200
-10	88.5	20200 ST	105/106/119/160	7364	20200 ST	105/106/119/160	7364	20200
-5	89.3	20200 ST	104/106/119/160	7330	20200 ST	104/106/119/160	7330	20200
0	90.2	20200 ST	104/106/119/160	7301	20200 ST	104/106/119/160	7301	20200
2	90.5	20200 ST	105/106/119/160	7294	20200 ST	105/106/119/160	7294	20200
4	90.8	20200 ST	105/106/119/160	7287	20200 ST	105/106/119/160	7287	20200
6	91.0	20200 ST	105/106/119/160	7289	20200 ST	105/106/119/160	7289	20200
8	90.8	20200 ST	105/106/119/160	7299	20200 ST	105/106/119/160	7299	20200
10	90.5	20200 ST	106/106/119/160	7310	20200 ST	106/106/119/160	7310	20200
12	90.3	20200 ST	106/106/119/160	7338	20200 ST	106/106/119/160	7338	20200
14	90.0	20200 ST	106/106/119/160	7366	20200 ST	106/106/119/160	7366	20200
16	89.7	20200 ST	106/106/119/160	7408	20200 ST	106/106/119/160	7408	20200
18	89.3	20200 ST	106/106/119/160	7465	20200 ST	106/106/119/160	7465	20200
20	88.9	20200 ST	106/106/119/160	7522	19851 -O	105/105/118/160	7458	20200
22	88.5	20163 FP	106/106/119/160	7638	19409 -O	104/104/117/160	7472	20200
24	88.1	20090 -O	105/105/119/160	7738	18985 -O	103/103/116/160	7442	20007
26	87.7	19635 -O	104/104/118/160	7734	18566 -O	102/102/114/160	7448	19802
28	87.3	19134 -O	103/103/116/160	7704	18115 -O	100/100/113/160	7429	19315
30	86.8	18696 -O	102/102/115/160	7682	17707 -O	99/99/112/160	7408	18828
32	86.3	18189 -O	101/101/113/160	7656	17248 -O	98/98/111/160	7411	18328
34	85.8	17716 -O	100/100/112/160	7641	16813 -O	96/96/109/160	7386	17828
36	85.2	17239 -O	98/98/110/160	7603	16374 -O	95/95/108/160	7384	17318
38	84.6	16718 -O	96/96/109/160	7585	15896 -O	94/94/106/160	7374	16798
40	83.8	16240 -O	95/95/107/160	7560	15459 -O	92/92/104/160	7357	16278
43	82.6	13830 -O	88/88/99/160	7159	13575 -O	87/87/98/160	7128	15480

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	0	0	+15	0	
TWD per KT	-86	0	NA	NA	
QNH per +0.1	+54	+40	+61	+23	+61
QNH per -0.1	-103	+20	-83	0	-113
EECINOP	NA	NA	NA	NA	-1168
ANTI ICE ON	0	+262	-185	+225	0
DEICE	NA	NA	NA	NA	0
ROLLING	+31	0	+9	0	0
TRINOP	0	0	0	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation EXCEL
 Engine: PW545A
 AFM: 56XFM-13
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 7

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- WET RWY
- STATIC TAKEOFF

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	-1.22	-1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-15	87.7	20200 ST	96/109/126/160	7245	20200 ST	96/109/126/160	7245	20200
-10	88.5	20200 ST	96/109/126/160	7209	20200 ST	96/109/126/160	7209	20200
-5	89.3	20200 ST	96/109/126/160	7176	20200 ST	96/109/126/160	7176	20200
0	90.2	20200 ST	96/109/126/160	7147	20200 ST	96/109/126/160	7147	20200
2	90.5	20200 ST	96/109/126/160	7138	20200 ST	96/109/126/160	7138	20200
4	90.8	20200 ST	96/109/126/160	7130	20200 ST	96/109/126/160	7130	20200
6	91.0	20200 ST	97/109/126/160	7127	20200 ST	97/109/126/160	7127	20200
8	90.8	20200 ST	97/109/126/160	7130	20200 ST	97/109/126/160	7130	20200
10	90.5	20200 ST	97/109/126/160	7133	20200 ST	97/109/126/160	7133	20200
12	90.3	20200 ST	98/109/126/160	7143	20200 ST	98/109/126/160	7143	20200
14	90.0	20200 ST	99/109/126/160	7154	20200 ST	99/109/126/160	7154	20200
16	89.7	20200 ST	99/109/126/160	7171	20200 ST	99/109/126/160	7171	20200
18	89.3	20200 ST	100/109/126/160	7192	20200 ST	100/109/126/160	7192	20200
20	88.9	20200 ST	101/109/126/160	7214	20200 ST	101/109/126/160	7214	20200
22	88.5	20200 ST	102/109/126/160	7264	20200 ST	102/109/126/160	7264	20200
24	88.1	20200 ST	102/109/126/160	7313	20200 ST	102/109/126/160	7313	20200
26	87.7	20181 FP	103/109/126/160	7382	20181 FP	103/109/126/160	7382	20200
28	87.3	19845 -O	102/109/125/160	7408	19908 -O	103/109/125/160	8008	19977
30	86.8	19425 -O	101/108/124/160	7398	19466 -O	102/108/124/160	8296	19696
32	86.3	18935 -O	100/106/122/160	7380	18976 -O	101/106/122/160	8227	19168
34	85.8	18473 -O	99/104/120/160	7375	18511 -O	99/105/121/160	8335	18641
36	85.2	17990 -O	98/103/119/160	7366	18027 -O	98/103/119/160	8314	18108
38	84.6	17495 -O	97/102/118/160	7372	17533 -O	97/102/118/160	8314	17568
40	83.8	17023 -O	95/100/116/160	7354	17049 -O	95/100/116/160	8284	17029
43	82.6	15531 -O	90/96/110/160	7203	15148 -O	88/94/109/160	7137	16212

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	0	+32	0	+5	
TWD per KT	-121	+4	-118	+4	
QNH per +0.1	+69	+98	+70	+119	+44
QNH per -0.1	-92	+11	-94	+101	-115
EECINOP	-1012	+804	-1520	+697	0
ANTI ICE ON	0	+138	0	+138	0
DEICE	-129	0	-41	0	0
ROLLING	-57	0	-25	0	0
TRINOP	-14	-4	-10	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation EXCEL
 Engine: PW545A
 AFM: 56XFM-13
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 7

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- WET RWY
- STATIC TAKEOFF

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	1.22	1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-15	87.7	20200 ST	103/109/126/160	7374	20200 ST	103/109/126/160	7374	20200
-10	88.5	20200 ST	103/109/126/160	7339	20200 ST	103/109/126/160	7339	20200
-5	89.3	20200 ST	103/109/126/160	7304	20200 ST	103/109/126/160	7304	20200
0	90.2	20200 ST	103/109/126/160	7276	20200 ST	103/109/126/160	7276	20200
2	90.5	20200 ST	103/109/126/160	7267	20200 ST	103/109/126/160	7267	20200
4	90.8	20200 ST	103/109/126/160	7259	20200 ST	103/109/126/160	7259	20200
6	91.0	20200 ST	103/109/126/160	7257	20200 ST	103/109/126/160	7257	20200
8	90.8	20200 ST	104/109/126/160	7262	20200 ST	104/109/126/160	7262	20200
10	90.5	20200 ST	104/109/126/160	7266	20200 ST	104/109/126/160	7266	20200
12	90.3	20200 ST	105/109/126/160	7280	20200 ST	105/109/126/160	7280	20200
14	90.0	20200 ST	106/109/126/160	7294	20200 ST	106/109/126/160	7294	20200
16	89.7	20200 ST	106/109/126/160	7314	20073 -O	106/109/126/160	7304	20200
18	89.3	20200 ST	107/109/126/160	7339	19688 -O	105/108/124/160	7297	20200
20	88.9	20200 ST	108/109/126/160	7365	19310 -O	104/107/123/160	7286	20200
22	88.5	19860 FL	108/109/125/160	7394	18883 -O	103/106/122/160	7279	20200
24	88.1	19466 FL	107/108/124/160	7389	18468 -O	102/105/121/160	7271	20200
26	87.7	19075 FL	106/107/123/160	7380	18037 -O	101/103/119/160	7261	20200
28	87.3	18639 FL	104/105/121/160	7370	17607 -O	100/102/118/160	7253	19977
30	86.8	18236 -O	103/104/120/160	7342	17226 -O	99/101/117/160	7241	19696
32	86.3	17761 -O	102/102/118/160	7339	16798 -O	98/100/116/160	7233	19168
34	85.8	17288 -O	100/101/117/160	7320	16400 -O	97/99/115/160	7225	18641
36	85.2	16849 -O	99/100/116/160	7312	15989 -O	96/97/113/160	7217	18108
38	84.6	16379 -O	98/98/114/160	7311	15547 -O	95/96/112/160	7213	17568
40	83.8	15974 -O	97/97/113/160	7288	15150 -O	94/95/110/160	7198	17029
43	82.6	14568 -O	91/93/108/160	7181	14005 -O	89/91/106/160	7116	16212

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+16	0	+20	0	
TWD per KT	-188	0	NA	NA	
QNH per +0.1	+62	+11	+60	+8	+44
QNH per -0.1	-81	0	-81	0	-115
EECINOP	-947	0	NA	NA	0
ANTI ICE ON	0	+156	-809	+107	0
DEICE	-25	0	-127	0	0
ROLLING	-14	0	-80	0	0
TRINOP	-8	0	-51	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation EXCEL
 Engine: PW545A
 AFM: 56XFM-13
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 15

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- WET RWY
- STATIC TAKEOFF

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	-1.22	-1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-15	87.7	20200 ST	88/106/119/160	7291	20200 ST	88/106/119/160	7291	20200
-10	88.5	20200 ST	89/106/119/160	7255	20200 ST	89/106/119/160	7255	20200
-5	89.3	20200 ST	89/106/119/160	7220	20200 ST	89/106/119/160	7220	20200
0	90.2	20200 ST	89/106/119/160	7192	20200 ST	89/106/119/160	7192	20200
2	90.5	20200 ST	89/106/119/160	7185	20200 ST	89/106/119/160	7185	20200
4	90.8	20200 ST	89/106/119/160	7178	20200 ST	89/106/119/160	7178	20200
6	91.0	20200 ST	89/106/119/160	7179	20200 ST	89/106/119/160	7179	20200
8	90.8	20200 ST	89/106/119/160	7188	20200 ST	89/106/119/160	7188	20200
10	90.5	20200 ST	90/106/119/160	7197	20200 ST	90/106/119/160	7197	20200
12	90.3	20200 ST	91/106/119/160	7222	20200 ST	91/106/119/160	7222	20200
14	90.0	20200 ST	91/106/119/160	7247	20200 ST	91/106/119/160	7247	20200
16	89.7	20200 ST	92/106/119/160	7286	20200 ST	92/106/119/160	7286	20200
18	89.3	20200 ST	93/106/119/160	7339	20200 ST	93/106/119/160	7339	20200
20	88.9	20200 ST	94/106/119/160	7392	20200 ST	94/106/119/160	7392	20200
22	88.5	20163 FP	94/106/119/160	7504	20163 FP	94/106/119/160	8100	20200
24	88.1	20127 FP	95/105/119/160	7613	20108 -O	95/105/119/160	8752	20007
26	87.7	19996 FP	95/105/119/160	7707	19635 -O	94/104/118/160	8726	19802
28	87.3	19770 FP	95/104/119/160	7789	19180 -O	93/103/117/160	8699	19315
30	86.8	19335 -O	94/103/118/160	7773	18770 -O	92/102/115/160	8673	18828
32	86.3	18889 -O	92/104/116/160	9317	18304 -O	90/102/114/160	8645	18328
34	85.8	18309 FP	91/102/114/160	7700	17861 -O	89/100/113/160	8620	17828
36	85.2	17709 FP	89/100/112/160	7632	17439 -O	88/99/111/160	8589	17318
38	84.6	17127 FP	88/98/110/160	7576	16983 -O	87/97/109/160	8557	16798
40	83.8	16545 FP	86/96/108/160	7534	16512 -O	86/96/108/160	8527	16278
43	82.6	14308 -O	77/89/101/160	7149	13937 -O	75/88/100/160	7086	15480

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	0	0	0	+1	
TWD per KT	-69	+136	NA	NA	
QNH per +0.1	+18	+134	+54	+141	+61
QNH per -0.1	-134	+159	-130	+132	-113
EECINOP	NA	NA	NA	NA	0
ANTI ICE ON	0	+244	0	+244	0
DEICE	NA	NA	NA	NA	0
ROLLING	-22	+1427	-18	+4	0
TRINOP	-9	+7	-6	+2	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation EXCEL
 Engine: PW545A
 AFM: 56XFM-13
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 15

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- WET RWY
- STATIC TAKEOFF

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	1.22	1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-15	87.7	20200 ST	96/106/119/160	7407	20200 ST	96/106/119/160	7407	20200
-10	88.5	20200 ST	96/106/119/160	7370	20200 ST	96/106/119/160	7370	20200
-5	89.3	20200 ST	96/106/119/160	7335	20200 ST	96/106/119/160	7335	20200
0	90.2	20200 ST	96/106/119/160	7307	20200 ST	96/106/119/160	7307	20200
2	90.5	20200 ST	96/106/119/160	7300	20200 ST	96/106/119/160	7300	20200
4	90.8	20200 ST	96/106/119/160	7293	20200 ST	96/106/119/160	7293	20200
6	91.0	20200 ST	96/106/119/160	7295	20200 ST	96/106/119/160	7295	20200
8	90.8	20200 ST	97/106/119/160	7305	20200 ST	97/106/119/160	7305	20200
10	90.5	20200 ST	98/106/119/160	7316	20200 ST	98/106/119/160	7316	20200
12	90.3	20200 ST	98/106/119/160	7344	20200 ST	98/106/119/160	7344	20200
14	90.0	20200 ST	99/106/119/160	7372	20200 ST	99/106/119/160	7372	20200
16	89.7	20200 ST	100/106/119/160	7414	20171 -O	100/106/119/160	7410	20200
18	89.3	20200 ST	101/106/119/160	7470	19755 -O	99/105/118/160	7405	20200
20	88.9	20200 ST	102/106/119/160	7526	19370 -O	98/104/117/160	7391	20200
22	88.5	19976 -O	101/105/118/160	7594	18942 -O	97/103/116/160	7385	20200
24	88.1	19544 -O	100/104/117/160	7592	18540 -O	96/102/114/160	7378	20007
26	87.7	19102 -O	100/103/116/160	7569	18132 -O	95/100/113/160	7367	19802
28	87.3	18635 -O	98/102/115/160	7565	17701 -O	94/99/112/160	7359	19315
30	86.8	18205 -O	97/101/113/160	7530	17304 -O	93/98/111/160	7339	18828
32	86.3	17731 -O	96/100/112/160	7532	16863 -O	92/97/109/160	7334	18328
34	85.8	17275 -O	95/98/111/160	7508	16447 -O	91/95/108/160	7324	17828
36	85.2	16820 -O	94/97/109/160	7486	16015 -O	90/94/107/160	7309	17318
38	84.6	16325 -O	92/95/107/160	7482	15567 -O	88/93/105/160	7315	16798
40	83.8	15864 -O	91/94/106/160	7455	15130 -O	87/91/103/160	7283	16278
43	82.6	13612 -O	81/87/98/160	7136	NA -O	NA	NA	15480

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+6	0	+19	0	
TWD per KT	NA	NA	-103	0	
QNH per +0.1	+63	+33	+60	0	+61
QNH per -0.1	-83	+13	-82	+7	-113
EECINOP	NA	NA	-1004	0	0
ANTI ICE ON	0	+259	-628	+179	0
DEICE	NA	NA	NA	NA	0
ROLLING	+12	0	-137	0	0
TRINOP	+6	0	-76	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation EXCEL
 Engine: PW545A
 AFM: 56XFM-13

LANDING PERFORMANCE FLAPS 15/35

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- WITH THRUST REVERSERS

Approach Climb Limits:

Approach Flaps 15

GRAD	-20	-10	0	10	20	25	30	35	40	43
2.1%	18700	18700	18700	18700	18700	18700	18700	18114	16764	15946

Field Length Weight Limits/Distances:

Landing Flaps 35

RWY: 16
 LDA: 8700FT
 SLOPE: -1.22%
 COND: DRY

	WIND (KT)	OAT (°C)	60% FACTOR		DISPATCH		80% FACTOR		UNFACTORED	
			WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
	-10	3	17534	8161	17542	6158	17534	6121	17534	4897
		13	17238	8272	17238	6094	17238	6204	17238	4964
		23	16955	8385	16947	6033	16955	6289	16955	5031
		33	16683	8506	16670	5975	16683	6380	16683	5104
		43	15946	8439	15837	5795	15946	6330	15946	5064
	0	3	18700	7194	18700	5519	18700	5396	18700	4317
		13	18700	7402	18638	5506	18700	5552	18700	4441
		23	18641	7586	18486	5476	18641	5690	18641	4552
		33	18329	7696	18138	5406	18329	5772	18329	4618
		43	15946	7082	15857	4948	15946	5311	15946	4249
	10	3	18700	6817	18700	5234	18700	5113	18700	4090
		13	18700	7020	18700	5234	18700	5265	18700	4212
		23	18700	7227	18695	5233	18700	5420	18700	4336
		33	18645	7416	18324	5159	18645	5562	18645	4450
		43	15946	6709	15857	4670	15946	5032	15946	4025
	30	3	18700	6096	18700	4744	18700	4572	18700	3658
		13	18700	6288	18700	4744	18700	4716	18700	3773
		23	18700	6483	18700	4744	18700	4862	18700	3890
		33	18645	6662	18345	4675	18645	4997	18645	3997
		43	15946	5995	15857	4205	15946	4496	15946	3597

RWY: 16
 LDA: 8700FT
 SLOPE: -1.22%
 COND: Wet [115%]

	WIND (KT)	OAT (°C)	60% FACTOR		DISPATCH		80% FACTOR		UNFACTORED	
			WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
	-10	3	15738	8700	17542	7082	17534	7039	17534	5631
		13	15215	8700	17238	7008	17238	7135	17238	5708
		23	14714	8700	16947	6938	16955	7232	16955	5786
		33	14238	8700	16670	6871	16683	7337	16683	5870
		43	13781	8700	15837	6664	15946	7279	15946	5823
	0	3	18700	8273	18700	6346	18700	6205	18700	4964
		13	18700	8512	18638	6332	18700	6384	18700	5107
		23	18567	8700	18486	6297	18641	6543	18641	5234
		33	17925	8700	18138	6217	18329	6638	18329	5311
		43	15946	8144	15857	5690	15946	6108	15946	4886
	10	3	18700	7839	18700	6019	18700	5880	18700	4704
		13	18700	8073	18700	6019	18700	6055	18700	4844
		23	18700	8311	18695	6018	18700	6233	18700	4987
		33	18645	8528	18324	5933	18645	6396	18645	5117
		43	15946	7715	15857	5370	15946	5786	15946	4629
	30	3	18700	7010	18700	5456	18700	5258	18700	4206
		13	18700	7231	18700	5456	18700	5424	18700	4339
		23	18700	7455	18700	5456	18700	5591	18700	4473
		33	18645	7661	18345	5376	18645	5746	18645	4597
		43	15946	6894	15857	4836	15946	5170	15946	4136

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation EXCEL
 Engine: PW545A
 AFM: 56XFM-13

LANDING PERFORMANCE FLAPS 15/35

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- WITH THRUST REVERSERS

Approach Climb Limits:

Approach Flaps 15

GRAD	-20	-10	0	10	20	25	30	35	40	43
2.1%	18700	18700	18700	18700	18700	18700	18700	18114	16764	15946

Field Length Weight Limits/Distances:

Landing Flaps 35

RWY: 34
 LDA: 8700FT
 SLOPE: 1.22%
 COND: DRY

WIND (KT)	OAT (°C)	60% FACTOR		DISPATCH		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	3	18400	6893	18395	6347	18400	5170	18400	4136
	13	18085	6985	18089	6282	18085	5239	18085	4191
	23	17786	7097	17784	6214	17786	5323	17786	4258
	33	17503	7196	17492	6147	17503	5397	17503	4318
	43	15946	6907	15857	5800	15946	5180	15946	4144
0	3	18700	6024	18700	5519	18700	4518	18700	3615
	13	18700	6182	18700	5519	18700	4636	18700	3709
	23	18700	6343	18700	5519	18700	4757	18700	3806
	33	18645	6491	18345	5448	18645	4868	18645	3895
	43	15946	5934	15857	4948	15946	4451	15946	3561
10	3	18700	5733	18700	5234	18700	4300	18700	3440
	13	18700	5888	18700	5234	18700	4416	18700	3533
	23	18700	6046	18700	5234	18700	4534	18700	3628
	33	18645	6191	18345	5163	18645	4644	18645	3715
	43	15946	5645	15857	4670	15946	4234	15946	3387
30	3	18700	5170	18700	4744	18700	3877	18700	3102
	13	18700	5319	18700	4744	18700	3989	18700	3192
	23	18700	5470	18700	4744	18700	4103	18700	3282
	33	18645	5609	18345	4675	18645	4207	18645	3365
	43	15946	5087	15857	4205	15946	3815	15946	3052

RWY: 34
 LDA: 8700FT
 SLOPE: 1.22%
 COND: Wet [115%]

WIND (KT)	OAT (°C)	60% FACTOR		DISPATCH		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	3	18400	7927	18395	7299	18400	5945	18400	4756
	13	18085	8033	18089	7224	18085	6025	18085	4820
	23	17786	8161	17784	7146	17786	6121	17786	4897
	33	17503	8275	17492	7069	17503	6206	17503	4965
	43	15946	7943	15857	6670	15946	5957	15946	4766
0	3	18700	6927	18700	6346	18700	5196	18700	4157
	13	18700	7109	18700	6346	18700	5332	18700	4266
	23	18700	7294	18700	6346	18700	5471	18700	4377
	33	18645	7465	18345	6265	18645	5599	18645	4479
	43	15946	6824	15857	5690	15946	5118	15946	4095
10	3	18700	6592	18700	6019	18700	4944	18700	3956
	13	18700	6771	18700	6019	18700	5078	18700	4063
	23	18700	6952	18700	6019	18700	5214	18700	4172
	33	18645	7120	18345	5938	18645	5340	18645	4272
	43	15946	6492	15857	5370	15946	4869	15946	3895
30	3	18700	5945	18700	5456	18700	4459	18700	3567
	13	18700	6117	18700	5456	18700	4588	18700	3670
	23	18700	6291	18700	5456	18700	4718	18700	3775
	33	18645	6450	18345	5376	18645	4837	18645	3870
	43	15946	5850	15857	4836	15946	4387	15946	3510

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation Sovereign
 Engine: PW306C
 AFM: 68FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 7

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- STATIC TAKEOFF
- WITH THRUST REVERSERS

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	-1.22	-1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	96.5	30300 ST	108/113/122/180	7253	30300 ST	108/113/122/180	7253	30300
-15	97.4	30300 ST	108/113/122/180	7217	30300 ST	108/113/122/180	7217	30300
-10	98.4	30300 ST	108/113/122/180	7182	30300 ST	108/113/122/180	7182	30300
-5	99.3	30300 ST	108/113/122/180	7148	30300 ST	108/113/122/180	7148	30300
0	100.2	30300 ST	108/113/122/180	7116	30300 ST	108/113/122/180	7116	30300
2	100.5	30300 ST	108/113/122/180	7105	30300 ST	108/113/122/180	7105	30300
4	100.9	30300 ST	108/113/122/180	7095	30300 ST	108/113/122/180	7095	30300
6	101.0	30300 ST	108/113/122/180	7087	30300 ST	108/113/122/180	7087	30300
8	100.9	30300 ST	108/113/122/180	7082	30300 ST	108/113/122/180	7082	30300
10	100.8	30300 ST	108/113/122/180	7077	30300 ST	108/113/122/180	7077	30300
12	100.7	30300 ST	109/113/121/180	7077	30300 ST	109/113/121/180	7077	30300
14	100.6	30300 ST	109/113/121/180	7077	30300 ST	109/113/121/180	7077	30300
16	100.4	30300 ST	110/114/121/180	7078	30300 ST	110/114/121/180	7078	30300
18	100.1	30300 ST	111/114/122/180	7079	30300 ST	111/114/122/180	7079	30300
20	99.9	30300 ST	111/114/122/180	7081	30300 ST	111/114/122/180	7081	30300
22	99.6	30300 ST	112/114/122/180	7088	30300 ST	112/114/122/180	7088	30300
24	99.4	30300 ST	112/115/122/180	7094	30300 ST	112/115/122/180	7094	30300
26	99.1	30300 ST	113/115/122/180	7104	30300 ST	113/115/122/180	7104	30300
28	98.9	30300 ST	114/115/122/180	7117	30300 ST	114/115/122/180	7117	30300
30	98.6	30300 ST	114/115/122/180	7130	30300 ST	114/115/122/180	7130	30300
32	98.3	30300 ST	115/116/122/180	7154	30300 ST	115/116/122/180	7154	30300
34	98.0	30300 ST	115/116/122/180	7177	30300 ST	115/116/122/180	7177	30300
36	97.7	30272 FP	115/116/122/180	7209	30272 FP	115/116/122/180	7209	30300
38	97.4	30218 FP	116/116/122/180	7248	30218 FP	116/116/122/180	7773	30206
40	97.1	30163 FP	116/116/122/180	7285	30163 FP	116/116/122/180	8208	30019
43	96.7	30040 FP	114/114/120/180	8394	30040 FP	114/114/120/180	8356	29468

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	0	0	0	0	
TWD per KT	-127	+5	-97	+98	
QNH per +0.1	+13	0	+13	0	+68
QNH per -0.1	-56	+86	-56	+99	-80
ANTI ICE ON	0	+204	0	+204	0
DEICE	0	-1	0	+7	0
ROLLING	0	-1	0	+3	0
TRINOP	0	0	0	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation Sovereign
 Engine: PW306C
 AFM: 68FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 7

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- STATIC TAKEOFF
- WITH THRUST REVERSERS

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	1.22	1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	96.5	30300 ST	114/114/122/180	7365	30300 ST	114/114/122/180	7365	30300
-15	97.4	30300 ST	114/114/122/180	7329	30300 ST	114/114/122/180	7329	30300
-10	98.4	30300 ST	114/114/122/180	7294	30300 ST	114/114/122/180	7294	30300
-5	99.3	30300 ST	114/114/122/180	7260	30300 ST	114/114/122/180	7260	30300
0	100.2	30300 ST	114/114/122/180	7228	30300 ST	114/114/122/180	7228	30300
2	100.5	30300 ST	114/114/122/180	7217	30300 ST	114/114/122/180	7217	30300
4	100.9	30300 ST	114/114/122/180	7206	30300 ST	114/114/122/180	7206	30300
6	101.0	30300 ST	114/114/122/180	7199	30300 ST	114/114/122/180	7199	30300
8	100.9	30300 ST	114/114/122/180	7195	30300 ST	114/114/122/180	7195	30300
10	100.8	30300 ST	114/114/122/180	7191	30300 ST	114/114/122/180	7191	30300
12	100.7	30300 ST	114/114/122/180	7194	30300 ST	114/114/122/180	7194	30300
14	100.6	30300 ST	114/114/122/180	7196	30300 ST	114/114/122/180	7196	30300
16	100.4	30300 ST	114/114/122/180	7200	30300 ST	114/114/122/180	7200	30300
18	100.1	30300 ST	114/114/122/180	7205	30300 ST	114/114/122/180	7205	30300
20	99.9	30300 ST	114/114/122/180	7210	30300 ST	114/114/122/180	7210	30300
22	99.6	30300 ST	115/115/122/180	7220	30300 ST	115/115/122/180	7220	30300
24	99.4	30300 ST	115/115/122/180	7230	30300 ST	115/115/122/180	7230	30300
26	99.1	30300 ST	115/115/122/180	7244	30300 ST	115/115/122/180	7244	30300
28	98.9	30300 ST	115/115/122/180	7261	30300 ST	115/115/122/180	7261	30300
30	98.6	30300 ST	115/115/122/180	7279	30203 -O	115/115/122/180	7273	30300
32	98.3	30300 ST	116/116/122/180	7309	29678 -O	115/115/120/180	7266	30300
34	98.0	30266 FL	116/116/122/180	7336	29206 -O	114/114/119/180	7255	30300
36	97.7	29739 FL	115/115/121/180	7328	28711 -O	113/113/118/180	7246	30300
38	97.4	29224 FL	114/114/120/180	7320	28216 -O	112/112/117/180	7238	30206
40	97.1	28794 FL	113/113/119/180	7312	27761 -O	111/111/117/180	7226	30019
43	96.7	28061 FL	112/112/117/180	7301	27035 -O	110/110/115/180	7212	29468

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+17	0	+36	0	
TWD per KT	-279	0	-206	0	
QNH per +0.1	+103	0	+102	0	+68
QNH per -0.1	-114	0	-111	0	-80
ANTI ICE ON	0	+218	0	+218	0
DEICE	-1004	0	-710	0	0
ROLLING	-431	0	-342	0	0
TRINOP	0	0	0	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation Sovereign
 Engine: PW306C
 AFM: 68FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 15

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- STATIC TAKEOFF
- WITH THRUST REVERSERS

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	-1.22	-1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	96.5	30300 ST	103/109/115/180	7294	30300 ST	103/109/115/180	7294	30300
-15	97.4	30300 ST	103/109/115/180	7257	30300 ST	103/109/115/180	7257	30300
-10	98.4	30300 ST	103/109/115/180	7221	30300 ST	103/109/115/180	7221	30300
-5	99.3	30300 ST	103/109/115/180	7187	30300 ST	103/109/115/180	7187	30300
0	100.2	30300 ST	103/109/115/180	7154	30300 ST	103/109/115/180	7154	30300
2	100.5	30300 ST	103/109/115/180	7144	30300 ST	103/109/115/180	7144	30300
4	100.9	30300 ST	103/109/115/180	7134	30300 ST	103/109/115/180	7134	30300
6	101.0	30300 ST	103/109/115/180	7129	30300 ST	103/109/115/180	7129	30300
8	100.9	30300 ST	103/109/115/180	7127	30300 ST	103/109/115/180	7127	30300
10	100.8	30300 ST	103/109/115/180	7126	30300 ST	103/109/115/180	7126	30300
12	100.7	30300 ST	103/109/114/180	7133	30300 ST	103/109/114/180	7133	30300
14	100.6	30300 ST	104/109/114/180	7140	30300 ST	104/109/114/180	7140	30300
16	100.4	30300 ST	104/109/114/180	7150	30300 ST	104/109/114/180	7150	30300
18	100.1	30300 ST	105/109/114/180	7163	30300 ST	105/109/114/180	7163	30300
20	99.9	30300 ST	105/109/114/180	7175	30300 ST	105/109/114/180	7175	30300
22	99.6	30300 ST	105/109/114/180	7200	30300 ST	105/109/114/180	7200	30300
24	99.4	30300 ST	106/109/113/180	7224	30300 ST	106/109/113/180	7224	30300
26	99.1	30300 ST	106/109/113/180	7260	30300 ST	106/109/113/180	7260	30300
28	98.9	30300 ST	107/109/113/180	7307	30300 ST	107/109/113/180	7307	30300
30	98.6	30300 ST	107/110/113/180	7354	30300 ST	107/110/113/180	7354	30300
32	98.3	30245 FP	108/110/113/180	7436	30245 FP	108/110/113/180	8493	30300
34	98.0	30190 FP	108/110/113/180	7513	30080 -O	108/109/113/180	8685	30088
36	97.7	30039 FP	109/110/113/180	7589	29498 -O	107/109/112/180	8665	29857
38	97.4	29528 -O	108/110/113/180	7599	28933 -O	107/108/111/180	8644	29362
40	97.1	28972 -O	108/109/112/180	9271	28444 -O	106/107/110/180	8624	28867
43	96.7	28231 -O	106/107/110/180	9234	27748 -O	104/106/109/180	8593	28029

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	0	+1	0	+1	
TWD per KT	-61	+182	-56	+20	
QNH per +0.1	+22	+2	+76	+2	+69
QNH per -0.1	-107	+170	-112	+135	-109
ANTI ICE ON	0	+422	0	+1017	-128
DEICE	NA	NA	NA	NA	0
ROLLING	-9	-2	-18	+6	0
TRINOP	0	+1	0	+1	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation Sovereign
 Engine: PW306C
 AFM: 68FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 15

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- STATIC TAKEOFF
- WITH THRUST REVERSERS

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	1.22	1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	96.5	30300 ST	109/110/115/180	7397	30300 ST	109/110/115/180	7397	30300
-15	97.4	30300 ST	109/110/115/180	7360	30300 ST	109/110/115/180	7360	30300
-10	98.4	30300 ST	109/110/115/180	7324	30300 ST	109/110/115/180	7324	30300
-5	99.3	30300 ST	109/110/115/180	7290	30300 ST	109/110/115/180	7290	30300
0	100.2	30300 ST	109/110/115/180	7257	30300 ST	109/110/115/180	7257	30300
2	100.5	30300 ST	109/110/115/180	7247	30300 ST	109/110/115/180	7247	30300
4	100.9	30300 ST	109/110/115/180	7237	30300 ST	109/110/115/180	7237	30300
6	101.0	30300 ST	109/110/115/180	7232	30300 ST	109/110/115/180	7232	30300
8	100.9	30300 ST	109/110/115/180	7231	30300 ST	109/110/115/180	7231	30300
10	100.8	30300 ST	109/110/115/180	7231	30300 ST	109/110/115/180	7231	30300
12	100.7	30300 ST	109/109/115/180	7240	30300 ST	109/109/115/180	7240	30300
14	100.6	30300 ST	109/109/114/180	7249	30300 ST	109/109/114/180	7249	30300
16	100.4	30300 ST	109/109/114/180	7261	30300 ST	109/109/114/180	7261	30300
18	100.1	30300 ST	109/109/114/180	7276	30300 ST	109/109/114/180	7276	30300
20	99.9	30300 ST	109/109/114/180	7291	30300 ST	109/109/114/180	7291	30300
22	99.6	30300 ST	109/109/114/180	7319	30300 ST	109/109/114/180	7319	30300
24	99.4	30300 ST	109/109/114/180	7347	30300 ST	109/109/114/180	7347	30300
26	99.1	30300 ST	110/110/113/180	7388	30300 ST	110/110/113/180	7388	30300
28	98.9	30300 ST	110/110/113/180	7440	30152 -O	110/110/113/180	7421	30300
30	98.6	30300 ST	110/110/113/180	7492	29663 -O	109/109/112/180	7407	30300
32	98.3	30245 FP	110/110/113/180	7580	29139 -O	108/108/111/180	7403	30300
34	98.0	30190 FP	110/110/113/180	7665	28653 -O	107/107/110/180	7390	30088
36	97.7	29798 FL	110/110/113/180	7691	28154 -O	106/106/109/180	7380	29857
38	97.4	29254 FL	109/109/112/180	7684	27646 -O	105/105/108/180	7374	29362
40	97.1	28786 FL	108/108/111/180	7674	27178 -O	104/104/107/180	7354	28867
43	96.7	28002 -O	107/107/110/180	7653	26427 -O	103/103/106/180	7340	28029

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	0	0	+29	0	
TWD per KT	-253	0	-199	0	
QNH per +0.1	+46	0	+100	0	+69
QNH per -0.1	-112	+18	-111	+7	-109
ANTI ICE ON	0	+433	0	+433	-128
DEICE	NA	NA	NA	NA	0
ROLLING	-316	0	-214	0	0
TRINOP	0	0	0	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation Sovereign
 Engine: PW306C
 AFM: 68FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 7

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- WET RWY
- WITH THRUST REVERSERS
- STATIC TAKEOFF

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	-1.22	-1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	96.5	30300 ST	101/113/122/180	7247	30300 ST	101/113/122/180	7247	30300
-15	97.4	30300 ST	101/113/122/180	7210	30300 ST	101/113/122/180	7210	30300
-10	98.4	30300 ST	101/113/122/180	7175	30300 ST	101/113/122/180	7175	30300
-5	99.3	30300 ST	101/113/122/180	7142	30300 ST	101/113/122/180	7142	30300
0	100.2	30300 ST	101/113/122/180	7109	30300 ST	101/113/122/180	7109	30300
2	100.5	30300 ST	101/113/122/180	7099	30300 ST	101/113/122/180	7099	30300
4	100.9	30300 ST	100/113/122/180	7088	30300 ST	100/113/122/180	7088	30300
6	101.0	30300 ST	100/113/122/180	7081	30300 ST	100/113/122/180	7081	30300
8	100.9	30300 ST	100/113/122/180	7077	30300 ST	100/113/122/180	7077	30300
10	100.8	30300 ST	99/113/122/180	7072	30300 ST	99/113/122/180	7072	30300
12	100.7	30300 ST	99/113/121/180	7073	30300 ST	99/113/121/180	7073	30300
14	100.6	30300 ST	98/113/121/180	7074	30300 ST	98/113/121/180	7074	30300
16	100.4	30300 ST	98/114/121/180	7076	30300 ST	98/114/121/180	7076	30300
18	100.1	30300 ST	98/114/122/180	7079	30300 ST	98/114/122/180	7079	30300
20	99.9	30300 ST	99/114/122/180	7082	30300 ST	99/114/122/180	7082	30300
22	99.6	30300 ST	100/114/122/180	7088	30300 ST	100/114/122/180	7088	30300
24	99.4	30300 ST	100/115/122/180	7095	30300 ST	100/115/122/180	7095	30300
26	99.1	30300 ST	101/115/122/180	7104	30300 ST	101/115/122/180	7104	30300
28	98.9	30300 ST	102/115/122/180	7118	30300 ST	102/115/122/180	7118	30300
30	98.6	30300 ST	103/115/122/180	7131	30300 ST	103/115/122/180	7131	30300
32	98.3	30300 ST	103/116/122/180	7155	30300 ST	103/116/122/180	7155	30300
34	98.0	30300 ST	104/116/122/180	7179	30300 ST	104/116/122/180	7179	30300
36	97.7	30272 FP	105/116/122/180	7214	30272 FP	105/116/122/180	7214	30300
38	97.4	30218 FP	105/116/122/180	7259	30218 FP	105/116/122/180	8152	30206
40	97.1	30163 FP	106/116/122/180	7304	30163 FP	106/116/122/180	8247	30019
43	96.7	29996 -O	105/114/120/180	8402	30040 FP	105/114/120/180	8372	29468

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	0	0	0	0	
TWD per KT	-216	+2	-215	+51	
QNH per +0.1	+18	0	+13	0	+68
QNH per -0.1	-56	+92	-56	+105	-80
ANTI ICE ON	0	+209	0	+209	0
DEICE	-806	-2	-786	-1	0
ROLLING	-598	-2	-574	-1	0
TRINOP	-201	-1	-179	+2	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation Sovereign
 Engine: PW306C
 AFM: 68FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 7

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- WET RWY
- STATIC TAKEOFF
- WITH THRUST REVERSERS

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	1.22	1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	96.5	30300 ST	102/114/122/180	7370	30300 ST	102/114/122/180	7370	30300
-15	97.4	30300 ST	102/114/122/180	7333	30300 ST	102/114/122/180	7333	30300
-10	98.4	30300 ST	102/114/122/180	7298	30300 ST	102/114/122/180	7298	30300
-5	99.3	30300 ST	102/114/122/180	7265	30300 ST	102/114/122/180	7265	30300
0	100.2	30300 ST	102/114/122/180	7233	30300 ST	102/114/122/180	7233	30300
2	100.5	30300 ST	102/114/122/180	7222	30300 ST	102/114/122/180	7222	30300
4	100.9	30300 ST	102/114/122/180	7211	30300 ST	102/114/122/180	7211	30300
6	101.0	30300 ST	102/114/122/180	7204	30300 ST	102/114/122/180	7204	30300
8	100.9	30300 ST	103/114/122/180	7200	30300 ST	103/114/122/180	7200	30300
10	100.8	30300 ST	103/114/122/180	7196	30300 ST	103/114/122/180	7196	30300
12	100.7	30300 ST	104/114/122/180	7198	30300 ST	104/114/122/180	7198	30300
14	100.6	30300 ST	104/114/122/180	7200	30300 ST	104/114/122/180	7200	30300
16	100.4	30300 ST	105/114/122/180	7203	30300 ST	105/114/122/180	7203	30300
18	100.1	30300 ST	106/114/122/180	7208	30300 ST	106/114/122/180	7208	30300
20	99.9	30300 ST	107/114/122/180	7213	30300 ST	107/114/122/180	7213	30300
22	99.6	30300 ST	108/115/122/180	7224	30300 ST	108/115/122/180	7224	30300
24	99.4	30300 ST	109/115/122/180	7234	30300 ST	109/115/122/180	7234	30300
26	99.1	30300 ST	110/115/122/180	7248	30300 ST	110/115/122/180	7248	30300
28	98.9	30300 ST	111/115/122/180	7266	29935 -O	110/115/121/180	7245	30300
30	98.6	30300 ST	112/115/122/180	7284	29465 -O	109/114/120/180	7235	30300
32	98.3	30300 ST	113/116/122/180	7314	28974 -O	109/113/119/180	7225	30300
34	98.0	30089 -O	113/116/121/180	7326	28504 -O	108/112/118/180	7216	30300
36	97.7	29559 -O	113/115/120/180	7318	28035 -O	107/111/117/180	7206	30300
38	97.4	29052 -O	112/114/119/180	7308	27546 -O	106/110/116/180	7198	30206
40	97.1	28571 -O	111/113/118/180	7298	27103 -O	105/110/115/180	7186	30019
43	96.7	27816 -O	110/111/117/180	7284	26384 -O	105/108/114/180	7173	29468

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+23	0	+37	0	
TWD per KT	-261	0	-229	0	
QNH per +0.1	+105	0	+100	0	+68
QNH per -0.1	-112	0	-111	0	-80
ANTI ICE ON	0	+217	0	+217	0
DEICE	-759	0	-474	0	0
ROLLING	-290	0	-353	0	0
TRINOP	0	0	-2	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation Sovereign
 Engine: PW306C
 AFM: 68FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 15

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- WET RWY
- STATIC TAKEOFF
- WITH THRUST REVERSERS

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	-1.22	-1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	96.5	30300 ST	102/109/115/180	7283	30300 ST	102/109/115/180	7283	30300
-15	97.4	30300 ST	102/109/115/180	7245	30300 ST	102/109/115/180	7245	30300
-10	98.4	30300 ST	102/109/115/180	7210	30300 ST	102/109/115/180	7210	30300
-5	99.3	30300 ST	102/109/115/180	7176	30300 ST	102/109/115/180	7176	30300
0	100.2	30300 ST	102/109/115/180	7143	30300 ST	102/109/115/180	7143	30300
2	100.5	30300 ST	102/109/115/180	7133	30300 ST	102/109/115/180	7133	30300
4	100.9	30300 ST	101/109/115/180	7123	30300 ST	101/109/115/180	7123	30300
6	101.0	30300 ST	101/109/115/180	7118	30300 ST	101/109/115/180	7118	30300
8	100.9	30300 ST	100/109/115/180	7117	30300 ST	100/109/115/180	7117	30300
10	100.8	30300 ST	100/109/115/180	7117	30300 ST	100/109/115/180	7117	30300
12	100.7	30300 ST	99/109/114/180	7125	30300 ST	99/109/114/180	7125	30300
14	100.6	30300 ST	98/109/114/180	7134	30300 ST	98/109/114/180	7134	30300
16	100.4	30300 ST	98/109/114/180	7145	30300 ST	98/109/114/180	7145	30300
18	100.1	30300 ST	97/109/114/180	7160	30300 ST	97/109/114/180	7160	30300
20	99.9	30300 ST	96/109/114/180	7174	30300 ST	96/109/114/180	7174	30300
22	99.6	30300 ST	96/109/114/180	7200	30300 ST	96/109/114/180	7200	30300
24	99.4	30300 ST	96/109/113/180	7226	30300 ST	96/109/113/180	7226	30300
26	99.1	30300 ST	96/109/113/180	7262	30300 ST	96/109/113/180	7262	30300
28	98.9	30300 ST	96/109/113/180	7310	30300 ST	96/109/113/180	7310	30300
30	98.6	30300 ST	97/110/113/180	7358	30300 ST	97/110/113/180	7358	30300
32	98.3	30245 FP	98/110/113/180	7450	30245 FP	98/110/113/180	8536	30300
34	98.0	30190 FP	98/110/113/180	7542	30050 -O	98/109/113/180	8684	30088
36	97.7	30039 FP	98/110/114/180	7628	29463 -O	97/109/112/180	8662	29857
38	97.4	29468 -O	97/110/113/180	7592	28890 -O	96/108/111/180	8642	29362
40	97.1	28933 -O	96/109/112/180	9268	28406 -O	95/107/110/180	8622	28867
43	96.7	28167 -O	96/107/110/180	9233	27699 -O	94/106/109/180	8588	28029

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	0	+1	0	+1	
TWD per KT	-55	+169	-55	+15	
QNH per +0.1	+22	+2	+80	+2	+69
QNH per -0.1	-110	+167	-112	+134	-109
ANTI ICE ON	0	+431	0	+1032	-128
DEICE	NA	NA	NA	NA	0
ROLLING	-9	-2	-18	+6	0
TRINOP	-2	+1	-3	+2	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation Sovereign
 Engine: PW306C
 AFM: 68FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 15

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- WET RWY
- STATIC TAKEOFF
- WITH THRUST REVERSERS

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	1.22	1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	96.5	30300 ST	101/110/115/180	7408	30300 ST	101/110/115/180	7408	30300
-15	97.4	30300 ST	101/110/115/180	7370	30300 ST	101/110/115/180	7370	30300
-10	98.4	30300 ST	101/110/115/180	7334	30300 ST	101/110/115/180	7334	30300
-5	99.3	30300 ST	101/110/115/180	7300	30300 ST	101/110/115/180	7300	30300
0	100.2	30300 ST	101/110/115/180	7267	30300 ST	101/110/115/180	7267	30300
2	100.5	30300 ST	101/110/115/180	7257	30300 ST	101/110/115/180	7257	30300
4	100.9	30300 ST	101/110/115/180	7247	30300 ST	101/110/115/180	7247	30300
6	101.0	30300 ST	101/110/115/180	7241	30300 ST	101/110/115/180	7241	30300
8	100.9	30300 ST	101/110/115/180	7240	30300 ST	101/110/115/180	7240	30300
10	100.8	30300 ST	100/110/115/180	7239	30300 ST	100/110/115/180	7239	30300
12	100.7	30300 ST	100/109/115/180	7246	30300 ST	100/109/115/180	7246	30300
14	100.6	30300 ST	100/109/114/180	7254	30300 ST	100/109/114/180	7254	30300
16	100.4	30300 ST	101/109/114/180	7266	30300 ST	101/109/114/180	7266	30300
18	100.1	30300 ST	101/109/114/180	7281	30300 ST	101/109/114/180	7281	30300
20	99.9	30300 ST	102/109/114/180	7297	30300 ST	102/109/114/180	7297	30300
22	99.6	30300 ST	103/109/114/180	7325	30300 ST	103/109/114/180	7325	30300
24	99.4	30300 ST	104/109/114/180	7353	30300 ST	104/109/114/180	7353	30300
26	99.1	30300 ST	105/110/113/180	7394	29920 -O	103/109/113/180	7356	30300
28	98.9	30300 ST	106/110/113/180	7447	29408 -O	103/108/112/180	7348	30300
30	98.6	30300 ST	107/110/113/180	7499	28938 -O	102/107/111/180	7329	30300
32	98.3	29869 -O	106/109/113/180	7522	28426 -O	101/107/110/180	7327	30300
34	98.0	29361 -O	106/109/112/180	7509	27963 -O	101/106/109/180	7310	30088
36	97.7	28846 -O	105/108/111/180	7496	27471 -O	100/105/108/180	7306	29857
38	97.4	28319 -O	104/107/110/180	7492	26989 -O	99/104/107/180	7292	29362
40	97.1	27836 -O	103/106/109/180	7467	26519 -O	99/103/106/180	7280	28867
43	96.7	27067 -O	103/104/107/180	7446	25792 -O	97/102/105/180	7263	28029

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+12	0	+31	0	
TWD per KT	-179	0	-201	0	
QNH per +0.1	+102	0	+97	0	+69
QNH per -0.1	-111	+13	-111	0	-109
ANTI ICE ON	0	+432	-260	+383	-128
DEICE	NA	NA	NA	NA	0
ROLLING	-167	0	-243	0	0
TRINOP	0	0	-3	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation Sovereign
 Engine: PW306C
 AFM: 68FM-11

LANDING PERFORMANCE FLAPS 15/35

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- WITH THRUST REVERSERS

Approach Climb Limits:

Approach Flaps 15										
GRAD	-20	-10	0	10	20	25	30	35	40	43
2.1%	27100	27100	27100	27100	27100	27100	27100	27100	27100	27100

Field Length Weight Limits/Distances:

Landing Flaps 35

RWY: 16
 LDA: 8700FT
 SLOPE: -1.22%
 COND: DRY

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	3	27100	7181	27100	5386	27100	4309
	13	27100	7375	27100	5531	27100	4425
	23	27100	7569	27100	5677	27100	4542
	33	27100	7764	27100	5823	27100	4659
	43	27100	7958	27100	5969	27100	4775
0	3	27100	5951	27100	4463	27100	3571
	13	27100	6123	27100	4592	27100	3674
	23	27100	6298	27100	4724	27100	3779
	33	27100	6472	27100	4854	27100	3884
	43	27100	6646	27100	4984	27100	3988
10	3	27100	5621	27100	4216	27100	3373
	13	27100	5788	27100	4341	27100	3473
	23	27100	5957	27100	4468	27100	3574
	33	27100	6126	27100	4595	27100	3676
	43	27100	6295	27100	4721	27100	3777
30	3	27100	4994	27100	3745	27100	2996
	13	27100	5151	27100	3863	27100	3091
	23	27100	5309	27100	3982	27100	3186
	33	27100	5467	27100	4101	27100	3281
	43	27100	5625	27100	4219	27100	3375

RWY: 16
 LDA: 8700FT
 SLOPE: -1.22%
 COND: Wet [115%]

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	3	27100	8259	27100	6194	27100	4955
	13	27100	8481	27100	6361	27100	5089
	23	27082	8700	27100	6528	27100	5223
	33	26124	8700	27100	6697	27100	5357
	43	25233	8700	27100	6864	27100	5491
0	3	27100	6843	27100	5132	27100	4106
	13	27100	7041	27100	5281	27100	4225
	23	27100	7243	27100	5432	27100	4346
	33	27100	7443	27100	5582	27100	4466
	43	27100	7642	27100	5732	27100	4586
10	3	27100	6464	27100	4848	27100	3879
	13	27100	6656	27100	4992	27100	3994
	23	27100	6851	27100	5138	27100	4111
	33	27100	7045	27100	5284	27100	4227
	43	27100	7239	27100	5429	27100	4344
30	3	27100	5743	27100	4307	27100	3446
	13	27100	5923	27100	4442	27100	3554
	23	27100	6105	27100	4579	27100	3663
	33	27100	6287	27100	4716	27100	3773
	43	27100	6469	27100	4852	27100	3881

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation Sovereign
 Engine: PW306C
 AFM: 68FM-11

LANDING PERFORMANCE FLAPS 15/35

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- WITH THRUST REVERSERS

Approach Climb Limits:

Approach Flaps 15										
GRAD	-20	-10	0	10	20	25	30	35	40	43
2.1%	27100	27100	27100	27100	27100	27100	27100	27100	27100	27100

Field Length Weight Limits/Distances:

Landing Flaps 35							
WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	3	27100	5777	27100	4333	27100	3466
	13	27100	5912	27100	4434	27100	3548
	23	27100	6049	27100	4537	27100	3629
	33	27100	6185	27100	4639	27100	3711
	43	27100	6320	27100	4740	27100	3792
0	3	27100	4923	27100	3692	27100	2954
	13	27100	5050	27100	3787	27100	3030
	23	27100	5178	27100	3884	27100	3107
	33	27100	5305	27100	3979	27100	3183
	43	27100	5432	27100	4074	27100	3259
10	3	27100	4674	27100	3506	27100	2805
	13	27100	4799	27100	3599	27100	2879
	23	27100	4925	27100	3694	27100	2955
	33	27100	5049	27100	3787	27100	3029
	43	27100	5173	27100	3880	27100	3104
30	3	27100	4196	27100	3147	27100	2518
	13	27100	4315	27100	3236	27100	2589
	23	27100	4434	27100	3326	27100	2661
	33	27100	4553	27100	3415	27100	2732
	43	27100	4671	27100	3504	27100	2803

RWY: 34
 LDA: 8700FT
 SLOPE: 1.22%
 COND: DRY

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	3	27100	6643	27100	4983	27100	3986
	13	27100	6799	27100	5100	27100	4080
	23	27100	6956	27100	5217	27100	4174
	33	27100	7112	27100	5334	27100	4268
	43	27100	7267	27100	5451	27100	4361
0	3	27100	5661	27100	4246	27100	3397
	13	27100	5807	27100	4355	27100	3484
	23	27100	5955	27100	4466	27100	3573
	33	27100	6101	27100	4576	27100	3661
	43	27100	6246	27100	4685	27100	3748
10	3	27100	5376	27100	4032	27100	3226
	13	27100	5518	27100	4139	27100	3311
	23	27100	5663	27100	4247	27100	3398
	33	27100	5806	27100	4355	27100	3484
	43	27100	5949	27100	4462	27100	3569
30	3	27100	4825	27100	3619	27100	2895
	13	27100	4962	27100	3722	27100	2977
	23	27100	5099	27100	3824	27100	3060
	33	27100	5236	27100	3927	27100	3142
	43	27100	5372	27100	4029	27100	3223

RWY: 34
 LDA: 8700FT
 SLOPE: 1.22%
 COND: Wet [115%]

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation X (1-172)
 Engine: AE3007C
 AFM: 75FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 5

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- WITHOUT THRUST REVERSERS
- STATIC TAKEOFF

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	-1.22	-1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.6	35700 ST	135/135/144/190	7399	35700 ST	135/135/144/190	7399	36100
-15	84.4	35700 ST	134/135/144/190	7359	35700 ST	134/135/144/190	7359	36100
-10	85.2	35700 ST	134/135/144/190	7320	35700 ST	134/135/144/190	7320	36100
-5	86.0	35700 ST	134/135/144/190	7283	35700 ST	134/135/144/190	7283	36100
0	86.8	35700 ST	134/135/144/190	7248	35700 ST	134/135/144/190	7248	36100
2	87.2	35700 ST	134/135/144/190	7235	35700 ST	134/135/144/190	7235	36100
4	87.5	35700 ST	134/135/144/190	7221	35700 ST	134/135/144/190	7221	36100
6	87.8	35700 ST	134/135/144/190	7215	35700 ST	134/135/144/190	7215	36100
8	88.0	35700 ST	134/135/144/190	7214	35700 ST	134/135/144/190	7214	36100
10	87.9	35700 ST	134/135/144/190	7214	35700 ST	134/135/144/190	7214	36100
12	87.8	35700 ST	134/135/144/190	7233	35700 ST	134/135/144/190	7233	36100
14	87.7	35700 ST	135/135/144/190	7253	35700 ST	135/135/144/190	7253	36100
16	87.5	35700 ST	135/136/144/190	7282	35700 ST	135/136/144/190	7282	36100
18	87.3	35700 ST	135/136/144/190	7320	35700 ST	135/136/144/190	7320	36100
20	87.0	35571 -O	135/136/144/190	7346	35700 ST	136/136/144/190	7358	36100
22	86.8	34957 -O	134/134/143/190	7339	35235 -O	135/135/143/190	7369	35700
24	86.5	34380 -O	134/134/142/190	7328	34666 -O	134/134/142/190	7358	35253
26	86.2	33814 -O	132/132/140/190	7316	34117 -O	133/133/141/190	7347	34633
28	86.0	33272 -O	131/131/139/190	7312	33604 -O	132/132/140/190	7901	33987
30	85.7	32772 -O	130/130/138/190	7301	33082 -O	131/131/139/190	7882	33340
32	85.4	32299 -O	129/129/137/190	7308	32595 -O	130/130/138/190	7889	32748
34	85.2	31846 -O	128/128/136/190	7311	32124 -O	129/129/137/190	7890	32157
36	84.9	31402 -O	127/127/135/190	7315	31664 -O	128/128/136/190	7893	31560
38	84.7	30948 -O	126/126/134/190	7321	31198 -O	127/127/135/190	8252	30960
40	84.4	30506 -O	125/125/133/190	7323	30738 -O	125/125/133/190	8252	30359
43	NA	NA CF	NA	NA	NA CF	NA	NA	NA

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+32	+5	+38	+23	
TWD per KT	-280	+1	-291	+1	
QNH per +0.1	+67	+6	+68	+64	+58
QNH per -0.1	NA	NA	NA	NA	-40
ANTI ICE ON	0	+252	0	+252	-1228
WITHTR	0	0	0	0	0
ROLLING	-530	-5	-485	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation X (1-172)
 Engine: AE3007C
 AFM: 75FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 5

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- WITHOUT THRUST REVERSERS
- STATIC TAKEOFF

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	1.22	1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.6	35700 ST	135/135/144/190	7588	35217 -O	134/134/143/190	7562	36100
-15	84.4	35700 ST	135/135/144/190	7547	35132 -O	133/133/143/190	7517	36100
-10	85.2	35700 ST	135/135/144/190	7508	35010 -O	133/133/143/190	7472	36100
-5	86.0	35700 ST	135/135/144/190	7471	34879 -O	133/133/143/190	7429	36100
0	86.8	35599 FL	135/135/144/190	7431	34736 -O	132/132/142/190	7388	36100
2	87.2	35535 FL	135/135/144/190	7414	34688 -O	132/132/142/190	7373	36100
4	87.5	35473 FL	134/134/144/190	7397	34642 -O	132/132/142/190	7358	36100
6	87.8	35304 FL	134/134/143/190	7383	34494 -O	132/132/142/190	7345	36100
8	88.0	35048 FL	133/133/143/190	7370	34251 -O	132/132/142/190	7333	36100
10	87.9	34798 FL	133/133/143/190	7358	34020 -O	131/131/141/190	7320	36100
12	87.8	34235 FL	132/132/141/190	7347	33476 -O	130/130/140/190	7310	36100
14	87.7	33752 FL	131/131/141/190	7336	32994 -O	129/129/139/190	7297	36100
16	87.5	33213 FL	130/130/139/190	7325	32468 -O	128/128/137/190	7287	36100
18	87.3	32674 FL	128/128/138/190	7314	31950 -O	126/126/136/190	7275	36100
20	87.0	32216 FL	128/128/137/190	7303	31463 -O	125/125/135/190	7264	36100
22	86.8	31657 FL	126/126/135/190	7293	30945 -O	124/124/134/190	7254	35700
24	86.5	31199 FL	125/125/134/190	7284	30456 -O	123/123/132/190	7243	35253
26	86.2	30705 FL	124/124/133/190	7275	29943 -O	121/121/131/190	7231	34633
28	86.0	30222 FL	122/122/132/190	7266	29433 -O	120/120/130/190	7221	33987
30	85.7	29810 FL	121/121/131/190	7258	28994 -O	119/119/129/190	7209	33340
32	85.4	29292 FL	120/120/130/190	7250	28500 -O	118/118/128/190	7202	32748
34	85.2	28893 FL	120/120/129/190	7243	28080 -O	117/117/127/190	7192	32157
36	84.9	28390 FL	118/118/128/190	7234	27614 -O	116/116/126/190	7184	31560
38	84.7	27953 FL	117/117/127/190	7226	27163 -O	115/115/124/190	7175	30960
40	84.4	27533 FL	117/117/126/190	7218	26736 -O	114/114/123/190	7166	30359
43	NA	NA CF	NA	NA	NA CF	NA	NA	NA

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+30	0	+32	0	
TWD per KT	-304	0	-232	0	
QNH per +0.1	+22	0	+11	0	+58
QNH per -0.1	NA	NA	NA	NA	-40
ANTI ICE ON	-2410	0	-2466	0	-1228
WITHTR	0	0	0	0	0
ROLLING	-370	0	-363	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation X (1-172)
 Engine: AE3007C
 AFM: 75FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 15

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- WITHOUT THRUST REVERSERS
- STATIC TAKEOFF

