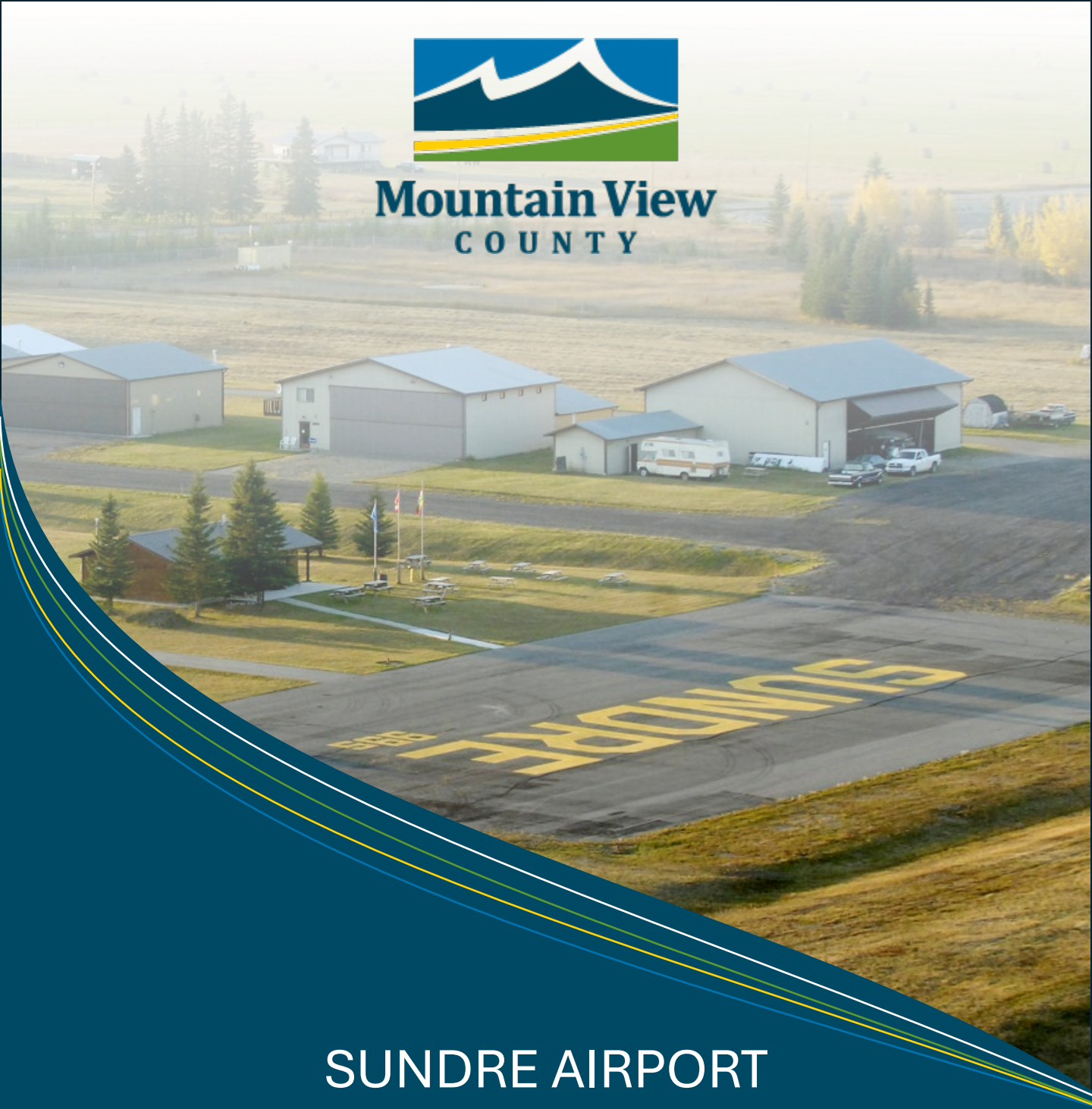
Mountain View
COUNTY



SUNDRE AIRPORT CONCEPT PLAN

Bylaw No. 00/25

Schedule “B”

ACKNOWLEDGEMENTS

Aviation Advisory Committee & ASP Steering Committee Members:

Don Bell	Aviation Advisory Committee Member/Chair
Glen Bradley	Aviation Advisory Committee Member/Vice Chair
Thomas Thomas	Aviation Advisory Committee Member
Greg Botheras	Member at Large
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1.0 INTRODUCTION

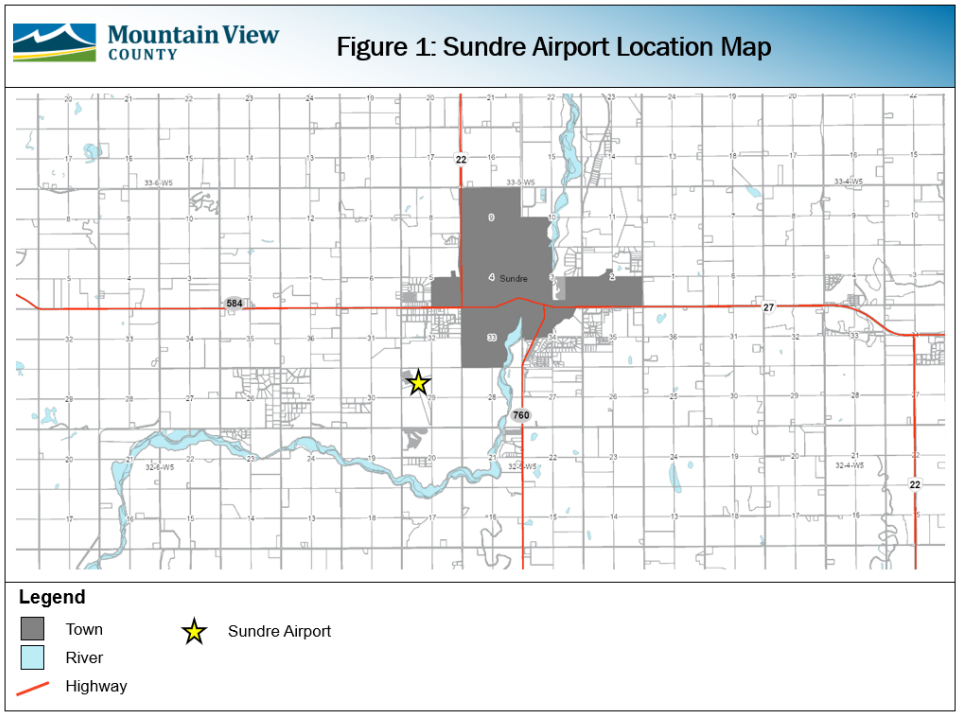
The Sundre Airport Concept Plan has been created to provide guidance on the airport's future growth while identifying compatible surrounding land uses and developments. The plan encompasses six quarter sections: one surrounds the airport's hangars and runways, one contains a portion of a runway but is otherwise undeveloped, two remain bare land, and two are being used for aggregate extraction. The objective of the Concept Plan is to outline a strategy that supports the airport's future expansion while balancing aviation safety with potential activities on neighboring lands.

