APPENDIX C
RIL INSTRUMENT APPROACH ANALYSIS
(TO BE INCLUDED)

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The analysis involved in the instrument approach study is based on criteria used primarily by FAA Flight Procedures Division. That division is responsible for developing and updating instrument approach procedures at civil airports. The criteria used by the FAA Flight Procedures Division to develop instrument approach procedures is contained primarily in:

FAA Order 8260.3, *United States Standard for Terminal Instrument Procedures (TERPS)*

14 CFR Part 97, *Standard instrument Procedures*

One source of data that FAA uses to identify objects in the vicinity of airports, when determining the minimums for each approach procedure, is provided by the Airport Geographic Information System (AGIS). It is a requirement promulgated by the FAA and described in various advisory circulars, in which stringent mapping and survey requirements were established as well as a specific review and approval process, resulting in detailed mapping of the airspace around airports. Woolpert prepared an AGIS for Garfield County Airport in 2010, which was uploaded to FAA, reviewed and accepted.

When FAA does not have reliable mapping or survey data for areas covered by the imaginary surfaces described in TERPS, they frequently apply 'assumed adverse obstacle' (AAO), which are points to add additional safety margins when developing approach procedures. The FAA has noted there are a number of AAOs inserted in the vicinity of RIL, even with the AGIS mapping prepared by Woolpert in 2010.

- Definitions of the terms used in this report include:
- AAO – assumed adverse object
- TERPS – FAA Order 8260.3
- ILS – Instrument Landing System Precision Approach
- GPS – Global Positioning System
- LPV – GPS Instrument Approach Procedure with Vertical Guidance
- RNP – Instrument Approach Procedure based on Required Navigation Performance
- LDA - Localizer Type directional Aid Radio Transmitter
- HAT – Height Above Touchdown – Approach Minimums Above the Runway Threshold
- IAP – Instrument Approach Procedure
- IFR – instrument Flight Rules
- VFR – Visual Flight Rules
- RNAV – Area Navigation – Non-Precision Instrument Approach Procedures
- DME – Distance Measuring Equipment
- LOC – Localizer Transmitter (Lateral Guidance)

1.1 CONCLUSIONS AND RECOMMENDATIONS

Garfield County Airport has a clearly stated goal of lowering the minimums on the published instrument approaches as much as safety and FAA regulations will allow, particularly on the ILS 26 approach. Fred Mitchell, Procedures Specialist, FAA Flight Procedures Division, noted that the relatively high minimums on the published instrument approaches to RIL, particularly the ILS 26 approach, were due to obstacles in both the TERPS approach and missed approach surfaces. FAA applied safety margins in developing the minimums for the instrument approaches by locating 'Assumed Adverse Objects' (AAO) in a number of locations in the missed and final approach course areas. Some of the AAOs penetrate the TERPS imaginary surfaces and are factors in the high minimums.

Woolpert completed and uploaded AGIS mapping of RIL in 2010 after the runway was reconstructed, which was accepted by FAA and NGS, and FAA Flight Procedures has used that data. However, the AGIS mapping did not include the FAA TERPS missed approach surfaces. As a result, FAA applied safety margins in the form of AAOs in areas not mapped by AGIS.

FAA Flight Procedures re-examined the objects, and based on information provided by Woolpert determined that one object close to the Runway 26 threshold (ID# KIRLTO26) is lower than shown by FAA. FAA has lowered the object height in their database accordingly. FAA said that based on just the objects in the final approach course that the HAT on the ILS 26 could be lowered to 200' above the runway threshold elevation (i.e. standard Cat. I ILS minimums). If a MALSR were installed on 26 (upgraded from the existing ODALS), the visibility minimums on the ILS 26 could also be lowered by ½ mile. The airport manager noted it would be extremely expensive to install a MALSR on either the 8 or 26 end of the runway.

However, there are numerous penetrations to the TERPS missed approach surface, many of which are AAOs. FAA will provide a list of those objects (ID, lat/long coordinates, elevation) and Woolpert will develop a scope and fee to survey those points. Woolpert talked with Chuck Youngblood, FAA Flight Procedures in Oklahoma City, and Youngblood said that if Woolpert surveys the points in the missed approach surface and documents that they are not there or lower than FAA assumes, that FAA will re-examine and possibly lower the instrument approach minimums.

FAA said that installation of a Localizer Type Directional Aid (LDA) transmitter in the missed approach area of the ILS 26, as recommended previously, may help lower the ILS 26 approach minimums, but FAA had not determined the optimum location of the transmitter, and had not confirmed what specific benefit (reduced minimums) would be derived by installation of an LDA transmitter. RIL Airport would be responsible for the transmitters cost and maintenance.

FOLLOW-ON ACTION ITEMS TO BE COMPLETED AS OF MARCH 2015:

1. Fred Mitchell, Senior Specialist, FAA ATO Western Service Center, Flight Procedures Team, AJV-W24, will provide a map showing the objects (both surveyed and AAOs) penetrating the 40:1 missed approach surface to the ILS 26 approach, with object ID#, latitude/longitude coordinates, and elevations.

2. Fred Mitchell, FAA, will determine what benefits in terms of lower approach minimums would be derived from installing an LDA transmitter in the missed approach area to the ILS 26, and where the optimum location of the LDA antenna should be.

3. Dave Kuxhausen, Woolpert, will develop a scope, fee, and schedule to survey the points identified by Fred in the 40:1 missed approach surface. Woolpert will submit the survey data to FAA Flight Procedures (Fred Mitchell in Renton, WA and Chuck Youngblood Oklahoma City), as well as to RIL Airport.

4. RIL Airport will review the input from FAA and Woolpert's scope and fee, and decide whether to proceed with the survey efforts.

5. Once FAA Flight Procedures has the new survey data they will re-examine the approach minimums and publish revised procedures with lower minimums. FAA will coordinate with Brian Condie, Airport Manager, on their procedure review and update process.

6. No specific time frame has been agreed to by FAA to provide the information to RIL. The follow-on actions listed above will be funded and undertaken separately from the Airport Master Plan. The potential funding sources, project milestones, and implementation schedules are to be determined.

1.2 BACKGROUND

Rifle Garfield County Airport (FAA identifier = RIL) is situated in a valley in the Western Slopes Region of Colorado. RIL Airport serves as a major transportation link for the County, including a primary means of access for skiers and visitors to the County.

The Airport underwent major improvements in 2010, including realigning Runway 8/26, expanding other airport facilities, and adding navigational instruments to better serve existing and future aircraft.

The FAA has published a number of instrument approach procedures (IAP) to both Runway 8 and 26 at the airport. The IAPs are used by general aviation and corporate aircraft, the airlines, as well as by military aircraft. The IAPs are an essential component of RIL's ability to serve its role as a commercial service airport and transportation hub for the county. RIL also serves as an alternate for airlines and corporate aircraft operators when they are unable to land at Aspen (ASE), Eagle County (EGE), and Grand Junction (GJT) Airports due to local weather conditions.

The existing IAPs, however, and in particular the ILS 26 precision approach, have relatively high approach minimums (minimum descent altitudes and visibility), which significantly limits the ability to land at RIL during periods of poor weather. The commercial operators in particular, including air taxi/charters operating under 14 CFR Part 135 and air carriers operating under 14 CFR Part 121, have very stringent requirements in terms of weather conditions and instrument approach minimums. The high instrument approach minimums and regulatory requirements that limit access to RIL in turn directly affect the economy of the county, as well as RIL's ability to serve its role as a transportation hub.

1.3 STUDY GOALS

RIL has set a specific goal of lowering the minimums on the published instrument approaches to the airport, in particular the ILS precision approach to Runway 26.

Specific goals and objectives of the project include:

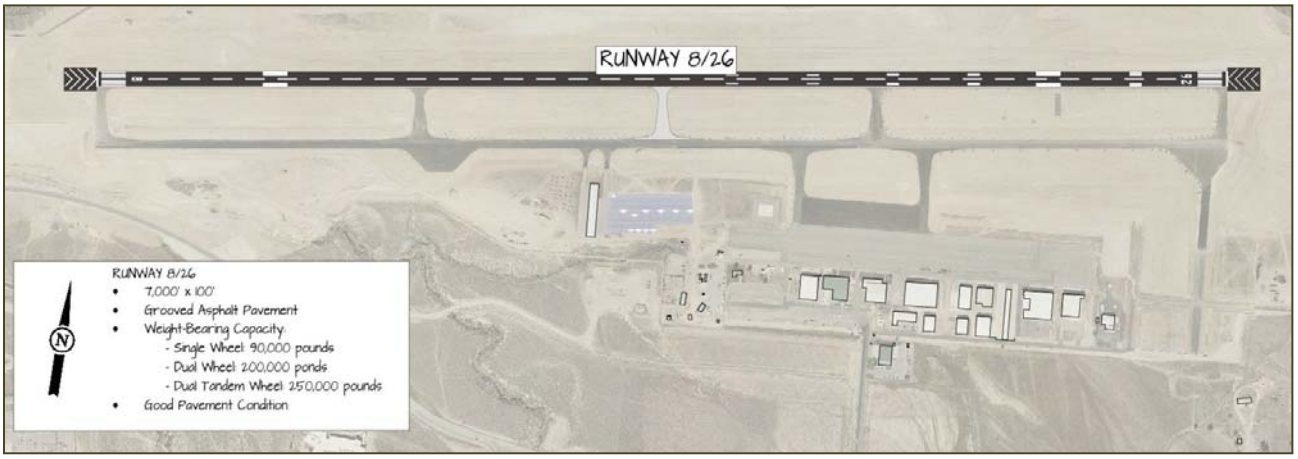
- To the extent possible, lower the published minimums on each of the instrument approaches to RIL, with a particular emphasis on the ILS 26 approach.
- Coordinate with FAA Flight Procedures Division in reviewing and updating the instrument approach procedures.
- Identify any updates to the electronic mapping and/or survey necessary for FAA to identify critical objects and lower the instrument approach minimums.
- Provide a detailed plan for moving forward, including the roles and responsibilities of the various parties involved.

1.4 AIRPORT INFORMATION

Rifle Garfield County Airport is located in the City of Rifle, Colorado, and is classified by the FAA as a general aviation (GA) airport. RIL accommodates both civilian and military aircraft, up to FAA's Airport Reference Code (ARC) D-III - aircraft with wingspans up to but less than 118'. Runway 8/26 is 7,000' x 100', with a full parallel taxiway.

There is a localizer and glide slope antenna on the airport as part of the ILS 26 approach, a very high frequency omni-directional radio (VOR) transmitter situated on the airport, and an omni-directional approach light system (ODALS) to Runway 26. There are also high intensity runway lights (HIRLs) on 8/26.

FIGURE 1-1



Sources: Jviation Inc. and Rifle Garfield County Air

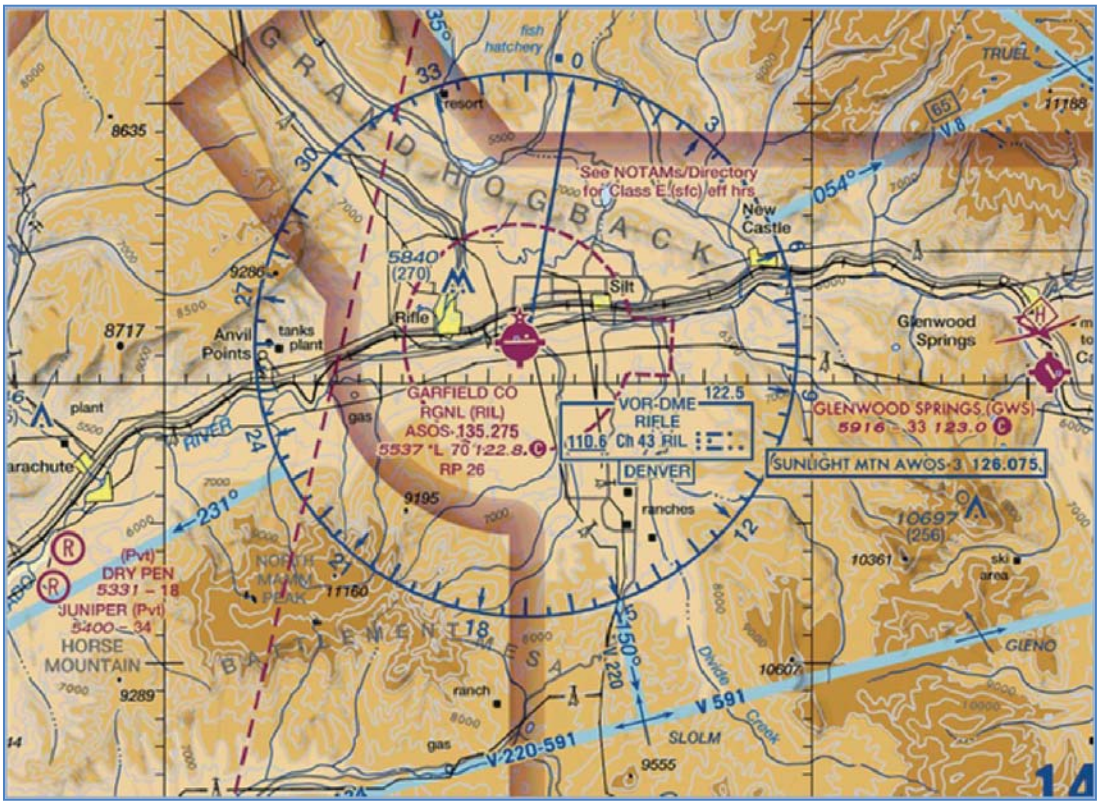
1.5 EXISTING AIRSPACE AND INSTRUMENT APPROACH PROCEDURES

There is no air traffic control tower at RIL, as is the situation at the majority of public-use airports in Colorado. RIL Airport is situated in Class E airspace. There is an extension of the Class E airspace to the east to encompass a portion of the final approach course f the ILS Runway 26 approach. Pilots self announce their position and intentions on the Common Traffic Advisory Frequency (CTAF), also known as the unicom frequency, on 122.8 MHz.

Pilots are not required to contact Denver Center[1] when taking off and landing at RIL when the weather conditions are 3 miles visibility or greater, and clouds are at 1,000' AGL or higher. When weather conditions are lower than that, then a clearance from FAA air traffic is required to operate within Class E airspace (shown as dashed red lines around RIL – **Fig. 1-2**). All of the air carrier and the large majority of air taxi operations are conducted under instrument flight rules (IFR), and those aircraft are therefore in contact with, and operating under a clearance from Denver Center.

[1] Denver Center is the FAA air traffic control facility responsible for the airspace over RIL

FIGURE 1-2 – RIL AIRSPACE



Sources: Sectional Aeronautical Chart, Airnav.com

WIDE AREA MULTILATERATION (WAM) AIRCRAFT SURVEILLANCE SYSTEM

FAA's Denver Center provides air traffic control services (flight following, radar vectoring, etc.) for aircraft arriving and departing RIL. However, due to the limitations of conventional radar and communications systems, Denver Center cannot provide ATC Services to aircraft on or near the ground at RIL.

Because radar signals and most aircraft communications operate on very high frequency (VHF) and are therefore require adequate line-of-sight, radar and communications signals are frequently blocked by the mountains. As a result, airspace capacity is severely reduced because FAA's Denver Center cannot 'see' on radar, or talk directly to, arriving or departing aircraft below certain altitudes. As a result, the Center applies very conservative (i.e. large) separation standards between aircraft, particularly during periods of poor (instrument – IFR) weather. The FAA noted that the normal 'acceptance rate' of aircraft at those airports is approximately 12 to 17 flights per hour, which is reduced to approximately 4 flights per hour due to the radar and communications limitations. That is a reduction in hourly airspace capacity of 67% to 76%.

In the fall of 2013, the FAA implemented a new aircraft monitoring/tracking system known as Wide Area Multilateration (WAM) technology (see **Appendix B** in this report). First deployed by the FAA in Alaska, Colorado DOT and FAA recently installed WAM along the Western slope of the Rocky

Mountains in an effort to overcome the inherent line-of-sight limitations of traditional radar and high frequency communications, particularly for aircraft arriving and departing from:

- Garfield County-Rifle (RIL)
- Gunnison (GUC)
- Aspen (ASE)
- Montrose (MTJ)
- Telluride (TEX)
- Durango-LaPlata (DRO)
- Steamboat Springs (SBS)
- Craig (CAG)
- Hayden (HDN)

The WAM technology receives signals from transponders on individual aircraft, and by analyzing those signals is able to accurately identify the location and trajectory of each aircraft, thereby allowing air traffic controllers to provide similar services as if the aircraft were in radar contact. As a result, airspace capacity (i.e. the rate of arrivals and departures) at each of the airports, including RIL, has been increased with the WAM technology.

Instrument Approach Procedures

The FAA has published a number sand variety of instrument approaches to both Runway 8 and 26 (**Table 1-1**). Both runway ends have vertically guided and lateral-only approach procedures. There is no approach light system to Runway 8, so the lowest visibility minimums allowed is one mile. There is an ODALS on 26, but no visibility credits are applied.

The lowest approach minimums were developed for the RNAV (area navigation) RNP (required navigation performance) 0.10 Approach to Runway 8 (250' decision altitude and 1 mile visibility). However, special authorization for both the aircraft and flight crew is required from FAA in order to fly RNP approaches, and most air carriers and small GA aircraft are not certified to fly those particular approaches. Although a number of corporate and air taxi aircraft and flight crews are certified to fly RNP approaches, it is not known how many aircraft and flight crews have been certified, or what percent of total aircraft that fly into RIL have the authorization to use RNP procedures.

TABLE 1-1 RIL INSTRUMENT APPROACHES AND MINIMUMS

Runway 8 - Approach	Lowest Minimums	Decision Height (feet-A TDZE)
RNAV (GPS) Y - LNAV	7420′ – 1 ¼ mile	1922′
RNAV (RNP) Z* RNP 0.10 RNP 0.30	 5748′ – 1 mile 6391′ – 3 miles	 250′ 893′
Runway 26 - Approach	**Lowest Minimums**	**Decision Height (feet-A TDZE)**
ILS **	6800′ – 4 miles	1,263′
RNAV (GPS) W - LNAV	7180′ – 1 ¼ mile	1,643′
RNAV (GPS) X - LPV	6,300′ – 2 ¼ mile	763′
RNAV (RNP) Y* RNP 0.30	 6,387′ – 2 ½ mile	850′
RNAV (RNP) Z* RNP 0.10 RNP 0.30	 5,955′ – 1 mile 6,387′ - 2 ½ mile	 418′ 850′
Circle To Land	**Lowest Minimums**	**Decision Height (feet-AGL)**
LOC/DME-A	7780′ – 1 ¾ mile	2,243′
VOR/DME-C	7360′ – 1 ¼ mile	1,823′

** Requires FAA authorization and aircraft certification*
*** FAA Note on Approach Chart: "Missed approach requires a minimum climb of 355 feet per NM to 10,400'; if unable to meet climb gradient, see LOC/DME-A"*
Source: FAA Aeronautical Information Services,
http://www.faa.gov/air_traffic/flight_info/aeronav/digital_products/dtpp/search/results/?cycle=1503&ident=ril

In addition to the instrument approaches, FAA has also published instrument departure procedures for aircraft departing under instrument flight rules (IFR) from RIL. See **Appendix A** for the instrument approach charts as well as departure procedures. Separate departure procedures were developed for Runway 8 and 26.

When FAA Flight Procedures Division (AJW) creates instrument approach procedures, they use the criteria specified in FAA Order 8260.3, *United States Standard for Terminal Instrument Procedures (TERPS)*. They also utilize 14 CFR Part 97, *Standard instrument Procedures*. Subpart C of Part 97 states in part: "Standard instrument approach procedures and associated supporting data adopted by the FAA are documented on FAA Forms 8260-3, 8260-4, 8260-5 (**Appendix C**). Takeoff minimums and obstacle departure procedures (ODPs) are documented on FAA Form 8260-15A."

FAA Flight Procedures also utilizes 14 CFR Part 25, *Airworthiness Standards: Transport Category Airplanes*, in order to determine certain vertical obstacle clearance requirements based on climb performance required of transport category aircraft, including one-engine inoperative (OEI) performance standards. Based on that criteria FAA has developed obstacle evaluation (OE) standards for instrument departures (see **Appendix D** for some of the OE surfaces considered by FAA). Penetrations to the departure surfaces impact instrument approach minimums as do penetrations to the TERPS approach surfaces. In fact at some airports penetrations to departure surfaces may impact approach minimums more than penetrations to the approach surfaces.

For example, FAA inserted a note on the ILS 26 approach chart stating that if aircraft are unable to meet the minimum climb gradient of 355' per NM up to 10,400' MSL on the missed approach, then aircraft must use the LOC/DME-A approach procedure, with significantly higher approach minimums.

AGIS Mapping

FAA requires that airports participate in their Airport Geographic Information System (AGIS) program, particularly when they are preparing airport master plans. AGIS is a mapping program described in various advisory circulars that result in a detailed survey of specific areas around airports. The survey data is uploaded onto FAA's web site, and it is reviewed and approved by the FAA and the National Geodetic Survey (NGS). After the AGIS mapping has been approved by FAA and NGS, it is used by FAA Flight Procedures Division to review the existing instrument approach procedures, as well as used as the data base for developing future instrument approaches. RIL completed AGIS mapping in 2010 after the runway was reconstructed. The AGIS mapping was prepared by Woolpert, Inc., and it was uploaded onto FAA's website, reviewed and approved by FAA and NGS.

Assumed Adverse Obstacles (AAO)

However, AGIS mapping standards do not require surveying the missed approach surfaces as defined in TERPS. As a result, even with approved AGIS mapping there are areas underlying the imaginary surfaces defined in TERPS that are not surveyed. In those un-surveyed areas FAA *assumes* that there are obstacles of various elevations, up to 199' above ground level (AGL). Those objects are known as 'Assumed Adverse Objects (AAO)'. AAOs are applied as safety margins by the FAA to ensure adequate clearances for the OE surfaces. As a result, when FAA identifies penetrations to the imaginary surfaces by either surveyed objects or AAOs, they apply penalties to the approach minimums to ensure adequate clearances for arriving and departing aircraft. As noted below, the FAA has applied a number of AAOs in the vicinity of RIL, and that have a direct impact on the approach minimums, including the ILS 26 approach.

1.6 PREVIOUS RECOMMENDATIONS FOR IAP IMPPROVEMENTS

The instrument approach procedures at RIL have been studied at different periods previously. Runway 8/26 was reconstructed in 2010, and one of the specific goals was to avoid some of the objects that had been identified by FAA as penetrations to the TERPS surfaces, thereby lowering the instrument approach minimums. However, the approach minimums were not lowered by FAA, in part because of AAOs applied under the TERPS approach and departure surfaces. Two subsequent studies examined the instrument approach procedures and the minimums, and recommended (see **Appendix E** for a memorandum prepared in May 2012):

1. Installation of a Localizer Type Directional Aid (LDA) transmitter in the missed approach area for approaches to Runway 26. An LDA transmitter would provide more precise guidance than the existing VOR used for missed approach procedures, and thereby allow FAA to apply smaller departure surfaces and reduce the number of penetrations to OE surfaces. FAA has indicated that an LDA *may* result in lower approach minimums for procedures to Runway 26, including

the ILS, but FAA has not stated what the lower minimums would be, nor where the LDA antenna should be sited to obtain maximum benefit in the missed approach area. It was also determined that the FAA would not pay for the LDA antenna and would not maintain it, both of which would be the Airport's responsibility. It was also noted that development of a new departure procedures after the LDA antenna was installed and lower minimums published could take as long as 12 months.

2. Remove the assumed obstacles in the vicinity of the Airport. It was noted previously that the AGIS mapping prepared in 2010 would result in the removal of some of the AAOs in the vicinity of RIL and result in lower approach minimums. However, the AGIS survey did not include the TERPS missed approach surfaces. As a result FAA continues to use AAOs in those areas to apply adequate safety margins in unmapped areas, and the approach minimums were not lowered.

3. Increase the climb gradient on the missed approach to the GPS RNP 0.30 approach to Runway 26. It was noted that applying the 398'/NM climb gradient to the RNP 0.30 approach could result in minima similar to a RNP 0.10 procedure. FAA Subsequently published an RNAV RNP 0.10 procedure to Runway 26, with approach minimums lower than were anticipated (published RNP 0.10 minimums = 418' DA & 1 mile, vs. anticipated 500' DA and 1 mile).

4. Develop a "special" instrument approach procedure similar to those used at Eagle and Aspen Airports. It was noted that development of a "special" procedure requires significant coordination with users and the FAA, and RIL Airport would have to assume the cost for the development and maintenance of any "special" procedure. In addition, not all aircraft or flight crews would be qualified to fly the "special" procedure.

1.7 FAA FLIGHT PROCEDURES CURRENT ASSESSMENT OF RIL

Discussions were held with Fred Mitchell, FAA Flight Procedures Division, in March 2015 to review the current instrument approach procedures and minimums at RIL. Involved in those discussions with Fred were Brian Condie, RIL Airport Manager, David Kuxhausen, Woolpert, and Stephen Berardo, Jviation. Notes from the conference call with Fred are attached in **Appendix F**.

- Fred noted that there are a number of AAOs in both the approach and departure surfaces to the ILS 26 approach, although there are many more AAOs in the 40:1 missed approach surface (see **Appendix F**). Based on a question from the airport manager, Fred said that if the County had an ordinance restricting development in the missed approach area that FAA would not apply AAOs.

- FAA has inserted AAOs in a variety of locations in order to provide adequate safety margins because it cannot tell whether there are any objects on top of the hills or not. Some of those AAOs do impact the approach minimums on the ILS Runway 26.

- Brian said that his goal is to reduce the minimums on the ILS 26 because that is the most widely used approach. He said it was the County's understanding when the runway was reconstructed in 2010 that FAA would re-examine the approaches and lower the minimums, but that did not happen.
- Woolpert said that they did not map the missed approach areas as part of their AGIS in 2010 because it was not required by FAA.
- Fred said that his records show an obstacle (ID# KRILTO29, elev. 5,553', shown below) near the Runway 26 threshold that is affecting the minimums. Dave Kuxhausen examined Woolpert's AGIS mapping and determined that object is 28.65' lower than FAA's records indicate, and wrote a letter to Fred Mitchell, FAA, showing their survey data (see **Appendix G** for Woolpert letter). Fred Mitchell responded that he lowered the elevation of that object to the elevation shown on AGIS, and based on FAA's new analysis felt that FAA could lower the HAT on the ILS 26 to 200', just based on the objects in the final approach course. He is still looking at objects in the missed approach area which affect the approach minimums.