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	-1.22	-1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.6	35700 ST	127/133/137/190	7452	35700 ST	127/133/137/190	7452	36100
-15	84.4	35700 ST	127/133/137/190	7411	35700 ST	127/133/137/190	7411	36100
-10	85.2	35700 ST	127/133/137/190	7371	35700 ST	127/133/137/190	7371	36100
-5	86.0	35700 ST	127/133/137/190	7333	35700 ST	127/133/137/190	7333	36100
0	86.8	35700 ST	126/133/137/190	7298	35700 ST	126/133/137/190	7298	36100
2	87.2	35700 ST	126/133/137/190	7285	35700 ST	126/133/137/190	7285	36100
4	87.5	35700 ST	126/133/137/190	7272	35700 ST	126/133/137/190	7272	36100
6	87.8	35700 ST	126/133/137/190	7267	35700 ST	126/133/137/190	7267	36100
8	88.0	35700 ST	126/133/137/190	7271	35700 ST	126/133/137/190	7271	36100
10	87.9	35700 ST	127/133/137/190	7275	35700 ST	127/133/137/190	7275	36100
12	87.8	35700 ST	127/133/137/190	7307	35700 ST	127/133/137/190	7307	36100
14	87.7	35700 ST	127/134/137/190	7340	35700 ST	127/134/137/190	7340	36100
16	87.5	35700 ST	128/134/137/190	7388	35700 ST	128/134/137/190	7388	36100
18	87.3	35700 ST	128/134/137/190	7452	35700 ST	128/134/137/190	8028	35700
20	87.0	35700 ST	128/134/137/190	7516	35700 ST	128/134/137/190	8518	35542
22	86.8	35700 ST	130/133/136/190	7582	35700 ST	130/133/136/190	8645	34880
24	86.5	35700 ST	132/132/135/190	7648	35328 -O	131/132/135/190	8670	34218
26	86.2	35143 -O	132/132/134/190	7634	34797 -O	130/132/134/190	8644	33573
28	86.0	34561 -O	130/132/134/190	7617	34266 -O	129/132/133/190	8619	32945
30	85.7	33988 -O	129/131/133/190	7604	33728 -O	128/131/132/190	8595	32316
32	85.4	33507 -O	128/131/132/190	7593	33189 -O	127/130/132/190	8575	31745
34	85.2	33013 -O	127/131/132/190	7584	32643 -O	125/130/131/190	8555	31173
36	84.9	32538 -O	125/129/130/190	7591	32043 -O	124/128/129/190	8536	30601
38	84.7	32037 -O	124/127/127/190	7600	31432 -O	122/125/127/190	8517	30030
40	84.4	31506 -O	123/125/125/190	7599	30869 -O	121/123/125/190	8497	29458
43	NA	NA CF	NA	NA	NA CF	NA	NA	NA

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+24	+1	+18	0	
TWD per KT	-225	+3	-162	+66	
QNH per +0.1	+31	+10	+28	+1	+56
QNH per -0.1	NA	NA	NA	NA	-56
ANTI ICE ON	0	+314	0	+1449	-2181
WITHTR	0	0	0	0	0
ROLLING	-401	-6	-28	+3	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation X (1-172)
 Engine: AE3007C
 AFM: 75FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 15

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- WITHOUT THRUST REVERSERS
- STATIC TAKEOFF

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	1.22	1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.6	35700 ST	132/133/137/190	7606	35700 ST	132/133/137/190	7606	36100
-15	84.4	35700 ST	132/133/137/190	7564	35700 ST	132/133/137/190	7564	36100
-10	85.2	35700 ST	132/133/137/190	7524	35700 ST	132/133/137/190	7524	36100
-5	86.0	35700 ST	132/133/137/190	7486	35700 ST	132/133/137/190	7486	36100
0	86.8	35700 ST	132/133/137/190	7451	35700 ST	132/133/137/190	7451	36100
2	87.2	35700 ST	132/133/137/190	7438	35700 ST	132/133/137/190	7438	36100
4	87.5	35700 ST	132/133/137/190	7425	35700 ST	132/133/137/190	7425	36100
6	87.8	35700 ST	132/133/137/190	7421	35700 ST	132/133/137/190	7421	36100
8	88.0	35700 ST	132/133/137/190	7427	35700 ST	132/133/137/190	7427	36100
10	87.9	35700 ST	132/133/137/190	7432	35700 ST	132/133/137/190	7432	36100
12	87.8	35700 ST	133/133/137/190	7469	35385 -O	132/133/137/190	7444	36100
14	87.7	35700 ST	133/134/137/190	7507	34841 -O	132/132/136/190	7430	36100
16	87.5	35700 ST	134/134/137/190	7562	34270 -O	131/131/135/190	7418	36100
18	87.3	35447 FL	133/133/136/190	7599	33695 -O	129/130/133/190	7406	35700
20	87.0	34953 FL	133/133/136/190	7585	33148 -O	128/128/132/190	7388	35542
22	86.8	34280 FL	131/131/134/190	7568	32549 -O	127/127/131/190	7379	34880
24	86.5	33714 FL	130/130/133/190	7554	32017 -O	126/126/130/190	7362	34218
26	86.2	33165 FL	129/129/132/190	7539	31463 -O	125/125/128/190	7352	33573
28	86.0	32575 FL	128/128/131/190	7528	30936 -O	123/123/127/190	7340	32945
30	85.7	32120 FL	127/127/130/190	7520	30435 -O	122/122/126/190	7327	32316
32	85.4	31631 FL	126/126/129/190	7521	29938 -O	121/121/125/190	7322	31745
34	85.2	31155 FL	125/125/128/190	7519	29438 -O	120/120/124/190	7312	31173
36	84.9	30692 FL	123/123/126/190	7520	28943 -O	119/119/123/190	7301	30601
38	84.7	30194 -O	122/122/125/190	7516	28444 -O	118/118/122/190	7295	30030
40	84.4	29650 -O	121/121/124/190	7500	27988 -O	117/117/120/190	7278	29458
43	NA	NA CF	NA	NA	NA CF	NA	NA	NA

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+21	0	+27	0	
TWD per KT	-299	0	-222	0	
QNH per +0.1	+56	0	+54	0	+56
QNH per -0.1	NA	NA	NA	NA	-56
ANTI ICE ON	-264	+312	-2493	+122	-2181
WITHTR	0	0	0	0	0
ROLLING	-284	0	-244	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation X (1-172)
 Engine: AE3007C
 AFM: 75FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 5

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- WET RWY
- STATIC TAKEOFF
- WITHOUT THRUST REVERSERS

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	-1.22	-1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.6	35700 ST	124/135/144/190	7395	35700 ST	124/135/144/190	7395	36100
-15	84.4	35700 ST	124/135/144/190	7355	35700 ST	124/135/144/190	7355	36100
-10	85.2	35700 ST	124/135/144/190	7316	35700 ST	124/135/144/190	7316	36100
-5	86.0	35700 ST	124/135/144/190	7279	35700 ST	124/135/144/190	7279	36100
0	86.8	35700 ST	123/135/144/190	7244	35700 ST	123/135/144/190	7244	36100
2	87.2	35700 ST	123/135/144/190	7231	35700 ST	123/135/144/190	7231	36100
4	87.5	35700 ST	123/135/144/190	7217	35700 ST	123/135/144/190	7217	36100
6	87.8	35700 ST	123/135/144/190	7211	35700 ST	123/135/144/190	7211	36100
8	88.0	35700 ST	124/135/144/190	7210	35700 ST	124/135/144/190	7210	36100
10	87.9	35700 ST	124/135/144/190	7209	35700 ST	124/135/144/190	7209	36100
12	87.8	35309 -O	124/134/143/190	7210	35370 -O	124/134/144/190	7213	36100
14	87.7	34833 -O	123/133/143/190	7202	34891 -O	123/134/143/190	7205	36100
16	87.5	34347 -O	123/132/142/190	7197	34404 -O	123/133/142/190	7200	36100
18	87.3	33848 -O	122/131/141/190	7190	33908 -O	122/132/141/190	7193	36100
20	87.0	33347 -O	122/130/140/190	7181	33408 -O	122/130/140/190	7184	36100
22	86.8	32850 -O	121/129/139/190	7177	32910 -O	121/129/139/190	7180	35700
24	86.5	32365 -O	120/128/137/190	7170	32423 -O	120/128/137/190	7173	35253
26	86.2	31889 -O	119/127/136/190	7164	31948 -O	119/127/136/190	7167	34633
28	86.0	31425 -O	118/126/135/190	7162	31483 -O	118/126/135/190	7165	33987
30	85.7	30977 -O	117/125/134/190	7153	31025 -O	117/125/134/190	7156	33340
32	85.4	30574 -O	116/124/133/190	7160	30612 -O	116/124/133/190	7162	32748
34	85.2	30185 -O	115/123/132/190	7158	30223 -O	116/123/132/190	7161	32157
36	84.9	29779 -O	115/122/131/190	7160	29819 -O	115/122/131/190	7163	31560
38	84.7	29356 -O	114/121/130/190	7163	29395 -O	114/121/130/190	7166	30960
40	84.4	28945 -O	113/120/129/190	7155	28984 -O	113/120/129/190	7158	30359
43	NA	NA CF	NA	NA	NA CF	NA	NA	NA

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+50	+4	+50	+4	
TWD per KT	-243	0	-245	0	
QNH per +0.1	+69	+5	+69	+5	+58
QNH per -0.1	NA	NA	NA	NA	-40
ANTI ICE ON	-2104	+98	-2041	+95	-1228
WITHTR	+286	+30	+287	+31	0
ROLLING	-668	-13	-668	-10	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation X (1-172)
 Engine: AE3007C
 AFM: 75FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 5

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- WET RWY
- STATIC TAKEOFF
- WITHOUT THRUST REVERSERS

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	1.22	1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.6	35700 ST	133/135/144/190	7593	34476 -O	129/132/142/190	7529	36100
-15	84.4	35700 ST	133/135/144/190	7552	34356 -O	129/132/142/190	7484	36100
-10	85.2	35700 ST	133/135/144/190	7513	34237 -O	128/131/141/190	7441	36100
-5	86.0	35700 ST	132/135/144/190	7476	34108 -O	128/131/141/190	7398	36100
0	86.8	35599 FL	132/135/144/190	7435	33964 -O	127/131/141/190	7358	36100
2	87.2	35535 FL	132/135/144/190	7419	33907 -O	127/131/141/190	7343	36100
4	87.5	35473 FL	132/134/144/190	7402	33850 -O	127/131/141/190	7328	36100
6	87.8	35303 FL	131/134/143/190	7387	33697 -O	126/130/140/190	7315	36100
8	88.0	35046 FL	131/133/143/190	7374	33456 -O	126/129/140/190	7303	36100
10	87.9	34798 FL	130/133/143/190	7362	33230 -O	125/129/139/190	7291	36100
12	87.8	34235 FL	130/132/141/190	7351	32714 -O	124/128/138/190	7280	36100
14	87.7	33750 FL	129/131/141/190	7340	32253 -O	124/127/137/190	7269	36100
16	87.5	33213 FL	128/130/139/190	7329	31762 -O	123/125/136/190	7258	36100
18	87.3	32673 FL	127/128/138/190	7318	31256 -O	121/124/135/190	7248	36100
20	87.0	32216 FL	126/128/137/190	7308	30807 -O	121/123/133/190	7237	36100
22	86.8	31657 FL	125/126/135/190	7298	30289 -O	120/122/132/190	7227	35700
24	86.5	31199 FL	124/125/134/190	7289	29822 -O	119/121/131/190	7216	35253
26	86.2	30705 FL	123/124/133/190	7279	29328 -O	117/120/130/190	7205	34633
28	86.0	30222 FL	122/122/132/190	7271	28845 -O	116/119/129/190	7195	33987
30	85.7	29810 FL	121/121/131/190	7263	28389 -O	116/118/128/190	7183	33340
32	85.4	29292 FL	120/120/130/190	7255	27932 -O	115/117/127/190	7174	32748
34	85.2	28815 -O	119/119/129/190	7243	27492 -O	114/115/125/190	7165	32157
36	84.9	28318 -O	118/118/128/190	7233	27058 -O	113/114/124/190	7156	31560
38	84.7	27833 -O	117/117/126/190	7222	26581 -O	112/113/123/190	7148	30960
40	84.4	27399 -O	116/116/125/190	7213	26156 -O	111/112/122/190	7140	30359
43	NA	NA CF	NA	NA	NA CF	NA	NA	NA

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+28	0	+33	0	
TWD per KT	-304	0	-250	0	
QNH per +0.1	+22	0	+16	0	+58
QNH per -0.1	NA	NA	NA	NA	-40
ANTI ICE ON	-2410	0	-2284	0	-1228
WITHTR	0	0	0	0	0
ROLLING	-236	0	-346	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation X (1-172)
 Engine: AE3007C
 AFM: 75FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 15

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- WET RWY
- WITHOUT THRUST REVERSERS
- STATIC TAKEOFF

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	-1.22	-1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.6	35700 ST	115/133/137/190	7448	35700 ST	115/133/137/190	7448	36100
-15	84.4	35700 ST	115/133/137/190	7407	35700 ST	115/133/137/190	7407	36100
-10	85.2	35700 ST	115/133/137/190	7367	35700 ST	115/133/137/190	7367	36100
-5	86.0	35700 ST	115/133/137/190	7330	35700 ST	115/133/137/190	7330	36100
0	86.8	35700 ST	115/133/137/190	7294	35700 ST	115/133/137/190	7294	36100
2	87.2	35700 ST	115/133/137/190	7281	35700 ST	115/133/137/190	7281	36100
4	87.5	35700 ST	115/133/137/190	7267	35700 ST	115/133/137/190	7267	36100
6	87.8	35700 ST	115/133/137/190	7263	35700 ST	115/133/137/190	7263	36100
8	88.0	35700 ST	115/133/137/190	7267	35700 ST	115/133/137/190	7267	36100
10	87.9	35700 ST	116/133/137/190	7271	35700 ST	116/133/137/190	7271	36100
12	87.8	35700 ST	116/133/137/190	7304	35700 ST	116/133/137/190	7304	36100
14	87.7	35700 ST	117/134/137/190	7337	35700 ST	117/134/137/190	7337	36100
16	87.5	35538 -O	118/134/137/190	7370	35609 -O	118/134/137/190	7377	36100
18	87.3	34965 -O	117/133/136/190	7361	35034 -O	118/133/136/190	7369	35700
20	87.0	34444 -O	117/132/135/190	7351	34495 -O	117/132/135/190	7357	35542
22	86.8	33927 -O	116/130/134/190	7351	33979 -O	116/131/134/190	7356	34880
24	86.5	33420 -O	115/130/133/190	7346	33471 -O	115/130/133/190	7352	34218
26	86.2	32917 -O	114/129/132/190	7337	32965 -O	115/129/132/190	7342	33573
28	86.0	32437 -O	114/127/131/190	7342	32483 -O	114/128/131/190	7347	32945
30	85.7	31977 -O	113/126/130/190	7333	32025 -O	113/127/130/190	7872	32316
32	85.4	31559 -O	112/126/129/190	7346	31605 -O	112/126/129/190	7888	31745
34	85.2	31136 -O	111/125/128/190	7353	31184 -O	111/125/128/190	7896	31173
36	84.9	30728 -O	110/123/126/190	7362	30776 -O	111/124/126/190	8259	30601
38	84.7	30316 -O	109/122/125/190	7373	30364 -O	110/122/125/190	8276	30030
40	84.4	29879 -O	109/121/124/190	7375	29929 -O	109/121/124/190	8279	29458
43	NA	NA CF	NA	NA	NA CF	NA	NA	NA

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+46	+5	+47	+25	
TWD per KT	-236	+3	-237	+3	
QNH per +0.1	+68	+7	+68	+62	+56
QNH per -0.1	NA	NA	NA	NA	-56
ANTI ICE ON	-930	+227	-875	+856	-2181
WITHTR	+281	+50	+281	+611	0
ROLLING	-647	0	-647	-1	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation X (1-172)
 Engine: AE3007C
 AFM: 75FM-11
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 15

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- WET RWY
- WITHOUT THRUST REVERSERS
- STATIC TAKEOFF

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	1.22	1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.6	35700 ST	125/133/137/190	7622	35525 -O	125/133/137/190	7611	36100
-15	84.4	35700 ST	125/133/137/190	7580	35401 -O	124/133/137/190	7562	36100
-10	85.2	35700 ST	125/133/137/190	7540	35270 -O	124/132/136/190	7514	36100
-5	86.0	35700 ST	125/133/137/190	7503	35130 -O	123/132/136/190	7469	36100
0	86.8	35700 ST	125/133/137/190	7467	34979 -O	123/132/136/190	7425	36100
2	87.2	35700 ST	125/133/137/190	7453	34926 -O	123/132/136/190	7409	36100
4	87.5	35700 ST	125/133/137/190	7440	34872 -O	122/132/136/190	7393	36100
6	87.8	35700 ST	125/133/137/190	7437	34719 -O	122/131/135/190	7380	36100
8	88.0	35700 ST	125/133/137/190	7442	34466 -O	122/131/135/190	7369	36100
10	87.9	35700 ST	126/133/137/190	7448	34223 -O	121/130/134/190	7356	36100
12	87.8	35700 ST	127/133/137/190	7486	33721 -O	120/129/133/190	7348	36100
14	87.7	35309 -O	126/133/136/190	7487	33223 -O	120/128/132/190	7336	36100
16	87.5	34760 -O	126/132/136/190	7477	32714 -O	119/127/131/190	7326	36100
18	87.3	34204 -O	125/131/134/190	7467	32192 -O	118/126/130/190	7315	35700
20	87.0	33662 -O	125/130/133/190	7449	31690 -O	117/125/129/190	7302	35542
22	86.8	33091 -O	123/129/132/190	7440	31184 -O	116/123/128/190	7294	34880
24	86.5	32556 -O	122/128/131/190	7428	30692 -O	115/122/126/190	7282	34218
26	86.2	32003 -O	121/126/130/190	7413	30206 -O	114/121/125/190	7272	33573
28	86.0	31466 -O	120/125/128/190	7407	29714 -O	113/120/124/190	7263	32945
30	85.7	30993 -O	120/124/127/190	7389	29216 -O	112/119/123/190	7248	32316
32	85.4	30464 -O	118/122/126/190	7391	28757 -O	111/118/122/190	7243	31745
34	85.2	30003 -O	117/121/125/190	7378	28313 -O	110/117/121/190	7233	31173
36	84.9	29490 -O	116/120/124/190	7373	27860 -O	110/116/120/190	7224	30601
38	84.7	28979 -O	115/119/123/190	7361	27395 -O	109/115/119/190	7217	30030
40	84.4	28509 -O	114/118/122/190	7350	26939 -O	108/114/118/190	7202	29458
43	NA	NA CF	NA	NA	NA CF	NA	NA	NA

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+28	0	+36	0	
TWD per KT	-235	0	-213	0	
QNH per +0.1	+57	0	+15	0	+56
QNH per -0.1	NA	NA	NA	NA	-56
ANTI ICE ON	-1929	+142	-2423	0	-2181
WITHTR	+65	0	+133	0	0
ROLLING	-205	0	-315	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation X (1-172)
 Engine: AE3007C
 AFM: 75FM-11

LANDING PERFORMANCE FLAPS 5/15

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- WITH THRUST REVERSERS

Approach Climb Limits:

Approach Flaps 5										
GRAD	-20	-10	0	10	20	25	30	35	40	43
2.1%	31800	31800	31800	31800	31800	31800	31800	31800	31414	30482
2.5%	31800	31800	31800	31800	31800	31800	31800	31800	30452	29554

Field Length Weight Limits/Distances:

Landing Flaps 15

RWY: 16
 LDA: 8700FT
 SLOPE: -1.22%
 COND: DRY

	WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
			WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
	-10	23	25506	8700	27914	7545	27914	6036
		28	25206	8700	27697	7612	27697	6090
		33	24904	8700	27490	7632	27490	6106
		38	24592	8700	27288	7700	27288	6160
		43	24316	8700	27091	7702	27091	6162
	0	23	29484	8700	30250	6850	30250	5480
		28	29155	8700	30033	6880	30033	5504
		33	28797	8700	29817	6917	29817	5533
		38	28425	8700	29601	6939	29601	5551
		43	28077	8700	29380	6983	29380	5586
	10	23	30580	8700	30978	6714	30978	5371
		28	30267	8700	30754	6760	30754	5408
		33	29963	8700	30536	6802	30536	5441
		38	29620	8700	30322	6822	30322	5458
		43	29300	8700	30111	6911	30111	5529
	30	23	31800	8183	31800	6137	31800	4910
		28	31800	8374	31800	6280	31800	5024
		33	31800	8568	31800	6426	31800	5141
		38	31701	8700	31736	6541	31736	5233
		43	30482	8145	30482	6109	30482	4887

RWY: 16
 LDA: 8700FT
 SLOPE: -1.22%
 COND: Wet [115%]

	WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
			WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
	-10	23	NA	NA	27914	8677	27914	6941
		28	NA	NA	27601	8700	27697	7003
		33	NA	NA	27339	8700	27490	7021
		38	NA	NA	27004	8700	27288	7084
		43	NA	NA	26700	8700	27091	7086
	0	23	26938	8700	30250	7877	30250	6302
		28	26524	8700	30033	7912	30033	6330
		33	26185	8700	29817	7954	29817	6363
		38	25855	8700	29601	7980	29601	6384
		43	25474	8700	29380	8030	29380	6424
	10	23	28186	8700	30978	7721	30978	6177
		28	27792	8700	30754	7774	30754	6219
		33	27437	8700	30536	7822	30536	6258
		38	27126	8700	30322	7845	30322	6276
		43	26771	8700	30111	7948	30111	6359
	30	23	30627	8700	31800	7058	31800	5647
		28	30302	8700	31800	7222	31800	5778
		33	29986	8700	31800	7390	31800	5912
		38	29626	8700	31736	7523	31736	6018
		43	29287	8700	30482	7026	30482	5621

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation X (1-172)
 Engine: AE3007C
 AFM: 75FM-11

LANDING PERFORMANCE FLAPS 5/15

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- WITH THRUST REVERSERS

Approach Climb Limits:

Approach Flaps 5										
GRAD	-20	-10	0	10	20	25	30	35	40	43
2.1%	31800	31800	31800	31800	31800	31800	31800	31800	31414	30482
2.5%	31800	31800	31800	31800	31800	31800	31800	31800	30452	29554

Field Length Weight Limits/Distances:

Landing Flaps 15

RWY: 34
 LDA: 8700FT
 SLOPE: 1.22%
 COND: DRY

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	23	29388	8558	29388	6419	29388	5135
	28	29157	8639	29157	6480	29157	5184
	33	28874	8700	28925	6552	28925	5242
	38	28577	8700	28695	6580	28695	5264
	43	28269	8700	28469	6622	28469	5297
0	23	31540	8012	31540	6009	31540	4807
	28	31324	8062	31324	6047	31324	4837
	33	31105	8107	31105	6080	31105	4864
	38	30890	8152	30890	6114	30890	4891
	43	30482	8054	30482	6040	30482	4832
10	23	31800	7544	31800	5658	31800	4527
	28	31800	7709	31800	5782	31800	4626
	33	31773	7895	31773	5922	31773	4737
	38	31597	7986	31597	5989	31597	4792
	43	30482	7445	30482	5584	30482	4467
30	23	31800	6491	31800	4868	31800	3895
	28	31800	6636	31800	4977	31800	3982
	33	31800	6785	31800	5089	31800	4071
	38	31800	6930	31800	5198	31800	4158
	43	30482	6446	30482	4835	30482	3868

RWY: 34
 LDA: 8700FT
 SLOPE: 1.22%
 COND: Wet [115%]

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	23	27455	8700	29388	7381	29388	5905
	28	27167	8700	29157	7452	29157	5961
	33	26882	8700	28925	7535	28925	6028
	38	26586	8700	28695	7566	28695	6053
	43	26310	8700	28469	7615	28469	6092
0	23	30853	8700	31540	6910	31540	5528
	28	30564	8700	31324	6954	31324	5563
	33	30275	8700	31105	6992	31105	5594
	38	30003	8700	30890	7031	30890	5625
	43	29682	8700	30482	6946	30482	5557
10	23	31800	8676	31800	6507	31800	5206
	28	31522	8700	31800	6649	31800	5320
	33	31231	8700	31773	6810	31773	5448
	38	30955	8700	31597	6888	31597	5510
	43	30482	8561	30482	6421	30482	5137
30	23	31800	7465	31800	5599	31800	4479
	28	31800	7632	31800	5724	31800	4579
	33	31800	7803	31800	5852	31800	4682
	38	31800	7969	31800	5977	31800	4782
	43	30482	7413	30482	5560	30482	4448

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation X (1-172)
 Engine: AE3007C
 AFM: 75FM-11

LANDING PERFORMANCE FLAPS 15/FULL

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- WITH THRUST REVERSERS

Approach Climb Limits:

Approach Flaps 15										
GRAD	-20	-10	0	10	20	25	30	35	40	43
2.1%	31800	31800	31800	31800	31800	31800	31800	31683	30235	29354
2.5%	31800	31800	31800	31800	31800	31800	31800	30771	29366	28513

Field Length Weight Limits/Distances:

Landing Flaps FULL

RWY: 16
 LDA: 8700FT
 SLOPE: -1.22%
 COND: DRY

	WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
			WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
	-10	23	27411	8700	29828	7479	29828	5984
		28	27113	8700	29629	7545	29629	6036
		33	26802	8700	29424	7575	29424	6060
		38	26505	8700	29214	7629	29214	6103
		43	26230	8700	29005	7636	29005	6109
	0	23	31136	8700	31800	6867	31800	5494
		28	30858	8700	31696	6966	31696	5573
		33	30586	8700	31505	7016	31505	5613
		38	30323	8700	30814	6770	30814	5416
		43	29354	8276	29354	6207	29354	4966
	10	23	31800	8501	31800	6376	31800	5101
		28	31800	8689	31800	6517	31800	5214
		33	31527	8700	31800	6660	31800	5328
		38	30814	8397	30814	6298	30814	5039
		43	29354	7735	29354	5801	29354	4641
	30	23	31800	7381	31800	5536	31800	4429
		28	31800	7535	31800	5651	31800	4521
		33	31800	7690	31800	5767	31800	4614
		38	30814	7288	30814	5466	30814	4373
		43	29354	6912	29354	5184	29354	4147

RWY: 16
 LDA: 8700FT
 SLOPE: -1.22%
 COND: Wet [115%]

	WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
			WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
	-10	23	24083	8700	29828	8601	29828	6881
		28	23737	8700	29629	8676	29629	6941
		33	23400	8700	29401	8700	29424	6969
		38	23075	8700	29031	8700	29214	7019
		43	NA	NA	28705	8700	29005	7025
	0	23	29022	8700	31800	7897	31800	6318
		28	28547	8700	31696	8011	31696	6409
		33	28150	8700	31505	8069	31505	6455
		38	27774	8700	30814	7785	30814	6228
		43	27404	8700	29354	7138	29354	5710
	10	23	30167	8700	31800	7332	31800	5866
		28	29842	8700	31800	7495	31800	5996
		33	29490	8700	31800	7659	31800	6127
		38	29187	8700	30814	7243	30814	5794
		43	28850	8700	29354	6671	29354	5337
	30	23	31800	8488	31800	6366	31800	5093
		28	31800	8665	31800	6499	31800	5199
		33	31560	8700	31800	6632	31800	5306
		38	30814	8382	30814	6286	30814	5029
		43	29354	7949	29354	5962	29354	4769

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Cessna Citation X (1-172)
 Engine: AE3007C
 AFM: 75FM-11

LANDING PERFORMANCE FLAPS 15/FULL

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- WITH THRUST REVERSERS

Approach Climb Limits:

Approach Flaps 15										
GRAD	-20	-10	0	10	20	25	30	35	40	43
2.1%	31800	31800	31800	31800	31800	31800	31800	31683	30235	29354
2.5%	31800	31800	31800	31800	31800	31800	31800	30771	29366	28513

Field Length Weight Limits/Distances:

Landing Flaps FULL

RWY: 34
 LDA: 8700FT
 SLOPE: 1.22%
 COND: DRY

	WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
			WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
	-10	23	31004	8700	31181	6634	31181	5307
		28	30745	8700	30982	6669	30982	5335
		33	30504	8700	30788	6703	30788	5363
		38	30261	8700	30595	6728	30595	5382
		43	29354	8214	29354	6161	29354	4929
	0	23	31800	7304	31800	5478	31800	4383
		28	31800	7468	31800	5601	31800	4481
		33	31800	7632	31800	5724	31800	4579
		38	30814	7186	30814	5390	30814	4312
		43	29354	6597	29354	4948	29354	3958
	10	23	31800	6795	31800	5097	31800	4077
		28	31800	6940	31800	5205	31800	4164
		33	31800	7085	31800	5314	31800	4251
		38	30814	6701	30814	5026	30814	4021
		43	29354	6178	29354	4634	29354	3707
	30	23	31800	5937	31800	4453	31800	3562
		28	31800	6053	31800	4540	31800	3632
		33	31800	6171	31800	4628	31800	3703
		38	30814	5868	30814	4401	30814	3521
		43	29354	5602	29354	4202	29354	3362

RWY: 34
 LDA: 8700FT
 SLOPE: 1.22%
 COND: Wet [115%]

	WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
			WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
	-10	23	29245	8700	31181	7629	31181	6103
		28	28964	8700	30982	7669	30982	6135
		33	28613	8700	30788	7709	30788	6167
		38	28287	8700	30595	7737	30595	6189
		43	27985	8700	29354	7085	29354	5668
	0	23	31800	8400	31800	6300	31800	5040
		28	31800	8588	31800	6441	31800	5153
		33	31688	8700	31800	6583	31800	5266
		38	30814	8264	30814	6198	30814	4959
		43	29354	7586	29354	5690	29354	4552
	10	23	31800	7815	31800	5861	31800	4689
		28	31800	7981	31800	5986	31800	4789
		33	31800	8148	31800	6111	31800	4889
		38	30814	7706	30814	5780	30814	4624
		43	29354	7105	29354	5329	29354	4263
	30	23	31800	6827	31800	5121	31800	4097
		28	31800	6961	31800	5221	31800	4177
		33	31800	7096	31800	5322	31800	4258
		38	30814	6748	30814	5061	30814	4049
		43	29354	6443	29354	4832	29354	3866

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Falcon 2000
 Engine: CFE 738-1-1B
 AFM: DTM537 Revision 16
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 10

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- NO OPTIONS SELECTED

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	-1.22	-1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.1	36500 ST	126/129/132/169	6455	36500 ST	126/129/132/169	6455	36500
-15	83.9	36500 ST	126/129/132/169	6455	36500 ST	126/129/132/169	6455	36500
-10	84.8	36500 ST	126/129/132/169	6455	36500 ST	126/129/132/169	6455	36500
-5	85.6	36500 ST	126/129/132/169	6455	36500 ST	126/129/132/169	6455	36500
0	86.4	36500 ST	126/129/132/169	6455	36500 ST	126/129/132/169	6455	36500
2	86.7	36500 ST	126/129/132/169	6455	36500 ST	126/129/132/169	6455	36500
4	87.0	36500 ST	126/129/132/169	6455	36500 ST	126/129/132/169	6455	36500
6	87.4	36500 ST	126/129/132/169	6455	36500 ST	126/129/132/169	6455	36500
8	87.5	36500 ST	126/129/132/169	6455	36500 ST	126/129/132/169	6455	36500
10	87.5	36500 ST	126/129/132/169	6455	36500 ST	126/129/132/169	6455	36500
12	87.3	36500 ST	126/129/132/169	6455	36500 ST	126/129/132/169	6455	36500
14	86.9	36500 ST	126/129/132/169	6455	36500 ST	126/129/132/169	6455	36500
16	86.6	36500 ST	126/129/132/169	6455	36500 ST	126/129/132/169	6455	36500
18	86.2	36500 ST	126/129/132/169	6455	36500 ST	126/129/132/169	6455	36500
20	85.9	36500 ST	127/129/132/169	6455	36500 ST	127/129/132/169	6455	36500
22	85.5	36454 FP	127/129/131/169	6455	36454 FP	127/129/131/169	6455	36500
24	85.2	35768 FP	126/127/130/167	6455	35768 FP	126/127/130/167	6455	36500
26	84.8	35127 FP	125/126/129/165	6455	35127 FP	125/126/129/165	6455	36500
28	84.4	34436 FP	124/125/128/164	6455	34436 FP	124/125/128/164	6455	36500
30	84.1	33726 FP	123/124/126/162	6455	33726 FP	123/124/126/162	6455	36072
32	83.7	33013 FP	121/122/125/160	6455	33013 FP	121/122/125/160	6455	35362
34	83.4	32336 FP	120/121/124/159	6455	32336 FP	120/121/124/159	6455	34633
36	83.0	31603 FP	119/120/122/157	6455	31603 FP	119/120/122/157	6455	33907
38	82.7	30917 FP	118/118/121/155	6455	30917 FP	118/118/121/155	6455	33187
40	82.3	30265 FP	117/117/120/154	6455	30265 FP	117/117/120/154	6455	32463
41	82.1	29928 FP	116/117/119/153	6455	29928 FP	116/117/119/153	6455	32100

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+32	0	+32	0	
TWD per KT	-109	0	-109	0	
QNH per +0.1	+93	0	+93	0	+101
QNH per -0.1	-119	0	-119	0	-112
TRINOP	0	0	0	0	0
ANTI ICE ON	-2158	0	-2158	0	-405

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Falcon 2000
 Engine: CFE 738-1-1B
 AFM: DTM537 Revision 16
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 10

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- NO OPTIONS SELECTED

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	1.22	1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.1	36500 ST	129/129/132/169	6455	36145 -O	128/128/131/168	6455	36500
-15	83.9	36500 ST	129/129/132/169	6455	35966 -O	128/128/131/167	6455	36500
-10	84.8	36345 FL	129/129/131/168	6455	35799 -O	128/128/130/167	6455	36500
-5	85.6	36049 FL	128/128/131/168	6455	35630 -O	127/127/130/167	6455	36500
0	86.4	35767 FL	127/127/130/167	6455	35458 -O	127/127/130/166	6455	36500
2	86.7	35592 FL	127/127/130/167	6455	35350 -O	127/127/129/166	6455	36500
4	87.0	35418 FL	127/127/130/166	6455	35240 -O	127/127/129/166	6455	36500
6	87.4	35248 FL	127/127/129/166	6455	35128 -O	126/126/129/165	6455	36500
8	87.5	35082 FL	126/126/129/165	6455	35016 -O	126/126/129/165	6455	36500
10	87.5	34919 FL	126/126/129/165	6455	34903 -O	126/126/129/165	6455	36500
12	87.3	34687 FL	125/125/128/164	6455	34687 FL	125/125/128/164	6455	36500
14	86.9	34464 FL	125/125/128/164	6455	34464 FL	125/125/128/164	6455	36500
16	86.6	34142 FL	124/124/127/163	6455	34142 FL	124/124/127/163	6455	36500
18	86.2	33735 FL	124/124/127/162	6455	33735 FL	124/124/127/162	6455	36500
20	85.9	33342 FL	123/123/126/161	6455	33342 FL	123/123/126/161	6455	36500
22	85.5	32892 FL	122/122/125/160	6455	32892 FL	122/122/125/160	6455	36500
24	85.2	32472 FL	121/121/124/159	6455	32472 FL	121/121/124/159	6455	36500
26	84.8	32030 FL	121/121/123/158	6455	32030 FL	121/121/123/158	6455	36500
28	84.4	31585 FL	120/120/122/157	6455	31547 -O	120/120/122/157	6455	36500
30	84.1	31162 FL	119/119/122/156	6455	31054 -O	119/119/121/156	6455	36072
32	83.7	30696 FL	118/118/121/155	6455	30544 -O	118/118/120/154	6455	35362
34	83.4	30268 FL	117/117/120/154	6455	30049 -O	117/117/119/153	6455	34633
36	83.0	29782 FL	116/116/119/152	6455	29529 -O	116/116/118/152	6455	33907
38	82.7	29335 FL	115/115/118/151	6455	29038 -O	115/115/117/151	6455	33187
40	82.3	28957 FL	115/115/117/150	6455	28539 -O	114/114/116/149	6455	32463
41	82.1	28608 FL	114/114/117/150	6455	28229 -O	113/113/116/149	6455	32100

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+59	0	+51	0	
TWD per KT	-286	0	-283	0	
QNH per +0.1	+52	0	+33	0	+101
QNH per -0.1	-113	0	-113	0	-112
TRINOP	0	0	0	0	0
ANTI ICE ON	-914	0	-2234	0	-405

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Falcon 2000
 Engine: CFE 738-1-1B
 AFM: DTM537 Revision 16
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 20

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- NO OPTIONS SELECTED

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	-1.22	-1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.1	36500 ST	121/124/126/169	6455	36500 ST	121/124/126/169	6455	36500
-15	83.9	36500 ST	121/124/126/169	6455	36500 ST	121/124/126/169	6455	36500
-10	84.8	36500 ST	121/124/126/169	6455	36500 ST	121/124/126/169	6455	36500
-5	85.6	36493 FP	121/124/126/169	6455	36493 FP	121/124/126/169	6455	36500
0	86.4	36369 FP	121/124/126/168	6455	36369 FP	121/124/126/168	6455	36500
2	86.7	36307 FP	120/124/126/168	6455	36307 FP	120/124/126/168	6455	36500
4	87.0	36246 FP	120/123/126/168	6455	36246 FP	120/123/126/168	6455	36500
6	87.4	36185 FP	120/123/126/168	6455	36185 FP	120/123/126/168	6455	36500
8	87.5	36123 FP	120/123/126/168	6455	36123 FP	120/123/126/168	6455	36500
10	87.5	36064 FP	120/123/126/168	6455	36064 FP	120/123/126/168	6455	36500
12	87.3	36001 FP	120/123/126/168	6455	36001 FP	120/123/126/168	6455	36500
14	86.9	35937 FP	120/123/126/167	6455	35937 FP	120/123/126/167	6455	36500
16	86.6	35619 FP	119/122/125/167	6455	35619 FP	119/122/125/167	6455	36500
18	86.2	35086 FP	118/121/124/165	6455	35086 FP	118/121/124/165	6455	36500
20	85.9	34583 FP	117/121/123/164	6455	34583 FP	117/121/123/164	6455	36500
22	85.5	34063 FP	116/120/122/163	6455	34063 FP	116/120/122/163	6455	36256
24	85.2	33457 FP	115/119/121/161	6455	33457 FP	115/119/121/161	6455	35618
26	84.8	32822 FP	114/117/120/160	6455	32822 FP	114/117/120/160	6455	34979
28	84.4	32192 FP	113/116/119/158	6455	32192 FP	113/116/119/158	6455	34340
30	84.1	31605 FP	112/115/118/157	6455	31605 FP	112/115/118/157	6455	33700
32	83.7	30951 FP	111/114/116/155	6455	30951 FP	111/114/116/155	6455	33049
34	83.4	30289 FP	110/113/115/154	6455	30289 FP	110/113/115/154	6455	32394
36	83.0	29659 FP	109/111/114/152	6455	29659 FP	109/111/114/152	6455	31738
38	82.7	29010 FP	108/110/113/151	6455	29010 FP	108/110/113/151	6455	31041
40	82.3	28331 FP	107/109/111/149	6455	28331 FP	107/109/111/149	6455	30332
41	82.1	27976 FP	106/108/111/148	6455	27976 FP	106/108/111/148	6455	29977

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+31	0	+31	0	
TWD per KT	-110	0	-110	0	
QNH per +0.1	+12	0	+12	0	+96
QNH per -0.1	-114	0	-114	0	-113
TRINOP	0	0	0	0	0
ANTI ICE ON	-3981	0	-3981	0	-2783

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Falcon 2000
 Engine: CFE 738-1-1B
 AFM: DTM537 Revision 16
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 20

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- NO OPTIONS SELECTED

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	1.22	1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.1	36500 ST	124/124/126/169	6455	35515 -O	122/122/125/166	6455	36500
-15	83.9	36500 ST	124/124/126/169	6455	35408 -O	122/122/125/166	6455	36500
-10	84.8	36500 ST	124/124/126/169	6455	35295 -O	122/122/124/166	6455	36500
-5	85.6	36500 ST	124/124/126/169	6455	35170 -O	122/122/124/166	6455	36500
0	86.4	36500 ST	124/124/126/169	6455	35054 -O	121/121/124/165	6455	36500
2	86.7	36500 ST	124/124/126/169	6455	34978 -O	121/121/124/165	6455	36500
4	87.0	36500 ST	124/124/126/169	6455	34903 -O	121/121/124/165	6455	36500
6	87.4	36500 ST	124/124/126/169	6455	34832 -O	121/121/124/165	6455	36500
8	87.5	36500 ST	124/124/126/169	6455	34768 -O	121/121/123/165	6455	36500
10	87.5	36500 ST	124/124/126/169	6455	34706 -O	121/121/123/164	6455	36500
12	87.3	36500 ST	124/124/126/169	6455	34614 -O	121/121/123/164	6455	36500
14	86.9	36265 FL	123/123/126/168	6455	34520 -O	120/120/123/164	6455	36500
16	86.6	35859 FL	123/123/125/167	6455	34257 -O	120/120/123/163	6455	36500
18	86.2	35398 FL	122/122/125/166	6455	33822 -O	119/119/122/162	6455	36500
20	85.9	35040 FL	121/121/124/165	6455	33392 -O	118/118/121/161	6455	36500
22	85.5	34433 FL	120/120/123/164	6455	32917 -O	118/118/120/160	6455	36256
24	85.2	33973 FL	119/119/122/163	6455	32410 -O	117/117/119/159	6455	35618
26	84.8	33451 FL	118/118/121/161	6455	31878 -O	116/116/118/158	6455	34979
28	84.4	32875 FL	117/117/120/160	6455	31382 -O	115/115/117/156	6455	34340
30	84.1	32434 FL	117/117/119/159	6455	30890 -O	114/114/116/155	6455	33700
32	83.7	31771 FL	115/115/118/157	6455	30289 -O	113/113/115/154	6455	33049
34	83.4	31241 FP	114/114/117/156	6455	29778 -O	112/112/114/152	6455	32394
36	83.0	30534 FP	113/113/116/154	6455	29249 -O	111/111/113/151	6455	31738
38	82.7	29900 FP	112/112/114/153	6455	28682 -O	110/110/112/150	6455	31041
40	82.3	29229 FP	111/111/113/151	6455	28179 -O	109/109/111/148	6455	30332
41	82.1	28887 FP	110/110/113/150	6455	27852 -O	108/108/111/148	6455	29977

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+27	0	+40	0	
TWD per KT	-312	0	-209	0	
QNH per +0.1	+88	0	+24	0	+96
QNH per -0.1	-119	0	-108	0	-113
TRINOP	0	0	0	0	0
ANTI ICE ON	-3608	0	-2742	0	-2783

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Falcon 2000
 Engine: CFE 738-1-1B
 AFM: DTM537 Revision 16
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 10

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- WET RWY

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	-1.22	-1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.1	36500 ST	114/129/132/169	6455	36500 ST	114/129/132/169	6455	36500
-15	83.9	36500 ST	114/129/132/169	6455	36500 ST	114/129/132/169	6455	36500
-10	84.8	36500 ST	114/129/132/169	6455	36500 ST	114/129/132/169	6455	36500
-5	85.6	36500 ST	114/129/132/169	6455	36500 ST	114/129/132/169	6455	36500
0	86.4	36500 ST	114/129/132/169	6455	36500 ST	114/129/132/169	6455	36500
2	86.7	36500 ST	114/129/132/169	6455	36500 ST	114/129/132/169	6455	36500
4	87.0	36500 ST	114/129/132/169	6455	36500 ST	114/129/132/169	6455	36500
6	87.4	36500 ST	114/129/132/169	6455	36500 ST	114/129/132/169	6455	36500
8	87.5	36500 ST	114/129/132/169	6455	36500 ST	114/129/132/169	6455	36500
10	87.5	36500 ST	114/129/132/169	6455	36500 ST	114/129/132/169	6455	36500
12	87.3	36500 ST	114/129/132/169	6455	36500 ST	114/129/132/169	6455	36500
14	86.9	36500 ST	114/129/132/169	6455	36500 ST	114/129/132/169	6455	36500
16	86.6	36500 ST	115/129/132/169	6455	36500 ST	115/129/132/169	6455	36500
18	86.2	36500 ST	115/129/132/169	6455	36500 ST	115/129/132/169	6455	36500
20	85.9	36500 ST	115/129/132/169	6455	36500 ST	115/129/132/169	6455	36500
22	85.5	36422 FP	116/129/131/169	6455	36422 FP	116/129/131/169	6455	36500
24	85.2	35737 FP	115/127/130/167	6455	35737 FP	115/127/130/167	6455	36500
26	84.8	35096 FP	114/126/129/165	6455	35096 FP	114/126/129/165	6455	36500
28	84.4	34407 FP	113/125/128/164	6455	34407 FP	113/125/128/164	6455	36500
30	84.1	33691 FP	112/124/126/162	6455	33691 FP	112/124/126/162	6455	36072
32	83.7	32987 FP	110/122/125/160	6455	32987 FP	110/122/125/160	6455	35362
34	83.4	32306 FP	109/121/124/159	6455	32306 FP	109/121/124/159	6455	34633
36	83.0	31570 FP	108/120/122/157	6455	31570 FP	108/120/122/157	6455	33907
38	82.7	30891 FP	107/118/121/155	6455	30891 FP	107/118/121/155	6455	33187
40	82.3	30233 FP	105/117/120/154	6455	30233 FP	105/117/120/154	6455	32463
41	82.1	29900 FP	105/117/119/153	6455	29900 FP	105/117/119/153	6455	32100

Corrections		LBS	FT	LBS	FT	LBS
HWD	per KT	+33	0	+33	0	
TWD	per KT	-352	0	-344	0	
QNH	per +0.1	+93	0	+93	0	+101
QNH	per -0.1	-118	0	-118	0	-112
	TRINOP	0	0	0	0	0
	ANTI ICE ON	-2214	0	-2214	0	-405

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 20Dec16



Falcon 2000
 Engine: CFE 738-1-1B
 AFM: DTM537 Revision 16
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 10

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- WET RWY

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	1.22	1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.1	36500 ST	124/129/132/169	6455	36145 -O	124/129/132/169	6455	36500
-15	83.9	36500 ST	124/129/132/169	6455	35966 -O	124/129/132/169	6455	36500
-10	84.8	36345 FL	124/129/132/169	6455	35799 -O	124/129/132/169	6455	36500
-5	85.6	36049 FL	124/129/132/169	6455	35630 -O	124/129/132/169	6455	36500
0	86.4	35767 FL	124/129/132/169	6455	35458 -O	124/129/132/169	6455	36500
2	86.7	35592 FL	124/129/132/169	6455	35350 -O	124/129/132/169	6455	36500
4	87.0	35418 FL	124/129/132/169	6455	35240 -O	124/129/131/169	6455	36500
6	87.4	35248 FL	124/129/132/169	6455	35128 -O	124/129/131/168	6455	36500
8	87.5	35082 FL	124/129/132/169	6455	35016 -O	123/128/131/168	6455	36500
10	87.5	34919 FL	124/129/132/169	6455	34903 -O	123/128/131/168	6455	36500
12	87.3	34687 FL	124/129/132/169	6455	34687 FL	123/128/131/168	6455	36500
14	86.9	34464 FL	124/129/132/169	6455	34464 FL	123/128/130/167	6455	36500
16	86.6	34142 FL	124/129/131/168	6455	34142 FL	122/127/130/167	6455	36500
18	86.2	33735 FL	123/128/131/167	6455	33735 FL	121/126/129/166	6455	36500
20	85.9	33342 FL	123/127/130/167	6455	33342 FL	121/126/128/165	6455	36500
22	85.5	32892 FL	122/126/129/165	6455	32892 FL	120/125/128/164	6455	36500
24	85.2	32472 FL	121/126/128/164	6455	32472 FL	119/124/127/162	6455	36500
26	84.8	32030 FL	121/125/127/163	6455	32030 FL	118/123/126/161	6455	36500
28	84.4	31585 FL	120/124/127/162	6455	31547 -O	118/122/125/160	6455	36500
30	84.1	31162 FL	120/123/126/161	6455	31054 -O	117/121/124/159	6455	36072
32	83.7	30696 FL	119/122/125/160	6455	30544 -O	116/120/123/157	6455	35362
34	83.4	30268 FL	119/121/124/159	6455	30049 -O	115/119/122/156	6455	34633
36	83.0	29782 FL	118/120/123/158	6455	29529 -O	114/118/121/155	6455	33907
38	82.7	29335 FL	117/120/122/157	6455	29038 -O	113/117/120/153	6455	33187
40	82.3	28957 FL	116/118/121/155	6455	28539 -O	112/116/119/152	6455	32463
41	82.1	28608 FL	116/118/121/154	6455	28229 -O	112/115/118/151	6455	32100

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+59	0	+51	0	
TWD per KT	-286	0	-283	0	
QNH per +0.1	+52	0	+33	0	+101
QNH per -0.1	-113	0	-113	0	-112
TRINOP	0	0	0	0	0
ANTI ICE ON	-914	0	-2234	0	-405

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 20Dec16



Falcon 2000
 Engine: CFE 738-1-1B
 AFM: DTM537 Revision 16
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 20

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- WET RWY

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	-1.22	-1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.1	36500 ST	108/124/126/169	6455	36500 ST	108/124/126/169	6455	36500
-15	83.9	36500 ST	108/124/126/169	6455	36500 ST	108/124/126/169	6455	36500
-10	84.8	36500 ST	108/124/126/169	6455	36500 ST	108/124/126/169	6455	36500
-5	85.6	36443 FP	108/124/126/169	6455	36443 FP	108/124/126/169	6455	36500
0	86.4	36302 FP	108/124/126/168	6455	36302 FP	108/124/126/168	6455	36500
2	86.7	36241 FP	108/123/126/168	6455	36241 FP	108/123/126/168	6455	36500
4	87.0	36179 FP	108/123/126/168	6455	36179 FP	108/123/126/168	6455	36500
6	87.4	36119 FP	108/123/126/168	6455	36119 FP	108/123/126/168	6455	36500
8	87.5	36059 FP	108/123/126/168	6455	36059 FP	108/123/126/168	6455	36500
10	87.5	35999 FP	108/123/126/168	6455	35999 FP	108/123/126/168	6455	36500
12	87.3	35937 FP	108/123/126/167	6455	35937 FP	108/123/126/167	6455	36500
14	86.9	35877 FP	107/123/125/167	6455	35877 FP	107/123/125/167	6455	36500
16	86.6	35561 FP	107/122/125/167	6455	35561 FP	107/122/125/167	6455	36500
18	86.2	35037 FP	106/121/124/165	6455	35037 FP	106/121/124/165	6455	36500
20	85.9	34528 FP	105/120/123/164	6455	34528 FP	105/120/123/164	6455	36500
22	85.5	34017 FP	104/120/122/163	6455	34017 FP	104/120/122/163	6455	36256
24	85.2	33408 FP	103/118/121/161	6455	33408 FP	103/118/121/161	6455	35618
26	84.8	32774 FP	102/117/120/160	6455	32774 FP	102/117/120/160	6455	34979
28	84.4	32150 FP	101/116/119/158	6455	32150 FP	101/116/119/158	6455	34340
30	84.1	31562 FP	101/115/118/157	6455	31562 FP	101/115/118/157	6455	33700
32	83.7	30910 FP	100/114/116/155	6455	30910 FP	100/114/116/155	6455	33049
34	83.4	30250 FP	100/113/115/154	6455	30250 FP	100/113/115/154	6455	32394
36	83.0	29620 FP	100/111/114/152	6455	29620 FP	100/111/114/152	6455	31738
38	82.7	28968 FP	100/110/113/150	6455	28968 FP	100/110/113/150	6455	31041
40	82.3	28276 FP	100/109/111/149	6455	28276 FP	100/109/111/149	6455	30332
41	82.1	27929 FP	100/108/111/148	6455	27929 FP	100/108/111/148	6455	29977

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+32	0	+32	0	
TWD per KT	-114	0	-114	0	
QNH per +0.1	+13	0	+13	0	+96
QNH per -0.1	-114	0	-114	0	-113
TRINOP	0	0	0	0	0
ANTI ICE ON	-3954	0	-3954	0	-2783

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 20Dec16



Falcon 2000
 Engine: CFE 738-1-1B
 AFM: DTM537 Revision 16
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 20

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- WET RWY

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	1.22	1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	83.1	36500 ST	117/124/126/169	6455	35515 -O	117/123/126/168	6455	36500
-15	83.9	36500 ST	117/124/126/169	6455	35408 -O	116/123/126/168	6455	36500
-10	84.8	36500 ST	118/124/126/169	6455	35295 -O	116/123/126/168	6455	36500
-5	85.6	36500 ST	118/124/126/169	6455	35170 -O	116/123/125/167	6455	36500
0	86.4	36500 ST	118/124/126/169	6455	35054 -O	116/123/125/167	6455	36500
2	86.7	36500 ST	118/124/126/169	6455	34978 -O	116/122/125/167	6455	36500
4	87.0	36500 ST	118/124/126/169	6455	34903 -O	115/122/125/166	6455	36500
6	87.4	36500 ST	118/124/126/169	6455	34832 -O	115/122/125/166	6455	36500
8	87.5	36500 ST	118/124/126/169	6455	34768 -O	115/122/125/166	6455	36500
10	87.5	36500 ST	118/124/126/169	6455	34706 -O	115/122/124/166	6455	36500
12	87.3	36500 ST	118/124/126/169	6455	34614 -O	115/122/124/166	6455	36500
14	86.9	36265 FL	118/124/126/169	6455	34520 -O	114/121/124/165	6455	36500
16	86.6	35859 FL	118/124/126/169	6455	34257 -O	114/121/124/165	6455	36500
18	86.2	35398 FL	118/123/126/168	6455	33822 -O	113/120/123/164	6455	36500
20	85.9	35040 FL	117/122/125/167	6455	33392 -O	112/119/122/163	6455	36500
22	85.5	34433 FL	116/121/124/165	6455	32917 -O	111/119/121/162	6455	36256
24	85.2	33973 FL	115/120/123/164	6455	32410 -O	111/118/120/160	6455	35618
26	84.8	33451 FL	114/119/122/162	6455	31878 -O	110/117/119/159	6455	34979
28	84.4	32875 FL	113/118/121/161	6455	31382 -O	109/116/119/158	6455	34340
30	84.1	32434 FL	111/117/119/159	6455	30890 -O	108/115/118/157	6455	33700
32	83.7	31771 FL	110/116/118/158	6455	30289 -O	107/114/117/156	6455	33049
34	83.4	31186 FP	109/114/117/156	6455	29778 -O	106/113/116/154	6455	32394
36	83.0	30483 FP	107/113/116/154	6455	29249 -O	105/112/115/153	6455	31738
38	82.7	29844 FP	106/112/114/153	6455	28682 -O	105/111/113/151	6455	31041
40	82.3	29170 FP	105/111/113/151	6455	28179 -O	104/110/112/150	6455	30332
41	82.1	28828 FP	104/110/112/150	6455	27852 -O	103/109/112/149	6455	29977

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+27	0	+40	0	
TWD per KT	-312	0	-245	0	
QNH per +0.1	+88	0	+24	0	+96
QNH per -0.1	-119	0	-108	0	-113
TRINOP	0	0	0	0	0
ANTI ICE ON	-3654	0	-2742	0	-2783

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 20Dec16



LANDING PERFORMANCE FLAPS 40

Configuration:

- NO OPTIONS SELECTED

Approach Climb Limits:

GRAD	-20	-10	0	10	20	25	30	35	40	41
2.1%	34500	34500	34500	34500	34500	34500	34500	34500	33000	32900

Field Length Weight Limits/Distances:

RWY: 16
 LDA: 8700FT
 SLOPE: -1.22%
 COND: DRY

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	1	33000	6730	33000	5048	33000	4038
	11	33000	6730	33000	5048	33000	4038
	21	33000	6730	33000	5048	33000	4038
	31	33000	6730	33000	5048	33000	4038
	41	32900	6714	32900	5036	32900	4029
0	1	33000	5854	33000	4391	33000	3513
	11	33000	5854	33000	4391	33000	3513
	21	33000	5854	33000	4391	33000	3513
	31	33000	5854	33000	4391	33000	3513
	41	32900	5839	32900	4379	32900	3504
10	1	33000	5591	33000	4193	33000	3355
	11	33000	5591	33000	4193	33000	3355
	21	33000	5591	33000	4193	33000	3355
	31	33000	5591	33000	4193	33000	3355
	41	32900	5576	32900	4182	32900	3346
50	1	33000	4539	33000	3404	33000	2723
	11	33000	4539	33000	3404	33000	2723
	21	33000	4539	33000	3404	33000	2723
	31	33000	4539	33000	3404	33000	2723
	41	32900	4526	32900	3394	32900	2716

RWY: 16
 LDA: 8700FT
 SLOPE: -1.22%
 COND: Wet [115%]

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	1	33000	7740	33000	5805	33000	4644
	11	33000	7740	33000	5805	33000	4644
	21	33000	7740	33000	5805	33000	4644
	31	33000	7740	33000	5805	33000	4644
	41	32900	7721	32900	5791	32900	4633
0	1	33000	6732	33000	5049	33000	4040
	11	33000	6732	33000	5049	33000	4040
	21	33000	6732	33000	5049	33000	4040
	31	33000	6732	33000	5049	33000	4040
	41	32900	6715	32900	5036	32900	4029
10	1	33000	6430	33000	4822	33000	3858
	11	33000	6430	33000	4822	33000	3858
	21	33000	6430	33000	4822	33000	3858
	31	33000	6430	33000	4822	33000	3858
	41	32900	6413	32900	4810	32900	3848
50	1	33000	5219	33000	3915	33000	3132
	11	33000	5219	33000	3915	33000	3132
	21	33000	5219	33000	3915	33000	3132
	31	33000	5219	33000	3915	33000	3132
	41	32900	5204	32900	3903	32900	3123

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16

LANDING PERFORMANCE FLAPS 40

Configuration:

- NO OPTIONS SELECTED

Approach Climb Limits:

GRAD	-20	-10	0	10	20	25	30	35	40	41
2.1%	34500	34500	34500	34500	34500	34500	34500	34500	33000	32900

Field Length Weight Limits/Distances:

RWY: 34
 LDA: 8700FT
 SLOPE: 1.22%
 COND: DRY

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	1	33000	6730	33000	5048	33000	4038
	11	33000	6730	33000	5048	33000	4038
	21	33000	6730	33000	5048	33000	4038
	31	33000	6730	33000	5048	33000	4038
	41	32900	6714	32900	5036	32900	4029
0	1	33000	5854	33000	4391	33000	3513
	11	33000	5854	33000	4391	33000	3513
	21	33000	5854	33000	4391	33000	3513
	31	33000	5854	33000	4391	33000	3513
	41	32900	5839	32900	4379	32900	3504
10	1	33000	5591	33000	4193	33000	3355
	11	33000	5591	33000	4193	33000	3355
	21	33000	5591	33000	4193	33000	3355
	31	33000	5591	33000	4193	33000	3355
	41	32900	5576	32900	4182	32900	3346
50	1	33000	4539	33000	3404	33000	2723
	11	33000	4539	33000	3404	33000	2723
	21	33000	4539	33000	3404	33000	2723
	31	33000	4539	33000	3404	33000	2723
	41	32900	4526	32900	3394	32900	2716

RWY: 34
 LDA: 8700FT
 SLOPE: 1.22%
 COND: Wet [115%]

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	1	33000	7740	33000	5805	33000	4644
	11	33000	7740	33000	5805	33000	4644
	21	33000	7740	33000	5805	33000	4644
	31	33000	7740	33000	5805	33000	4644
	41	32900	7721	32900	5791	32900	4633
0	1	33000	6732	33000	5049	33000	4040
	11	33000	6732	33000	5049	33000	4040
	21	33000	6732	33000	5049	33000	4040
	31	33000	6732	33000	5049	33000	4040
	41	32900	6715	32900	5036	32900	4029
10	1	33000	6430	33000	4822	33000	3858
	11	33000	6430	33000	4822	33000	3858
	21	33000	6430	33000	4822	33000	3858
	31	33000	6430	33000	4822	33000	3858
	41	32900	6413	32900	4810	32900	3848
50	1	33000	5219	33000	3915	33000	3132
	11	33000	5219	33000	3915	33000	3132
	21	33000	5219	33000	3915	33000	3132
	31	33000	5219	33000	3915	33000	3132
	41	32900	5204	32900	3903	32900	3123