1.1 BACKGROUND

The Sundre Airport is a registered aerodrome situated about half a mile southwest of the Town of Sundre, within Mountain View County. The location of the airport is shown on Figure 1 and can be accessed via Range Road 55. Community members view the airport as a vital facility that offers unique opportunities for the region, and many would like to see it play a larger role in future economic development.

The airport and its surrounding areas are located within South McDougal Flats, a region governed by municipal policies designed to manage future land use and development. These policies are broadly outlined within the Municipal Development Plan (MDP) and more defined within the South McDougal Flats Area Structure Plan (ASP). The Land Use Concept Map from the ASP is shown in Figure 6, and delineates the various policy areas for South McDougal Flats.

The airport was originally established by Alberta Transportation in 1984 and 1985, but ownership was later transferred to the County. The Sundre Airport, also known as CFN7 by aviators, has two runways. The airport has been beneficial for various sectors, including aviation enthusiasts, the oil and gas industry, pilot training, and firefighting. Additionally, the region is rich in aggregate resources. To the north, there is an active sand and gravel pit, and there is potential for neighboring quarters to extract aggregate in the future. Meanwhile, the eastern quarters remain undeveloped, but they fall within the Concept Plan area.



1.2 LANDS WITHIN CONCEPT PLAN AND OWNERSHIP

Mountain View County owns the lands that contain the Sundre Airport, however, the developed hangar lots are either owned by individuals or companies or are privately leased. The six quarter sections included within the Concept Plan boundaries, as well as their predominant land use and ownership are listed below:

Legal Land Locatio	Dominant Use	Ownership
NW 29-32-5-5	Sundre Airport	Mountain View County
SW 29-32-5-5	Runway & Vacant Land	Mountain View County
NE 29-32-5-5	Vacant Land	Mountain View County
SE 29-32-5-5	Vacant Land	Mountain View County
SW 32-32-5-5	Aggregate Extraction	Cascade Sand & Gravel Ltd.
SE 32-32-5-5	Vacant Land & Future Aggregate Extraction	Mountain View County

1.3 PROCESS

The South McDougal Flats Area Structure Plan (ASP) Bylaw No. 01/24 was adopted by Mountain View County Council on March 27, 2024. Due to the unique land use considerations required to complement the aviation activities at the Sundre Airport, the ASP outlined the need for a separate Concept Plan, which would be developed through its own committee and Public Hearing process.

Council approved the development of the Sundre Airport Concept Plan on August 28, 2024. The Terms of Reference that followed included details about the review topics for the Concept Plan, the appointed members of the steering committee, the scope of work, and the involvement of the public and stakeholders. The Terms of Reference were accepted on September 18, 2024.

1.3.1 Airport Steering Committee

The Steering Committee for the Sundre Airport Concept Plan was established to ensure a diverse range of perspectives in guiding the County on the management, maintenance, and development of the Sundre Airport and its surrounding lands. The committee consists of the Reeve, one Council member, the Mayor of Sundre, three members from the Aviation Advisory Committee, and three members at large. This diverse composition ensures that the committee includes individuals with aviation expertise, municipal representation, and public input, all working collaboratively to create a vision for the appropriate future use of these lands.

1.3.2 Community Consultation

An Open House was held on May 26, 2025 at the Sundre Legion to present the draft version of the Concept Plan. Additionally, a Virtual Open House, featuring on-line videos, was made available to the public on May 14, 2025, ensuring broader access to the information.

1.4 ROLE OF THE AIRPORT

The Sundre Airport serves multiple purposes, catering to aviation enthusiasts and recreational pilots, as well as providing Medivac services for both fixed-wing aircraft and helicopters. It accommodates charter flights and supports operations for Alberta Sustainable Resources, Forestry, and West Country Emergency Services. The airport is essential for connecting the region to other communities within Alberta and plays a crucial role in the transportation network for the surrounding rural areas.

1.5 OBJECTIVES

The objectives for the Sundre Airport Concept Plan are listed below:

1. Establish a long-term vision for the future development of the Concept Plan area that will support future economic opportunities, while also complimenting the surrounding community.
2. Establish policies to protect the lands surrounding the airport to allow for future airport expansion and the opportunity for aggregate extraction as interim land use.
3. Provide guidance for the efficient use of airport lands and to support future development that maintains and improves present standards of safety and appearance of the facility.
4. Ensure interim and end uses of the adjacent lands preserve the surrounding environmental features and that allow the potential of future airport expansions.

1.6 GOALS

The goals for the Sundre Airport Concept Plan are:

1. Provide guidance on how the Sundre Airport and adjacent lands within the Concept Plan can be developed in the future to support economic opportunities as well as compatible recreational uses.
2. Encourage high-end businesses with the opportunity for both aviation related and non-aviation related development.
3. Develop land use policies that will protect the future growth of the airport.
4. Encourage sustainable development utilizing conservation principles.

1.7 GUIDING PRINCIPLES

The Concept Plan guides decision making for the future development of the airport and encourages efficient use of the lands. In order to accomplish the goals, objectives and the vision for the Sundre Airport, the following guiding principles are provided:

1. **Safety** – the primary guiding principle is the safe operation of the airport.
2. **Viability** – determine the best strategies for managing the future expansion of the airport that will ensure the future viability.
3. **Public Service** – the airport is not a private airport and is open and available to all pilots and aircraft. The airport will continue to be a registered aerodrome under Transport Canada regulations until such time as Transport Canada requires certification.
4. **Community Benefit** – the airport development will benefit the community through taxes paid, services rendered and availability for public use and enjoyment.
5. **Noise and Height Management** – develop policies that will guide land use and development surrounding the airport to mitigate issues related to noise generated from aircraft and height limitation for aircraft using the Sundre Airport.