STANDARD INSTRUMENT APPROACH PROCEDURE DATA RECORD

PART - A OBSTRUCTION DATA

1. APP SEGMENT	FROM	TO	OBSTRUCTION	COORDINATES	ELEV. MSL	ROC	ALT. ADJUSTMENTS	MIN. ALT.
FINAL: ILS	YODUB/I-RIL	RW26	13. GRD (KRILT029)	393133.30N/1074247.28W	5553 (2C)	28.3	MA963 AC20	6800/1263

- Brian Condie noted a tower shown on the ILS 26 approach chart with an elevation of 5,969' is not there. Dave Kuxhausen said that tower is not shown on the AGIS mapping. Fred said that tower was identified by FAA National Flight Data Center (NFDC), but it is not shown in his records. Fred will look at that further and determine if it can be removed from the approach chart.
- A discussion was held about whether Woolpert could survey the AAOs in the missed approach and document that the objects are either not there or much lower than FAA records indicate. Fred said he would provide a map delineating an area that would need surveying. Dave said it would be much more cost effective to survey specific points (assuming he had the latitude/longitude coordinates for each point), rather doing an area survey.
- Dave Kuxhausen talked with Chuck Youngblood, FAA Flight Procedures, Oklahoma City, to confirm that FAA would accept Woolpert's survey data in the 40:1 missed approach area and re-examine the instrument approach minimums based on the new survey. Youngblood confirmed that FAA would do that.
- Dave Kuxhausen said Woolpert will provide a cost estimate and schedule to do the survey for the AAOs after they have received the spreadsheet from Fred Mitchell.

DRAFT AIRSPACE & INSTRUMENT PROCEDURES REPORT

AIRPORT MASTER PLAN

Rifle Garfield County Airport

Appendix A

Instrument Approach and Departure Procedures

Source: FAA Aeronautical Information Services

http://www.faa.gov/air_traffic/flight_info/aeronav/digital_products/dtpp/search/results/?cycle=1503&ident=ril

ILS RWY 26

GARFIELD COUNTY RGNL (RIL)

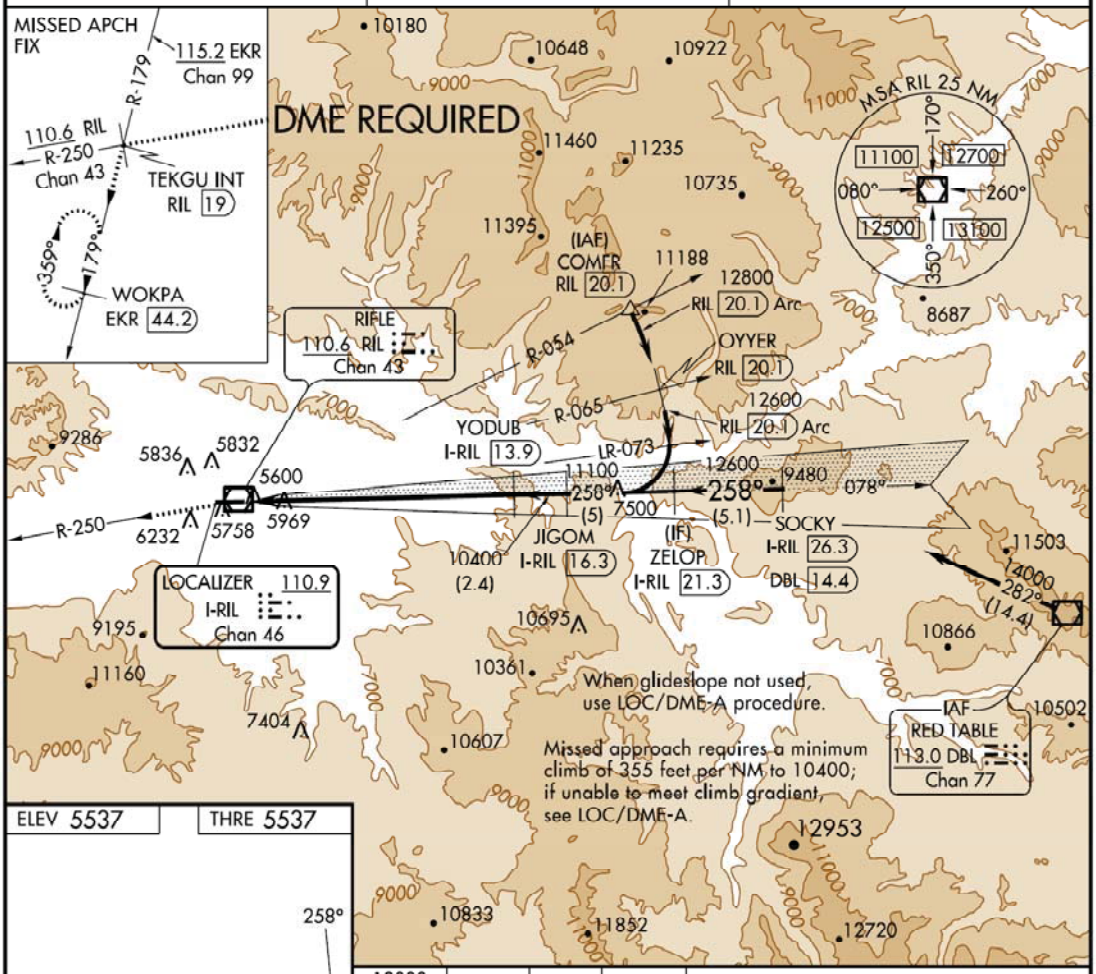
LOC/DME I-RIL	APP CRS	Rwy Idg	7000
110.9	258°	THRE	5537
Chan 46		Apt Elev	5537

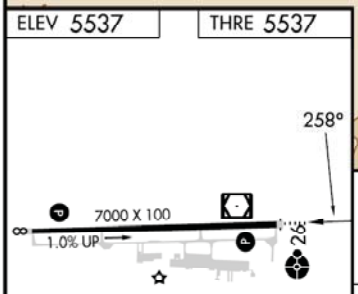
Visibility reduction by helicopters NA.
Use I-RIL DME when on localizer course.
DME required. Circling not authorized.

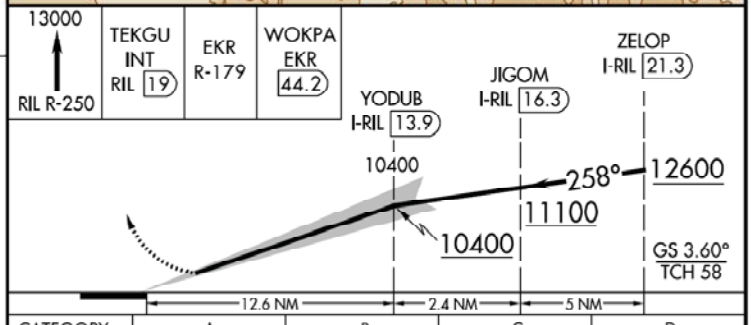
ODALS

MISSED APPROACH: Climb to 13000 on RIL VOR/DME R-250 to TEKGU INT/RIL 19 DME and on EKR VOR/DME R-179 to WOKPA/EKR 44.2 DME and hold.

ASOS	DENVER CENTER	UNICOM
135.275	134.5 327.8	122.8 (CTAF)







CATEGORY	A	B	C	D
S-ILS 26	6800-4 1263 (1300-4)			NA

HIRL Rwy 8-26
REIL Rwy 8

APP CRS		
259°	Rwy Idg	7000
	TDZE	5537
	Apt Elev	5537

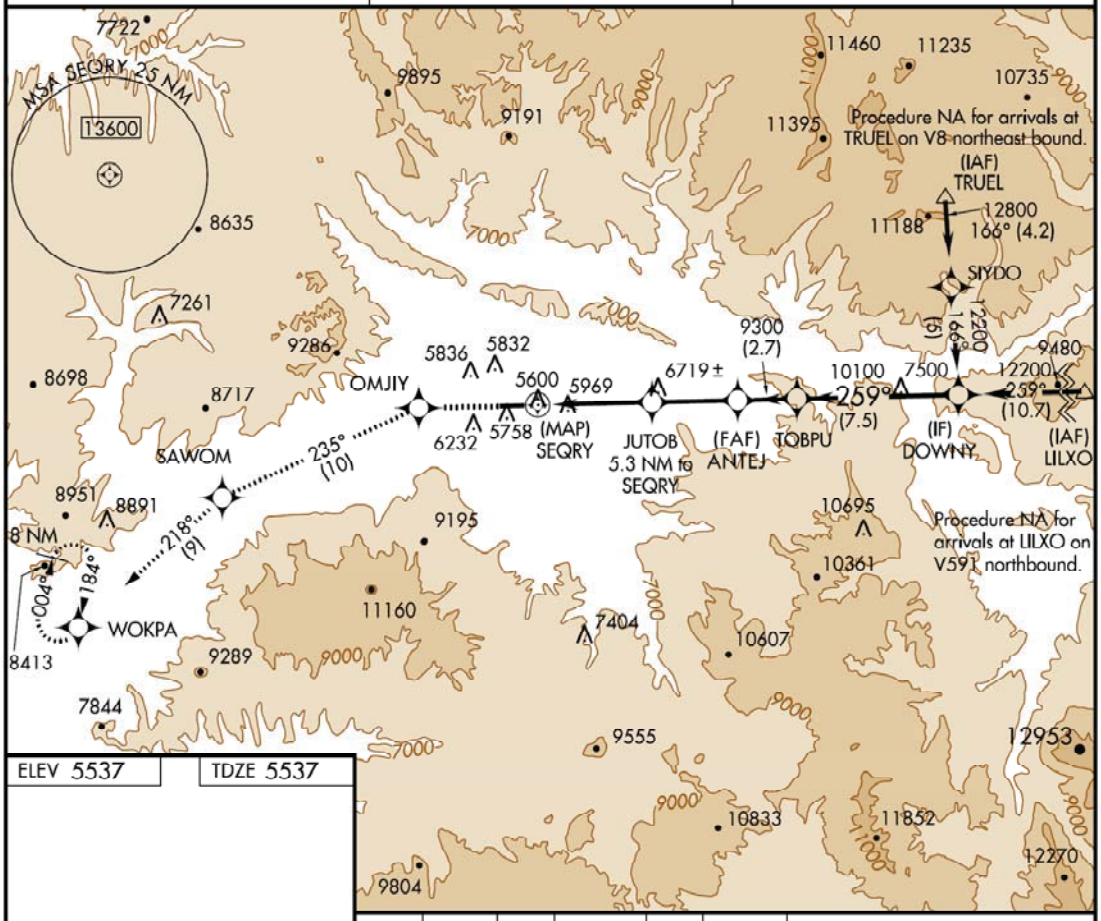
RNAV (GPS) W RWY 26
GARFIELD COUNTY RGNL (RIL)

DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. Circling not authorized at night south of Rwy 8-26. Inoperative table does not apply.

ODALS

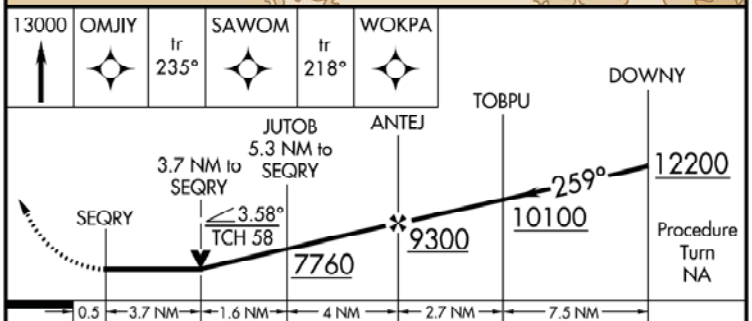
MISSED APPROACH: Climb to 13000 direct OMJIY and on track 235° to SAWOM and on track 218° to WOKPA and hold, continue climb-in-hold to 13000.

ASOS	DENVER CENTER	UNICOM
135.275	134.5 327.8	122.8 (CTAF) L



ELEV 5537	TDZE 5537

HIRL Rwy 8-26 L
REIL Rwy 8 L



CATEGORY	A	B	C	D
LNAV MDA	7180-1¼ 1643 (1700-1¼)	7180-1½ 1643 (1700-1½)	7180-3 1643 (1700-3)	NA
CIRCLING	7180-1¼ 1643 (1700-1¼)	7180-1½ 1643 (1700-1½)	7180-3 1643 (1700-3)	NA

RNAV (GPS) X RWY 26

GARFIELD COUNTY RGNL (RIL)

WAAS	APP CRS	Rwy Idg	7000
CH 93708	259°	TDZE	5537
W26A		Apt Elev	5537

NA DME/DME RNP- 0.3 NA.

ODALS

MISSED APPROACH: Climb to 13000 direct OMJIY and on track 235° to SAWOM and on track 218° to WOKPA and hold, continue climb-in-hold to 13000.

ASOS	DENVER CENTER	UNICOM
135.275	134.5 327.8	122.8 (CTAF) L

MSA RW 26 25 NM 13100

Procedure NA for arrivals at TRUEL on V8 northeast bound.

(IAF) TRUEL

166° (9.2) 12800

WUKLI 10400 7500 12800 259° (10.7) (IAF) LILXO

259° (7.8) (IF) DOWNY

OMJIY 5836 5832 5600 5969 6232 5758 RW26

SAWOM 235° (10)

WOKPA 218° (9) 184° 004° 8 NM 8413

Procedure NA for arrivals at LILXO on V591 northbound.

Missed approach obstructions require a minimum climb gradient of 290 ft/NM to 9600 feet; if unable to meet climb gradient, see RNAV (GPS) W RWY 26.

ELEV 5537 TDZE 5537

259° to RW26

7000 X 100

1.0% UP

13000	OMJIY	tr 235°	SAWOM	tr 218°	WOKPA

DOWNY 12800

WUKLI 10400

259°

RW26 10400

GS 3.60° TCH 58

12.2 NM 7.8 NM

CATEGORY	A	B	C	D
LPV DA	6300-2¼ 763 (800-2¼)			NA

HIRL Rwy 8-26 L

REIL Rwy 8 L

39°32'N-107°44'W

GARFIELD COUNTY RGNL (RIL)
RNAV (GPS) X RWY 26

APP CRS	Rwy Idg	7000
259°	TDZE	5537
	Apt Elev	5537

RNAV (RNP) Y RWY 26

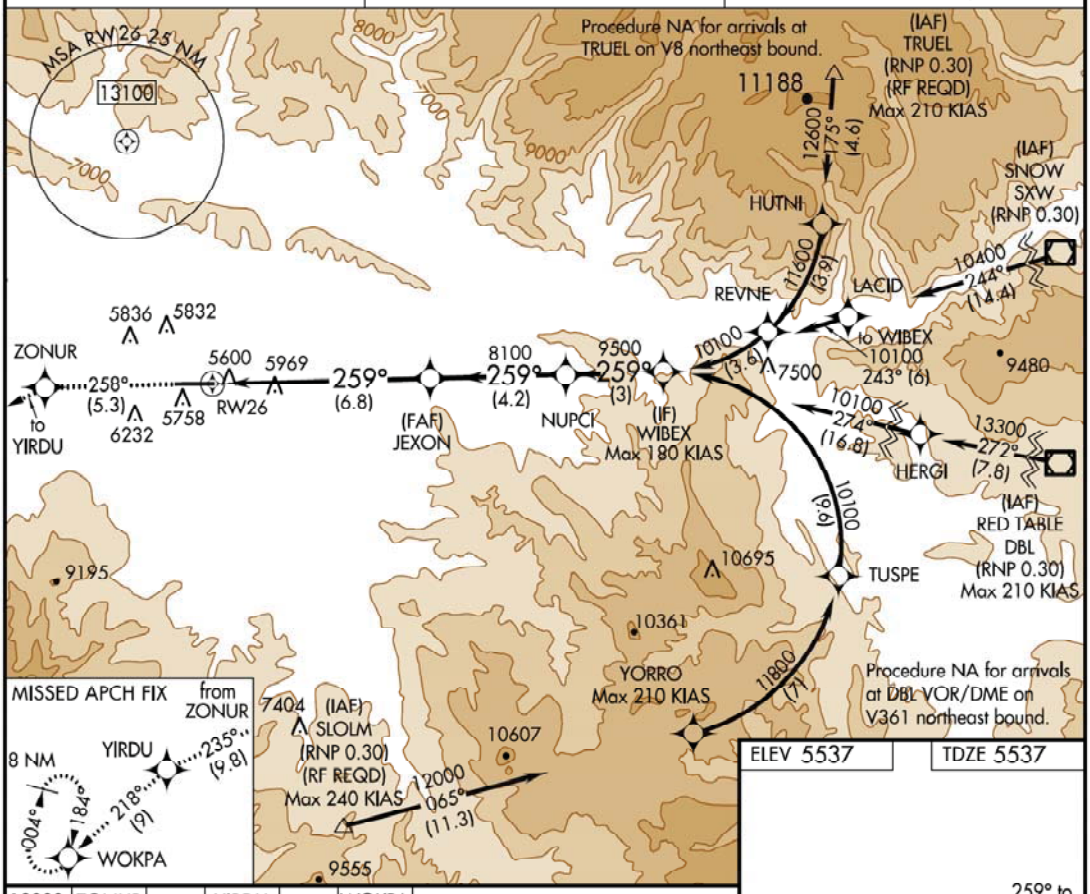
GARFIELD COUNTY RGNL (RIL)

When VGSI inoperative, procedure NA at night.
For uncompensated Baro-VNAV systems, procedure NA below -24°C (-11°F) or above 38°C (100°F).
GPS required.

ODALS

MISSED APPROACH: Climb to 13000 on track 258° to ZONUR and track 235° to YIRDU and track 218° to WOKPA and hold, continue climb-in-hold to 13000.

ASOS	DENVER CENTER	UNICOM
135.275	134.5 327.8	122.8 (CTAF) L



CATEGORY	A	B	C	D
RNP 0.30 DA	6387-2½ 850 (900-2½)			NA

AUTHORIZATION REQUIRED

HIRL Rwy 8-26 L
REIL Rwy 8 L

APP CRS	Rwy Idg	7000
259°	THRE	5537
	Apt Elev	5537

RNAV (RNP) Z RWY 26

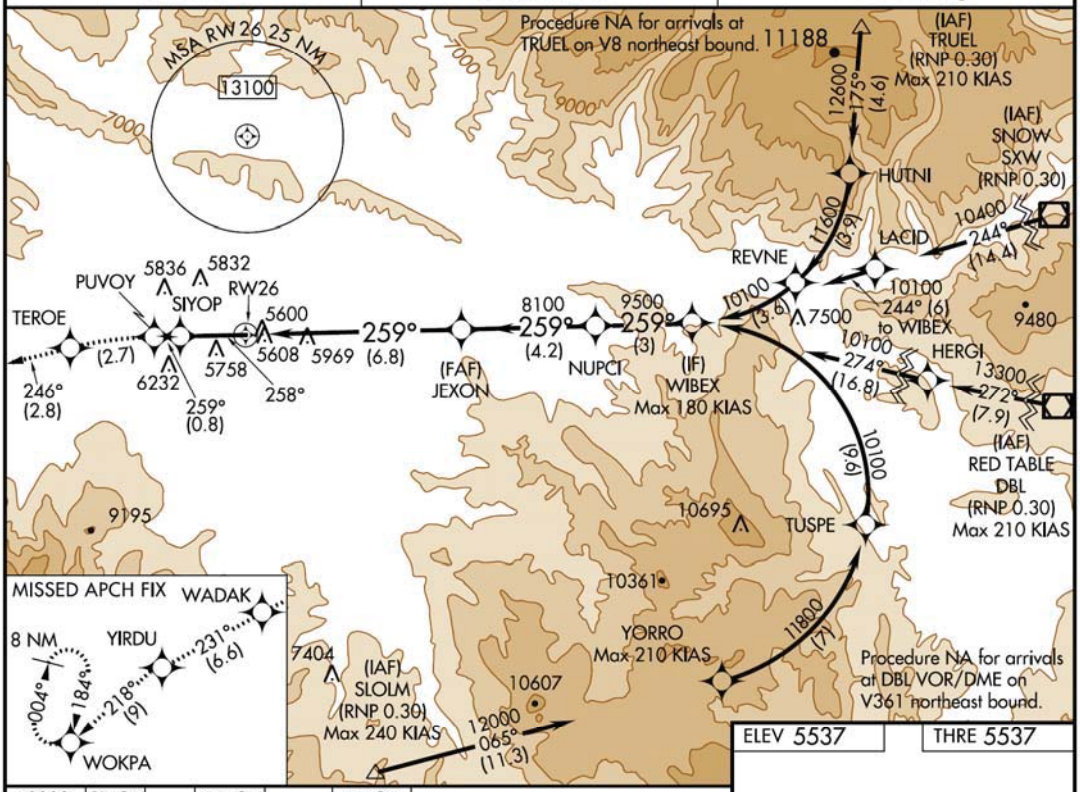
GARFIELD COUNTY RGNL (RIL)

*Missed approach requires minimum climb of 398 feet per NM to 9100. When VGSI inoperative, procedure NA at night. RF required. GPS required. Missed approach requires RNP less than 1.0. For uncompensated Baro-VNAV systems, procedure NA below -24°C (-11°F) or above 38°C (100°F).

ODALS

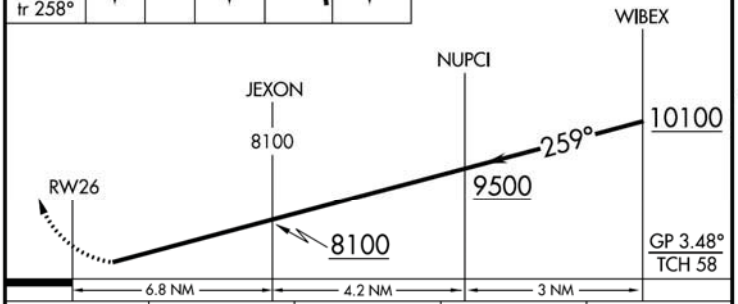
MISSED APPROACH: Climb to 13000 on track 258° to SIYOP and track 259° to PUVOY left turn to TEROE and track 246° to WADAK and track 231° to YIRDU and track 218° to WOKPA and hold, continue climb-in-hold to 13000.

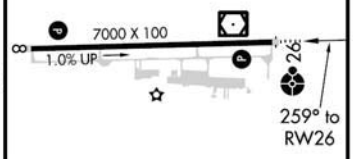
ASOS	DENVER CENTER	UNICOM
135.275	134.5 327.8	122.8 (CTAF) L



ELEV 5537	THRE 5537

13000	SIYOP	tr 259°	PUVOY		TEROE
tr 258°					





CATEGORY	A	B	C	D
RNP 0.10 DA*	5955-1	418 (500-1)		NA
RNP 0.30 DA	6387-2½	850 (900-2½)		NA

AUTHORIZATION REQUIRED

HIRL Rwy 8-26 L
REIL Rwy 8 L

APP CRS	Rwy Idg	7000
068°	TDZE	5498
	Apt Elev	5537

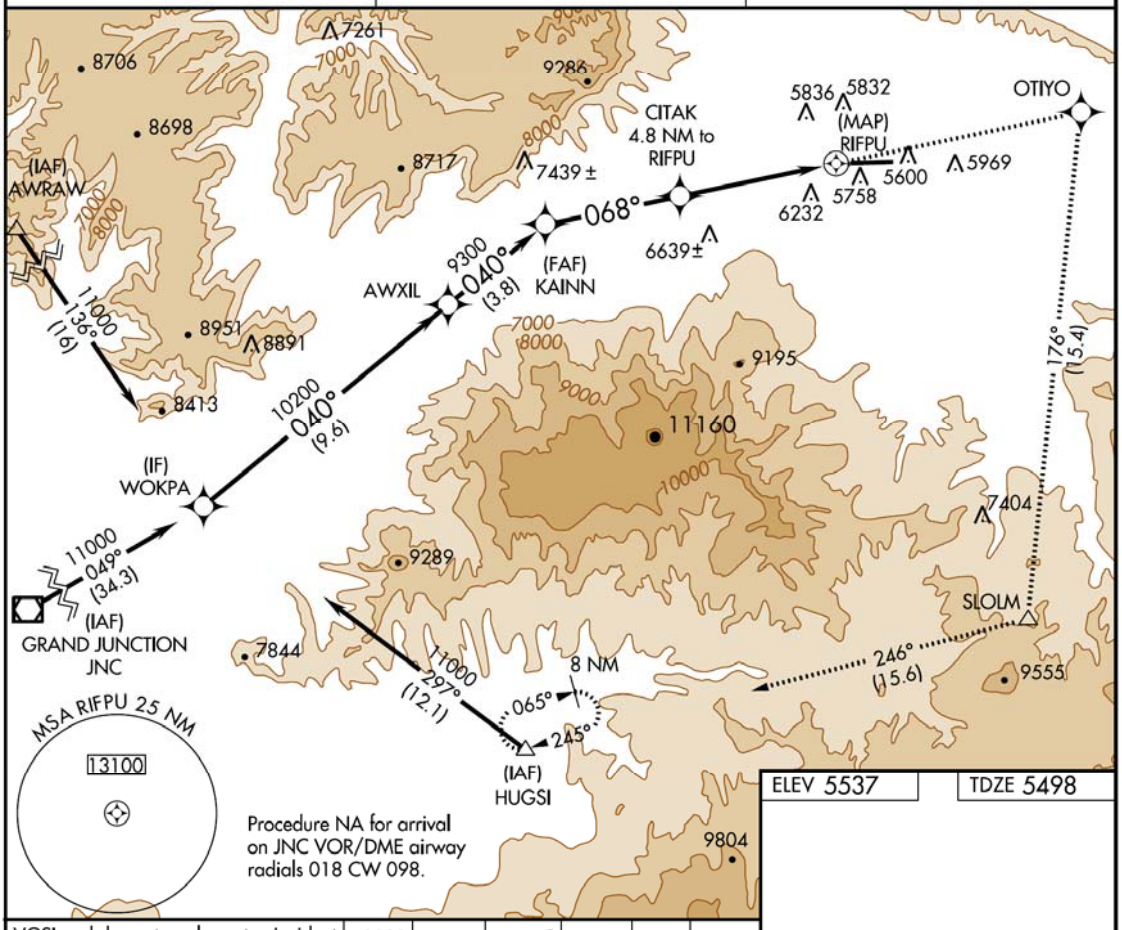
RNAV (GPS) Y RWY 8

GARFIELD COUNTY RGNL (RIL)

DME/DME RNP- 0.3 NA. Visibility reduction by helicopters NA. Circling NA at night south of Rwy 8-26.