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16

Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 0

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- ECS ON
- ANTI ICE OFF
- THRUST REVERSERS OPERATIVE

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	-1.22	-1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	99.6	16300 ST	117/121/133/140	5901	16300 ST	117/121/133/140	5901	16300
-15	100.6	16300 ST	117/121/133/140	5890	16300 ST	117/121/133/140	5890	16300
-10	101.5	16300 ST	117/121/133/140	5883	16300 ST	117/121/133/140	5883	16300
-5	101.2	16275 BE	118/121/133/140	5877	16275 BE	118/121/133/140	5877	16300
0	101.1	16049 BE	118/121/132/140	5870	16049 BE	118/121/132/140	5870	16300
2	100.9	15971 BE	117/120/132/140	5868	15971 BE	117/120/132/140	5868	16300
4	100.9	15892 BE	117/120/131/140	5866	15892 BE	117/120/131/140	5866	16300
6	100.6	15814 BE	117/120/131/140	5865	15814 BE	117/120/131/140	5865	16300
8	100.4	15735 BE	117/120/131/140	5864	15735 BE	117/120/131/140	5864	16300
10	100.2	15656 BE	117/120/131/140	5863	15656 BE	117/120/131/140	5863	16300
12	99.9	15574 BE	117/119/130/140	5864	15574 BE	117/119/130/140	5864	16300
14	99.9	15494 BE	117/119/130/140	5866	15494 BE	117/119/130/140	5866	16300
16	99.6	15427 BE	117/119/130/140	5867	15427 BE	117/119/130/140	5867	16300
18	99.4	15359 BE	117/119/129/140	5868	15359 BE	117/119/129/140	5868	16300
20	99.2	15291 BE	117/118/129/140	5870	15291 BE	117/118/129/140	5870	16300
22	99.0	15233 BE	117/118/129/140	5870	15233 BE	117/118/129/140	5870	16300
24	98.8	15176 BE	117/118/129/140	5871	15176 BE	117/118/129/140	5871	16300
26	98.5	15118 BE	117/118/128/140	5879	15098 -O	117/118/128/140	5878	16300
28	98.3	15026 -O	116/118/128/140	5884	14898 -O	116/117/128/140	5877	16161
30	98.1	14857 -O	116/117/127/140	5884	14721 -O	115/117/127/140	5877	15952
32	97.9	14631 -O	115/116/127/140	5880	14555 -O	114/116/126/140	5876	15737
34	97.7	14448 -O	114/115/126/140	5879	14374 -O	114/115/125/140	5875	15522
36	97.5	14260 -O	113/115/125/140	5877	14171 -O	113/114/124/140	5872	15297
38	97.3	14088 -O	113/114/124/140	5876	13955 -O	112/114/123/140	5869	15062
39	97.2	14008 -O	112/114/123/140	5877	13848 -O	112/113/122/140	5866	14944

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+10	+1	+6	+1	
TWD per KT	-144	0	-144	0	
QNH per +0.1	+25	0	+26	0	+54
QNH per -0.1	-51	+1	-52	0	-58
ASINOP	-1180	-31	-955	-31	0
ECS OFF	+65	0	+31	0	NA
ANTI ICE ON	-1670	+6	-1847	+5	NA
TRINOP	0	0	0	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 0

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- ECS ON
- ANTI ICE OFF
- THRUST REVERSERS OPERATIVE

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	1.22	1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	NA	NA SL	NA	NA	NA SL	NA	NA	NA
-15	NA	NA SL	NA	NA	NA SL	NA	NA	NA
-10	NA	NA SL	NA	NA	NA SL	NA	NA	NA
-5	NA	NA SL	NA	NA	NA SL	NA	NA	NA
0	NA	NA SL	NA	NA	NA SL	NA	NA	NA
2	NA	NA SL	NA	NA	NA SL	NA	NA	NA
4	NA	NA SL	NA	NA	NA SL	NA	NA	NA
6	NA	NA SL	NA	NA	NA SL	NA	NA	NA
8	NA	NA SL	NA	NA	NA SL	NA	NA	NA
10	NA	NA SL	NA	NA	NA SL	NA	NA	NA
12	NA	NA SL	NA	NA	NA SL	NA	NA	NA
14	NA	NA SL	NA	NA	NA SL	NA	NA	NA
16	NA	NA SL	NA	NA	NA SL	NA	NA	NA
18	NA	NA SL	NA	NA	NA SL	NA	NA	NA
20	NA	NA SL	NA	NA	NA SL	NA	NA	NA
22	NA	NA SL	NA	NA	NA SL	NA	NA	NA
24	NA	NA SL	NA	NA	NA SL	NA	NA	NA
26	NA	NA SL	NA	NA	NA SL	NA	NA	NA
28	NA	NA SL	NA	NA	NA SL	NA	NA	NA
30	NA	NA SL	NA	NA	NA SL	NA	NA	NA
32	NA	NA SL	NA	NA	NA SL	NA	NA	NA
34	NA	NA SL	NA	NA	NA SL	NA	NA	NA
36	NA	NA SL	NA	NA	NA SL	NA	NA	NA
38	NA	NA SL	NA	NA	NA SL	NA	NA	NA
39	NA	NA SL	NA	NA	NA SL	NA	NA	NA

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	NA	NA	NA	NA	
TWD per KT	NA	NA	NA	NA	
QNH per +0.1	NA	NA	NA	NA	+54
QNH per -0.1	NA	NA	NA	NA	-58
ASINOP	NA	NA	NA	NA	0
ECS OFF	NA	NA	NA	NA	NA
ANTI ICE ON	NA	NA	NA	NA	NA
TRINOP	NA	NA	NA	NA	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 10

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- ECS ON
- THRUST REVERSERS OPERATIVE
- ANTI ICE OFF

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	-1.22	-1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	99.6	16300 ST	106/115/123/140	5921	16300 ST	106/115/123/140	5921	16300
-15	100.6	16300 ST	106/115/123/140	5910	16300 ST	106/115/123/140	5910	16300
-10	101.5	16300 ST	106/115/123/140	5903	16300 ST	106/115/123/140	5903	16300
-5	101.2	16300 ST	107/116/123/140	5898	16300 ST	107/116/123/140	5898	16300
0	101.1	16300 ST	107/116/123/140	5899	16300 ST	107/116/123/140	5899	16300
2	100.9	16300 ST	108/116/123/140	5901	16300 ST	108/116/123/140	5901	16300
4	100.9	16300 ST	108/116/123/140	5902	16300 ST	108/116/123/140	5902	16300
6	100.6	16300 ST	109/116/123/140	5908	16300 ST	109/116/123/140	5908	16300
8	100.4	16300 ST	109/116/123/140	5915	16300 ST	109/116/123/140	5915	16300
10	100.2	16300 ST	109/116/123/140	5922	16300 ST	109/116/123/140	5922	16300
12	99.9	16300 ST	110/117/123/140	5931	16300 ST	110/117/123/140	5931	16300
14	99.9	16300 ST	110/117/123/140	5947	16300 ST	110/117/123/140	5947	16300
16	99.6	16300 ST	111/117/123/140	5975	16229 -O	110/117/123/140	5964	16300
18	99.4	16300 ST	111/117/123/140	6001	15973 -O	109/116/122/140	5962	16177
20	99.2	16207 -O	111/117/123/140	6014	15703 -O	108/115/121/140	5970	15874
22	99.0	15930 -O	110/116/121/140	6013	15420 -O	107/114/120/140	5968	15604
24	98.8	15623 -O	109/115/120/140	6009	15149 -O	106/113/119/140	5961	15334
26	98.5	15364 -O	108/114/119/140	6002	14926 -O	105/112/118/140	5960	15104
28	98.3	15160 -O	107/113/119/140	5997	14737 -O	105/111/117/140	5961	14914
30	98.1	14975 -O	106/112/118/140	5997	14557 -O	104/110/116/140	5962	14724
32	97.9	14809 -O	106/112/117/140	6003	14371 -O	104/110/115/140	5964	14524
34	97.7	14637 -O	106/111/117/140	6010	14178 -O	103/109/115/140	5963	14324
36	97.5	14451 -O	105/110/116/140	6012	13974 -O	103/108/114/140	5960	14110
38	97.3	14251 -O	105/110/115/140	6007	13760 -O	102/107/113/140	5958	13882
39	97.2	14149 -O	104/109/115/140	6005	13645 -O	101/107/113/140	5958	13768

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+3	+1	+6	+1	
TWD per KT	-109	0	-89	0	
QNH per +0.1	+44	0	+46	0	+50
QNH per -0.1	-62	+3	-57	+3	-56
ASINOP	-932	-33	-201	-30	0
ECS OFF	+18	0	+52	0	NA
ANTI ICE ON	-2324	+7	-2524	+4	NA
TRINOP	0	0	0	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 10

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- ECS ON
- ANTI ICE OFF
- THRUST REVERSERS OPERATIVE

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	1.22	1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	99.6	16300 ST	112/115/123/140	6046	16300 ST	112/115/123/140	6046	16300
-15	100.6	16300 ST	112/115/123/140	6037	16300 ST	112/115/123/140	6037	16300
-10	101.5	16300 ST	112/115/123/140	6031	16300 ST	112/115/123/140	6031	16300
-5	101.2	16300 ST	113/116/123/140	6030	16300 ST	113/116/123/140	6030	16300
0	101.1	16300 ST	113/116/123/140	6036	16300 ST	113/116/123/140	6036	16300
2	100.9	16300 ST	114/116/123/140	6042	16300 ST	114/116/123/140	6042	16300
4	100.9	16300 ST	114/116/123/140	6047	16203 -O	114/116/123/140	6042	16300
6	100.6	16300 ST	115/116/123/140	6057	16007 -O	113/115/122/140	6037	16300
8	100.4	16238 FL	115/116/123/140	6062	15807 -O	112/114/121/140	6034	16300
10	100.2	16061 FL	114/115/122/140	6057	15612 -O	111/113/120/140	6030	16300
12	99.9	15833 FL	113/115/121/140	6056	15363 -O	110/113/119/140	6028	16300
14	99.9	15621 FL	112/114/120/140	6057	15100 -O	109/112/118/140	6026	16300
16	99.6	15421 FL	112/113/120/140	6060	14860 -O	109/111/117/140	6023	16300
18	99.4	15229 FL	111/112/119/140	6062	14637 -O	108/110/117/140	6022	16177
20	99.2	15051 FL	111/112/118/140	6063	14415 -O	107/109/116/140	6022	15874
22	99.0	14869 FL	110/111/117/140	6063	14203 -O	106/108/115/140	6019	15604
24	98.8	14672 -O	109/110/117/140	6063	13966 -O	106/107/114/140	6014	15334
26	98.5	14465 -O	108/110/116/140	6060	13760 -O	105/106/113/140	6010	15104
28	98.3	14288 -O	108/109/115/140	6055	13594 -O	104/106/112/140	6006	14914
30	98.1	14105 -O	108/108/114/140	6050	13434 -O	104/105/112/140	6003	14724
32	97.9	13899 -O	107/108/114/140	6046	13257 -O	103/104/111/140	6001	14524
34	97.7	13711 -O	106/107/113/140	6046	13082 -O	102/104/110/140	6001	14324
36	97.5	13529 -O	105/106/112/140	6048	12906 -O	102/103/110/140	5998	14110
38	97.3	13365 -O	105/105/111/140	6050	12739 -O	101/102/109/140	5994	13882
39	97.2	13282 -O	105/105/111/140	6050	12656 -O	100/102/109/140	5992	13768

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	0	0	+10	+1	
TWD per KT	-62	+2	-56	+2	
QNH per +0.1	+45	0	+44	0	+50
QNH per -0.1	-56	+2	-58	+1	-56
ASINOP	-300	+23	NA	NA	0
ECS OFF	+137	0	+125	+3	NA
ANTI ICE ON	-2035	+52	-2159	+45	NA
TRINOP	0	0	0	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 20

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- ECS ON
- ANTI ICE OFF
- THRUST REVERSERS OPERATIVE

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	-1.22	-1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	99.6	16300 ST	99/110/116/140	5983	16300 ST	99/110/116/140	5983	16300
-15	100.6	16300 ST	99/110/116/140	5971	16300 ST	99/110/116/140	5971	16300
-10	101.5	16300 ST	99/110/116/140	5966	16300 ST	99/110/116/140	5966	16300
-5	101.2	16300 ST	100/110/116/140	5972	16300 ST	100/110/116/140	5972	16300
0	101.1	16300 ST	100/110/116/140	5996	16300 ST	100/110/116/140	5996	16300
2	100.9	16300 ST	101/110/116/140	6019	16300 ST	101/110/116/140	6019	16300
4	100.9	16300 ST	101/110/116/140	6042	16300 ST	101/110/116/140	6042	16136
6	100.6	16300 ST	102/110/116/140	6066	16300 ST	102/110/116/140	6066	15906
8	100.4	16300 ST	102/110/116/140	6089	16300 ST	102/110/116/140	6089	15665
10	100.2	16300 ST	103/110/116/140	6111	16189 -O	102/110/116/140	6094	15424
12	99.9	16098 FL	103/110/116/140	6105	15913 -O	102/109/115/140	6082	15154
14	99.9	15958 -O	103/109/115/140	6109	15646 -O	101/108/114/140	6083	14884
16	99.6	15863 -O	103/109/115/140	6124	15386 -O	100/107/113/140	6083	14614
18	99.4	15635 -O	102/108/114/140	6129	15115 -O	100/106/111/140	6080	14343
20	99.2	15358 -O	102/107/112/140	6129	14843 -O	99/105/111/140	6078	14072
22	99.0	14498 FL	97/104/110/140	6065	14498 FL	97/104/110/140	6065	13841
24	98.8	14498 FL	98/104/110/140	6090	14342 -O	97/103/109/140	6073	13610
26	98.5	14498 FL	99/104/110/140	6111	14106 -O	96/102/108/140	6068	13410
28	98.3	14362 -O	98/103/109/140	6112	13923 -O	96/102/108/140	6065	13241
30	98.1	14175 -O	97/103/109/140	6109	13740 -O	95/101/107/140	6062	13072
32	97.9	13499 FL	94/100/106/140	6051	13499 FL	94/100/106/140	6051	12911
34	97.7	13499 FL	95/100/106/140	6066	13394 -O	94/100/106/140	6053	12750
36	97.5	13499 FL	95/100/106/140	6081	13233 -O	94/99/105/140	6048	12575
38	97.3	13463 -O	96/100/106/140	6091	13062 -O	93/98/104/140	6043	12386
39	97.2	13382 -O	95/100/106/140	6089	12976 -O	93/98/104/140	6041	12292

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	0	+1	0	+1	
TWD per KT	-54	+1	-29	0	
QNH per +0.1	+36	+1	+40	+1	+39
QNH per -0.1	-77	+3	-54	+3	-56
ASINOP	-743	-44	-246	-55	0
ECS OFF	+117	0	+137	0	NA
ANTI ICE ON	-2396	+20	-2595	+12	NA
TRINOP	0	0	0	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 20

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- ECS ON
- ANTI ICE OFF
- THRUST REVERSERS OPERATIVE

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	1.22	1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	99.6	16300 ST	105/110/116/140	6102	16300 ST	105/110/116/140	6102	16300
-15	100.6	16300 ST	106/110/116/140	6093	16300 ST	106/110/116/140	6093	16300
-10	101.5	16300 ST	106/110/116/140	6090	16300 ST	106/110/116/140	6090	16300
-5	101.2	16300 ST	107/110/116/140	6104	16044 -O	105/109/116/140	6088	16300
0	101.1	16300 ST	107/110/116/140	6136	15718 -O	104/108/114/140	6075	16300
2	100.9	16173 -O	107/110/116/140	6148	15530 -O	103/107/113/140	6071	16300
4	100.9	15984 -O	107/109/115/140	6142	15341 -O	103/106/112/140	6067	16136
6	100.6	15783 -O	106/108/114/140	6137	15146 -O	102/105/112/140	6063	15906
8	100.4	15560 -O	105/107/113/140	6131	14929 -O	101/105/111/140	6058	15665
10	100.2	15318 -O	104/106/112/140	6125	14701 -O	100/104/110/140	6053	15424
12	99.9	15047 -O	103/105/111/140	6122	14441 -O	99/103/110/140	6049	15154
14	99.9	14778 -O	102/105/111/140	6116	14186 -O	98/102/109/140	6045	14884
16	99.6	14515 -O	101/104/110/140	6110	13945 -O	97/101/108/140	6041	14614
18	99.4	14255 -O	100/103/109/140	6105	13726 -O	96/100/107/140	6037	14343
20	99.2	13999 -O	99/101/108/140	6100	13502 -O	95/99/106/140	6034	14072
22	99.0	13772 -O	98/100/107/140	6098	13282 -O	94/98/105/140	6030	13841
24	98.8	13543 -O	96/100/106/140	6096	13076 -O	93/98/104/140	6025	13610
26	98.5	13346 -O	96/99/105/140	6089	12900 -O	93/97/103/140	6021	13410
28	98.3	13188 -O	95/99/105/140	6084	12751 -O	93/96/103/140	6018	13241
30	98.1	13034 -O	94/98/104/140	6079	12602 -O	92/96/102/140	6014	13072
32	97.9	12879 -O	94/97/103/140	6075	12433 -O	92/95/101/140	6010	12911
34	97.7	12714 -O	93/97/102/140	6071	12250 -O	92/94/100/140	6004	12750
36	97.5	12550 -O	93/96/101/140	6065	12082 -O	92/94/99/140	5998	12575
38	97.3	12391 -O	92/95/101/140	6057	NA -O	NA	NA	12386
39	97.2	12314 -O	92/95/100/140	6053	NA -O	NA	NA	12292

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+5	0	+7	0	
TWD per KT	-30	+2	NA	NA	
QNH per +0.1	+38	0	+37	0	+39
QNH per -0.1	-56	+1	NA	NA	-56
ASINOP	-265	+34	NA	NA	0
ECS OFF	0	0	0	0	NA
ANTI ICE ON	-1749	+66	-1712	+12	NA
TRINOP	0	0	0	0	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 0

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- WET
- ANTI ICE OFF
- ECS ON
- THRUST REVERSERS OPERATIVE

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	-1.22	-1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	NA	Flap 0 takeoff data is not available for wet or contaminated runways.			Flap 0 takeoff data is not available for wet or contaminated runways.			NA
-15	NA							NA
-10	NA							NA
-5	NA							NA
0	NA							NA
2	NA							NA
4	NA							NA
6	NA							NA
8	NA							NA
10	NA							NA
12	NA							NA
14	NA							NA
16	NA							NA
18	NA							NA
20	NA							NA
22	NA							NA
24	NA							NA
26	NA							NA
28	NA	NA						
30	NA	NA						

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16

Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 0

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- WET
- ANTI ICE OFF
- ECS ON
- THRUST REVERSERS OPERATIVE

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	1.22	1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	NA	Flap 0 takeoff data is not available for wet or contaminated runways.			Flap 0 takeoff data is not available for wet or contaminated runways.			NA
-15	NA							NA
-10	NA							NA
-5	NA							NA
0	NA							NA
2	NA							NA
4	NA							NA
6	NA							NA
8	NA							NA
10	NA							NA
12	NA							NA
14	NA							NA
16	NA							NA
18	NA							NA
20	NA							NA
22	NA							NA
24	NA							NA
26	NA							NA
28	NA	NA						
30	NA	NA						

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16

Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 10

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- WET
- ANTI ICE OFF
- ECS ON
- THRUST REVERSERS OPERATIVE

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	-1.22	-1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	99.6	16300 ST	95/116/123/140	5910	16300 ST	95/116/123/140	5910	16300
-15	100.6	16300 ST	95/116/123/140	5900	16300 ST	95/116/123/140	5900	16300
-10	101.5	16300 ST	95/116/123/140	5893	16300 ST	95/116/123/140	5893	16300
-5	101.2	16300 ST	95/116/123/140	5887	16300 ST	95/116/123/140	5887	16300
0	101.1	16300 ST	96/116/123/140	5888	16300 ST	96/116/123/140	5888	16300
2	100.9	16300 ST	97/117/123/140	5889	16300 ST	97/117/123/140	5889	16300
4	100.9	16300 ST	97/117/123/140	5890	16300 ST	97/117/123/140	5890	16300
6	100.6	16300 ST	98/117/123/140	5895	16300 ST	98/117/123/140	5895	16300
8	100.4	16300 ST	98/117/123/140	5902	16300 ST	98/117/123/140	5902	16300
10	100.2	16300 ST	99/117/123/140	5907	16300 ST	99/117/123/140	5907	16300
12	99.9	16300 ST	100/118/123/140	5916	16300 ST	100/118/123/140	5916	16300
14	99.9	16300 ST	100/118/123/140	5931	16300 ST	100/118/123/140	5931	16300
16	99.6	16272 -O	101/118/123/140	5954	16190 -O	100/117/122/140	5942	16300
18	99.4	16030 -O	100/117/122/140	5951	15943 -O	100/117/121/140	5944	16177
20	99.2	15786 -O	100/116/121/140	5962	15670 -O	99/115/121/140	5952	15874
22	99.0	15537 -O	99/115/120/140	5965	15390 -O	98/114/120/140	5950	15604
24	98.8	15315 -O	98/114/119/140	5964	15121 -O	97/113/118/140	5944	15334
26	98.5	15115 -O	98/113/118/140	5963	14900 -O	96/112/118/140	5944	15104
28	98.3	14943 -O	97/113/118/140	5963	14709 -O	96/112/117/140	5944	14914
30	98.1	14777 -O	97/112/117/140	5966	14531 -O	95/111/116/140	5946	14724
32	97.9	14589 -O	96/111/116/140	5971	14342 -O	95/110/115/140	5947	14524
34	97.7	14398 -O	95/111/116/140	5973	14151 -O	95/109/115/140	5946	14324
36	97.5	14205 -O	95/110/115/140	5971	13948 -O	94/109/114/140	5944	14110
38	97.3	14022 -O	95/109/114/140	5969	13732 -O	94/108/113/140	5943	13882
39	97.2	13937 -O	95/109/114/140	5970	13617 -O	94/107/112/140	5943	13768

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	+10	+2	+6	+1	
TWD per KT	-93	0	-85	0	
QNH per +0.1	+49	0	+46	0	+50
QNH per -0.1	-57	+2	-56	+2	-56
ANTI ICE ON	-2329	+10	-2538	+7	NA
TRINOP	-301	-7	-15	-7	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 10

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- WET
- ANTI ICE OFF
- ECS ON
- THRUST REVERSERS OPERATIVE

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	1.22	1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	99.6	16300 ST	106/116/123/140	6060	16300 ST	106/116/123/140	6060	16300
-15	100.6	16300 ST	106/116/123/140	6050	16300 ST	106/116/123/140	6050	16300
-10	101.5	16300 ST	106/116/123/140	6043	16300 ST	106/116/123/140	6043	16300
-5	101.2	16300 ST	107/116/123/140	6042	16300 ST	107/116/123/140	6042	16300
0	101.1	16300 ST	108/116/123/140	6046	16300 ST	108/116/123/140	6046	16300
2	100.9	16300 ST	109/117/123/140	6051	16103 -O	107/116/122/140	6043	16300
4	100.9	16300 ST	110/117/123/140	6055	15929 -O	107/115/121/140	6039	16300
6	100.6	16300 ST	111/117/123/140	6064	15733 -O	106/114/121/140	6036	16300
8	100.4	16238 FL	111/117/123/140	6073	15530 -O	106/114/120/140	6033	16300
10	100.2	16061 FL	112/117/123/140	6082	15320 -O	105/113/119/140	6029	16300
12	99.9	15833 FL	111/116/122/140	6072	15060 -O	104/112/118/140	6026	16300
14	99.9	15621 FL	110/115/121/140	6072	14809 -O	103/111/117/140	6023	16300
16	99.6	15421 FL	109/114/120/140	6073	14583 -O	102/110/116/140	6020	16300
18	99.4	15229 FL	108/113/119/140	6070	14368 -O	101/109/115/140	6017	16177
20	99.2	15015 -O	107/112/118/140	6067	14155 -O	100/108/115/140	6015	15874
22	99.0	14798 -O	106/111/117/140	6065	13935 -O	98/107/114/140	6011	15604
24	98.8	14561 -O	105/111/116/140	6063	13691 -O	96/106/113/140	6007	15334
26	98.5	14349 -O	104/110/115/140	6059	13488 -O	95/106/112/140	6003	15104
28	98.3	14168 -O	103/109/115/140	6054	13319 -O	95/105/111/140	5999	14914
30	98.1	13980 -O	102/108/114/140	6049	13174 -O	94/104/111/140	5996	14724
32	97.9	13786 -O	102/108/113/140	6046	13008 -O	93/103/110/140	5996	14524
34	97.7	13603 -O	101/107/112/140	6044	12785 -O	93/102/109/140	5992	14324
36	97.5	13433 -O	100/106/112/140	6043	12590 -O	93/101/108/140	5987	14110
38	97.3	13273 -O	99/105/111/140	6044	12419 -O	92/100/108/140	5984	13882
39	97.2	13193 -O	99/105/111/140	6045	12331 -O	92/100/107/140	5984	13768

Corrections	LBS	FT	LBS	FT	LBS
HWD per KT	0	+1	+17	+1	
TWD per KT	-79	+3	NA	NA	
QNH per +0.1	+44	0	+45	0	+50
QNH per -0.1	-56	+3	-58	+1	-56
ANTI ICE ON	-2040	+43	-1867	+28	NA
TRINOP	-91	+17	NA	NA	0

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 20

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- WET
- ANTI ICE OFF
- ECS ON
- THRUST REVERSERS OPERATIVE

RWY 16DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	16DP	16	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	-1.22	-1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	16DP			16			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	NA	Flap 20 takeoff data is not available for wet or contaminated runways.			Flap 20 takeoff data is not available for wet or contaminated runways.			NA
-15	NA							NA
-10	NA							NA
-5	NA							NA
0	NA							NA
2	NA							NA
4	NA							NA
6	NA							NA
8	NA							NA
10	NA							NA
12	NA							NA
14	NA							NA
16	NA							NA
18	NA							NA
20	NA							NA
22	NA							NA
24	NA							NA
26	NA							NA
28	NA							NA
30	NA							NA

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16

Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19
 Obstacle Criteria: FAA AC 120-91

TAKEOFF PERFORMANCE FLAPS 20

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- WET
- ANTI ICE OFF
- ECS ON
- THRUST REVERSERS OPERATIVE

RWY 34DP REQUIRES USE OF ATTACHED SPECIAL DEPARTURE PROCEDURE

Runway	34DP	34	Line-Up Dist
TORA (FT)	8700	8700	0
TODA (FT)	8700	8700	0
ASDA (FT)	8700	8700	0
SLOPE (%)	1.22	1.22	

Runway/Obstacle Weight Limits:

TEMP (°C)	PWR	34DP			34			CLIMB
		LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	LIMIT WT/CODE	V1/VR/V2/VFTO	LVLOFF	
-20	NA	Flap 20 takeoff data is not available for wet or contaminated runways.			Flap 20 takeoff data is not available for wet or contaminated runways.			NA
-15	NA							NA
-10	NA							NA
-5	NA							NA
0	NA							NA
2	NA							NA
4	NA							NA
6	NA							NA
8	NA							NA
10	NA							NA
12	NA							NA
14	NA							NA
16	NA							NA
18	NA							NA
20	NA							NA
22	NA							NA
24	NA							NA
26	NA							NA
28	NA	NA						
30	NA	NA						

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16

Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19

LANDING PERFORMANCE FLAPS 10/30

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- THRUST REVERSERS OPERATIVE

Approach Climb Limits:

Approach Flaps 10									
GRAD	-20	-10	0	10	20	25	30	35	39
2.1%	15700	15700	15700	15700	15700	15700	15700	15556	15071

Field Length Weight Limits/Distances:

Landing Flaps 30

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	19	12906	6364	12906	4764	12906	4312
	24	12806	6398	12806	4789	12806	4338
	29	12707	6432	12707	4818	12707	4363
	34	12603	6466	12603	4845	12603	4384
	39	12497	6499	12497	4873	12497	4404
0	19	14264	5806	14264	4329	14264	3954
	24	14150	5838	14150	4362	14150	3981
	29	14037	5867	14037	4394	14037	4009
	34	13915	5899	13915	4421	13915	4028
	39	13791	5932	13791	4446	13791	4046
10	19	14796	5704	14796	4226	14796	3864
	24	14678	5735	14678	4258	14678	3892
	29	14563	5765	14563	4290	14563	3921
	34	14430	5792	14430	4315	14430	3940
	39	14289	5816	14289	4336	14289	3957
30	19	15700	5318	15700	3999	15700	3674
	24	15672	5385	15672	4056	15672	3720
	29	15543	5428	15543	4091	15543	3746
	34	15400	5469	15400	4119	15400	3765
	39	15071	5462	15071	4108	15071	3745

RWY: 16
 LDA: 8700FT
 SLOPE: -1.22%
 COND: DRY

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	19	12906	7318	12906	5478	12906	4958
	24	12806	7358	12806	5508	12806	4988
	29	12707	7396	12707	5540	12707	5018
	34	12603	7436	12603	5571	12603	5042
	39	12497	7474	12497	5604	12497	5064
0	19	14264	6677	14264	4979	14264	4547
	24	14150	6713	14150	5016	14150	4579
	29	14037	6747	14037	5054	14037	4610
	34	13915	6784	13915	5084	13915	4633
	39	13791	6821	13791	5112	13791	4653
10	19	14796	6560	14796	4859	14796	4443
	24	14678	6595	14678	4896	14678	4476
	29	14563	6630	14563	4933	14563	4509
	34	14430	6661	14430	4962	14430	4531
	39	14289	6688	14289	4987	14289	4550
30	19	15700	6116	15700	4598	15700	4225
	24	15672	6193	15672	4664	15672	4278
	29	15543	6242	15543	4705	15543	4308
	34	15400	6289	15400	4737	15400	4330
	39	15071	6282	15071	4724	15071	4307

RWY: 16
 LDA: 8700FT
 SLOPE: -1.22%
 COND: Wet [115%]

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



Hawker Beechcraft 400A
 Engine: PW JT15D-5
 AFM: 128-590001-167B Rev A19

LANDING PERFORMANCE FLAPS 10/30

TST2
 ENNIS-BIG SKY
 ENNIS, MT
 Elevation: 5455

Configuration:

- THRUST REVERSERS OPERATIVE

Approach Climb Limits:

Approach Flaps 10									
GRAD	-20	-10	0	10	20	25	30	35	39
2.1%	15700	15700	15700	15700	15700	15700	15700	15556	15071

Field Length Weight Limits/Distances:

Landing Flaps 30

RWY: 34
 LDA: 8700FT
 SLOPE: 1.22%
 COND: DRY

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	19	13534	6205	13534	4641	13534	4253
	24	13430	6238	13430	4672	13430	4278
	29	13328	6272	13328	4703	13328	4303
	34	13217	6307	13217	4729	13217	4322
	39	13104	6343	13104	4752	13104	4339
0	19	14982	5657	14982	4221	14982	3890
	24	14863	5688	14863	4256	14863	3917
	29	14746	5718	14746	4290	14746	3942
	34	14619	5747	14619	4319	14619	3961
	39	14490	5775	14490	4345	14490	3979
10	19	15531	5517	15531	4130	15531	3792
	24	15409	5558	15409	4160	15409	3818
	29	15290	5599	15290	4190	15290	3845
	34	15160	5639	15160	4217	15160	3865
	39	15028	5678	15028	4242	15028	3883
30	19	15700	4951	15700	3725	15700	3469
	24	15700	5021	15700	3781	15700	3514
	29	15700	5091	15700	3839	15700	3560
	34	15656	5154	15656	3885	15656	3594
	39	15071	5088	15071	3822	15071	3532

RWY: 34
 LDA: 8700FT
 SLOPE: 1.22%
 COND: Wet [115%]

WIND (KT)	OAT (°C)	60% FACTOR		80% FACTOR		UNFACTORED	
		WEIGHT	DIST	WEIGHT	DIST	WEIGHT	DIST
-10	19	13534	7135	13534	5337	13534	4891
	24	13430	7174	13430	5373	13430	4920
	29	13328	7213	13328	5409	13328	4948
	34	13217	7253	13217	5438	13217	4970
	39	13104	7294	13104	5464	13104	4989
0	19	14982	6506	14982	4854	14982	4474
	24	14863	6541	14863	4894	14863	4504
	29	14746	6575	14746	4934	14746	4533
	34	14619	6609	14619	4967	14619	4555
	39	14490	6642	14490	4997	14490	4575
10	19	15531	6345	15531	4749	15531	4360
	24	15409	6392	15409	4784	15409	4390
	29	15290	6438	15290	4819	15290	4421
	34	15160	6485	15160	4849	15160	4444
	39	15028	6530	15028	4879	15028	4465
30	19	15700	5693	15700	4283	15700	3989
	24	15700	5774	15700	4348	15700	4042
	29	15700	5854	15700	4414	15700	4094
	34	15656	5927	15656	4468	15656	4133
	39	15071	5852	15071	4396	15071	4062

OBSERVE STRUCTURAL LIMITS

Data may be invalid after 28 days from: 16Dec16



APPENDIX L

Alternatives Development and Evaluation – Supplemental Data

Primary Alternative Selection - Preference Numerical Based Rankings														
Primary Elements	Importance (Weighted Adjustment)	#2 C-II with Extension North		#4 Rotate the Runway		#5 Develop Runway to the South		#6 C-II Runway with Modifications of Standards			Comments			
		Ranking	Weighted	Ranking	Weighted	Ranking	Weighted	#6A Existing Runway Profile with 1.9% Extension	#6B Modify Existing 1.9% to 1.5% with 1.5% Extension	#6C Modify Existing Central Portion to 1.5% with 1.3% (Max.) Extension				
Runway Width	10	6	60	0	0	4	40	10	100	6	60	3	30	All primary alternatives propose meeting required 100' runway width. Alternative #2 would make use of existing runway for approximately 4,700'. Alternative #4 would require total reconstruction of the existing runway. Alternative #5 would utilize approximately 2,800' of existing runway. Alternative #6A would utilize the entire 6,600' of existing runway. Alternative #6B would utilize approximately 4,700' of existing runway. Alternative #6C would utilize approximately 2,130' of existing runway.
Runway Length	9	6	54	0	0	4	36	10	90	6	54	3	27	All primary alternatives propose meeting recommended future runway length of 7,600', and a location that would be feasible to accommodate the ultimate runway length of 8,700'. Alternative #2 would make use of existing runway for approximately 4,700'. Alternative #4 would require total reconstruction of the existing runway. Alternative #5 would utilize approximately 2,800' of existing runway. Alternative #6A would utilize the entire 6,600' of existing runway. Alternative #6B would utilize approximately 4,700' of existing runway. Alternative #6C would utilize approximately 2,130' of existing runway.
Runway Object Free Area	9	10	90	8	72	7	63	10	90	10	90	10	90	All primary alternatives propose meeting recommended Object Free Area requirements. Alternatives #2, #6A, #6B, and #6C have identical penetrations including terrain, perimeter fence, segmented circle, windcone, and AWOS. The OFA would also impact the available parking area (separately ranked below). Alternative #4 would have all of the same impacts as listed in the above alternatives, with increase land acquisitions necessary (separately ranked below). Alternative #5 would also have all of the same impacts as listed in the above alternatives, plus increased land acquisitions (which includes a significant portion of a tract including the residence located at the southeast corner of the existing airport).
Parallel Taxiway Separation	10	10	100	7	70	10	100	10	100	10	100	10	100	All primary alternatives propose meeting runway / parallel taxiway separation requirements. The parallel taxiway does not require additional land acquisition in addition to that required for the Runway OFA. All alternatives generate enough earthwork to construct the parallel taxiway "prism" without additional excavation or embankment, with exception to Alternative #4.
14 CFR Part 77 Airspace Surfaces	7	3	21	8	56	7	49	8	56	7	49	7	49	All primary alternatives will have 14 CFR Part 77 Airspace Surface penetrations of the horizontal and conical surfaces, which change only slightly with each alternative. Alternative #2 requires extensive earthwork to clear the 34:1 approach, primary, and transitional surfaces (1.1M cubic yards). Alternatives #4 and #5 aimed to decrease the earthwork necessary to clear these surfaces (they have other impacts which are separately addressed / ranked). Alternatives #6A, #6B, and #6C aim to decrease the earthwork, <u>but require approval of the FAA through a Modification of Design Standards.</u>
Runway Protection Zone (RPZ)	6	9	54	6	36	10	60	9	54	9	54	9	54	Primary Alternatives #2, #6A, #6B, and #6C maintain the existing Runway 34 threshold, and allow the RPZ to include the low traffic volume Airport Road. The south side of Airport Road is currently controlled by a private conservation easement and state land. The Runway 16 RPZ would fall within State of Montana owned land. Primary Alternative #4 rotation would result in slightly different RPA impacts. The Runway 34 RPZ would also include Airport Road, but it would also include the residence located at the southeast corner of the existing airport. The Runway 16 RPA would continue to reside within State of Montana owned land. Primary Alternative #5 would reroute Airport Road around the Runway 34 RPZ (resulting in the RPZ being entirely owned / controlled by the Owner), while the Runway 16 RPZ would fall on land owned by the State of Montana or entered within a conservation easment (which precludes development).

Eliminated - FAA Determined MOS could not be approved.

Primary Elements	Importance (Weighted Adjustment)	#6 C-II Runway with Modifications of Standards												Comments
		#2 C-II with Extension North		#4 Rotate the Runway		#5 Develop Runway to the South		#6A Existing Runway Profile with 1.9% Extension		#6B Modify Existing 1.9% to 1.5% with 1.5% Extension		#6C Modify Existing Central Portion to 1.5% with 1.3% (Max.) Extension		
Threshold Siting Surface (TSS)	8	10	80	10	80	10	80	10	80	10	80	10	80	All primary alternatives propose to have clear threshold siting surfaces, which would coincide with clearing of the OFA's and 14 CFR Part 77 Airspace Surface penetrations.
Glide Path Qualification Surface (GQS)	10	10	100	10	100	10	100	10	100	10	100	10	100	All primary alternatives propose to have a clear GQS, which overlaps more stringent airspace grading surfaces.
Departure Surface	8	6	48	6	48	4	32	8	48	7	56	7	56	No primary alternatives propose to completely clear the departure surfaces, simply due to their size and the surrounding terrain. Primary Alternatives #2, #6A, #6B, and #6C have identical penetrations for the Runway "34" departure; however, their penetrations for the Runway "16" departure will change slightly with a the proposed threshold elevations. Primary Alternative #4 penetrations will change only slightly with rotation, slightly decreasing for Runway "16" departure, and slightly increasing for Runway "34" departure. Primary Alternative #5 will result in close-in penetrations on the Runway "34" departure, and possibly overhead powerlines and trees. The Runway "16" departure penetrations will remain similar due to rising terrain to the east.
Aircraft Parking Separation	10	6	60	10	100	7	70	9	60	6	60	6	60	Primary Alternative #4 is the only alternative that does not impact the available apron area(s). All other alternatives have identical impacts, with a much wider OFA. Primary Alternative #5 would shift the Runway "34" threshold and the associated threshold siting surface, allowing expansions to the south on existing airport property.
Land Requirements	4	10	40	8	32	2	8	8	40	10	40	10	40	Primary Alternative #2, #6A, #6B, and #6C - 20-acres (with remaining needs available through Montana State Land by perpetual easement). Primary Alternative #4 -30-acres (with remaining needs available through Montana State Land by perpetual easement). This alternative would also require acquisition of a residence located at the southeast corner of the existing airport. Primary Alternative #5 - 86-acres (with remaining needs available through Montana State Land by perpetual easement). This alternative would also require acquisition of a residence located at the southeast corner of the existing airport.
Environmental	10	8	80	7	70	2	20	10	100	9	90	9	90	There are no known environmental conditions that would impact the proposed feasibility of any of the primary alternatives. All alternatives impact the areas of McDeed, Boulder, and Shell Creeks (to varying degrees). Alternative #5 would also impact Tolman Creek (although an intermediate alternative could be finalized to shift slightly north and avoid Tolman Creek - resulting in increased earthwork, but no impact to Tolman Creek). Alternatives #4 and #5 would impact a residence located at the southeast end of the existing airport. Alternative #5 would cause relocation of approximately 1.5-miles of Airport Road (which is likely to have public opposition).
Cost Estimate	10	4	40	0	0	4	40	10	100	6	60	6	60	Primary Alternative #2 cost estimate = \$13.9M. Primary Alternative #4 cost estimate = \$19.6M. Primary Alternative #5 cost estimate = \$13.9M. Primary Alternative #6A cost estimate = \$8.5M. Primary Alternative #6B cost estimate = \$11.7M Primary Alternative #6C cost estimate = \$11.9M
Total Scores (Weighted):		827		664		698		1034		893		836		

Eliminated - FAA Determined MOS could not be approved.

**Ennis Big Sky Airport Improvements
Alternative #2 - Extend North - No FAA Modifications to Standards
Primary Considerations Only
Revised 06/22/2017 by LDB**



Item No.	Quantity	Unit	Unit Description	Engineer's Estimate	
				Unit Price (Figures)	Total Price (Figures)

A. LAND ACQUISITIONS					
A-1	1	LS	Land Acquisitions of Approximately 20-acres	\$200,000.00	\$200,000.00
A. SUBTOTAL:					\$200,000.00

B. REHABILITATE TAXIWAY (RECONSTRUCT PORTION OF SOUTH PARALLEL TAXIWAY (T-1) TO NORTH APRON) & CONSTRUCT TAXIWAY FILLETS					
B-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$38,374.00	\$38,374.00
B-2	4,000	SY	Mill Existing Asphalt Pavement (3-inches)	\$2.00	\$8,000.00
B-3	4,200	CY	Unclassified Excavation and Embankment	\$3.70	\$15,540.00
B-4	2,000	LF	Edge Drains - 4"	\$17.00	\$34,000.00
B-5	8	EA	Edge Drain Cleanouts	\$650.00	\$5,200.00
B-6	4	EA	Edge Drain Outfalls	\$700.00	\$2,800.00
B-7	4,000	SY	Geotextile Separation / Stabilization Fabric	\$1.60	\$6,400.00
B-8	4,000	SY	Geosynthetic Geogrid - 100%	\$4.00	\$16,000.00
B-9	2,000	CY	P-154 Subbase Course (18-inch Section)	\$32.00	\$64,000.00
B-10	900	CY	P-154 Subbase Course (8-inch Bridging Lift) - 100% of area	\$30.00	\$27,000.00
B-11	667	CY	P-209 Crushed Aggregate Base Course (6-inch Section)	\$42.00	\$28,014.00
B-12	2.4	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$1,440.00
B-13	483	TON	Bituminous Surface Coarse	\$50.00	\$24,150.00
B-14	0.9	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$540.00
B-15	483	TON	Bituminous Surface Coarse	\$50.00	\$24,150.00
B-16	57.9	TON	Bituminous Material, Asphalt Cement (PG70-28) - 6.0%	\$780.00	\$45,162.00
B-17	190	SY	Fillet Widening	\$200.00	\$38,000.00
B-18	270	SF	Taxiway Painting (Full Rate Application - Solid Yellow)	\$1.00	\$270.00
B-19	1	ACRE	Seeding, Fertilizing and Mulching	\$2,200.00	\$2,200.00
B-20	20	EA	L-853 Taxiway Reflectors, Stake Mounted	\$125.00	\$2,500.00
B-21	1	LS	Engineering and Administration	\$46,048.80	\$46,048.80
B. SUBTOTAL:					\$429,788.80

C. REHABILITATE APRON (RECONSTRUCT SOUTH APRON (A-1 portion))					
C-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$75,905.88	\$75,905.88
C-2	9,250	SY	Mill Existing Asphalt Pavement (3-inches)	\$2.00	\$18,500.00
C-3	10,200	CY	Unclassified Excavation and Embankment	\$3.70	\$37,740.00
C-4	1,000	LF	Edge Drains - 6"	\$20.00	\$20,000.00
C-5	4	EA	Edge Drain Cleanouts	\$650.00	\$2,600.00
C-6	3	EA	Edge Drain Outfalls	\$700.00	\$2,100.00
C-7	9,250	SY	Geotextile Separation / Stabilization Fabric	\$1.60	\$14,800.00
C-8	9,250	SY	Geosynthetic Geogrid - 100%	\$4.00	\$37,000.00
C-9	4,700	CY	P-154 Subbase Course (18-inch Section)	\$32.00	\$150,400.00
C-10	2,100	CY	P-154 Subbase Course (8-inch Bridging Lift) - 100% of area	\$30.00	\$63,000.00
C-11	1,542	CY	P-209 Crushed Aggregate Base Course (6-inch Section)	\$42.00	\$64,764.00
C-12	5.7	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$3,420.00
C-13	1,116	TON	Bituminous Surface Coarse	\$50.00	\$55,800.00
C-14	2.0	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$1,200.00
C-15	1,116	TON	Bituminous Surface Coarse	\$50.00	\$55,800.00
C-16	133.9	TON	Bituminous Material, Asphalt Cement (PG70-28) - 6.0%	\$780.00	\$104,442.00
C-17	54	EA	Remove & Discard Tiedown Anchors	\$150.00	\$8,100.00
C-18	54	EA	Tie-Down Anchors	\$800.00	\$43,200.00
C-19	180	GAL	Refined Coal Tar Emulsion Seal Coat	\$35.00	\$6,300.00
C-20	1,187	SF	Taxiway Painting (Full Rate Application - Yellow)	\$1.00	\$1,187.00
C-21	4	ACRE	Seeding, Fertilizing and Mulching	\$2,200.00	\$8,800.00
C-22	20	EA	L-853 Taxiway Reflectors, Stake Mounted	\$125.00	\$2,500.00
C-23	1	LS	Engineering and Administration	\$93,307.07	\$93,307.07
C. SUBTOTAL:					\$870,865.95

D. REPAIR / RECONSTRUCT EXISTING VERTICAL CURVES TO "C" CRITERIA to Sta. 42+00 to 88+00					
D-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$12,616.85	\$12,616.85
D-2	0	LS	P-101 Surface Preparation	\$10,000.00	\$0.00
D-3	6,833	SY	Mill Existing Asphalt Pavement (3-inches)	\$2.00	\$13,666.67

D-4	0	CY	Topsoil Stripping, Stockpiling, Placing	\$8.00	\$0.00
D-5	0	CY	Unclassified Excavation & Embankment	\$3.70	\$0.00
D-6	760	CY	P-209 Crushed Aggregate Base Course - Avg. 4"	\$42.00	\$31,920.00
D-7	4.0	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$2,400.00
D-8	1,237	TON	Bituminous Surface Course (3")	\$50.00	\$61,850.00
D-9	0.0	SY	Bituminous Tack Coat (SS-1)	\$600.00	\$0.00
D-10	74.3	TON	Bituminous Material, Asphalt Cement (PG 70-28) - 6.0%	\$50.00	\$3,715.00
D-11	0	SF	Runway Painting (Half-Rate Application - Solid White)	\$1.00	\$0.00
D-12	0	SF	Runway Painting (Full-Rate Application - Solid White)	\$1.00	\$0.00
D-13	0	ACRE	Seeding, Fertilizing, and Mulching	\$2,200.00	\$0.00
D-14	1	LS	Engineering and Administration	\$15,140.22	\$15,140.22
D. SUBTOTAL:					\$141,308.74

E. REPAIR / RECONSTRUCT EXISTING RUNWAY TO 1.5% MAXIMUM SLOPE & 0.8% LAST QUARTER (Sta. 22+00 to 42+00)					
E-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$198,224.37	\$198,224.37
E-2	0	LS	P-101 Surface Preparation	\$10,000.00	\$0.00
E-3	16,667	SY	Mill Existing Asphalt Pavement (3-inches)	\$2.00	\$33,333.33
E-4	17,300	CY	Topsoil Stripping, Stockpiling, Placing	\$8.00	\$138,400.00
E-5	200,000	CY	Unclassified Excavation & Embankment	\$3.70	\$740,000.00
E-6	1	LS	McDeed Creek Modifications - includes Corps of Engineers and MFWP coordination, design features, and estimated mitigation	\$150,000.00	\$150,000.00
E-7	1	LS	Construction Easement for Airspace Grading - estimated	\$20,000.00	\$20,000.00
E-8	2,778	CY	P-209 Crushed Aggregate Base Course - 6"	\$42.00	\$116,676.00
E-9	9.9	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$5,940.00
E-10	2,012	TON	Bituminous Surface Coarse	\$50.00	\$100,600.00
E-11	3.5	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$2,100.00
E-12	2,012	TON	Bituminous Surface Coarse	\$50.00	\$100,600.00
E-13	241.5	TON	Bituminous Material, Asphalt Cement (PG 70-28) - 6.0%	\$780.00	\$188,370.00
E-14	0	SF	Runway Painting (Half-Rate Application - Solid White)	\$1.00	\$0.00
E-15	0	SF	Runway Painting (Full-Rate Application - Solid White)	\$1.00	\$0.00
E-16	1	LS	MIRL Electrical Improvements (Relocation / Replacement of MIRL)	\$100,000.00	\$100,000.00
E-17	40	ACRE	Seeding, Fertilizing, and Mulching	\$2,200.00	\$88,000.00
E-18	1	LS	Engineering and Administration	\$237,869.24	\$237,869.24
E. SUBTOTAL:					\$2,220,112.95

F. STRUCTURAL OVERLAY RUNWAY AND TURNAROUND (2-INCH OVERLAY) EXCLUDING CROWN ADJUSTMENT (Sta. 42+00 to 88+00)					
F-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$51,437.11	\$51,437.11
F-2	1	LS	P-101 Surface Preparation	\$10,000.00	\$10,000.00
F-3	0	SY	Mill Existing Asphalt Pavement (3-inches)	\$2.00	\$0.00
F-4	0	CY	Topsoil Stripping, Stockpiling, Placing	\$8.00	\$0.00
F-5	0	CY	Unclassified Excavation & Embankment	\$3.70	\$0.00
F-6	0	CY	P-209 Crushed Aggregate Base Course - Approx. 4" Right of Centerline	\$42.00	\$0.00
F-7	0.0	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$0.00
F-8	0	TON	Bituminous Surface Course (2" Right of Centerline Only)	\$50.00	\$0.00
F-9	8.0	SF	Bituminous Tack Coat (SS-1)	\$600.00	\$4,800.00
F-10	4,629	TON	Bituminous Surface Course (2" Overlay)	\$50.00	\$231,450.00
F-11	277.8	TON	Bituminous Material, Asphalt Cement (PG70-28) - 6.0%	\$780.00	\$216,684.00
F-12	0	SF	Runway Painting (Half-Rate Application - Solid White)	\$1.00	\$0.00
F-13	0	SF	Runway Painting (Full-Rate Application - Solid White)	\$1.00	\$0.00
F-14	0	ACRE	Seeding, Fertilizing and Mulching	\$2,200.00	\$0.00
F-15	1	LS	Engineering and Administration	\$61,724.53	\$61,724.53
F. SUBTOTAL:					\$576,095.64

G. WIDEN RUNWAY (to 100-FT)					
G-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$243,458.80	\$243,458.80
G-2	10,000	CY	Topsoil Stripping, Stockpiling, Placing	\$8.00	\$80,000.00
G-3	19,812	SY	Subgrade Surface Preparation	\$1.50	\$29,718.00
G-4	200,000	CY	Unclassified Excavation and Embankment	\$3.70	\$740,000.00
G-5	7,000	LF	Edge Drains	\$17.00	\$119,000.00
G-6	20	EA	Edge Drain Cleanouts	\$650.00	\$13,000.00
G-7	10	EA	Edge Drain Outfalls	\$700.00	\$7,000.00
G-8	19,812	SY	Subsurface Separation Fabric	\$1.60	\$31,699.20
G-9	0	SY	Geosynthetic Geogrid - 0%	\$4.00	\$0.00
G-10	10,000	CY	P-154 Subbase Course (18" Section)	\$32.00	\$320,000.00
G-11	0	CY	P-154 Subbase Course (8-inch Bridging Lift) - 0%	\$30.00	\$0.00
G-12	3,302	CY	P-209 Crushed Aggregate Base Course (6-Inch Section)	\$42.00	\$138,684.00
G-13	11.8	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$7,080.00
G-14	2,392	TON	Bituminous Surface Coarse	\$50.00	\$119,600.00
G-15	4.2	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$2,520.00
G-16	2,392	TON	Bituminous Surface Coarse	\$50.00	\$119,600.00
G-17	287.1	TON	Bituminous Material, Asphalt Cement (PG70-28) - 6.0%	\$780.00	\$223,938.00
G-18	33,645	SF	Runway Painting (Full Rate Application - Solid White)	\$1.00	\$33,645.00

G-19	33,645	SF	Runway Painting (Full Rate Application - Solid White)	\$1.00	\$33,645.00
G-20	1	LS	MIRL Electrical Improvements (Relocation / Replacement of MIRL)	\$150,000.00	\$150,000.00
G-21	10	ACRE	Seeding, Fertilizing and Mulching	\$2,200.00	\$22,000.00
G-22	1	LS	Engineering and Administration	\$292,150.56	\$292,150.56
G. SUBTOTAL:					\$2,726,738.56

H. MISCELLANEOUS ELECTRICAL IMPROVEMENTS					
H-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$16,222.22	\$16,222.22
H-2	1	LS	Remove & Dispose Beacon Tower	\$5,000.00	\$5,000.00
H-3	1	EA	L-828 10.0kW Contact Current Regulator, Class 1, Style 1, Mode 1	\$8,500.00	\$8,500.00
H-4	1	EA	L-854 Radio Controller, Type 1 w/ Control Panel	\$4,500.00	\$4,500.00
H-5	1	EA	L-821 Lighting Control Panel, Type 1, Class W, Style 1, Mode 1	\$8,000.00	\$8,000.00
H-6	1	LS	Electrical Enclosure / Vault Equipment	\$8,000.00	\$8,000.00
H-7	1	EA	Beacon Tip-Down Tower / Pole, 35-feet	\$32,000.00	\$32,000.00
H-8	1	EA	Relocate PAPI w/ FAA Flight Check, Cable, Conduit	\$40,000.00	\$40,000.00
H-9	1	EA	Segmented Circle	\$20,000.00	\$20,000.00
H-10	1	LS	Relocate AWOS, Windcone, FAA Commissioning & Flight Check	\$20,000.00	\$20,000.00
H-11	1	LS	Engineering and Administration	\$19,466.67	\$19,466.67
H. SUBTOTAL:					\$181,688.89

I. REHABILITATE TAXIWAY (RECONSTRUCT PORTION NORTH PARALLEL TAXIWAY (T-2) FROM MID-FIELD TO END (4,700')					
I-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$61,776.00	\$61,776.00
I-2	8,760	SY	Mill Existing Asphalt Pavement (3-inches)	\$2.00	\$17,520.00
I-3	6,900	CY	Unclassified Excavation and Embankment	\$3.70	\$25,530.00
I-4	4,900	LF	Edge Drains	\$17.00	\$83,300.00
I-5	6	EA	Edge Drain Cleanouts	\$650.00	\$3,900.00
I-6	4	EA	Edge Drain Outfalls	\$700.00	\$2,800.00
I-7	8,760	SY	Subsurface Separation Fabric	\$1.60	\$14,016.00
I-8	0	SY	Geosynthetic Geogrid - 0%	\$4.00	\$0.00
I-9	4,400	CY	P-154 Subbase Course (18" Section)	\$32.00	\$140,800.00
I-10	0	CY	P-154 Subbase Course (8-inch Bridging Lift) - 0%	\$30.00	\$0.00
I-11	1,460	CY	P-209 Crushed Aggregate Base Course (6-Inch Section)	\$42.00	\$61,320.00
I-12	4.9	TON	Bituminous Prime Coat (MC-70)	\$600.00	\$2,940.00
I-13	1,000	TON	Bituminous Surface Coarse	\$50.00	\$50,000.00
I-14	1.9	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$1,140.00
I-15	1,000	TON	Bituminous Surface Coarse	\$50.00	\$50,000.00
I-16	120.0	TON	Bituminous Material, Asphalt Cement (PG64-28)	\$780.00	\$93,600.00
I-17	318	SF	Taxiway Painting (Full Rate Application - Solid Yellow)	\$1.00	\$318.00
I-18	4	ACRE	Seeding, Fertilizing and Mulching	\$2,200.00	\$8,800.00
I-19	1	LS	Engineering and Administration	\$74,131.20	\$74,131.20
I. SUBTOTAL:					\$691,891.20

J. Extend Runway (1,000') @0.8% Slope					
J-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$441,885.75	\$441,885.75
J-2	11,579	SY	Subgrade Surface Preparation	\$1.50	\$17,368.00
J-3	900,000	CY	Unclassified Excavation and Embankment	\$3.70	\$3,330,000.00
J-4	1	LS	Construction Easement for Airspace Grading	\$50,000.00	\$50,000.00
J-5	15,802	CY	Topsoil Stripping, Stockpiling, and Placing	\$8.00	\$126,419.75
J-6	0	LF	Edge Drains - 4"	\$17.00	\$0.00
J-7	0	EA	Edge Drain Cleanouts	\$650.00	\$0.00
J-8	0	EA	Edge Drain Outfalls	\$700.00	\$0.00
J-9	0	SY	Subsurface Separation Fabric	\$1.60	\$0.00
J-10	0	SY	Geosynthetic Geogrid - 0%	\$4.00	\$0.00
J-11	0	CY	P-154 Subbase Course (18" Section)	\$32.00	\$0.00
J-12	0	CY	P-154 Subbase Course (8-inch Bridging Lift) - 0%	\$30.00	\$0.00
J-13	1,930	CY	P-209 Crushed Aggregate Base Course (6-Inch Section)	\$42.00	\$81,060.00
J-14	6.9	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$4,140.00
J-15	1,398	TON	Bituminous Surface Coarse	\$50.00	\$69,900.00
J-16	2.5	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$1,500.00
J-17	1,398	TON	Bituminous Surface Coarse	\$50.00	\$69,900.00
J-18	167.8	TON	Bituminous Material, Asphalt Cement (PG70-28) - 6.0%	\$780.00	\$130,884.00
J-19	900	SF	Runway Painting (Half Rate Application - Solid White)	\$1.00	\$900.00
J-20	900	SF	Runway Painting (Full Rate Application - Solid White)	\$1.00	\$900.00
J-21	1	LS	MIRL Electrical Improvements (Installation of MIRL)	\$50,000.00	\$50,000.00
J-22	20	ACRE	Seeding, Fertilizing and Mulching	\$2,200.00	\$44,000.00
J-23	1	LS	Engineering and Administration	\$530,262.90	\$530,262.90
J. SUBTOTAL:					\$4,949,120.40

K. EXTEND PARALLEL TAXIWAY - (4,700' to 7,600')					
K-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$78,579.87	\$78,579.87
K-2	4,000	CY	Topsoil Stripping, Stockpiling, Placing (4-inches)	\$8.00	\$32,000.00
K-3	0	CY	Unclassified Excavation and Embankment	\$3.70	\$0.00
K-4	11,579	SY	Subgrade Surface Preparation	\$1.50	\$17,368.50

K-5	2,400	LF	Edge Drains - 4"	\$17.00	\$40,800.00
K-6	10	EA	Edge Drain Cleanouts	\$650.00	\$6,500.00
K-7	6	EA	Edge Drain Outfalls	\$700.00	\$4,200.00
K-8	5,800	CY	P-154 Subbase Course (18" Section)	\$32.00	\$185,600.00
K-9	0	CY	P-154 Subbase Course (8-inch Bridging Lift) - 0%	\$30.00	\$0.00
K-10	1,930	CY	P-209 Crushed Aggregate Base Course (6-Inch Section)	\$42.00	\$81,060.00
K-11	11,579	SY	Subsurface Separation Fabric	\$1.60	\$18,526.40
K-12	0	SY	Geosynthetic Geogrid - 0%	\$4.00	\$0.00
K-13	6.9	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$4,140.00
K-14	1,398	TON	Bituminous Surface Coarse	\$50.00	\$69,900.00
K-15	0.9	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$540.00
K-16	1,398	TON	Bituminous Surface Coarse	\$50.00	\$69,900.00
K-17	167.8	TON	Bituminous Material, Asphalt Cement (PG70-28) - 6.0%	\$780.00	\$130,884.00
K-18	900	SF	Runway Painting (Half Rate Application - Solid White)	\$1.00	\$900.00
K-19	900	SF	Runway Painting (Full Rate Application - Solid White)	\$1.00	\$900.00
K-20	20	ACRE	Seeding, Fertilizing and Mulching	\$2,200.00	\$44,000.00
K-21	1	LS	Engineering and Administration	\$94,295.85	\$94,295.85
K. SUBTOTAL:					\$880,094.62