2.0 REGULATORY AND LEGISLATIVE PARAMETERS

2.1 JURISIDICTION AND AVIATION

Given the current uses within the Sundre Airport Concept Plan area, which include aviation activities, aggregate extraction, and lands of environmental significance that are susceptible to flooding, policies and regulations from all levels of government may apply.

The Sundre Airport is classified as a registered aerodrome. As it is not a certified airport, it is ineligible to apply for Airport Zoning Regulations. However, airport development and operations still fall under federal jurisdiction. Matters related to aeronautics are regulated in accordance with Transport Canada's *Aerodromes Standards and Recommended Practices* (TP312) and the *Canadian Aviation Regulations* (CARs) (SOR/96-433).

Provincial agencies are responsible for highways and play a key role in the approval process for aggregate extraction operations, as well as issues pertaining to water resources, wildlife and environmental protection. Provincial legislation delegates the authority for a municipality to regulate land use through Part 17 of the *Municipal Government Act* (RSA 2000, c. M-26). This allows a municipality to address land use conflicts and to restrict heights and types of structures. Within Mountain View County, statutory plans and Land Use Bylaw regulations provide direction for land use, subdivision, and development.

2.1.1 Transport Canada

Transport Canada (TC) is the federal agency responsible for overseeing the country's transportation systems and manages 236 sets of regulations (TC, 2019, Legislation and Regulations, para. 2). TC is responsible for developing "the legislative and policy framework concerning air" (TC, 2023, Jurisdictional Landscape, para. 1). Since Sundre Airport is not a certified aerodrome, it is subject to periodic inspections by TC to ensure compliance with the *Canadian Aviation Regulations* (CARs) (TC, 2004, p. 105). *The Aeronautics Act* (R.S.C., 1985, c. A-2) governs airspace and the safe operation of airports. While certified aerodromes must adhere to the *Aerodromes Standards and Recommended Practices* (TP312), non-registered and registered aerodromes are exempt from these requirements .

Proposals for changes in land use, subdivision, or development within the Sundre Airport Concept Plan area may be referred to TC who may provide comments to ensure future development does not cause any hazards to aviation operations.

2.1.2 NAV Canada

Since 1996, the Federal Government has employed NAV Canada to manage air navigation and traffic control activities (NAV Canada, n.d.a). Any new navigational aids, lighting requirements, or developments on airport land are communicated to NAV Canada to ensure they do not interfere with the safe operation of the airport.

New forms of land use and development that could introduce line-of-sight obstructions, cause electronic interference with airport equipment, or increase light pollution can pose safety hazards for aerodrome operations (NAV Canada, n.d.b). Proposals for changes in land use, subdivisions, or development may be referred to NAV Canada to ensure that aerodrome safety is not compromised.

2.2 MUNICIPAL POLICIES

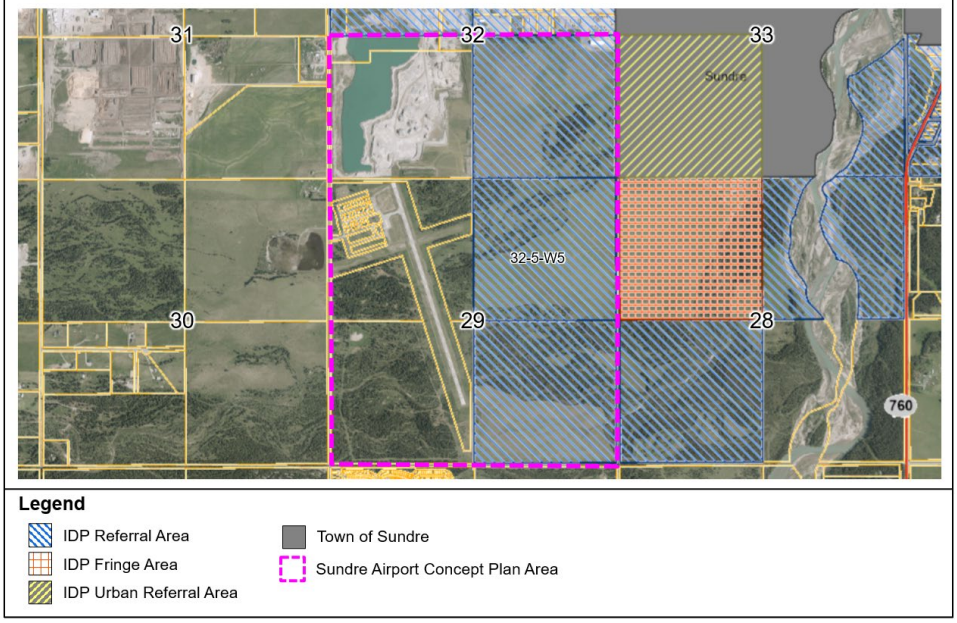
The provincial government delegates authority to municipalities to create bylaws that establish policies for future growth patterns, land use, subdivision and development. Proposals for lands located outside of airport boundaries are the responsibility of the municipality, with the exception of matters that are specifically within provincial jurisdiction. Below is a brief summary of Mountain View County's statutory plans and regulations that apply to lands within the Sundre Airport Concept Plan area.

2.2.1 Mountain View County & Town of Sundre Intermunicipal Development Plan (IDP)

The Intermunicipal Development Plan (IDP) for Mountain View County and the Town of Sundre was established as a collaborative policy document to guide future land use, subdivision and development in the areas surrounding the town. The three quarter sections located in the eastern half of the Sundre Airport Concept Plan area fall within the boundaries of the IDP, which are shown in Figure 2 below.

Although these lands are part of Mountain View County, the IDP outlines processes and guidance to ensure that future developments in this area align with the town's growth. According to the IDP, the eastern half of the Sundre Airport Concept Plan area is designated as a "Referral Area." This means that any future applications for redesignation, subdivision or development listed as a discretionary use within the Referral Area will be forwarded to the Town of Sundre for review and comments.