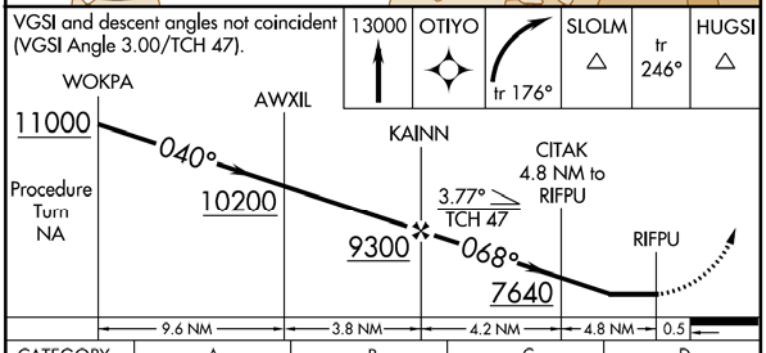
MISSED APPROACH: Climb to 13000 direct OTIYO and right turn on track 176° to SLOLM and on track 246° to HUGSI and hold, continue climb-in-hold to 13000.

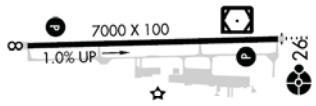
ASOS	DENVER CENTER	UNICOM
135.275	134.5 327.8	122.8 (CTAF) L



ELEV 5537 TDZE 5498

VGSI and descent angles not coincident (VGSI Angle 3.00/TCH 47).





CATEGORY	A	B	C	D
LNAV MDA	7420-1¼ 1922 (1900-1¼)	7420-1½ 1922 (1900-1½)	7420-3 1922 (1900-3)	NA
CIRCLING	7420-1¼ 1883 (1900-1¼)	7420-1½ 1883 (1900-1½)	7420-3 1883 (1900-3)	NA

HIRL Rwy 8-26 L
REIL Rwy 8 L

RNAV (RNP) Z RWY 8

GARFIELD COUNTY RGNL (RIL)

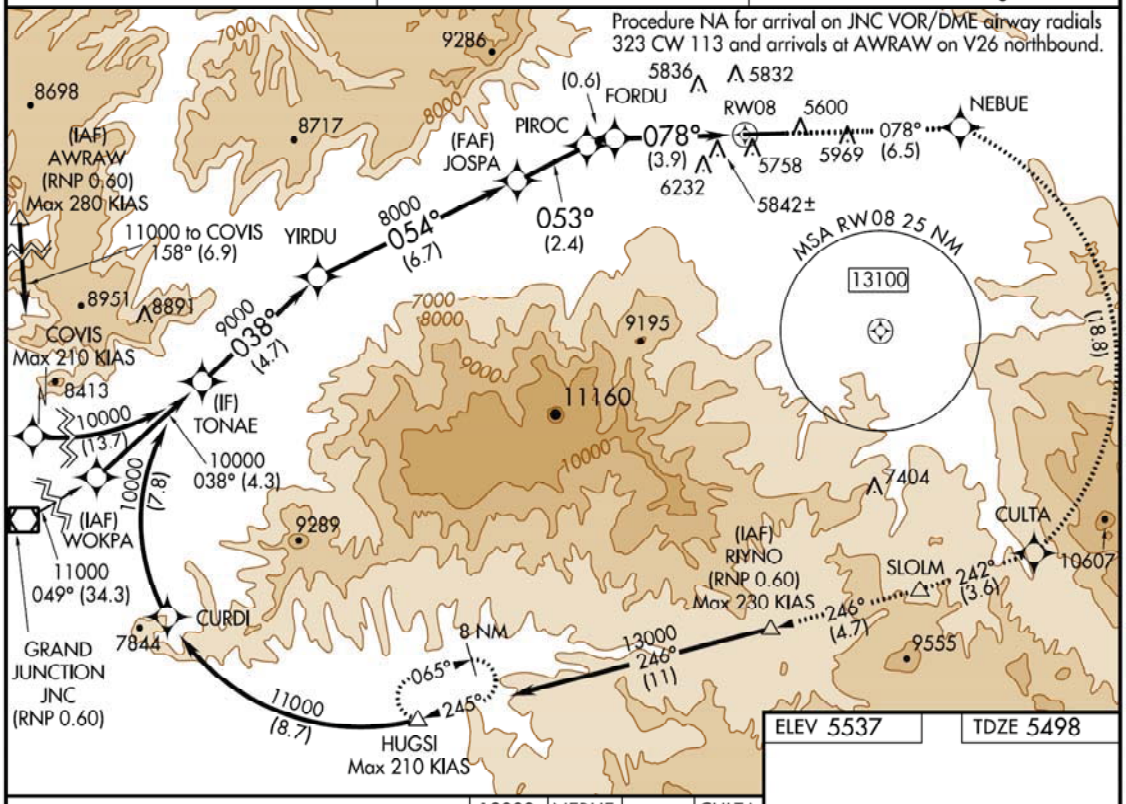
APP CRS		
078°	Rwy Idg	7000
	TDZE	5498
	Apt Elev	5537

RF and GPS required.
Procedure NA for wingspans greater than 136 feet. For uncompensated Baro-VNAV systems, procedure NA below -24°C (-11°F) or above 54°C (130°F).
* Missed approach requires minimum climb of 425 feet per NM to 11300.
** Missed approach requires minimum climb of 425 feet per NM to 10000; if unable, see RNAV (GPS) Y RWY 8.

MISSED APPROACH: Climb to 13000 on track 078° to NEBUE, right turn to CULTA, and track 242° to SLOLM and track 246° to RIYNO and track 246° to HUGSI and hold.

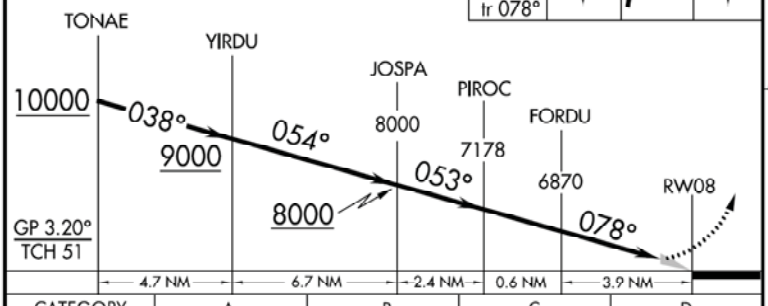
ASOS	DENVER CENTER	UNICOM
135.275	134.5 327.8	122.8 (CTAF) L

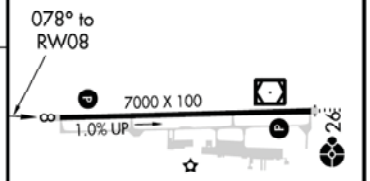
Procedure NA for arrival on JNC VOR/DME airway radials 323 CW 113 and arrivals at AWRAW on V26 northbound.



ELEV 5537	TDZE 5498

VGSI and RNAV glidepath not coincident (VGSI Angle 3.00/TCH 47).





CATEGORY	A	B	C	D
RNP 0.10 DA*	5748-1 250 (300-1)			NA
RNP 0.30 DA**	6391-3 893 (900-3)			NA

AUTHORIZATION REQUIRED

HIRL Rwy 8-26 L
REIL Rwy 8 L

LOC/DME-A

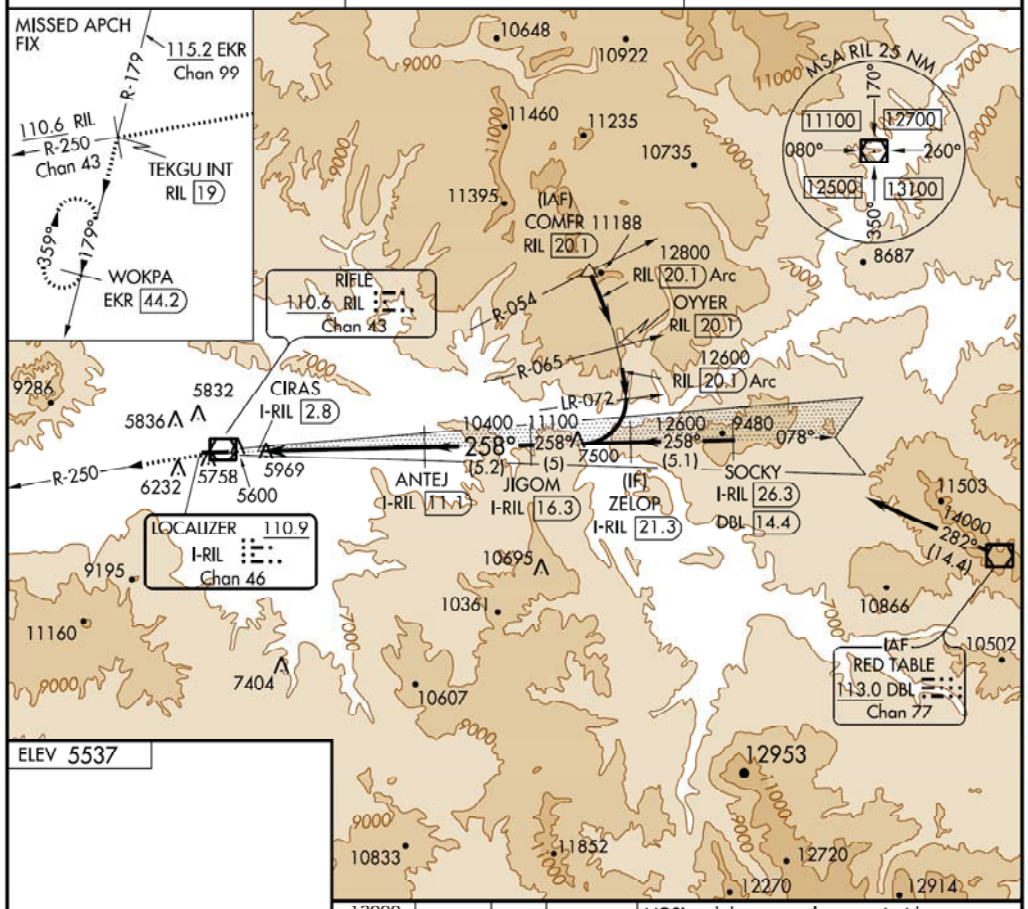
GARFIELD COUNTY RGNL (RIL)

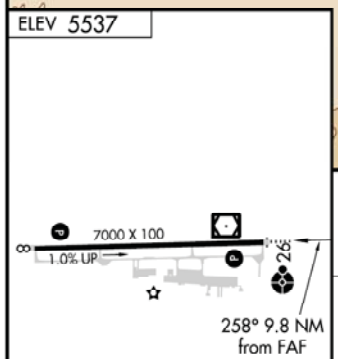
LOC/DME I-RIL	APP CRS	Rwy Idg	N/A
110.9 Chan 46	258°	TDZE	N/A
		Apt Elev	5537

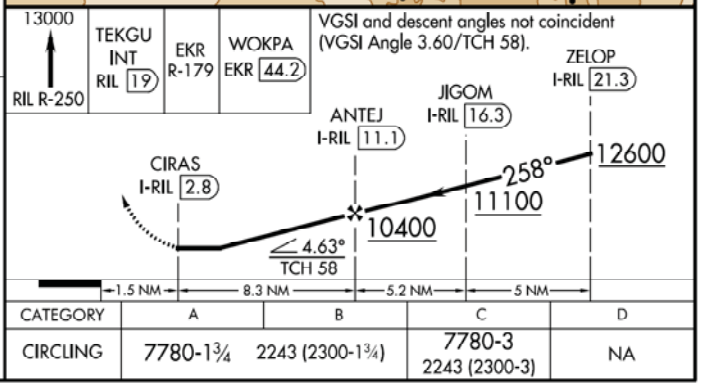
Visibility reduction by helicopters NA.
Use I-RIL DME when on localizer course.
Circling not authorized at night south of Rwy 8-26.

MISSED APPROACH: Climb to 13000 on RIL VOR/DME R-250 to TEKGU INT/RIL 19 DME and on EKR VOR/DME R-179 to WOKPA/EKR 44.2 DME and hold, continue climb-in-hold to 13000.

ASOS	DENVER CENTER	UNICOM
135.275	134.5 327.8	122.8 (CTAF) L







CATEGORY	A	B	C	D
CIRCLING	7780-1¾	2243 (2300-1¾)	7780-3 2243 (2300-3)	NA

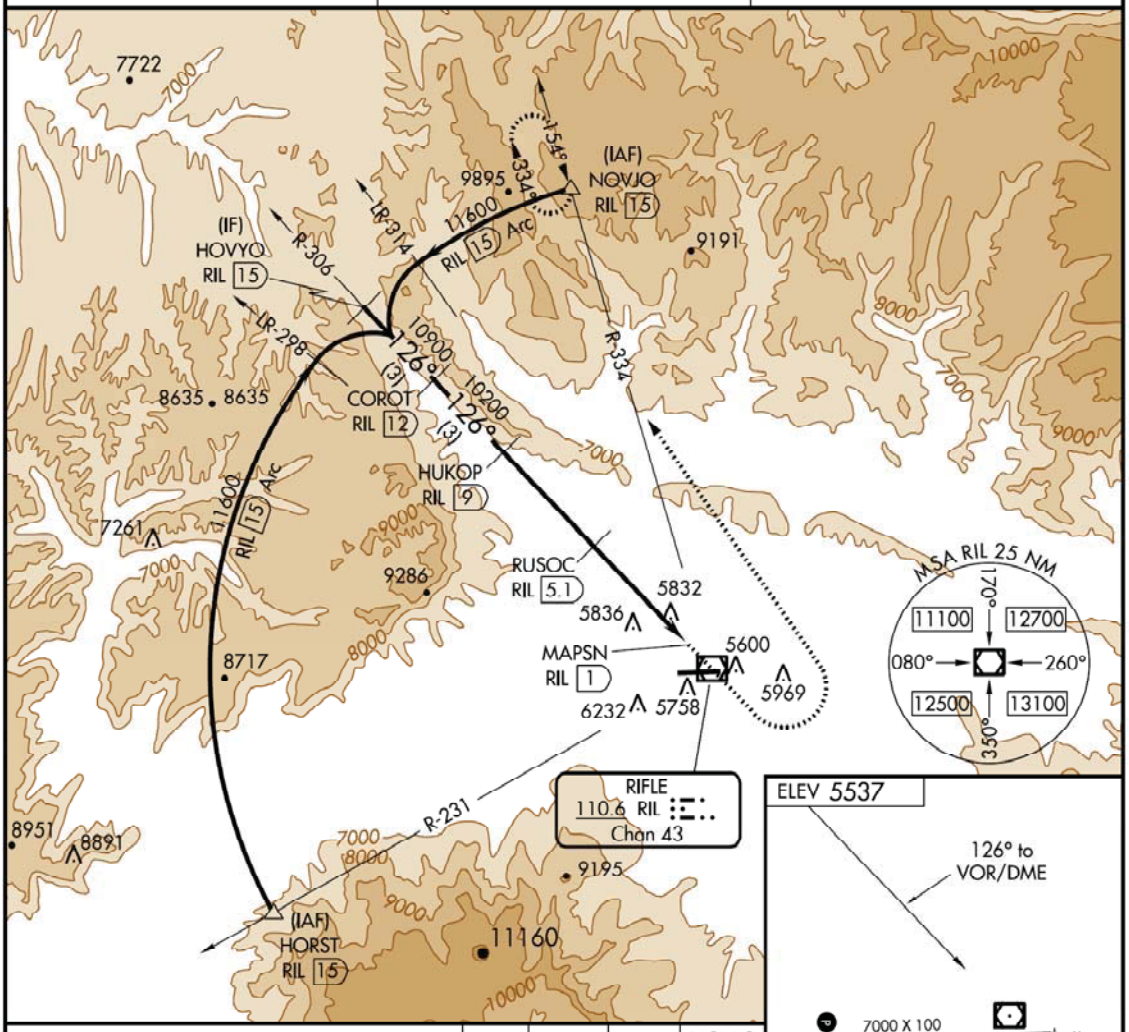
VOR/DME RIL	APP CRS	Rwy Idg	N/A
110.6	126°	TDZE	N/A
Chan 43		Apt Elev	5537

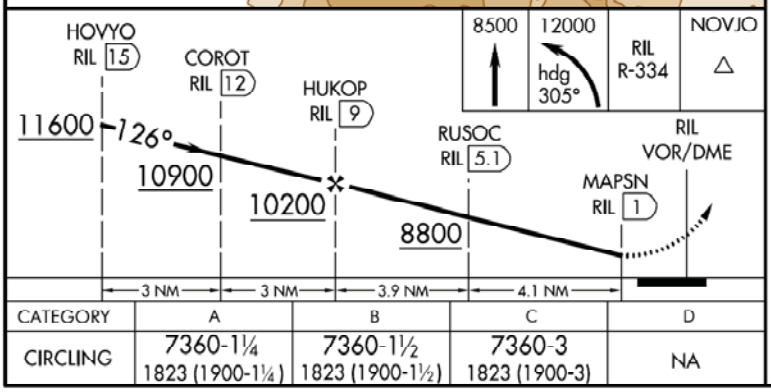
VOR/DME-C
GARFIELD COUNTY RGNL (RIL)

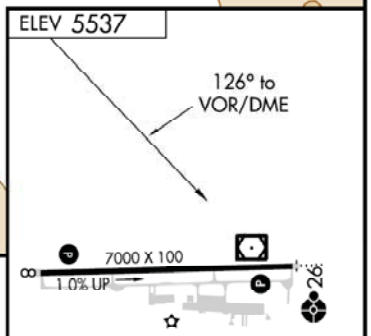
Circling NA south of Rwy 8-26 at night.

MISSED APPROACH: Climb to 8500 then climbing left turn 12000 on heading 305° and RIL VOR/DME R-334 to NOVJO/15 DME and hold, continue climb-in-hold to 12400.

ASOS	DENVER CENTER	UNICOM
135.275	134.5 327.8	122.8 (CTAF) L



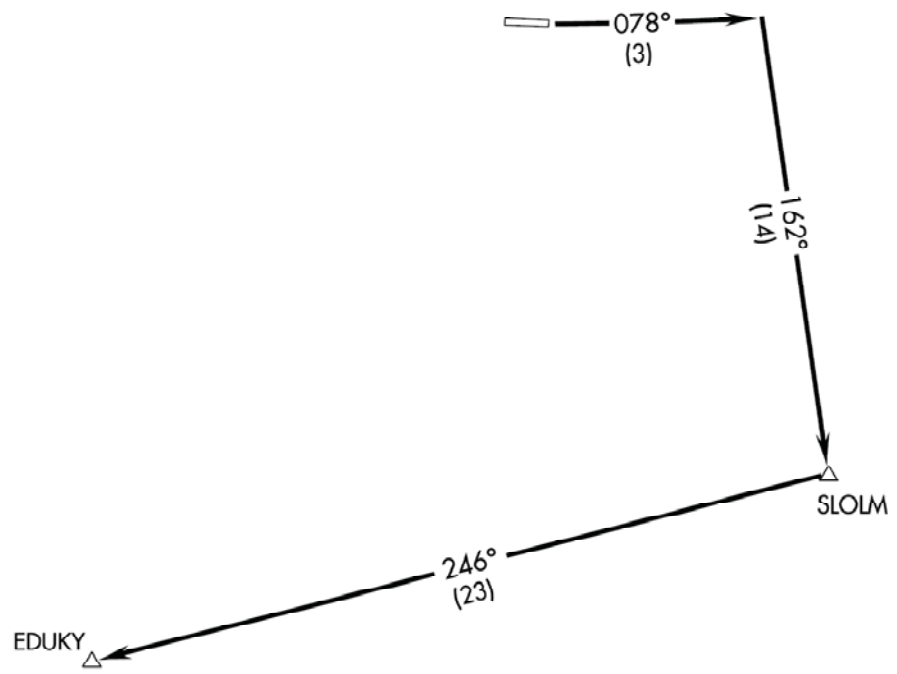




CATEGORY	A	B	C	D
CIRCLING	7360-1¼ 1823 (1900-1¼)	7360-1½ 1823 (1900-1½)	7360-3 1823 (1900-3)	NA

HIRL Rwy 8-26 L
REIL Rwy 8 L

DENVER CENTER
134.5 327.8



TAKEOFF MINIMUMS

Rwy 26: NA- ATC.

Rwy 8: Standard with minimum climb of 396′ per NM to 11100.

NOTE: GPS Required.

NOTE: RNAV 1

TAKEOFF OBSTACLE NOTES

Rwy 8: Terrain beginning 452′ from DER, 464′ right of centerline, up to 5551′ MSL..
Pole 4024′ from DER, 1396′ right of centerline 42′ AGL/5642′ MSL.
Obstruction light on NDB Tower 15′ from DER, 283′ left of centerline, up to 5586′ MSL.
Transmission line towers beginning 1.7 NM from DER, 1852′ right of centerline, up to 150′ AGL/5969′ MSL.

NOTE: Chart not to scale.

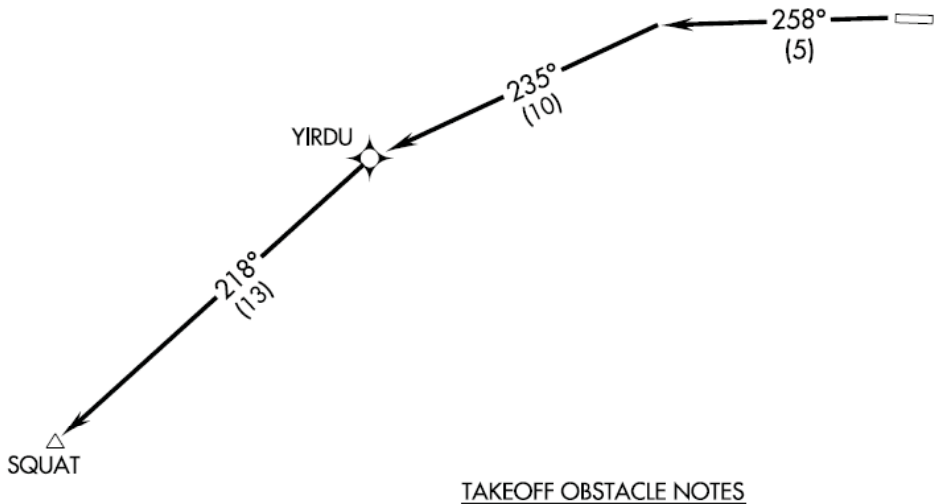
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 8: Climb heading 078° to intercept course 162° to SLOLM, then on track 246° to EDUKY, Thence. . . .

. . . .via assigned route, maintain 14000, expect clearance to assigned altitude 10 minutes after departure.

SQUAT THREE DEPARTURE (RNAV) (OBSTACLE)

DENVER CENTER
134.5 327.8



TAKEOFF OBSTACLE NOTES
Rwy 26: Poles beginning 1446' from DER, 634' left of centerline, up to 58' AGL/5331' MSL.

TAKEOFF MINIMUMS
Rwy 8: NA- ATC.
Rwy 26: Standard with minimum climb of 399' per NM to 9700.

NOTE: GPS Required.
NOTE: RNAV 1

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 26: Climb heading 258° to intercept course 235° to YIRDU, and on 218° to SQUAT, maintain 10500 or as assigned.

UYRIG THREE DEPARTURE (RNAV)

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 8: Climb heading 078° to intercept course 064° to TALJE, then on track 090° to UYRIG. Thence. . . .

. . . .via transition or assigned route. Maintain 14000, expect clearance to assigned altitude 10 minutes after departure.

RED TABLE TRANSITION (UYRIG3.DBL)

SNOW TRANSITION (UYRIG3.SXW)

NOTE: RNAV 1.
NOTE: GPS Required.

TAKEOFF MINIMUMS

Rwy 26: NA - ATC.
Rwy 8: Standard with minimum climb of 335' per NM to 10000.

TAKEOFF OBSTACLE NOTES

Rwy 8: Terrain beginning 452' from DER, 464' right of centerline, up to 5551' MSL.
Pole 4024' from DER, 1396' right of centerline, 42' AGL/5642' MSL.
Obstruction light on NDB Twr 15' from DER, 283' left of centerline, up to 5586' MSL.
Transmission line towers beginning 1.7 NM from DER, 1852' right of centerline, up to 150' AGL/5969' MSL.

NOTE: Chart not to scale.

RIFLE, CO

GARFIELD COUNTY RGNL (RIL)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 10 12320 (FAA)

TAKEOFF MINIMUMS: **Rwy 8,** std. w/ min. climb of 400' per NM to 11900 or 5400-3 for climb in visual conditions.

DEPARTURE PROCEDURE: **Rwy 8,** DME required. Climb on RIL VOR/DME R-083 to ZOBAK/7.4 DME, then climbing left turn direct RIL VOR/DME. Climb In RIL VOR/DME holding pattern (hold East, right turns, 263° inbound) to cross RIL VOR/DME at or above MEA/MCA before proceeding enroute, or for climb in visual conditions cross Garfield County RGNL airport at or above 10800 before proceeding on course. When executing VCOA, notify ATC prior to departure. **Rwy 26,** use SQUAT (RNAV) DEPARTURE.

NOTE: **Rwy 8,** terrain beginning 155' from DER, 380' right of centerline, up to 5551' MSL. Pole 4049' from DER, 1379' right of centerline, 42' AGL/5642' MSL. Obstruction light on NDB tower 41’ from DER, 300' left of centerline, 46' AGL/5586' MSL.

APPENDIX B

WIDE AREA MULTILATERATION (WAM)

SURVEILLANCE SYSTEM

Sources: CDOT and FAA

The Colorado Surveillance Project

What is the "Colorado Surveillance Project":

- "The cooperative Effort between the State of Colorado and the FAA to advance NextGen by deploying the emerging technologies of ADS-B and WAM to bring radar like service to the mountain airports of serving Ski Country."

Why a State of Colorado Project:

- Business Case - Colorado Ski Country Airports did not support the business case necessary to justify a 100% FAA funded project.
- The Division of Aeronautics realized that it would have to be part of the of the solution and not rely solely on the FAA.

Need for Improved Surveillance:

- Capacity - Increase airport capacity by eliminating the need for one-in one-out operations and improving operational efficiencies.
- Access – Enhanced surveillance improves access to airports by reducing delays, diversions and denied access.
- Economics - When aircraft are delayed or diverted due to the inability to safely and efficiently separate aircraft, there is a significant negative impact to the state and economies.

The Colorado Surveillance Project Overview

Phase I – **Complete certified in the NAS**

Utilized Wide Area Multilateration (WAM) as the surveillance source and provides "radar like" services to the following Colorado Ski Country Airports:

1. **Craig**
2. **Hayden**
3. **Steamboat Springs**
4. **Rifle**

- ✓ Project Start 2006
- ✓ Site Acceptance Test (SAT) 2009
- ✓ Initial Operating Capability (IOC) 2010

Phase II – Will add ADS-B to WAM to provide "radar like" coverage to the Following Colorado Ski Country airports:

1. **Durango**
2. **Gunnison**
3. **Montrose – Key Site**
4. **Telluride**

- ✓ Design Underway - Radios, Target Processor and Virtual Radar
- ✓ Siting for Key Site Montrose In process
- ✓ IOC **Montrose** scheduled June 2012
- ✓ IOC **Durango, Gunnison** and **Telluride** scheduled March 2013

Challenges to Colorado Mountain Airports

Colorado's Mountain Airports experience the three "D's": Delays, Diversions and Denied Service.