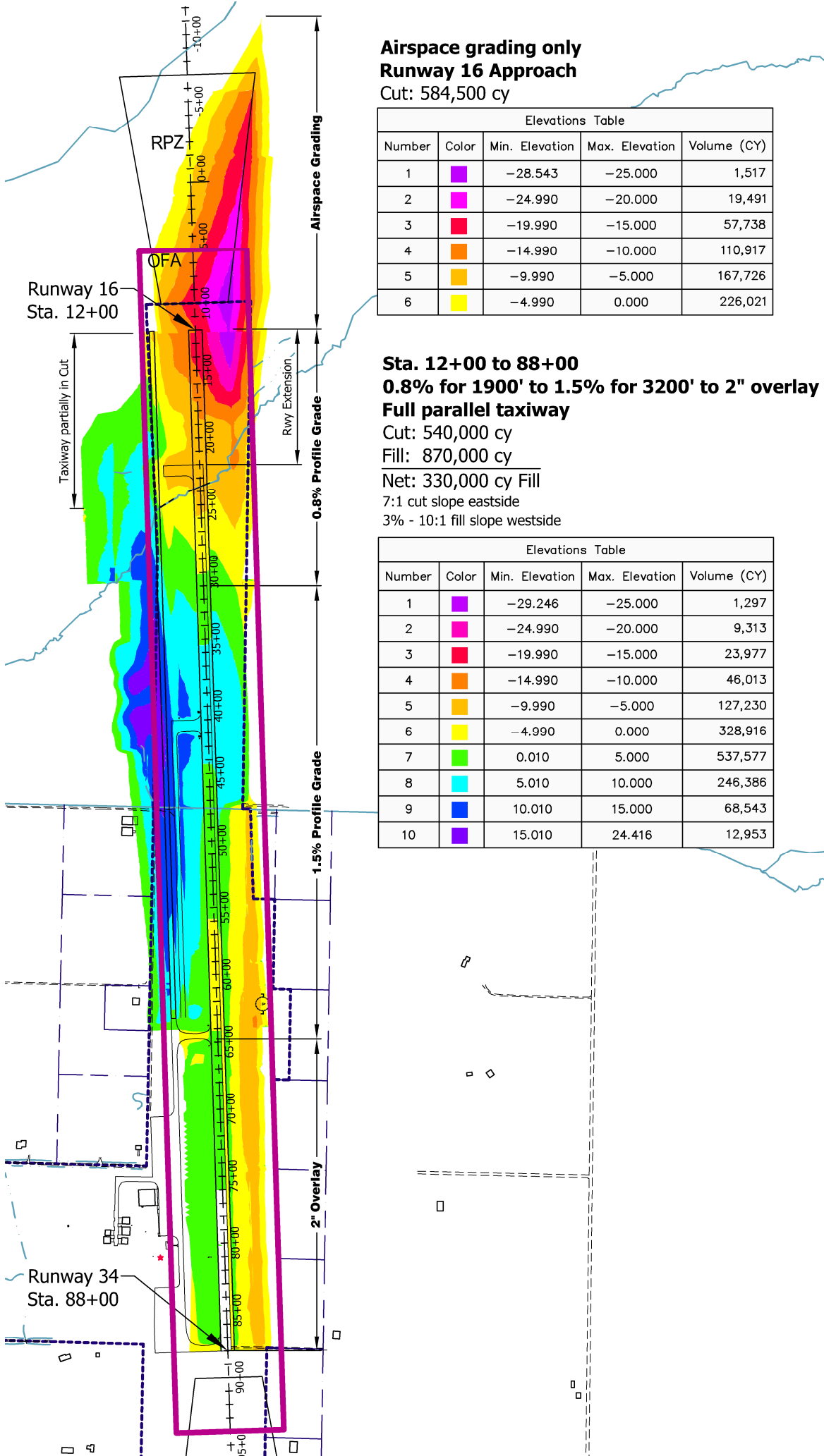
TOTAL:					\$13,867,705.75
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Airspace grading only
Runway 16 Approach
 Cut: 584,500 cy

Elevations Table				
Number	Color	Min. Elevation	Max. Elevation	Volume (CY)
1	Dark Purple	-28.543	-25.000	1,517
2	Light Purple	-24.990	-20.000	19,491
3	Red	-19.990	-15.000	57,738
4	Orange	-14.990	-10.000	110,917
5	Yellow-Orange	-9.990	-5.000	167,726
6	Yellow	-4.990	0.000	226,021

Sta. 12+00 to 88+00
0.8% for 1900' to 1.5% for 3200' to 2" overlay
Full parallel taxiway
 Cut: 540,000 cy
 Fill: 870,000 cy
 Net: 330,000 cy Fill
 7:1 cut slope eastside
 3% - 10:1 fill slope westside

Elevations Table				
Number	Color	Min. Elevation	Max. Elevation	Volume (CY)
1	Dark Purple	-29.246	-25.000	1,297
2	Light Purple	-24.990	-20.000	9,313
3	Red	-19.990	-15.000	23,977
4	Orange	-14.990	-10.000	46,013
5	Yellow-Orange	-9.990	-5.000	127,230
6	Yellow	-4.990	0.000	328,916
7	Light Green	0.010	5.000	537,577
8	Cyan	5.010	10.000	246,386
9	Blue	10.010	15.000	68,543
10	Dark Blue	15.010	24.416	12,953



**Ennis Big Sky Airport Improvements
Alternative #3 - Alternate Site Location
Primary Considerations Only
Revised 06/06/2017 by LDB**



Item No.	Quantity	Unit	Unit Description	Engineer's Estimate	
				Unit Price (Figures)	Total Price (Figures)

A. LAND ACQUISITIONS					
A-1	1	LS	Land Acquisitions of Approximately 270-acres	\$1,500,000.00	\$1,500,000.00
A-2	1	LS	Private Hangar Lease Buy-Outs at Existing Airport Site (est. Hangar FMV)	\$4,500,000.00	\$4,500,000.00
A. SUBTOTAL:					\$6,000,000.00

B. CONSTRUCT AIRSIDE PAVEMENTS, ACCESS ROAD, & INSTALL ELECTRICAL MIRL & NAVAID'S							
B-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$1,820,788.58	\$1,820,788.58		
B-2	1	LS	Airport Access Road & Parking	\$1,000,000.00	\$1,000,000.00		
B-3	40,000	CY	Topsoil Stripping, Stockpiling, and Placing	\$8.00	\$320,000.00		
B-4	1,000,000	CY	Unclassified Excavation and Embankment	\$4.00	\$4,000,000.00		
B-5	1	LS	Edge Drain System - est. 40,000 lf 4" HDPE, Cleanouts, Outfalls, Catch Basins	\$1,000,000.00	\$1,000,000.00		
B-6	1	LS	Storm Drainage System - Culverts, Catch Basins, Valley Gutters, etc.	\$250,000.00	\$250,000.00		
B-7	170,000	SY	Subgrade Surface Preparation	\$1.50	\$255,000.00		
B-8	170,000	SY	Geotextile Separation / Stabilization Fabric	\$1.60	\$272,000.00		
B-9	0	SY	Geosynthetic Geogrid - 100%	\$4.00	\$0.00		
B-10	85,000	CY	P-154 Subbase Course (18-inch Section)	\$32.00	\$2,720,000.00		
B-11	0	CY	P-154 Subbase Course (8-inch Bridging Lift) - 100% of area	\$30.00	\$0.00		
B-12	28,333	CY	P-209 Crushed Aggregate Base Course (6-inch Section)	\$42.00	\$1,190,000.00		
B-13	105.8	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$63,485.48		
B-14	18,700	TON	Bituminous Surface Coarse	\$50.00	\$935,000.00		
B-15	35.3	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$21,161.83		
B-16	18,700	TON	Bituminous Surface Coarse	\$50.00	\$935,000.00		
B-17	2,244.0	TON	Bituminous Material, Asphalt Cement (PG70-28) - 6.0%	\$780.00	\$1,750,320.00		
B-18	54	EA	Tie-Down Anchors	\$800.00	\$43,200.00		
B-19	180	GAL	Refined Coal Tar Emulsion Seal Coat	\$35.00	\$6,300.00		
B-20	33,645	SF	Runway Painting (Full Rate Application - White)	\$1.00	\$33,645.00		
B-21	33,645	SF	Runway Painting (Full Rate Application - White)	\$1.00	\$33,645.00		
B-22	10,000	SF	Taxiway Painting (Full Rate Application - Yellow)	\$1.00	\$10,000.00		
B-23	1	LS	Electrical / Utility Connections & Services	\$100,000.00	\$100,000.00		
B-24	1	LS	Electrical Enclosure / Vault Equipment	\$25,000.00	\$25,000.00		
B-25	1	EA	L-828 10.0kW Contact Current Regulator, Class 1, Style 1, Mode 1	\$8,500.00	\$8,500.00		
B-26	1	EA	L-854 Radio Controller, Type 1 w/ Control Panel	\$4,500.00	\$4,500.00		
B-27	1	EA	L-821 Lighting Control Panel, Type 1, Class W, Style 1, Mode 1	\$8,000.00	\$8,000.00		
B-28	1	EA	Beacon Tip-Down Tower / Pole, 35-feet	\$32,000.00	\$32,000.00		
B-29	1	LS	Beacon - relocate existing	\$4,000.00	\$4,000.00		
B-30	1	LS	PAPI's w/ Flight Check - relocate existing equipment	\$40,000.00	\$40,000.00		
B-31	1	EA	Segmented Circle	\$20,000.00	\$20,000.00		
B-32	1	EA	Primary L-807 Windcone	\$10,000.00	\$10,000.00		
B-33	1	LS	AWOS, FAA Commissioning & Flight Check	\$25,000.00	\$25,000.00		
B-34	55,200	LF	1/C #8 5KV Cable Installed in Duct	\$1.50	\$82,800.00		
B-35	34,000	LF	2" Sch. 40 PVC Duct Installed as Direct Burial	\$5.50	\$187,000.00		
B-36	1,500	LF	4" Sch. 80 PVC Duct Installed as Direct Burial	\$8.00	\$12,000.00		
B-37	34,000	LF	#6 AWG, Bare, Solid, Copper Counterpoise, Installed as Direct Burial, including Ground Rods	\$1.50	\$51,000.00		
B-38	20	EA	L-867D 16" Junction Can	\$400.00	\$8,000.00		
B-39	76	EA	L-861 MIRL 24" high, Base Mounted, L-830 Transformer, L-823 Connector, and Ground Rod	\$900.00	\$68,400.00		
B-40	20	EA	L-861E MIRL 24" high, Base Mounted, L-830 Transformer, L-823 Connector, and Ground Rod	\$1,000.00	\$20,000.00		
B-41	120	EA	L-861T MITL 24" high, Base Mounted, L-830 Transformer, L-823 Connector, and Ground Rod	\$900.00	\$108,000.00		
B-42	0	EA	L-853 Taxiway Reflectors, Stake Mounted	\$125.00	\$0.00		
B-43	25	EA	L-858 Lighted Guidance Signs	\$4,000.00	\$100,000.00		
B-44	5,000	LF	Farm Fence - 4.5' Height	\$5.00	\$25,000.00		
B-45	22,000	LF	Wildlife Deterrent Fence - 9' Height	\$9.87	\$217,140.00		
B-46	16	EA	Manual Gates - 30'	\$3,500.00	\$56,000.00		
B-47	4	EA	Manual Gates - 10'	\$1,500.00	\$6,000.00		
B-48	150	ACRE	Seeding, Fertilizing and Mulching	\$2,200.00	\$330,000.00		
B-49	1	LS	Engineering and Administration	\$2,145,346.31	\$2,145,346.31		
B. SUBTOTAL:					\$20,353,232.19		

TOTAL:					\$26,353,232.19
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**Ennis Big Sky Airport Improvements
Alternative #4 - Rotate Runway 1.75' West
Primary Considerations Only
Revised 06/07/2017 by LDB**

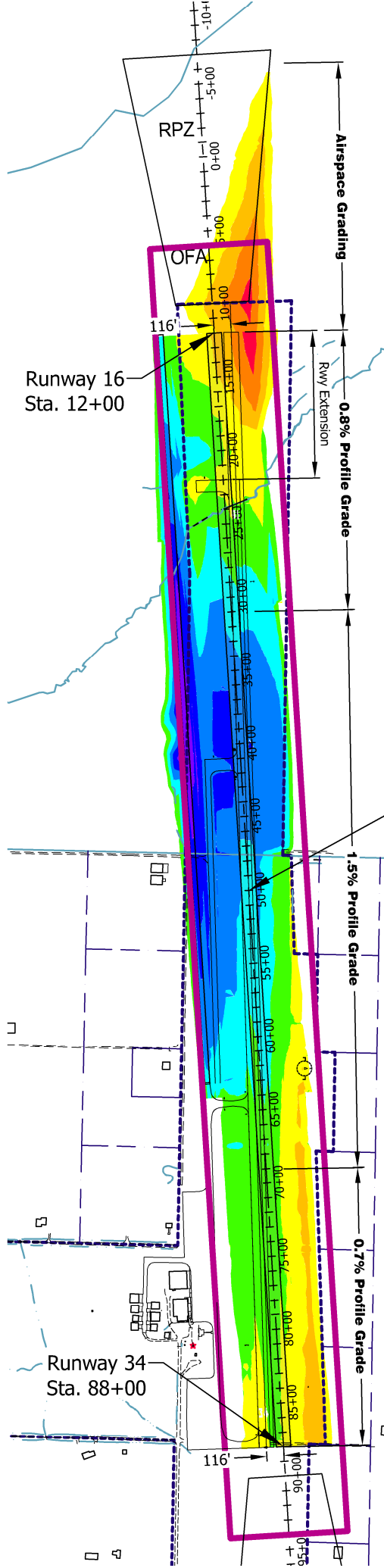


Item No.	Quantity	Unit	Unit Description	Engineer's Estimate	
				Unit Price (Figures)	Total Price (Figures)

A. LAND ACQUISITIONS				Unit Price (Figures)	Total Price (Figures)
A-1	1	LS	Land Acquisitions of Approximately 30-acres	\$400,000.00	\$400,000.00
A-2	1	LS	Real Property Acquisition - Residence on "34" threshold within RPZ (incl. 6.4-acre parcel)	\$400,000.00	\$400,000.00
A. SUBTOTAL:					\$800,000.00

B. CONSTRUCT AIRSIDE PAVEMENTS, ACCESS ROAD, & INSTALL ELECTRICAL MIRL & NAVAID'S				Unit Price (Figures)	Total Price (Figures)
B-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$1,602,229.71	\$1,602,229.71
B-2	0	LS	Airport Access Road & Parking	\$1,000,000.00	\$0.00
B-3	40,000	CY	Topsoil Stripping, Stockpiling, and Placing	\$8.00	\$320,000.00
B-4	1,250,000	CY	Unclassified Excavation and Embankment	\$3.60	\$4,500,000.00
B-5	1	LS	Construction Easement(s) - Airspace Grading and Slope Embankments - estimated	\$20,000.00	\$20,000.00
B-6	1	LS	Edge Drain System - est. 40,000 lf 4" HDPE, Cleanouts, Outfalls, Catch Basins	\$1,000,000.00	\$1,000,000.00
B-7	0.9	LS	Storm Drainage System - Culverts, Catch Basins, Valley Gutters, etc.	\$250,000.00	\$225,000.00
B-8	142,000	SY	Subgrade Surface Preparation	\$1.50	\$213,000.00
B-9	142,000	SY	Geotextile Separation / Stabilization Fabric	\$1.60	\$227,200.00
B-10	0	SY	Geosynthetic Geogrid - 100%	\$4.00	\$0.00
B-11	71,000	CY	P-154 Subbase Course (18-inch Section)	\$32.00	\$2,272,000.00
B-12	0	CY	P-154 Subbase Course (8-inch Bridging Lift) - 100% of area	\$30.00	\$0.00
B-13	23,667	CY	P-209 Crushed Aggregate Base Course (6-inch Section)	\$42.00	\$994,000.00
B-14	88.4	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$53,029.05
B-15	15,620	TON	Bituminous Surface Coarse	\$50.00	\$781,000.00
B-16	29.5	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$17,676.35
B-17	15,620	TON	Bituminous Surface Coarse	\$50.00	\$781,000.00
B-18	1,874.4	TON	Bituminous Material, Asphalt Cement (PG70-28) - 6.0%	\$780.00	\$1,462,032.00
B-19	54	EA	Tie-Down Anchors	\$800.00	\$43,200.00
B-20	180	GAL	Refined Coal Tar Emulsion Seal Coat	\$35.00	\$6,300.00
B-21	33,645	SF	Runway Painting (Full Rate Application - White)	\$1.00	\$33,645.00
B-22	33,645	SF	Runway Painting (Full Rate Application - White)	\$1.00	\$33,645.00
B-23	9,000	SF	Taxiway Painting (Full Rate Application - Yellow)	\$1.00	\$9,000.00
B-24	0	LS	Electrical / Utility Connections & Services	\$100,000.00	\$0.00
B-25	1	LS	Electrical Enclosure / Vault Equipment	\$25,000.00	\$25,000.00
B-26	1	EA	L-828 10.0kW Contact Current Regulator, Class 1, Style 1, Mode 1	\$8,500.00	\$8,500.00
B-27	1	EA	L-854 Radio Controller, Type 1 w/ Control Panel	\$4,500.00	\$4,500.00
B-28	1	EA	L-821 Lighting Control Panel, Type 1, Class W, Style 1, Mode 1	\$8,000.00	\$8,000.00
B-29	1	EA	Beacon Tip-Down Tower / Pole, 35-feet	\$32,000.00	\$32,000.00
B-30	1	LS	Beacon - relocate existing	\$4,000.00	\$4,000.00
B-31	1	LS	PAPI's w/ Flight Check - relocate existing equipment	\$40,000.00	\$40,000.00
B-32	1	EA	Segmented Circle	\$20,000.00	\$20,000.00
B-33	1	EA	Primary L-807 Windcone	\$10,000.00	\$10,000.00
B-34	1	LS	AWOS, FAA Commissioning & Flight Check - relocate existing equipment	\$25,000.00	\$25,000.00
B-35	55,200	LF	1/C #8 5KV Cable Installed in Duct	\$1.50	\$82,800.00
B-36	34,000	LF	2" Sch. 40 PVC Duct Installed as Direct Burial	\$5.50	\$187,000.00
B-37	1,500	LF	4" Sch. 80 PVC Duct Installed as Direct Burial	\$8.00	\$12,000.00
B-38	34,000	LF	#6 AWG, Bare, Solid, Copper Counterpoise, Installed as Direct Burial, including Ground Rods	\$1.50	\$51,000.00
B-39	20	EA	L-867D 16" Junction Can	\$400.00	\$8,000.00
B-40	76	EA	L-861 MIRL 24" high, Base Mounted, L-830 Transformer, L-823 Connector, and Ground Rod	\$900.00	\$68,400.00
B-41	20	EA	L-861E MIRL 24" high, Base Mounted, L-830 Transformer, L-823 Connector, and Ground Rod	\$1,000.00	\$20,000.00
B-42	120	EA	L-861T MITL 24" high, Base Mounted, L-830 Transformer, L-823 Connector, and Ground Rod	\$900.00	\$108,000.00
B-43	0	EA	L-853 Taxiway Reflectors, Stake Mounted	\$125.00	\$0.00
B-44	20	EA	L-858 Lighted Guidance Signs	\$4,000.00	\$80,000.00
B-45	5,000	LF	Farm Fence - 4.5' Height	\$5.00	\$25,000.00
B-46	22,000	LF	Wildlife Deterrent Fence - 9' Height	\$9.87	\$217,140.00
B-47	16	EA	Manual Gates - 30'	\$3,500.00	\$56,000.00
B-48	4	EA	Manual Gates - 10'	\$1,500.00	\$6,000.00
B-49	150	ACRE	Seeding, Fertilizing and Mulching	\$2,200.00	\$330,000.00
B-50	1	LS	Engineering and Administration	\$1,883,075.65	\$1,883,075.65
B. SUBTOTAL:					\$17,905,372.76

TOTAL:					\$18,705,372.76
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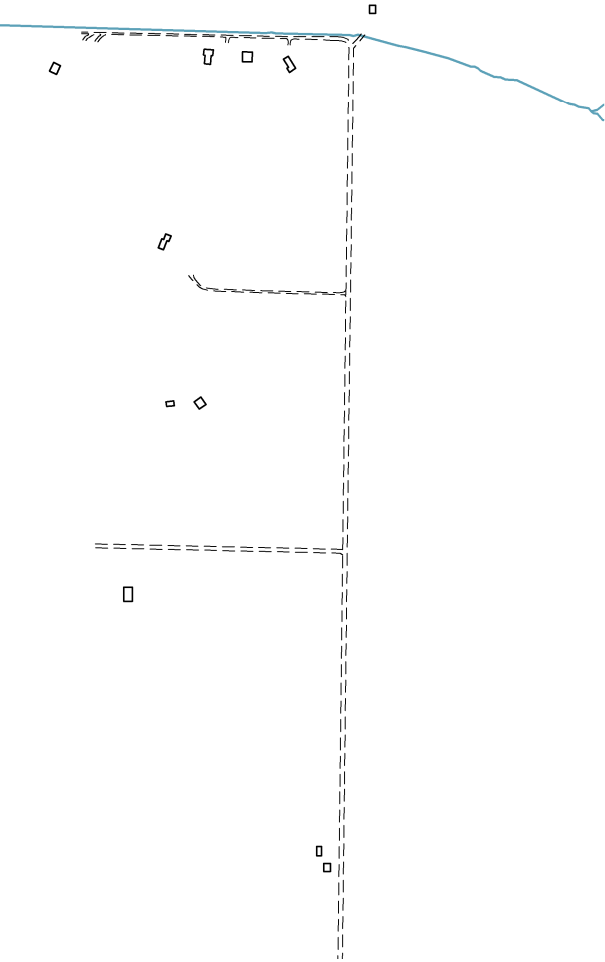
Airspace grading only
Runway 16 Approach
 Cut: 135,000 cy

Elevations Table				
Number	Color	Min. Elevation	Max. Elevation	Volume (CY)
1	Red	-17.370	-15.000	391
2	Orange	-14.990	-10.000	11,175
3	Yellow-Orange	-9.990	-5.000	38,911
4	Yellow	-4.990	0.000	83,753

Sta. 12+00 to 88+00, Rotated @ 50+00
0.8% / 1.5% / 0.7%
Full parallel taxiway
 Cut: 180,000 cy
 Fill: 1,250,000 cy 4:1 fill slope on westside

Elevations Table				
Number	Color	Min. Elevation	Max. Elevation	Volume (CY)
1	Red	-18.230	-15.000	796
2	Orange	-14.990	-10.000	8,699
3	Yellow-Orange	-9.990	-5.000	32,094
4	Yellow	-4.990	0.000	135,845
5	Light Green	0.010	5.000	621,883
6	Cyan	5.010	10.000	388,063
7	Blue	10.010	15.000	191,646
8	Dark Blue	15.010	20.000	37,946
9	Purple	20.010	24.717	4,942

Centerline Rotated 1.75° West
@ Sta. 50+00



Ennis Big Sky Airport Improvements
Alternative #5 - Extend South - No FAA Modifications to Standards
Primary Considerations Only
Revised 07/03/2017 by LDB



Item No.	Quantity	Unit	Unit Description	Engineer's Estimate	
				Unit Price (Figures)	Total Price (Figures)

A. LAND ACQUISITIONS					
A-1	1	LS	Land Acquisitions of Approximately 86-acres (majority within Conservation Easement(s))	\$1,000,000.00	\$1,000,000.00
A-2	1	LS	Real Property Acquisition - Residence on East Side within transitional surface	\$400,000.00	\$400,000.00
A. SUBTOTAL:					\$1,400,000.00

B. REHABILITATE TAXIWAY (RECONSTRUCT PORTION OF SOUTH PARALLEL TAXIWAY (T-1) TO NORTH APRON) & CONSTRUCT TAXIWAY FILLETS					
B-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$39,214.00	\$39,214.00
B-2	4,000	SY	Mill Existing Asphalt Pavement (3-inches)	\$2.00	\$8,000.00
B-3	4,200	CY	Unclassified Excavation and Embankment	\$5.50	\$23,100.00
B-4	2,000	LF	Edge Drains - 4"	\$17.00	\$34,000.00
B-5	8	EA	Edge Drain Cleanouts	\$650.00	\$5,200.00
B-6	4	EA	Edge Drain Outfalls	\$700.00	\$2,800.00
B-7	4,000	SY	Geotextile Separation / Stabilization Fabric	\$1.60	\$6,400.00
B-8	4,000	SY	Geosynthetic Geogrid - 100%	\$4.00	\$16,000.00
B-9	2,000	CY	P-154 Subbase Course (18-inch Section)	\$32.00	\$64,000.00
B-10	900	CY	P-154 Subbase Course (8-inch Bridging Lift) - 100% of area	\$30.00	\$27,000.00
B-11	667	CY	P-209 Crushed Aggregate Base Course (6-inch Section)	\$42.00	\$28,014.00
B-12	2.4	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$1,440.00
B-13	483	TON	Bituminous Surface Coarse	\$50.00	\$24,150.00
B-14	0.9	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$540.00
B-15	483	TON	Bituminous Surface Coarse	\$50.00	\$24,150.00
B-16	57.9	TON	Bituminous Material, Asphalt Cement (PG70-28) - 6.0%	\$780.00	\$45,162.00
B-17	190	SY	Fillet Widening	\$200.00	\$38,000.00
B-18	270	SF	Taxiway Painting (Full Rate Application - Solid Yellow)	\$1.00	\$270.00
B-19	1	ACRE	Seeding, Fertilizing and Mulching	\$2,200.00	\$2,200.00
B-20	20	EA	L-853 Taxiway Reflectors, Stake Mounted	\$125.00	\$2,500.00
B-21	1	LS	Engineering and Administration	\$47,056.80	\$47,056.80
B. SUBTOTAL:					\$439,196.80

C. REHABILITATE APRON (RECONSTRUCT SOUTH APRON (A-1 portion))					
C-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$77,945.88	\$77,945.88
C-2	9,250	SY	Mill Existing Asphalt Pavement (3-inches)	\$2.00	\$18,500.00
C-3	10,200	CY	Unclassified Excavation and Embankment	\$5.50	\$56,100.00
C-4	1,000	LF	Edge Drains - 6"	\$20.00	\$20,000.00
C-5	4	EA	Edge Drain Cleanouts	\$650.00	\$2,600.00
C-6	3	EA	Edge Drain Outfalls	\$700.00	\$2,100.00
C-7	9,250	SY	Geotextile Separation / Stabilization Fabric	\$1.60	\$14,800.00
C-8	9,250	SY	Geosynthetic Geogrid - 100%	\$4.00	\$37,000.00
C-9	4,700	CY	P-154 Subbase Course (18-inch Section)	\$32.00	\$150,400.00
C-10	2,100	CY	P-154 Subbase Course (8-inch Bridging Lift) - 100% of area	\$30.00	\$63,000.00
C-11	1,542	CY	P-209 Crushed Aggregate Base Course (6-inch Section)	\$42.00	\$64,764.00
C-12	5.7	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$3,420.00
C-13	1,116	TON	Bituminous Surface Coarse	\$50.00	\$55,800.00
C-14	2.0	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$1,200.00
C-15	1,116	TON	Bituminous Surface Coarse	\$50.00	\$55,800.00
C-16	133.9	TON	Bituminous Material, Asphalt Cement (PG70-28) - 6.0%	\$780.00	\$104,442.00
C-17	54	EA	Remove & Discard Tiedown Anchors	\$150.00	\$8,100.00
C-18	54	EA	Tie-Down Anchors	\$800.00	\$43,200.00
C-19	180	GAL	Refined Coal Tar Emulsion Seal Coat	\$35.00	\$6,300.00
C-20	1,187	SF	Taxiway Painting (Full Rate Application - Yellow)	\$1.00	\$1,187.00
C-21	4	ACRE	Seeding, Fertilizing and Mulching	\$2,200.00	\$8,800.00
C-22	20	EA	L-853 Taxiway Reflectors, Stake Mounted	\$125.00	\$2,500.00
C-23	1	LS	Engineering and Administration	\$95,755.07	\$95,755.07
C. SUBTOTAL:					\$893,713.95

D. REPAIR / RECONSTRUCT EXISTING VERTICAL CURVES TO "C" CRITERIA (ONLY Sta 64+50 curve)					
D-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$9,079.70	\$9,079.70
D-2	0	LS	P-101 Surface Preparation	\$10,000.00	\$0.00
D-3	4,917	SY	Mill Existing Asphalt Pavement (3-inches)	\$2.00	\$9,833.33
D-4	0	CY	Topsoil Stripping, Stockpiling, Placing	\$8.00	\$0.00
D-5	0	CY	Unclassified Excavation & Embankment	\$5.50	\$0.00
D-6	547	CY	P-209 Crushed Aggregate Base Course - Avg. 4"	\$42.00	\$22,974.00
D-7	2.9	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$1,740.00

D-8	890	TON	Bituminous Surface Course (3")	\$50.00	\$44,500.00
D-9	0.0	SY	Bituminous Tack Coat (SS-1)	\$600.00	\$0.00
D-10	53.4	TON	Bituminous Material, Asphalt Cement (PG 70-28) - 6.0%	\$50.00	\$2,670.00
D-11	0	SF	Runway Painting (Half-Rate Application - Solid White)	\$1.00	\$0.00
D-12	0	SF	Runway Painting (Full-Rate Application - Solid White)	\$1.00	\$0.00
D-13	0	ACRE	Seeding, Fertilizing, and Mulching	\$2,200.00	\$0.00
D-14	1	LS	Engineering and Administration	\$10,895.64	\$10,895.64

D. SUBTOTAL: **\$101,692.68**

E. REPAIR / RECONSTRUCT EXISTING RUNWAY TO 0.8% LAST QUARTER (Sta. 40+00 to 59+00)					
E-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$199,239.62	\$199,239.62
E-2	0	LS	P-101 Surface Preparation	\$10,000.00	\$0.00
E-3	15,833	SY	Mill Existing Asphalt Pavement (3-inches)	\$2.00	\$31,666.67
E-4	16,500	CY	Topsoil Stripping, Stockpiling, Placing	\$8.00	\$132,000.00
E-5	150,000	CY	Unclassified Excavation & Embankment (Avg. approx 3' excavation x 800' width)	\$5.50	\$825,000.00
E-6	1	LS	Shell Creek Modifications - includes Corps of Engineers and MFWP coordination, design features, and estimated mitigation	\$150,000.00	\$150,000.00
E-7	0	LS	Construction Easement for Airspace Grading - estimated	\$20,000.00	\$0.00
E-8	2,639	CY	P-209 Crushed Aggregate Base Course - 6"	\$42.00	\$110,838.00
E-9	9.4	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$5,640.00
E-10	1,911	TON	Bituminous Surface Coarse	\$50.00	\$95,550.00
E-11	3.3	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$1,980.00
E-12	1,911	TON	Bituminous Surface Coarse	\$50.00	\$95,550.00
E-13	229.4	TON	Bituminous Material, Asphalt Cement (PG 70-28) - 6.0%	\$780.00	\$178,932.00
E-14	0	SF	Runway Painting (Half-Rate Application - Solid White)	\$1.00	\$0.00
E-15	0	SF	Runway Painting (Full-Rate Application - Solid White)	\$1.00	\$0.00
E-16	1	LS	MIRL Electrical Improvements (Revise / relocate for spacing & threshold)	\$100,000.00	\$100,000.00
E-17	30	ACRE	Seeding, Fertilizing, and Mulching	\$2,200.00	\$66,000.00
E-18	1	LS	Engineering and Administration	\$239,087.55	\$239,087.55

E. SUBTOTAL: **\$2,231,483.84**

F. STRUCTURAL OVERLAY RUNWAY AND TURNAROUND (2-INCH OVERLAY) EXCLUDING CROWN ADJUSTMENT (Sta. 88+00 to 40+00)					
F-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$32,851.77	\$32,851.77
F-2	1	LS	P-101 Surface Preparation	\$10,000.00	\$10,000.00
F-3	0	SY	Mill Existing Asphalt Pavement (3-inches)	\$2.00	\$0.00
F-4	0	CY	Topsoil Stripping, Stockpiling, Placing	\$8.00	\$0.00
F-5	0	CY	Unclassified Excavation & Embankment	\$5.50	\$0.00
F-6	0	CY	P-209 Crushed Aggregate Base Course - Approx. 4" Right of Centerline	\$42.00	\$0.00
F-7	0.0	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$0.00
F-8	0	TON	Bituminous Surface Course (2" Right of Centerline Only)	\$50.00	\$0.00
F-9	5.1	SF	Bituminous Tack Coat (SS-1)	\$600.00	\$3,060.00
F-10	2,919	TON	Bituminous Surface Course (2" Overlay)	\$50.00	\$145,950.00
F-11	175.2	TON	Bituminous Material, Asphalt Cement (PG70-28) - 6.0%	\$780.00	\$136,656.00
F-12	0	SF	Runway Painting (Half-Rate Application - Solid White)	\$1.00	\$0.00
F-13	0	SF	Runway Painting (Full-Rate Application - Solid White)	\$1.00	\$0.00
F-14	0	ACRE	Seeding, Fertilizing and Mulching	\$2,200.00	\$0.00
F-15	1	LS	Engineering and Administration	\$39,422.13	\$39,422.13

F. SUBTOTAL: **\$367,939.90**

G. WIDEN RUNWAY (to 100-FT) (Sta. 88+00 to 40+00)					
G-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$246,150.35	\$246,150.35
G-2	8,000	CY	Topsoil Stripping, Stockpiling, Placing	\$8.00	\$64,000.00
G-3	14,412	SY	Subgrade Surface Preparation	\$1.50	\$21,618.00
G-4	200,000	CY	Unclassified Excavation and Embankment	\$5.50	\$1,100,000.00
G-5	7,000	LF	Edge Drains	\$17.00	\$119,000.00
G-6	20	EA	Edge Drain Cleanouts	\$650.00	\$13,000.00
G-7	10	EA	Edge Drain Outfalls	\$700.00	\$7,000.00
G-8	14,412	SY	Subsurface Separation Fabric	\$1.60	\$23,059.20
G-9	0	SY	Geosynthetic Geogrid - 0%	\$4.00	\$0.00
G-10	7,300	CY	P-154 Subbase Course (18" Section)	\$32.00	\$233,600.00
G-11	0	CY	P-154 Subbase Course (8-inch Bridging Lift) - 0%	\$30.00	\$0.00
G-12	2,402	CY	P-209 Crushed Aggregate Base Course (6-Inch Section)	\$42.00	\$100,884.00
G-13	8.6	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$5,160.00
G-14	1,740	TON	Bituminous Surface Coarse	\$50.00	\$87,000.00
G-15	3.0	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$1,800.00
G-16	1,740	TON	Bituminous Surface Coarse	\$50.00	\$87,000.00
G-17	208.9	TON	Bituminous Material, Asphalt Cement (PG70-28) - 6.0%	\$780.00	\$162,942.00
G-18	33,645	SF	Runway Painting (Full Rate Application - Solid White)	\$1.00	\$33,645.00
G-19	33,645	SF	Runway Painting (Full Rate Application - Solid White)	\$1.00	\$33,645.00
G-20	1	LS	MIRL Electrical Improvements (Relocation / Replacement of MIRL)	\$100,000.00	\$100,000.00
G-21	10	ACRE	Seeding, Fertilizing and Mulching	\$2,200.00	\$22,000.00
G-22	1	LS	Engineering and Administration	\$295,380.43	\$295,380.43

G. SUBTOTAL: **\$2,756,883.98**

H. MISCELLANEOUS ELECTRICAL IMPROVEMENTS					
H-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$16,222.22	\$16,222.22
H-2	1	LS	Remove & Dispose Beacon Tower	\$5,000.00	\$5,000.00
H-3	1	EA	L-828 10.0kW Contact Current Regulator, Class 1, Style 1, Mode 1	\$8,500.00	\$8,500.00

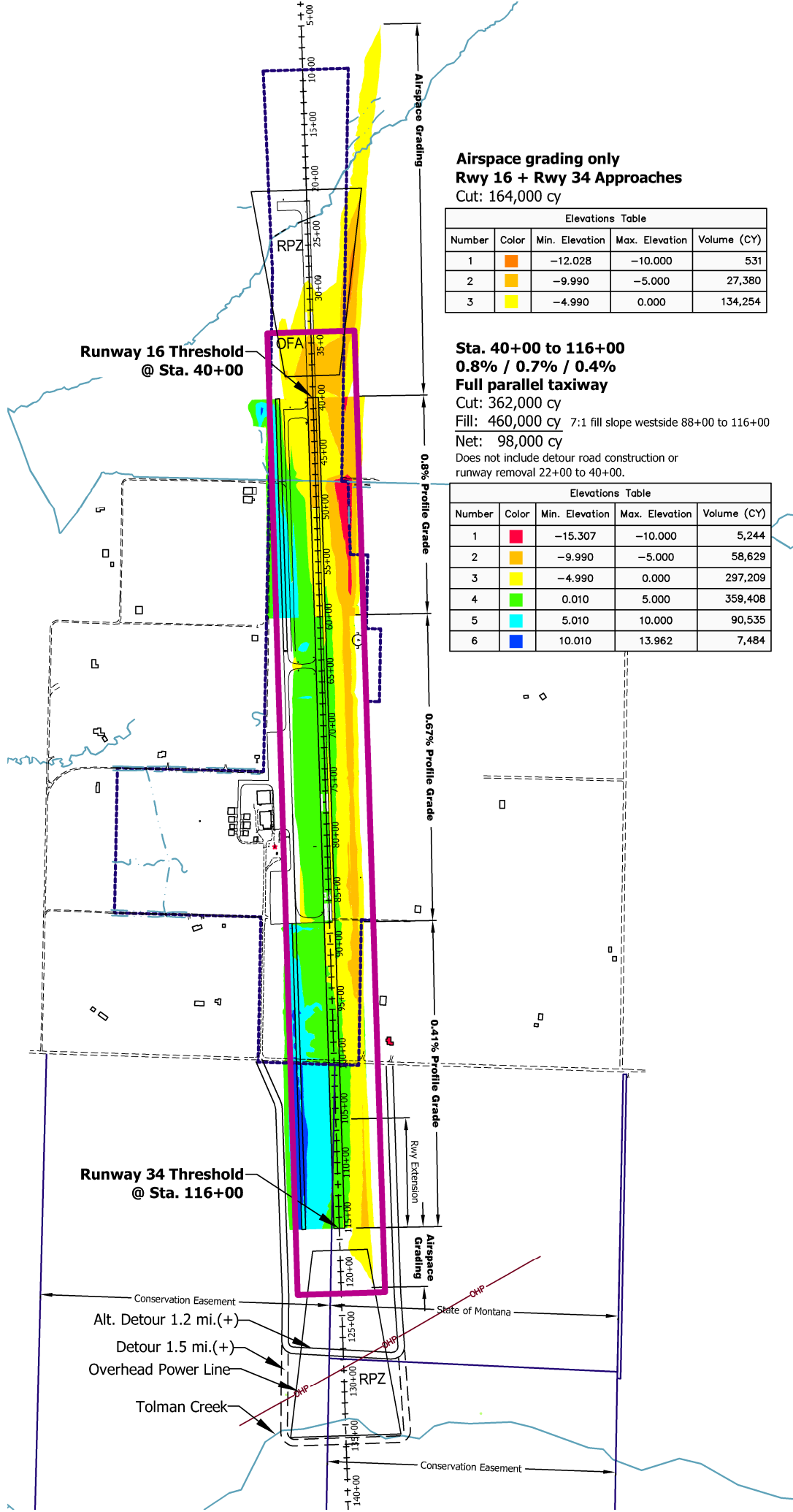
H-4	1	EA	L-854 Radio Controller, Type 1 w/ Control Panel	\$4,500.00	\$4,500.00
H-5	1	EA	L-821 Lighting Control Panel, Type 1, Class W, Style 1, Mode 1	\$8,000.00	\$8,000.00
H-6	1	LS	Electrical Enclosure / Vault Equipment	\$8,000.00	\$8,000.00
H-7	1	EA	Beacon Tip-Down Tower / Pole, 35-feet	\$32,000.00	\$32,000.00
H-8	1	EA	Relocate PAPI w/ FAA Flight Check, Cable, Conduit	\$40,000.00	\$40,000.00
H-9	1	EA	Segmented Circle	\$20,000.00	\$20,000.00
H-10	1	LS	Relocate AWOS, Windcone, FAA Commissioning & Flight Check	\$20,000.00	\$20,000.00
H-11	1	LS	Engineering and Administration	\$19,466.67	\$19,466.67
H. SUBTOTAL:					\$181,688.89

I. REHABILITATE TAXIWAY (RECONSTRUCT PORTION NORTH PARALLEL TAXIWAY (T-2) FROM MID-FIELD TO END (4,700')					
I-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$63,156.00	\$63,156.00
I-2	8,760	SY	Mill Existing Asphalt Pavement (3-inches)	\$2.00	\$17,520.00
I-3	6,900	CY	Unclassified Excavation and Embankment	\$5.50	\$37,950.00
I-4	4,900	LF	Edge Drains	\$17.00	\$83,300.00
I-5	6	EA	Edge Drain Cleanouts	\$650.00	\$3,900.00
I-6	4	EA	Edge Drain Outfalls	\$700.00	\$2,800.00
I-7	8,760	SY	Subsurface Separation Fabric	\$1.60	\$14,016.00
I-8	0	SY	Geosynthetic Geogrid - 0%	\$4.00	\$0.00
I-9	4,400	CY	P-154 Subbase Course (18" Section)	\$32.00	\$140,800.00
I-10	0	CY	P-154 Subbase Course (8-inch Bridging Lift) - 0%	\$30.00	\$0.00
I-11	1,460	CY	P-209 Crushed Aggregate Base Course (6-Inch Section)	\$42.00	\$61,320.00
I-12	4.9	TON	Bituminous Prime Coat (MC-70)	\$600.00	\$2,940.00
I-13	1,000	TON	Bituminous Surface Coarse	\$50.00	\$50,000.00
I-14	1.9	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$1,140.00
I-15	1,000	TON	Bituminous Surface Coarse	\$50.00	\$50,000.00
I-16	120.0	TON	Bituminous Material, Asphalt Cement (PG64-28)	\$780.00	\$93,600.00
I-17	318	SF	Taxiway Painting (Full Rate Application - Solid Yellow)	\$1.00	\$318.00
I-18	4	ACRE	Seeding, Fertilizing and Mulching	\$2,200.00	\$8,800.00
I-19	1	LS	Engineering and Administration	\$75,787.20	\$75,787.20
I. SUBTOTAL:					\$707,347.20

J. Extend Runway (2,800' South) @0.8% Slope maximum					
J-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$346,089.57	\$346,089.57
J-2	32,379	SY	Subgrade Surface Preparation	\$1.50	\$48,568.00
J-3	50,000	CY	Unclassified Excavation and Embankment	\$5.50	\$275,000.00
J-4	0	LS	Construction Easement for Airspace Grading	\$50,000.00	\$0.00
J-5	1	LS	Tolman Creek Modifications - includes Corps of Engineers and MFWP coordination, design features, and estimated mitigation	\$150,000.00	\$150,000.00
J-6	1	LS	Rerout approximately 1.5-miles of Airport Road (25' width)	\$500,000.00	\$500,000.00
J-7	17,284	CY	Topsoil Stripping, Stockpiling, and Placing	\$8.00	\$138,271.60
J-8	6,204	LF	Edge Drains - 4"	\$17.00	\$105,468.00
J-9	24	EA	Edge Drain Cleanouts	\$650.00	\$15,600.00
J-10	2	EA	Edge Drain Outfalls	\$700.00	\$1,400.00
J-11	32,379	SY	Subsurface Separation Fabric	\$1.60	\$51,805.87
J-12	32,379	SY	Geosynthetic Geogrid - 0%	\$4.00	\$129,514.67
J-13	16,189	CY	P-154 Subbase Course (18" Section)	\$32.00	\$518,048.00
J-14	0	CY	P-154 Subbase Course (8-inch Bridging Lift) - 0%	\$30.00	\$0.00
J-15	5,396	CY	P-209 Crushed Aggregate Base Course (6-Inch Section)	\$42.00	\$226,632.00
J-16	19.3	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$11,580.00
J-17	3,909	TON	Bituminous Surface Coarse	\$50.00	\$195,450.00
J-18	6.8	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$4,080.00
J-19	3,909	TON	Bituminous Surface Coarse	\$50.00	\$195,450.00
J-20	469.1	TON	Bituminous Material, Asphalt Cement (PG70-28) - 6.0%	\$780.00	\$365,898.00
J-21	2,520	SF	Runway Painting (Half Rate Application - Solid White)	\$1.00	\$2,520.00
J-22	2,520	SF	Runway Painting (Full Rate Application - Solid White)	\$1.00	\$2,520.00
J-23	1	LS	MIRL Electrical Improvements (Relocation / Replacement of MIRL)	\$100,000.00	\$100,000.00
J-24	35	ACRE	Seeding, Fertilizing and Mulching	\$2,200.00	\$77,000.00
J-25	1	LS	Engineering and Administration	\$415,307.48	\$415,307.48
J. SUBTOTAL:					\$3,876,203.19

K. EXTEND PARALLEL TAXIWAY - (4,700' to 4,800' and south 2,800')					
K-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$87,993.21	\$87,993.21
K-2	5,000	CY	Topsoil Stripping, Stockpiling, Placing (4-inches)	\$8.00	\$40,000.00
K-3	0	CY	Unclassified Excavation and Embankment	\$5.50	\$0.00
K-4	11,579	SY	Subgrade Surface Preparation	\$1.50	\$17,368.50
K-5	6,000	LF	Edge Drains - 4"	\$17.00	\$102,000.00
K-6	18	EA	Edge Drain Cleanouts	\$650.00	\$11,700.00
K-7	12	EA	Edge Drain Outfalls	\$700.00	\$8,400.00
K-8	11,579	SY	Subsurface Separation Fabric	\$1.60	\$18,526.40
K-9	0	SY	Geosynthetic Geogrid - 0%	\$4.00	\$0.00
K-10	5,800	CY	P-154 Subbase Course (18" Section)	\$32.00	\$185,600.00
K-11	0	CY	P-154 Subbase Course (8-inch Bridging Lift) - 0%	\$30.00	\$0.00
K-12	1,930	CY	P-209 Crushed Aggregate Base Course (6-Inch Section)	\$42.00	\$81,060.00
K-13	6.9	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$4,140.00
K-14	1,398	TON	Bituminous Surface Coarse	\$50.00	\$69,900.00
K-15	1.1	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$660.00
K-16	1,398	TON	Bituminous Surface Coarse	\$50.00	\$69,900.00

K-17	167.8	TON	Bituminous Material, Asphalt Cement (PG70-28) - 6.0%	\$780.00	\$130,884.00
K-18	900	SF	Runway Painting (Half Rate Application - Solid White)	\$1.00	\$900.00
K-19	900	SF	Runway Painting (Full Rate Application - Solid White)	\$1.00	\$900.00
K-20	20	ACRE	Seeding, Fertilizing and Mulching	\$2,500.00	\$50,000.00
K-21	1	LS	Engineering and Administration	\$105,591.85	\$105,591.85
K. SUBTOTAL:					\$985,523.96
TOTAL:					\$13,941,674.39



**Airspace grading only
Rwy 16 + Rwy 34 Approaches**
Cut: 164,000 cy

Elevations Table				
Number	Color	Min. Elevation	Max. Elevation	Volume (CY)
1	Orange	-12.028	-10.000	531
2	Yellow-Orange	-9.990	-5.000	27,380
3	Yellow	-4.990	0.000	134,254

**Sta. 40+00 to 116+00
0.8% / 0.7% / 0.4%
Full parallel taxiway**
Cut: 362,000 cy
Fill: 460,000 cy 7:1 fill slope westside 88+00 to 116+00
Net: 98,000 cy
Does not include detour road construction or runway removal 22+00 to 40+00.

Elevations Table				
Number	Color	Min. Elevation	Max. Elevation	Volume (CY)
1	Red	-15.307	-10.000	5,244
2	Orange	-9.990	-5.000	58,629
3	Yellow	-4.990	0.000	297,209
4	Green	0.010	5.000	359,408
5	Cyan	5.010	10.000	90,535
6	Blue	10.010	13.962	7,484

Ennis Big Sky Airport Improvements
Alternative #6A - Extend North w/ FAA Modification to Standards to 1.9%
Primary Considerations Only
Revised 07/06/2017 by LDB



Item No.	Quantity	Unit	Unit Description	Engineer's Estimate	
				Unit Price (Figures)	Total Price (Figures)

A. LAND ACQUISITIONS					
A-1	1	LS	Land Acquisitions of Approximately 20-acres	\$200,000.00	\$200,000.00
A. SUBTOTAL:					\$200,000.00

B. REHABILITATE TAXIWAY (RECONSTRUCT PORTION OF SOUTH PARALLEL TAXIWAY (T-1) TO NORTH APRON) & TAXIWAY FILLETS					
B-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$39,097.33	\$39,097.33
B-2	4,000	SY	Mill Existing Asphalt Pavement (3-inches)	\$2.00	\$8,000.00
B-3	4,200	CY	Unclassified Excavation and Embankment	\$5.25	\$22,050.00
B-4	2,000	LF	Edge Drains - 4"	\$17.00	\$34,000.00
B-5	8	EA	Edge Drain Cleanouts	\$650.00	\$5,200.00
B-6	4	EA	Edge Drain Outfalls	\$700.00	\$2,800.00
B-7	4,000	SY	Geotextile Separation / Stabilization Fabric	\$1.60	\$6,400.00
B-8	4,000	SY	Geosynthetic Geogrid - 100%	\$4.00	\$16,000.00
B-9	2,000	CY	P-154 Subbase Course (18-inch Section)	\$32.00	\$64,000.00
B-10	900	CY	P-154 Subbase Course (8-inch Bridging Lift) - 100% of area	\$30.00	\$27,000.00
B-11	667	CY	P-209 Crushed Aggregate Base Course (6-inch Section)	\$42.00	\$28,014.00
B-12	2.4	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$1,440.00
B-13	483	TON	Bituminous Surface Coarse	\$50.00	\$24,150.00
B-14	0.9	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$540.00
B-15	483	TON	Bituminous Surface Coarse	\$50.00	\$24,150.00
B-16	57.9	TON	Bituminous Material, Asphalt Cement (PG70-28) - 6.0%	\$780.00	\$45,162.00
B-17	190	SY	Fillet Widening	\$200.00	\$38,000.00
B-18	270	SF	Taxiway Painting (Full Rate Application - Solid Yellow)	\$1.00	\$270.00
B-19	1	ACRE	Seeding, Fertilizing and Mulching	\$2,200.00	\$2,200.00
B-20	20	EA	L-853 Taxiway Reflectors, Stake Mounted	\$125.00	\$2,500.00
B-21	1	LS	Engineering and Administration	\$46,916.80	\$46,916.80
B. SUBTOTAL:					\$437,890.13

C. REHABILITATE APRON (RECONSTRUCT SOUTH APRON (A-1 portion))					
C-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$77,662.55	\$77,662.55
C-2	9,250	SY	Mill Existing Asphalt Pavement (3-inches)	\$2.00	\$18,500.00
C-3	10,200	CY	Unclassified Excavation and Embankment	\$5.25	\$53,550.00
C-4	1,000	LF	Edge Drains - 6"	\$20.00	\$20,000.00
C-5	4	EA	Edge Drain Cleanouts	\$650.00	\$2,600.00
C-6	3	EA	Edge Drain Outfalls	\$700.00	\$2,100.00
C-7	9,250	SY	Geotextile Separation / Stabilization Fabric	\$1.60	\$14,800.00
C-8	9,250	SY	Geosynthetic Geogrid - 100%	\$4.00	\$37,000.00
C-9	4,700	CY	P-154 Subbase Course (18-inch Section)	\$32.00	\$150,400.00
C-10	2,100	CY	P-154 Subbase Course (8-inch Bridging Lift) - 100% of area	\$30.00	\$63,000.00
C-11	1,542	CY	P-209 Crushed Aggregate Base Course (6-inch Section)	\$42.00	\$64,764.00
C-12	5.7	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$3,420.00
C-13	1,116	TON	Bituminous Surface Coarse	\$50.00	\$55,800.00
C-14	2.0	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$1,200.00
C-15	1,116	TON	Bituminous Surface Coarse	\$50.00	\$55,800.00
C-16	133.9	TON	Bituminous Material, Asphalt Cement (PG70-28) - 6.0%	\$780.00	\$104,442.00
C-17	54	EA	Remove & Discard Tiedown Anchors	\$150.00	\$8,100.00
C-18	54	EA	Tie-Down Anchors	\$800.00	\$43,200.00
C-19	180	GAL	Coal Tar Pitch Emulsion	\$35.00	\$6,300.00
C-20	1,187	SF	Taxiway Painting (Full Rate Application - Yellow)	\$1.00	\$1,187.00
C-21	4	ACRE	Seeding, Fertilizing and Mulching	\$2,200.00	\$8,800.00
C-22	20	EA	L-853 Taxiway Reflectors, Stake Mounted	\$125.00	\$2,500.00
C-23	1	LS	Engineering and Administration	\$95,415.07	\$95,415.07
C. SUBTOTAL:					\$890,540.62

D. REPAIR / RECONSTRUCT EXISTING VERTICAL CURVES TO "C" CRITERIA (Approx. STA. 68+00 to 62+00, and STA 48+00 to 40+00)					
D-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$31,833.48	\$31,833.48

D-2	0	LS	P-101 Surface Preparation	\$10,000.00	\$0.00
D-3	11,667	SY	Mill Existing Asphalt Pavement (3-inches)	\$2.00	\$23,333.33
D-4	0	CY	Topsoil Stripping, Stockpiling, Placing - incl. withing widening	\$7.00	\$0.00
D-5	0	CY	Unclassified Excavation & Embankment	\$5.25	\$0.00
D-6	1,297	CY	P-209 Crushed Aggregate Base Course - Approx. 4" Right of Centerline	\$42.00	\$54,474.00
D-7	6.9	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$4,140.00
D-8	2,113	TON	Bituminous Surface Course (3")	\$50.00	\$105,650.00
D-9	0.0	SY	Bituminous Tack Coat (SS-1)	\$600.00	\$0.00
D-10	126.8	TON	Bituminous Material, Asphalt Cement (PG 70-28) - 6.0%	\$780.00	\$98,904.00
D-11	0	SF	Runway Painting (Half-Rate Application - Solid White)	\$1.00	\$0.00
D-12	0	SF	Runway Painting (Full-Rate Application - Solid White)	\$1.00	\$0.00
D-13	0	ACRE	Seeding, Fertilizing, and Mulching	\$2,200.00	\$0.00
D-14	1	LS	Engineering and Administration	\$38,200.18	\$38,200.18
D. SUBTOTAL:					\$356,534.99

E. REPAIR / RECONSTRUCT EXISTING RUNWAY TO 1.5% MAXIMUM SLOPE & 0.8% LAST QUARTER (Sta. 22+00 to 41+00)					
E-1	0	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$0.00	\$0.00
E-2	0	LS	P-101 Surface Preparation	\$10,000.00	\$0.00
E-3	0	SY	Mill Existing Asphalt Pavement (3-inches)	\$2.00	\$0.00
E-4	0	CY	Topsoil Stripping, Stockpiling, Placing	\$8.00	\$0.00
E-5	0	CY	Unclassified Excavation & Embankment	\$5.25	\$0.00
E-6	0	LS	McDeed Creek Modifications - includes Corps of Engineers and MFWP-coordination, design features and estimated mitigation	\$150,000.00	\$0.00
E-7	0	LS	Construction Eastments for Airspace Grading-	\$20,000.00	\$0.00
E-8	0	CY	P-209 Crushed Aggregate Base Course - 6"	\$42.00	\$0.00
E-9	0.0	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$0.00
E-10	0	TON	Bituminous Surface Coarse	\$50.00	\$0.00
E-11	0.0	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$0.00
E-12	0	TON	Bituminous Surface Coarse	\$50.00	\$0.00
E-13	0.0	TON	Bituminous Material, Asphalt Cement (PG 70-28) - 6.0%	\$780.00	\$0.00
E-14	0	SF	Runway Painting (Half-Rate Application - Solid White)	\$1.00	\$0.00
E-15	0	SF	Runway Painting (Full-Rate Application - Solid White)	\$1.00	\$0.00
E-16	0	LS	MIRL Electrical Improvements (Relocation / Replacement of MIRL)	\$100,000.00	\$0.00
E-17	0	ACRE	Seeding, Fertilizing, and Mulching	\$2,200.00	\$0.00
E-18	0	LS	Engineering and Administration	\$0.00	\$0.00
E. SUBTOTAL:					\$0.00

F. STRUCTURAL OVERLAY RUNWAY AND TURNAROUND (2-INCH OVERLAY) EXCLUDING CROWN ADJUSTMENT					
F-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$73,323.11	\$73,323.11
F-2	1	LS	P-101 Surface Preparation	\$10,000.00	\$10,000.00
F-3	0	SY	Mill Existing Asphalt Pavement (3-inches)	\$2.00	\$0.00
F-4	0	CY	Topsoil Stripping, Stockpiling, Placing	\$8.00	\$0.00
F-5	0	CY	Unclassified Excavation & Embankment	\$5.25	\$0.00
F-6	0	CY	P-209 Crushed Aggregate Base Course - Approx. 4" Right of Centerline	\$42.00	\$0.00
F-7	0.0	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$0.00
F-8	0	TON	Bituminous Surface Course (2" Right of Centerline Only)	\$50.00	\$0.00
F-9	11.5	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$6,900.00
F-10	6,642	TON	Bituminous Surface Course (2" Overlay)	\$50.00	\$332,100.00
F-11	398.6	TON	Bituminous Material, Asphalt Cement (PG70-28) - 6.0%	\$780.00	\$310,908.00
F-12	0	SF	Runway Painting (Half-Rate Application - Solid White)	\$1.00	\$0.00
F-13	0	SF	Runway Painting (Full-Rate Application - Solid White)	\$1.00	\$0.00
F-14	0	ACRE	Seeding, Fertilizing and Mulching	\$2,200.00	\$0.00
F-15	1	LS	Engineering and Administration	\$87,987.73	\$87,987.73
F. SUBTOTAL:					\$821,218.84

G. WIDEN RUNWAY (to 100-FT)					
G-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$272,347.68	\$272,347.68
G-2	10,000	CY	Topsoil Stripping, Stockpiling, Placing	\$8.00	\$80,000.00
G-3	19,812	SY	Subgrade Surface Preparation	\$1.50	\$29,718.00
G-4	200,000	CY	Unclassified Excavation and Embankment	\$5.25	\$1,050,000.00
G-5	7,000	LF	Edge Drains	\$17.00	\$119,000.00
G-6	20	EA	Edge Drain Cleanouts	\$650.00	\$13,000.00
G-7	10	EA	Edge Drain Outfalls	\$700.00	\$7,000.00
G-8	19,812	SY	Subsurface Separation Fabric	\$1.60	\$31,699.20
G-9	0	SY	Geosynthetic Geogrid - 0%	\$4.00	\$0.00
G-10	10,000	CY	P-154 Subbase Course (18" Section)	\$32.00	\$320,000.00
G-11	0	CY	P-154 Subbase Course (8-inch Bridging Lift) - 0%	\$30.00	\$0.00
G-12	3,302	CY	P-209 Crushed Aggregate Base Course (6-Inch Section)	\$42.00	\$138,684.00
G-13	11.8	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$7,080.00
G-14	2,392	TON	Bituminous Surface Coarse	\$50.00	\$119,600.00

G-15	4.2	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$2,520.00
G-16	2,392	TON	Bituminous Surface Coarse	\$50.00	\$119,600.00
G-17	287.1	TON	Bituminous Material, Asphalt Cement (PG70-28) - 6.0%	\$780.00	\$223,938.00
G-18	33,645	SF	Runway Painting (Full Rate Application - Solid White)	\$1.00	\$33,645.00
G-19	33,645	SF	Runway Painting (Full Rate Application - Solid White)	\$1.00	\$33,645.00
G-20	1	LS	MIRL Electrical Improvements (Relocation / Replacement of MIRL)	\$100,000.00	\$100,000.00
G-21	10	ACRE	Seeding, Fertilizing and Mulching	\$2,200.00	\$22,000.00
G-22	1	LS	Engineering and Administration	\$326,817.23	\$326,817.23
G. SUBTOTAL:					\$3,050,294.11