Figure 2: Mountain View County and Town of Sundre Intermunicipal Development Plan (IDP) Map



2.2.2 Land Use Bylaw (LUB)

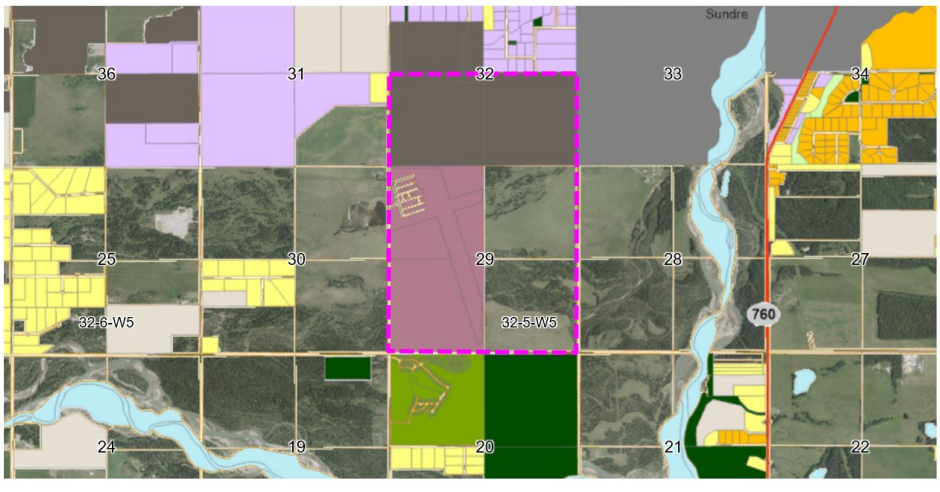
Mountain View County's LUB provides the rules for development and includes detailed descriptions of exempt, permitted and discretionary uses for the various zonings throughout the County, development standards, setbacks and height restrictions. Its purpose is to facilitate the orderly, economical and beneficial development and use of land. As of 2024, the lands within the Sundre Airport Concept Plan area have one of the following zonings:

- **Airport District (S-AP)**: The purpose of this district is to accommodate the safe operation of an aerodrome and allow its economic and financial viability. The Sundre Airport is mostly located within the NW 29-32-5-5; however, the main runway also extends into the SW 29-32-5-5.
- **Agricultural District (A)**: The purpose of this district is to allow for agricultural land uses on larger parcels. Four quarters within the Concept Plan area do not contain any development and are being leased by the County for cattle grazing.
- **Aggregate Extraction and Processing District (AEP)**: The purpose of this district is to allow for the removal, extraction, processing and transmission of raw aggregate materials for commercial purposes. The two most northerly quarter sections within the Concept Plan area are being used for gravel extraction.

The LUB also includes Height Limitations, Noise Exposure Projection and Outer Surface mapping, which were developed to help inform when proposed development within or surrounding the airport could compromise the operational safety or future airport expansion.

Figure 3 below shows the various land use districts within and surrounding the Concept Plan area.

Figure 3: Existing Land Use Zoning Map



3.0 AIRPORT IMPACTS, NATURAL FEATURES AND SURROUNDING LAND USES

There are a mix of land uses, unique environmental features, and landforms that exist within the Sundre Airport Concept Plan area that must be considered when new applications for changes in land use, subdivision and development are proposed. Below is a summary of some of the most important matters that were considered for this Concept Plan.

3.1 SUNDRE AIRPORT

Two quarter sections are currently zoned as Airport District (S-AP). The current footprint of lots used for hangars covers approximately 18 acres within the northwest corner of NW 29-32-5-5, with a small portion of land extending into the quarter to the south to accommodate a runway. The airport includes airside lots, taxiways, a terminal building, aircraft tie-down areas, and two runways.

The main runway (15/33) is 4,346 feet long with an asphalt surface and extends into the southern quarter. The second runway (06/24) is 2,439 feet long with a turf surface. As of 2025, there are 26 subdivided lots, of which 17 have been developed for airside purposes. There is still an opportunity for additional airside development within this designated area, each of which will have access to taxiways and runways. Potential future expansion of the airport must ensure compliance with the relevant federal regulations, as previously noted. Applications within the surrounding lands should also ensure opportunities to expand the airport are not restricted and hazards for airport operations are avoided.

3.1.1 Height Limitations Mapping

Protecting the airspace around aerodromes is essential for ensuring the safety of aircraft. It is crucial to avoid constructing structures that could obstruct aircraft while they are approaching the runways during takeoff and landing. The Height Limitations Map provides information about the maximum allowable height for developments in areas where aircraft approach both runways at Sundre Airport. Development height allowances grow with increasing distance from the runways.

It is important to consider the grade elevation of the highest point of development, relative to geodetic elevation to determine the height of potential development. The reference points for ground elevation along the runway can be used to estimate the maximum allowable height indicated on the map. Development proposed within the areas impacted by height limitations must adhere to the regulations listed within the LUB. The Sundre Airport Height Limitations Map can be viewed within Appendix B of the Concept Plan.

3.1.2 Noise

Although there are no confirmed long-term health effects from exposure to aircraft noise, it can be disruptive to surrounding populations (Health Canada, 2010). Understanding the noise levels present in areas surrounding an airport can aid in informed land use and development planning.

Aircraft noise can be depicted as contour lines on a map, which show nuisance levels at specific distances from a runway. "The shape and extent of these contours depend on the types of aircraft involved, the flight paths they follow, their proximity to the ground, and the

number of operations performed by each aircraft type" (Transport Canada, 1990, p. 2).

Noise exposure levels for the Sundre Airport are illustrated in Appendix C. The Noise Exposure Projection (NEP) Contours map was developed by HM Aero Aviation Consulting in support of the Sundre Airport Concept Plan. "Noise contours represent a near worst-case 24-hour period and are based on the number of aircraft operations for a 95th percentile busy day" (HM Aero, 2025, p. 1).

3.1.3 Outer Surface Map

Aircraft preparing to land or those that have just taken off require the airspace above the airport to complete their maneuvering or circling procedures. The Outer Surface Map extends 4,000 metres horizontally from the center point of the runway and 45 metres vertically. This information, combined with the Height Limitations Map, helps identify areas where obstacles must be avoided to ensure the airport's operational safety. The Outer Surface area is reflected within the Aerodrome Protection Zone Overlay, which can be found in Appendix D of the Concept Plan.

3.2 NATURAL FEATURES

The Sundre Airport Concept Plan is located in a flatland area north of the Red Deer River. Much of the surrounding land consists of either forested areas or native pasture. It is important to consider specific environmental features and landforms when determining compatible land uses within the plan area and in proximity to the airport, which are further assessed below.