Factors that contribute to the three D's are:

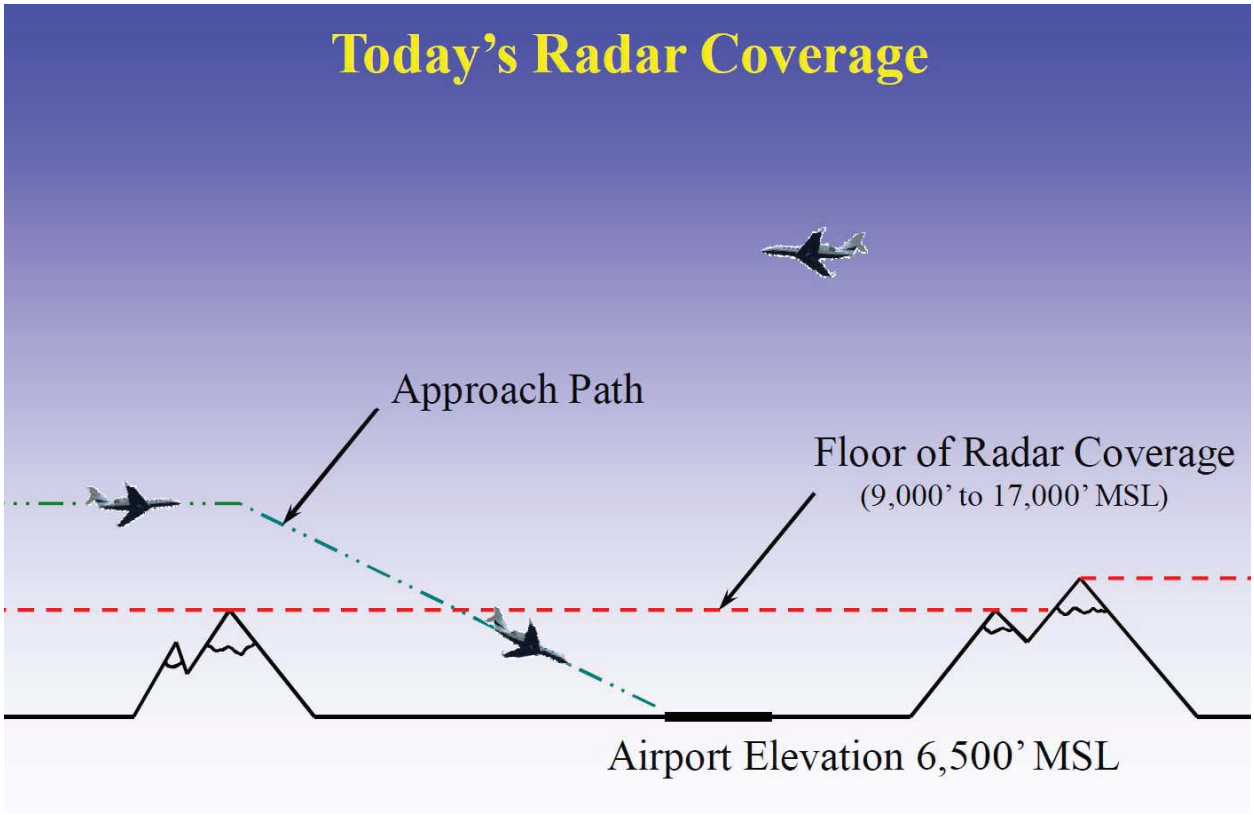
a. Weather

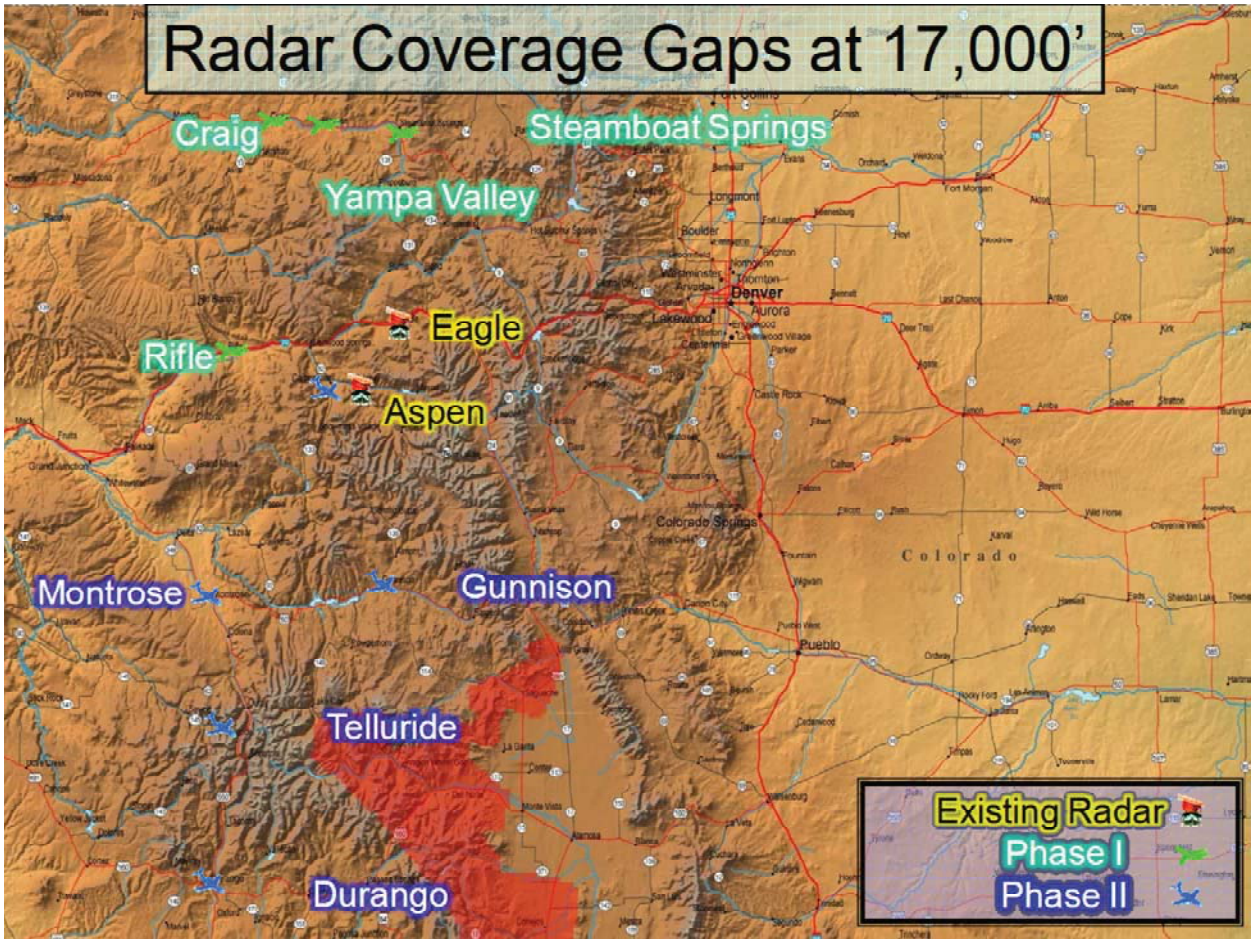
b. Traffic Volume (Denied Service)

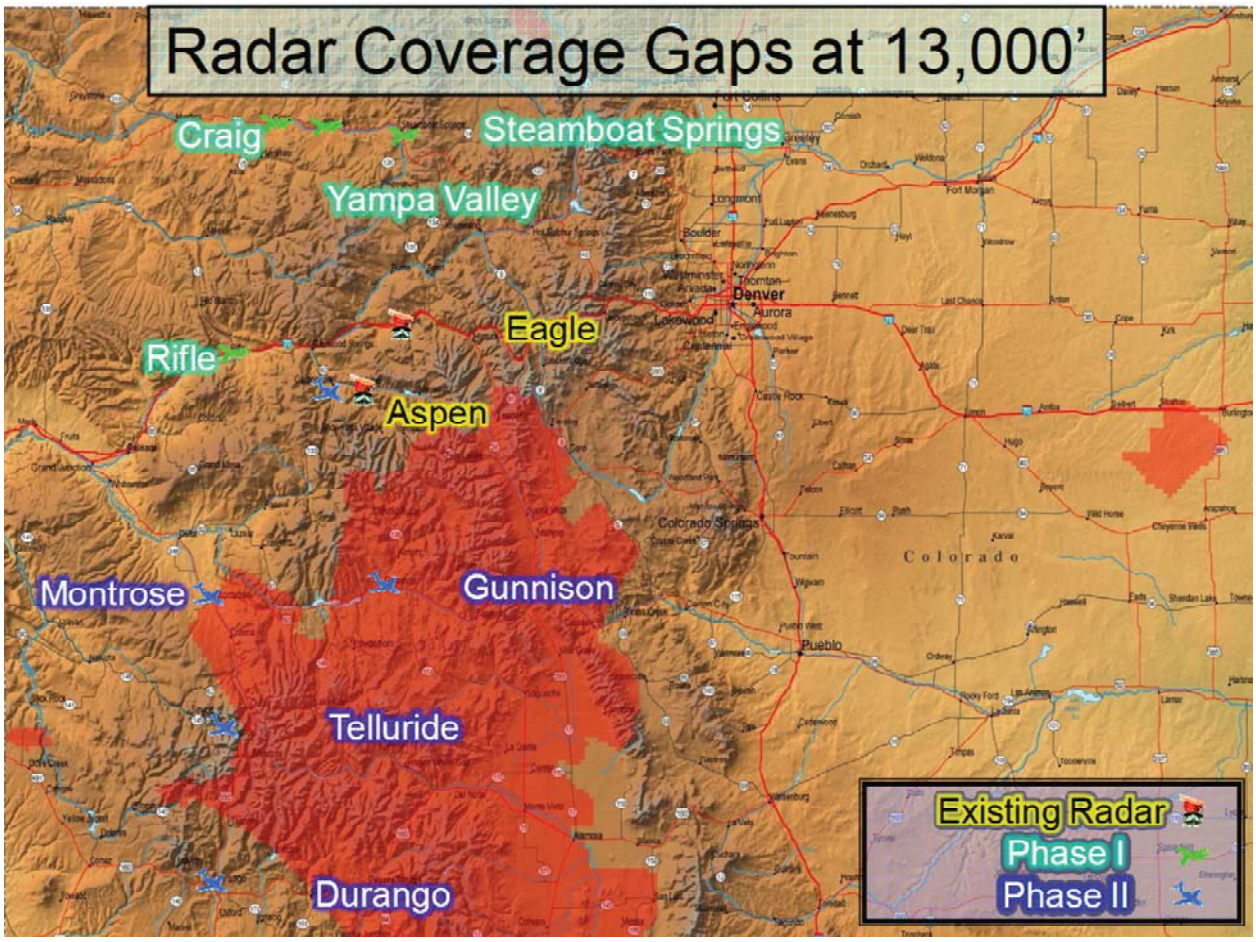
c. Physical Limitations of the Airport
   - Surrounding Mountainous Terrain
   - Runway Configuration - Most mountain airports have only one instrument runway, which limits the number of instrument approaches.
   - Limited Ramp Space - Aircraft must depart the airport, adding to the volume problem.

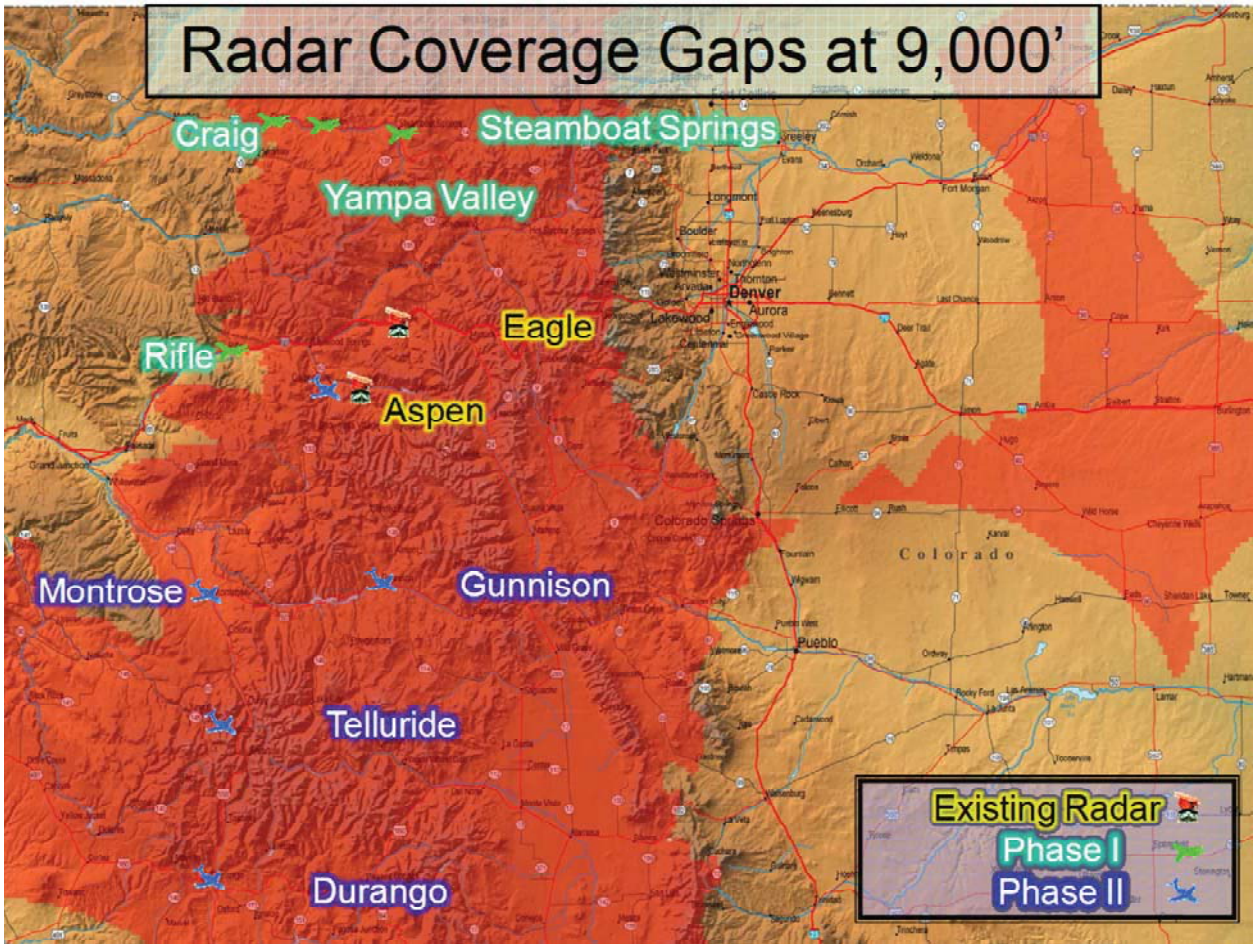
d. Instrument Approaches - Terrain causes approach minimums to be high resulting in more missed approaches (Delays and Diversions).

e. Lack of Surveillance - Inadequate surveillance during the approach and departure phase of flight results in greater separation requirements and reduced airport capacity.


Today's Radar Coverage
Approach Path
Floor of Radar Coverage
(9,000' to 17,000' MSL)
Airport Elevation 6,500' MSL


Radar Coverage Gaps at 17,000'
Craig
Steamboat Springs
Yampa Valley
Eagle
Rifle
Aspen
Montrose
Gunnison
Telluride
Durango
Denver
Aurora
Lakewood
Colorado Springs
Pueblo
Colorado
Existing Radar
Phase I
Phase II

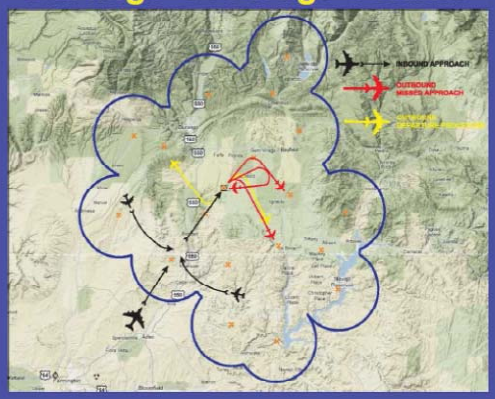

Radar Coverage Gaps at 13,000'
Craig
Steamboat Springs
Yampa Valley
Eagle
Rifle
Aspen
Montrose
Gunnison
Telluride
Durango
Denver
Aurora
Colorado Springs
Pueblo
Colorado
Existing Radar
Phase I
Phase II


Radar Coverage Gaps at 9,000'
Craig
Steamboat Springs
Yampa Valley
Eagle
Rifle
Aspen
Montrose
Gunnison
Telluride
Durango
Denver
Aurora
Lakewood
Pueblo
Colorado
Existing Radar
Phase I
Phase II

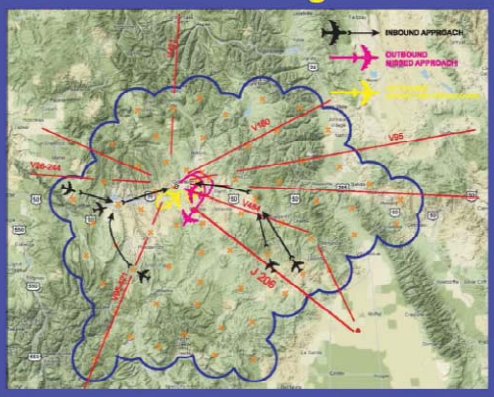
DEPARTMENT OF TRANSPORTATION

Phase II Coverage Volumes

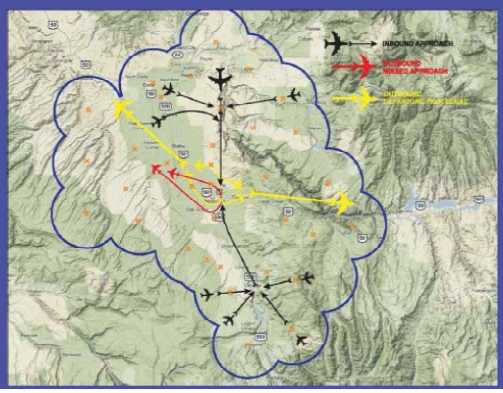
Durango Coverage Volume



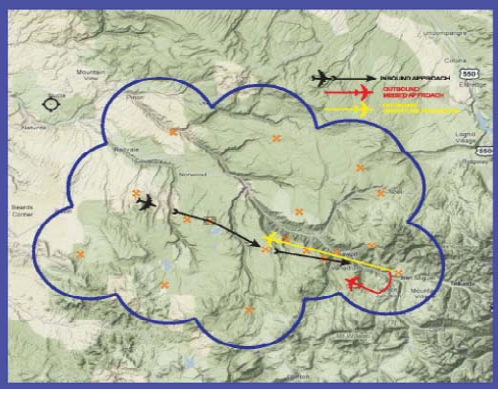
Gunnison Coverage Volume



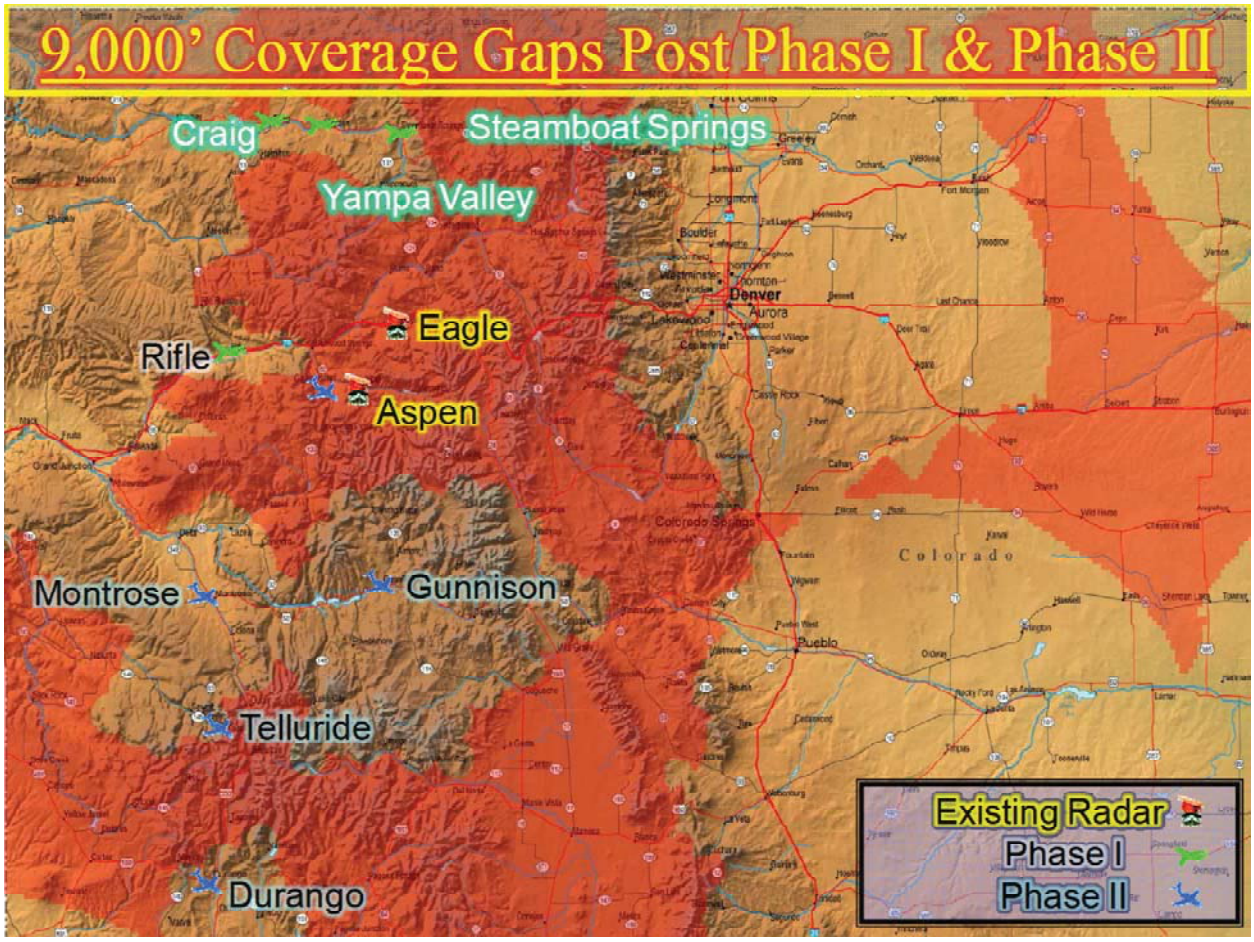
Montrose Coverage Volume



Telluride Coverage Volume



DEPARTMENT OF TRANSPORTATION



Air Traffic Control System Complete, Operational at Western Colorado Airports

August 9, 2013 - Statewide Transportation Plan - DENVER, COLORADO - The Colorado Department of Transportation (CDOT) Aeronautics Division announced that a Federal Aviation Administration (FAA) Next Generation Air Transportation (NextGen) ground and satellite-based air traffic control system that expands radar coverage of the airspace serving major western Colorado airports at Gunnison, Telluride, and Durango became operational on July 31.

The new system, utilizing Wide Area Multilateration (WAM) technology, allows air traffic controllers based in Longmont, CO, to track and separate flights at the three airports which receive heavy visitor traffic throughout the year and especially during ski season due to their proximity to major winter resorts.

The three airports now join a system previously activated for Montrose (2012) and Rifle/Garfield County, Craig, Steamboat Springs, and Hayden (2010).

"This is great news for aviation safety in Colorado," noted CDOT Executive Director **Don Hunt**. "This completed system will help deliver more on-time flights, reduce fuel consumption, and will help boost tourism and economic development. This system is consistent with the goals of Governor Hickenlooper and CDOT to deliver the most efficient and safest transportation system for Colorado."

Prior to implementation of the new WAM technology, tracking of flights at these airports was very limited via traditional radar and was not possible at altitudes below 17,000 feet. As a result there were frequent flight delays and diversions, especially during bad weather.

WAM technology works by utilizing a network of sensors deployed around each of the airports which receive and send aircraft transponder signals. System computers immediately analyze the signals, allowing air traffic controllers to determine precise aircraft location for the purposes of keeping air traffic safely separated and providing vital flight guidance in the event of inclement weather.

The technology also allows pilots to fly search and rescue missions in weather conditions that would previously have kept them grounded and improves their ability to located downed aircraft more quickly. The system helps reduce weather-related flight diversions and delays.

"CDOT's Aeronautics Division has been involved with this system for the past eight years," explained Aeronautics Division Director **David Gordon**. "This has been a great partnership with the FAA. The technology which was first used in western Colorado is now being installed across the United States to help our aviation system stay safe, on-time, and dependable."

CDOT's Aeronautics Division paid for WAM system development, which for the first time is integrated with NextGen technologies, at Montrose, Durango, Telluride, and Gunnison. The (FAA) maintains and operates the system.

What Is Wide Area Multilateration?

A new surveillance system introduced, called multilateration or Wide Area Multilateration (WAM), is now allowing air traffic controllers to track aircraft along the difficult approach to Juneau, Alaska—a mountainous area where radar was not possible.

Multilateration is a surveillance technology that works by employing multiple small remote sensors throughout an area to compensate for terrain obstructions, and is another tool the SBS program uses to enhance air traffic surveillance. The data from multilateration sensors is fused to determine aircraft position and identification. This data is then transmitted to air traffic control for use in providing surveillance separation services.

Currently, Juneau, Alaska; and several airports in the mountainous regions of Colorado have the first multilateration systems.

COLORADO WIDE AREA MULTILATERATION

Background

Increases in air traffic have resulted in growing delays and denied service at the Colorado mountain airports, especially during bad weather. Instrument meteorological conditions can reduce aircraft acceptance rates for these airports from 12 to 17 flights per hour, to only four per hour. From November to April each year, the Colorado Department of Transportation estimates 75 aircraft per airport, per day, are delayed or diverted, resulting in major revenue loss for the state.

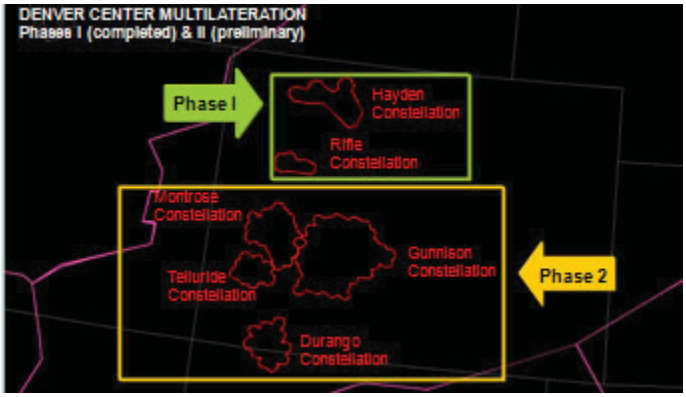
In 2005, the FAA, at the request of the State of Colorado Department of Transportations Division of Aeronautics, conducted an analysis of these delays and cancellations. The FAA study determined that the lack of surveillance contributed to reduced capacity during instrument meteorological conditions, and identified multilateration as the preferred solution for providing surveillance to the Colorado mountain airports.