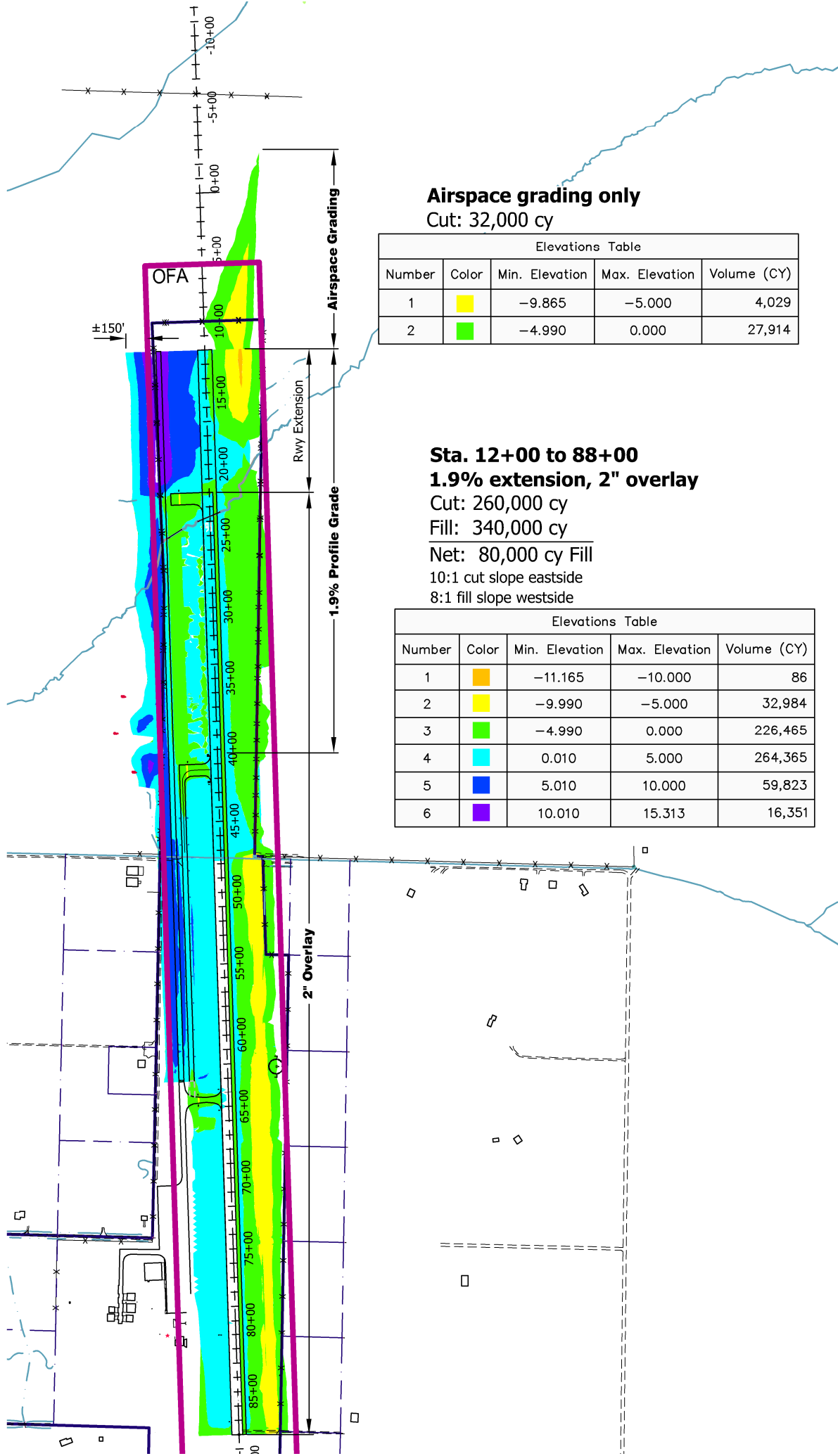
H. MISCELLANEOUS ELECTRICAL IMPROVEMENTS					
H-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$16,222.22	\$16,222.22
H-2	1	LS	Remove & Dispose Beacon Tower	\$5,000.00	\$5,000.00
H-3	1	EA	L-828 10.0kW Contact Current Regulator, Class 1, Style 1, Mode 1	\$8,500.00	\$8,500.00
H-4	1	EA	L-854 Radio Controller, Type 1 w/ Control Panel	\$4,500.00	\$4,500.00
H-5	1	EA	L-821 Lighting Control Panel, Type 1, Class W, Style 1, Mode 1	\$8,000.00	\$8,000.00
H-6	1	LS	Electrical Enclosure / Vault Equipment	\$8,000.00	\$8,000.00
H-7	1	EA	Beacon Tip-Down Tower / Pole, 35-feet	\$32,000.00	\$32,000.00
H-8	1	EA	Relocate PAPI w/ FAA Flight Check, Cable, Conduit	\$40,000.00	\$40,000.00
H-9	1	EA	Segmented Circle	\$20,000.00	\$20,000.00
H-10	1	LS	Relocate AWOS, Windcone, FAA Commissioning & Flight Check	\$20,000.00	\$20,000.00
H-11	1	LS	Engineering and Administration	\$19,466.67	\$19,466.67
H. SUBTOTAL:					\$181,688.89

I. REHABILITATE TAXIWAY (RECONSTRUCT PORTION NORTH PARALLEL TAXIWAY (T-2) FROM MID-FIELD TO END (4,700')					
I-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$62,964.33	\$62,964.33
I-2	8,760	SY	Mill Existing Asphalt Pavement (3-inches)	\$2.00	\$17,520.00
I-3	6,900	CY	Unclassified Excavation and Embankment	\$5.25	\$36,225.00
I-4	4,900	LF	Edge Drains	\$17.00	\$83,300.00
I-5	6	EA	Edge Drain Cleanouts	\$650.00	\$3,900.00
I-6	4	EA	Edge Drain Outfalls	\$700.00	\$2,800.00
I-7	8,760	SY	Subsurface Separation Fabric	\$1.60	\$14,016.00
I-8	0	SY	Geosynthetic Geogrid - 0%	\$4.00	\$0.00
I-9	4,400	CY	P-154 Subbase Course (18" Section)	\$32.00	\$140,800.00
I-10	0	CY	P-154 Subbase Course (8-inch Bridging Lift) - 0%	\$30.00	\$0.00
I-11	1,460	CY	P-209 Crushed Aggregate Base Course (6-Inch Section)	\$42.00	\$61,320.00
I-12	4.9	TON	Bituminous Prime Coat (MC-70)	\$600.00	\$2,940.00
I-13	1,000	TON	Bituminous Surface Coarse	\$50.00	\$50,000.00
I-14	1.9	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$1,140.00
I-15	1,000	TON	Bituminous Surface Coarse	\$50.00	\$50,000.00
I-16	120.0	TON	Bituminous Material, Asphalt Cement (PG64-28)	\$780.00	\$93,600.00
I-17	318	SF	Taxiway Painting (Full Rate Application - Solid Yellow)	\$1.00	\$318.00
I-18	4	ACRE	Seeding, Fertilizing and Mulching	\$2,200.00	\$8,800.00
I-19	1	LS	Engineering and Administration	\$75,557.20	\$75,557.20
I. SUBTOTAL:					\$705,200.53

J. Extend Runway (1,000') @ 1.9% Max Slope					
J-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$114,441.30	\$114,441.30
J-2	11,579	SY	Subgrade Surface Preparation	\$1.50	\$17,368.00
J-3	92,000	CY	Unclassified Excavation and Embankment	\$5.25	\$483,000.00
J-4	15,802	CY	Topsoil Stripping, Stockpiling, and Placing	\$8.00	\$126,419.75
J-5	0	LF	Edge Drains - 4"	\$18.00	\$0.00
J-6	0	EA	Edge Drain Cleanouts	\$650.00	\$0.00
J-7	0	EA	Edge Drain Outfalls	\$700.00	\$0.00
J-8	0	CY	P-154 Subbase Course (18" Section)	\$32.00	\$0.00
J-9	0	CY	P-154 Subbase Course (8-inch Bridging Lift) - 0%	\$30.00	\$0.00
J-10	1,930	CY	P-209 Crushed Aggregate Base Course (6-Inch Section)	\$42.00	\$81,060.00
J-11	0	SY	Subsurface Separation Fabric	\$1.60	\$0.00
J-12	0	SY	Geosynthetic Geogrid - 0%	\$4.00	\$0.00
J-13	6.9	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$4,140.00
J-14	1,398	TON	Bituminous Surface Coarse	\$50.00	\$69,900.00
J-15	2.5	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$1,500.00
J-16	1,398	TON	Bituminous Surface Coarse	\$50.00	\$69,900.00
J-17	167.8	TON	Bituminous Material, Asphalt Cement (PG70-28) - 6.0%	\$780.00	\$130,884.00
J-18	900	SF	Runway Painting (Half Rate Application - Solid White)	\$1.00	\$900.00
J-19	900	SF	Runway Painting (Full Rate Application - Solid White)	\$1.00	\$900.00
J-20	20	ACRE	Seeding, Fertilizing and Mulching	\$2,200.00	\$44,000.00
J-21	1	LS	Engineering and Administration	\$137,329.57	\$137,329.57
J. SUBTOTAL:					\$1,281,742.62

K. EXTEND PARALLEL TAXIWAY - (4,700' to 7,600')					
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K-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$79,489.82	\$79,489.82
K-2	4,000	CY	Topsoil Stripping, Stockpiling, Placing (4-inches)	\$8.00	\$32,000.00
K-3	0	CY	Unclassified Excavation and Embankment	\$5.25	\$0.00
K-4	11,579	SY	Subgrade Surface Preparation	\$2.00	\$23,158.00
K-5	2,400	LF	Edge Drains - 4"	\$18.00	\$43,200.00
K-6	10	EA	Edge Drain Cleanouts	\$650.00	\$6,500.00
K-7	6	EA	Edge Drain Outfalls	\$700.00	\$4,200.00
K-8	5,800	CY	P-154 Subbase Course (18" Section)	\$32.00	\$185,600.00
K-9	0	CY	P-154 Subbase Course (8-inch Bridging Lift) - 0%	\$30.00	\$0.00
K-10	1,930	CY	P-209 Crushed Aggregate Base Course (6-Inch Section)	\$42.00	\$81,060.00
K-11	11,579	SY	Subsurface Separation Fabric	\$1.60	\$18,526.40
K-12	0	SY	Geosynthetic Geogrid - 0%	\$4.00	\$0.00
K-13	6.9	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$4,140.00
K-14	1,398	TON	Bituminous Surface Coarse	\$50.00	\$69,900.00
K-15	0.9	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$540.00
K-16	1,398	TON	Bituminous Surface Coarse	\$50.00	\$69,900.00
K-17	167.8	TON	Bituminous Material, Asphalt Cement (PG70-28) - 6.0%	\$780.00	\$130,884.00
K-18	900	SF	Runway Painting (Half Rate Application - Solid White)	\$1.00	\$900.00
K-19	900	SF	Runway Painting (Full Rate Application - Solid White)	\$1.00	\$900.00
K-20	20	ACRE	Seeding, Fertilizing and Mulching	\$2,200.00	\$44,000.00
K-21	1	LS	Engineering and Administration	\$95,387.79	\$95,387.79
K. SUBTOTAL:					\$890,286.01
TOTAL:					\$8,458,861.74



Airspace grading only

Cut: 32,000 cy

Elevations Table				
Number	Color	Min. Elevation	Max. Elevation	Volume (CY)
1	Yellow	-9.865	-5.000	4,029
2	Green	-4.990	0.000	27,914

Sta. 12+00 to 88+00

1.9% extension, 2" overlay

Cut: 260,000 cy

Fill: 340,000 cy

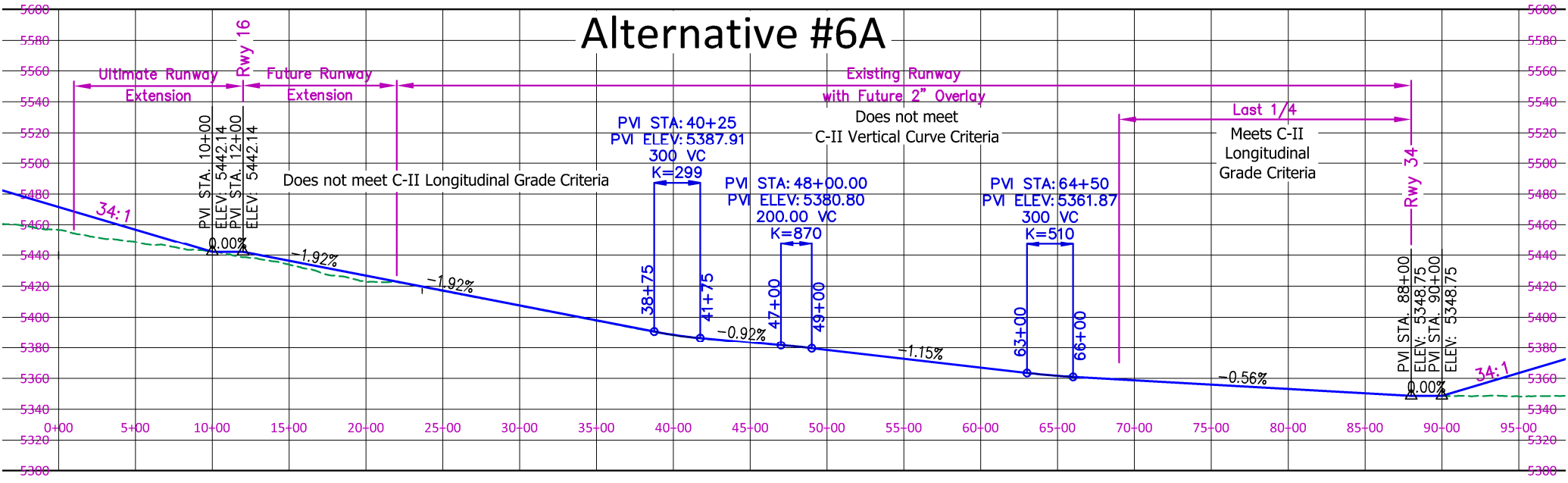
Net: 80,000 cy Fill

10:1 cut slope eastside

8:1 fill slope westside

Elevations Table				
Number	Color	Min. Elevation	Max. Elevation	Volume (CY)
1	Orange	-11.165	-10.000	86
2	Yellow	-9.990	-5.000	32,984
3	Green	-4.990	0.000	226,465
4	Cyan	0.010	5.000	264,365
5	Blue	5.010	10.000	59,823
6	Purple	10.010	15.313	16,351

Alternative #6A



Ennis Big Sky Airport Improvements
Alternative #6B - Extend North w/ FAA Modification to Standards to 1.5%
Primary Considerations Only
Revised 07/15/2017 by LDB



Item No.	Quantity	Unit	Unit Description	Engineer's Estimate	
				Unit Price (Figures)	Total Price (Figures)

A. LAND ACQUISITIONS					
A-1	1	LS	Land Acquisitions of Approximately 20-acres	\$200,000.00	\$200,000.00
A. SUBTOTAL:					\$200,000.00

B. REHABILITATE TAXIWAY (RECONSTRUCT PORTION OF SOUTH PARALLEL TAXIWAY (T-1) TO NORTH APRON) & TAXIWAY FILLETS					
B-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$38,514.00	\$38,514.00
B-2	4,000	SY	Mill Existing Asphalt Pavement (3-inches)	\$2.00	\$8,000.00
B-3	4,200	CY	Unclassified Excavation and Embankment	\$4.00	\$16,800.00
B-4	2,000	LF	Edge Drains - 4"	\$17.00	\$34,000.00
B-5	8	EA	Edge Drain Cleanouts	\$650.00	\$5,200.00
B-6	4	EA	Edge Drain Outfalls	\$700.00	\$2,800.00
B-7	4,000	SY	Geotextile Separation / Stabilization Fabric	\$1.60	\$6,400.00
B-8	4,000	SY	Geosynthetic Geogrid - 100%	\$4.00	\$16,000.00
B-9	2,000	CY	P-154 Subbase Course (18-inch Section)	\$32.00	\$64,000.00
B-10	900	CY	P-154 Subbase Course (8-inch Bridging Lift) - 100% of area	\$30.00	\$27,000.00
B-11	667	CY	P-209 Crushed Aggregate Base Course (6-inch Section)	\$42.00	\$28,014.00
B-12	2.4	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$1,440.00
B-13	483	TON	Bituminous Surface Coarse	\$50.00	\$24,150.00
B-14	0.9	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$540.00
B-15	483	TON	Bituminous Surface Coarse	\$50.00	\$24,150.00
B-16	57.9	TON	Bituminous Material, Asphalt Cement (PG70-28) - 6.0%	\$780.00	\$45,162.00
B-17	190	SY	Fillet Widening	\$200.00	\$38,000.00
B-18	270	SF	Taxiway Painting (Full Rate Application - Solid Yellow)	\$1.00	\$270.00
B-19	1	ACRE	Seeding, Fertilizing and Mulching	\$2,200.00	\$2,200.00
B-20	20	EA	L-853 Taxiway Reflectors, Stake Mounted	\$125.00	\$2,500.00
B-21	1	LS	Engineering and Administration	\$46,216.80	\$46,216.80
B. SUBTOTAL:					\$431,356.80

C. REHABILITATE APRON (RECONSTRUCT SOUTH APRON (A-1 portion))					
C-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$76,245.88	\$76,245.88
C-2	9,250	SY	Mill Existing Asphalt Pavement (3-inches)	\$2.00	\$18,500.00
C-3	10,200	CY	Unclassified Excavation and Embankment	\$4.00	\$40,800.00
C-4	1,000	LF	Edge Drains - 6"	\$20.00	\$20,000.00
C-5	4	EA	Edge Drain Cleanouts	\$650.00	\$2,600.00
C-6	3	EA	Edge Drain Outfalls	\$700.00	\$2,100.00
C-7	9,250	SY	Geotextile Separation / Stabilization Fabric	\$1.60	\$14,800.00
C-8	9,250	SY	Geosynthetic Geogrid - 100%	\$4.00	\$37,000.00
C-9	4,700	CY	P-154 Subbase Course (18-inch Section)	\$32.00	\$150,400.00
C-10	2,100	CY	P-154 Subbase Course (8-inch Bridging Lift) - 100% of area	\$30.00	\$63,000.00
C-11	1,542	CY	P-209 Crushed Aggregate Base Course (6-inch Section)	\$42.00	\$64,764.00
C-12	5.7	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$3,420.00
C-13	1,116	TON	Bituminous Surface Coarse	\$50.00	\$55,800.00
C-14	2.0	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$1,200.00
C-15	1,116	TON	Bituminous Surface Coarse	\$50.00	\$55,800.00
C-16	133.9	TON	Bituminous Material, Asphalt Cement (PG70-28) - 6.0%	\$780.00	\$104,442.00
C-17	54	EA	Remove & Discard Tiedown Anchors	\$150.00	\$8,100.00
C-18	54	EA	Tie-Down Anchors	\$800.00	\$43,200.00
C-19	180	GAL	Coal Tar Pitch Emulsion	\$35.00	\$6,300.00
C-20	1,187	SF	Taxiway Painting (Full Rate Application - Yellow)	\$1.00	\$1,187.00
C-21	4	ACRE	Seeding, Fertilizing and Mulching	\$2,200.00	\$8,800.00
C-22	20	EA	L-853 Taxiway Reflectors, Stake Mounted	\$125.00	\$2,500.00
C-23	1	LS	Engineering and Administration	\$93,715.07	\$93,715.07
C. SUBTOTAL:					\$874,673.95

D. REPAIR / RECONSTRUCT EXISTING VERTICAL CURVES TO "C" CRITERIA (Approx. STA. 68+00 to 62+00 and STA. 48+00 to 43+00)					
D-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$19,326.96	\$19,326.96

D-2	0	LS	P-101 Surface Preparation	\$10,000.00	\$0.00
D-3	7,083	SY	Mill Existing Asphalt Pavement (3-inches)	\$2.00	\$14,166.67
D-4	0	CY	Topsoil Stripping, Stockpiling, Placing - incl. withing widening	\$8.00	\$0.00
D-5	0	CY	Unclassified Excavation & Embankment	\$4.00	\$0.00
D-6	788	CY	P-209 Crushed Aggregate Base Course - Approx. 4" Right of Centerline	\$42.00	\$33,096.00
D-7	4.2	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$2,520.00
D-8	1,282	TON	Bituminous Surface Course (3")	\$50.00	\$64,100.00
D-9	0.0	SY	Bituminous Tack Coat (SS-1)	\$600.00	\$0.00
D-10	77.0	TON	Bituminous Material, Asphalt Cement (PG 70-28) - 6.0%	\$780.00	\$60,060.00
D-11	0	SF	Runway Painting (Half-Rate Application - Solid White)	\$1.00	\$0.00
D-12	0	SF	Runway Painting (Full-Rate Application - Solid White)	\$1.00	\$0.00
D-13	0	ACRE	Seeding, Fertilizing, and Mulching	\$2,200.00	\$0.00
D-14	1	LS	Engineering and Administration	\$23,192.36	\$23,192.36
D. SUBTOTAL:					\$216,461.98

E. REPAIR / RECONSTRUCT EXISTING RUNWAY TO 1.5% MAXIMUM SLOPE (Sta. 22+00 to 43+10)					
E-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$131,192.44	\$131,192.44
E-2	0	LS	P-101 Surface Preparation	\$10,000.00	\$0.00
E-3	17,584	SY	Mill Existing Asphalt Pavement (3-inches)	\$2.00	\$35,168.00
E-4	19,000	CY	Topsoil Stripping, Stockpiling, Placing	\$8.00	\$152,000.00
E-5	50,000	CY	Unclassified Excavation & Embankment - excavation assoc. w/ widening	\$4.00	\$200,000.00
E-6	1	LS	McDeed Creek Modifications - includes Corps of Engineers and MFWP coordination, design features, and estimated mitigation	\$50,000.00	\$50,000.00
E-7	0	LS	Construction Easements for Airspace Grading	\$20,000.00	\$0.00
E-8	3,000	CY	P-209 Crushed Aggregate Base Course - 6"	\$42.00	\$126,000.00
E-9	10.5	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$6,300.00
E-10	2,123	TON	Bituminous Surface Coarse	\$50.00	\$106,150.00
E-11	3.7	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$2,220.00
E-12	2,123	TON	Bituminous Surface Coarse	\$50.00	\$106,150.00
E-13	254.8	TON	Bituminous Material, Asphalt Cement (PG 70-28) - 6.0%	\$780.00	\$198,744.00
E-14	0	SF	Runway Painting (Half-Rate Application - Solid White)	\$1.00	\$0.00
E-15	0	SF	Runway Painting (Full-Rate Application - Solid White)	\$1.00	\$0.00
E-16	1	LS	MIRL Electrical Improvements (Relocation / Replacement of MIRL)	\$110,000.00	\$110,000.00
E-17	40	ACRE	Seeding, Fertilizing, and Mulching	\$2,200.00	\$88,000.00
E-18	1	LS	Engineering and Administration	\$157,430.93	\$157,430.93
E. SUBTOTAL:					\$1,469,355.37

F. STRUCTURAL OVERLAY RUNWAY AND TURNAROUND (2-INCH OVERLAY) EXCLUDING CROWN ADJUSTMENT (Sta. 43+10 to 88+00)					
F-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$50,240.66	\$50,240.66
F-2	1	LS	P-101 Surface Preparation	\$10,000.00	\$10,000.00
F-3	0	SY	Mill Existing Asphalt Pavement (3-inches)	\$2.00	\$0.00
F-4	0	CY	Topsoil Stripping, Stockpiling, Placing	\$8.00	\$0.00
F-5	0	CY	Unclassified Excavation & Embankment	\$4.00	\$0.00
F-6	0	CY	P-209 Crushed Aggregate Base Course - Approx. 4" Right of Centerline	\$42.00	\$0.00
F-7	0.0	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$0.00
F-8	0	TON	Bituminous Surface Course (2" Right of Centerline Only)	\$50.00	\$0.00
F-9	7.8	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$4,680.00
F-10	4,519	TON	Bituminous Surface Course (2" Overlay)	\$50.00	\$225,950.00
F-11	271.2	TON	Bituminous Material, Asphalt Cement (PG70-28) - 6.0%	\$780.00	\$211,536.00
F-12	0	SF	Runway Painting (Half-Rate Application - Solid White)	\$1.00	\$0.00
F-13	0	SF	Runway Painting (Full-Rate Application - Solid White)	\$1.00	\$0.00
F-14	0	ACRE	Seeding, Fertilizing and Mulching	\$2,200.00	\$0.00
F-15	1	LS	Engineering and Administration	\$60,288.80	\$60,288.80
F. SUBTOTAL:					\$562,695.46

G. WIDEN RUNWAY (to 100-FT)					
G-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$244,569.91	\$244,569.91
G-2	10,000	CY	Topsoil Stripping, Stockpiling, Placing	\$8.00	\$80,000.00
G-3	19,812	SY	Subgrade Surface Preparation	\$1.50	\$29,718.00
G-4	200,000	CY	Unclassified Excavation and Embankment	\$4.00	\$800,000.00
G-5	7,000	LF	Edge Drains	\$17.00	\$119,000.00
G-6	20	EA	Edge Drain Cleanouts	\$650.00	\$13,000.00
G-7	10	EA	Edge Drain Outfalls	\$700.00	\$7,000.00

G-8	19,812	SY	Subsurface Separation Fabric	\$1.60	\$31,699.20
G-9	0	SY	Geosynthetic Geogrid - 0%	\$4.00	\$0.00
G-10	10,000	CY	P-154 Subbase Course (18" Section)	\$32.00	\$320,000.00
G-11	0	CY	P-154 Subbase Course (8-inch Bridging Lift) - 0%	\$30.00	\$0.00
G-12	3,302	CY	P-209 Crushed Aggregate Base Course (6-Inch Section)	\$42.00	\$138,684.00
G-13	11.8	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$7,080.00
G-14	2,392	TON	Bituminous Surface Coarse	\$50.00	\$119,600.00
G-15	4.2	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$2,520.00
G-16	2,392	TON	Bituminous Surface Coarse	\$50.00	\$119,600.00
G-17	287.1	TON	Bituminous Material, Asphalt Cement (PG70-28) - 6.0%	\$780.00	\$223,938.00
G-18	33,645	SF	Runway Painting (Full Rate Application - Solid White)	\$1.00	\$33,645.00
G-19	33,645	SF	Runway Painting (Full Rate Application - Solid White)	\$1.00	\$33,645.00
G-20	1	LS	MIRL Electrical Improvements (Relocation / Replacement of MIRL)	\$100,000.00	\$100,000.00
G-21	10	ACRE	Seeding, Fertilizing and Mulching	\$2,200.00	\$22,000.00
G-22	1	LS	Engineering and Administration	\$293,483.89	\$293,483.89
G. SUBTOTAL:					\$2,739,183.00

H. MISCELLANEOUS ELECTRICAL IMPROVEMENTS					
H-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$16,222.22	\$16,222.22
H-2	1	LS	Remove & Dispose Beacon Tower	\$5,000.00	\$5,000.00
H-3	1	EA	L-828 10.0kW Contact Current Regulator, Class 1, Style 1, Mode 1	\$8,500.00	\$8,500.00
H-4	1	EA	L-854 Radio Controller, Type 1 w/ Control Panel	\$4,500.00	\$4,500.00
H-5	1	EA	L-821 Lighting Control Panel, Type 1, Class W, Style 1, Mode 1	\$8,000.00	\$8,000.00
H-6	1	LS	Electrical Enclosure / Vault Equipment	\$8,000.00	\$8,000.00
H-7	1	EA	Beacon Tip-Down Tower / Pole, 35-feet	\$32,000.00	\$32,000.00
H-8	1	EA	Relocate PAPI w/ FAA Flight Check, Cable, Conduit	\$40,000.00	\$40,000.00
H-9	1	EA	Segmented Circle	\$20,000.00	\$20,000.00
H-10	1	LS	Relocate AWOS, Windcone, FAA Commissioning & Flight Check	\$20,000.00	\$20,000.00
H-11	1	LS	Engineering and Administration	\$19,466.67	\$19,466.67
H. SUBTOTAL:					\$181,688.89

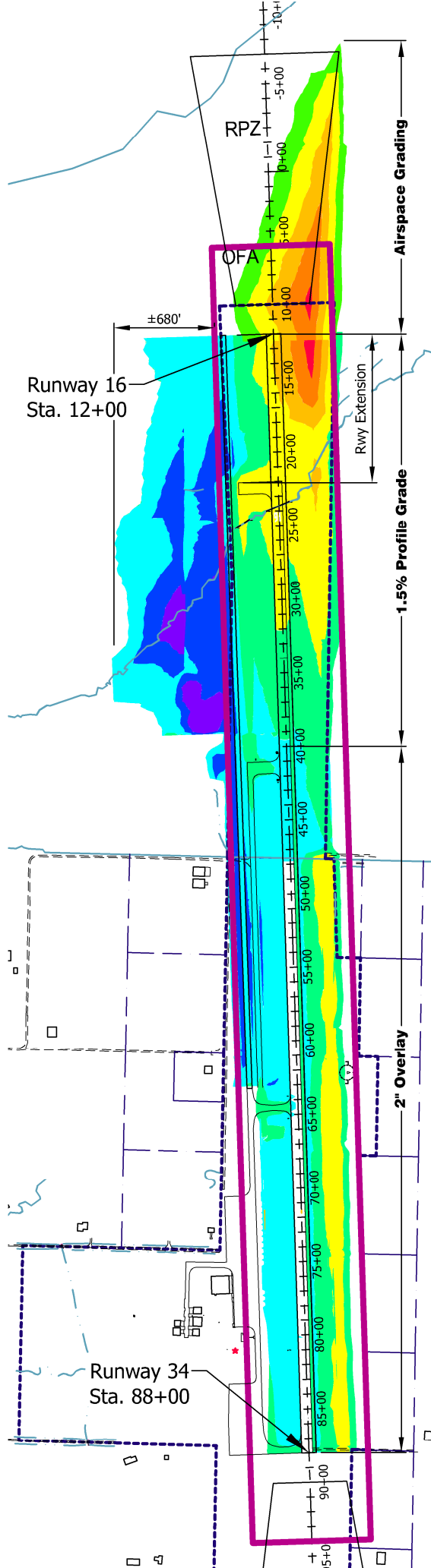
I. REHABILITATE TAXIWAY (RECONSTRUCT PORTION NORTH PARALLEL TAXIWAY (T-2) FROM MID-FIELD TO END (4,700')					
I-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$62,006.00	\$62,006.00
I-2	8,760	SY	Mill Existing Asphalt Pavement (3-inches)	\$2.00	\$17,520.00
I-3	6,900	CY	Unclassified Excavation and Embankment	\$4.00	\$27,600.00
I-4	4,900	LF	Edge Drains	\$17.00	\$83,300.00
I-5	6	EA	Edge Drain Cleanouts	\$650.00	\$3,900.00
I-6	4	EA	Edge Drain Outfalls	\$700.00	\$2,800.00
I-7	8,760	SY	Subsurface Separation Fabric	\$1.60	\$14,016.00
I-8	0	SY	Geosynthetic Geogrid - 0%	\$4.00	\$0.00
I-9	4,400	CY	P-154 Subbase Course (18" Section)	\$32.00	\$140,800.00
I-10	0	CY	P-154 Subbase Course (8-inch Bridging Lift) - 0%	\$30.00	\$0.00
I-11	1,460	CY	P-209 Crushed Aggregate Base Course (6-Inch Section)	\$42.00	\$61,320.00
I-12	4.9	TON	Bituminous Prime Coat (MC-70)	\$600.00	\$2,940.00
I-13	1,000	TON	Bituminous Surface Coarse	\$50.00	\$50,000.00
I-14	1.9	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$1,140.00
I-15	1,000	TON	Bituminous Surface Coarse	\$50.00	\$50,000.00
I-16	120.0	TON	Bituminous Material, Asphalt Cement (PG64-28)	\$780.00	\$93,600.00
I-17	318	SF	Taxiway Painting (Full Rate Application - Solid Yellow)	\$1.00	\$318.00
I-18	4	ACRE	Seeding, Fertilizing and Mulching	\$2,200.00	\$8,800.00
I-19	1	LS	Engineering and Administration	\$74,407.20	\$74,407.20
I. SUBTOTAL:					\$694,467.20

J. Extend Runway (1,000') @ 1.5% Max Slope					
J-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$325,802.19	\$325,802.19
J-2	11,579	SY	Subgrade Surface Preparation	\$1.50	\$17,368.00
J-3	550,000	CY	Unclassified Excavation and Embankment	\$4.00	\$2,200,000.00
J-4	15,802	CY	Topsoil Stripping, Stockpiling, and Placing	\$8.00	\$126,419.75
J-5	0	LF	Edge Drains - 4"	\$18.00	\$0.00
J-6	0	EA	Edge Drain Cleanouts	\$650.00	\$0.00
J-7	0	EA	Edge Drain Outfalls	\$700.00	\$0.00
J-8	5,789	CY	P-154 Subbase Course (18" Section)	\$32.00	\$185,248.00
J-9	0	CY	P-154 Subbase Course (8-inch Bridging Lift) - 0%	\$30.00	\$0.00
J-10	1,930	CY	P-209 Crushed Aggregate Base Course (6-Inch Section)	\$42.00	\$81,060.00
J-11	0	SY	Subsurface Separation Fabric	\$1.60	\$0.00
J-12	0	SY	Geosynthetic Geogrid - 0%	\$4.00	\$0.00
J-13	6.9	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$4,140.00
J-14	1,398	TON	Bituminous Surface Coarse	\$50.00	\$69,900.00
J-15	2.5	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$1,500.00
J-16	1,398	TON	Bituminous Surface Coarse	\$50.00	\$69,900.00
J-17	167.8	TON	Bituminous Material, Asphalt Cement (PG70-28) - 6.0%	\$780.00	\$130,884.00

J-18	900	SF	Runway Painting (Half Rate Application - Solid White)	\$1.00	\$900.00
J-19	900	SF	Runway Painting (Full Rate Application - Solid White)	\$1.00	\$900.00
J-20	20	ACRE	Seeding, Fertilizing and Mulching	\$2,200.00	\$44,000.00
J-21	1	LS	Engineering and Administration	\$390,962.63	\$390,962.63
J. SUBTOTAL:					\$3,648,984.58

K. EXTEND PARALLEL TAXIWAY - (4,700' to 7,600')					
K-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$79,489.82	\$79,489.82
K-2	4,000	CY	Topsoil Stripping, Stockpiling, Placing (4-inches)	\$8.00	\$32,000.00
K-3	0	CY	Unclassified Excavation and Embankment	\$4.00	\$0.00
K-4	11,579	SY	Subgrade Surface Preparation	\$2.00	\$23,158.00
K-5	2,400	LF	Edge Drains - 4"	\$18.00	\$43,200.00
K-6	10	EA	Edge Drain Cleanouts	\$650.00	\$6,500.00
K-7	6	EA	Edge Drain Outfalls	\$700.00	\$4,200.00
K-8	5,800	CY	P-154 Subbase Course (18" Section)	\$32.00	\$185,600.00
K-9	0	CY	P-154 Subbase Course (8-inch Bridging Lift) - 0%	\$30.00	\$0.00
K-10	1,930	CY	P-209 Crushed Aggregate Base Course (6-Inch Section)	\$42.00	\$81,060.00
K-11	11,579	SY	Subsurface Separation Fabric	\$1.60	\$18,526.40
K-12	0	SY	Geosynthetic Geogrid - 0%	\$4.00	\$0.00
K-13	6.9	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$4,140.00
K-14	1,398	TON	Bituminous Surface Coarse	\$50.00	\$69,900.00
K-15	0.9	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$540.00
K-16	1,398	TON	Bituminous Surface Coarse	\$50.00	\$69,900.00
K-17	167.8	TON	Bituminous Material, Asphalt Cement (PG70-28) - 6.0%	\$780.00	\$130,884.00
K-18	900	SF	Runway Painting (Half Rate Application - Solid White)	\$1.00	\$900.00
K-19	900	SF	Runway Painting (Full Rate Application - Solid White)	\$1.00	\$900.00
K-20	20	ACRE	Seeding, Fertilizing and Mulching	\$2,200.00	\$44,000.00
K-21	1	LS	Engineering and Administration	\$95,387.79	\$95,387.79
K. SUBTOTAL:					\$890,286.01

TOTAL:					\$11,692,691.25
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Airspace grading only

Runway 16 Approach

Cut: 290,000 cy

Elevations Table				
Number	Color	Min. Elevation	Max. Elevation	Volume (CY)
1	Red	-21.717	-20.000	145
2	Orange	-19.990	-15.000	10,448
3	Yellow-Orange	-14.990	-10.000	41,925
4	Yellow	-9.990	-5.000	90,941
5	Green	-4.990	0.000	147,183

Sta. 12+00 to 88+00

1.5% for 2800', 2" overlay for 4800'

Full parallel taxiway

Cut: 562,000 cy

Fill: 467,000 cy

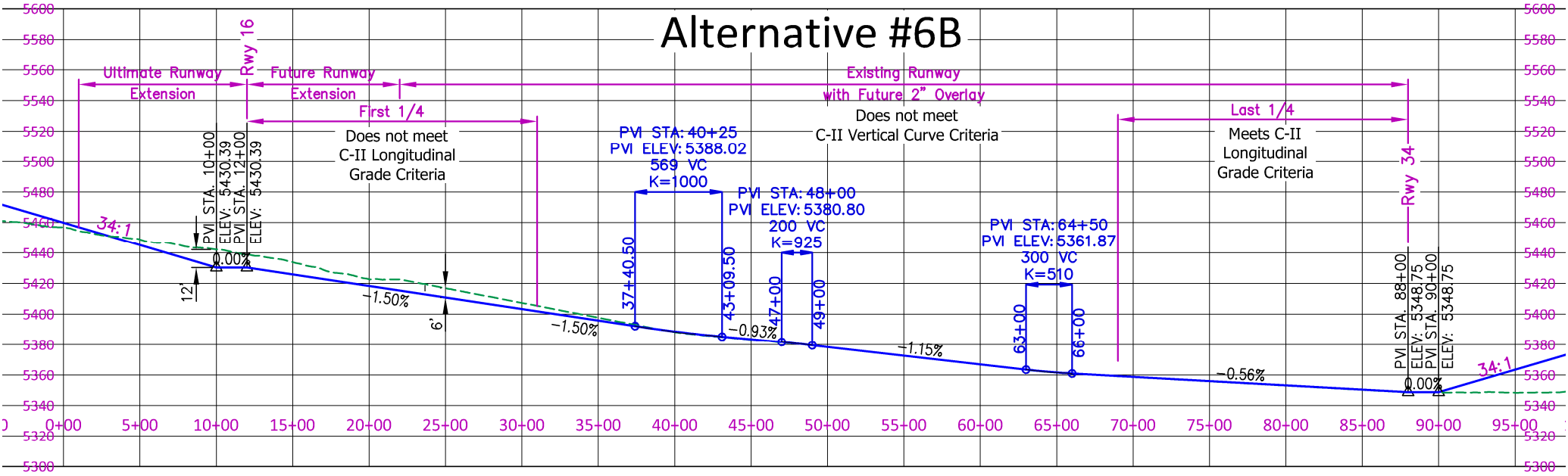
Net: 95,000 cy Cut

7:1 cut slope eastside

5% - 8:1 fill slope westside

Elevations Table				
Number	Color	Min. Elevation	Max. Elevation	Volume (CY)
1	Red	-22.582	-20.000	576
2	Orange	-19.990	-15.000	8,702
3	Yellow-Orange	-14.990	-10.000	25,197
4	Yellow	-9.990	-5.000	120,102
5	Green	-4.990	0.000	407,097
6	Cyan	0.010	5.000	375,578
7	Blue	5.010	10.000	79,555
8	Purple	10.010	19.107	10,866

Alternative #6B



Ennis Big Sky Airport Improvements
Alternative #6C - Extend North w/ FAA Modification to Standards to 1.3%
Primary Considerations Only
Revised 07/16/2017 by LDB



Item No.	Quantity	Unit	Unit Description	Engineer's Estimate	
				Unit Price (Figures)	Total Price (Figures)

A. LAND ACQUISITIONS					
A-1	1	LS	Land Acquisitions of Approximately 20-acres	\$200,000.00	\$200,000.00
A. SUBTOTAL:					\$200,000.00

B. REHABILITATE TAXIWAY (RECONSTRUCT PORTION OF SOUTH PARALLEL TAXIWAY (T-1) TO NORTH APRON) & TAXIWAY FILLETS					
B-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$38,747.33	\$38,747.33
B-2	4,000	SY	Mill Existing Asphalt Pavement (3-inches)	\$2.00	\$8,000.00
B-3	4,200	CY	Unclassified Excavation and Embankment	\$4.50	\$18,900.00
B-4	2,000	LF	Edge Drains - 4"	\$17.00	\$34,000.00
B-5	8	EA	Edge Drain Cleanouts	\$650.00	\$5,200.00
B-6	4	EA	Edge Drain Outfalls	\$700.00	\$2,800.00
B-7	4,000	SY	Geotextile Separation / Stabilization Fabric	\$1.60	\$6,400.00
B-8	4,000	SY	Geosynthetic Geogrid - 100%	\$4.00	\$16,000.00
B-9	2,000	CY	P-154 Subbase Course (18-inch Section)	\$32.00	\$64,000.00
B-10	900	CY	P-154 Subbase Course (8-inch Bridging Lift) - 100% of area	\$30.00	\$27,000.00
B-11	667	CY	P-209 Crushed Aggregate Base Course (6-inch Section)	\$42.00	\$28,014.00
B-12	2.4	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$1,440.00
B-13	483	TON	Bituminous Surface Coarse	\$50.00	\$24,150.00
B-14	0.9	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$540.00
B-15	483	TON	Bituminous Surface Coarse	\$50.00	\$24,150.00
B-16	57.9	TON	Bituminous Material, Asphalt Cement (PG70-28) - 6.0%	\$780.00	\$45,162.00
B-17	190	SY	Fillet Widening	\$200.00	\$38,000.00
B-18	270	SF	Taxiway Painting (Full Rate Application - Solid Yellow)	\$1.00	\$270.00
B-19	1	ACRE	Seeding, Fertilizing and Mulching	\$2,200.00	\$2,200.00
B-20	20	EA	L-853 Taxiway Reflectors, Stake Mounted	\$125.00	\$2,500.00
B-21	1	LS	Engineering and Administration	\$46,496.80	\$46,496.80
B. SUBTOTAL:					\$433,970.13

C. REHABILITATE APRON (RECONSTRUCT SOUTH APRON (A-1 portion))					
C-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$76,812.55	\$76,812.55
C-2	9,250	SY	Mill Existing Asphalt Pavement (3-inches)	\$2.00	\$18,500.00
C-3	10,200	CY	Unclassified Excavation and Embankment	\$4.50	\$45,900.00
C-4	1,000	LF	Edge Drains - 6"	\$20.00	\$20,000.00
C-5	4	EA	Edge Drain Cleanouts	\$650.00	\$2,600.00
C-6	3	EA	Edge Drain Outfalls	\$700.00	\$2,100.00
C-7	9,250	SY	Geotextile Separation / Stabilization Fabric	\$1.60	\$14,800.00
C-8	9,250	SY	Geosynthetic Geogrid - 100%	\$4.00	\$37,000.00
C-9	4,700	CY	P-154 Subbase Course (18-inch Section)	\$32.00	\$150,400.00
C-10	2,100	CY	P-154 Subbase Course (8-inch Bridging Lift) - 100% of area	\$30.00	\$63,000.00
C-11	1,542	CY	P-209 Crushed Aggregate Base Course (6-inch Section)	\$42.00	\$64,764.00
C-12	5.7	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$3,420.00
C-13	1,116	TON	Bituminous Surface Coarse	\$50.00	\$55,800.00
C-14	2.0	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$1,200.00
C-15	1,116	TON	Bituminous Surface Coarse	\$50.00	\$55,800.00
C-16	133.9	TON	Bituminous Material, Asphalt Cement (PG70-28) - 6.0%	\$780.00	\$104,442.00
C-17	54	EA	Remove & Discard Tiedown Anchors	\$150.00	\$8,100.00
C-18	54	EA	Tie-Down Anchors	\$800.00	\$43,200.00
C-19	180	GAL	Coal Tar Pitch Emulsion	\$35.00	\$6,300.00
C-20	1,187	SF	Taxiway Painting (Full Rate Application - Yellow)	\$1.00	\$1,187.00
C-21	4	ACRE	Seeding, Fertilizing and Mulching	\$2,200.00	\$8,800.00
C-22	20	EA	L-853 Taxiway Reflectors, Stake Mounted	\$125.00	\$2,500.00
C-23	1	LS	Engineering and Administration	\$94,395.07	\$94,395.07
C. SUBTOTAL:					\$881,020.62

D. REPAIR / RECONSTRUCT EXISTING VERTICAL CURVES TO "C" CRITERIA - N/A					
D-1	0	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$0.00	\$0.00
D-2	0	LS	P-101 Surface Preparation	\$10,000.00	\$0.00

D-3	0	SY	Mill Existing Asphalt Pavement (3-inches)	\$2.00	\$0.00
D-4	0	CY	Topsoil Stripping, Stockpiling, Placing - incl. withing widening	\$8.00	\$0.00
D-5	0	CY	Unclassified Excavation & Embankment	\$4.50	\$0.00
D-6	0	CY	P-209 Crushed Aggregate Base Course - Approx. 4" Right of Centerline	\$42.00	\$0.00
D-7	0.0	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$0.00
D-8	0	TON	Bituminous Surface Course (3")	\$50.00	\$0.00
D-9	0.0	SY	Bituminous Tack Coat (SS-1)	\$600.00	\$0.00
D-10	0.0	TON	Bituminous Material, Asphalt Cement (PG 70-28) - 6.0%	\$780.00	\$0.00
D-11	0	SF	Runway Painting (Half-Rate Application - Solid White)	\$1.00	\$0.00
D-12	0	SF	Runway Painting (Full-Rate Application - Solid White)	\$1.00	\$0.00
D-13	0	ACRE	Seeding, Fertilizing, and Mulching	\$2,200.00	\$0.00
D-14	0	LS	Engineering and Administration	\$0.00	\$0.00
D. SUBTOTAL:					\$0.00

E. REPAIR / RECONSTRUCT EXISTING RUNWAY TO 1.5% MAXIMUM SLOPE & 1.3% LAST QUARTER (Sta. 22+00 to 66+70)					
E-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$276,085.11	\$276,085.11
E-2	0	LS	P-101 Surface Preparation	\$10,000.00	\$0.00
E-3	37,250	SY	Mill Existing Asphalt Pavement (3-inches)	\$2.00	\$74,500.00
E-4	39,000	CY	Topsoil Stripping, Stockpiling, Placing	\$8.00	\$312,000.00
E-5	150,000	CY	Unclassified Excavation & Embankment - excavation assoc. w/ widening	\$4.50	\$675,000.00
E-6	1	LS	McDeed Creek & Boulder Creek Modifications - includes Corps of Engineers and MFWP coordination, design features, and estimated mitigation	\$70,000.00	\$70,000.00
E-7	0	LS	Construction Easements for Airspace Grading	\$20,000.00	\$0.00
E-8	6,300	CY	P-209 Crushed Aggregate Base Course - 6"	\$42.00	\$264,600.00
E-9	22.2	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$13,320.00
E-10	4,497	TON	Bituminous Surface Course	\$50.00	\$224,850.00
E-11	7.8	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$4,680.00
E-12	4,497	TON	Bituminous Surface Course	\$50.00	\$224,850.00
E-13	539.7	TON	Bituminous Material, Asphalt Cement (PG 70-28) - 6.0%	\$780.00	\$420,966.00
E-14	0	SF	Runway Painting (Half-Rate Application - Solid White)	\$1.00	\$0.00
E-15	0	SF	Runway Painting (Full-Rate Application - Solid White)	\$1.00	\$0.00
E-16	1	LS	MIRL Electrical Improvements (Relocation / Replacement of MIRL)	\$200,000.00	\$200,000.00
E-17	40	ACRE	Seeding, Fertilizing, and Mulching	\$2,200.00	\$88,000.00
E-18	1	LS	Engineering and Administration	\$331,302.13	\$331,302.13
E. SUBTOTAL:					\$3,180,153.24

F. STRUCTURAL OVERLAY RUNWAY AND TURNAROUND (2-INCH OVERLAY) EXCLUDING CROWN ADJUSTMENT (Sta. 66+70 to 88+00)					
F-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$23,867.33	\$23,867.33
F-2	1	LS	P-101 Surface Preparation	\$5,000.00	\$5,000.00
F-3	0	SY	Mill Existing Asphalt Pavement (3-inches)	\$2.00	\$0.00
F-4	0	CY	Topsoil Stripping, Stockpiling, Placing	\$8.00	\$0.00
F-5	0	CY	Unclassified Excavation & Embankment	\$4.50	\$0.00
F-6	0	CY	P-209 Crushed Aggregate Base Course - Approx. 4" Right of Centerline	\$42.00	\$0.00
F-7	0.0	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$0.00
F-8	0	TON	Bituminous Surface Course (2" Right of Centerline Only)	\$50.00	\$0.00
F-9	3.7	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$2,220.00
F-10	2,144	TON	Bituminous Surface Course (2" Overlay)	\$50.00	\$107,200.00
F-11	128.7	TON	Bituminous Material, Asphalt Cement (PG70-28) - 6.0%	\$780.00	\$100,386.00
F-12	0	SF	Runway Painting (Half-Rate Application - Solid White)	\$1.00	\$0.00
F-13	0	SF	Runway Painting (Full-Rate Application - Solid White)	\$1.00	\$0.00
F-14	0	ACRE	Seeding, Fertilizing and Mulching	\$2,200.00	\$0.00
F-15	1	LS	Engineering and Administration	\$28,640.80	\$28,640.80
F. SUBTOTAL:					\$267,314.13

G. WIDEN RUNWAY (to 100-FT)					
G-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$255,681.02	\$255,681.02
G-2	10,000	CY	Topsoil Stripping, Stockpiling, Placing	\$8.00	\$80,000.00
G-3	19,812	SY	Subgrade Surface Preparation	\$1.50	\$29,718.00
G-4	200,000	CY	Unclassified Excavation and Embankment	\$4.50	\$900,000.00
G-5	7,000	LF	Edge Drains	\$17.00	\$119,000.00
G-6	20	EA	Edge Drain Cleanouts	\$650.00	\$13,000.00
G-7	10	EA	Edge Drain Outfalls	\$700.00	\$7,000.00
G-8	19,812	SY	Subsurface Separation Fabric	\$1.60	\$31,699.20
G-9	0	SY	Geosynthetic Geogrid - 0%	\$4.00	\$0.00
G-10	10,000	CY	P-154 Subbase Course (18" Section)	\$32.00	\$320,000.00
G-11	0	CY	P-154 Subbase Course (8-inch Bridging Lift) - 0%	\$30.00	\$0.00
G-12	3,302	CY	P-209 Crushed Aggregate Base Course (6-Inch Section)	\$42.00	\$138,684.00

G-13	11.8	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$7,080.00
G-14	2,392	TON	Bituminous Surface Coarse	\$50.00	\$119,600.00
G-15	4.2	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$2,520.00
G-16	2,392	TON	Bituminous Surface Coarse	\$50.00	\$119,600.00
G-17	287.1	TON	Bituminous Material, Asphalt Cement (PG70-28) - 6.0%	\$780.00	\$223,938.00
G-18	33,645	SF	Runway Painting (Full Rate Application - Solid White)	\$1.00	\$33,645.00
G-19	33,645	SF	Runway Painting (Full Rate Application - Solid White)	\$1.00	\$33,645.00
G-20	1	LS	MIRL Electrical Improvements (Relocation / Replacement of MIRL)	\$100,000.00	\$100,000.00
G-21	10	ACRE	Seeding, Fertilizing and Mulching	\$2,200.00	\$22,000.00
G-22	1	LS	Engineering and Administration	\$306,817.23	\$306,817.23
G. SUBTOTAL:				\$2,863,627.45	

H. MISCELLANEOUS ELECTRICAL IMPROVEMENTS					
H-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$16,222.22	\$16,222.22
H-2	1	LS	Remove & Dispose Beacon Tower	\$5,000.00	\$5,000.00
H-3	1	EA	L-828 10.0kW Contact Current Regulator, Class 1, Style 1, Mode 1	\$8,500.00	\$8,500.00
H-4	1	EA	L-854 Radio Controller, Type 1 w/ Control Panel	\$4,500.00	\$4,500.00
H-5	1	EA	L-821 Lighting Control Panel, Type 1, Class W, Style 1, Mode 1	\$8,000.00	\$8,000.00
H-6	1	LS	Electrical Enclosure / Vault Equipment	\$8,000.00	\$8,000.00
H-7	1	EA	Beacon Tip-Down Tower / Pole, 35-feet	\$32,000.00	\$32,000.00
H-8	1	EA	Relocate PAPI w/ FAA Flight Check, Cable, Conduit	\$40,000.00	\$40,000.00
H-9	1	EA	Segmented Circle	\$20,000.00	\$20,000.00
H-10	1	LS	Relocate AWOS, Windcone, FAA Commissioning & Flight Check	\$20,000.00	\$20,000.00
H-11	1	LS	Engineering and Administration	\$19,466.67	\$19,466.67
H. SUBTOTAL:				\$181,688.89	

I. REHABILITATE TAXIWAY (RECONSTRUCT PORTION NORTH PARALLEL TAXIWAY (T-2) FROM MID-FIELD TO END (4,700')					
I-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$62,389.33	\$62,389.33
I-2	8,760	SY	Mill Existing Asphalt Pavement (3-inches)	\$2.00	\$17,520.00
I-3	6,900	CY	Unclassified Excavation and Embankment	\$4.50	\$31,050.00
I-4	4,900	LF	Edge Drains	\$17.00	\$83,300.00
I-5	6	EA	Edge Drain Cleanouts	\$650.00	\$3,900.00
I-6	4	EA	Edge Drain Outfalls	\$700.00	\$2,800.00
I-7	8,760	SY	Subsurface Separation Fabric	\$1.60	\$14,016.00
I-8	0	SY	Geosynthetic Geogrid - 0%	\$4.00	\$0.00
I-9	4,400	CY	P-154 Subbase Course (18" Section)	\$32.00	\$140,800.00
I-10	0	CY	P-154 Subbase Course (8-inch Bridging Lift) - 0%	\$30.00	\$0.00
I-11	1,460	CY	P-209 Crushed Aggregate Base Course (6-Inch Section)	\$42.00	\$61,320.00
I-12	4.9	TON	Bituminous Prime Coat (MC-70)	\$600.00	\$2,940.00
I-13	1,000	TON	Bituminous Surface Coarse	\$50.00	\$50,000.00
I-14	1.9	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$1,140.00
I-15	1,000	TON	Bituminous Surface Coarse	\$50.00	\$50,000.00
I-16	120.0	TON	Bituminous Material, Asphalt Cement (PG64-28)	\$780.00	\$93,600.00
I-17	318	SF	Taxiway Painting (Full Rate Application - Solid Yellow)	\$1.00	\$318.00
I-18	4	ACRE	Seeding, Fertilizing and Mulching	\$2,200.00	\$8,800.00
I-19	1	LS	Engineering and Administration	\$74,867.20	\$74,867.20
I. SUBTOTAL:				\$698,760.53	

J. Extend Runway (1,000') @ 1.3% Max Slope					
J-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$207,001.00	\$207,001.00
J-2	11,579	SY	Subgrade Surface Preparation	\$2.00	\$23,157.33
J-3	250,000	CY	Unclassified Excavation and Embankment	\$4.50	\$1,125,000.00
J-4	15,802	CY	Topsoil Stripping, Stockpiling, and Placing	\$8.00	\$126,419.75
J-5	0	LF	Edge Drains - 4"	\$18.00	\$0.00
J-6	0	EA	Edge Drain Cleanouts	\$650.00	\$0.00
J-7	0	EA	Edge Drain Outfalls	\$700.00	\$0.00
J-8	5,789	CY	P-154 Subbase Course (18" Section)	\$32.00	\$185,248.00
J-9	0	CY	P-154 Subbase Course (8-inch Bridging Lift) - 0%	\$30.00	\$0.00
J-10	1,930	CY	P-209 Crushed Aggregate Base Course (6-Inch Section)	\$42.00	\$81,060.00
J-11	0	SY	Subsurface Separation Fabric	\$1.60	\$0.00
J-12	0	SY	Geosynthetic Geogrid - 0%	\$4.00	\$0.00
J-13	6.9	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$4,140.00
J-14	1,398	TON	Bituminous Surface Coarse	\$50.00	\$69,900.00
J-15	2.5	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$1,500.00
J-16	1,398	TON	Bituminous Surface Coarse	\$50.00	\$69,900.00
J-17	167.8	TON	Bituminous Material, Asphalt Cement (PG70-28) - 6.0%	\$780.00	\$130,884.00
J-18	900	SF	Runway Painting (Half Rate Application - Solid White)	\$1.00	\$900.00
J-19	900	SF	Runway Painting (Full Rate Application - Solid White)	\$1.00	\$900.00
J-20	20	ACRE	Seeding, Fertilizing and Mulching	\$2,200.00	\$44,000.00
J-21	1	LS	Engineering and Administration	\$248,401.21	\$248,401.21
J. SUBTOTAL:				\$2,318,411.30	

K. EXTEND PARALLEL TAXIWAY - (4,700' to 7,600')					
K-1	1	LS	Mobilization (Shall not exceed 10% of Subtotal Price)	\$78,846.54	\$78,846.54
K-2	4,000	CY	Topsoil Stripping, Stockpiling, Placing (4-inches)	\$8.00	\$32,000.00
K-3	0	CY	Unclassified Excavation and Embankment	\$4.50	\$0.00
K-4	11,579	SY	Subgrade Surface Preparation	\$1.50	\$17,368.50
K-5	2,400	LF	Edge Drains - 4"	\$18.00	\$43,200.00
K-6	10	EA	Edge Drain Cleanouts	\$650.00	\$6,500.00
K-7	6	EA	Edge Drain Outfalls	\$700.00	\$4,200.00
K-8	5,800	CY	P-154 Subbase Course (18" Section)	\$32.00	\$185,600.00
K-9	0	CY	P-154 Subbase Course (8-inch Bridging Lift) - 0%	\$30.00	\$0.00
K-10	1,930	CY	P-209 Crushed Aggregate Base Course (6-Inch Section)	\$42.00	\$81,060.00
K-11	11,579	SY	Subsurface Separation Fabric	\$1.60	\$18,526.40
K-12	0	SY	Geosynthetic Geogrid - 0%	\$4.00	\$0.00
K-13	6.9	TON	Bituminous Prime Coat (SS-1)	\$600.00	\$4,140.00
K-14	1,398	TON	Bituminous Surface Coarse	\$50.00	\$69,900.00
K-15	0.9	TON	Bituminous Tack Coat (SS-1)	\$600.00	\$540.00
K-16	1,398	TON	Bituminous Surface Coarse	\$50.00	\$69,900.00
K-17	167.8	TON	Bituminous Material, Asphalt Cement (PG70-28) - 6.0%	\$780.00	\$130,884.00
K-18	900	SF	Runway Painting (Half Rate Application - Solid White)	\$1.00	\$900.00
K-19	900	SF	Runway Painting (Full Rate Application - Solid White)	\$1.00	\$900.00
K-20	20	ACRE	Seeding, Fertilizing and Mulching	\$2,200.00	\$44,000.00
K-21	1	LS	Engineering and Administration	\$94,615.85	\$94,615.85
K. SUBTOTAL:					\$883,081.29
TOTAL:					\$11,908,027.57

Airspace grading only
Runway 16 Approach
 Cut: 167,500 cy

Elevations Table				
Number	Color	Min. Elevation	Max. Elevation	Volume (CY)
1	Red	-17.828	-15.000	725
2	Orange	-14.990	-10.000	15,320
3	Yellow-Orange	-9.990	-5.000	50,150
4	Yellow	-4.990	0.000	101,050

Sta. 12+00 to 88+00
1.3% for 2000' to 1.5% for 3000'
to 2" overlay for 2600'
Full parallel taxiway

Cut: 317,000 cy

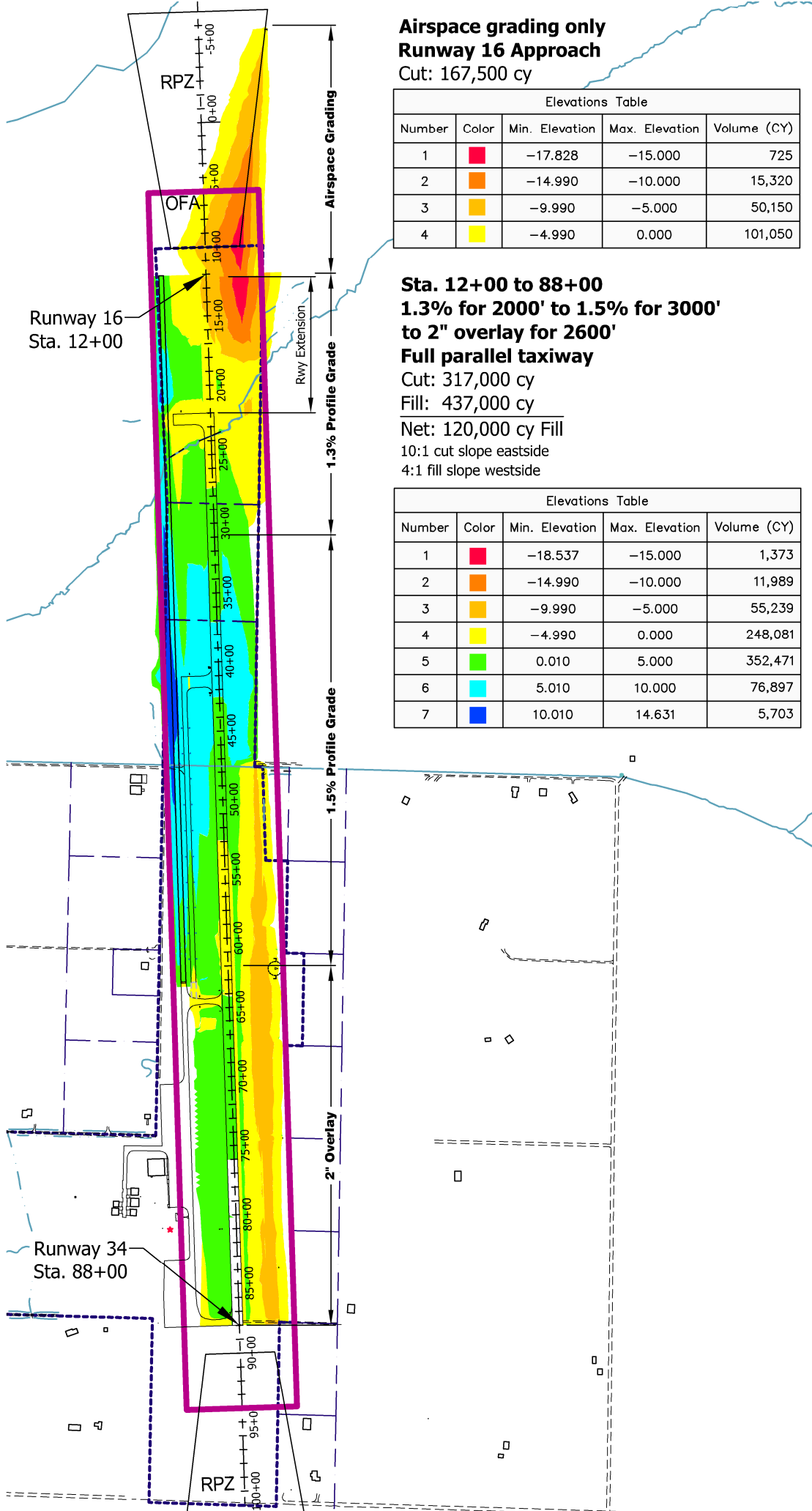
Fill: 437,000 cy

Net: 120,000 cy Fill

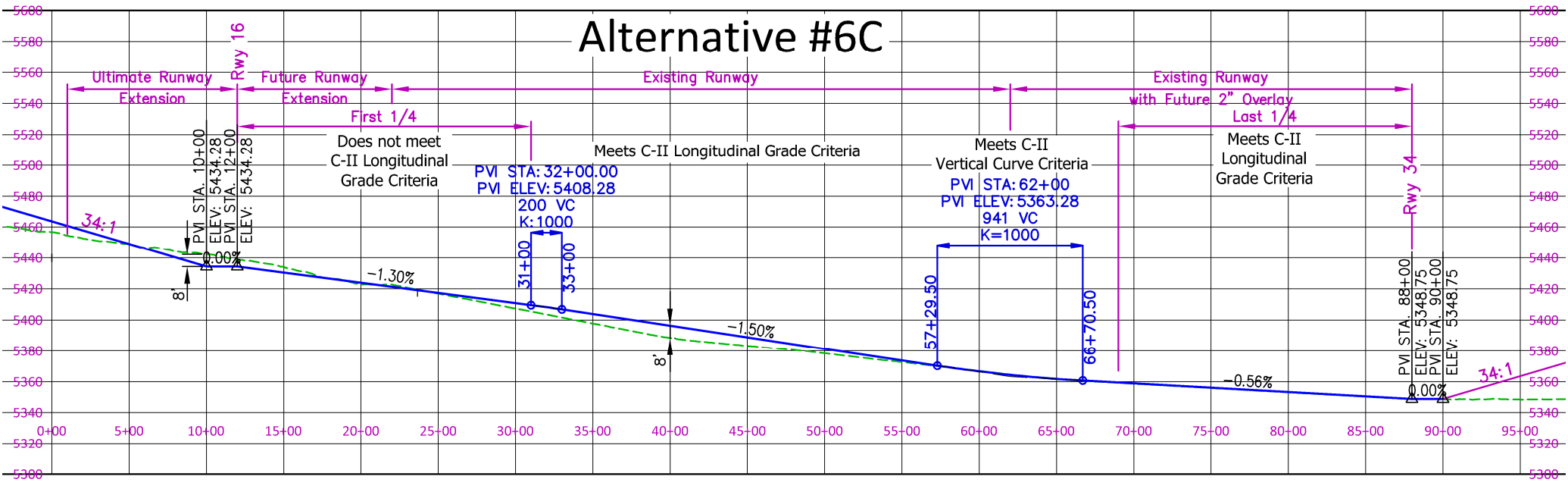
10:1 cut slope eastside

4:1 fill slope westside

Elevations Table				
Number	Color	Min. Elevation	Max. Elevation	Volume (CY)
1	Red	-18.537	-15.000	1,373
2	Orange	-14.990	-10.000	11,989
3	Yellow-Orange	-9.990	-5.000	55,239
4	Yellow	-4.990	0.000	248,081
5	Green	0.010	5.000	352,471
6	Cyan	5.010	10.000	76,897
7	Blue	10.010	14.631	5,703



Alternative #6C



Secondary Elements	Importance (Weighted Adjustment)	Rankings						Comments
		#6B-1 Widen on Center		#6B-2 Widen East		#6B-3 Widen West		
		Ranking	Weighted	Raking	Weighted	Ranking	Weighted	
Runway Widening	10	5	50	10	100	10	100	All secondary alternatives propose widening to 100' width. Alternatives #6B-2 and #6B-3 would widen all to one side. Widening 25' on a single side would increase constructability and decrease cost. Additionally, widening on a single side <u>may</u> only impact one side of the runway lighting system and associated PAPI on the respective side (a portion of the existing runway will require reconstruction associated with the primary alternative, necessitating replacement / relocation of the lights for at least that portion).
Runway Object Free Area and Runway Safety Area (OFA, RSA)	10	8	80	8	80	8	80	All secondary alternatives propose meeting recommended Object Free Area requirements. All secondary alternatives require fencing relocation(s), wind cone, segmented circle, and weather station relocations. Terrain penetrations are slightly less for alternative #6B-2 increasing for #6B-1, and increasing slightly more for #6B-3; however, they have an opposite effect on the apron area.
Instrument Approach Procedures and Navigational Aids	10	10	100	8	80	8	80	All secondary alternatives require a new instrument approach procedure be developed for Runway 16 (due to runway extension). Secondary alternatives #6B-2 and 6B-3 will also require a new instrument approach procedure be developed for Runway 34 due to runway centerline shift exceeding 10-ft (12.5-ft shift). The FAA completes the procedure updates at no direct cost to the Owner; however, advance coordination is necessary to eliminate impact to users.
Aircraft Parking Separation	10	2	20	7	70	0	0	All secondary alternatives impact the existing apron areas due to the parking separation distance and runway OFA. Widening eastward (#6B-2) lessens the impact and will provide enough space on the central apron to park the group II fleet (wingspan up to 79').
Land Requirements	4	8	32	7	28	9	36	Secondary Alternative #6B-1 = ±10 acres of land acquisition. Secondary Alternative #6B-2 = ±11.1 acres of land acquisition. Secondary Alternative #6B-3 = ±8.9 acres of land acquisition.
Additional Environmental Considerations	10	0	0	0	0	0	0	No additional known environmental considerations as part of any of the Secondary Alternative analysis.
Cost Estimate	8	8	64	8	64	8	64	Secondary alternatives have nearly equal offsetting pros and cons. Widening eastward (#6B-2) requires slightly more land, but lessens the impact to the existing aprons (reducing the need for apron expansions). Widening westward (#6B-3) requires less land, but would necessitate additional apron expansions. Widening on centerline (#6B-1) would not require a new instrument approach procedure to be developed for Runway 34; however, it would impact both sides of the runway lighting system and both PAPI's and would likely be less "constructable" (thus increasing cost).
Total Scores (Weighted):		346		422		360		

APPENDIX M

Public Involvement – Alternatives Development and Evaluation

ENNIS BIG SKY AIRPORT IMPROVEMENTS
 MASTER PLAN UPDATE - FACILITY REQUIREMENTS / ALTERNATIVES
 April 10, 2017 @ 5:30 p.m.