3.2.1 Environmentally Significant Areas (ESAs)

The Environmentally Significant Areas Report, completed by Summit Environmental Consultants Ltd, identifies the southern part of the Sundre Airport Concept Plan area as a Level 1 Environmentally Significant Area (ESA), indicating it has very high environmental significance (Summit, 2008). This classification is based on several factors, including the area's relatively high habitat quality for wildlife and native plants, the uniqueness of its surrounding ecology, and the relatively low level of disturbance (Summit, p. 14). Additional criteria considered in the assessment included the susceptibility for flooding, the ecological and hydrological functions of the region, the presence of unique landforms and microclimates, and the connectivity of wildlife corridors. The ESA areas that have been identified are shown in Figure 4. The potential future land uses, subdivision and development within the Sundre Airport Concept Plan seeks to preserve the integrity of the surrounding environment and protect the natural assets that the area provides.

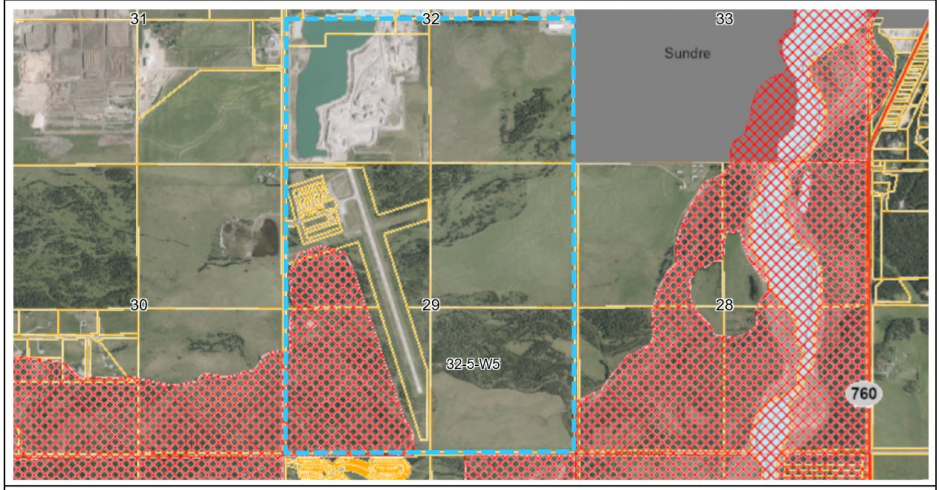
3.2.2 Flood Hazards

Alberta Environment and Parks (AEP) conducted an extensive study of flood hazard areas along the Red Deer River (AEP, 2024). The provincial study identifies much of the southern portion of the Concept Plan as being within a *floodway*. This area typically represents the highest flood hazard, where water flows are deepest, fastest, and most destructive during a 1-in-100-year flood event (GOA, 2021, p. 3). The quarter section surrounding the current footprint of the Sundre Airport, along with the lands to the east,

contains areas classified as *flood fringe*. These areas typically experience shallower, slower, and less destructive flooding, but they may also include regions classified as *high hazard flood fringe* (GOA, p. 3). Additionally, some areas have been identified as being at risk during 1-in-200 and 1-in-500-year flood events. Figure 5 below illustrates the provincial flood hazard mapping for the area. Any potential development in areas prone to flooding must comply with provincial regulations, as well as the development rules outlined in the County's LUB.

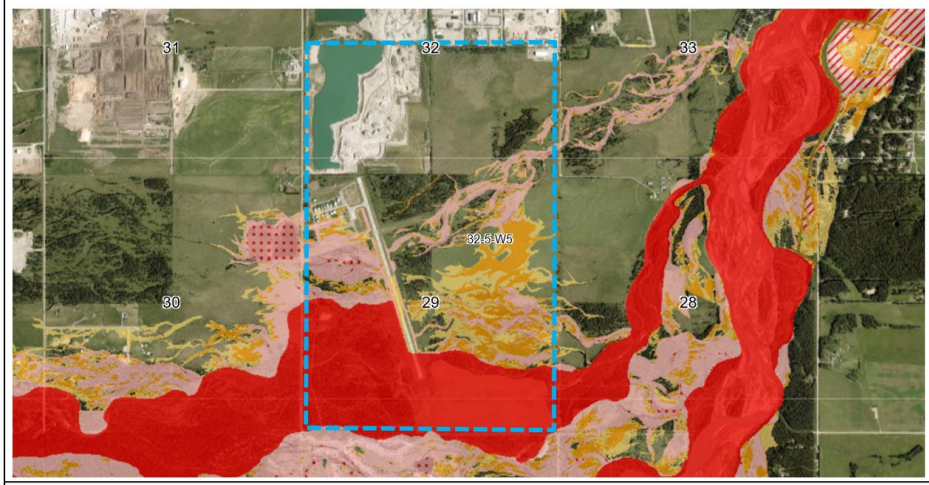
Mountain View COUNTY

Figure 4: Environmentally Significant Areas Map (Summit Report, 2008)



Mountain View COUNTY

Figure 5: Red Deer River Flood Hazard Map (AEP, 2024)



3.3 BIRD AND WILDLIFE CONTROL

Wildlife around airports and aerodromes can pose safety risks to aircraft by entering air-traffic corridors and affecting departure, approach, and landing areas. Several factors contribute to wildlife hazards for aircraft, including growing bird populations, increased aircraft usage, surrounding land use, and expanding development pressures (Transport Canada, n.d., p. 3)

The Sundre Airport is not fenced and is surrounded by lands previously used for pasture grazing to the east and south. It is important to avoid land uses that may attract wildlife, thereby reducing potential risks for aircraft. Transport Canada provides useful documents that help identify land uses that may be incompatible with aerodromes due to their potential to increase wildlife interactions, such as *Safety Above All* (n.d.) and *Sharing the Skies: An Aviation Industry Guide to the Management of Wildlife Hazards* (TP13549). These resources also include tools for minimizing or mitigating risks, as outlined in the Sundre Airport Concept Plan policies.

3.4 ADJACENT LAND USES

Future land uses outlined in the Sundre Airport Concept Plan take into account the types of development and existing activities in the surrounding areas. To the east and west, there are agricultural lands, while to the south, there are recreational areas. To the north, the area is characterized by industrial and highway commercial developments. Additionally, the Town of Sundre is located immediately northeast of the Concept Plan area and has its own planned future land uses within its boundaries.