Wide-Area Multilateration (WAM), began initial operations on September 12, 2009 at Denver Center serving the Yampa Valley-Hayden, Craig-Moffat, Steamboat Springs and Garfield County Regional-Rifle Airports. The WAM capability provide these airports with improved safety, efficiency and capacity by allowing controllers to see aircraft that are outside radar coverage saving time and money that would otherwise be lost due to flight delays and cancellations or diversions to other airports.

On December 8, 2009, the FAA approved the next phase of the Colorado Wide Area Multilateration (WAM). The phase 2 allows for the development and implementation of air traffic separation services, using Multilateration and ADS-B surveillance, for En Route air traffic operations in and out of the following airports:

- Gunnison-Crested Butte Regional (GUC)
- Montrose Regional (MTJ)
- Telluride Regional (TEX)
- Durango-La Plata County (DRO)

The system will be an ADS-B 1090 Extended Squittter (ES) and Universal Access Transceiver (UAT) surveillance system with integrated Multilateration surveillance capabilities. The system will also provide additional ADS-B services, including Flight Information Services-Broadcast (FIS-B) and Traffic Information Services-Broadcast (TIS-B) services. The Initial Operating Capability (IOC) of the ADS-B and Multilateration services is expected in Montrose by June 2012 with other sites operational in March 2013.



APPENDIX C

FAA FORM 8260

ILS RUNWAY 26, RIL

Flight Procedure Tracking Form	Action: FLIGHT CHECK	Task Type: IAP	Date Open: 03/07/2011	Task #: 20110307296437003	Request #: 20110307296437
Procedure: ILS RWY 26 AMDT 3		Airport ID: KRIL	Airport: GARFIELD COUNTY RGNL		Reimbursable #:
City: RIFLE	ST: CO	GPS #:		Estimated Chart Date: 11/15/2012	FICO #: 1091924
Fac ID: RIL	Fac. Type: ILS	Proc - A	Specialist: VICTOR NASO		

Procedure Review

	Rec'd	Rel'd	Full Name	Comments
Lead:	03/28/2012	08/22/2012	LONNIE EVERHART	
QA:	08/22/2012	08/22/2012	ERIC HILL	
Liaison:	08/22/2012		K Sparin	HARD DATE - WAIVER - REPLACEMENT WHL PKG 8/22/12

P1

Procedure Comments:

Remark Type: INFORMATION

Pkg 3 of 4

RIFLE, CO GARFIELD COUNTY RGNL (KRIL) ILS RWY 26, AMDT 3 ENROUTE NO HARD DATE: 11-15-2012
ATTACHED FORMS: 8260-3; 8260-10; 8260-9; 8260-2(S): COMFR-INT, REV 2; OYYER-INT, REV 1; SOCKY-INT, REV 3; TEKGU-INT, REV 2; WOKPA-INT, REV 3; YODUB-INT, ORIG; ZELOP-INT, ORIG; (INFO ONLY) JIGOM-INT, ORIG; RED TABLE (DBL) VDME, REV 11.
8260-1 (CANX).
CONTACT: ADOLFO URRUTIA/LONNIE EVERHART-AVN-130 LEADS, 405.954.2079/405.954.4576.

RIFLE, COLORADO

FIG

ILS RWY 26

RIFLE/GARFIELD COUNTY RGNL (RIL)

LOC/DME I-RIL	APP CRS	Rwy Idg	7000
110.9	258°	TDZE	5537
Chan 46		Apt Elev	5537

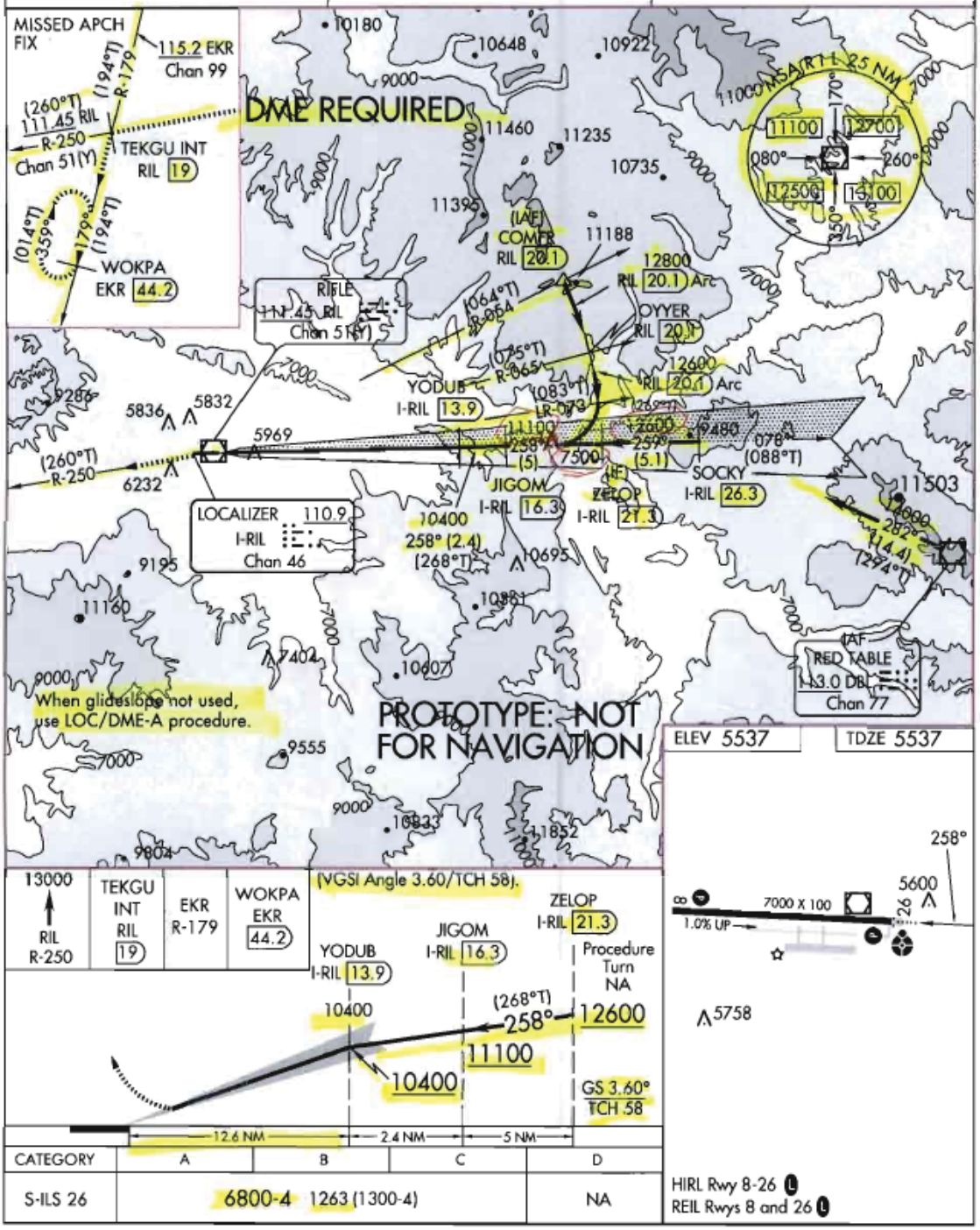
VISIBILITY REDUCTION BY HELICOPTERS NA. USE I-RIL DME WHEN ON LOCALIZER COURSE. CIRCLING NOT AUTHORIZED. DME REQUIRED.

MISSED APPROACH REQUIRES A MINIMUM CLIMB OF 355 FT PER NM TO 10400. IF UNABLE TO MEET CLIMB GRADIENT, SEE LOC/DME-A.

ODALS

MISSED APPROACH: Climb to 13000 on RIL VOR/DME R-250 to TEKGU INT/RIL 19 DME and on EKR VOR/DME R-179 to WOKPA/EKR 44.2 DME and hold.

ASOS	DENVER CENTER	UNICOM
135.275	134.5 327.8	122.8 (CTAF) L



CATEGORY	A	B	C	D
S-ILS 26	6800-4	1263 (1300-4)		NA

HIRL Rwy 8-26 L

REIL Rwys 8 and 26 L

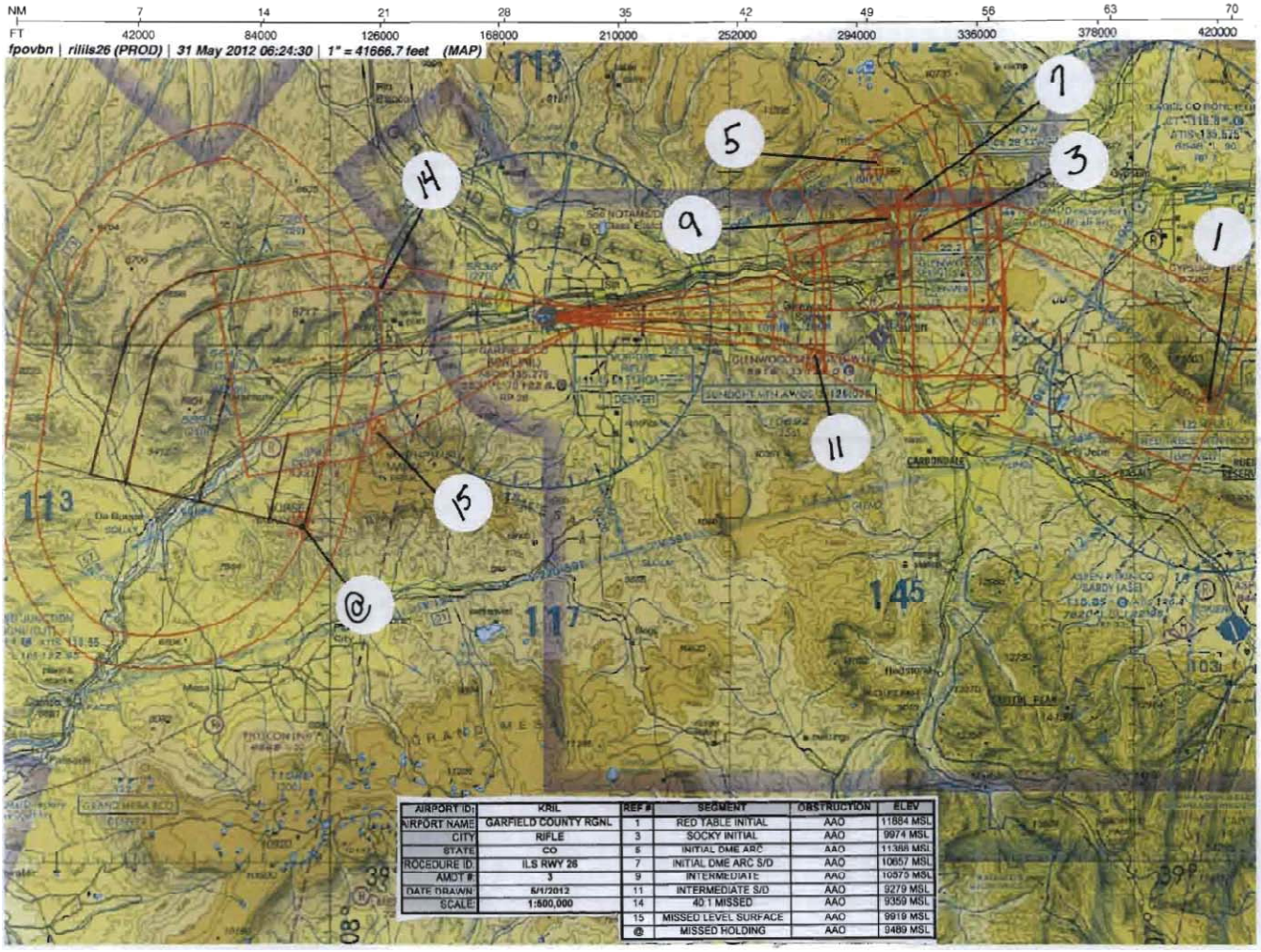
RIFLE, COLORADO

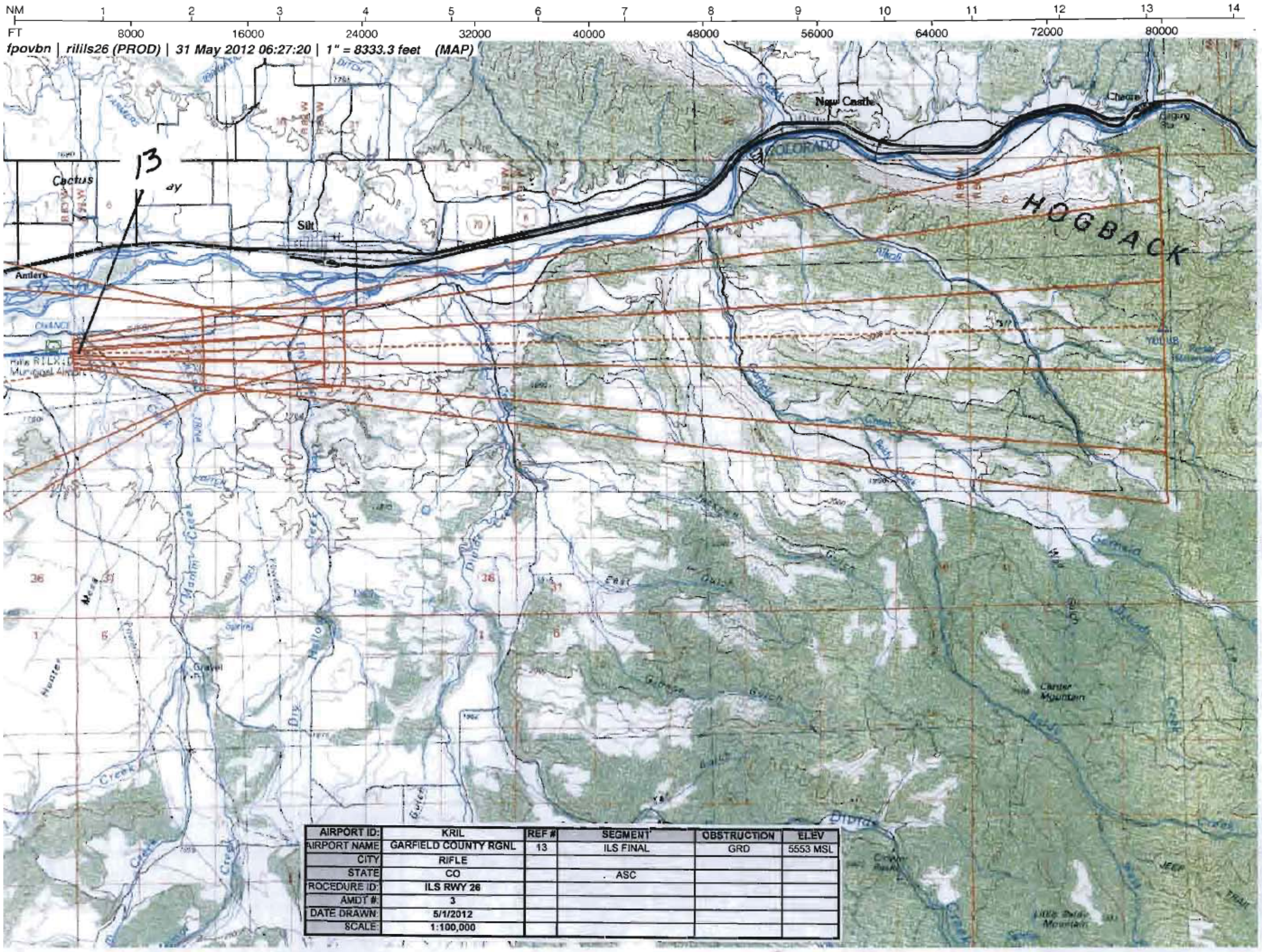
Amdt 3 FIG

39°32'N-107°44'W

RIFLE/GARFIELD COUNTY RGNL (RIL)

ILS RWY 26


NM 7 14 21 28 35 42 49 56 63 70
FT 42000 84000 126000 168000 210000 252000 294000 336000 378000 420000
fpovbn | rilils26 (PROD) | 31 May 2012 06:24:30 | 1" = 41666.7 feet (MAP)
14
5
9
7
3
1
11
15
@
AIRPORT ID: KRIL
AIRPORT NAME: GARFIELD COUNTY RGNL
CITY: RIFLE
STATE: CO
PROCEDURE ID: ILS RWY 26
AMDT #: 3
DATE DRAWN: 5/1/2012
SCALE: 1:500,000
REF # | SEGMENT | OBSTRUCTION | ELEV
1 | RED TABLE INITIAL | AAO | 11884 MSL
3 | SOCKY INITIAL | AAO | 9974 MSL
5 | INITIAL DME ARC | AAO | 11388 MSL
7 | INITIAL DME ARC S/D | AAO | 10657 MSL
9 | INTERMEDIATE | AAO | 10575 MSL
11 | INTERMEDIATE S/D | AAO | 9279 MSL
14 | 40:1 MISSED | AAO | 9359 MSL
15 | MISSED LEVEL SURFACE | AAO | 9919 MSL
@ | MISSED HOLDING | AAO | 9489 MSL



AIRPORT ID:	KRIL	REF #	SEGMENT	OBSTRUCTION	ELEV
AIRPORT NAME	GARFIELD COUNTY RGNL	13	ILS FINAL	GRD	5553 MSL
CITY	RIFLE				
STATE	CO		. ASC		
PROCEDURE ID:	ILS RWY 26				
AMDT #:	3				
DATE DRAWN:	5/1/2012				
SCALE:	1:100,000				

US DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

ILS - STANDARD INSTRUMENT APPROACH PROCEDURE TITLE 14 CFR PART 97.29

Bearings, headings, courses, and radials are magnetic. Elevations and altitudes are in feet, MSL, except HAT, HAA, TCH, and RA. Altitudes are minimum altitudes unless otherwise indicated. Ceilings are in feet above airport elevation. Distances are in nautical miles unless otherwise indicated, except visibilites which are in statute miles or in feet RVR.

TERMINAL ROUTES

FROM	TO	COURSE AND DISTANCE	ALTITUDE
DBL VOR/DME (IAF)	SOCKY/I-RIL 26.32 DME	282.09 / 14.37	14000
SOCKY/I-RIL 26.32 DME	ZELOP/I-RIL 21.27 DME	258.46 / 5.05 (I-RIL)	12600
COMFR/RIL VOR/DME 20.14 DME CW (IAF)	OYYER/RIL VOR/DME 20.14 DME	20.14 DME ARC	12800
OYYER/RIL 20.14 DME CW	ZELOP/I-RIL 21.27 DME	20.14 DME ARC (RIL LR-073)	12600
ZELOP/I-RIL 21.27 DME (IF)	JIGOM/I-RIL 16.32 DME	258.46 / 4.95 (I-RIL)	11100
JIGOM/I-RIL 16.32 DME	YODUB/I-RIL 13.89 DME	258.46 / 2.43 (I-RIL)	10400

MISSED APPROACH

ILS: DA

CLIMB TO 13000 ON RIL VOR/DME R-250 TO TEKGU INT/RIL 19.00 DME AND ON EKR VOR/DME R-179 TO WOKPA/EKR 44.18 DME AND HOLD.

ADDITIONAL FLIGHT DATA:
HOLD N, RT, 179.40 INBOUND.
CHART DBL VOR/DME 14.37 DME AT SOCKY
CHART RIL R-065 AT OYYER.
CHART RIL R-054 AT COMFR.

1. PT ____ SIDE OF COURSE ____ OUTBOUND ____ FT WITHIN ____ MILES OF ____ (IAF)
2. PROFILE STARTS AT ZELOP/I-RIL 21.27 DME
3. FAC: 258.46 FAF: ____ DIST FAF TO MAP: ____ THLD: ____
4. MIN. ALT: ZELOP 12600, JIGOM 11100, YODUB 10400
5. DIST TO THLD FROM OM: 12.57 MM: - IM: - 150 HAT: - 100 HAT: - GS ANT: 1053
6. MIN GS INCPT: 10400 GS ALT AT: YODUB 10400 OM: - MM: - IM: -
7. GS ANGLE: 3.60 TCH: 58.0
8. MSA FROM: RIL VOR/DME 350-080 12700, 080-170 13100, 170-260 12500, 260-350 11100

MAG VAR: 10E EPOCH YEAR: 2015

MINIMUMS

TAKEOFF: SEE FAA FORM 8260-15A FOR THIS AIRPORT ALTERNATE: N A ILS: #

CATEGORY =====>	A			B			C			D			E		
	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA
S-ILS 26	6800	4	1263	6800	4	1263	6800	4	1263		NA				

NOTES:
CHART NOTE: VISIBILITY REDUCTION BY HELICOPTERS NA.
CHART PLANVIEW NOTE: DME REQUIRED.
CHART PLANVIEW NOTE: WHEN GS NOT USED, USE LOC/DME-A PROCEDURE.
CHART NOTE: USE I-RIL DME WHEN ON LOCALIZER COURSE.
(SEE FORM 8260-10)

CAT A, B, C 1300-4

CITY AND STATE	ELEVATION: 5537 THRE: 5537 / AIRPORT NAME	FACILITY IDENTIFIER	PROCEDURE NO./AMDT NO./EFFECTIVE DATE:	SUP:
RIFLE, CO	GARFIELD COUNTY RGNL	I-RIL	ILS RWY 26, AMDT 3 NOV 15 2012	AMDT: 2 DATED 11/18/2010

ALL AFFECTED PROCEDURES REVIEWED?	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE
[ ] YES [X] NO	SEE CHANGES	NOV 15 2012

COORDINATED WITH:

ATA	AAT	ALPA	APA	AOPA	NBAA	OTHER (specify)
[X]	[ ]	[X]	[X]	[X]	[X]	[X] ZDV, CO AERO, AMGR

FLIGHT CHECKED BY		
NAME: PENDING	FIFO	DATE:

DEVELOPED BY		
NAME: VICTOR B. NASO	FIFO: AJV-354	DATE: 05/02/2012

APPROVED BY		
NAME: DEZ SILAGYI MANAGER	FIFO: AJV-354	DATE:

CHANGES:

1. NAVAID USE CHANGED FROM RGA VOR/DME TO RIL VOR/DME. ALSO MAGVAR UPDATED (DATE, REMAINS 10E) CHANGING ALL REFERENCE TO RGA TO RIL.
2. FIX MOVED DUE TO NEW NAVAID USE: COMFR - FROM 394034.03N/1071946.76W TO 394031.82N/1071945.37W, OYYER - FROM 393648.50N/1071759.05W TO 393648.56N/1071759.08W.
3. IF CHANGED FROM DOWNY TO ZELOP.
4. PFAF CHANGED FROM WUKLI TO YODUB.
5. LENGTH OF FINAL CHANGED FROM 12.22 NM TO 12.57 NM.
6. RAISED MISSED CLIMB GRADIENT TERMINATION ALTITUDE FROM 10000 TO 10400.
7. REMOVED NOTE: VGSI AND ILS GLIDEPATH NOT COINCIDENT.
8. REWORDED MISSED APPROACH CLIMB GRADINET TO: MISSED APPROACH REQUIRES A MINIMUM CLIMB OF 355 FT PER NM TO 10400; IF UNABLE TO MEET CLIMB GRADIENT, SEE LOC/DME-A.

DME: 393131.99N / 1074438.39W, GS: 393140.49N / 1074309.68W, LOC: 393134.58N / 1074438.25W, 3RD PARTY SURVEY

REASONS:

1. DECOMMISSIONING OF RGA AND COMMISSIONING OF RIL.
2. DUE TO NEW NAVAID LOCATION AND CENTERING FIXES ON AIRWAY.
3. DUE TO MIRRORED ILS AND RNAV PROCEDURES AND NEW PFAF LOCATION REQUIRED NEW FIX ACTION AS REQUESTED BY FPT TO NOT AMEND RNAV PROCEDURES AT THIS TIME.
4., 5. NEW PFAF LOCATION CALC. AND SURVEY DATA AT AIRPORT.
6. NEW CONTROLLING OBSTRUCTION AND CALCULATION.
7. THEY ARE NOW COOINCIDENT.
8. IAW 8260.19E

08/07/2012: THIS IS A CORRECTED COPY OF THE FORM APPROVED ON 06252012.

1. ALL EFFECTIVE DATES CHANGED FROM 09/20/2012 TO 11/15/2012.

US DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

ILS - STANDARD
INSTRUMENT APPROACH PROCEDURE - TITLE 14 CFR PART 97.29

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NOTES, (CONT.):
CHART PLANVIEW NOTE: MISSED APPROACH REQUIRES A MINIMUM CLIMB OF 355 FT PER NM TO 10400; IF UNABLE TO MEET CLIMB GRADIENT, SEE LOC/DME-A.
CHART NOTE: DME REQUIRED
CHART NOTE: CIRCLING NOT AUTHORIZED.