SIGN-IN SHEET

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Robert Peccia & Associates

Civil Engineering, Planning, Surveying, Landscape Architecture

Helena, Bozeman, and Kalispell, Montana

Fort Collins, Colorado

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- **Multi-Disciplined Firm**
- **Located in Helena, Bozeman, Kalispell & Fort Collins, CO**
- **Work Throughout The United States**
- **Employee Owned Firm of 60 People**
- **In Business Since 1978**



Lance Bowser, P.E.
Project Manager

Over 18-years of Airport Engineering Experience

Specialties:

- Airport Design
- Airport Planning
- Project Management and
- Construction Administration



Rick Donaldson, P.E.
Airport Group Manager
Vice President

Over 25-years of Airport Engineering Experience

Specialties:

- Airport Design
- Airport Planning
- Project Management and
- Construction Administration

What We Do

- **Streets & Highways**
- **Traffic & Transportation**
- **Environmental Studies**
- **Site Development**
- **Water & Wastewater**
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- **Landscape Architecture**
- **Structures**
- **Airports**



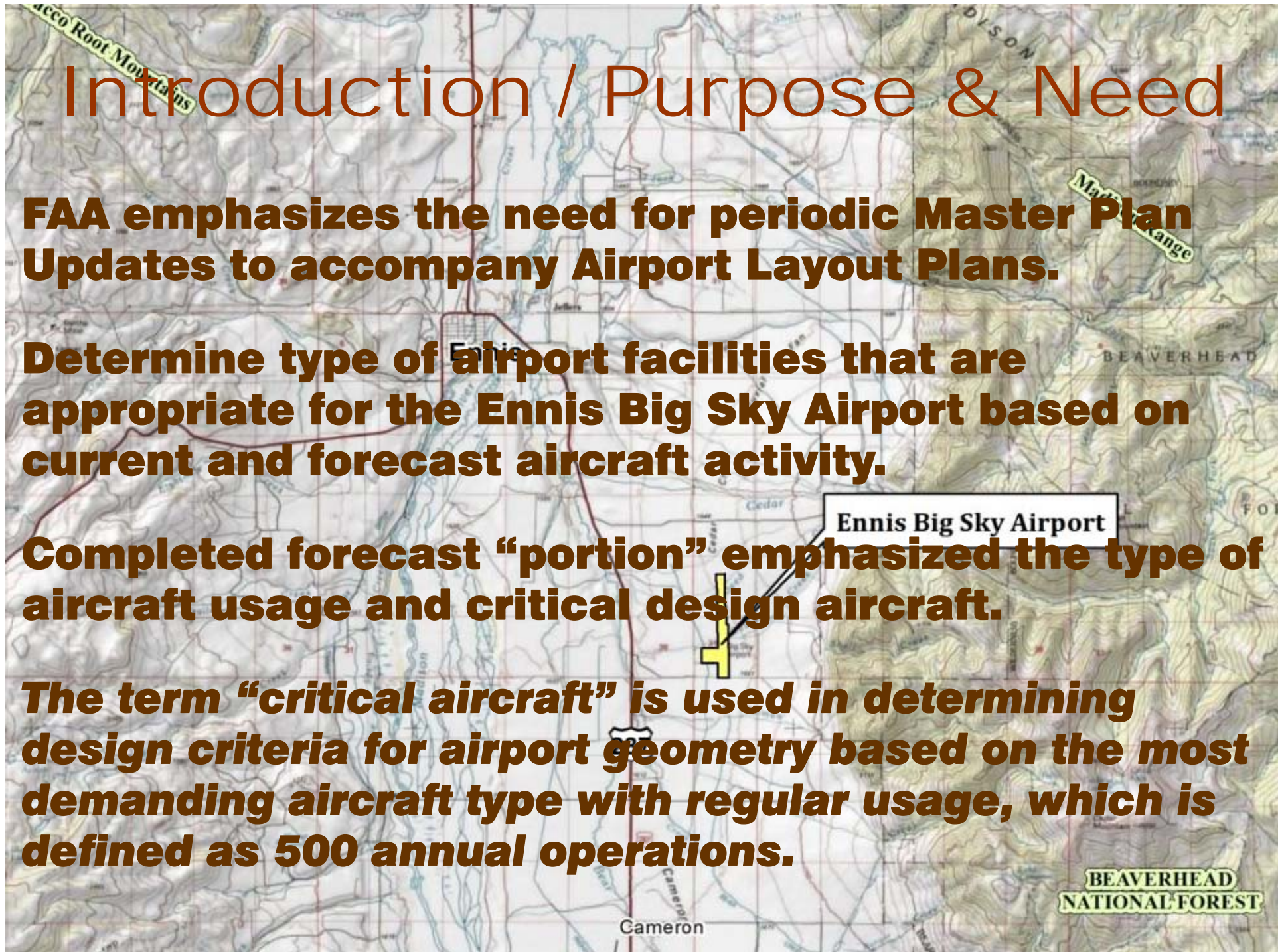
Introduction / Purpose & Need

FAA emphasizes the need for periodic Master Plan Updates to accompany Airport Layout Plans.

Determine type of airport facilities that are appropriate for the Ennis Big Sky Airport based on current and forecast aircraft activity.

Completed forecast “portion” emphasized the type of aircraft usage and critical design aircraft.

The term “critical aircraft” is used in determining design criteria for airport geometry based on the most demanding aircraft type with regular usage, which is defined as 500 annual operations.



Public Participation - Goals

Keep the public informed throughout the Master Planning Process.

<https://rpa-hln.sharefile.com/d-s63769b3d50340b98>

Provide opportunity for comments during the process, so they may be considered for future steps.



Master Plan Elements

Chapter 1. Introduction and Project Description

Chapter 2. Existing Facilities and Airport History

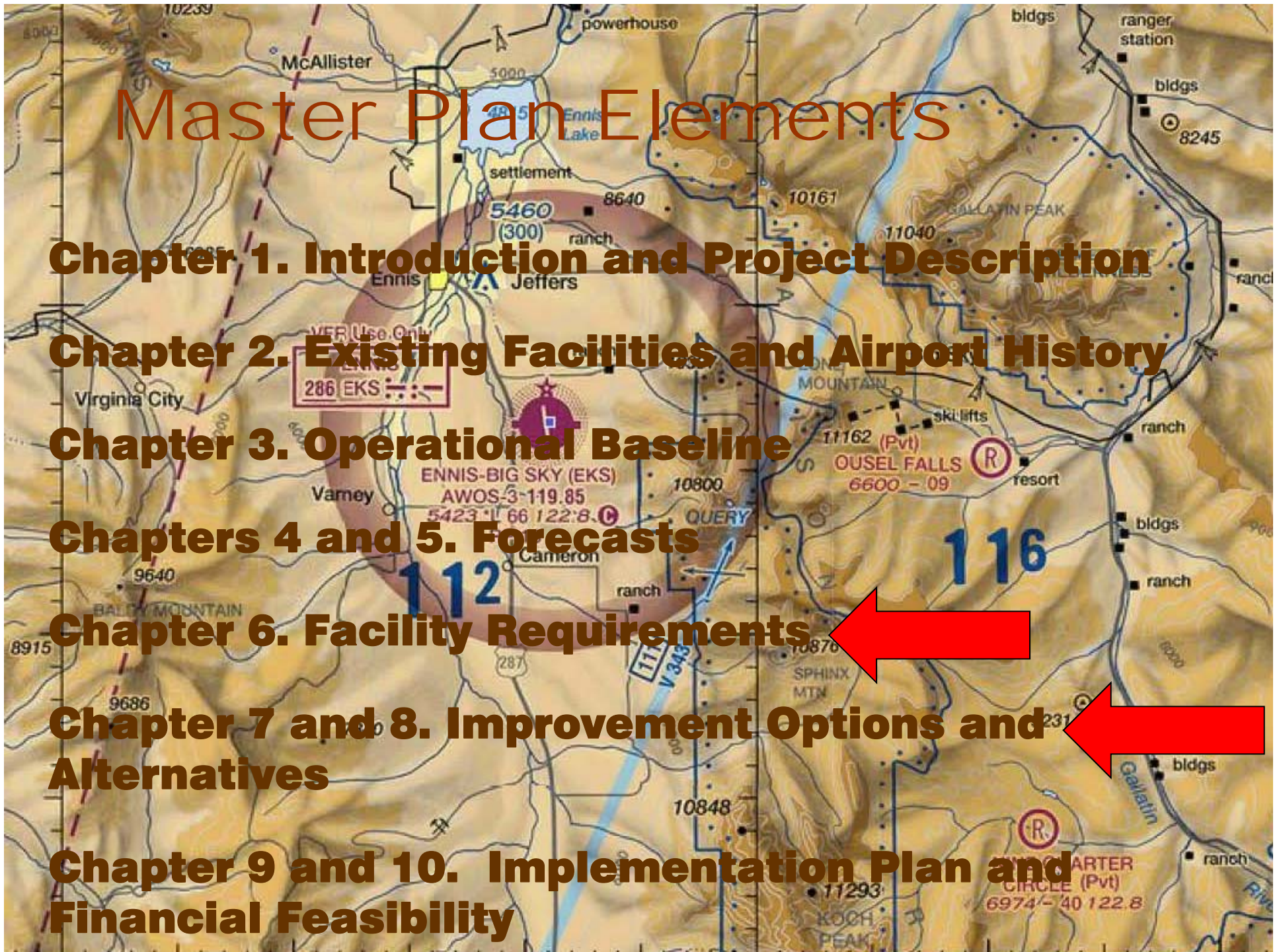
Chapter 3. Operational Baseline

Chapters 4 and 5. Forecasts

Chapter 6. Facility Requirements

Chapter 7 and 8. Improvement Options and Alternatives

Chapter 9 and 10. Implementation Plan and Financial Feasibility



Forecast Summary – Critical Aircraft

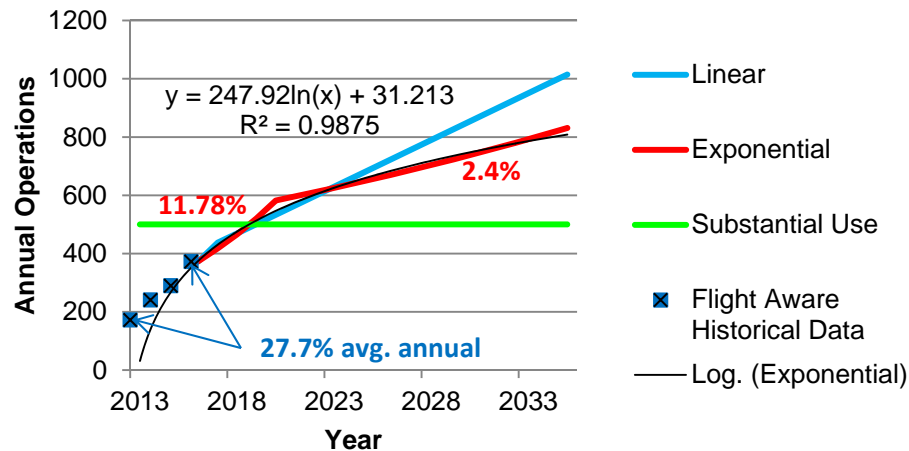
Year	Aircraft Approach Category C IFR Operations
06/21/2012 – 06/20/2013	172
06/21/2013 – 06/20/2014	241
06/21/2014 – 06/18/2015	290
06/19//2015 – 06/20/2016	373



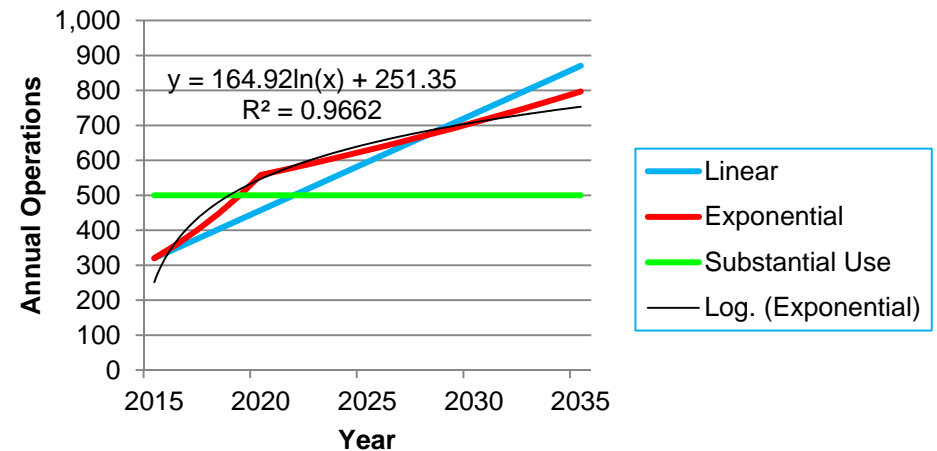
The Critical Design Aircraft for the short-term (5-years), medium-term (10-years), and long term (20-years) has been forecasted to be “C-II-2” with a Maximum Take-Off Weight (MTOW) of >12,500-lbs and <60,000-lbs.

Forecast Summary - Critical Aircraft

Aircraft Approach Category - "C"



MTOW - >12,500, <60,000-lbs



The Critical Design Aircraft for the short-term (5-years), medium-term (10-years), and long term (20-years) has been forecasted to be "C-II-2" with a Maximum Take-Off Weight (MTOW) of >12,500-lbs and <60,000-lbs.

Current Steps

Determine type of airport facilities that are appropriate for the Ennis Big Sky Airport based on current and forecasted aircraft activity, and the critical design aircraft.

Determine viable alternatives to meet those facility needs.



Facility Requirements - Summary

	<u>Existing</u>	<u>Future</u>	<u>Ultimate</u>
Width	75 ft.	100 ft.	100 ft.
Length	6,601 ft.	7,600 ft.	8,700 ft.*
Airspace	Graphic	Similar	Extended w/ Length
Pavement Strength	30,000 lbs.	92,750 lbs.	99,000 lbs.
Taxiways	35 ft. width	35 ft. width	35 ft. width
	Fillets to accommodate turning in intersections		
Apron Area	Partial Parallel	Full Parallel	Full Parallel
Hangar Taxilanes	143,215 sf.	As needed	250,920 sf.
	B-I (25 ft. only)	B-I (25 ft.) B/C-II (35 ft.)	B-I (25 ft.) B/C-II (35 ft.) C-III (50 ft.)
FBO's / Apron Frontage	None available	Accommodate as necessary / able	
"Terminal Area" (peak))	Allow adequate rental car space (existing 110 / mo. Pilot lounge, public bathroom may be justifiable		

*Ultimate recommended runway length, for this General Aviation airport is not justified at this time; however, protection for ultimate expansions will aid in helping assure the airport will be able to safely accommodate the aircraft utilizing the airport throughout the 20-year planning period. Additional planning and justification will be warranted prior to any construction.

Facility Requirements - Summary - Continued

	<u>Existing</u>	<u>Future</u>	<u>Ultimate</u>
NAVAIDs	MIRL, PAPI's AWOS III, W.C., Beacon	+MITL	
Utilities	Adequate	Water / Septic	
Fencing	4.5 ft. "farm"	9 ft. wildlife	9 ft. wildlife
Snow Removal Equip.	Pickup 9 ft. plow	Municipal 16 – 18 ft. plow Rotary plow and broom (tractor)	
Fire Suppression	None – on-site	No FAA requirements for non-Part 139 <u>No scheduled commercial service</u>	



Current Steps

Determine type of airport facilities that are appropriate for the Ennis Big Sky Airport based on current and forecasted aircraft activity, and the critical design aircraft (grouping).

Determine viable alternatives to meet those facility needs.



ALTERNATIVE DEVELOPMENT



Determine primary considerations – considerations that require large areas of land.

- **Runway and Parallel Taxiway pavements;**
- **Associated safety areas, object free areas, and imaginary airspace surfaces;**
- **Land Acquisitions;**
- **Environmental Considerations / Terrain; and**
- **Cost.**

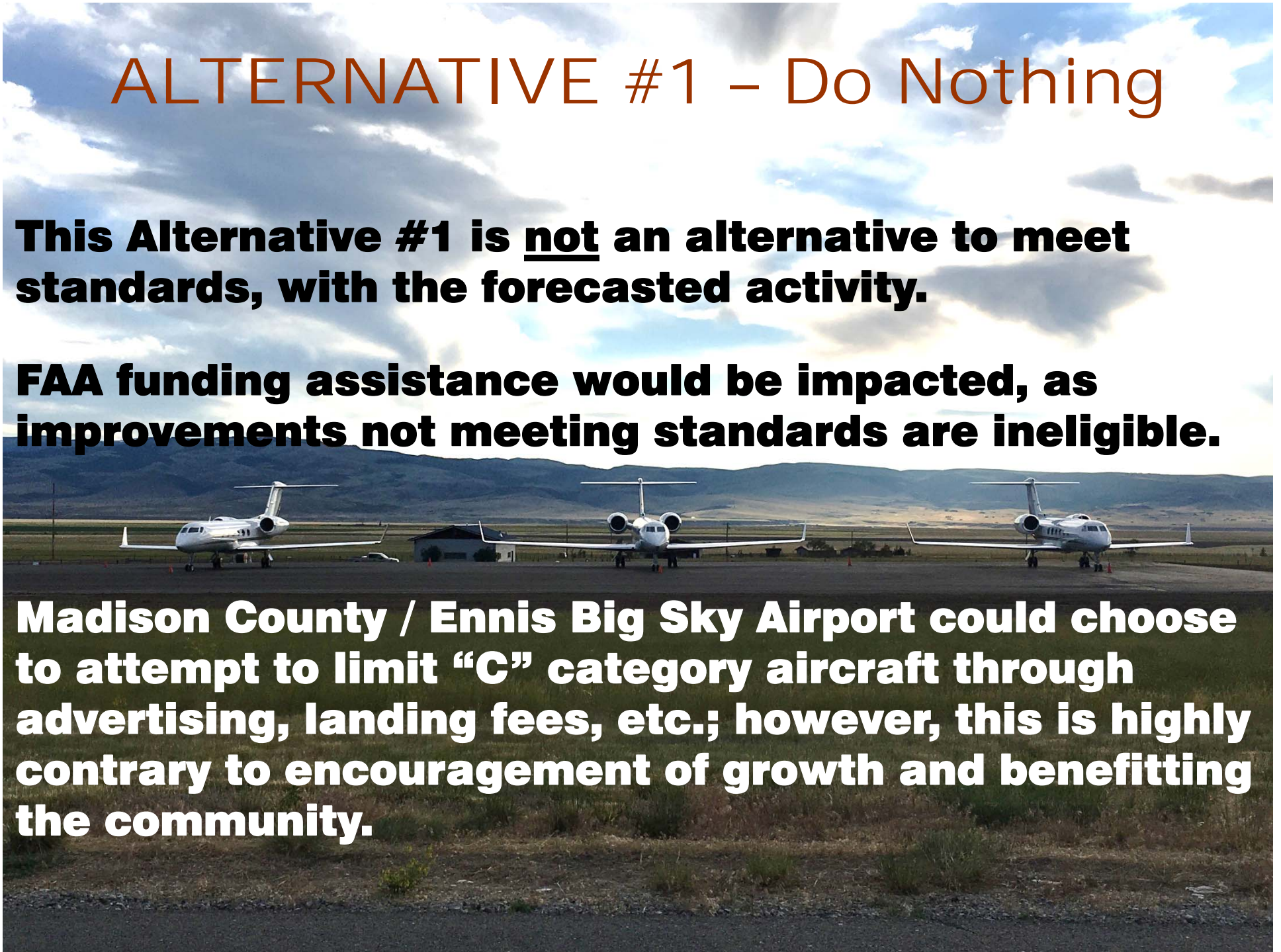
Determine alternatives to meet those primary needs, and evaluate each based on primary criteria items.

ALTERNATIVE #1 – Do Nothing

This Alternative #1 is not an alternative to meet standards, with the forecasted activity.

FAA funding assistance would be impacted, as improvements not meeting standards are ineligible.

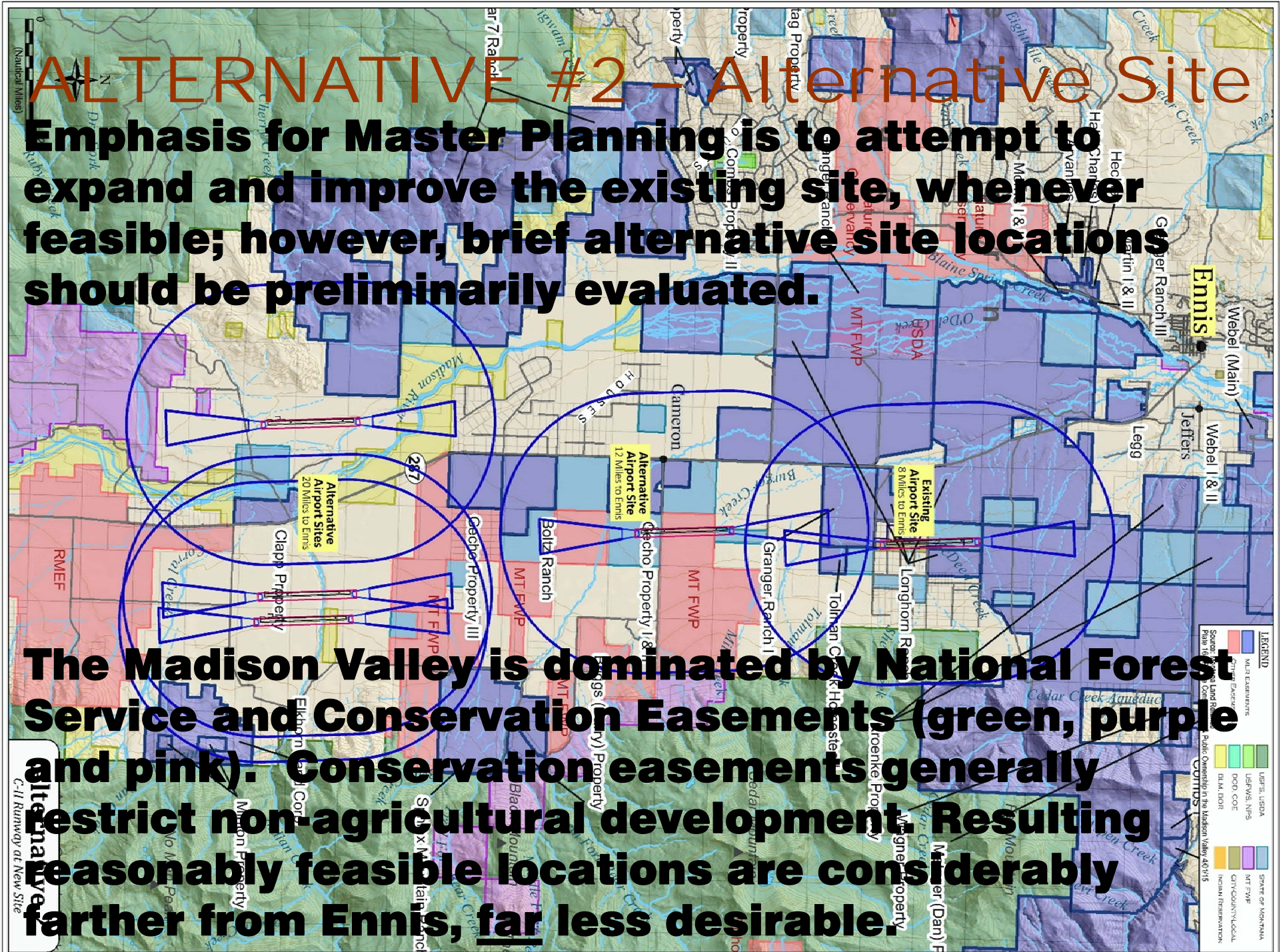
Madison County / Ennis Big Sky Airport could choose to attempt to limit “C” category aircraft through advertising, landing fees, etc.; however, this is highly contrary to encouragement of growth and benefitting the community.



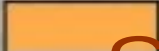
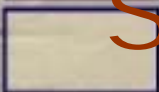



ALTERNATIVE #2 – Alternative Site

Emphasis for Master Planning is to attempt to expand and improve the existing site, whenever feasible; however, brief alternative site locations should be preliminarily evaluated.

The Madison Valley is dominated by National Forest Service and Conservation Easements (green, purple and pink). Conservation easements generally restrict non-agricultural development. Resulting reasonably feasible locations are considerably farther from Ennis, far less desirable.



ALTERNATIVE #3 - Existing Site w/ Shifted Threshold for RPZ

-  RUNWAY DEVELOPMENT
-  EXISTING AIRPORT PROPERTY
-  14 CFR PART 77 AIRSPACE
-  RUNWAY PROTECTION ZONE 500'x1010'x1700'
-  RUNWAY OBJECT FREE AREA 800'x9900'

RPZ's are defined land areas underneath aircraft approach paths, to enhance the protection of people and property on the ground.

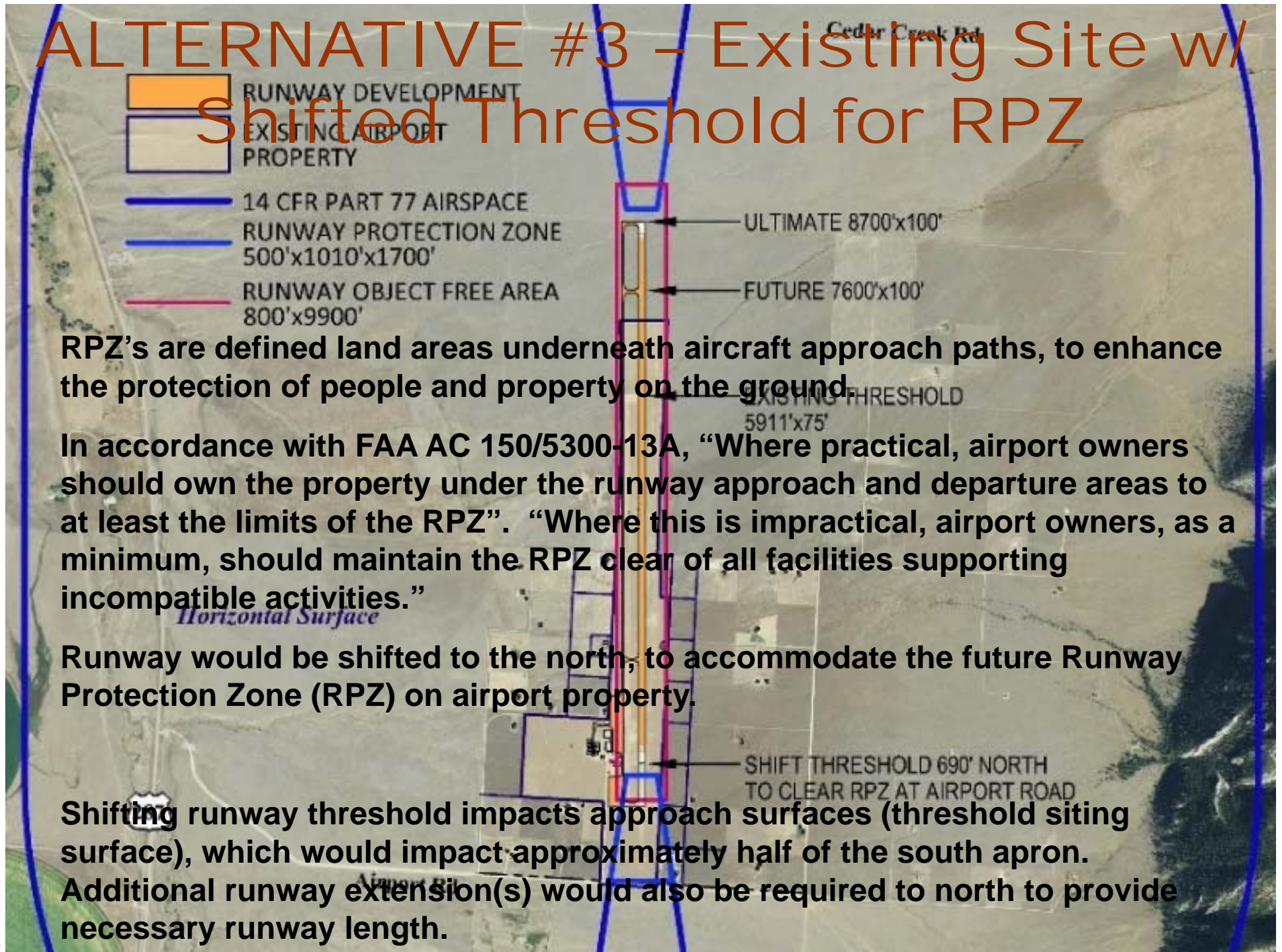
In accordance with FAA AC 150/5300-13A, "Where practical, airport owners should own the property under the runway approach and departure areas to at least the limits of the RPZ". "Where this is impractical, airport owners, as a minimum, should maintain the RPZ clear of all facilities supporting incompatible activities."

Horizontal Surface


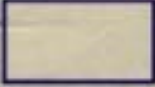



Runway would be shifted to the north, to accommodate the future Runway Protection Zone (RPZ) on airport property.

Shifting runway threshold impacts approach surfaces (threshold siting surface), which would impact approximately half of the south apron.

Additional runway extension(s) would also be required to north to provide necessary runway length.



ALTERNATIVE #4 - Existing Site w/ Extensions to North

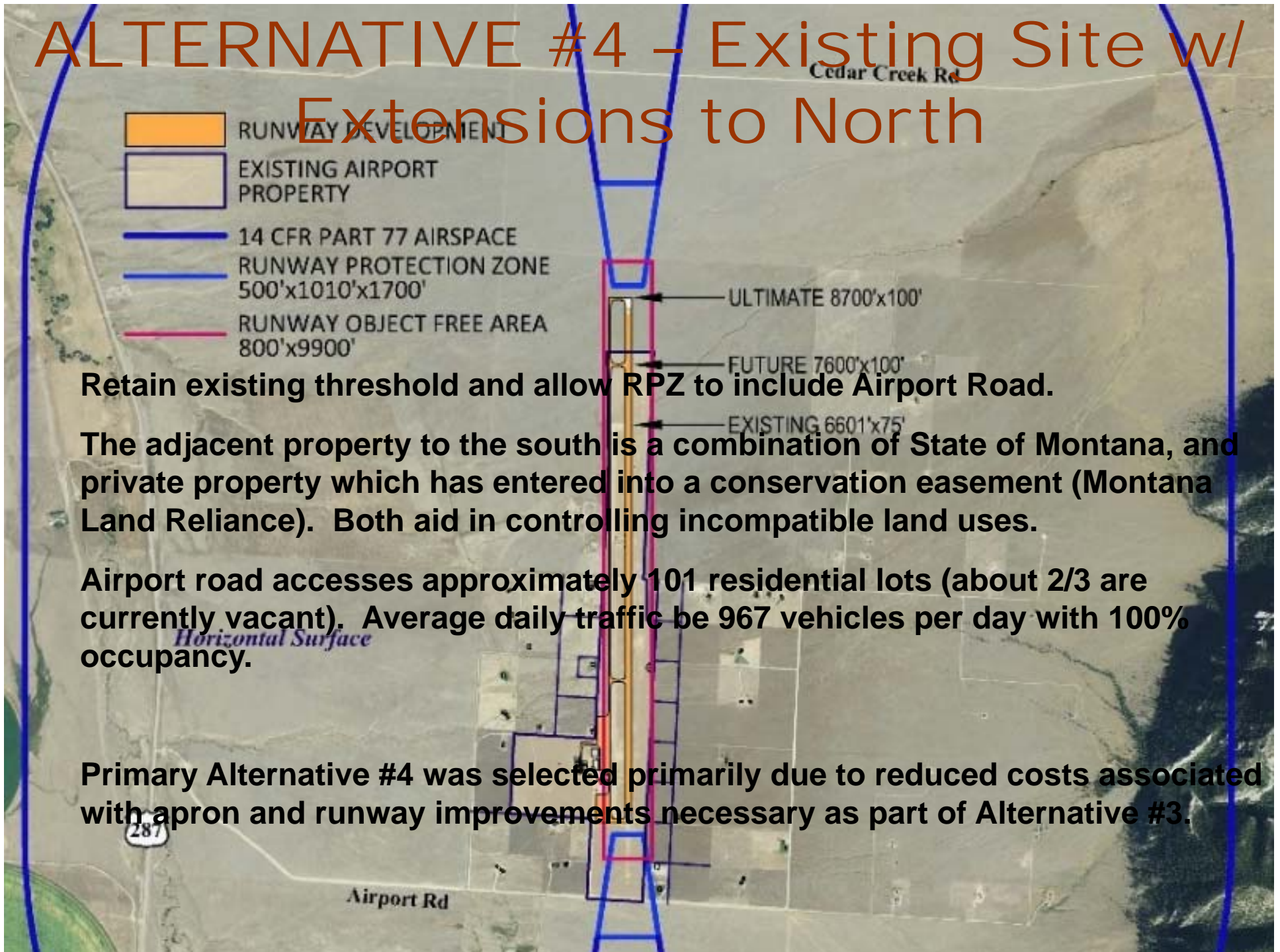
-  RUNWAY DEVELOPMENT
-  EXISTING AIRPORT PROPERTY
-  14 CFR PART 77 AIRSPACE
-  RUNWAY PROTECTION ZONE 500'x1010'x1700'
-  RUNWAY OBJECT FREE AREA 800'x9900'

Retain existing threshold and allow RPZ to include Airport Road.

The adjacent property to the south is a combination of State of Montana, and private property which has entered into a conservation easement (Montana Land Reliance). Both aid in controlling incompatible land uses.

Airport road accesses approximately 101 residential lots (about 2/3 are currently vacant). Average daily traffic be 967 vehicles per day with 100% occupancy.

Primary Alternative #4 was selected primarily due to reduced costs associated with apron and runway improvements necessary as part of Alternative #3.



SECONDARY CONSIDERATIONS

Determine secondary considerations pertinent to meeting the facility requirements.

- **Apron space / frontage;**
- **Taxilanes / Hangar space;**
- **Vehicular Parking / Access; and**
- **Any FAA Modifications of Airport Design Standards.**

Determine alternatives to meet those secondary needs, and evaluate each based on criteria items.



SECONDARY CONSIDERATIONS

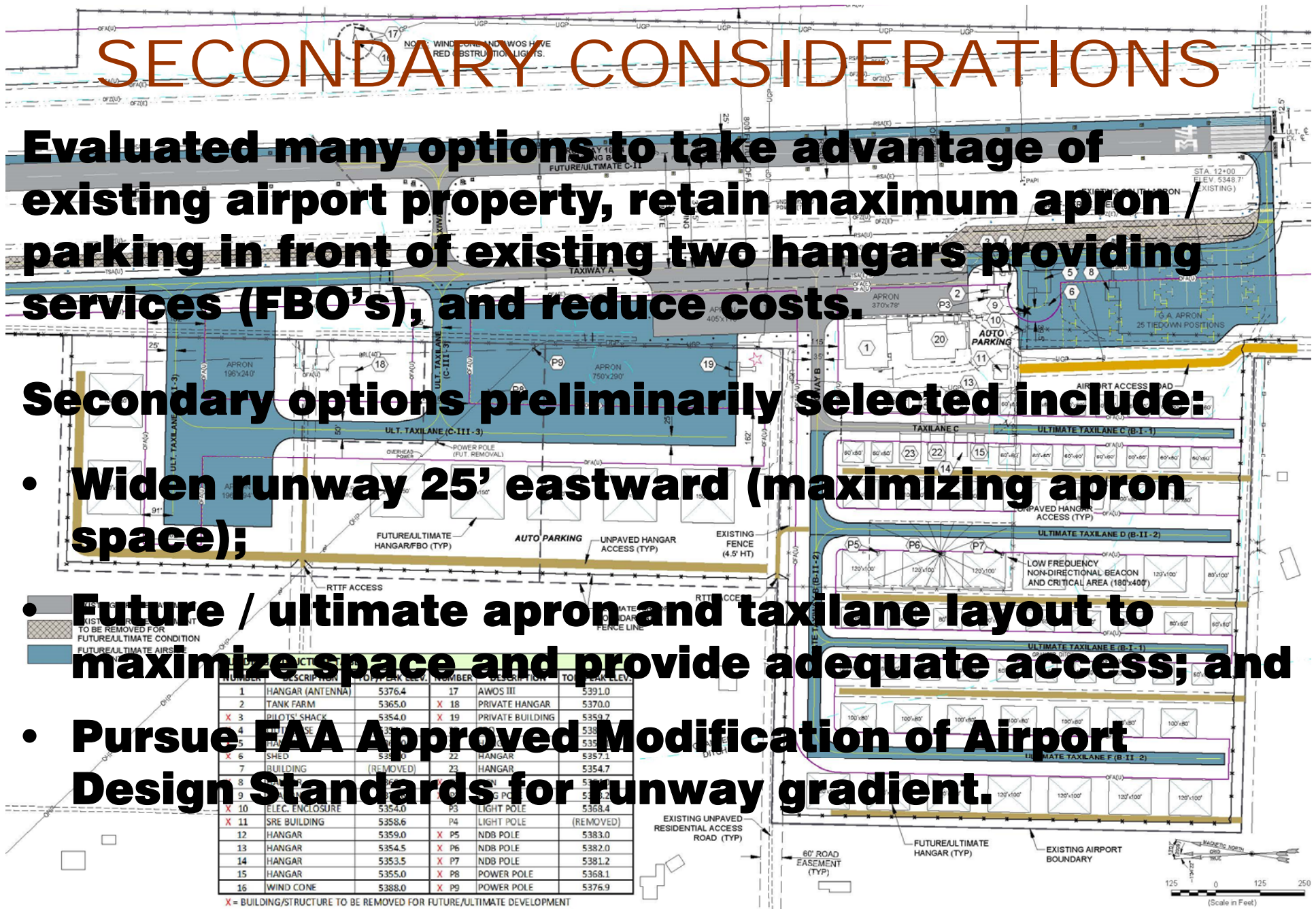
Evaluated many options to take advantage of existing airport property, retain maximum apron / parking in front of existing two hangars providing services (FBO's), and reduce costs.

Secondary options preliminarily selected include:

- **Widen runway 25' eastward (maximizing apron space);**
- **Future / ultimate apron and taxilane layout to maximize space and provide adequate access; and**
- **Pursue FAA Approved Modification of Airport Design Standards for runway gradient.**

NUMBER	DESCRIPTION	TOP OF GRAV. ELEV.	NUMBER	DESCRIPTION	TOP OF GRAV. ELEV.
1	HANGAR (ANTENNA)	5376.4	17	AWOS III	5391.0
2	TANK FARM	5365.0	X 18	PRIVATE HANGAR	5370.0
X 3	PILOTS' SHACK	5354.0	X 19	PRIVATE BUILDING	5359.7
4	HOUSE	5388.0			
5	HANGAR	5355.0			
X 6	SHED	5350.0	22	HANGAR	5357.1
7	BUILDING (REMOVED)		23	HANGAR	5354.7
8	SHED	5350.0			
9	SHED	5350.0			
X 10	ELEC. ENCLOSURE	5354.0	P3	LIGHT POLE	5368.4
X 11	SRE BUILDING	5358.6	P4	LIGHT POLE (REMOVED)	
12	HANGAR	5359.0	X P5	NDB POLE	5383.0
13	HANGAR	5354.5	X P6	NDB POLE	5382.0
14	HANGAR	5353.5	X P7	NDB POLE	5381.2
15	HANGAR	5355.0	X P8	POWER POLE	5368.1
16	WIND CONE	5388.0	X P9	POWER POLE	5376.9

X = BUILDING/STRUCTURE TO BE REMOVED FOR FUTURE/ULTIMATE DEVELOPMENT



WHERE DO WE GO FROM HERE?

Develop finalized Airport Layout Plan, including FAA Modifications of Airport Design Standards.

Develop an Implementation Plan / Capital Improvement Plan.

Track the trends and usage to determine if the usage is remaining consistent with forecasts, and meeting the needs of the airport and its users.



COMMENTS or QUESTIONS?





**Link to Facility Requirements and
Alternatives Report:**

<https://rpa-hln.sharefile.com/d-s63769b3d50340b98>

Robert Peccia & Associates

Civil Engineering, Planning, Surveying, Landscape Architecture
Helena, Bozeman and Kalispell, Montana
Fort Collins, Colorado

ENNIS BIG SKY AIRPORT IMPROVEMENTS
MASTER PLAN UPDATE – FACILITY REQUIREMENTS / ALTERNATIVES
April 10, 2017 @ 5:30 p.m. - *Minutes*

COMMENT FORM

Please Submit Your Comments:

Tom Miller – Comment: Tom would like to see an increase in aviation radio capabilities from Ennis Airport to Big Sky Approach. Currently, aircraft are unable to radio Big Sky Approach when on ground, and have to utilize cell phones for contact (which cell phone service at Ennis is spotty and not reliable). A repeater or Remote Communication Outlet should be added to the facility needs to increase safety.

Lance Bowser – Agreed. This is a fairly unique situation, but RPA has been looking into FAA justification and eligibility of a Remote Communication Outlet for the past two months. The FAA HLN-ADO has not been able to find prior examples of eligibility but are researching justification. Lance agreed that this should be added to the navigational aid portion of the Facility Requirements.

Jim Hart – Question: If FAA modifications to standards are not approved, impacting the runway extension(s) particularly on the north end, would you consider extension(s) to the south instead and reroute Airport Road?

Lance Bowser – Absolutely. The most viable alternative is expansion to the north if FAA modifications to standards are approved making the construction and associated costs feasible. Expansion to the north is most viable mostly due to land availability. The land to the north is State of Montana land, and could be constructed upon with a perpetual easement through the State. Extensions to the south would be more difficult due to relocating Airport Road and the land being privately owned and controlled through a conservation easement. Conservation easements would not permit construction of an airport on the property. In order to do so the conservation easement would need to be vacated through a court order, and possibly an offsetting land “donation”. However, if modifications to standards are not approved on the north end, other alternatives would need to be looked at in more detail to determine if there are any more viable alternatives.

Tom Miller – Question: Madison County has begun pursuing land acquisitions along the east side for additional runway protection. There has been one land owner (at least preliminarily), that has indicated that they may be unwilling to sell. Would this be a “deal breaker” with the recommended secondary alternative to expand / widen eastward?

Lance Bowser – Land acquisitions are currently being pursued along the eastern edge of the airport for additional runway protection (existing) and future anticipated Object Free Area (OFA) needs / requirements. There are 7 different landowners along that side, with

ENNIS BIG SKY AIRPORT IMPROVEMENTS
MASTER PLAN UPDATE – FACILITY REQUIREMENTS / ALTERNATIVES
April 10, 2017 @ 5:30 p.m. - *Minutes*

COMMENT FORM

coordination for acquisition efforts currently occurring on 5 of those. One of the five has preliminarily indicated he may not be interested in selling. If unable to acquire, an FAA Modification to Standards would need to be approved to allow the fence line to remain within future OFA limits. This would highly likely be approved, as the fence line does not pose a significant safety risk (as would for example a school, place of public assembly, propane tanks, etc. may pose a much larger safety risk). The existing Madison County Airport Affect Area ordinance limits what could be constructed on that portion of property (highly limiting due to rising terrain); therefore, the fence would likely be the only OFA penetration. A fence obstruction would not be a "deal breaker", but may require obstruction lighting, result in slight increases to instrument approach procedure minimums, etc.

Jim Hart – acquisition coordination efforts are still ongoing with that landowner. Jim stated that he recently received a phone call from the individual and was hopeful and agreement may still be reached.

APPENDIX N

Public Involvement – Airport Layout Plan (ALP)

APPENDIX O

Airport Layout Plan (ALP)

APPENDIX P

Capital Improvement Plan (CIP)

APPENDIX Q

Residential-Through-The-Fence Access Agreements



U.S. Department
of Transportation
**Federal Aviation
Administration**

Northwest Mountain Region
Colorado, Idaho, Montana
Oregon, Utah, Washington
Wyoming

1601 Lind Ave. SW
Renton, Washington 98057

April 16, 2015

Mr. James P. Hart, Chair
Madison County Board of Commissioners
PO Box 278
205 N Broadway St
Virginia City MT 59755

Dear Mr. Hart:

On August 27, 2014, the Helena Airports District Office (ADO) received Ennis/Big Sky Airport's initial residential through-the-fence (RTTF) Access Agreement. On April 16, 2015, our office received the enclosed revised RTTF Access Agreement from Justin Ekwall, Deputy County Attorney.

Based on our review of the revised RTTF Access Agreement, we believe it complies with the terms and conditions of the law. At this time, we believe the RTTF Agreement is consistent with your Federal obligations. This Access Agreement is accepted until:

1. Substantial changes are proposed to this access agreement; or
2. April 16, 2035

Upon the occurrence of either event noted above, whichever occurs first, you will need to seek acceptance of your permit application again.

If you have any questions or need additional information, please feel free to contact me.

Sincerely,

Joelle Briggs
Regional Compliance Program Manager

cc: Steve Engebrecht, HLN ADO
ACO-100

AGREEMENT FOR AIRPORT ACCESS

This Airport Agreement is made and entered into this _____ day of _____, 2015 by and between Madison County, Montana (hereinafter referred to as "Owner") and _____, an individual under the laws of the State of Montana (hereinafter referred to as "User") located at _____ . This Agreement incorporates and is based upon the following representations and understandings.

Whereas, Madison County is the owner and operator of Ennis Big Sky Airport (hereinafter referred to as the "Airport"), located in Madison County, state of Montana, with the power to grant rights and privileges with respect to the Airport, pursuant to the provisions of the State Code, among other federal, state and local laws, rules and regulations, and

Whereas, the User owns real property (referred to as _____), adjacent to the physical property of the Airport; and

Whereas, the User seeks the right to taxi aircraft from the above-described real property "through the fence" to the Airport property and to its runway and taxiway system; and

Whereas, the Parties desire to enter into the Agreement to comply with the FAA Modernization and Reform Act of 2012 (P.L. 112-95) section 136 that permits general aviation airport sponsors to enter into through-the-fence agreements with property owners or associations representing property owners provided these agreements comply with certain conditions set forth in this Agreement; and

Whereas, the User's property is subject to restrictive covenants which require compliance with the laws and regulations of the United States, and the Parties desire to clarify the User's obligations under such laws and regulations.

Now, therefore and in consideration of the mutual terms and conditions hereinafter set forth, the Owner and User hereby agree to the following:

ARTICLE I-PROPERTY WITH RIGHT OF ACCESS

Legal description of property with right to access;

LOT ##:

LEGAL DESCRIPTIONS:

Said property is hereinafter described as the "Lot."

ARTICLE II-DEFINITIONS

Terms not specifically defined in this Agreement should be interpreted according to their ordinary use as of the date this Agreement is signed. Where used in this Agreement, the terms below have the following definitions:

1. "Aeronautical Commercial" use includes any activity or service for compensation, exchange, trading, buying, selling, or hire or any other revenue producing activity whether or not a profit is derived, which makes possible, or is required for the operation of an aircraft, or contributes to or is required for, the safety of such operations, but does not include commercial activities which are not directly related to aviation.
2. "Airport Board" means the Madison County Airport Board.
3. "Airport Manager" means any person hired by the Owner to manage the Airport and granted authority to do so.
4. "Agreement" means this document.
5. "FAA" means the United States Federal Aviation Administration.
6. "Owner" means Madison County, but does not restrict the Airport Board or Airport Manager from enforcing this Agreement or otherwise acting on Madison County's behalf, provided that they act within the limits of authority lawfully delegated to them by Madison County.
7. "Private Use Infrastructure" includes any runways, taxiways, roads, fences, lights, signs, or gates, or similar infrastructure which is used for the User's through the fence access and which is either (a) on the User's property; or (b) on Airport property, but constructed or maintained by the User or at the User's request and used primarily by the User. "Private Use Infrastructure" does not include the exterior fence of the Airport or any infrastructure on the Airport which is regularly used by the Airport staff or other members of the public.
8. "Residential" use includes the construction, modification, or use of any building to serve as any individual or family's primary or part-time overnight residence, but does not include hotels or similar commercial activities.

ARTICLE III-TERM OF AGREEMENT

The term of this Access Agreement shall commence on _____ 2015, and shall continue for a period of 10 years, or until it is terminated under Article IX below.

ARTICLE IV-RIGHTS OF USER

Throughout the term of this Agreement, the Owner shall allow the User to taxi aircraft "through the fence" between the Lot and the Airport, provided that the User complies with all lawful regulations which apply to users of the Airport.

ARTICLE V-PROHIBITIONS

1. No Mixed Residential and Aeronautical Commercial Use: User shall not permit, encourage, or assist both Residential and Aeronautical Commercial use to occur in the same facility. The User shall comply with any zoning laws, regulations, or restrictive covenants which apply to the Lot.
2. Sale of Aviation Fuels Prohibited: User shall not permit any person or entity to sell aviation fuels on the Lot. This prohibition does not restrict the User from refueling their own aircraft on the Lot.
3. Prohibitions and Restriction on Access: The User is specifically prohibited from granting or selling any access/egress to the Airport through the Lot to any other parties, except for temporary visitors. The User shall take reasonable precautions acceptable to the Owner to prevent the accidental access to the Airport through the Lot by vehicles, pedestrians, wildlife, or domestic animals.

4. Exceptions: The User may violate the above provisions of this Article only if the User first obtains written permission from both the FAA and the Owner. If the FAA has approved an exception, then the Owner shall not unreasonably withhold permission. Permission to violate any of the above may be limited or contingent, and permission to violate any of the above in one or more instances does not guarantee that similar permission will be granted in the future.

ARTICLE VI-ACCESS FEE TO OWNER

User is aware that the Owner may charge the following fees, and agrees to pay any of the following fees in the event the Owner charges them:

1. Owner's Basis for Access Fee: The fee is based on the rates and charges of other on airport tenants and operators making similar use of the Airport. There are currently no lease or long-term tie-down fees charged by the Airport. Therefore, there is presently no access fee charged. This Agreement does not prevent the Owner from charging such fees in the future.
2. User Access Fee: The Owner does not currently charge a user access fee. This Agreement does not, however, prevent the Owner from charging a user access fee during the term.
3. Payment: All payments required to be made by User under this Agreement shall be made payable to the Owner annually on or before March 1st of each year and shall be delivered or mailed to the address below:

Madison County Airport Board, PO Box 62, Virginia City, MT 59755
4. Penalty for Late Payment: Owner will assess a late penalty equal to 10% of the amount past due, per annum, and not compounded.
5. Notice of Fees: The Owner shall provide notice to the User of any change to any of the above fees no less than 90 days prior to the date that the changes take effect.
6. Fees to be Uniform: The Owner shall not charge the User any of the above fees unless said fees are generally applied to all similarly situated private users and comparable to those charged to on-airport tenants and operators making similar use of the Airport.

ARTICLE VII-CONSTRUCTION AND MAINTENANCE OF PRIVATE USE INFRASTRUCTURE

It is understood and agreed that the User shall construct all private-use infrastructure, required and acceptable to the Owner, at User's sole cost and expense. Accordingly, User covenants and agrees as follows:

1. Construction and Maintenance: The User may construct Private Use Infrastructure on the User's property as may be required. All construction of Private Use Infrastructure on the Owner's property must be approved by the Owner prior to commencement of construction. During the term of the Agreement, the User shall

also be solely responsible for all maintenance of Private Use Infrastructure. The User shall maintain any Private Use Infrastructure in good repair at all times. The User may contract with third parties to perform construction and maintenance of Private Use Infrastructure and, for the purposes of this Agreement, assumes responsibility for the actions of any such third parties.

All "through the fence" access shall be along plotted easements, as depicted on the Airport Layout Plan (ALP) on file with Madison County and the FAA.

2. Construction cost: Notwithstanding anything herein contained to the contrary, the User expressly agrees to pay any and all costs associated with Private Use Infrastructure reasonably required by the Owner. These costs are in addition to any access fees charged as described under Article V above.

ARTICLE VIII-AGREEMENT SUBORDINATE TO GRANT ASSURANCE, AGREEMENTS WITH THE UNITED STATES, AND FEDERAL OBLIGATIONS.

This Agreement shall be nonexclusive and shall at all times be subordinate to the provisions of any existing or future agreement between the Owner and the United States Government, or to any order issued by the United States Government, or to any grant assurances of the Airport, or to any of the Airport's or the Owner's Federal obligations.

The User agrees to abide by all lawful Airport Rules and Regulations in effect as of the date of this Agreement and as may be amended from time to time.

The Lot may currently be subject to, or may become subject to during the term, restrictive covenants, zoning laws, easements, and/or agreements with other landowners. In the event of a conflict between this Agreement and any of the above, the more restrictive provision controls.

ARTICLE IX-TERMINATION OF AGREEMENT

1. Automatic Termination: This Agreement terminates automatically and immediately in the event of any change in ownership of the Lot.
2. Termination by Owner: The Owner, at its sole discretion, may terminate this Agreement under any or all of the following circumstances:
 - a. If the fees outlined in Article VI, or any part thereof, are unpaid for 90 days, or
 - b. If the User files a voluntary petition in bankruptcy, or make a general assignment for the benefit of creditors, or if the User is adjudicated as bankrupt, or User otherwise assigns, or attempts to assign its interest herein without the required prior written consent of Owner, or
 - c. If the User uses or permits the use of the Lot at any time for any purpose which is not authorized by the Agreement, or if the User uses or permit the use of the Lot thereof in violation of any law, rule or regulation, (including the airport rules and regulations), to which the User has agreed to conform, or
 - d. If the User transfers ownership of the Lot to any other person or entity, or
 - e. If the User fails to meet any term or condition of this Agreement.

3. Notice of Default: If the User defaults in the performance of any other term of this Agreement, then the Owner shall send to the User a written notice of default, specifying the nature of the default, and User shall, within 90 days after the date of the notice, cure and remedy the default, and this Agreement shall then continue as before.

If the User shall fail to timely cure and remedy such default, then the Owner may declare, by written notice to the User, that the User is in default, and to use all remedies available to the Owner under this Agreement. However, if by its nature, such default cannot be cured within such 90 days period, such termination shall not be effective if the defaulting party commences to correct such default within said 90 days and corrects the same as promptly as reasonably practicable.