The Sundre Airport Concept Plan aims to consider both current and intended future uses of the surrounding lands to align with long-term goals that promote compatibility and logical development. Figure 3 details the land use designations within and surrounding the Concept Plan area.

3.5 AGGREGATE RESOURCES

The Sundre Airport Concept Plan area is known to have an abundance of aggregate reserves, which are an important resource to the County. There is an active gravel pit within the SW 32-32-5-5, as well as a new pit that has been recently approved to operate within SE 32-32-5-5, both within the north portion of the Concept Plan area. It is also known that the east portion of the Plan area has additional aggregate resources. One of the objectives of the Concept Plan is to protect future opportunities for aggregate extraction and allowing these lands to continue being used as pastureland as an interim use, which will not restrict resource development.

4.0 CONCEPT PLAN VISION

While considering the mix of land uses, unique environmental features and landforms previously noted, the following section highlights the opportunities that can be considered within the Sundre Airport Concept Plan area.

4.1 SUNDRE AIRPORT OPPORTUNITIES

Given the airport's unique location in close proximity to the town, the Red Deer River, and along the eastern slopes of the rocky mountains, the Sundre Airport has many opportunities to attract industry workers in relation to employment in resource sectors, as well as visitors that can take advantage of the surrounding amenities.

4.1.1 Commercial and Industrial Opportunities

The Sundre Airport facilitates the transportation of workers within the resource sector to access the remote areas in the region and supports the local economy. There is also the potential for local businesses to easily ship products to and from the airport to enhance their operations and increase exposure to different markets.

4.1.2 Flight School Training

There is a great need for new pilots within the aviation industry (TC, 2024) and many airports that are closer to major urban centres can be difficult for training due to the amount of aircraft traffic. The Sundre Airport allows for training within a rural area that has both a turf strip and asphalt runways, while also encountering less aircraft traffic.

4.1.3 Recreational Uses

The region offers a diversity of activities for tourists and recreational users, being on the footsteps of the Rocky Mountains. The Red Deer River is a beautiful natural amenity that also supports a variety of outdoor activities. There is an RV Resort and golf course south of the Concept Plan area. The Sundre Airport attracts people to the region and the Concept Plan supports efforts that can enhance tourism opportunities that complement the natural surroundings and are compatible with the airport.

4.1.4 Emergency Services

The Sundre Airport should continue supporting emergency services, especially given the forest fires risks that have increased in recent years. Air ambulance also ensures local people are connected to major health care centers in the event of an emergency.

4.1.5 Aircraft and Hangars

There are a variety of aircraft that fly into the Sundre Airport, and include Cessnas (150, 172 and 185), Piper Cherokees, De Havilland DHC-2 Beavers, Piper PA-30 Twin Comanches and Douglas DC-3s, along with helicopters. Having a main asphalt runway, along with the turf strip allows smaller aircraft to take-off and land when there are stronger crosswinds.

The Sundre Airport Concept Plan designates lands that surround the runways for future airside lots, ensuring that there is sufficient space for developing hangars for aircraft, along with the necessary taxiways for aircraft movement within the airport.

4.2 OPPORTUNITIES FOR LANDS SURROUNDING SUNDRE AIRPORT

The lands that surround the airport have specific qualities that help inform the potential future land uses within the Concept Plan area, which are noted below.

4.2.1 Agricultural Uses

Mountain View County supports agricultural uses that are compatible with airport operations. Most of the Sundre Airport Concept Plan area is zoned for Agricultural land uses and the undeveloped lands have historically been used as pastureland for area farmers. The use of the lands for agriculture can continue into the future, until such time that an alternate use is proposed, in accordance with Municipal Policies, and obtains a potential approval through a redesignation application and Public Hearing process.

4.2.2 Aggregate Extraction

The Sundre Airport Concept Plan seeks to protect those lands that contain aggregate resources to allow for possible future extraction. The current agricultural uses may continue and the potential for a future aggregate extraction will be subject to approval through provincial agencies, as well as land use redesignation and Development Permit approvals.

4.2.3 Low Impact Recreation

The Concept Plan aims to preserve most of the southern part of the Plan area to protect environmentally significant lands. There may be opportunities for future low-impact recreational uses that are compatible with the environment, as well as the Sundre Airport. Types of uses that may be considered are categorized as "passive recreation", which includes non-motorized activities that take place in natural settings with minimal development or facilities, emphasizing the importance of the environment and surrounding setting.

5.0 LAND USE PLAN

The following are a list of policies for all of the lands within the Sundre Airport Concept Plan area, with additional policies noted for each one of the quarter sections within the plan area.

5.1 ADMINISTRATIVE POLICIES AERODROME PROTECTION ZONE OVERLAY

5.1.1 General Provisions

a) Applications for redesignation, subdivision or development shall be evaluated against the *Aerodrome Protection Zone Overlay* regulations of the Land Use Bylaw. The purpose of the Overlay is to ensure that policies guiding future development in the vicinity of the Sundre Airport remain compatible with safe airport operations and do not restrict or limit the airport's ability to grow in the future.

b) The *Aerodrome Protection Zone Overlay*, as shown in Appendix D, is the same as the Aerodrome Protection Zone Overlay in the Land Use Bylaw and consists of:

   i. Height Limitation based on the Take-Off/Approach Surface and the Transitional Surface of the Obstacle Surface Limitation (OSL);

   ii. Noise Exposure Projection (NEP) Contours based on the Noise Exposure Forecast (NEF); and

   iii. Outer Surface of the Obstacle Surface Limitation (OSL) where aircraft conduct circling procedures or maneuvering in the vicinity of the aerodrome.

c) Use and development of the lands identified as Aerodrome Protection Zone Overlay, shall be based on the current designations under the County's Land Use Bylaw that are in place as of the date the Concept Plan is adopted.

5.1.2 General Land Use Policies

a) Changes in land use designation for non-agricultural uses of lands within the Concept Plan area shall demonstrate that the non-agricultural use is compatible with the Airport and shall consider:

   i. The potential for discharge of toxic or noxious emissions;

   ii. Processes that could generate smoke, dust or steam in sufficient volumes to potentially impact visibility in the vicinity of the airport;

   iii. The potential for radiation or other interferences from electronic equipment;

   iv. The potential for fire or any explosive hazards;

   v. Proposed uses and accumulation of any materials or waste that could increase hazards related to wildlife interactions;

   vi. Proposed uses that require extensive lighting;

   vii. The height of any proposed structures;

   viii. Noise Exposure Forecast mapping that may require a Noise Impact Assessment and other necessary engineering studies in support of the proposed development;

   ix. Uses that involve water retention areas, other than dugouts used for agricultural

purposes;

x. Other provisions of this plan.

b) Agricultural land uses that do not have negative impacts on the safe operation of the airport shall be encouraged to continue within the Concept Plan area.

c) Within the Concept Plan area, applications for redesignation and/or subdivision may be referred to Transport Canada and NAV Canada for comment.