QUALITY CHECKED

CITY AND STATE	ELEVATION: 5537 THRE: 5537	FACILITY IDENTIFIER:	PROCEDURE NO./ AMDT NO./EFFECTIVE DATE:	SUP:
RIFLE, CO	AIRPORT NAME: GARFIELD COUNTY RGNL	I-RIL	ILS RWY 26, AMDT 3 NOV 15 2012	AMDT: 2
				DATED: 11/18/2010

ALL AFFECTED PROCEDURES REVIEWED? ☐ YES ☐ NO	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE

COORDINATED WITH:

ATA ☐ AAT ☐ ALPA ☐ APA ☐ AOPA ☐ NBAA ☐ OTHER (specify) ☐ _____

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:
DEVELOPED BY		
NAME:	FIFO	DATE:
APPROVED BY		
NAME:	FIFO	DATE:

CHANGES:

REASONS:

U.S. DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

ILS STANDARD INSTRUMENT APPROACH PROCEDURE

FLIGHT STANDARDS SERVICES - **FAR PART 97.29**

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ARINC PACKET - 424-18 - ILS

```
                 1         2         3         4         5         6         7         8         9         0         1         2         3
NAVAID  1234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ----------------------------------------------------------------------------------------------------------------------------------------
        SUSAD        DBL   K2011300VDHW N39262164W106534085    N39262164W106534085E0120118002     NARRED TABLE
        SUSAD        EKR   K2011520VDHW N40040275W107552977    N40040275W107552977E0150076312     NARMEEKER
        SUSAD        RIL   K2011060VDLW N39314196W107431063    N39314196W107431063E0100055331     NARRIFLE
        SUSAD KRILK2 IRIL  K2011090 IT                    IRILN39313199W107443839     054700     NARGARFIELD COUNTY RGNL

                 1         2         3         4         5         6         7         8         9         0         1         2         3
WP      1234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ----------------------------------------------------------------------------------------------------------------------------------------
        SUSAEAENRT   COMFR K20    R   L N39403182W107194537                    E0099     NAR           COMFR
        SUSAEAENRT   JIGOM K20    R     N39315931W107233327                    E0100     NAR           JIGOM
        SUSAEAENRT   OYYER K20    R     N39364856W107175908                    E0099     NAR           OYYER
        SUSAEAENRT   SOCKY K20    R     N39321250W107103794                    E0099     NAR           SOCKY
        SUSAEAENRT   TEKGU K20    R     N39281937W108071986                    E0103     NAR           TEKGU
        SUSAEAENRT   WOKPA K20    C     N39211247W108093936                    E0103     NAR           WOKPA
        SUSAEAENRT   YODUB K20    R     N39315586W107264205                    E0100     NAR           YODUB
        SUSAEAENRT   ZELOP K20    R     N39320606W107170922                    E0099     NAR           ZELOP

                 1         2         3         4         5         6         7         8         9         0         1         2         3
AIRPORT 1234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ----------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KRILK2ARIL     0     070YHN39313580W107434080E010005537        1800018000C    MNAR    GARFIELD COUNTY RGNL

                 1         2         3         4         5         6         7         8         9         0         1         2         3
SEGMENT 1234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ----------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KRILK2FI26   ACOMFR 010CCMFRK2EA0E  A    IF RIL K2      05390201        D              18000                  0 DS
        SUSAP KRILK2FI26   ACOMFR 020OYYERK2EA0E   R   AF RIL K2      065202010539    D   + 12800                            0 DS
        SUSAP KRILK2FI26   ACOMFR 030ZELOPK2EA0E  BR   AF RIL K2      078702010652    D   + 12600                            0 DS
        SUSAP KRILK2FI26   ACOMFR 040JIGOMK2EA0EE      CF IRILK2      078401632585005OPI  + 11100                            0 DS
        SUSAP KRILK2FI26   ADBL   010DBL  K2D 0V  A    IP                                                 18000              0 DS
        SUSAP KRILK2FI26   ADBL   020SOCKYK2EA0E        TF                             + 14000                            0 DS
        SUSAP KRILK2FI26   ADBL   030ZELOPK2EA0E  B     TF                             + 12600                            0 DS
        SUSAP KRILK2FI26   ADBL   040JIGOMK2EA0EE       CF IRILK2      078401632585005OPI  + 11100                            0 DS
        SUSAP KRILK2FI26   I      010JIGOMK2EA0E  I     IF IRILK2      07840163        PI  J 111001040018000                  0 DS
        SUSAP KRILK2FI26   I      020YODUBK2EA0E  F     CF IRILK2      078401392580002 4PI H 1040010400       -360RIL   K2D 0 DS
        SUSAP KRILK2FI26   I      030RW26 K2PG0GY M     CF IRILK2      078400132580012 6PI   05595            -360            0 DS
        SUSAP KRILK2FI26   I      040TEKGUK2EA0E M      CF RIL K2      2499019024990200D                                      0 DS
        SUSAP KRILK2FI26   I      050WOKPAK2EA0EY       CF EKR K2      1794044217940080D   + 13000                            0 DS
        SUSAP KRILK2FI26   I      060WOKPAK2EA0EE  R    HM                        1794T010    + 13000                            0 DS

                 1         2         3         4         5         6         7         8         9         0         1         2         3
```

CITY AND STATE	ELEVATION: 5537 THRE: 5537	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
RIFLE, CO	AIRPORT NAME: GARFIELD COUNTY RGNL	I-RIL	ILS RWY 26, AMDT 3 NOV 15 2012	AMDT: 2 DATED: 11/18/2010

U.S. DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

ILS STANDARD INSTRUMENT APPROACH PROCEDURE

FLIGHT STANDARDS SERVICES - **FAR PART 97.29**

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```
RUNWAY  12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        --------------------------------------------------------------------------------------------------------------------------------
        SUSAP KRILK2GRW26     0070002585 N39313672W107425611-1000     +16718055370000581 00IIRIL1

                 1         2         3         4         5         6         7         8         9         0         1         2         3
ILS     12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        --------------------------------------------------------------------------------------------------------------------------------
        SUSAP KRILK2IIRIL1    011090RW26 N39313458W107443825258 5N39314049W107430968 1006 10530527360E01005805522