4. Termination by User: The User, at its sole discretion, may terminate this Agreement under any or all of the following circumstances:
 - a. The Owner increases the fees applicable to the User in Article VI above by more than 50% of previously existing fees within any one calendar year; or
 - b. The User is deprived of access to the Airport through the Owner's reckless or intentional action for any period of greater than 30 consecutive days; or
 - c. The Airport is closed to the public for any reason for any period of greater than 30 consecutive days.
5. Notice of Termination by User: If the User intends to terminate this Agreement under § 3 above, then the User shall provide written notice to the Owner. Such notice is effective immediately unless it explicitly states otherwise.
6. Treatment of Fees: In the event of termination by either party, the Parties agree to pro-rate any fees due under Article VI of this Agreement based on the number of days that the Agreement remained in effect.
7. Effect of Termination: In the event of termination by either party, the Owner shall have no further obligation to provide the User with "through the fence" access to the Airport.

ARTICLE X-NOTICES

1. Notice/Addresses: All notices, request, or other communications, required or permitted to be given hereunder shall be in writing and delivered via certified or registered mail, addressed to the appropriate party at its address as follows:

Madison County Airport Board, PO Box 62, Virginia City, MT 59755

USER NAME

ADDRESS

TOWN, ST ZIP

The Parties shall promptly provide notice to each other of any change of address.

ARTICLE XI – GENERAL PROVISIONS

1. Sublease and Assignment: If the User subleases, assigns, sells, rents, or transfers the Lot, then the User shall provide written notice to the Owner. The rights and obligations under this Agreement are not assignable except where specifically provided.

2. Article and Section Headings: Article and Section Headings in this Agreement are intended for reference and convenience only and are not intended to define or limit the scope of any provision of this Agreement.

3. Jurisdiction, Venue, and Choice of Laws: The Parties agree that jurisdiction and venue for any dispute regarding this Agreement shall be in the Montana Fifth Judicial District Court, Madison County, Montana, or in the Justice Court of Madison County, Montana. The Parties shall not file any legal claims involving this Agreement in any other Court, unless the Courts above have previously determined that they lack jurisdiction over the dispute, or no reasonable good-faith argument can be made for jurisdiction in the above Courts. The laws of the State of Montana shall govern this Agreement.

4. Savings Clause: Should any provision of this Agreement be held by a court of competent jurisdiction to be invalid, void or unreasonable, the remaining provisions continue in full force and effect, unless the substantive effect of the court’s ruling is to:
 - a. Remove the User’s right to access the Airport through the fence; or
 - b. Require the Owner to perform or pay for construction or maintenance assigned to the User by Article VI of this Agreement; or
 - c. Require the Owner to violate any agreement with the FAA or U.S. Federal Government;in which case, this Agreement terminates.

5. Modification: This Agreement may be modified at any time by the explicit written consent of both Parties and may not be modified orally or implicitly.

COMMISSIONER

signature _____

Date _____

User Name

signature _____

Date _____

Second User Name

signature _____

Date _____

AGREEMENT FOR AIRPORT ACCESS

This Airport Agreement is made and entered into this 10th day of March, 2015 by and between Madison County, Montana (hereinafter referred to as "Owner") and Tom Miller, an individual under the laws of the State of Montana (hereinafter referred to as "User") located at addressed lot 27A. This Agreement incorporates and is based upon the following representations and understandings.

Whereas, Madison County is the owner and operator of Ennis Big Sky Airport (hereinafter referred to as the "Airport"), located in Madison County, state of Montana, with the power to grant rights and privileges with respect to the Airport, pursuant to the provisions of the State Code, among other federal, state and local laws, rules and regulations, and

Whereas, the User owns real property (referred to as lot 27A), adjacent to the physical property of the Airport; and

Whereas, the User seeks the right to taxi aircraft from the above-described real property "through the fence" to the Airport property and to its runway and taxiway system; and

Whereas, the Parties desire to enter into the Agreement to comply with the FAA Modernization and Reform Act of 2012 (P.L. 112-95) section 136 that permits general aviation airport sponsors to enter into through-the-fence agreements with property owners or associations representing property owners provided these agreements comply with certain conditions set forth in this Agreement; and

Whereas, the User's property is subject to restrictive covenants which require compliance with the laws and regulations of the United States, and the Parties desire to clarify the User's obligations under such laws and regulations.

Now, therefore and in consideration of the mutual terms and conditions hereinafter set forth, the Owner and User hereby agree to the following:

ARTICLE I-PROPERTY WITH RIGHT OF ACCESS

Legal description of property with right to access;

LOT ##: 27A

LEGAL DESCRIPTIONS:

Said property is hereinafter described as the "Lot."

ARTICLE II-DEFINITIONS

Terms not specifically defined in this Agreement should be interpreted according to their ordinary use as of the date this Agreement is signed. Where used in this Agreement, the terms below have the following definitions:

1. "Aeronautical Commercial" use includes any activity or service for compensation, exchange, trading, buying, selling, or hire or any other revenue producing activity whether or not a profit is derived, which makes possible, or is required for the operation of an aircraft, or contributes to or is required for, the safety of such operations, but does not include commercial activities which are not directly related to aviation.
2. "Airport Board" means the Madison County Airport Board.
3. "Airport Manager" means any person hired by the Owner to manage the Airport and granted authority to do so.
4. "Agreement" means this document.
5. "FAA" means the United States Federal Aviation Administration.
6. "Owner" means Madison County, but does not restrict the Airport Board or Airport Manager from enforcing this Agreement or otherwise acting on Madison County's behalf, provided that they act within the limits of authority lawfully delegated to them by Madison County.
7. "Private Use Infrastructure" includes any runways, taxiways, roads, fences, lights, signs, or gates, or similar infrastructure which is used for the User's through the fence access and which is either (a) on the User's property; or (b) on Airport property, but constructed or maintained by the User or at the User's request and used primarily by the User. "Private Use Infrastructure" does not include the exterior fence of the Airport or any infrastructure on the Airport which is regularly used by the Airport staff or other members of the public.
8. "Residential" use includes the construction, modification, or use of any building to serve as any individual or family's primary or part-time overnight residence, but does not include hotels or similar commercial activities.

ARTICLE III-TERM OF AGREEMENT

The term of this Access Agreement shall commence on 1-1 2015, and shall continue for a period of 10 years, or until it is terminated under Article IX below.

ARTICLE IV-RIGHTS OF USER

Throughout the term of this Agreement, the Owner shall allow the User to taxi aircraft "through the fence" between the Lot and the Airport, provided that the User complies with all lawful regulations which apply to users of the Airport.

ARTICLE V-PROHIBITIONS

1. No Mixed Residential and Aeronautical Commercial Use: User shall not permit, encourage, or assist both Residential and Aeronautical Commercial use to occur in the same facility. The User shall comply with any zoning laws, regulations, or restrictive covenants which apply to the Lot.
2. Sale of Aviation Fuels Prohibited: User shall not permit any person or entity to sell aviation fuels on the Lot. This prohibition does not restrict the User from refueling their own aircraft on the Lot.
3. Prohibitions and Restriction on Access: The User is specifically prohibited from granting or selling any access/egress to the Airport through the Lot to any other parties, except for temporary visitors. The User shall take reasonable precautions acceptable to the Owner to prevent the accidental access to the Airport through the Lot by vehicles, pedestrians, wildlife, or domestic animals.

4. Exceptions: The User may violate the above provisions of this Article only if the User first obtains written permission from both the FAA and the Owner. If the FAA has approved an exception, then the Owner shall not unreasonably withhold permission. Permission to violate any of the above may be limited or contingent, and permission to violate any of the above in one or more instances does not guarantee that similar permission will be granted in the future.

ARTICLE VI-ACCESS FEE TO OWNER

User is aware that the Owner may charge the following fees, and agrees to pay any of the following fees in the event the Owner charges them:

1. Owner's Basis for Access Fee: The fee is based on the rates and charges of other on airport tenants and operators making similar use of the Airport. There are currently no lease or long-term tie-down fees charged by the Airport. Therefore, there is presently no access fee charged. This Agreement does not prevent the Owner from charging such fees in the future.
2. User Access Fee: The Owner does not currently charge a user access fee. This Agreement does not, however, prevent the Owner from charging a user access fee during the term.
3. Payment: All payments are required to be made by User under this Agreement shall be made payable to the Owner annually on or before March 1st of each year and shall be delivered or mailed to the address below:

Madison County Airport Board, PO Box 62, Virginia City, MT 59755
4. Penalty for Late Payment: Owner will assess a late penalty equal to 10% of the amount past due, per annum, and not compounded.
5. Notice of Fees: The Owner shall provide notice to the User of any change to any of the above fees no less than 90 days prior to the date that the changes take effect.
6. Fees to be Uniform: The Owner shall not charge the User any of the above fees unless said fees are generally applied to all similarly situated private users and comparable to those charged to on-airport tenants and operators making similar use of the Airport.

ARTICLE VII-CONSTRUCTION AND MAINTENANCE OF PRIVATE USE INFRASTRUCTURE

It is understood and agreed that the User shall construct all private-use infrastructure, required and acceptable to the Owner, at User's sole cost and expense. Accordingly, User covenants and agrees as follows:

1. Construction and Maintenance: The User may construct Private Use Infrastructure on the User's property as may be required. All construction of Private Use Infrastructure on the Owner's property must be approved by the Owner prior to commencement of construction. During the term of the Agreement, the User shall

also be solely responsible for all maintenance of Private Use Infrastructure. The User shall maintain any Private Use Infrastructure in good repair at all times. The User may contract with third parties to perform construction and maintenance of Private Use Infrastructure and, for the purposes of this Agreement, assumes responsibility for the actions of any such third parties.

All "through the fence" access shall be along plotted easements, as depicted on the Airport Layout Plan (ALP) on file with Madison County and the FAA.

2. Construction cost: Notwithstanding anything herein contained to the contrary, the User expressly agrees to pay any and all costs associated with Private Use Infrastructure reasonably required by the Owner. These costs are in addition to any access fees charged as described under Article V above.

ARTICLE VIII-AGREEMENT SUBORDINATE TO GRANT ASSURANCE, AGREEMENTS WITH THE UNITED STATES, AND FEDERAL OBLIGATIONS.

This Agreement shall be nonexclusive and shall at all times be subordinate to the provisions of any existing or future agreement between the Owner and the United States Government, or to any order issued by the United States Government, or to any grant assurances of the Airport, or to any of the Airport's or the Owner's Federal obligations.

The User agrees to abide by all lawful Airport Rules and Regulations in effect as of the date of this Agreement and as may be amended from time to time.

The Lot may currently be subject to, or may become subject to during the term, restrictive covenants, zoning laws, easements, and/or agreements with other landowners. In the event of a conflict between this Agreement and any of the above, the more restrictive provision controls.

ARTICLE IX-TERMINATION OF AGREEMENT

1. Automatic Termination: This Agreement terminates automatically and immediately in the event of any change in ownership of the Lot.
2. Termination by Owner: The Owner, at its sole discretion, may terminate this Agreement under any or all of the following circumstances:
 - a. If the fees outlined in Article VI, or any part thereof, are unpaid for 90 days, or
 - b. If the User files a voluntary petition in bankruptcy, or make a general assignment for the benefit of creditors, or if the User is adjudicated as bankrupt, or User otherwise assigns, or attempts to assign its interest herein without the required prior written consent of Owner, or
 - c. If the User uses or permits the use of the Lot at any time for any purpose which is not authorized by the Agreement, or if the User uses or permit the use of the Lot thereof in violation of any law, rule or regulation, (including the airport rules and regulations), to which the User has agreed to conform, or
 - d. If the User transfers ownership of the Lot to any other person or entity, or
 - e. If the User fails to meet any term or condition of this Agreement.



3. Notice of Default: If the User defaults in the performance of any other term of this Agreement, then the Owner shall send to the User a written notice of default, specifying the nature of the default, and User shall, within 90 days after the date of the notice, cure and remedy the default, and this Agreement shall then continue as before.

If the User shall fail to timely cure and remedy such default, then the Owner may declare, by written notice to the User, that the User is in default, and to use all remedies available to the Owner under this Agreement. However, if by its nature, such default cannot be cured within such 90 days period, such termination shall not be effective if the defaulting party commences to correct such default within said 90 days and corrects the same as promptly as reasonably practicable.

4. Termination by User: The User, at its sole discretion, may terminate this Agreement under any or all of the following circumstances:
 - a. The Owner increases the fees applicable to the User in Article VI above by more than 50% of previously existing fees within any one calendar year; or
 - b. The User is deprived of access to the Airport through the Owner's reckless or intentional action for any period of greater than 30 consecutive days; or
 - c. The Airport is closed to the public for any reason for any period of greater than 30 consecutive days.
5. Notice of Termination by User: If the User intends to terminate this Agreement under § 3 above, then the User shall provide written notice to the Owner. Such notice is effective immediately unless it explicitly states otherwise.
6. Treatment of Fees: In the event of termination by either party, the Parties agree to pro-rate any fees due under Article VI of this Agreement based on the number of days that the Agreement remained in effect.
7. Effect of Termination: In the event of termination by either party, the Owner shall have no further obligation to provide the User with "through the fence" access to the Airport.

ARTICLE X-NOTICES

1. Notice/Addresses: All notices, request, or other communications, required or permitted to be given hereunder shall be in writing and delivered via certified or registered mail, addressed to the appropriate party at its address as follows:

Madison County Airport Board, PO Box 62, Virginia City, MT 59755

USER NAME
ADDRESS
TOWN, ST ZIP

Tom Miller
P.O. Box 687
Ennis, mt 59729

The Parties shall promptly provide notice to each other of any change of address.

5

ARTICLE XI – GENERAL PROVISIONS

1. Sublease and Assignment: If the User subleases, assigns, sells, rents, or transfers the Lot or any of its rights or obligations under this Agreement, then the User shall provide written notice to the Owner.
2. Article and Section Headings: Article and Section Headings in this Agreement are intended for reference and convenience only and are not intended to define or limit the scope of any provision of this Agreement.
3. Jurisdiction, Venue, and Choice of Laws: The Parties agree that jurisdiction and venue for any dispute regarding this Agreement shall be in the Montana Fifth Judicial District Court, Madison County, Montana, or in the Justice Court of Madison County, Montana. The Parties shall not file any legal claims involving this Agreement in any other Court, unless the Courts above have previously determined that they lack jurisdiction over the dispute, or no reasonable good-faith argument can be made for jurisdiction in the above Courts. The laws of the State of Montana shall govern this Agreement.
4. Savings Clause: Should any provision of this Agreement be held by a court of competent jurisdiction to be invalid, void or unreasonable, the remaining provisions continue in full force and effect, unless the substantive effect of the court’s ruling is to:
 - a. Remove the User’s right to access the Airport through the fence; or
 - b. Require the Owner to perform or pay for construction or maintenance assigned to the User by Article VI of this Agreement; or
 - c. Require the Owner to violate any agreement with the FAA or U.S. Federal Government;in which case, this Agreement terminates.
5. Modification: This Agreement may be modified at any time by the explicit written consent of both Parties and may not be modified orally or implicitly.

COMMISSIONER

signature Madison County by
David Miller

Date 04-04-16

User Name
Date 3-10-2016

signature Thomas Miller

Second User Name
Date _____

signature _____

6

AGREEMENT FOR AIRPORT ACCESS

This Airport Agreement is made and entered into this 01 day of June, 2016 by and between Madison County, Montana (hereinafter referred to as "Owner") and Tommy CRUSE, an individual under the laws of the State of Montana (hereinafter referred to as "User") located at LOT 22-A2. This Agreement incorporates and is based upon the following representations and understandings.

Whereas, Madison County is the owner and operator of Ennis Big Sky Airport (hereinafter referred to as the "Airport"), located in Madison County, state of Montana, with the power to grant rights and privileges with respect to the Airport, pursuant to the provisions of the State Code, among other federal, state and local laws, rules and regulations, and

Whereas, the User owns real property (referred to as Lot 22-A2), adjacent to the physical property of the Airport; and

Whereas, the User seeks the right to taxi aircraft from the above-described real property "through the fence" to the Airport property and to its runway and taxiway system; and

Whereas, the Parties desire to enter into the Agreement to comply with the FAA Modernization and Reform Act of 2012 (P.L. 112-95) section 136 that permits general aviation airport sponsors to enter into through-the-fence agreements with property owners or associations representing property owners provided these agreements comply with certain conditions set forth in this Agreement; and

Whereas, the User's property is subject to restrictive covenants which require compliance with the laws and regulations of the United States, and the Parties desire to clarify the User's obligations under such laws and regulations.

Now, therefore and in consideration of the mutual terms and conditions hereinafter set forth, the Owner and User hereby agree to the following:

ARTICLE I-PROPERTY WITH RIGHT OF ACCESS

Legal description of property with right to access;

LOT ##: 22-A-2

LEGAL DESCRIPTIONS: SHIMMING MOUNTAINS AIR PARK, S31, T06 S, R01 E, LOT 22-A2, ACRES 2.5
Said property is hereinafter described as the "Lot."

ARTICLE II-DEFINITIONS

Terms not specifically defined in this Agreement should be interpreted according to their ordinary use as of the date this Agreement is signed. Where used in this Agreement, the terms below have the following definitions:

1. "Aeronautical Commercial" use includes any activity or service for compensation, exchange, trading, buying, selling, or hire or any other revenue producing activity whether or not a profit is derived, which makes possible, or is required for the operation of an aircraft, or contributes to or is required for, the safety of such operations, but does not include commercial activities which are not directly related to aviation.
2. "Airport Board" means the Madison County Airport Board.
3. "Airport Manager" means any person hired by the Owner to manage the Airport and granted authority to do so.
4. "Agreement" means this document.
5. "FAA" means the United States Federal Aviation Administration.
6. "Owner" means Madison County, but does not restrict the Airport Board or Airport Manager from enforcing this Agreement or otherwise acting on Madison County's behalf, provided that they act within the limits of authority lawfully delegated to them by Madison County.
7. "Private Use Infrastructure" includes any runways, taxiways, roads, fences, lights, signs, or gates, or similar infrastructure which is used for the User's through the fence access and which is either (a) on the User's property; or (b) on Airport property, but constructed or maintained by the User or at the User's request and used primarily by the User. "Private Use Infrastructure" does not include the exterior fence of the Airport or any infrastructure on the Airport which is regularly used by the Airport staff or other members of the public.
8. "Residential" use includes the construction, modification, or use of any building to serve as any individual or family's primary or part-time overnight residence, but does not include hotels or similar commercial activities.

ARTICLE III-TERM OF AGREEMENT

The term of this Access Agreement shall commence on 07 June 2016, and shall continue for a period of 10 years, or until it is terminated under Article IX below.

ARTICLE IV-RIGHTS OF USER

Throughout the term of this Agreement, the Owner shall allow the User to taxi aircraft "through the fence" between the Lot and the Airport, provided that the User complies with all lawful regulations which apply to users of the Airport.

ARTICLE V-PROHIBITIONS

1. **No Mixed Residential and Aeronautical Commercial Use:** User shall not permit, encourage, or assist both Residential and Aeronautical Commercial use to occur in the same facility. The User shall comply with any zoning laws, regulations, or restrictive covenants which apply to the Lot.
2. **Sale of Aviation Fuels Prohibited:** User shall not permit any person or entity to sell aviation fuels on the Lot. This prohibition does not restrict the User from refueling their own aircraft on the Lot.
3. **Prohibitions and Restriction on Access:** The User is specifically prohibited from granting or selling any access/egress to the Airport through the Lot to any other parties, except for temporary visitors. The User shall take reasonable precautions acceptable to the Owner to prevent the accidental access to the Airport through the Lot by vehicles, pedestrians, wildlife, or domestic animals.

4. Exceptions: The User may violate the above provisions of this Article only if the User first obtains written permission from both the FAA and the Owner. If the FAA has approved an exception, then the Owner shall not unreasonably withhold permission. Permission to violate any of the above may be limited or contingent, and permission to violate any of the above in one or more instances does not guarantee that similar permission will be granted in the future.

ARTICLE VI-ACCESS FEE TO OWNER

User is aware that the Owner may charge the following fees, and agrees to pay any of the following fees in the event the Owner charges them:

1. Owner's Basis for Access Fee: The fee is based on the rates and charges of other on airport tenants and operators making similar use of the Airport. There are currently no lease or long-term tie-down fees charged by the Airport. Therefore, there is presently no access fee charged. This Agreement does not prevent the Owner from charging such fees in the future.
2. User Access Fee: The Owner does not currently charge a user access fee. This Agreement does not, however, prevent the Owner from charging a user access fee during the term.
3. Payment: All payments required to be made by User under this Agreement shall be made payable to the Owner annually on or before March 1st of each year and shall be delivered or mailed to the address below:

Madison County Airport Board, PO Box 62, Virginia City, MT 59755
4. Penalty for Late Payment: Owner will assess a late penalty equal to 10% of the amount past due, per annum, and not compounded.
5. Notice of Fees: The Owner shall provide notice to the User of any change to any of the above fees no less than 90 days prior to the date that the changes take effect.
6. Fees to be Uniform: The Owner shall not charge the User any of the above fees unless said fees are generally applied to all similarly situated private users and comparable to those charged to on-airport tenants and operators making similar use of the Airport.

ARTICLE VII-CONSTRUCTION AND MAINTENANCE OF PRIVATE USE INFRASTRUCTURE

It is understood and agreed that the User shall construct all private-use infrastructure, required and acceptable to the Owner, at User's sole cost and expense. Accordingly, User covenants and agrees as follows:

1. Construction and Maintenance: The User may construct Private Use Infrastructure on the User's property as may be required. All construction of Private Use Infrastructure on the Owner's property must be approved by the Owner prior to commencement of construction. During the term of the Agreement, the User shall

also be solely responsible for all maintenance of Private Use Infrastructure. The User shall maintain any Private Use Infrastructure in good repair at all times. The User may contract with third parties to perform construction and maintenance of Private Use Infrastructure and, for the purposes of this Agreement, assumes responsibility for the actions of any such third parties.

All "through the fence" access shall be along plotted easements, as depicted on the Airport Layout Plan (ALP) on file with Madison County and the FAA.

2. Construction cost: Notwithstanding anything herein contained to the contrary, the User expressly agrees to pay any and all costs associated with Private Use Infrastructure reasonably required by the Owner. These costs are in addition to any access fees charged as described under Article V above.

ARTICLE VIII-AGREEMENT SUBORDINATE TO GRANT ASSURANCE, AGREEMENTS WITH THE UNITED STATES, AND FEDERAL OBLIGATIONS.

This Agreement shall be nonexclusive and shall at all times be subordinate to the provisions of any existing or future agreement between the Owner and the United States Government, or to any order issued by the United States Government, or to any grant assurances of the Airport, or to any of the Airport's or the Owner's Federal obligations.

The User agrees to abide by all lawful Airport Rules and Regulations in effect as of the date of this Agreement and as may be amended from time to time.

The Lot may currently be subject to, or may become subject to during the term, restrictive covenants, zoning laws, easements, and/or agreements with other landowners. In the event of a conflict between this Agreement and any of the above, the more restrictive provision controls.

ARTICLE IX-TERMINATION OF AGREEMENT

1. Automatic Termination: This Agreement terminates automatically and immediately in the event of any change in ownership of the Lot.
2. Termination by Owner: The Owner, at its sole discretion, may terminate this Agreement under any or all of the following circumstances:
 - a. If the fees outlined in Article VI, or any part thereof, are unpaid for 90 days, or
 - b. If the User files a voluntary petition in bankruptcy, or make a general assignment for the benefit of creditors, or if the User is adjudicated as bankrupt, or User otherwise assigns, or attempts to assign its interest herein without the required prior written consent of Owner, or
 - c. If the User uses or permits the use of the Lot at any time for any purpose which is not authorized by the Agreement, or if the User uses or permit the use of the Lot thereof in violation of any law, rule or regulation, (including the airport rules and regulations), to which the User has agreed to conform, or
 - d. If the User transfers ownership of the Lot to any other person or entity, or
 - e. If the User fails to meet any term or condition of this Agreement.

3. Notice of Default: If the User defaults in the performance of any other term of this Agreement, then the Owner shall send to the User a written notice of default, specifying the nature of the default, and User shall, within 90 days after the date of the notice, cure and remedy the default, and this Agreement shall then continue as before.

If the User shall fail to timely cure and remedy such default, then the Owner may declare, by written notice to the User, that the User is in default, and to use all remedies available to the Owner under this Agreement. However, if by its nature, such default cannot be cured within such 90 days period, such termination shall not be effective if the defaulting party commences to correct such default within said 90 days and corrects the same as promptly as reasonably practicable.

4. Termination by User: The User, at its sole discretion, may terminate this Agreement under any or all of the following circumstances:
 - a. The Owner increases the fees applicable to the User in Article VI above by more than 50% of previously existing fees within any one calendar year; or
 - b. The User is deprived of access to the Airport through the Owner's reckless or intentional action for any period of greater than 30 consecutive days; or
 - c. The Airport is closed to the public for any reason for any period of greater than 30 consecutive days.
5. Notice of Termination by User: If the User intends to terminate this Agreement under § 3 above, then the User shall provide written notice to the Owner. Such notice is effective immediately unless it explicitly states otherwise.
6. Treatment of Fees: In the event of termination by either party, the Parties agree to pro-rate any fees due under Article VI of this Agreement based on the number of days that the Agreement remained in effect.
7. Effect of Termination: In the event of termination by either party, the Owner shall have no further obligation to provide the User with "through the fence" access to the Airport.

ARTICLE X-NOTICES

1. Notice/Addresses: All notices, request, or other communications, required or permitted to be given hereunder shall be in writing and delivered via certified or registered mail, addressed to the appropriate party at its address as follows:

Madison County Airport Board, PO Box 62, Virginia City, MT 59755

USER NAME Towy Cruse
ADDRESS P.O. Box 161898
TOWN, ST ZIP Big Sky, MT 59716

The Parties shall promptly provide notice to each other of any change of address.

ARTICLE XI – GENERAL PROVISIONS

1. Sublease and Assignment: If the User subleases, assigns, sells, rents, or transfers the Lot or any of its rights or obligations under this Agreement, then the User shall provide written notice to the Owner.
2. Article and Section Headings: Article and Section Headings in this Agreement are intended for reference and convenience only and are not intended to define or limit the scope of any provision of this Agreement.
3. Jurisdiction, Venue, and Choice of Laws: The Parties agree that jurisdiction and venue for any dispute regarding this Agreement shall be in the Montana Fifth Judicial District Court, Madison County, Montana, or in the Justice Court of Madison County, Montana. The Parties shall not file any legal claims involving this Agreement in any other Court, unless the Courts above have previously determined that they lack jurisdiction over the dispute, or no reasonable good-faith argument can be made for jurisdiction in the above Courts. The laws of the State of Montana shall govern this Agreement.
4. Savings Clause: Should any provision of this Agreement be held by a court of competent jurisdiction to be invalid, void or unreasonable, the remaining provisions continue in full force and effect, unless the substantive effect of the court's ruling is to:
 - a. Remove the User's right to access the Airport through the fence; or
 - b. Require the Owner to perform or pay for construction or maintenance assigned to the User by Article VI of this Agreement; or
 - c. Require the Owner to violate any agreement with the FAA or U.S. Federal Government;in which case, this Agreement terminates.
5. Modification: This Agreement may be modified at any time by the explicit written consent of both Parties and may not be modified orally or implicitly.

COMMISSIONER

Date 10-03-16

User Name TONY CRUSE
Date 9/20/16

Second User Name _____
Date _____

signature Madison County,
Commissioner

signature _____

signature _____

AGREEMENT FOR AIRPORT ACCESS

This Airport Agreement is made and entered into this 29 day of December, 2015 by and between Madison County, Montana (hereinafter referred to as "Owner") and VERNE BROWN, an individual under the laws of the State of Montana (hereinafter referred to as "User") located at _____ . This Agreement incorporates and is based upon the following representations and understandings.

Whereas, Madison County is the owner and operator of Ennis Big Sky Airport (hereinafter referred to as the "Airport"), located in Madison County, state of Montana, with the power to grant rights and privileges with respect to the Airport, pursuant to the provisions of the State Code, among other federal, state and local laws, rules and regulations, and

Whereas, the User owns real property (referred to as Brown House, adjacent to the physical property of the Airport; and

Whereas, the User seeks the right to taxi aircraft from the above-described real property "through the fence" to the Airport property and to its runway and taxiway system; and

Whereas, the Parties desire to enter into the Agreement to comply with the FAA Modernization and Reform Act of 2012 (P.L. 112-95) section 136 that permits general aviation airport sponsors to enter into through-the-fence agreements with property owners or associations representing property owners provided these agreements comply with certain conditions set forth in this Agreement; and

Whereas, the User's property is subject to restrictive covenants which require compliance with the laws and regulations of the United States, and the Parties desire to clarify the User's obligations under such laws and regulations.

Now, therefore and in consideration of the mutual terms and conditions hereinafter set forth, the Owner and User hereby agree to the following:

ARTICLE I-PROPERTY WITH RIGHT OF ACCESS

Legal description of property with right to access;

LOT ##: 14B

LEGAL DESCRIPTIONS:

Said property is hereinafter described as the "Lot."

ARTICLE II-DEFINITIONS

Terms not specifically defined in this Agreement should be interpreted according to their ordinary use as of the date this Agreement is signed. Where used in this Agreement, the terms below have the following definitions:

1. "Aeronautical Commercial" use includes any activity or service for compensation, exchange, trading, buying, selling, or hire or any other revenue producing activity whether or not a profit is derived, which makes possible, or is required for the operation of an aircraft, or contributes to or is required for, the safety of such operations, but does not include commercial activities which are not directly related to aviation.
2. "Airport Board" means the Madison County Airport Board.
3. "Airport Manager" means any person hired by the Owner to manage the Airport and granted authority to do so.
4. "Agreement" means this document.
5. "FAA" means the United States Federal Aviation Administration.
6. "Owner" means Madison County, but does not restrict the Airport Board or Airport Manager from enforcing this Agreement or otherwise acting on Madison County's behalf, provided that they act within the limits of authority lawfully delegated to them by Madison County.
7. "Private Use Infrastructure" includes any runways, taxiways, roads, fences, lights, signs, or gates, or similar infrastructure which is used for the User's through the fence access and which is either (a) on the User's property; or (b) on Airport property, but constructed or maintained by the User or at the User's request and used primarily by the User. "Private Use Infrastructure" does not include the exterior fence of the Airport or any infrastructure on the Airport which is regularly used by the Airport staff or other members of the public.
8. "Residential" use includes the construction, modification, or use of any building to serve as any individual or family's primary or part-time overnight residence, but does not include hotels or similar commercial activities.

ARTICLE III-TERM OF AGREEMENT

The term of this Access Agreement shall commence on December 24th 2015, and shall continue for a period of 10 years, or until it is terminated under Article IX below.

ARTICLE IV-RIGHTS OF USER

Throughout the term of this Agreement, the Owner shall allow the User to taxi aircraft "through the fence" between the Lot and the Airport, provided that the User complies with all lawful regulations which apply to users of the Airport.

ARTICLE V-PROHIBITIONS

1. No Mixed Residential and Aeronautical Commercial Use: User shall not permit, encourage, or assist both Residential and Aeronautical Commercial use to occur in the same facility. The User shall comply with any zoning laws, regulations, or restrictive covenants which apply to the Lot.
2. Sale of Aviation Fuels Prohibited: User shall not permit any person or entity to sell aviation fuels on the Lot. This prohibition does not restrict the User from refueling their own aircraft on the Lot.
3. Prohibitions and Restriction on Access: The User is specifically prohibited from granting or selling any access/egress to the Airport through the Lot to any other parties, except for temporary visitors. The User shall take reasonable precautions acceptable to the Owner to prevent the accidental access to the Airport through the Lot by vehicles, pedestrians, wildlife, or domestic animals.

4. Exceptions: The User may violate the above provisions of this Article only if the User first obtains written permission from both the FAA and the Owner. If the FAA has approved an exception, then the Owner shall not unreasonably withhold permission. Permission to violate any of the above may be limited or contingent, and permission to violate any of the above in one or more instances does not guarantee that similar permission will be granted in the future.

ARTICLE VI-ACCESS FEE TO OWNER

User is aware that the Owner may charge the following fees, and agrees to pay any of the following fees in the event the Owner charges them:

1. Owner's Basis for Access Fee: The fee is based on the rates and charges of other on airport tenants and operators making similar use of the Airport. There are currently no lease or long-term tie-down fees charged by the Airport. Therefore, there is presently no access fee charged. This Agreement does not prevent the Owner from charging such fees in the future.
2. User Access Fee: The Owner does not currently charge a user access fee. This Agreement does not, however, prevent the Owner from charging a user access fee during the term.
3. Payment: All payments required to be made by User under this Agreement shall be made payable to the Owner annually on or before March 1st of each year and shall be delivered or mailed to the address below:

Madison County Airport Board, PO Box 62, Virginia City, MT 59755
4. Penalty for Late Payment: Owner will assess a late penalty equal to 10% of the amount past due, per annum, and not compounded.
5. Notice of Fees: The Owner shall provide notice to the User of any change to any of the above fees no less than 90 days prior to the date that the changes take effect.
6. Fees to be Uniform: The Owner shall not charge the User any of the above fees unless said fees are generally applied to all similarly situated private users and comparable to those charged to on-airport tenants and operators making similar use of the Airport.

ARTICLE VII-CONSTRUCTION AND MAINTENANCE OF PRIVATE USE INFRASTRUCTURE

It is understood and agreed that the User shall construct all private-use infrastructure, required and acceptable to the Owner, at User's sole cost and expense. Accordingly, User covenants and agrees as follows:

1. Construction and Maintenance: The User may construct Private Use Infrastructure on the User's property as may be required. All construction of Private Use Infrastructure on the Owner's property must be approved by the Owner prior to commencement of construction. During the term of the Agreement, the User shall

also be solely responsible for all maintenance of Private Use Infrastructure. The User shall maintain any Private Use Infrastructure in good repair at all times. The User may contract with third parties to perform construction and maintenance of Private Use Infrastructure and, for the purposes of this Agreement, assumes responsibility for the actions of any such third parties.

All "through the fence" access shall be along plotted easements, as depicted on the Airport Layout Plan (ALP) on file with Madison County and the FAA.

2. Construction cost: Notwithstanding anything herein contained to the contrary, the User expressly agrees to pay any and all costs associated with Private Use Infrastructure reasonably required by the Owner. These costs are in addition to any access fees charged as described under Article V above.

ARTICLE VIII-AGREEMENT SUBORDINATE TO GRANT ASSURANCE, AGREEMENTS WITH THE UNITED STATES, AND FEDERAL OBLIGATIONS.

This Agreement shall be nonexclusive and shall at all times be subordinate to the provisions of any existing or future agreement between the Owner and the United States Government, or to any order issued by the United States Government, or to any grant assurances of the Airport, or to any of the Airport's or the Owner's Federal obligations.

The User agrees to abide by all lawful Airport Rules and Regulations in effect as of the date of this Agreement and as may be amended from time to time.

The Lot may currently be subject to, or may become subject to during the term, restrictive covenants, zoning laws, easements, and/or agreements with other landowners. In the event of a conflict between this Agreement and any of the above, the more restrictive provision controls.

ARTICLE IX-TERMINATION OF AGREEMENT

1. Automatic Termination: This Agreement terminates automatically and immediately in the event of any change in ownership of the Lot.
2. Termination by Owner: The Owner, at its sole discretion, may terminate this Agreement under any or all of the following circumstances:
 - a. If the fees outlined in Article VI, or any part thereof, are unpaid for 90 days, or
 - b. If the User files a voluntary petition in bankruptcy, or make a general assignment for the benefit of creditors, or if the User is adjudicated as bankrupt, or User otherwise assigns, or attempts to assign its interest herein without the required prior written consent of Owner, or
 - c. If the User uses or permits the use of the Lot at any time for any purpose which is not authorized by the Agreement, or if the User uses or permit the use of the Lot thereof in violation of any law, rule or regulation, (including the airport rules and regulations), to which the User has agreed to conform, or
 - d. If the User transfers ownership of the Lot to any other person or entity, or
 - e. If the User fails to meet any term or condition of this Agreement.

3. Notice of Default: If the User defaults in the performance of any other term of this Agreement, then the Owner shall send to the User a written notice of default, specifying the nature of the default, and User shall, within 90 days after the date of the notice, cure and remedy the default, and this Agreement shall then continue as before.

If the User shall fail to timely cure and remedy such default, then the Owner may declare, by written notice to the User, that the User is in default, and to use all remedies available to the Owner under this Agreement. However, if by its nature, such default cannot be cured within such 90 days period, such termination shall not be effective if the defaulting party commences to correct such default within said 90 days and corrects the same as promptly as reasonably practicable.

4. Termination by User: The User, at its sole discretion, may terminate this Agreement under any or all of the following circumstances:
 - a. The Owner increases the fees applicable to the User in Article VI above by more than 50% of previously existing fees within any one calendar year; or
 - b. The User is deprived of access to the Airport through the Owner's reckless or intentional action for any period of greater than 30 consecutive days; or
 - c. The Airport is closed to the public for any reason for any period of greater than 30 consecutive days.
5. Notice of Termination by User: If the User intends to terminate this Agreement under § 3 above, then the User shall provide written notice to the Owner. Such notice is effective immediately unless it explicitly states otherwise.
6. Treatment of Fees: In the event of termination by either party, the Parties agree to pro-rate any fees due under Article VI of this Agreement based on the number of days that the Agreement remained in effect.
7. Effect of Termination: In the event of termination by either party, the Owner shall have no further obligation to provide the User with "through the fence" access to the Airport.

ARTICLE X-NOTICES

1. Notice/Addresses: All notices, request, or other communications, required or permitted to be given hereunder shall be in writing and delivered via certified or registered mail, addressed to the appropriate party at its address as follows:

Madison County Airport Board, PO Box 62, Virginia City, MT 59755

Vern Brown
PO Box 1630
Ennis, MT 59729

The Parties shall promptly provide notice to each other of any change of address.

ARTICLE XI – GENERAL PROVISIONS

1. Sublease and Assignment: If the User subleases, assigns, sells, rents, or transfers the Lot or any of its rights or obligations under this Agreement, then the User shall provide written notice to the Owner.
2. Article and Section Headings: Article and Section Headings in this Agreement are intended for reference and convenience only and are not intended to define or limit the scope of any provision of this Agreement.
3. Jurisdiction, Venue, and Choice of Laws: The Parties agree that jurisdiction and venue for any dispute regarding this Agreement shall be in the Montana Fifth Judicial District Court, Madison County, Montana, or in the Justice Court of Madison County, Montana. The Parties shall not file any legal claims involving this Agreement in any other Court, unless the Courts above have previously determined that they lack jurisdiction over the dispute, or no reasonable good-faith argument can be made for jurisdiction in the above Courts. The laws of the State of Montana shall govern this Agreement.
4. Savings Clause: Should any provision of this Agreement be held by a court of competent jurisdiction to be invalid, void or unreasonable, the remaining provisions continue in full force and effect, unless the substantive effect of the court’s ruling is to:
 - a. Remove the User’s right to access the Airport through the fence; or
 - b. Require the Owner to perform or pay for construction or maintenance assigned to the User by Article VI of this Agreement; or
 - c. Require the Owner to violate any agreement with the FAA or U.S. Federal Government;in which case, this Agreement terminates.
5. Modification: This Agreement may be modified at any time by the explicit written consent of both Parties and may not be modified orally or implicitly.

COMMISSIONER

Madison County by:
signature 

Date 04-04-16

User Name

signature 

Date 12-29-15

Second User Name

signature _____

Date _____

APPENDIX R

Airport Recycling, Reuse, and Waste Reduction Plan

APPENDIX R

AIRPORT RECYCLING, REUSE, AND WASTE REDUCTION PLAN

Contents

1.	INTRODUCTION AND BACKGROUND	1
2.	FACILITY DESCRIPTION AND BACKGROUND	2
3.	EXISTING WASTE SOURCES	2
4.	CURRENT WASTE MANAGEMENT PROGRAMS.....	4
A.	Madison County.....	4
B.	Town of Ennis	5
C.	Recycling Opportunities in the Area.....	5
D.	Ennis Big Sky Airport	5
5.	WASTE AUDIT	6
6.	REVIEW OF RECYLCING FEASIBILITY.....	6
7.	OPERATIONS AND MAINTENANCE REQUIREMENTS.....	6
8.	REVIEW OF WASTE MANAGEMENT CONTRACTS	6
9.	POTENTIAL FOR COST SAVINGS OR REVENUE GENERATION.....	7
10.	PLAN TO MINIMIZE SOLID WASTE GENERATION	7
11.	CONCLUSION.....	8

ENNIS BIG SKY AIRPORT (EKS) AIRPORT RECYCLING, REUSE, AND WASTE REDUCTION PLAN

1. INTRODUCTION AND BACKGROUND

The Federal Aviation Administration (FAA) reauthorization legislation, enacted on February 14, 2012, authorized appropriations to the FAA to modernize the nation’s aviation system. The legislation, known as the *FAA Modernization and Reform Act of 2012* (FMRA), seeks to improve aviation safety and capacity of the national airspace system, provide a framework for integrating new technology safely into the nation’s airspace, provide a stable funding system, and advance the implementation of the Next Generation Air Transportation System (NextGen). The FMRA included a number of changes to the Airport Improvement Program (AIP) including two changes related to recycling, reuse, and waste reduction at airports. These changes are highlighted below:

- Section 132 (b) of the FMRA expanded the definition of airport planning to include "developing a plan for recycling and minimizing the generation of airport solid waste, consistent with applicable State and local recycling laws, including the cost of a waste audit."
- Section 133 of the FMRA added a provision requiring airports that have or plan to prepare a master plan, and that receive AIP funding for an eligible project, to ensure that the new or updated master plan addresses issues relating to solid waste recycling at the airport.

On September 30, 2014, the Federal Aviation Administration (FAA) issued a memorandum to provide guidance on preparing airport recycling, reuse, and waste reduction plans as an element of a master plan, master plan update, within a sustainability document, or as a standalone document. The guidance is mandatory when preparing a master plan or master plan update.

For the purposes of this FAA guidance, the term “recycling” refers to any program, practice, or opportunity to reduce the amount of waste disposed in a landfill. This includes reuse and waste reduction as well as the recycling of materials. The FAA’s guidance addresses the recycling, reuse, and reduction of municipal solid waste (MSW) and other materials that can be legally disposed of in a licensed landfill or equivalent state-permitted facility. However, it is important to note that the FAA’s guidance does not address other types of solid waste such as hazardous waste, universal waste (i.e., batteries, fluorescent bulbs, electronics, etc.), or industrial waste. These materials are often subject to Federal, state, and local laws with specific disposal and recycling requirements.

This document discusses the existing state of recycling, reuse, and waste reduction activity at the Ennis Big Sky Airport (EKS) and provides guidance on ways to reduce waste and improve recycling and reuse at the facility as part of the Master Plan Update consistent with the FAA’s 2014 memorandum. As recommended by the FAA guidance, this document:

- Examines existing practices and solid waste sources;
- Reviews the feasibility of solid waste recycling at EKS;
- Discusses operation and maintenance (O&M) requirements;
- Reviews waste management services and contracts;
- Provides recommendations to help minimize solid waste generation; and
- Identifies potential cost savings or revenue generation opportunities.

2. FACILITY DESCRIPTION AND BACKGROUND

The Ennis Big Sky Airport (EKS) is located in the Madison River Valley of southwest Montana, approximately 5.6 nautical miles southeast of the Town of Ennis. The airport is about 1.5 miles east of U.S. Highway 287 and accessed by an east-west oriented gravel access road (Airport Road) maintained by Madison County. West Belanca Lane and Runway Road provide direct access to a small gravel parking areas next to the north apron and Fixed Base Operator (FBO). EKS is owned by Madison County and administered by the Madison County Commission. The County has established an Airport Board consisting of appointed members that serves in an advisory capacity to the Commission.

The general aviation airport currently consists of a single paved runway and a partial parallel taxiway (4,700-feet beginning at the “34” end). The runway is 6,600-feet long by 75-feet wide with a 16-34 orientation. Connecting taxiways link the runway to apron areas and two large private hangars are located along the west edge of the north apron. The current FBO has been in operation since September 2012 and operates from the two large hangars. A taxilane accesses several smaller hangars on the airport. Additional facility information is contained in Section 2.D. of the Master Plan Update.

The Ennis Big Sky Airport is currently used by a mix of general aviation and business jet traffic and saw approximately 12,200 total operations in 2015. The airport sees a variety of air taxi or air charter operations by “unscheduled” small commercial aircraft which make flights on demand. Additionally, a small number of military aircraft operations occur annually. However, no commercial service airlines operate from EKS. Aviation forecasts project the airport to have more than 14,300 total operations by 2035, with the majority of the growth occurring in the air taxi “portion”. Due to steady and significant increases in business jet traffic over the past five years, the airport may be redesignated from an ARC B-II to C-II facility during the planning horizon. The number of based aircraft at the facility are also forecasted to slowly increase from 21 at present (2015) to 24 by 2035, additionally seasonally based growth is likely to continue.

3. EXISTING WASTE SOURCES

Airports generate various types of solid waste including municipal solid waste (MSW), construction and demolition debris (C & D), and compostables. These terms are described below.

Municipal Solid Waste (MSW) consists of everyday items that are used and discarded. Recyclable MSW at airports typically includes, but is not limited to, aluminum and steel, glass bottles and containers, plastic bottles and containers, packaging, bags, paper products, and cardboard.

Construction and Demolition (C&D) Debris is generally categorized as MSW. C&D debris is any non-hazardous solid waste that results from land clearing, excavation, or construction, demolition, renovation, or repair of structures, roads, and utilities. C&D debris includes, but is not limited to, concrete, wood, metals, soil, bricks and masonry material, asphalt, rock, stone, gravel, sand, roofing materials, drywall, carpet, plastic, pipe, rocks, earthwork, land-clearing debris, cardboard, and salvaged building components. In some instances, C&D debris requires special handling and may be subject to special requirements. Examples include bituminous asphalt disposal, tar-impregnated roofing materials, and asbestos-containing building materials.

Compostable Green Wastes are also categorized as MSW. They are sometimes referred to as green waste and food waste. Green waste consists of tree, shrub, and grass clippings, leaves, weeds, small branches, seeds, pods, and similar debris generated by landscape maintenance activities. Food waste is food that is not consumed, or generated during food preparation activities and discarded.

Airport waste sources at EKS are limited due to relatively low level of existing development and limited number of waste generating activities undertaken at the facility. Overall, waste is generated by only a few groups—the FBO, private pilots with based (or seasonally based) aircraft and hangars, itinerant pilots and visitors, and airport maintenance staff. Waste collection and disposal and recycling processes are typically the responsibility of those generating waste at the airport.

Two primary waste source areas were identified at EKS: the Private Hangar / Fixed Base Operator (FBO) Area and the Active Airfield. These areas are shown in **Figure 2.1**.

Solid waste disposal and recycling practices at airports are completed by the parties involved and the systems and processes used to collect and dispose of waste. The County leases space to the FBO and to private individuals for hangars at the airport. Therefore, it is important to identify where the airport has control or influence over waste management and disposal, and where it does not. The three levels of control are described below:

1. Direct Control. Facilities over which the airport has direct control of waste management (i.e., public space, snow removal equipment building, and the airfield). These areas are controlled by the airport and they are able to introduce recycling, reuse, and waste reduction programs directly.
2. Influence but No Direct Control. Areas over which the airport has no direct control, but may have influence on waste management (i.e., tenant facilities and deplaned waste). These are areas owned by the airport; however, they are leased out to tenants. The airport can recommend recycling, reuse, and waste reduction programs be used, but realistically cannot control what is done because tenants usually operate independently from the airport operations and conduct their own individual waste collection efforts.
3. Neither Control or Influence. Areas the airport neither owns or leases and has no control or influence over waste management. There are no such areas at EKS.

Figure 2.1 Primary Waste Source Areas



Airfield



Private Hangar / Fixed Base Operator (FBO) Area

Table 2.1 shows the identified areas of waste generation, what waste is typically generated, how the waste is collected, if any reduction and/or recycling programs are in places and what the level of control the airport has over the management of the waste materials.

Table 2.1 – Existing Waste Sources

Waste Generation Area	Type of Waste Generated	Current Solid Waste Collection	Current Waste Reduction/Recycling	Control
AREA 1: PRIVATE HANGARS / FBO				
FBO	Plastic/glass bottles and containers, aluminum cans, cardboard, oil/grease, batteries, misc. trash.	FBO is responsible for collection and disposal.	Voluntary at County Container sites and waste oil recyclers as appropriate.	Indirect Control
Hangars	Plastic/glass bottles, aluminum cans, cardboard, oil/grease, batteries, misc. trash.	Hangar owners are responsible for collection and disposal.	Voluntary at County Container sites and waste oil recyclers as appropriate.	Indirect Control
AREA 2: ACTIVE AIRFIELD				
Airport Lands and Operational Features	General debris, construction materials (asphalt, wood, soil, concrete, and metal), Green waste (shrub and grass clippings, leaves, weeds)	Collected by airport staff, waste transported to container sites.	Recyclables separated at container site. Identifying potential recyclables is completed prior to all airfield construction projects, as part of the <i>Design Report</i> . Soils, pavement millings, etc. are identified for ability to recycle the materials on or off the project.	Direct Control

4. CURRENT WASTE MANAGEMENT PROGRAMS

Madison County has a voluntary and limited recycling program in place for residents and businesses. The waste disposal services and recycling efforts in the County and at the airport area discussed below.

A. Madison County

Madison County provides its residents with waste disposal services and recycling opportunities. The County maintains container sites near Silver Star, Twin Bridges, Sheridan, Alder, Virginia City, Ennis, Harrison, Norris, Cardwell, and near the Palisade Campground in the Upper Madison Valley. Compactors are located in Ennis, Sheridan, and Twin Bridges. Madison County maintains landfills in

the Ennis and Twin Bridges areas. The landfill near Ennis is located east of Jeffers on Jack Creek Bench Road.

Container sites are open 24 hours per day and accept all types of MSW. Household hazardous waste can typically be legally and safely disposed of at the container site if they are properly prepared. Paints, solvents and other liquid wastes may be air dried or solidified in sand, sawdust, or kitty litter and then double bagged for disposal. Residents are encouraged to take tree branches to landfills.

The County's Class III landfills accept all inert items such as untreated wood waste, metal, appliances, tires, concrete unpainted with re-bar removed, tree branches, etc. The county requires all items to be deposited at the landfill to be sorted for separate disposal. Landfills are typically open daily from 9:00 a.m. to 4:00 p.m., except for holidays.

Madison County provides recycling bins for a variety of waste materials at most container sites. Materials currently accepted for recycling include:

- Newspapers and their paper inserts, magazines, office paper, and phone books (without metal binders);
- Aluminum and steel cans;
- Cardboard (at either the Ennis or Twin Bridges container sites where it will be compacted into bales and recycled); and
- #1 and #2 plastic (at the Ennis container site).

Residents are encouraged to take all refrigerators, freezers and air conditioners to the Twin Bridges or Ennis container sites, where the freon will be removed free of charge by Madison County. The appliances will then be recycled.

Mixed glass is no longer accepted for recycling due to the lack of a market and residents are encouraged to include glass with other MSW materials.

The County does not accept car batteries for disposal and encourages residents to return batteries to the place of purchase. Residents are also encouraged to use waste oil handlers in Ennis (Lick-A-Dee Lube and D & D Auto) or Sheridan (Allhands Auto Repair).

B. Town of Ennis

The waste disposal facilities and recycling opportunities provided by Madison County are available to residents of the Town of Ennis.

C. Recycling Opportunities in the Area

Recycling opportunities for some waste materials not accepted at container sites in Madison County are available in adjoining Silver Bow, Beaverhead, and Gallatin Counties. These locations are generally within 80 road miles of Ennis.

D. Ennis Big Sky Airport

Although there is no recycling program in place at EKS, the airport and its tenants are voluntary participants in recycling efforts within Madison County. Voluntary sorting of several classes of recyclables occurs and these materials are transported to recycling bins at local container sites as

convenient. Deplaned material that has been previously sorted, are also transported to containers at the local landfill.

Construction materials are handled by contractors and are not disposed of through the Airport. The Engineer and Madison County identify potential recycling with each airport project. Discussion of this process is a mandatory requirement as part of each project *Design Report*, in accordance with FAA Engineering Guidance 2013-04.

5. WASTE AUDIT

Since the FBO currently provides the bulk of the waste disposal (through independent usage or through their contract for Airport Management with Madison County), the Airport Manager / FBO was contacted to help identify the quantity and types of waste materials generated at EKS. Madison County has direct control through the Airport Management contract, and indirect control of the FBO itself. A questionnaire was completed via teleconference in an effort to identify baseline quantities of MSW streams at the airport. The completed questionnaire is included in **Attachment 1** of this Airport Recycling, Reuse, and Waste Reduction Plan. Information collected showed the airport produces a small amount of overall waste, with the majority of the waste being from deplaned waste of air taxi charters. A substantial percentage of the waste is recyclable waste, and with this waste being voluntarily recycled in the local landfill. If the deplaned waste is previously sorted by the air taxi charter, the FBO attempt to recycle the waste accordingly. If this deplaned waste is entirely mixed together, they often do not go through the effort of re-sorting the small amount for recycling.

6. REVIEW OF RECYLCING FEASIBILITY

The waste audit identified areas where the Airport can improve on the amount of waste that is recycled. The main challenge identified is effectively educating air taxi charters on recycling efforts and sorting, based upon availability for recycling at the local landfill. Placement of recycling containers outside of the FBO and an outreach program would aid in this effort; however, air taxi charters are solely on demand and can vary each day / year. However, this outreach would aid in increasing recycling and would likely gradually take effect, especially as repeat users and air taxi charter companies become educated.

7. OPERATIONS AND MAINTENANCE REQUIREMENTS

Airport management (currently contracted to the FBO), FBO staff, and the owners of private hangar are currently responsible for the collection and disposal of all waste at EKS. The Airport's operational and maintenance requirements to implement a Solid Waste Recycling Plan at EKS are not anticipated to change from the current policy. Additional attention by the users will be needed to reduce solid waste generation, and by implementing an outreach program to reduce sorting and increase the recycling potential.

8. REVIEW OF WASTE MANAGEMENT CONTRACTS

EKS does not currently have any contracts in place with private services to collect and remove recyclables and other MSW. Waste materials are collected and transported by airport staff, the FBO, and owners of private hangars to local container sites or the Class III landfill near Ennis as applicable. As noted earlier, recycling bins for several types of waste material are available at most of the County's container sites.

Contracts with existing tenants do not require participation in any recycling programs or provide recycling bins for customers and employees. Language could be added to future contracts that requires commercial airport tenants to provide recycling bins and participate in the County’s recycling efforts; however, with the majority of the waste occurring from deplaned waste by air taxi charters, this effort would require sorting and effort that would be costly and time consuming.

While education of the air taxi charters would be difficult as all flights are on demand and unscheduled, education is vital to increase the recycling effort without significantly increasing time and costs of the FBO / Airport Management. Ongoing outreach with each of the airport users and awareness each plays in the plain is pivotal to success. Airport management should consider initiatives and promotions that will help promote the long-term success of the Plan, including having on-site recycling containers.

9. POTENTIAL FOR COST SAVINGS OR REVENUE GENERATION

The costs associated with voluntary recycling efforts at EKS are low and acceptable given the relatively small contributions of recyclables generated at the airport. The only costs required to participate in the recycling effort are for a small amount of time and fuel to transport MSW and recyclable materials to one of the local container sites.

The FBO / Airport Manager self-estimated that approximately 4,000 pounds (2 tons) of solid waste is disposed of every year at the airport. The current cost of waste disposal is \$118.00 per household / hangar on property taxes. There is no direct reduction or cost saving potential regardless of increasing the recycling effort.

10. PLAN TO MINIMIZE SOLID WASTE GENERATION

Airport management, the FBO and other airport tenants, and airport users already voluntarily participate in a limited recycling effort, established by Madison County that addresses cardboard and mixed paper waste, select metal waste, and some types of recyclable plastic. However, the Sponsor is aware that recycling, reuse, and waste reduction efforts could be improved through a few simple practices such as:

- Provide adequate signage with recycling bins clearly showing type of materials accepted.
- Provide educational material to tenants and users of the airport on what material should be recycled and preparations needed to ensure the materials deposited are in a condition suitable for recycling (i.e. plastic bottles free of liquids or other contamination, etc.).
- Continue to keep green waste such as grass clippings and leaves on-site for composting and future use.
- Be aware of opportunities to recycle new waste materials either in Madison County or nearby counties.

The above mentioned practices are relatively basic; however, the success of implementing a long-term recycling, reuse, and waste reduction program requires user buy-in, commitment, planning, and follow-up. The FAA’s *Recycling, Reuse and Waste Reduction at Airports – A Synthesis Document* outlines steps to design and implement an effective Airport Recycling/Waste Minimization Program. This publication can be found at:

<https://www.faa.gov/airports/resources/publications/reports/environmental/media/RecyclingSynthesis2013.pdf>

11. CONCLUSION

The Airport has a basic recycling program in place; however, with minimal effort and expense they could implement some very basic procedures to improve their program and reduce the amount of solid waste they generate. Coordination and education outreach with local and itinerant users to play an active role in recycling, reusing, and reducing solid waste, would greatly increase recycling without increasing costs. Focusing on readily recyclable materials of aluminum, paper, cardboard, and plastics should be the primary focus.

Airport Recycling, Reuse, and Waste Reduction Plan (EKS) – FBO Questionnaire

Existing Solid Waste Services/Facilities and Management Practices

- Is it the responsibility of residents and business owners to transport household waste materials to container sites and landfills?

The FBO directly handles the bulk of all deplaned waste (as a client service), which is very limited due to no commercial service at the airport. Private hangars and aircraft are responsible for their own transports and disposal to container sites and landfills.

- Does anyone (County or private services) offer household or business garbage dumpsters and refuse collection service in the County? If so, would this service be available at the airport?

This service is not necessary at the airport at this time, as total volume of waste is very limited and cost would outweigh the potential time savings.

- Does anyone at the airport contract with the refuse collection service if such services are available? If so, who is the contract with and what are the monthly costs for the contract?

The FBO does not contract refuse collection service at this time, nor is it currently planned.

- How do the airport, FBO, and owners of private hangars dispose of waste materials?
 - General refuse – *general refuse is taken to the local landfill container sites.*
 - Construction debris/materials – *construction debris is evaluated by Engineer for potential recycling.*
 - Waste oil/fluids – *The FBO currently recycles waste oil, by delivering the waste oil to a local car wash whom utilize the oil in their waste oil heaters. Delivery is free of cost.*
 - Weeds/grass clippings, etc. *Native grasses are all “mulched” with grass clipping being left on the ground. Lawn grasses are very limited on the airport and are commonly “mulched”. If the clippings are bagged they are taken to the landfill as recommended by Madison County.*
- Does the airport have any waste collection containers placed in the terminal/apron area? If so, where?

There are no “public” waste containers located at the airport. The FBO directly handles the majority of the general refuse at the airport. Private hangar owners have limited refuse, but are responsible for their own disposal.

- Does the FBO have any waste collection or recycling containers placed at its facilities? If so, where?

No, there are not recycling containers at the airport. Recyclables can be sorted on a voluntary basis at the dump into the recycling containers.

- Does the FBO recycle waste oil?

The FBO currently recycles waste oil, by delivering the waste oil to a local car wash whom utilize the oil in their waste oil heaters. Delivery is free of cost.

- Is there any current organized effort/program at the airport to recycle waste materials?

Construction projects are evaluated with each project to determine recycling potential. There is no other organized effort / program in place. Recycling is voluntary and encouraged at the local landfill with separate containers for cardboard, glass, plastic, paper containers, etc.

- We need to get some idea of how much waste is generated by each airport operations and what percentage is potentially recyclable. How much garbage is generated each month and removed by the County and by the FBO? How frequently are trips made to container sites or the landfill?

The FBO currently operates independently and is separately contracted by Madison County to provide airport management. Therefore, the FBO completes all waste disposal at the airport, with exception to the private hangars and for construction projects.

Currently only one trip every week to week and a half is taken to the landfill by pickup truck, during the peak season (summer). This amounts to approximately 250-lbs of waste per week in peak season, decreasing to less than half that amount during the slower wintertime months. It is estimated that 95% of this waste is from deplaned waste, primarily from itinerant traffic and in particular air taxis.

The air taxis are unscheduled charter aircraft and are constantly changing. If the deplaned waste is sorted by the air taxi, the FBO attempts to recycle accordingly. However, generally the deplaned waste is entirely mixed together with non-recyclable materials. The FBO generally does not re-sort the small amount of waste.

- What recyclable material is generated?

Newspapers, aluminum cans, #1 and #2 plastics, and cardboard are most common recyclable material. Generally, these items have not been sorted by the aircraft deplaning the waste. It is delivered all together to the FBO for disposal.