5.1.3 General Development Policies

a) All development approved within the Concept Plan area must be in conformance with the policies and direction in this plan.

b) Individual water wells and sewage systems that meet provincial and municipal standards are permissible.

c) A Stormwater Management Plan, prepared by a qualified professional engineer, may be required for all future subdivision and/or development in accordance with provincial regulations.

d) The applicant for a communication tower or communication structure within the Concept Plan area, as shown in Figure 7, shall provide copies of any reports and/or applications submitted to federal and provincial regulatory bodies.

e) Development permit applications for new communication towers within the Concept Plan area shall not be supported if the use interferes with the safe operation of the airport.

f) Alternative/Renewable Energy, Commercial shall not be supported within the Concept Plan area to protect the airport from hazardous glare and impact on aviation equipment and instruments.

g) Changes in land use or proposed development shall be evaluated against Transport Canada's document *Land Use in the Vicinity of Aerodromes (TP1247)*.

h) Should change in land use or a proposed development have the potential to attract wildlife, the application may also be evaluated against the following Transport Canada documents:

i. *Safety Above All*;

ii. *Sharing the Skies: An Aviation Industry Guide to the Management of Wildlife Hazards (TP13549)*

iii. *Wildlife Control Procedures Manual (TP11500)*

5.2 NW 29-32-5-5 SUNDRE AIRPORT LANDS (HEREAFTER "THE QUARTER SECTION")

5.2.1 Land Use Policies

a) The quarter section shall maintain airport zoning in support of the Sundre Airport.

b) Additional subdivisions may be considered within the quarter section in support of the future expansion of the Sundre Airport.

c) Phase 1A and Phase 1B are the preferred areas for future subdivision and development.

Phase 1A is favored because it has an existing access and utility connections located immediately north of an existing block of hangars; Phase 1B is favored due to its potential for direct access from Range Road 51 and its proximity to the main runway. Phase 1A and 1B will be prioritized for initial development to optimize use of the established infrastructure.

d) Within Phase 1A, future lots shall be for airside development, while Phase 1B should give preference to airside but may accommodate groundside lots.

e) Phase 2 and Phase 3 subdivision and development will only be permitted if legal and physical access is established from the northern or eastern boundaries of the quarter section connecting either north through SE 32-32-5-5 or SW 32-32-5-5 or east through NE 29-32-5-5. These roads shall be developed to County standards.

5.2.2 Development Policies

a) Undeveloped portions of the airport and airport operational reserve within the quarter section can continue to be leased for agricultural operations until required for redesignation, subdivision and development.

b) While Leadership in Energy and Environmental Design (LEED) certification is not a requirement, all development is encouraged to incorporate elements of LEED into their designs.

c) Applications for development of individual lots shall comply with the provisions of the Land Use Bylaw and the Business, Commercial and Industrial Design Guidelines.

d) No development will be permitted that may jeopardize the future certification of the airport.

5.2.3 Lot Layout Policies

a) The lot layout of future phases 1A, 1B, 2 and 3 shall take into account:

i. Access to sites and future connectivity;

ii. Taxiway access for airside development;

iii. Open space (Municipal Reserve) where applicable, and

iv. Buffering where required to separate uses.

5.3 SW 29-32-5-5 LANDS SOUTH OF THE SUNDRE AIRPORT (HEREAFTER "THE QUARTER SECTION")

5.3.1 Land Use Policies

a) According to Alberta's Upper Red Deer River Flood Study finalized in 2024, the quarter section includes significant portions within the *Floodway* of the Red Deer River. The lands are also within an Environmentally Significant Area. Future land uses, subdivision or development shall have regard for the environmental sensitivity of these lands and preserve the surrounding natural features.

b) The airport zoning shall be maintained for the portion of the runway within this quarter section and the portion of land to the east of the runway in support of the Sundre Airport.

c) Change in land use designation should consider future expansion of the main runway of the airport.

d) Change in land use designation for passive, recreational uses may be considered for the remainder of the quarter section that lies west of the runway if the following criteria are met:

   i. May consist of low-impact, non-motorized activities that require minimal development.

   ii. The importance of the environment or setting for the activities are greater than in developed or active recreation settings.

   iii. Is compatible with the safe operation of Sundre Airport.

   iv. Future connectivity between sites is considered.

   v. Complies with Section 8.1 Environmentally Significant Areas of the ASP.

   vi. Appropriate legal, physical, and emergency access is provided.

   vii. Preserves runway expansion potential towards the south.

e) For lands prone to flooding, as shown on Figure 5, retention of tree cover should be strongly promoted.

f) The MDP policies for redesignation and subdivision and the Land Use Bylaw regulations shall guide development where any part of the subject land is identified in the Flood Hazard Area (Floodway or Flood Fringe) of an approved provincial study in addition to section 8.2 Flood Hazard of the ASP.

g) When changes of land use, subdivision or development within the area of a sensitive feature is to be considered, the proposal shall comply with Section 8.1 Environmentally Significant Areas of the ASP.

h) When a change of land use, subdivision, or development is proposed within or adjacent to a sensitive feature, the County may require a wildlife study to determine what conditions may need to be placed as a condition of approval to conserve habitat and species.