                 1         2         3         4         5         6         7         8         9         0         1         2         3
MSA     12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        --------------------------------------------------------------------------------------------------------------------------------
        SUSAP KRILK2SRIL  K2D              0    080170111251702601272526035013125350080 12525                                  M
```

CITY AND STATE	ELEVATION: **5537** THRE: **5537**	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
RIFLE, CO	AIRPORT NAME: **GARFIELD COUNTY RGNL**	**I-RIL**	**ILS RWY 26, AMDT 3** NOV 1 5 2012	AMDT: **2** DATED: **11/18/2010**

U.S. DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

ILS STANDARD INSTRUMENT APPROACH PROCEDURE

FLIGHT STANDARDS SERVICES - **FAR PART 97.29**

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ARINC SUMMARY - 424-18 - ILS

ROUTES	TRANSITION	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
	COMFR	COMFR	010	IAF	IF		FB					
	COMFR	OYYER	020		AF	R	FB		053.9()		AA 12800	
	COMFR	ZELOP	030		AF	R	FB		065.2()		AA 12600	
	COMFR	JIGOM	040		CF		FB		258.5()	005.0	AA 11100	
	DBL	DBL	010	IAF	IF		FB					
	DBL	SOCKY	020		TF		FB				AA 14000	
	DBL	ZELOP	030		TF		FB				AA 12600	
	DBL	JIGOM	040		CF		FB		258.5()	005.0	AA 11100	
		JIGOM	010	FACF	IF		FB				AA 11100	GI 10400
		YODUB	020	FAF	CF		FB		258.0()	002.4	GI 10400	GS 10400
		RW26	030	MAP	CF		FO		258.0()	012.6	AT 05595	

MISSED APPROACH	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
	TEKGU	040		CF		FB		249.9()	020.0		
	WOKPA	050		CF		FO		179.4()	008.0	AA 13000	
	WOKPA	060		HM	R	FO		179.4()	T01.0	AA 13000	

POINT DATA	WAYPOINT	LAT IN SECS	LONG IN SECS	LAT IN MINS	LONG IN MINS
	DBL	N392621.64	W1065340.85	N3926.361	W10653.681
	EKR	N400402.75	W1075529.77	N4004.046	W10755.496
	RIL	N393141.96	W1074310.63	N3931.699	W10743.177
	IRIL (DME)	N393131.99	W1074438.39	N3931.533	W10744.640
	COMFR	N394031.82	W1071945.37	N3940.530	W10719.756
	JIGOM	N393159.31	W1072333.27	N3931.989	W10723.555
	OYYER	N393648.56	W1071759.08	N3936.809	W10717.985
	SOCKY	N393212.58	W1071037.94	N3932.210	W10710.632
	TEKGU	N392819.37	W1080719.86	N3928.323	W10807.331
	WOKPA	N392112.47	W1080939.36	N3921.208	W10809.656
	YODUB	N393155.86	W1072642.05	N3931.931	W10726.701
	ZELOP	N393206.06	W1071709.22	N3932.101	W10717.154
	RW26	N393136.72	W1074256.11	N3931.612	W10742.935
	IRIL (LOC)	N393134.58	W1074438.25	N3931.576	W10744.638

RUNWAY DATA	RWY	THRESHOLD ELEVATION	TCH
	RW26	05537	58

CITY AND STATE	ELEVATION: 5537 THRE: 5537	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
RIFLE, CO	AIRPORT NAME: **GARFIELD COUNTY RGNL**	**I-RIL**	**ILS RWY 26, AMDT 3** NOV 15 2012	AMDT: **2**
				DATED: **11/18/2010**

FAA FORM 8260 - 10 / April 2006 (Computer Generated)

STANDARD INSTRUMENT APPROACH PROCEDURE DATA RECORD

PART - A OBSTRUCTION DATA

1. APP SEGMENT	FROM	TO	OBSTRUCTION	COORDINATES	ELEV. MSL	ROC	ALT. ADJUSTMENTS	MIN. ALT.
INITIAL	DBL VOR/DME	SOCKY/I-RIL	1. AAO	392639.00N/1065412.00W	11884 (4E)	1000	AT741 PR375	14000
		26.32 DME	2. TERRAIN	392639.00N/1065412.00W	11684		AS1500	13200
					(11700)			
INITIAL	SOCKY/I-RIL	ZELOP/I-RIL	3. AAO	393606.00N/1071515.00W	9974 (4E)	1000	AT1251 PR375	12600
	26.32 DME	21.27 DME	4. TERRAIN	393606.00N/1071515.00W	9774 (9800)		AS1500	11300
INITIAL: ARC	COMFR/RIL	OYYER/RIL	5. AAO	394028.80N/1071859.40W	11388 (6C)	1000	PR375	12800
	VOR/DME 20.14	VOR/DME 20.14	6. TERRAIN	394028.80N/1071859.40W	11188		AS1500	12700
	DME CW	DME			(11200)			
INITIAL: ARC STEPDOWN	OYYER/RIL 20.14	ZELOP/I-RIL	7. AAO	393827.00N/1071645.00W	10657 (4E)	1000	PR375 AT568	12600
	DME CW	21.27 DME	8. TERRAIN	393627.00N/1071527.00W	10128		AS1500	11600
					(10100)			
INTERMEDIATE	ZELOP/I-RIL	JIGOM/I-RIL	9. AAO	393717.89N/1071828.48W	10575 (2A)	500	PR375 SA-416 AT66	11100
	21.27 DME	16.32 DME	10. TERRAIN	393536.00N/1071857.00W	9338 (9300)		AS1500	10800
INTERMEDIATE:	JIGOM/I-RIL	YODUB/I-RIL	11. AAO	392909.00N/1072330.00W	9279 (2C)	500	SA-257 PR375 AT503	10400
STEPDOWN	16.32 DME	13.89 DME	12. TERRAIN	392942.00N/1072330.00W	8291 (8300)		AS1500	9800
2. PROCEDURE TURN	NA							
3. MISSED APPROACH MAP:	DA	WOKPA/EKR 44.18	14. AAO	393316.89N/1075545.92W	9359 (2C)	ASC		13000
		DME	15. AAO	392453.45N/1075613.43W	9919 (2C)	1000	SA-465	10500
ELEV:	6155		16. TERRAIN	393313.78N/1075549.85W	9119 (9100)		AS1500	10600

4. CIRCLING AREA	DISTANCE	HT. ABV. ARPT. REQUIRED	HT. ABV. ARPT. ACTUAL
CATEGORY A	1.3 NM	350	
CATEGORY B	1.5 NM	450	
CATEGORY C	1.7 NM	450	
CATEGORY D	2.3 NM	550	
CATEGORY E	4.5 NM	550	

5. MINIMUM SAFE ALTITUDES — PRIMARY NAVAID: RIL VOR/DME

SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A	SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A
350-080	AAO	031/ 21.2	11683 (4E)	12700	170-260	AAO	182/ 27.5	11436 (6A)	12500
080-170	AAO	131/ 25.8	12052 (6A)	13100	260-350	AAO	327/ 15.5	10095 (6A)	11100

CITY AND STATE	ELEVATION: 5537 / AIRPORT NAME:	FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
RIFLE, CO	GARFIELD COUNTY RGNL	I-RIL	ILS RWY 26, AMDT 3	ANM

NOV 15 2012

QUALIFIED

FAA Form 8260 - 9 / April 2006 (Computer Generated)

PART B - SUPPLEMENTAL DATA

1. COMMUNICATIONS WITH:	2. WEATHER SERVICE		3. ALTIMETER SETTING
ZDV ARTCC DEN FSS	NWS	OTHER: ASOS	SOURCE: KRIL
	FAA		DISTANCE:
SATISFACTORY ON:	A/C		HOURS REMOTE OPERATION:
X VHF X UHF HF	LOCATION: KRIL		ADJUSTMENT: 0

4. MONITOR STATUS

PRIMARY NAVAID: I-RIL

MONITOR POINT: POCC

HRS OPTN: CAT 1: 24; CAT 3:

5. APPROACH & RUNWAY LIGHTING

	ALS
	(S) SALS
	MALS
	HIRL
X	MIRL 08 (PCL), 26 (PCL)
X	REIL 08 (PCL), 26 (PCL)
	TDZ
	C/LINE
X	OTHER (SPECIFY) ODALS 26 (PCL) PAPI-4L 08, 26

6. RUNWAY MARKINGS

BASIC

ALL WEATHER PIR-F 26

INSTRUMENT NPI-F 08

7. RUNWAY VISUAL RANGE

APPROACH

MIDFIELD

ROLL OUT

8. GLIDE PATH

GP ANGLE: 3.60

DISTANCE FROM RWY: 1053

ELEV RWY THRESHOLD: 5536.9

ELEV GP ANTENNA: 5528.5

THRESHOLD CROSSING HEIGHT: 58.0

9. FINAL APPROACH COURSE AIMING

X	RUNWAY THRESHOLD	FT. FROM THRESHOLD
X	ON CENTERLINE	FT. FROM CENTERLINE

10. WAIVERS: 1

ORDER 8260.36A GLIDEPATH ANGLE ABOVE 3.00 DEGREES MUST BE APPROVED BY FLIGHT STANDARDS SERVICE IN WASHINGTON, D.C.. (FAA ORDER 8260.36A, PARA 11, NOTE) GLIDESLOPE ANGLE IS 3.60 DEGREES.

PART D - PREPARED BY: VICTOR B. NASO

DATE: 05/02/2012

TITLE: AERONAUTICAL INFORMATION SPECIALIST

OFFICE: AJV-354

PART C - REMARKS:

PARA 251, 34:1 PENETRATION.

PRECIPITOUS TERRAIN EVALUATION COMPLETED.

BLOCK 3: BACK-UP ALTIMETER SETTING NOT REQUIRED DUE TO REDUNDANT ALTIMETER SETTINGS FROM ASOS AND 24 HOUR FBO.

BLOCK 4: ILS MONITORED AT CORPORATE AIR SERVICES MAIN HANGAR, CAT 1 1300-0200Z, CAT 3 0200-1300Z.

BLOCK 10: AFS-400 APPROVAL FOR 3.60 DEGREE GLIDE SLOPE ANGLE RECEIVED ON 6/17/1999.

PER FLIGHT CHECK ADDED NOTE - CIRCLING NOT AUTHORIZED.

WAIVER: FAAO 8260.36A GLIDEPATH ANGLE ABOVE 3.00 DEGREES MUST BE APPROVED BY FLIGHT STANDARDS SERVICE IN WASHINGTON, D.C.. (FAA ORDER 8260.36A, PARA 11, NOTE) GLIDESLOPE ANGLE IS 3.60 DEGREES.

SEE ATTACHED AIRSPACE LETTER.

TERPS, VOLUME 1, "VISUAL PORTION OF THE FINAL"
34:1 RWY 26
5553 GRD (KRILT029) 393133.30N/1074247.28W (2.69)
5969 T-L TWR (08-000693) 393123.00N/1074025.00W (91.83)

ILS DA 6800 ACHIEVED THROUGH A COMBINATION OF ADJUSTED HAT OF 1263 AND A MISSED CLIMB GRADIENT OF 355 FT/NM. 8260.52 FORMULAS USED FOR CLIMB GRADIENT CALCULATIONS:

9246 (8838.88 PRIMARY EQUIVALENT) SPOT ELEV/AAO LOCATED IN THE 12:1 AREA CONTROLS CLIMB GRADIENT.
8000(8839.88-6450)/59024.48=351 FT/NM CLIMB GRADIENT.
DISTANCE MEASURED ALONG MISSED APPROACH COURSE.

CTA CALCULATION:
(6800-50)+(284*(67334.38/6076.12)=10364.14

OBSTACLE #9 5040 FEET INTO SECONDARY
OBSTACLE #11 3120 FEET INTO SECONDARY

STANDARD INSTRUMENT APPROACH PROCEDURE DATA RECORD

PART - A OBSTRUCTION DATA

1. APP SEGMENT	FROM	TO	OBSTRUCTION	COORDINATES	ELEV. MSL	ROC	ALT. ADJUSTMENTS	MIN. ALT.
FINAL: ILS	YODUB/I-RIL	RW26	13. GRD (KRILT029)	393133.30N/1074247.28W	5553 (2C)	28.3	MA963 AC20	6800/1263
	13.89 DME							

3. MISSED APPROACH				
	MAP:			
	ELEV:			

4. CIRCLING AREA	DISTANCE	HT. ABV. ARPT. REQUIRED	HT. ABV. ARPT. ACTUAL
CATEGORY A	1.3 NM	350	
CATEGORY B	1.5 NM	450	
CATEGORY C	1.7 NM	450	
CATEGORY D	2.3 NM	550	
CATEGORY E	4.5 NM	550	

5. MINIMUM SAFE ALTITUDES — PRIMARY NAVAID:

SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A	SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A

QUALITY CHECKED

CITY AND STATE		FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
RIFLE, CO	ELEVATION: 5537 AIRPORT NAME: GARFIELD COUNTY RGNL	I-RIL	ILS RWY 26, AMDT 3 NOV 15 2012	ANM

RADIO FIX AND HOLDING DATA RECORD

NAME: COMFR **STATE:** CO **COUNTRY:** US

LATITUDE/LONGITUDE: 394031.82N/1071945.37W **TYPE:** DME

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM NM	FAC FEET	MRA	MAA
1	RIFLE	RIL	VOR/DME	L	053.89	063.89	20.14	20.14		13400	17500

HOLDING: **HOLDING TYPE OF ACTION:** MODIFY

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
UPN	230	AAO	395526.40N/1070817.00W	12441	6A

PRECIPITOUS TERRAIN ADDITIONS:

PAT	SPEED	ADDITION
UPN	230	375

HOLDING RESTRICTIONS:
UNPLANNED HOLDING AUTHORIZED AT OR ABOVE 13900

REMARKS:
PRECIPITOUS TERRAIN EVALUTAION COMPLETED

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
EN ROUTE	V8	1				(US)
IAP	ILS RWY 26	1		KRIL	RIFLE	CO (US)
IAP	LOC/DME-A	1		KRIL	RIFLE	CO (US)

REQUIRED CHARTING: IAP, CONTROLLER, EN ROUTE LOW

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 2 **DATE OF REVISION:** 09/20/2012

REASON FOR REVISION:
UPDATED FIX MAKE UP FACILITY, NEW FACILITY, REMOVED RGA AND ADDED RIL.
FIXED MOVED 248.64 FT NE.
UPDATED CONTROLLING OBSTRUCTIONS
RAISED HOLDING RESTRICTIONS FOR UNPLANNIED HOLDING FROM 13500 TO 13900.
RAISED FACILITY 1 MRA FROM 13200 TO 13400 TO MATCH AIRWAY MEA.

DEVELOPED BY: **DATE:** 04/30/2012 **OFFICE:** AJV-354 **NAME:** VICTOR NASO

APPROVED BY: **DATE:** **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: WST
ARTCC: ZDV
ATC FACILITY:
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: SOCKY **STATE:** CO **COUNTRY:** US

LATITUDE/LONGITUDE: 393212.58N/1071037.94W **TYPE:** DME

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** NO CHANGE

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	RIFLE	I-RIL	LOC		078.46	088.46	26.32	26.32		13400	17500

EXPANDED SERVICE VOLUME (ESV):

FAC IDENT	FAC TYPE	RADIAL/BEARING	DISTANCE	MIN ALTITUDE	MAX ALTITUDE
I-RIL	LOC	R-078	27	13400	17500

HOLDING: **HOLDING TYPE OF ACTION:** MODIFY

PATTERNS:

PAT	DIR	IDENT	TYPE	RAD/CRS/BRG	CRS INBOUND	TURN (L OR R)	LEG LENGTH TIME	LEG LENGTH DME	HOLDING ALTITUDES MIN	HOLDING ALTITUDES MAX	TEMPLATES MIN	TEMPLATES MAX
1	E	I-RIL	LOC/DME	078.46	258.46	L	1-1 1/2		13400	17500	11	17

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	230	AAO	392536.00N/1065057.00W	11890	4E

PRECIPITOUS TERRAIN ADDITIONS:

PAT	SPEED	ADDITION
1	230	375

REASON FOR NONSTANDARD HOLDING:
PAT 1 TERRAIN/AIRSPACE

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERN

REMARKS:
PRECIPITOUS TERRAIN EVALUATION COMPLETED
PAT 1 ATC REQUEST

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS RWY 26	1		KRIL	RIFLE	CO (US)
IAP	LOC/DME-A	1		KRIL	RIFLE	CO (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 3 **DATE OF REVISION:** 09/20/2012

REASON FOR REVISION:
UPDATED HOLDING PATTERN RAD/CRS/BRG AND CRS INBOUND FROM 078.47 AND 258.47 TO 078.46 AND 258.46.

DEVELOPED BY: **DATE:** 05/23/2012 **OFFICE:** AJV-354 **NAME:** VICTOR NASO

APPROVED BY: **DATE:** **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: WST
ARTCC: ZDV
ATC FACILITY:
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: TEKGU **STATE:** CO **COUNTRY:** US

LATITUDE/LONGITUDE: 392819.37N/1080719.86W **TYPE:** INT, DME

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	RIFLE	RIL	VOR/DME	L	249.90	259.90	19.00	19.00		11400	17500
2	MEEKER	EKR	VOR/DME	H	179.41	194.41	36.85	36.85		11400	17500

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

REMARKS:
RIFLE (FAC1) AND MEEKER (FAC2) USED TO ESTABLISH FIX COORDINATES.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS RWY 26	1		KRIL	RIFLE	CO (US)
IAP	LOC/DME-A	1		KRIL	RIFLE	CO (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 2 **DATE OF REVISION:** 09/20/2012

REASON FOR REVISION:
RIL RELOCATION AND MAGVAR CHAGED
- UPDATED FACILITY 1 FIX MAKE UP TO REMOVE RGA AND ADD RIL,MAG BRG AND TRUE BRG FROM 250.26 AND 260.26 TO 249.90 AND 259.90, DME AND DISTANCE FROM FAC FROM 18.37 TO 19.00.

DEVELOPED BY: **DATE:** 04/30/2012 **OFFICE:** AJV-354 **NAME:** VICTOR NASO

APPROVED BY: **DATE:** **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: WST
ARTCC: ZDV
ATC FACILITY:
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: WOKPA **STATE:** CO **COUNTRY:** US

LATITUDE/LONGITUDE: 392112.47N/1080939.36W **TYPE:** WP, DME

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	MEEKER	EKR	VOR/DME	H	179.40	194.40	44.18	44.18		13000	17500

EXPANDED SERVICE VOLUME (ESV):

FAC IDENT	FAC TYPE	RADIAL/BEARING	DISTANCE	MIN ALTITUDE	MAX ALTITUDE
EKR	VOR/DME	R-179	45	13000	17500

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

PATTERNS:

PAT	DIR	IDENT	TYPE	RAD/CRS/BRG	CRS INBOUND	TURN (L OR R)	LEG LENGTH TIME	LEG LENGTH DME	HOLDING ALTITUDES MIN	HOLDING ALTITUDES MAX	TEMPLATES MIN	TEMPLATES MAX
1	N	EKR	VOR/DME	179.40	179.40	R	1-1 1/2		13000	17500	12	18
2	N		WP	004.40	184.40	R		8	13000	17500	11	17

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	230	AAO	391928.90N/1080207.10W	9489	6C
1	310	AAO	392142.00N/1075615.00W	10922	4E
2	230	AAO	391928.90N/1080207.10W	9489	6C
2	310	AAO	392151.00N/1075627.00W	10903	4E

PRECIPITOUS TERRAIN ADDITIONS:

PAT	SPEED	ADDITION
1	230	359
2	230	359

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERN.

PROCEDURES REQUIRING CLIMB-IN-HOLD:

PAT	PROCEDURE TITLE	AIRPORT IDENT	CITY	STATE
1	ILS RWY 26	KRIL	RIFLE	CO (US)
1	LOC/DME-A	KRIL	RIFLE	CO (US)
2	RNAV (GPS) X RWY 26	KRIL	RIFLE	CO (US)
2	RNAV (RNP) Z RWY 26	KRIL	RIFLE	CO (US)
2	RNAV (RNP) Y RWY 26	KRIL	RIFLE	CO (US)
2	RNAV (GPS) W RWY 26	KRIL	RIFLE	CO (US)

REMARKS:
MEEKER (FAC 1) USED TO ESTABLISH FIX COORDINATES
PRECIPITOUS TERRAIN EVALUATION COMPLETED.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS RWY 26	1	1	KRIL	RIFLE	CO (US)
IAP	LOC/DME-A	1	1	KRIL	RIFLE	CO (US)
IAP	RNAV (GPS) W RWY 26		2	KRIL	RIFLE	CO (US)
IAP	RNAV (GPS) X RWY 26		2	KRIL	RIFLE	CO (US)
IAP	RNAV (GPS) Y RWY 8			KRIL	RIFLE	CO (US)
IAP	RNAV (RNP) Y RWY 26		2	KRIL	RIFLE	CO (US)
IAP	RNAV (RNP) Z RWY 26		2	KRIL	RIFLE	CO (US)
IAP	RNAV (RNP) Z RWY 8			KRIL	RIFLE	CO (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 3 **DATE OF REVISION:** 09/20/2012

REASON FOR REVISION:
UPDATED FACILITY ONE (1) TO ACTIVE FACILITY FROM HISTORY.

DEVELOPED BY: **DATE:** 05/24/2012 **OFFICE:** AJV-354 **NAME:** VICTOR NASO

APPROVED BY: **DATE:** **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

RADIO FIX AND HOLDING DATA RECORD

NAME: ZELOP **STATE:** CO **COUNTRY:** US

LATITUDE/LONGITUDE: 393206.06N/1071709.22W **TYPE:** DME

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** ESTABLISH

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	RIFLE	I-RIL	LOC/DME		078.46	088.46	21.27	21.27		12600	17500

EXPANDED SERVICE VOLUME (ESV):

FAC IDENT	FAC TYPE	RADIAL/BEARING	DISTANCE	MIN ALTITUDE	MAX ALTITUDE
I-RIL	LOC/DME	R-078	22	12600	17500

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS RWY 26	1		KRIL	RIFLE	CO (US)
IAP	LOC/DME-A	1		KRIL	RIFLE	CO (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:** 09/20/2012

DEVELOPED BY: **DATE:** 05/02/2012 **OFFICE:** AJV-354 **NAME:** VICTOR NASO

APPROVED BY: **DATE:** **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: WST
ARTCC: ZDV
ATC FACILITY:
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: JIGOM **STATE:** CO **COUNTRY:** US

LATITUDE/LONGITUDE: 393159.31N/1072333.27W **TYPE:** DME

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** ESTABLISH

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	RIFLE	I-RIL	LOC		078.46	088.46	16.32	16.32		11100	12800

EXPANDED SERVICE VOLUME (ESV):

FAC IDENT	FAC TYPE	RADIAL/BEARING	DISTANCE	MIN ALTITUDE	MAX ALTITUDE
I-RIL	LOC	R-078	17	11100	12800

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS RWY 26	1		KRIL	RIFLE	CO (US)
IAP	LOC/DME-A	1		KRIL	RIFLE	CO (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:** 11/18/2010

REASON FOR REVISION:
THIS IS A CORRECTED COPY OF THE FORM DEVELOPED ON 06/14/2010.
FIX MOVED 37.12 FT E DUE TO NEW RUNWAY COORDINATES, FIX COORDINATES UPDATED. TRUE AND MAG BRG CHANGED FROM 78.47 AND 88.47 TO 78.46 AND 88.46

DEVELOPED BY: **DATE:** 10/22/2010 **OFFICE:** AVN-130 **NAME:** CHARLES SCHNEIDER

APPROVED BY: **DATE:** **OFFICE:** AVN-130 **NAME:** DEZ SILAGYI

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: WST
ARTCC: ZDV
ATC FACILITY:
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: RED TABLE VOR/DME **STATE:** CO **COUNTRY:** US

LATITUDE/LONGITUDE: 392621.64N/1065340.85W **TYPE:**

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** NO CHANGE

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	FAC FEET	MRA	MAA
1	RED TABLE	DBL	VOR/DME	H							45000

FIX RESTRICTIONS:
SPECIAL GLENO-ONE (RNP), KASE, ASPEN, CO
SPECIAL RNAV (GPS) Z RWY 15, KASE, ASPEN, CO
SPECIAL LOC/DME RWY 15, KASE, ASPEN, CO

HOLDING: **HOLDING TYPE OF ACTION:** MODIFY

PATTERNS:

PAT	DIR	IDENT	TYPE	RAD/CRS/BRG	CRS INBOUND	TURN (L OR R)	LEG LENGTH TIME	LEG LENGTH DME	HOLDING ALTITUDES MIN	HOLDING ALTITUDES MAX	TEMPLATES MIN	TEMPLATES MAX
1	N	DBL	VOR/DME	344.00	164.00	R	1-1 1/2		14000	29000	10	22
2	N	DBL	VOR/DME	343.38	163.38	R	1-1 1/2		13700	17500	10	16
3	N		WP	343.38	163.38	R		8	13700	17500	11	17

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	230	AAO	392506.00N/1064648.00W	11979	4E
2	230	AAO	392506.00N/1064648.00W	11979	4E
3	230	AAO	392512.60N/1064616.80W	12238	6C

PRECIPITOUS TERRAIN ADDITIONS:

PAT	SPEED	ADDITION
1	230	375
2	230	375
3	230	375

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERN

REMARKS:
PRECIPITOUS TERRAIN EVALUATION COMPLETED

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	ASPEN			KASE	ASPEN	CO (US)
DP	GLENO-ONE (RNP)			KASE	ASPEN	CO (US)
DP	LINDZ			KASE	ASPEN	CO (US)
DP	SARDD (OBSTACLE)			KASE	ASPEN	CO (US)
DP	ROCKIES		1	KBKF	AURORA	CO (US)
DP	SPRINGS			KCOS	COLORADO SPRINGS	CO (US)
DP	ROCKIES		1	KAPA	DENVER	CO (US)
DP	ROCKIES		1	KBJC	DENVER	CO (US)
DP	ROCKIES		1	KDEN	DENVER	CO (US)
DP	ROCKIES		1	KFTG	DENVER	CO (US)
DP	GYPSUM			KEGE	EAGLE	CO (US)
DP	MEEKER			KEGE	EAGLE	CO (US)
DP	ROCKIES		1	KFNL	FORT COLLINS/LOVELAND	CO (US)
DP	GRAND JUNCTION			KGJT	GRAND JUNCTION	CO (US)
DP	GRAND MESA			KGJT	GRAND JUNCTION	CO (US)
DP	ROCKIES		1	KGXY	GREELEY	CO (US)
DP	CANYON			KPUB	PUEBLO	CO (US)
DP	UYRIG (RNAV) DP			KRIL	RIFLE	CO (US)
EN ROUTE	J206					(US)
EN ROUTE	J60					(US)
EN ROUTE	J80					(US)
EN ROUTE	V108					(US)
EN ROUTE	V134					(US)
EN ROUTE	V356					(US)
EN ROUTE	V361					(US)
EN ROUTE	V421					(US)
IAP	LOC/DME RWY 15			KASE	ASPEN	CO (US)
IAP	LOC/DME-E			KASE	ASPEN	CO (US)
IAP	RNAV (GPS) Z RWY 15			KASE	ASPEN	CO (US)
IAP	RNAV (GPS)-F		3	KASE	ASPEN	CO (US)
IAP	ROARING FORK VISUAL RWY 15			KASE	ASPEN	CO (US)
IAP	VOR/DME-C		2	KASE	ASPEN	CO (US)
IAP	ILS RWY 26			KRIL	RIFLE	CO (US)
IAP	LOC/DME-A			KRIL	RIFLE	CO (US)
IAP	RNAV (GPS) Z RWY 26			KRIL	RIFLE	CO (US)

INFORMATION ONLY

IAP	RNAV (RNP) Y RWY 26	KRIL	RIFLE	CO (US)
STAR	LARKS	KDEN	DENVER	CO (US)
STAR	POWDR	KDEN	DENVER	CO (US)

REQUIRED CHARTING: DP, STAR, IAP, CONTROLLER, EN ROUTE LOW, EN ROUTE HIGH

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 11 **DATE OF REVISION:** 09/20/2012

REASON FOR REVISION:
ADDED PATTERN 1 AND 2.
UPDATED FIX USE.

DEVELOPED BY: **DATE:** 02/24/2012 **OFFICE:** AJV-354 **NAME:** JACOB POWERS

APPROVED BY: **DATE:** **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: WST
ARTCC: ZDV
ATC FACILITY: ASE ATCT, DEN APP CON
OTHER:

TERMINAL AIRSPACE DATA REQUIREMENTS

CITY: **RIFLE** STATE: **COLORADO**

AIRPORT NAME: **GARFIELD COUNTY RGNL** ID: **KRIL**

PROCEDURE: **ILS RWY 26** AMDT: **3**

DOCKET#: **NOT REQUIRED**
(96-AXX-X/Required/Not Required)

ALL DIST TO 1/100 NM; ELEV TO NEAREST FT; COORD TO 1/100 SEC; DEG TO 1/100 DG.

1. Distance from (Enter THLD, FAF, ARP, FACILITY, as appropriate)	**FACILITY**	to 1000' point	**8.65**
2. Width of (Enter appropriate segment, final, intermediate, etc.)	**FINAL**	segment at 1000' point	**2.08**
3. True Course of	**FINAL**	segment containing 1000' point	**268.46**
4. High Terrain in	**FINAL**	segment containing 1000' point	**7914**
5. Distance from (If 1500' point in PT maneuvering area or holding pattern note in remarks)	**FACILITY**	to 1500' point	**9.95**
6. Width of	**FINAL**	segment at 1500' point	**2.36**
7. True Course of	**FINAL**	segment containing 1500' point	**268.46**
8. High Terrain in	**FINAL**	segment containing 1500' point	**7914**

9. Threshold Coordinates (if straight-in) ... **393136.72N** / **1074256.11W**

10. ARP Coordinates ..... **393135.80N** / **1074340.80W**

11. Runway Approach End and distance furthest from ARP ..... RWY **26**

Distance **0.58** NM

12. FAF Coordinates ..... **393155.86N** / **1072642.05W**

REMARKS: Approach/Drawing attached.

US Department of Transportation
Federal Aviation Administration

FLIGHT PROCEDURES STANDARDS WAIVER

AUG 1 8 RECD

FLIGHT STANDARDS USE ONLY

CONTROL NO:

1. Flight Procedure Identification
RIFLE, CO
GARFIELD COUNTY REGIONAL
ILS RWY 26 AMDT 1

2. Waiver Required and Applicable Standard
WAIVE TERPS 8260.3B VOLUME 4 PARA 1.4.1, CALCULATING CLIMB GRADIENTS TO CLEAR OBSTACLES (STANDARD FORMULA)

3. Reason for Waiver: (Justification for non-standard requests)
REQUEST TO USE TERPS 8260.3B VOLUME 4 PARA 1.4.1, CALCULATING CLIMB GRADIENTS TO CLEAR OBSTACLES, (DOD OPTION). ILS DA 6800 ACHIEVED THROUGH A COMBINATION OF ADJUSTED HAT OF 1252 AND A MISSED CLIMB GRADIENT OF 266 FT/NM. 9486 SPOT EL/AAO LOCATED IN THE 12:1 AREA CONTROLS THE CLIMB GRADIENT. 9486-387 = 9099 MSL EQUIVALENT HEIGHT IN PRIMARY AT 10.50 NM FROM END OF SECTION 1B. 9099-6084/7.98 NM = 266 FT/NM CG. ATTEMPTS WERE MADE TO ADOPT A DA HIGH ENOUGH TO NOT REQUIRE A CLIMB GRADIENT BUT, BECAUSE RIFLE IS IN A VALLEY THE MORE THE DA INCREASED, THE CLIMB GRADIENT ALSO INCREASED DUE TO NEW PENETRATIONS

4. Equivalent Level of Safety Provided
1. THE CLIMB GRADIENT WILL BE PUBLISHED ON AN INSTRUMENT APPROACH PROCEDURE.
2. THE CLIMB GRADIENT WILL BE PUBLISHED IN FEET PER NAUTICAL MILE, WHICH WILL PERMIT USERS TO CALCULATE THEIR CLIMB REQUIREMENTS BASED ON INDIVIDUAL REQUIREMENTS.

5. How Relocation or Additional Facilities Will Affect Waiver Requirement:
REROUTING THE MISSED APPROACH WILL NOT ALLEVIATE OBSTRUCTIONS.

6. Coordination With User Organizations (Specify)
AVN-130
AVN-101

COMMENTS:

DATE: AUG 18 2003

AVN-100

MANAGER, NATIONAL FLIGHT PROCEDURES OFFICE

SIGNATURE: DANNY E. HAMILTON

FAA FORM 8260 - 1 / July 2003 (computer generated)

US Department of Transportation
Federal Aviation Administration

FLIGHT PROCEDURES STANDARDS WAIVER

FLIGHT STANDARDS USE ONLY

CONTROL NO:

1. Flight Procedure Identification:
RIFLE, CO
GARFIELD COUNTY REGIONAL
ILS RWY 25, AMDT 1

2. Waiver Required and Applicable Standard:
TERPS 8260.3B VOLUME 3, PARA 3.9.2, MISSED APPROACH CLIMB GRADIENT.

3. Reason for Waiver *(Justification for nonstandard treatment)*:
ILS DA 6800 ACHIEVED THROUGH A COMBINATION OF ADJUSTED HAT OF 1252 AND A MISSED CLIMB GRADIENT OF 266 FT/NM. 9486 SPOT EL/AAO LOCATED IN THE 12:1 AREA CONTROLS THE CLIMB GRADIENT. 9486-387 = 9099 MSL EQUIVALENT HEIGHT IN PRIMARY AT 10.50 NM FROM END OF SECTION 1B. 9099-6984/7.98 NM = 266 FT/NM CG. ATTEMPTS WERE MADE TO ADOPT A DA HIGH ENOUGH TO NOT REQUIRE A CLIMB GRADIENT BUT, BECAUSE RIFLE IS IN A VALLEY THE MORE THE DA INCREASED, THE CLIMB GRADIENT ALSO INCREASED DUE TO NEW PENETRATIONS.

4. Equivalent Level of Safety Provided:
1. THE CLIMB GRADIENT WILL BE PUBLISHED ON AN INSTRUMENT APPROACH PROCEDURE.
2. THE CLIMB GRADIENT WILL BE PUBLISHED IN FEET PER NAUTICAL MILE, WHICH WILL PERMIT USERS TO CALCULATE THEIR CLIMB REQUIREMENTS BASED ON INDIVIDUAL REQUIREMENTS.

5. How Relocation or Additional Facilities Will Affect Waiver Requirement:
REROUTING THE MISSED APPROACH WILL NOT ALLEVIATE OBSTRUCTIONS

6. Coordination With User Organizations *(Specify)*:
AVN-130 _____
AVN-101 _____

7. SUBMITTED BY

DATE:	Office Identification:	Title:	Signature:
JUL 21 2008	AVN-100	MANAGER, NATIONAL FLIGHT PROCEDURES OFFICE	DANNY E. HAMILTON

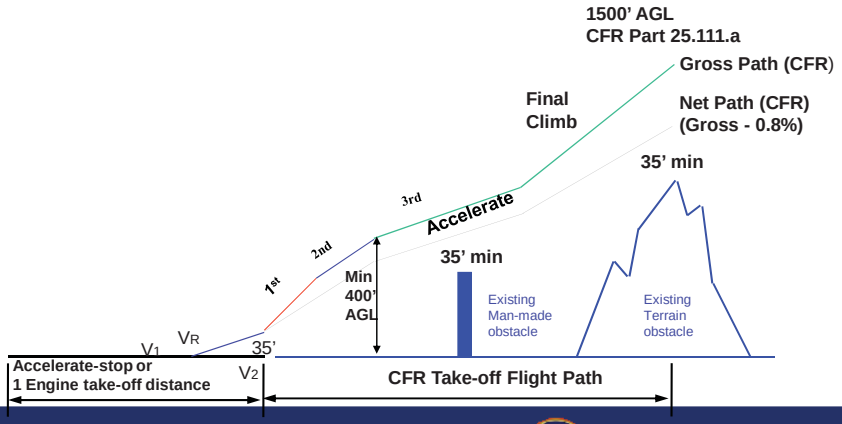
FAA FORM 8260 - 1 / July 2003 (computer generated)

APPENDIX D

FAA OBSTACLE EVALUATION REQUIREMENTS

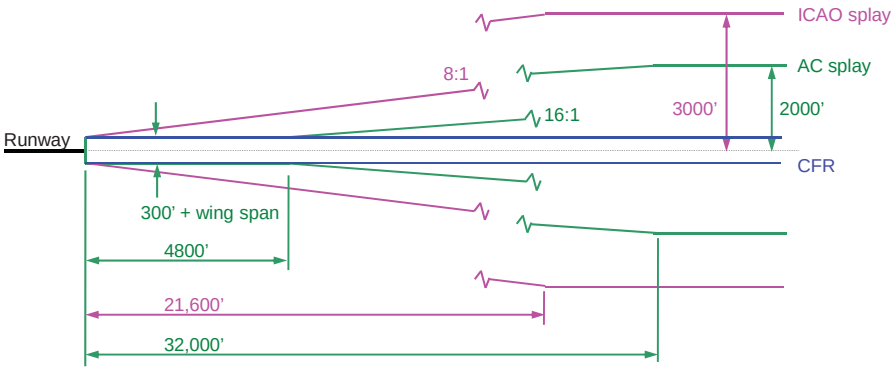
FAA OBSTACLE EVALUATION (OE) CRITERIA

One-Engine Inoperative, Vertical (CFR)



FAA OE CRITERIA

One-Engine Inoperative, Horizontal (FAR / AC / ICAO)



OBSTRUCTION EVALUATION CRITERIA

<u>All-Engines Operating</u> (OE Criteria)

- **FAA Order 8260.3b (TERPS)**
  - **Various Horizontal And Vertical Protection Surfaces**
  - **Vertical Surface: 200 Ft/Nm**
    - **>Obstacle Identification Surface (OIS, Net Surface) Of 40:1**
  - **Horizontal Surface Typically 'Splays' At A 15 Deg Angle, Typical Maximum +/- 2 Nm**

OAA: TURNING DEPARTURES

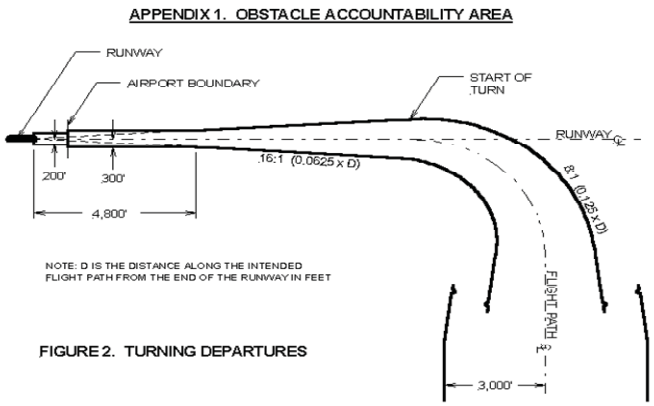
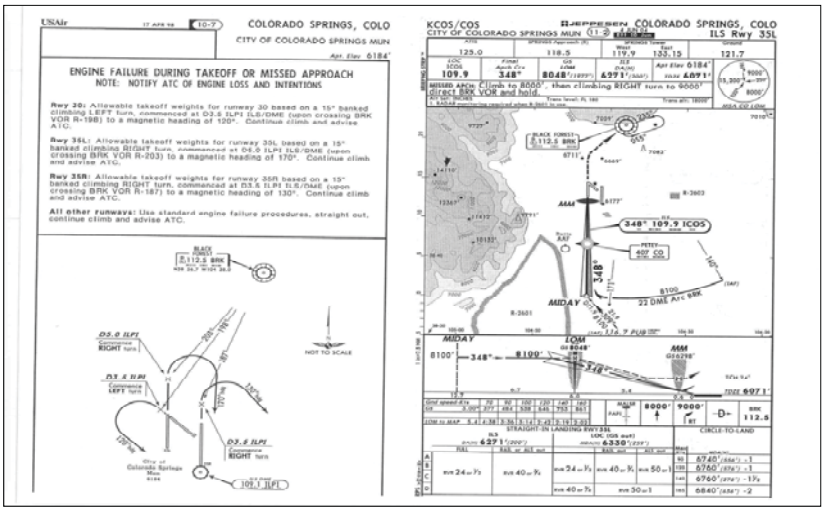


FIGURE 2. TURNING DEPARTURES

AREA ANALYSIS METHOD



APPENDIX E

MEMORANDUM – RIL INSTURMENT APPROACH INFORMATION

MAY 7, 2012

JVIATION®
900 S. Broadway, Suite 350, Denver, CO 80209
Main 303.524.3030 Fax 303.524.3031
JVIATION.COM

MEMO

Date: May 7, 2012

From: Chris Pomeroy

To: Brian Condie

Cc: Travis Vallin, Bill Payne

RE: RIL Instrument Approach Information

Brian,

As you know, the primary challenge preventing improved instrument approach procedures (IAP) at Garfield County Regional Airport (RIL) is the missed approach (MAP). An aircraft that can get "in" to the runway on approach must also get "out". It is the "getting out" that is the cause of your higher minimums due to surrounding terrain. With this mind, below is a summary of findings and information of interest regarding potential approach improvements at RIL. Sources include our meeting with FAA Western Services Area Flight Procedures Office (FPO) on April 17, 2012, in Renton, individual discussions with Bill Pahler with FPO and discussions with Bill Payne with William E. Payne and Associates.

- **Why won't the dopplerized VOR provide improved approach minimums?**

  According to Bill Pahler at FPO, by nature, VORs are susceptible to distortion causing accuracy issues. What dopplerization does is reduce distortion and improve accuracy of the facility.

  A VOR is an omni-directional facility. Regardless if the VOR is dopplerized or not, the size of the VOR "trapezoid" that needs to be protected for the MAP remains the same. Based on the size of the trapezoid and existing approach development criteria, there are too many obstacles in the trapezoid on the MAP. So, the dopplerized VOR can and will support Airway navigation and continue to be used for your existing approach but it will not help with your MAP, thus your minimums cannot be improved as result of the dopplerization.

- **Localizer Type Directional Aid (LDA)**

  Use of an LDA may be a realistic option to help with the MAP. Located offsite, the LDA would provide a new navigational corridor down the valley which would be used for MAP purposes.

Several questions/issues remain regarding this option:

- LDA Location - Where does the LDA need to be located to provide the highest coverage down valley? Bill Pahler has identified a potential preliminary site and your research has determined the current owner of the land where this site is located.

  It is our understanding siting of the LDA would have to undergo a formal site selection study. There may be some risk that the preliminary site may need to move based on the findings of a formal site selection study.

- LDA Equipment – The LDA would need to be procured, installed and maintained. There are basically two options. Procurement, installation and maintenance by the FAA, or procurement, installation and maintenance by the County.

  Based on our experience, it is unlikely FAA Air Traffic Organization (ATO) will invest in the LDA. ATO has publically stated its position not to invest in new conventional NAVAIDS with the transition to NEXTGEN and satellite based navigation technology. The LDA is considered a conventional NAVAID.

- LDA Costs – It is expected that moving forward with the LDA would generally result in the following costs to the County associated with:

  - Site selection Study
  - Land - it is generally understood the County would bear the cost of the land to place the LDA regardless of if the equipment is procured by the FAA or County
  - Site preparation and utilities - dependent on proximity to adjacent utilities
  - Localizer array
  - Installation of localizer array
  - Initial testing and certification of equipment
  - Long term maintenance and certification of equipment

- LDA Minimums – FPO has mentioned minimums with a Decision Height ranging from 500-700 ft. and visibility minimums of around ¾ mile with a Medium Intensity Approach Lighting System with REIL (MALSR). **This is preliminary only.**

- LDA Procedure Development Timeline – FAA has stated that development of a new LDA procedure could take up to 12 mos.

Bill Pahler stated that he is moving forward on trying to get an LDA procedure in the FAA FPO Production Cycle for October, 2013. He is going to the Regional Airspace and Procedures Team (RAPT) in mid-May to request the procedure be put in the cycle. There is no guarantee the RAPT will approve this request. **Further, publication of the new procedures would be dependent on the installation, testing and certification of the equipment.**

According to FPO, the following action would have to occur to meet the deadline:

- April 26, 2013 - Procedure developed and submitted to Oklahoma City
- July 10, 2013 – Equipment installed, tested and certified
- July 10, 2013 – Flight check performed and passed by FAA
- October 17, 2013 – Procedure Published

It is important to note that Bill Pahler is working to get the procedure into the cycle with the understanding the equipment is not installed. If the RAPT accepts the request, this should give us some time to provide you more answers as part of the master plan process.

It is also important to note that there is risk associated with this process. It can and has happened where FPO has developed a procedure, submitted it for QA/QC through other FAA lines of business only to have the procedure denied by FAA HQ. According to FPO and Bill Payne, there is simply no way to get assurance from the FAA that this won't happen.

- **"Special"**

  Perhaps another opportunity is available and that is the development of a "Special" procedure for RIL. This concept has been recently utilized with success in Eagle and Aspen. Development of a Special requires significant coordination with users and the FAA. There will be a cost associated with the coordination and development of the Special. Associated costs would also be the responsibility of the County.

- **Increased climb gradient for RNP .3**

  There is currently a published RNAV RNP approach to Runway 26. While this approach requires authorization to fly, it was noted that the RNP .1 line of minima uses a climb gradient of 398 ft/NM while the RNP .3 minima does not. FPO has advised that RNP .1 is not currently being used by many aircraft operators but RNP .3 is. Applying the 398 ft./NM climb gradient to the RNP .3 may result in similar minima as the RNP .1 of 500-1.

- **Assumed Obstacle**

  As discussed, there is an assumed obstruction (-/+ 400 ft.) on the approach plates. A previous obstruction survey you completed verifies no obstruction exists. The obstruction information needs to be submitted to FPO immediately for them to verify and perhaps revise your approaches to Runway 26.

- **Recommendations**

  - At this point, the LDA seems like a good, primary course of action to pursue for a long term solution based on initial information. That said, we do not feel comfortable with the information that has been provided to say for certain whether or not the LDA will result in minima that are substantially better than what you have versus potential costs considering it's likely the County will have to make the investment to secure, install and maintain the LDA equipment. And, we won't have that answer until the procedure has been developed and substantially more coordination with the FAA has taken place as part of this master plan process.

  - Of immediate concern to the County is; should the County move forward with the purchase of land that has been identified as a preliminary LDA site? It is recommended that, at a minimum, a long term lease be explored until we are certain the LDA is feasible, affordable and this is the correct location. We believe any effort to be proactive with the land will show the FAA that the County is committed to doing their part.

  - If the LDA does not come to fruition, the development of a Special is recommended as the secondary course of action.

  - Regardless of the LDA or Special, it is recommended that FPO review the existing RNAV RNP .3 approach to Runway 26 to consider a revision using the 398 ft./NM climb gradient.

  - Lastly, it is recommended the County submit the obstruction survey to FPO as soon as possible verifying no obstruction exists on the approach to Runway 26.

APPENDIX F

FAA FLIGHT PROCEDURES ASSESSMENT

RIL INSTURMENT APPROACH INFORMATION

MARCH, 2015

From: frederick.mitchell@faa.gov [mailto:frederick.mitchell@faa.gov]
Sent: Thursday, March 12, 2015 8:36 AM
To: Steve Berardo
Subject: RE: (RIL) Garfield County Regional Airport Obstacle KRILT029

Started looking at the approach yesterday afternoon and this morning. On the first run, terrain plus a 200' AAO increases the HAT based on final to 1824. Run 1 (attached) gives the information. On the Google earth snapshot, "HOMER" is the end of the AAO Exempt area, and the obstacles are shown.

For Run 2 (attached), I took the 200' of the original DAAO obstacles and lowered KRILT029 to 5524.35', and rerunning final, I get a 200' hat based on final. The Run 2 graphic shows the AAO Exempt area (dotted blue line), where the obstacles are located (circled in red) and I have included a possible obstacle restriction area for final (solid blue). The coordinates for the area are:

AAAAA 393241.74N/1073858.54W
BBBBB 393041.68N/1073854.32W
CCCCC 393425.94N/1072646.69W
DDDDD 392925.77N/1072637.42W

Again, this is only for final. Will start trying to figure out the missed today. I am also waiting on phone calls from the obstacle team (KRILT029) and criteria folks (use of LDA on missed approach) to be sure that I am evaluating everything correctly.

Regards,
Fred

Fred Mitchell
Senior Specialist
FAA, ATO Western Service Center
Flight Procedures Team, AJV-W24
Email: Frederick.mitchell@faa.gov
Phone: (425) 917-6722
FAX: (425) 917-6643

PFINAL99: ril

APT ID	RWY ID	FAC ID	TYPE	SIAP ID	GPI	TCH	GPA	Aligned	GS INT Dist	Surf Delay
KRIL	R26	RIL;ID	ILS		921.10	58.00	3.60	YES	12.57	32.90

DA distance to threshold:
Primary Altimeter, Lowest Category: 2257.65

PFINAL Penetrations
Sort by: PENETRATION (Descending Sort)
SURFACE
INC HAT TO (Descending Sort)

OBS ID	DESC	Lat/Long	Waive Bypass Adjust	MSL	Pent	Surf	RAISE GS TO	CHG TCH TO	INC HAT TO	HORZ /VERT	Thld Dist	C/L Dist	W Width	X Width	Y Width	EC Factor
DAA000007	TERRAIN+AAO	393133.00N-1073348.00W A		7056.96	14.00	W	3.64	58.60	1820	164/98	42907.45	1493.35	1937.47	5291.85	7470.91	
DAA000001	TERRAIN+AAO	393151.00N-1073400.00W A		7020.87	9.45	W	3.63	58.50	1784	164/98	42013.74	350.32	1905.30	5195.88	7335.76	
DAA000009	TERRAIN+AAO	393130.00N-1073345.00W A		7060.24	9.26	W	3.63	58.50	1824	164/98	43134.73	1802.60	1945.65	5316.29	7505.35	
DAA000003	TERRAIN+AAO	393145.00N-1073357.00W A		7024.15	4.98	W	3.62	58.30	1788	164/98	42233.33	262.27	1913.19	5219.35	7368.74	
DAA000002	TERRAIN+AAO	393148.00N-1073357.00W A		7024.15	4.71	W	3.62	58.30	1788	164/98	42240.97	41.06	1913.48	5220.32	7370.20	
DAA000004	TERRAIN+AAO	393142.00N-1073354.00W A		7030.71	3.52	W	3.61	58.20	1794	164/98	42460.58	571.52	1921.37	5243.79	7403.18	
DAA000006	TERRAIN+AAO	393139.00N-1073351.00W A		7037.27	2.06	W	3.61	58.20	1801	164/98	42687.84	880.77	1929.56	5268.23	7437.62	
DAA000008	TERRAIN+AAO	393130.00N-1073348.00W A		7043.84	1.15	W	3.61	58.20	1807	164/98	42899.83	1796.68	1937.19	5291.03	7469.76	
DAA000005	TERRAIN+AAO	393142.00N-1073348.00W A		7043.84	0.07	W	3.61	58.20	1807	164/98	42930.38	583.36	1938.29	5294.30	7474.36	

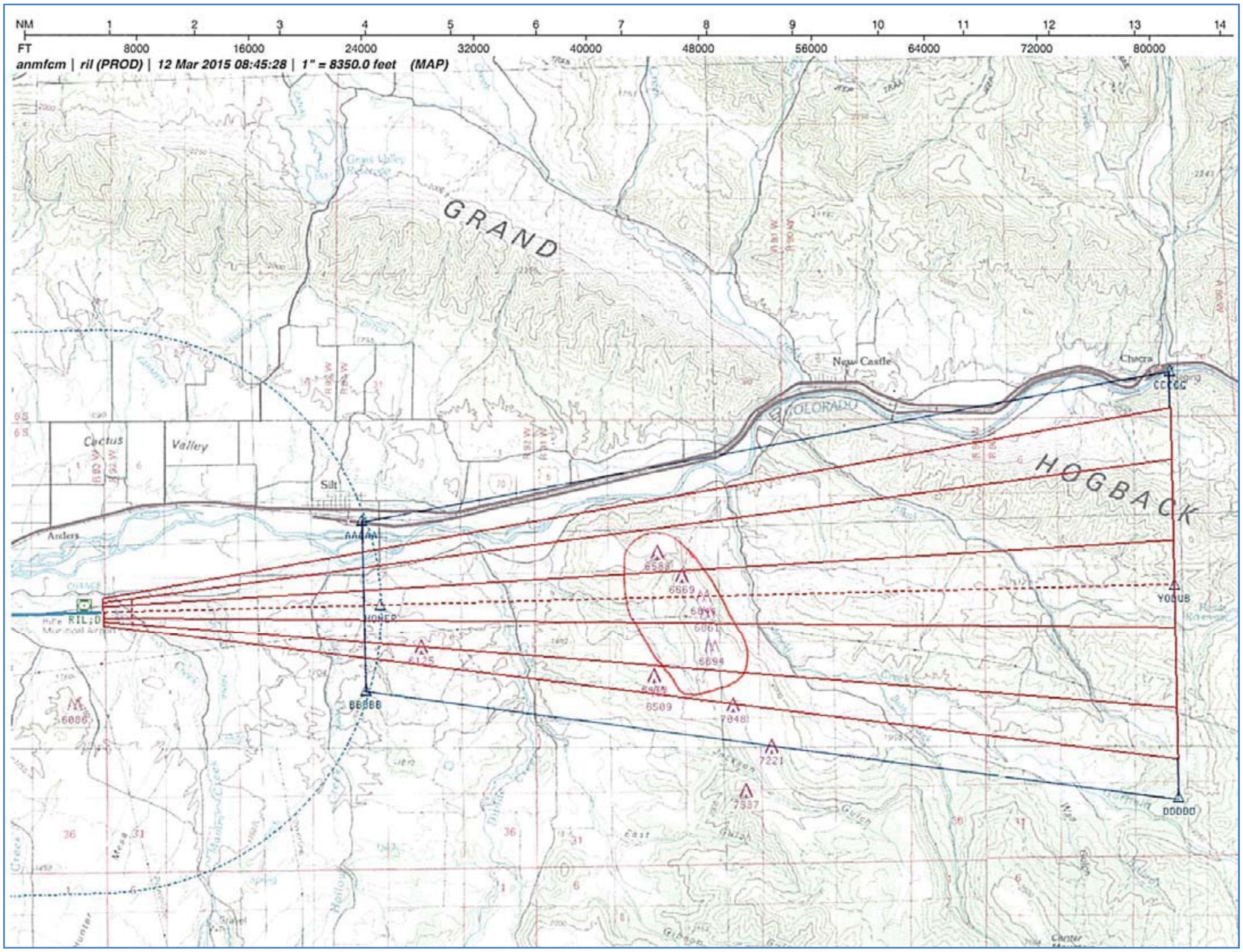
PFINAL99: ril

APT ID	RWY ID	FAC ID	TYPE	SIAP ID	GPI	TCH	GPA	Aligned	GS INT Dist	Surf Delay
KRIL	R26	RIL;ID	ILS		921.10	58.00	3.60	YES	12.57	32.90

DA distance to threshold:
Primary Altimeter, Lowest Category: 2257.65

PFINAL Penetrations
Sort by: PENETRATION (Descending Sort)
SURFACE
INC HAT TO (Descending Sort)

OBS ID	DESC	Lat/Long	Waive Bypass Adjust	MSL	Pent	Surf	RAISE GS TO	CHG TCH TO	INC HAT TO	HORZ /VERT	Thld Dist	C/L Dist	W Width	X Width	Y Width	EC Factor
KRILT030	GRD	393132.43N-1074249.85W A		5551.00	-3.69	X	2.07	58.00	200	50/20	478.50	446.91	410.03	729.94	1042.19	
KRIL0007	GROUND	393132.81N-1074247.29W A		5548.00	-4.58	W	2.56	58.00	200	20/2	679.97	413.88	417.28	751.60	1072.71	
KRILT029	GRD	393133.30N-1074247.28W A		5524.35	-28.30	W	0.00	58.00	200	50/20	682.09	364.35	417.35	751.83	1073.03	
08-000688	POLE	393138.00N-1074215.00W A		5604.00	-38.31	W	2.30	58.00	200	50/3	3222.30	43.10	508.81	1024.97	1457.97	
KRILT031	WSK	393130.39N-1074251.59W A		5563.00	-38.61	X	0.00	58.00	200	50/20	336.71	649.51	404.92	714.70	1020.71	
KRILT0001	TREE	393134.65N-1074211.63W A		5598.00	-53.30	W	1.93	58.00	200	50/20	3477.11	302.66	517.97	1052.34	1496.52	
KRIL0026	TREE	393134.55N-1074211.49W A		5593.00	-58.68	W	1.77	58.00	200	20/2	3487.80	313.06	518.36	1053.49	1498.14	
08-000692	T-L TWR	393132.00N-1074041.00W A		5801.00	-100.51	W	2.61	58.00	200	50/3	10566.28	759.36	773.19	1814.57	2570.66	
08-000689	POLE	393128.00N-1074236.00W A		5580.00	-113.71	Y	0.00	58.00	200	20/3	1550.93	923.91	448.64	845.25	1204.69	
08-000690	POLE	393126.00N-1074239.00W A		5592.00	-120.61	Y	0.00	58.00	200	50/10	1310.61	1119.83	439.99	819.42	1168.28	
08-000691	T-L TWR	393144.00N-1074044.00W A		5755.00	-139.35	W	2.20	58.00	200	50/3	10363.50	460.14	765.89	1792.80	2540.02	
KRILT021	TWR	393132.65N-1074041.20W A		5760.00	-141.02	W	2.21	58.00	200	50/20	10552.36	693.23	772.68	1813.07	2568.55	
08-023988	T-L TWR	393130.53N-1074041.93W A		5752.00	-180.71	X	1.81	58.00	200	50/20	10489.53	906.06	770.42	1806.32	2559.03	
KRILT022	TWR	393130.53N-1074041.93W A		5752.00	-180.71	X	1.81	58.00	200	50/20	10489.53	906.06	770.42	1806.32	2559.03	
AA007	TERRAIN	393133.00N-1073348.00W A		6856.96	-186.00	W	3.16	58.00	200	164/98	42907.46	1493.35	1937.47	5291.85	7470.91	
AA001	TERRAIN	393151.00N-1073400.00W A		6820.87	-190.55	W	3.14	58.00	200	164/98	42013.73	350.32	1905.30	5195.88	7335.76	
AA009	TERRAIN	393130.00N-1073345.00W A		6860.24	-190.74	W	3.15	58.00	200	164/98	43134.73	1802.60	1945.65	5316.29	7505.35	
08-000693	T-L TWR	393123.00N-1074025.00W A		5973.00	-193.13	X	1.90	58.00	200	50/3	11795.05	1702.44	817.43	1946.70	2756.86	
AA003	TERRAIN	393145.00N-1073357.00W A		6824.15	-195.02	W	3.13	58.00	200	164/98	42233.33	262.27	1913.19	5219.35	7368.74	
AA002	TERRAIN	393148.00N-1073357.00W A		6824.15	-195.29	W	3.13	58.00	200	164/98	42240.97	41.06	1913.48	5220.32	7370.20	
AA006	TERRAIN	393139.00N-1073351.00W A		6837.27	-197.94	W	3.13	58.00	200	164/98	42687.84	880.77	1929.56	5268.23	7437.62	
AA005	TERRAIN	393142.00N-1073348.00W A		6843.86	-199.91	W	3.13	58.00	200	164/98	42930.38	583.36	1938.29	5294.30	7474.36	
08-023981	FENCE	393125.86N-1074208.84W A		5608.00	-204.95	Y	0.00	58.00	200	20/3	3671.80	1197.22	524.99	1073.29	1526.04	
KRIL0004	FENCE POST	393125.86N-1074208.84W A		5608.00	-204.95	Y	0.00	58.00	200	20/2	3671.80	1197.22	524.99	1073.29	1526.04	
AA008	TERRAIN	393130.00N-1073348.00W A		6834.86	-207.83	W	3.11	58.00	200	164/98	42899.82	1796.68	1937.19	5291.03	7469.76	
08-024001	POLE	393124.18N-1074203.97W A		5642.00	-210.92	Y	0.00	58.00	200	50/20	4048.59	1377.27	538.55	1113.80	1583.13	
KRILT027	POLE	393124.18N-1074203.97W A		5642.00	-210.92	Y	0.00	58.00	200	50/20	4048.59	1377.27	538.55	1113.80	1583.13	
08-023986	T-L TWR	393132.30N-1073350.21W A		6817.00	-219.79	W	3.08	58.00	200	50/20	42732.63	1559.77	1931.17	5273.05	7444.42	
KRILT004	POLE	393132.30N-1073350.21W A		6817.00	-219.79	W	3.08	58.00	200	50/20	42732.63	1559.77	1931.17	5273.05	7444.42	
08-023980	FENCE	393121.05N-1074142.82W A		5653.00	-313.75	Y	0.00	58.00	200	20/20	5696.25	1737.92	597.87	1290.96	1832.79	
KRIL0003	FENCE POST	393121.05N-1074142.82W A		5653.00	-313.75	Y	0.00	58.00	200	40/20	5696.25	1737.92	597.87	1290.96	1832.79	
KRILT005	TREE	393157.06N-1073407.80W A		6669.00	-321.41	W	2.81	58.00	200	50/20	41418.49	978.45	1883.87	5131.87	7245.56	
08-023995	T-L TWR	393115.55N-1074025.45W A		5962.00	-335.69	Y	0.63	58.00	200	50/20	11739.92	2454.76	815.45	1940.78	2748.52	
KRILT015	TWR	393115.55N-1074025.45W A		5962.00	-335.69	Y	0.63	58.00	200	50/20	11739.92	2454.76	815.45	1940.78	2748.52	
08-023998	T-L TWR	393123.14N-1074047.02W A		5767.00	-338.86	X	0.09	58.00	200	50/20	10071.19	1642.69	755.37	1761.35	2495.67	
KRILT023	TWR	393123.14N-1074047.02W A		5767.00	-338.86	X	0.09	58.00	200	50/20	10071.19	1642.69	755.37	1761.35	2495.67	
08-023994	T-L TWR	393116.66N-1074013.53W A		5955.00	-365.58	Y	0.61	58.00	200	50/20	12676.29	2367.16	849.15	2041.46	2890.40	
KRILT014	TWR	393116.66N-1074013.53W A		5955.00	-365.58	Y	0.61	58.00	200	50/20	12676.29	2367.16	849.15	2041.46	2890.40	
08-023999	T-L TWR	393119.79N-1074057.94W A		5728.00	-403.05	Y	0.00	58.00	200	50/20	9207.14	1958.74	724.26	1668.45	2364.75	
KRILT024	TWR	393119.79N-1074057.94W A		5728.00	-403.05	Y	0.00	58.00	200	50/20	9207.14	1958.74	724.26	1668.45	2364.75	
08-023987	TOWER	393115.60N-1074036.24W A		5858.00	-403.83	Y	0.00	58.00	200	50/20	10895.14	2427.37	785.03	1849.95	2620.52	
KRILT017	TWR	393115.60N-1074036.24W A		5858.00	-403.83	Y	0.00	58.00	200	50/20	10895.14	2427.37	785.03	1849.95	2620.52	
08-020984	TOWER	393121.64N-1074040.58W A		5710.00	-450.27	X	0.00	58.00	200	500/125	10571.45	1807.70	773.38	1815.14	2571.47	
08-023997	T-L TWR	393115.48N-1074042.81W A		5762.00	-480.15	Y	0.00	58.00	200	50/20	10380.35	2425.89	766.50	1794.60	2542.52	
KRILT018	POLE	393115.48N-1074042.81W A		5762.00	-480.15	Y	0.00	58.00	200	50/20	10380.35	2425.89	766.50	1794.60	2542.52	
KRILT006	TREE	393213.63N-1073430.10W A		6588.00	-561.15	X	2.16	58.00	200	50/20	39714.91	2697.99	1822.53	4948.68	6987.39	
08-021384	TOWER	393105.70N-1073340.50W A		6894.00	-745.32	X	1.84	58.00	200	500/125	43425.27	4268.44	1956.12	5347.57	7549.42	
KRILT013	TREE	393106.39N-1073803.64W A		6125.00	-765.55	Y	0.15	58.00	200	50/20	22820.46	3671.78	1214.35	3132.16	4427.44	
08-000709	CATENARY	393126.00N-1073649.00W A		5820.00	-825.51	X	0.65	58.00	200	500/125	28716.54	1840.20	1426.60	3766.07	5320.75	
KRILT003	TREE	393102.24N-1073344.00W A		6887.00	-830.61	X	1.63	58.00	200	50/20	43142.38	4611.39	1945.94	5317.15	7506.57	
KRILT007	TREE	393046.04N-1073432.53W A		6478.00	-1390.24	Y	0.00	58.00	200	50/20	39300.40	6153.40	1807.64	4904.09	6924.48	
KRILT008	TREE	393040.73N-1073427.92W A		6501.00	-1458.38	Y	0.00	58.00	200	50/20	39647.85	6699.44	1820.15	4941.46	6977.13	



NM 1 2 3 4 5 6 7 8 9 10 11 12 13 14
FT 8000 16000 24000 32000 40000 48000 56000 64000 72000 80000
anmfcm | ril (PROD) | 12 Mar 2015 08:45:28 | 1" = 8350.0 feet (MAP)
GRAND
HOGBACK
New Castle
Chacra
COLORADO
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Anders
Cactus
Valley
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HONEP
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APPENDIX G

LETTER FROM DAVID KUXHAUSEN, WOOLPERT TO FAA

RE: OBJECT KRILTO29, RIFLE AIRPORT

MARCH 5, 2015

WOOLPERT

March 05, 2015
Fred Mitchell
Senior Specialist
FAA, ATO Western Service Center
Flight Procedures Team, AJV-W24

Dear Mr. Mitchell:

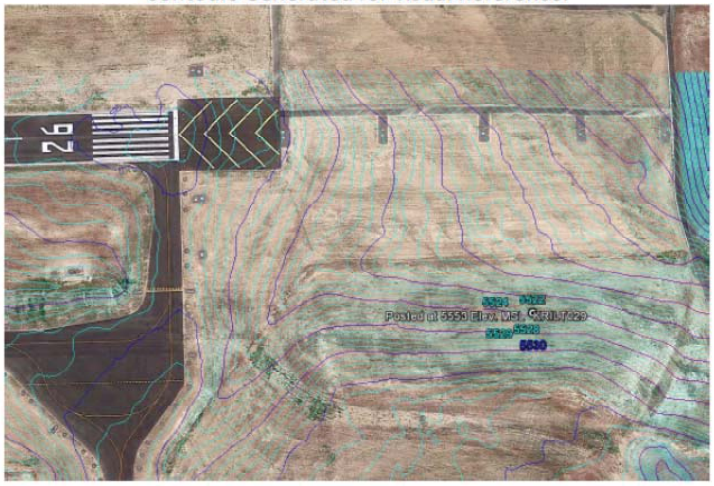
Rifle Colorado Ground Point Verification concerning obstacle point # KRILT029 listed on the 8260-3

Form 8260-3 has a ground point listed for RIL in the ILS procedure for Runway 26.
The location of point KRILT029 according to the 8260 form that was provided by Jviation is listed below: (See Exhibit A)

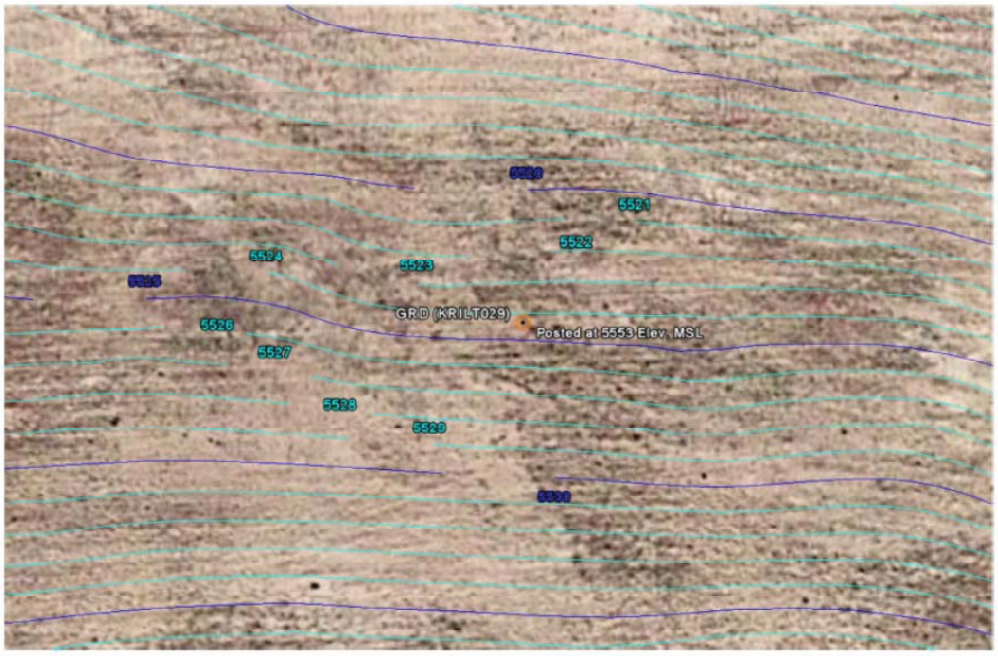
39° 31' 33".30 N Latitude
107° 42' 47".28 W Longitude
5553' (2C) Elevation

Woolpert was tasked with verifying the elevation of the ground obstacle KRILT029 utilizing the existing stereo imagery. A recent 18B-VGA obstruction study was done for RIL with stereo aerial images captured on 9/16/2010. A recent stereo measurement was taken at the above location as listed on the existing 8260-3 report. The measurement resulted in a ground elevation of **5524.35 ft. +/- 0.5 ft**. The Woolpert stereo compiled elevation is 28.65' lower than the 8260-3 reported elevation.

Contours Generated for visual Reference:



Woolpert, Inc.
116 Inverness Drive East, Suite 105
Englewood, CO 80112-5125
303.925.1400



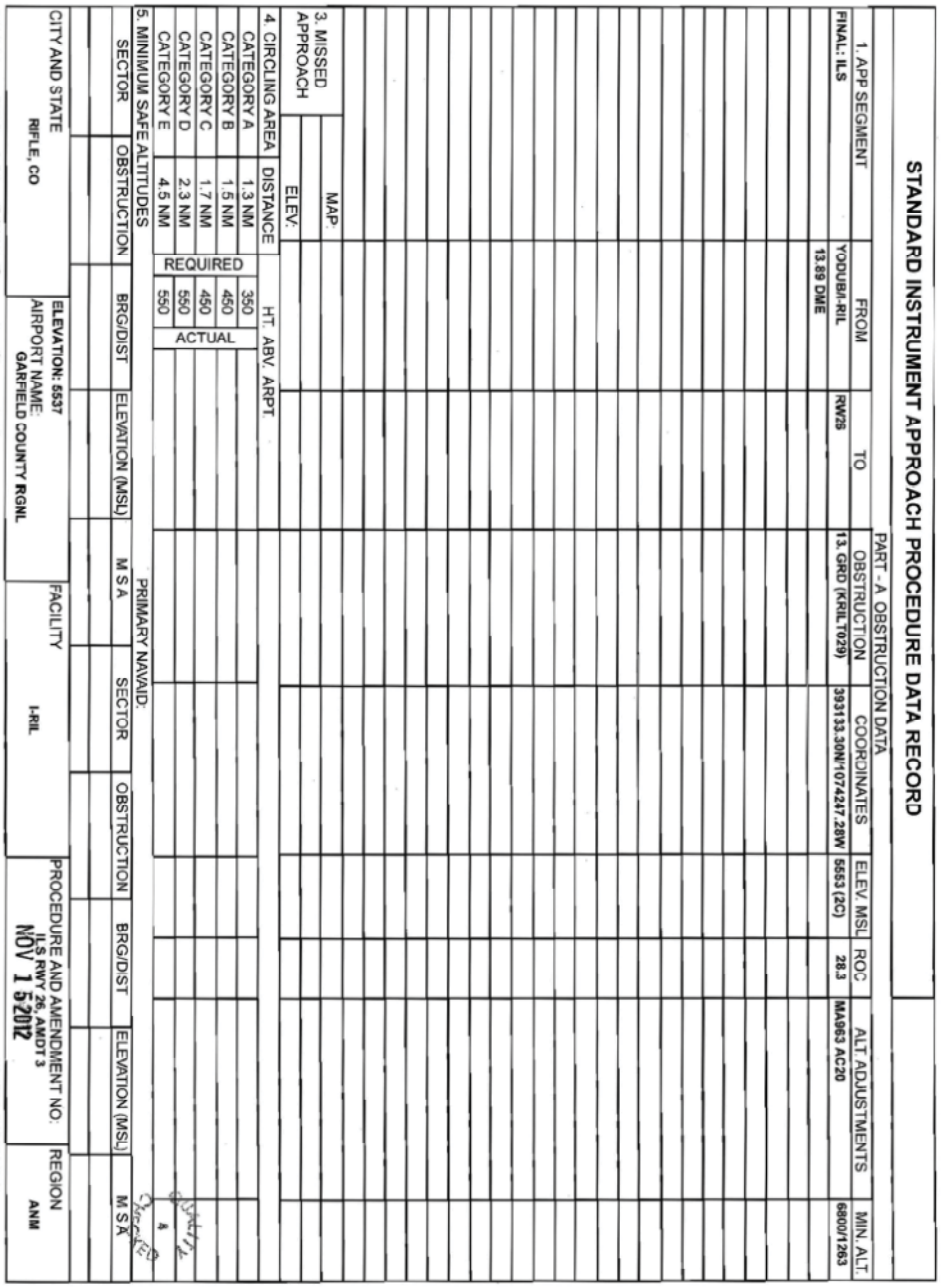
Sincerely,

Woolpert, Inc.

David Kuxhausen, PLS

Woolpert, Inc.
116 Inverness Drive East, Suite 105
Englewood, CO 80112-5125
303.925.1400

Exhibit A:



STANDARD INSTRUMENT APPROACH PROCEDURE DATA RECORD

1. APP SEGMENT	FROM	TO	PART - A OBSTRUCTION DATA OBSTRUCTION	COORDINATES	ELEV MSL	ROC	ALT ADJUSTMENTS	MIN. ALT.
FINAL: ILS	YODUB/I-RIL	RW26	13. GRD (KRIL 7029)	393133.30N/1074247.28W	5553 (2C)	28.3	MA963 AC20	6800/1263
	13.89 DME							

3. MISSED APPROACH	MAP:	ELEV:

4. CIRCLING AREA	DISTANCE	REQUIRED HT. ABV. ARPT.	ACTUAL
CATEGORY A	1.3 NM	350	
CATEGORY B	1.5 NM	450	
CATEGORY C	1.7 NM	450	
CATEGORY D	2.3 NM	550	
CATEGORY E	4.5 NM	550	

5. MINIMUM SAFE ALTITUDES SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	PRIMARY NAVAID: M S A	SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A

CITY AND STATE	AIRPORT NAME	ELEVATION: 5537	FACILITY	PROCEDURE AND AMENDMENT NO.	REGION
RIFLE, CO	GARFIELD COUNTY RGNL		I-RIL	ILS RWY 26, AMDT 3	ANM

NOV 15 2012

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Woolpert, Inc.
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