- How much time would you estimate is devoted to waste disposal each month?
1 hour per week.

APPENDIX S

Planning for Compliance

**Ennis Big Sky Airport
Master Plan Update
Planning for Compliance**
AIP 3-30-0090-014-2015 & 3-30-0090-017-2016

FAA Grant Assurance	Compliance Approach and Achievement?	Recommendations
<p>A. General.</p> <p>1. These assurances shall be complied with in the performance of grant agreements for airport development, airport planning, and noise compatibility program grants for airport sponsors.</p> <p>2. These assurances are required to be submitted as part of the project application by sponsors requesting funds under the provisions of Title 49, U.S.C., subtitle VII, as amended. As used herein, the term "public agency sponsor" means a public agency with control of a public-use airport; the term "private sponsor" means a private owner of a public-use airport; and the term "sponsor" includes both public agency sponsors and private sponsors.</p> <p>3. Upon acceptance of this grant offer by the sponsor, these assurances are incorporated in and become part of this grant agreement.</p>	<p>Most recent Development grant application AIP 3-30-0090-016-2016 for Land and AWOS II installation signed by the Owner on 12/9/15.</p> <p>Grant offered on August 8, 2016.</p> <p>Owner executed the grant on August 17, 2016 agreeing to all grant assurances through 2036.</p> <p>Most recent Planning grant application AIP 3-30-0090-017-2016 for Master Plan Update (Phase II) signed by the Owner on 7/25/16.</p> <p>Grant offered on August 29, 2016.</p> <p>Owner executed the grant on September 6, 2016 agreeing to all grant assurances through 2036.</p>	<p>None.</p>
<p>B. Duration and Applicability.</p> <p>1. Airport development or Noise Compatibility Program Projects Undertaken by a Public Agency Sponsor.</p> <p>The terms, conditions and assurances of this grant agreement shall remain in full force and effect throughout the useful life of the facilities developed or equipment acquired for an airport development or noise compatibility program project, or throughout the useful life of the project items installed within a facility under a noise compatibility program project, but in any event not to exceed twenty (20) years from the date of acceptance of a grant offer of Federal funds for the project. However, there shall be no limit on the duration of the assurances regarding Exclusive Rights and Airport Revenue so long as the airport is used as an</p>	<p>Madison County is a Public Agency Sponsor.</p> <p>Owner will be bound to the useful life of the project items installed (development), which is generally 20-years, unless otherwise specified.</p> <ul style="list-style-type: none"> • Most recent pavement rehabilitations - 09/9/2035 • AWOS III – 08/17/2036 <p>Owner will be bound to all planning grant assurances through 09/06/36.</p> <p>Owner will be bound to all real property acquired (land acquisitions) in perpetuity. This includes all airport property, which has been entirely acquired with funding through A.I.P. projects.</p>	<p>None</p>

<p>airport. There shall be no limit on the duration of the terms, conditions, and assurances with respect to real property acquired with federal funds. Furthermore, the duration of the Civil Rights assurance shall be specified in the assurances.</p>		
<p>B. Duration and Applicability. 2. Airport Development or Noise Compatibility Projects Undertaken by a Private Sponsor. The preceding paragraph 1 also applies to a private sponsor except that the useful life of project items installed within a facility or the useful life of the facilities developed or equipment acquired under an airport development or noise compatibility program project shall be no less than ten (10) years from the date of acceptance of Federal aid for the project.</p>	<p>Not applicable. Madison County is a Public Agency Sponsor.</p>	<p>N/A</p>
<p>3. Airport Planning Undertaken by a Sponsor. Unless otherwise specified in this grant agreement, only Assurances 1, 2, 3, 5, 6, 13, 18, 25, 30, 32, 33, and 34 in Section C apply to planning projects. The terms, conditions, and assurances of this grant agreement shall remain in full force and effect during the life of the project; there shall be no limit on the duration of the assurances regarding Airport Revenue so long as the airport is used as an airport.</p>	<p>Grant Assurances 1, 2, 3, 5, 6, 13, 18, 25, 30, 32, 33, and 34 will be in effect through 09/06/36 (AIP-017 Planning).</p>	<p>None</p>
<p>C. Sponsor Certification. The sponsor hereby assures and certifies, with respect to this grant that: 1. General Federal Requirements. It will comply with all applicable Federal laws, regulations, executive orders, policies, guidelines, and requirements as they relate to the application, acceptance and use of Federal funds for this project including but not limited to the following: Federal Legislation Executive Orders Federal Regulations Specific Assurances</p>	<p>Owner assures they will comply with these requirements by their chairman's and county attorney's signature executing a grant.</p> <p>Compliance is achieved through: On-going County workplace policies, Signed certifications for each project, Project-specific environmental documents, Inclusion of required contract language in solicitation, bidding documents, and contracts. Pre-award database checks for debarred contractors.</p>	<p>Current policies and actions are compliant.</p>
<p>2. Responsibility and Authority of the Sponsor. a. Public Agency Sponsor: It has legal authority to apply for this grant, and to finance and carry out the proposed project; that a resolution, motion or similar action has been duly adopted or passed as an official act of the applicant's governing body authorizing the filing of the application,</p>	<p>a. Typical Grant Execution procedures include:</p> <ul style="list-style-type: none"> • County Commission motion to accept grant. • Commission Chairman signature on Grant Offer. • County Attorney signature verifying authority. 	<p>Current policies and actions are compliant.</p>

<p>including all understandings and assurances contained therein, and directing and authorizing the person identified as the official representative of the applicant to act in connection with the application and to provide such additional information as may be required.</p> <p>b. Private Sponsor: It has legal authority to apply for this grant and to finance and carry out the proposed project and comply with all terms, conditions, and assurances of this grant agreement. It shall designate an official representative and shall in writing direct and authorize that person to file this application, including all understandings and assurances contained therein; to act in connection with this application; and to provide such additional information as may be required.</p>	<p>b. "Private Sponsor" is not applicable.</p>	
<p>3. Sponsor Fund Availability. It has sufficient funds available for that portion of the project costs which are not to be paid by the United States. It has sufficient funds available to assure operation and maintenance of items funded under this grant agreement which it will own or control.</p>	<p>The Owner allocates local tax monies and collects airport revenues into a dedicated airport account. This account is used for operations and maintenance of the airport, as well as local fund matching dollars for federally assisted airport projects.</p>	<p>Current policies and actions are compliant.</p>
<p>4. Good Title.</p> <p>a. It, a public agency or the Federal government, holds good title, satisfactory to the Secretary, to the landing area of the airport or site thereof, or will give assurance satisfactory to the Secretary that good title will be acquired.</p> <p>b. For noise compatibility program projects to be carried out on the property of the sponsor, it holds good title satisfactory to the Secretary to that portion of the property upon which Federal funds will be expended or will give assurance to the Secretary that good title will be obtained.</p>	<p>a. Madison County owns the property containing the airport runway and associated runway protection zones. "Exhibit A" Airport Property Map, including within the Airport Layout Plan is kept current and accurate, and is updated with each land acquisition.</p> <p>Recently acquired land of Tracts 10A, 10B, and 11B were verified for good title, with submission of Certificate of Title, signed by the Chairman and Sponsor's Attorney. The land acquisitions included removal of all encumbrances, including removal of all encumbering Shining Mountain Airpark protective covenants.</p> <p>b. A noise compatibility study has not been completed, but could be appropriate as the airport transitions from a Category B to a C.</p>	<p>Current policies and actions are compliant.</p>

<p>5. Preserving Rights and Powers.</p> <p>a. It will not take or permit any action which would operate to deprive it of any of the rights and powers necessary to perform any or all of the terms, conditions, and assurances in this grant agreement without the written approval of the Secretary, and will act promptly to acquire, extinguish or modify any outstanding rights or claims of right of others which would interfere with such performance by the sponsor. This shall be done in a manner acceptable to the Secretary.</p> <p>b. It will not sell, lease, encumber, or otherwise transfer or dispose of any part of its title or other interests in the property shown on Exhibit A to this application or, for a noise compatibility program project, that portion of the property upon which Federal funds have been expended, for the duration of the terms, conditions, and assurances in this grant agreement without approval by the Secretary. If the transferee is found by the Secretary to be eligible under Title 49, United States Code, to assume the obligations of this grant agreement and to have the power, authority, and financial resources to carry out all such obligations, the sponsor shall insert in the contract or document transferring or disposing of the sponsor's interest, and make binding upon the transferee all of the terms, conditions, and assurances contained in this grant agreement.</p> <p>c. For all noise compatibility program projects which are to be carried out by another unit of local government or are on property owned by a unit of local government other than the sponsor, it will enter into an agreement with that government. Except as otherwise specified by the Secretary, that agreement shall obligate that government to the same terms, conditions, and assurances that would be applicable to it if it applied</p>	<p>a. Madison County has adopted (Resolution 17-2016 4/4/16) and administers the <u>Rules and Regulations for Madison County Airports</u>, applying it uniformly to all users. These regulations include the following appendices:</p> <ol style="list-style-type: none"> 1. Agreement for Airport Access (Residential-Through-The-Fence) 2. Aviation Ground Lease 3. Hangar Guidelines for Madison County Airports 4. Rules for Contractors/Lesseees/Owner Builder of Hangars at Madison County Airports <p>It is the County Attorney's determination that the adopted Rules and Regulations adequately preserves the rights and powers to control and operate the airport in accordance with the Grant Assurances and FAA Order 5190.6B.</p> <p>b. The County has not, nor does it intend to sell any Airport property shown on the Exhibit A. All ground leases preserve rights and powers in accordance with lease agreements and Rules and Regulations, adopted under Resolution 17-2016 on 04/04/2016.</p> <p>c. No noise compatibility program projects are anticipated by anyone other than the airport sponsor. A noise compatibility may be completed as part of a future Environmental Assessment (associated with the anticipated ARC change from Category B to a C); however, that would be undertaken by the Sponsor directly.</p>	<p>a. Current policies and actions are compliant.</p> <p>b. Current policies and actions are compliant.</p> <p>c. Current policies and actions are compliant.</p>
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<p>directly to the FAA for a grant to undertake the noise compatibility program project. That agreement and changes thereto must be satisfactory to the Secretary. It will take steps to enforce this agreement against the local government if there is substantial non-compliance with the terms of the agreement.</p> <p>d. For noise compatibility program projects to be carried out on privately owned property, it will enter into an agreement with the owner of that property which includes provisions specified by the Secretary. It will take steps to enforce this agreement against the property owner whenever there is substantial non-compliance with the terms of the agreement.</p> <p>e. If the sponsor is a private sponsor, it will take steps satisfactory to the Secretary to ensure that the airport will continue to function as a public-use airport in accordance with these assurances for the duration of these assurances.</p> <p>f. If an arrangement is made for management and operation of the airport by any agency or person other than the sponsor or an employee of the sponsor, the sponsor will reserve sufficient rights and authority to insure that the airport will be operated and maintained in accordance Title 49, United States Code, the regulations and the terms, conditions and assurances in this grant agreement and shall insure that such arrangement also requires compliance therewith.</p>	<p>d. A noise compatibility may be completed as part of a future Environmental Assessment (associated with the anticipated ARC change from Category B to a C). If the noise compatibility program includes privately owned property, it will be completed in accordance with current FAA guidance and requirements.</p> <p>e. Not applicable. Madison County is a Public Agency Sponsor.</p> <p>f. Owner contracted with Choice Aviation to perform Airport Manager duties beginning 9/1/12 for 5 years with a potential 5-year extension. The agreement provides for termination by the Airport Board should the Manager fail to perform the duties assigned or for other breach of contract, thereby preserving the Owner’s Rights & Powers.</p> <p>The agreement enumerates manager duties and responsibilities, but does not specifically cite fulfilling the operation and maintenance “in accordance [with] Title 49, United States Code, the regulations and the terms, conditions and assurances in this grant agreement.”</p> <p>Title 49 is an all-encompassing Federal transportation regulation, which includes all forms of US DOT forms and provides for the performance of duties.</p> <p>It is our opinion, that the duties listed within the Airport Manager Agreement adequately describe required management, operation, and maintenance to</p>	<p>d. Current policies and actions are compliant.</p> <p>e. Current policies and actions are compliant.</p> <p>f. Current policies and actions are compliant.</p>
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<p>g. Sponsors of commercial service airports will not permit or enter into any arrangement that results in permission for the owner or tenant of a property used as a residence, or zoned for residential use, to taxi an aircraft between that property and any location on airport. Sponsors of general aviation airports entering into any arrangement that results in permission for the owner of residential real property adjacent to or near the airport must comply with the requirements of Sec. 136 of Public Law 112-95 and the sponsor assurances.</p>	<p>fulfill FAA regulations, terms, conditions, and assurances.</p> <p>g. Ennis Big Sky Airport is a general aviation airport that has Residential-Through-The-Fence (RTTF) agreements with residential property owners adjacent to the airport allowing access.</p> <p>The FAA concurred in the RTTF access agreement on April 16, 2015. The Access Agreement is acceptable until April 16, 2035.</p> <p>The Rules and Regulations for Madison County Airports, Appendix 1 “Agreement for Airport Access” complies with all provisions of Section 136 of Public Law 112-95 The Rules and Regulations are applied uniformly to all airport users. Current user Access Agreements are included in the Master Plan Update, Appendix O. All not in use are locked by the Sponsor. All users are required to enter into the Access Agreement prior to Madison County permitting access.</p>	<p>g. Current policies and actions are compliant. ALP shall site Access Agreement approval date, and expiration of April 16, 2035.</p>
<p>6. Consistency with Local Plans. The project is reasonably consistent with plans (existing at the time of submission of this application) of public agencies that are authorized by the State in which the project is located to plan for the development of the area surrounding the airport.</p>	<p>The Airport’s Capital Improvement Plan (CIP) is drafted by the Madison County Airport Board, and approved by the County Commission. The County distributes the CIP to County Planning Board.</p> <p>The Airport Layout Plan (ALP) is developed and reviewed based upon Master Plan Study / Updates.</p> <p>Each project is verified to be consistent with the ALP and CIP.</p>	<p>Current policies and actions are compliant.</p>
<p>7. Consideration of Local Interest. It has given fair consideration to the interest of communities in or near where the project may be located.</p>	<p>The current Master Planning effort includes several Public Meetings to include community input on aviation forecasts, facility requirements, and Airport Layout Plan update, addressing both short, medium and long-term facility needs and requirements.</p> <p>In addition, airport planning and development are regular agenda items, discussed at publically advertised Airport Board and County Commissioner meetings.</p>	<p>Current policies and actions are compliant.</p>

<p>8. Consultation with Users. In making a decision to undertake any airport development project under Title 49, United States Code, it has undertaken reasonable consultations with affected parties using the airport at which project is proposed.</p>	<p>Airport planning and development projects are regular agenda items, discussed at publically advertised Airport Board and County Commission meetings.</p> <p>In addition, for the most recent project (AIP 3-30-0090-013-2014 & 3-30-0090-015-2015), mailers were sent to all tenants and lease holders a minimum of 14 days in advance of the proposed closure. Additionally, closure notice information was posted on all hangars, and within the FBO.</p>	<p>Current policies and actions are compliant.</p> <p>Continue notifying all tenants of any development project through mailers and public postings.</p>
<p>9. Public Hearings. In projects involving the location of an airport, an airport runway, or a major runway extension, it has afforded the opportunity for public hearings for the purpose of considering the economic, social, and environmental effects of the airport or runway location and its consistency with goals and objectives of such planning as has been carried out by the community and it shall, when requested by the Secretary, submit a copy of the transcript of such hearings to the Secretary. Further, for such projects, it has on its management board either voting representation from the communities where the project is located or has advised the communities that they have the right to petition the Secretary concerning a proposed project.</p>	<p>The current Master Planning effort includes several Public Meetings to include community input on aviation forecasts, facility requirements, and Airport Layout Plan update, addressing both short, medium and long-term facility needs and requirements.</p> <p>In addition, airport planning and development are regular agenda items, discussed at publically advertised Airport Board and County Commissioner meetings.</p>	<p>Current policies and actions are compliant.</p>
<p>10. Metropolitan Planning Organization. In projects involving the location of an airport, an airport runway, or a major runway extension at a medium or large hub airport, the sponsor has made available to and has provided upon request to the metropolitan planning organization in the area in which the airport is located, if any, a copy of the proposed amendment to the airport layout plan to depict the project and a copy of any airport master plan in which the project is described or depicted.</p>	<p>N/A. EKS is neither a medium nor large hub airport.</p>	<p>N/A.</p>
<p>11. Pavement Preventive Maintenance. With respect to a project approved after January 1, 1995, for the replacement or reconstruction of pavement at the airport, it assures or certifies that it has implemented an effective airport pavement maintenance-management program and it assures that it will use such program for the useful life of any pavement constructed, reconstructed or repaired with</p>	<p>The Owner schedules and completes regular preventative pavement maintenance. Pavement preventative maintenance scheduling is included as part of the Capital Improvement Plan (CIP).</p> <p>Montana Department of Transportation, Aeronautics Division oversees and administers state-wide pavement inspections, reports of pavement</p>	<p>Current policies and actions are compliant.</p>

<p>Federal financial assistance at the airport. It will provide such reports on pavement condition and pavement management programs as the Secretary determines may be useful.</p>	<p>conditions, and pavement management planning on behalf of all of Montana’s general aviation airports.</p>	
<p>12. Terminal Development Prerequisites. For projects which include terminal development at a public use airport, as defined in Title 49, it has, on the date of submittal of the project grant application, all the safety equipment required for certification of such airport under section 44706 of Title 49, United States Code, and all the security equipment required by rule or regulation, and has provided for access to the passenger enplaning and deplaning area of such airport to passengers enplaning and deplaning from aircraft other than air carrier aircraft.</p>	<p>N/A. EKS has no terminal building, nor terminal development plans.</p>	<p>N/A.</p>
<p>13. Accounting System, Audit, and Record Keeping Requirements. a. It shall keep all project accounts and records which fully disclose the amount and disposition by the recipient of the proceeds of this grant, the total cost of the project in connection with which this grant is given or used, and the amount or nature of that portion of the cost of the project supplied by other sources, and such other financial records pertinent to the project. The accounts and records shall be kept in accordance with an accounting system that will facilitate an effective audit in accordance with the Single Audit Act of 1984. b. It shall make available to the Secretary and the Comptroller General of the United States, or any of their duly authorized representatives, for the purpose of audit and examination, any books, documents, papers, and records of the recipient that are pertinent to this grant. The Secretary may require that an appropriate audit be conducted by a recipient. In any case in which an independent audit is made of the accounts of a sponsor relating to the disposition of the proceeds of a grant or relating to the project in connection with which this grant was given or used, it shall file a certified copy of such audit with the Comptroller General of the United States not later than six (6) months following the close of the fiscal year for which the audit was made.</p>	<p>The County tracks airport revenues and expenditures by fund numbers set aside for the airport.</p> <p>The county assesses an annual 2-mill levy that is split between its 2 airports.</p> <p>Ground lease revenues and fuel flowage fees are collected and tracked as airport income.</p> <p>Operating expenses, hourly wages, equipment expenditures, maintenance, and capital improvements outflows are tracked through County accounts.</p> <p>The Airport Board administers and the County oversees budgeting, cash flows, and record keeping for the airport.</p> <p>The County completes regular audits, including the airport accounts.</p>	<p>Current policies and actions are compliant.</p>

<p>14. Minimum Wage Rates. It shall include, in all contracts in excess of \$2,000 for work on any projects funded under this grant agreement which involve labor, provisions establishing minimum rates of wages, to be predetermined by the Secretary of Labor, in accordance with the Davis-Bacon Act, as amended (40 U.S.C. 276a-276a-5), which contractors shall pay to skilled and unskilled labor, and such minimum rates shall be stated in the invitation for bids and shall be included in proposals or bids for the work.</p>	<p>Mandatory contract language is included in all solicitations, contracts and required to be included in sub-tier contracts. All language is included in accordance with FAA guidance titled “<i>Required Contract Provisions for Airport Improvement Program and for Obligated Sponsors</i>”.</p>	<p>Current policies and actions are compliant.</p>
<p>15. Veteran's Preference. It shall include in all contracts for work on any project funded under this grant agreement which involve labor, such provisions as are necessary to insure that, in the employment of labor (except in executive, administrative, and supervisory positions), preference shall be given to Vietnam era veterans, Persian Gulf veterans, Afghanistan-Iraq war veterans, disabled veterans, and small business concerns owned and controlled by disabled veterans as defined in Section 47112 of Title 49, United States Code. However, this preference shall apply only where the individuals are available and qualified to perform the work to which the employment relates.</p>	<p>Mandatory contract language is included in all solicitations, contracts and required to be included in sub-tier contracts. All language is included in accordance with FAA guidance titled “<i>Required Contract Provisions for Airport Improvement Program and for Obligated Sponsors</i>”.</p>	<p>Current policies and actions are compliant.</p>
<p>16. Conformity to Plans and Specifications. It will execute the project subject to plans, specifications, and schedules approved by the Secretary. Such plans, specifications, and schedules shall be submitted to the Secretary prior to commencement of site preparation, construction, or other performance under this grant agreement, and, upon approval of the Secretary, shall be incorporated into this grant agreement. Any modification to the approved plans, specifications, and schedules shall also be subject to approval of the Secretary, and incorporated into this grant agreement.</p>	<p>The Owner has produced booklets of <u>Contract Documents, Specifications, and Plans</u> for FAA-assisted construction and equipment acquisition projects. These booklets were submitted to the FAA for review and approval prior to advertising for bids. A Resident Project Representative (RPR) reviews Contractors’ work for compliance with the contract documents. Following construction the Sponsor submits a <u>Final Report</u> documenting the work was constructed as bid and any changes that have been made. Substantive deviations from the plans are completed only after a Change Order has approved by the County and FAA.</p>	<p>Current policies and actions are compliant.</p>
<p>17. Construction Inspection and Approval. It will provide and maintain competent technical supervision at the construction site throughout the project to assure that the work conforms to the plans, specifications, and schedules approved by the Secretary for the project. It shall subject the construction work on any project contained in an approved project application</p>	<p>A competent Resident Project Representative (RPR) is contracted to review and inspect all construction work for compliance with the specifications and completion of the contractual scope. The RPR provides regular reporting to the FAA of progress through Weekly Construction Reports (FAA Form 5370-1), and recommends partial and final payments</p>	<p>Current policies and actions are compliant.</p>

<p>to inspection and approval by the Secretary and such work shall be in accordance with regulations and procedures prescribed by the Secretary. Such regulations and procedures shall require such cost and progress reporting by the sponsor or sponsors of such project as the Secretary shall deem necessary.</p>	<p>to the Sponsor. The Sponsor approves payments and scope completion.</p> <p>A final inspection is scheduled and held with all parties (Sponsor, Engineer, Contractor, and FAA). If the FAA does not attend, final project photographs are include in all project Final Reports.</p> <p>Consultant selection is completed in accordance with FAA AC 150/5100-14 (current edition).</p>	
<p>18. Planning Projects. In carrying out planning projects:</p> <p>a. It will execute the project in accordance with the approved program narrative contained in the project application or with the modifications similarly approved.</p> <p>b. It will furnish the Secretary with such periodic reports as required pertaining to the planning project and planning work activities.</p> <p>c. It will include in all published material prepared in connection with the planning project a notice that the material was prepared under a grant provided by the United States.</p> <p>d. It will make such material available for examination by the public, and agrees that no material prepared with funds under this project shall be subject to copyright in United States or any other country.</p> <p>e. It will give the Secretary unrestricted authority to publish, disclose, distribute, and otherwise use any of the material prepared in connection with this grant.</p> <p>f. It will grant the Secretary the right to disapprove the sponsor's employment of specific consultants and their subcontractors to do all or any part of this project as well as the right to disapprove the proposed scope and cost of professional services.</p> <p>g. It will grant the Secretary the right to disapprove the use of the sponsor's employees to do all or any part of the project.</p>	<p>EKS Master Plan (Phase I & II) will be completed in accordance with FAA requirements, including completing the approved scope, submitting periodic progress reports at defined intervals, crediting grant funding in publications, providing information to the public, grant FAA unlimited access and use of the project products, and proceeding only with FAA-approved scope/cost/consultants/employees. It is further understood that approval of the Master Plan does not constitute approval of any pending or future applications for Federal Airport grant assistance.</p>	<p>Current policies and actions are compliant.</p>

<p>h. It understands and agrees that the Secretary's approval of this project grant or the Secretary's approval of any planning material developed as part of this grant does not constitute or imply any assurance or commitment on the part of the Secretary to approve any pending or future application for a Federal airport grant.</p>		
<p>19. Operation and Maintenance.</p> <p>a. The airport and all facilities which are necessary to serve the aeronautical users of the airport, other than facilities owned or controlled by the United States, shall be operated at all times in a safe and serviceable condition and in accordance with the minimum standards as may be required or prescribed by applicable Federal, state and local agencies for maintenance and operation. It will not cause or permit any activity or action thereon which would interfere with its use for airport purposes. It will suitably operate and maintain the airport and all facilities thereon or connected therewith, with due regard to climatic and flood conditions. Any proposal to temporarily close the airport for non-aeronautical purposes must first be approved by the Secretary. In furtherance of this assurance, the sponsor will have in effect arrangements for-</p> <ol style="list-style-type: none"> 1) Operating the airport's aeronautical facilities whenever required; 2) Promptly marking and lighting hazards resulting from airport conditions, including temporary conditions; and 3) Promptly notifying airmen of any condition affecting aeronautical use of the airport. Nothing contained herein shall be construed to require that the airport be operated for aeronautical use during temporary periods when snow, flood or other climatic conditions interfere with such operation and maintenance. Further, nothing herein shall be construed as requiring the maintenance, repair, restoration, or replacement of any structure or facility which is substantially damaged or destroyed due to an act of God or other condition or circumstance beyond the control of the sponsor. <p>b. It will suitably operate and maintain noise compatibility program items that it owns or controls upon which Federal funds have been expended.</p>	<p>a. The Owner delegates day-to-day management of the airport to a contracted Airport Manager (current provider is <u>Choice Aviation</u>). The contract is for 5 years beginning 09/01/12, with an option to extend for another 5 years.</p> <p>The agreement enumerates manager duties and responsibilities. The Contractor is responsible for monitoring safe conditions, marking/reporting/fixing or coordinating repair of hazards, providing manpower on Owner-provided equipment for mowing/sweeping/plowing and otherwise providing routine maintenance to assure safe and usable airport surfaces. Issuing NOTAMs to alert pilots of any non-standard conditions. Provides for control of weeds and rodents per county policies. The Contracted Manager also provides 24/7 callout fueling assistance.</p> <p>3. b. There are no noise compatibility program items in place at the airport.</p>	<p>a. Current policies and actions are compliant.</p> <p>b. Current policies and actions are compliant.</p>

<p>20. Hazard Removal and Mitigation. It will take appropriate action to assure that such terminal airspace as is required to protect instrument and visual operations to the airport (including established minimum flight altitudes) will be adequately cleared and protected by removing, lowering, relocating, marking, or lighting or otherwise mitigating existing airport hazards and by preventing the establishment or creation of future airport hazards.</p>	<p>Madison County adopted “Airport Affected Areas” for both of their airports. They restrict construction into the airports’ airspace and use of land areas in the vicinity of the airport. This ordinance allows the County to exercise powers to prevent future obstructions or hazards.</p> <p>All existing obstruction are depicted on the current Airport Layout Plan. Each obstruction is listed with a proposed remedy, if any, regarding removal, lowering, relocating, marking, or lighting.</p>	<p>Current policies and actions are compliant.</p> <p>AAA amendments shall be reviewed as part of each update to the Airport Layout Plan (ALP).</p>
<p>21. Compatible Land Use. It will take appropriate action, to the extent reasonable, including the adoption of zoning laws, to restrict the use of land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with normal airport operations, including landing and takeoff of aircraft. In addition, if the project is for noise compatibility program implementation, it will not cause or permit any change in land use, within its jurisdiction, that will reduce its compatibility, with respect to the airport, of the noise compatibility program measures upon which Federal funds have been expended.</p>	<p>Madison County adopted “Airport Affected Areas” (AAA) for both of their airports, under Resolution No. 30-2014. They restrict construction into the airports’ airspace and land use in the vicinity of the airport. This ordinance allows the County to exercise powers to prevent future obstructions or hazards.</p> <p>The Owner has additionally adopted <u>Rules and Regulations for Madison County Airports</u> that is aids in enforcement of compatible land use.</p> <p>There is no noise compatibility program currently in place at the airport.</p> <p>Residential-Through-The-Fence (RTTF) access agreement enforces compatible land use in accordance with FAA Order 5190.6B. The FAA concurred in the RTTF access agreement on April 16, 2015. The Access Agreement is acceptable until April 16, 2035.</p>	<p>Current policies and actions are compliant.</p> <p>AAA amendments shall be reviewed as part of each update to the Airport Layout Plan (ALP).</p> <p>ALP shall site Access Agreement approval date, and expiration of April 16, 2035.</p>
<p>22. Economic Nondiscrimination. a. It will make the airport available as an airport for public use on reasonable terms and without unjust discrimination to all types, kinds and classes of aeronautical activities, including commercial aeronautical activities offering services to the public at the airport. b. In any agreement, contract, lease, or other arrangement under which a right or privilege at the airport is granted to any person, firm, or corporation to conduct or to engage in any aeronautical activity for</p>	<p>a. There are no current or planned discriminatory practices at the airport. The Owner has adopted <u>Rules and Regulations for Madison County Airports</u> that is applied uniformly to all airport users.</p> <p>b. Madison County has entered into an Avigational Ground Lease, an Ennis FBO Agreement, and has separately contracted Airport Management through Choice Aviation. Additionally, all lease holders are</p>	<p>a. Current policies and actions are compliant.</p> <p>b. Include verbatim, the following provisions in all Minimum Standards, FBO agreements, commercial service agreement, or any agreement with any person, firm, or corporation to conduct or to engage</p>

<p>furnishing services to the public at the airport, the sponsor will insert and enforce provisions requiring the contractor to-</p> <p>1) furnish said services on a reasonable, and not unjustly discriminatory, basis to all users thereof, and</p> <p>2) charge reasonable, and not unjustly discriminatory, prices for each unit or service, provided that the contractor may be allowed to make reasonable and nondiscriminatory discounts, rebates, or other similar types of price reductions to volume purchasers.</p> <p>c. Each fixed-based operator at the airport shall be subject to the same rates, fees, rentals, and other charges as are uniformly applicable to all other fixed-based operators making the same or similar uses of such airport and utilizing the same or similar facilities.</p> <p>d. Each air carrier using such airport shall have the right to service itself or to use any fixed-based operator that is authorized or permitted by the airport to serve any air carrier at such airport.</p> <p>e. Each air carrier using such airport (whether as a tenant, non-tenant, or subtenant of another air carrier tenant) shall be subject to such nondiscriminatory and substantially comparable rules, regulations, conditions, rates, fees, rentals, and other charges with respect to facilities directly and substantially related to providing air transportation as are applicable to all such air carriers which make similar use of such airport and utilize similar facilities, subject to reasonable classifications such as tenants or non-tenants and signatory carriers and non-signatory carriers. Classification or status as tenant or signatory shall not be unreasonably withheld by any airport provided an air carrier assumes obligations</p>	<p>subject to the adopted Rules and Regulations. While the agreements and regulations enumerate numerous responsibilities and requirements, they do not specifically site the listed provisions.</p> <p>c. There is a single FBO providing fueling and other services at EKS. There has currently been no interest by an individual or corporation to establish a competing FBO.</p> <p>d. There are no air carriers serving EKS, so there is no economic discrimination amongst carriers.</p> <p>e. There are no air carriers serving EKS, so there is no economic discrimination amongst carriers.</p>	<p>in any aeronautical activity for furnishing services to the public:</p> <p>1) Contractor shall “furnish said services on a reasonable, and not unjustly discriminatory, basis to all users thereof, and</p> <p>2) charge reasonable, and not unjustly discriminatory, prices for each unit or service, provided that the contractor may be allowed to make reasonable and nondiscriminatory discounts, rebates, or other similar types of price reductions to volume purchasers.</p> <p>c. The Sponsor may assess different rates to FBO’s due to a difference in location, or a difference in service provided. In accordance with FAA Order 5190.6B, <i>“To aid in establishing uniform rates and charges applied to aeronautical activities on the airport, the Sponsor should establish minimum standards to be met as a condition for the right to conduct an aeronautical activity on the airport.”</i> (see also AC 150/5190-7).</p> <p>d. Not applicable.</p> <p>e. Not applicable.</p>
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<p>substantially similar to those already imposed on air carriers in such classification or status.</p> <p>f. It will not exercise or grant any right or privilege which operates to prevent any person, firm, or corporation operating aircraft on the airport from performing any services on its own aircraft with its own employees [including, but not limited to maintenance, repair, and fueling] that it may choose to perform.</p> <p>g. In the event the sponsor itself exercises any of the rights and privileges referred to in this assurance, the services involved will be provided on the same conditions as would apply to the furnishing of such services by commercial aeronautical service providers authorized by the sponsor under these provisions.</p> <p>h. The sponsor may establish such reasonable, and not unjustly discriminatory, conditions to be met by all users of the airport as may be necessary for the safe and efficient operation of the airport.</p> <p>i. The sponsor may prohibit or limit any given type, kind or class of aeronautical use of the airport if such action is necessary for the safe operation of the airport or necessary to serve the civil aviation needs of the public.</p>	<p>f. No rules, regulations, agreements, or policies practiced prevent any person, firm, or corporation from performing serviced on its own aircraft.</p> <p>g. The Sponsor does not perform or exercise any of the right and privileges referred to in this assurance.</p> <p>h. The Owner has adopted <u>Rules and Regulations for Madison County Airports</u> that is applied uniformly to all airport users.</p> <p>i. The Owner has adopted <u>Rules and Regulations for Madison County Airports</u> that is applied uniformly to all airport users. The regulations do not currently limit aircraft exceeding the runways’ weight bearing capacity; however, it states they “shall be held liable for any and all costs required to repair any damage they caused while operating on County airports”.</p>	<p>f. Current policies and actions are compliant.</p> <p>g. Not applicable.</p> <p>h. Current policies and actions are compliant.</p> <p>i. Current policies and actions are compliant.</p> <p>The Sponsor may choose to limit aircraft exceeding the airports weight bearing capacity in the future.</p>
<p>23. Exclusive Rights. It will permit no exclusive right for the use of the airport by any person providing, or intending to provide, aeronautical services to the public. For purposes of this paragraph, the providing of the services at an airport by a single fixed-based operator shall not be construed as an exclusive right if both of the following apply:</p> <p>a. It would be unreasonably costly, burdensome, or impractical for more than one fixed-based operator to provide such services, and</p> <p>b. If allowing more than one fixed-based operator to provide such services would require the reduction of space leased pursuant to an existing agreement between such single fixed-based operator and such airport. It</p>	<p>There is currently a single FBO providing fueling and other services at EKS. There has been no interest by an individual or corporation to establish a competing FBO.</p> <p>There are no current or planned exclusive rights to conduct any aeronautical activity at the airport. The Sponsor is willing and encouraging to make the airport available to additional reasonably qualified FBO’s.</p> <p>The Airport Board and County are in the process of completing and adopting airport Minimum Standards to help standardize requirements.</p>	<p>Current policies and actions are compliant.</p> <p>The Airport Board and Madison County will strive to provide equal opportunity to an interested party wanting to start a competing FBO at EKS.</p> <p>The recently adopted / approved Airport Layout Plan, Terminal Area Plan allows for future / ultimate FBO’s, which would be similarly situated.</p> <p>Any denial for request by a service provider to conduct business on the airport based on the lack of available space must be approved by the FAA HLN-ADO.</p>

<p>further agrees that it will not, either directly or indirectly, grant or permit any person, firm, or corporation, the exclusive right at the airport to conduct any aeronautical activities, including, but not limited to charter flights, pilot training, aircraft rental and sightseeing, aerial photography, crop dusting, aerial advertising and surveying, air carrier operations, aircraft sales and services, sale of aviation petroleum products whether or not conducted in conjunction with other aeronautical activity, repair and maintenance of aircraft, sale of aircraft parts, and any other activities which because of their direct relationship to the operation of aircraft can be regarded as an aeronautical activity, and that it will terminate any exclusive right to conduct an aeronautical activity now existing at such an airport before the grant of any assistance under Title 49, United States Code.</p>		<p>Establish and adopt airport Minimum Standards. Minimum Standards shall be in accordance with FAA Order 5190.6B, Chapter 10, such that they do not protect or convey exclusive rights.</p>
<p>24. Fee and Rental Structure. It will maintain a fee and rental structure for the facilities and services at the airport which will make the airport as self-sustaining as possible under the circumstances existing at the particular airport, taking into account such factors as the volume of traffic and economy of collection. No part of the Federal share of an airport development, airport planning or noise compatibility project for which a grant is made under Title 49, United States Code, the Airport and Airway Improvement Act of 1982, the Federal Airport Act or the Airport and Airway Development Act of 1970 shall be included in the rate basis in establishing fees, rates, and charges for users of that airport.</p>	<p>Owner currently leases hangar space at \$0.04/sq. ft. / year assessed upon the lot/parcel, not just the hangar footprint, with allowable Airport Board adjustment to lease rate every 5th anniversary of the lease agreement.</p> <p>The FBO pays a fuel flowage fee of 4¢ per gallon, plus the lot lease for the fuel farm area. All fuel system profits (or losses) less flowage and ground lease payments are retained by the FBO.</p>	<p>Current policies and actions are compliant.</p> <p>The current lease agreements allow for adjustment every 5th anniversary of each lease agreement.</p> <p>The Airport Board and Madison County attempt to balance lease rates and fuel flowage fees while maximizing growth potential. This balance strives to increase total airport revenue through fees, by encouraging development and fuel sales. The Airport Board and Madison County also take into consideration the property taxes assessed on these private developments.</p> <p>Ennis Big Sky Airport has historically struggled to maintain a long-term FBO. Keeping fees reasonable aids in maintaining an FBO; which provides a service to the airport, aids in growth of air traffic, and increases economic activity within the community through the airport.</p> <p>There is currently no private or commercial access or tie-down fee. While <u>not required</u>, this could be a source of additional Owner revenue, especially if long-term tie-down aircraft become an issue, taking space on the aprons. If a tie-down fee is adopted, economic discrimination considerations require a</p>

		<p>comparable through the fence access fee be assessed. In accordance with FAA Order 5190.6B, <i>“the development of aeronautical enterprises on land off airport and not controlled by the sponsor can result in an economic competitive advantage for the “through-the-fence” operator to the detriment of non-airport tenants. To equalize this imbalance, the sponsor should obtain from any off-base enterprise or entity a fair return for its use of the airfield by assessing access fees from those entities having “through-the-fence” access.”</i> Ennis Big Sky Airports adopted Access Agreement adheres to this requirement / provision.</p>
<p>25. Airport Revenues. a. All revenues generated by the airport and any local taxes on aviation fuel established after December 30, 1987, will be expended by it for the capital or operating costs of the airport; the local airport system; or other local facilities which are owned or operated by the owner or operator of the airport and which are directly and substantially related to the actual air transportation of passengers or property; or for noise mitigation purposes on or off the airport. The following exceptions apply to this paragraph: 1) If covenants or assurances in debt obligations issued before September 3, 1982, by the owner or operator of the airport, or provisions enacted before September 3, 1982, in governing statutes controlling the owner or operator's financing, provide for the use of the revenues from any of the airport owner or operator's facilities, including the airport, to support not only the airport but also the airport owner or operator's general debt obligations or other facilities, then this limitation on the use of all revenues generated by the airport (and, in the case of a public airport, local taxes on aviation fuel) shall not apply. 2) If the Secretary approves the sale of a privately owned airport to a public sponsor and provides funding for any portion of the public sponsor’s acquisition of land, this limitation on the use of all revenues generated by the sale shall not apply to certain proceeds from the sale. This is conditioned on repayment to the Secretary by the private owner of an amount equal to the remaining unamortized portion (amortized over a 20-</p>	<p>The County tracks airport revenues and expenditures by fund numbers set aside for the airport.</p> <p>The county assesses an annual 2-mill levy that is split between its 2 airports.</p> <p>Ground lease revenues and fuel flowage fees are collected and tracked as airport income.</p> <p>Operating expenses, hourly wages, equipment expenditures, maintenance, and capital improvements outflows are tracked through County accounts.</p> <p>The Airport Board administers and the County oversees budgeting, cash flows, and record keeping for the airport.</p> <p>The County completes regular audits, including the airport accounts.</p>	<p>Current policies and actions are compliant.</p>

<p>year period) of any airport improvement grant made to the private owner for any purpose other than land acquisition on or after October 1, 1996, plus an amount equal to the federal share of the current fair market value of any land acquired with an airport improvement grant made to that airport on or after October 1, 1996.</p> <p>3) Certain revenue derived from or generated by mineral extraction, production, lease, or other means at a general aviation airport (as defined at Section 47102 of title 49 United States Code), if the FAA determines the airport sponsor meets the requirements set forth in Sec. 813 of Public Law 112-95.</p> <p>b. As part of the annual audit required under the Single Audit Act of 1984, the sponsor will direct that the audit will review, and the resulting audit report will provide an opinion concerning, the use of airport revenue and taxes in paragraph (a), and indicating whether funds paid or transferred to the owner or operator are paid or transferred in a manner consistent with Title 49, United States Code and any other applicable provision of law, including any regulation promulgated by the Secretary or Administrator.</p> <p>c. Any civil penalties or other sanctions will be imposed for violation of this assurance in accordance with the provisions of Section 47107 of Title 49, United States Code.</p>		
<p>26. Reports and Inspections. It will:</p> <p>a. submit to the Secretary such annual or special financial and operations reports as the Secretary may reasonably request and make such reports available to the public; make available to the public at reasonable times and places a report of the airport budget in a format prescribed by the Secretary;</p> <p>b. for airport development projects, make the airport and all airport records and documents affecting the airport, including deeds, leases, operation and use agreements, regulations and other instruments, available for inspection by any duly authorized agent of the Secretary upon reasonable request;</p>	<p>All County budgeting records are public records – available by request to those appearing at the County Commission offices during normal business hours.</p> <p>Audits of Madison County airport projects’ expenditures are routinely provided to the FAA at the conclusion of a project, for the fiscal year(s) during which funds were expended.</p> <p><u>Final Reports</u> summarizing all project-related expenditures are provided to the FAA and are available to the public at the conclusion of each project.</p> <p>Summaries of on-going expenditures are provided to the FAA and available to the public at each partial pay request of a project.</p>	<p>Current policies and actions are compliant.</p>

<p>c. for noise compatibility program projects, make records and documents relating to the project and continued compliance with the terms, conditions, and assurances of this grant agreement including deeds, leases, agreements, regulations, and other instruments, available for inspection by any duly authorized agent of the Secretary upon reasonable request; and</p> <p>d. in a format and time prescribed by the Secretary, provide to the Secretary and make available to the public following each of its fiscal years, an annual report listing in detail:</p> <p>1) all amounts paid by the airport to any other unit of government and the purposes for which each such payment was made; and</p> <p>2) all services and property provided by the airport to other units of government and the amount of compensation received for provision of each such service and property.</p>	<p>All County records associated with an FAA-assisted project are available to the FAA on request.</p>	
<p>27. Use by Government Aircraft. It will make available all of the facilities of the airport developed with Federal financial assistance and all those usable for landing and takeoff of aircraft to the United States for use by Government aircraft in common with other aircraft at all times without charge, except, if the use by Government aircraft is substantial, charge may be made for a reasonable share, proportional to such use, for the cost of operating and maintaining the facilities used. Unless otherwise determined by the Secretary, or otherwise agreed to by the sponsor and the using agency, substantial use of an airport by Government aircraft will be considered to exist when operations of such aircraft are in excess of those which, in the opinion of the Secretary, would unduly interfere with use of the landing areas by other authorized aircraft, or during any calendar month that –</p> <p>a. Five (5) or more Government aircraft are regularly based at the airport or on land adjacent thereto; or</p> <p>b. The total number of movements (counting each landing as a movement) of Government aircraft is 300 or more, or the gross accumulative weight of Government aircraft using the airport (the total movement of Government aircraft multiplied by gross</p>	<p>Government aircraft have use of the airport without restrictions.</p> <p>Currently, operations by government aircraft are not:</p> <ul style="list-style-type: none"> • sufficient to unduly interfere with use by others, • five or more based government aircraft, • 300 or more landings / month, nor • the gross accumulative weight exceeds 5M lbs. in a month. <p>There has been no prior charges for use by Governmental Aircraft; however, usage at the airport has been increasing, including seasonal “basing” at the airport by the National Forest Service for fire suppression services.</p>	<p>Current policies and actions are compliant.</p> <p>If use by local standards is determined to be substantial, <u>and</u> agreed to by the Sponsor and the using agencies, the Sponsor may assess reasonable fees proportional to such use.</p> <p>Such fee structures are common practice in Montana to negotiate fees with Bureau of Land Management, National Forest Service, National Park Service, U.S. Border Patrol, etc.</p>

weights of such aircraft) is in excess of five million pounds.		
<p>28. Land for Federal Facilities. It will furnish without cost to the Federal Government for use in connection with any air traffic control or air navigation activities, or weather-reporting and communication activities related to air traffic control, any areas of land or water, or estate therein, or rights in buildings of the sponsor as the Secretary considers necessary or desirable for construction, operation, and maintenance at Federal expense of space or facilities for such purposes. Such areas or any portion thereof will be made available as provided herein within four months after receipt of a written request from the Secretary.</p>	N/A. No request has been made for the construction of federal facilities on the airport.	Current policies and actions are compliant.
<p>29. Airport Layout Plan. a. It will keep up to date at all times an airport layout plan of the airport showing 1) boundaries of the airport and all proposed additions thereto, together with the boundaries of all offsite areas owned or controlled by the sponsor for airport purposes and proposed additions thereto; 2) the location and nature of all existing and proposed airport facilities and structures (such as runways, taxiways, aprons, terminal buildings, hangars and roads), including all proposed extensions and reductions of existing airport facilities; 3) the location of all existing and proposed nonaviation areas and of all existing improvements thereon; and 4) all proposed and existing access points used to taxi aircraft across the airport's property boundary. Such airport layout plans and each amendment, revision, or modification thereof, shall be subject to the approval of the Secretary which approval shall be evidenced by the signature of a duly authorized representative of the Secretary on the face of the airport layout plan. The sponsor will not make or permit any changes or alterations in the airport or any of its facilities which are not in conformity with the airport layout plan as approved by the Secretary and which might, in the opinion of the Secretary, adversely affect the safety, utility or efficiency of the airport. b. If a change or alteration in the airport or the facilities is made which the Secretary determines adversely</p>	The Airport Layout Plan will be revised / updated as part of the Master Plan project. The Owner has historically maintained their ALP currency, in accordance with FAA requirements.	Current policies and actions are compliant.

<p>affects the safety, utility, or efficiency of any federally owned, leased, or funded property on or off the airport and which is not in conformity with the airport layout plan as approved by the Secretary, the owner or operator will, if requested, by the Secretary (1) eliminate such adverse effect in a manner approved by the Secretary; or (2) bear all costs of relocating such property (or replacement thereof) to a site acceptable to the Secretary and all costs of restoring such property (or replacement thereof) to the level of safety, utility, efficiency, and cost of operation existing before the unapproved change in the airport or its facilities except in the case of a relocation or replacement of an existing airport facility due to a change in the Secretary’s design standards beyond the control of the airport sponsor.</p>		
<p>30. Civil Rights. It will promptly take any measures necessary to ensure that no person in the United States shall, on the grounds of race, creed, color, national origin, sex, age, or disability be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination in any activity conducted with, or benefiting from, funds received from this grant. a. Using the definitions of activity, facility and program as found and defined in §§ 21.23 (b) and 21.23 (e) of 49 CFR § 21, the sponsor will facilitate all programs, operate all facilities, or conduct all programs in compliance with all non-discrimination requirements imposed by, or pursuant to these assurances. b. Applicability Programs and Activities. If the sponsor has received a grant (or other federal 1) assistance) for any of the sponsor’s program or activities, these requirements extend to all of the sponsor’s programs and activities. Facilities. Where it receives a grant or other federal financial assistance to 2) construct, expand, renovate, remodel, alter or acquire a facility, or part of a facility, the assurance extends to the entire facility and facilities operated in connection therewith. Real Property. Where the sponsor receives a grant or other Federal financial 3) assistance in the form of, or for the acquisition of real property or an interest in real</p>	<p>Mandatory contract language is included in all solicitations, contracts and required to be included in sub-tier contracts. All language is included in accordance with FAA guidance titled “<i>Required Contract Provisions for Airport Improvement Program and for Obligated Sponsors</i>”.</p> <p>Non-Discrimination clause is included in all Lease Agreements as part of <u>the Rules and Regulations</u>.</p>	<p>Current policies and actions are compliant.</p>

<p>property, the assurance will extend to rights to space on, over, or under such property.</p> <p>c. Duration. The sponsor agrees that it is obligated to this assurance for the period during which Federal financial assistance is extended to the program, except where the Federal financial assistance is to provide, or is in the form of, personal property, or real property, or interest therein, or structures or improvements thereon, in which case the assurance obligates the sponsor, or any transferee for the longer of the following periods: So long as the airport is used as an airport, or for another purpose involving 1) the provision of similar services or benefits; or So long as the sponsor retains ownership or possession of the property. 2)</p> <p>d. Required Solicitation Language. It will include the following notification in all solicitations for bids, Requests For Proposals for work, or material under this grant agreement and in all proposals for agreements, including airport concessions, regardless of funding source: “The (Name of Sponsor), in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises and airport concession disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.”</p> <p>e. Required Contract Provisions. It will insert the non-discrimination contract clauses requiring compliance 1) with the acts and regulations relative to non-discrimination in Federally-assisted programs of the DOT, and incorporating the acts and regulations into the contracts by reference in every contract or agreement subject to the non-discrimination</p>		
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<p>in Federally-assisted programs of the DOT acts and regulations.</p> <p>It will include a list of the pertinent non-discrimination authorities in every 2) contract that is subject to the non-discrimination acts and regulations.</p> <p>It will insert non-discrimination contract clauses as a covenant running with 3) the land, in any deed from the United States effecting or recording a transfer of real property, structures, use, or improvements thereon or interest therein to a sponsor.</p> <p>It will insert non-discrimination contract clauses prohibiting discrimination on 4)the basis of race, color, national origin, creed, sex, age, or handicap as a covenant running with the land, in any future deeds, leases, license, permits, or similar instruments entered into by the sponsor with other parties:</p> <p>a) For the subsequent transfer of real property acquired or improved under the applicable activity, project, or program; and</p> <p>b) For the construction or use of, or access to, space on, over, or under real property acquired or improved under the applicable activity, project, or program.</p> <p>f. It will provide for such methods of administration for the program as are found by the Secretary to give reasonable guarantee that it, other recipients, sub-recipients, sub-grantees, contractors, subcontractors, consultants, transferees, successors in interest, and other participants of Federal financial assistance under such program will comply with all requirements imposed or pursuant to the acts, the regulations, and this assurance.</p> <p>g. It agrees that the United States has a right to seek judicial enforcement with regard to any matter arising under the acts, the regulations, and this assurance.</p>		
<p>31. Disposal of Land.</p> <p>a. For land purchased under a grant for airport noise compatibility purposes, including land serving as a noise buffer, it will dispose of the land, when the land is no longer needed for such purposes, at fair market value, at the earliest practicable time. That portion of the proceeds of such disposition which is proportionate to</p>	<p>There is currently no land considered for “disposal”, nor is any anticipated within the foreseeable future.</p>	<p>Current policies and actions are compliant.</p>

the United States' share of acquisition of such land will be, at the discretion of the Secretary, (1) reinvested in another project at the airport, or (2) transferred to another eligible airport as prescribed by the Secretary. The Secretary shall give preference to the following, in descending order, (1) reinvestment in an approved noise compatibility project, (2) reinvestment in an approved project that is eligible for grant funding under Section 47117(e) of title 49 United States Code, (3) reinvestment in an approved airport development project that is eligible for grant funding under Sections 47114, 47115, or 47117 of title 49 United States Code, (4) transferred to an eligible sponsor of another public airport to be reinvested in an approved noise compatibility project at that airport, and (5) paid to the Secretary for deposit in the Airport and Airway Trust Fund. If land acquired under a grant for noise compatibility purposes is leased at fair market value and consistent with noise buffering purposes, the lease will not be considered a disposal of the land. Revenues derived from such a lease may be used for an approved airport development project that would otherwise be eligible for grant funding or any permitted use of airport revenue.

b. For land purchased under a grant for airport development purposes (other than noise compatibility), it will, when the land is no longer needed for airport purposes, dispose of such land at fair market value or make available to the Secretary an amount equal to the United States' proportionate share of the fair market value of the land. That portion of the proceeds of such disposition which is proportionate to the United States' share of the cost of acquisition of such land will, (1) upon application to the Secretary, be reinvested or transferred to another eligible airport as prescribed by the Secretary. The Secretary shall give preference to the following, in descending order: (1) reinvestment in an approved noise compatibility project, (2) reinvestment in an approved project that is eligible for grant funding under Section 47117(e) of title 49 United States Code, (3) reinvestment in an approved airport development project that is eligible for grant funding under Sections 47114, 47115, or 47117 of title 49 United States Code,

<p>(4) transferred to an eligible sponsor of another public airport to be reinvested in an approved noise compatibility project at that airport, and (5) paid to the Secretary for deposit in the Airport and Airway Trust Fund.</p> <p>c. Land shall be considered to be needed for airport purposes under this assurance if (1) it may be needed for aeronautical purposes (including runway protection zones) or serve as noise buffer land, and (2) the revenue from interim uses of such land contributes to the financial self-sufficiency of the airport. Further, land purchased with a grant received by an airport operator or owner before December 31, 1987, will be considered to be needed for airport purposes if the Secretary or Federal agency making such grant before December 31, 1987, was notified by the operator or owner of the uses of such land, did not object to such use, and the land continues to be used for that purpose, such use having commenced no later than December 15, 1989.</p> <p>d. Disposition of such land under (a) (b) or (c) will be subject to the retention or reservation of any interest or right therein necessary to ensure that such land will only be used for purposes which are compatible with noise levels associated with operation of the airport.</p>		
<p>32. Engineering and Design Services. It will award each contract, or sub-contract for program management, construction management, planning studies, feasibility studies, architectural services, preliminary engineering, design, engineering, surveying, mapping or related services with respect to the project in the same manner as a contract for architectural and engineering services is negotiated under Title IX of the Federal Property and Administrative Services Act of 1949 or an equivalent qualifications-based requirement prescribed for or by the sponsor of the airport.</p>	<p>The Owner hires engineering and design services via advertised Request for Qualifications. Selects from the applicants based upon qualifications, then negotiates price and scope, per applicable codes and requirements. The procedures utilized in Consultant selection are in accordance with FAA AC 150/5100-14 (current edition).</p>	<p>Current policies and actions are compliant.</p>
<p>33. Foreign Market Restrictions. It will not allow funds provided under this grant to be used to fund any project which uses any product or service of a foreign country during the period in which such foreign country is listed by the United States Trade Representative as denying fair and equitable market opportunities for products and suppliers of the United States in procurement and construction.</p>	<p>Mandatory contract language is included in all solicitations, contracts and required to be included in sub-tier contracts. All language is included in accordance with FAA guidance titled "<i>Required Contract Provisions for Airport Improvement Program and for Obligated Sponsors</i>".</p>	<p>Current policies and actions are compliant.</p>

	Buy American requirements are verified with each material submittal. Any items not listing proof of country of origin, are considered to have been produced or manufactured outside the United States.	
<p>34. Policies, Standards, and Specifications. It will carry out the project in accordance with policies, standards, and specifications approved by the Secretary including but not limited to the advisory circulars listed in the Current FAA Advisory Circulars for AIP projects, dated (the latest approved version at time of grant offer) and included in this grant, and in accordance with applicable state policies, standards, and specifications approved by the Secretary.</p>	The Owner hires qualified engineering and administrative personnel that are well-versed in the current applicable policies and regulations. Consultant selection is completed in accordance with FAA AC 150/5100-14 (current edition).	Current policies and actions are compliant.
<p>35. Relocation and Real Property Acquisition. a. It will be guided in acquiring real property, to the greatest extent practicable under State law, by the land acquisition policies in Subpart B of 49 CFR Part 24 and will pay or reimburse property owners for necessary expenses as specified in Subpart B. b. It will provide a relocation assistance program offering the services described in Subpart C and fair and reasonable relocation payments and assistance to displaced persons as required in Subpart D and E of 49 CFR Part 24. c. It will make available within a reasonable period of time prior to displacement, comparable replacement dwellings to displaced persons in accordance with Subpart E of 49 CFR Part 24.</p>	<p>a. The Owner hires qualified engineering and administrative personnel that are well-versed in the current applicable policies and regulations. Procedures for selection of consultants are in accordance with FAA AC 150/5100-14 (current edition). All land acquisition projects have followed regulations, policies, and laws in place at the time of acquisition. b. Relocation assistance and / or displaced persons has not been, nor is it anticipated to be, required at either of the County Airports. c. Relocation assistance and / or displaced persons has not been, nor is it anticipated to be, required at either of the County Airports.</p>	Current policies and actions are compliant.
<p>36. Access By Intercity Buses. The airport owner or operator will permit, to the maximum extent practicable, intercity buses or other modes of transportation to have access to the airport; however, it has no obligation to fund special facilities for intercity buses or for other modes of transportation.</p>	While the Owner is amenable and supportive of multi-modal connections to the airport, there has not been interest in this area.	Current policies and actions are compliant.
<p>37. Disadvantaged Business Enterprises. The sponsor shall not discriminate on the basis of race, color, national origin or sex in the award and performance of any DOT-assisted contract covered by 49 CFR Part 26, or in the award and performance of any concession activity contract covered by 49 CFR Part 23.</p>	Mandatory contract language is included in all solicitations, contracts and required to be included in sub-tier contracts. All language is included in accordance with FAA guidance titled “ <i>Required Contract Provisions for Airport Improvement Program and for Obligated Sponsors</i> ”.	Current policies and actions are compliant.

<p>In addition, the sponsor shall not discriminate on the basis of race, color, national origin or sex in the administration of its DBE and ACDBE programs or the requirements of 49 CFR Parts 23 and 26. The sponsor shall take all necessary and reasonable steps under 49 CFR Parts 23 and 26 to ensure nondiscrimination in the award and administration of DOT-assisted contracts, and/or concession contracts. The sponsor’s DBE and ACDBE programs, as required by 49 CFR Parts 26 and 23, and as approved by DOT, are incorporated by reference in this agreement. Implementation of these programs is a legal obligation and failure to carry out its terms shall be treated as a violation of this agreement. Upon notification to the sponsor of its failure to carry out its approved program, the Department may impose sanctions as provided for under Parts 26 and 23 and may, in appropriate cases, refer the matter for enforcement under 18 U.S.C. 1001 and/or the Program Fraud Civil Remedies Act of 1936 (31 U.S.C. 3801).</p>	<p>The Sponsor maintains a current multi-year DBE program (FY 2015 – 2017) and annually reports DBE usage.</p>	
<p>38. Hangar Construction. If the airport owner or operator and a person who owns an aircraft agree that a hangar is to be constructed at the airport for the aircraft at the aircraft owner’s expense, the airport owner or operator will grant to the aircraft owner for the hangar a long term lease that is subject to such terms and conditions on the hangar as the airport owner or operator may impose.</p>	<p>The Owner adopted airport Rules and Regulations on 4/4/16 that include: 1) a standard ground lease for private hangar construction, 2) Guidelines for hangar construction (covenants), and 3) Rules of Contractors/Lessees/Owner Builder of Hangars. These rules clearly identify and enumerate standardized responsibilities and restrictions for anyone wishing to construct a hangar – encouraging hangar development that is both compliant with FAA regulations and local planning.</p>	<p>Current policies and actions are compliant. Terms of leases shall be in accordance with FAA Airport Compliance Manual – Order 5190.6B. This order does not mandate ground lease terms, but advocates setting terms which are reasonably necessary to amortize a tenant’s investment. <i>“Most ground leases of 30 to 35 years are sufficient to retire a tenant’s initial financing and provide a reasonable return for the tenant’s development of major facilities”.</i> No term shall exceed 50-years.</p>
<p>39. Competitive Access. a. If the airport owner or operator of a medium or large hub airport (as defined in section 47102 of title 49, U.S.C.) has been unable to accommodate one or more requests by an air carrier for access to gates or other facilities at that airport in order to allow the air carrier to provide service to the airport or to expand service at the airport, the airport owner or operator shall transmit a report to the Secretary that-</p> <ol style="list-style-type: none"> 1) Describes the requests; 2) Provides an explanation as to why the requests could not be accommodated; and 	<p>N/A. EKS is neither a medium nor large hub airport.</p>	<p>N/A.</p>

<p>3) Provides a time frame within which, if any, the airport will be able to accommodate the requests. b. Such report shall be due on either February 1 or August 1 of each year if the airport has been unable to accommodate the request(s) in the six month period prior to the applicable due date.</p>		
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