5.4 SE 29-32-5-5 LANDS SOUTHEAST OF THE SUNDRE AIRPORT (HEREAFTRER, "THE QUARTER SECTION")

5.4.1 Land Use Policies

a) According to Alberta's Upper Red Deer River Flood Hazard Study finalized in 2024, the quarter section includes portions within the Floodway of the Red Deer River. The lands are also within an Environmentally Significant Area. Future land uses, subdivision or development shall have regard for the environmental sensitivity of these lands and preserve the surrounding natural features.

b) Recognizing the high potential for aggregate resources in the quarter section area outside of the Floodway, the County maintains ownership to ensure future access to these resources for infrastructure needs. While there are no current plans or approvals for aggregate extraction, development in the area outside of the Floodway should be

limited to preserve future aggregate extraction opportunities. Should the need for these resources arise, the County shall pursue the required Municipal and Provincial approvals.

c) The MDP policies for redesignation and subdivision and the Land Use Bylaw regulations shall guide development where any part of the subject land is identified in the Flood Hazard Area (Floodway or Flood Fringe) of an approved provincial study in addition to section 8.2 Flood Hazard of the ASP.

d) Changes in land use designation outside of the Floodway within the quarter section may be considered for aggregate resource extraction as an interim use and shall comply with the IDP and Section 8.3 Natural Resource Extraction of the ASP.

e) Proposals for passive recreational land uses may be considered for portions within the Floodway or as an ultimate or final land use for portions outside of the Floodway, if the following criteria are met:

   i. May consist of low-impact, non-motorized activities that require minimal development.
   ii. The importance of the environment or setting for the activities are greater than in developed or active recreation settings.
   iii. Is compatible with the safe operation of Sundre Airport.
   iv. Future connectivity between sites is considered.
   v. Complies with Section 8.1 Environmentally Significant Areas of the ASP.
   vi. Appropriate legal and physical access and emergency access is provided.

f) The Land Use Bylaw shall set out regulations to guide development where any part of the subject land is identified in the Flood Hazard Area (Floodway or Flood Fringe) of an approved provincial study.

5.5 NE 29-32-5-5 LANDS EAST OF THE SUNDRE AIRPORT (HEREAFTER "THE QUARTER SECTION")

a) Recognizing the high potential for aggregate resources in the quarter section, the County maintains ownership to ensure future access to these resources for infrastructure needs. While there are no current plans or approvals for aggregate extraction, development in the quarter should be limited to preserve future aggregate extraction opportunities. Should the need for these resources arise, the County will pursue the required Municipal and Provincial approvals.

b) Change in land use designation within the quarter section should consider road access to the lands east of the airport runway within NW 29-32-5-5 in support of Phases 2 and 3 of the Sundre Airport, as shown in Figure 8.

c) Change in land use designation with the quarter section should consider future expansion of the secondary runway of the Sundre Airport.

d) Changes in land use designation may be considered for aggregate resource extraction within the quarter section as an interim use and shall comply with the IDP and Section 8.3 Natural Resource Extraction of the ASP.

e) Change in land use designation for passive, recreational uses may be considered as an

ultimate or final land use if the following criteria are met:

i. May consist of low-impact, non-motorized activities that require minimal development.

ii. The importance of the environment or setting for the activities are greater than in developed or active recreation settings.

iii. Is compatible with the safe operation of Sundre Airport.

iv. Future connectivity between sites is considered.

f) The MDP policies for redesignation and subdivision and the Land Use Bylaw shall set out regulations to guide development where any part of the subject land is identified in the Flood Hazard Area (Floodway or Flood Fringe) of an approved provincial study.

5.6 SW 32-32-5-5 LANDS NORTH OF THE SUNDRE AIRPORT (HEREAFTER "THE QUARTER SECTION")

a) The quarter section contains lands with an active aggregate extraction operation and zoning for aggregate extraction and processing. Options for future ultimate or final land use may include commercial / industrial uses, as well as recreational uses that are compatible with the Sundre Airport.

b) The quarter section may consider additional subdivisions as part of the reclamation for the aggregate extraction operations and acceptable ultimate or final land use. Consideration for future land use and subdivisions shall be accompanied by a Concept Plan as defined in the ASP for the quarter section and an application for redesignation and subdivision submitted to the County.

c) Change in land use designation and subdivision within the quarter section should consider road access to accommodate future legal and physical access that will support the potential Phase 2 and Phase 3 of Sundre Airport's Phasing Plan within NW 29-32-5-5, as shown in Figure 8.

5.7 SE 32-32-5-5 LANDS NORTHEAST OF THE SUNDRE AIRPORT (HEREAFTER "THE QUARTER SECTION")

a) The quarter section contains lands with an active aggregate extraction operation and zoning for aggregate extraction and processing. Options for future ultimate or final land use may include commercial / industrial, and public service uses as well as recreational uses that are compatible with the Sundre Airport.

b) The quarter section contains lands with a Development Permit for the Phase 1 & 2 (+/- 60 acres) and zoning of the entire quarter section for aggregate extraction and processing and operates under an Intermunicipal Collaboration Agreement for the life of the pit. This operation is projected to be active for the next 50 years. Options for future ultimate or final land use may include commercial / industrial and public service uses, as well as recreational uses that are compatible with the Sundre Airport.

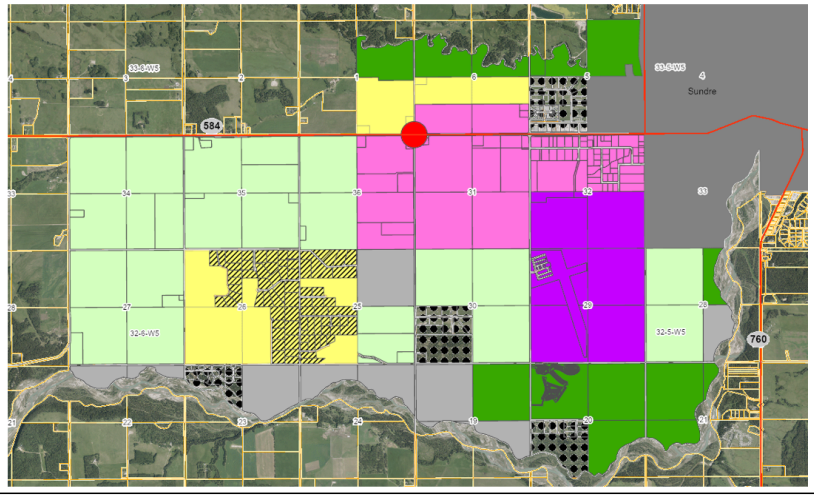
c) The quarter section may consider additional subdivisions as part of the reclamation for the aggregate extraction operations and acceptable ultimate or final land use. Consideration for future land use and subdivisions shall be accompanied by a Concept

Plan as defined in the ASP for the quarter section and an application for redesignation and subdivision submitted to the County.

d) Change in land use designation and subdivision within the quarter section should consider road access to accommodate future legal and physical access that will support the potential Phase 2 and Phase 3 of Sundre Airport's Phasing Plan within NW 29-32-5-5 as shown in Figure 8.

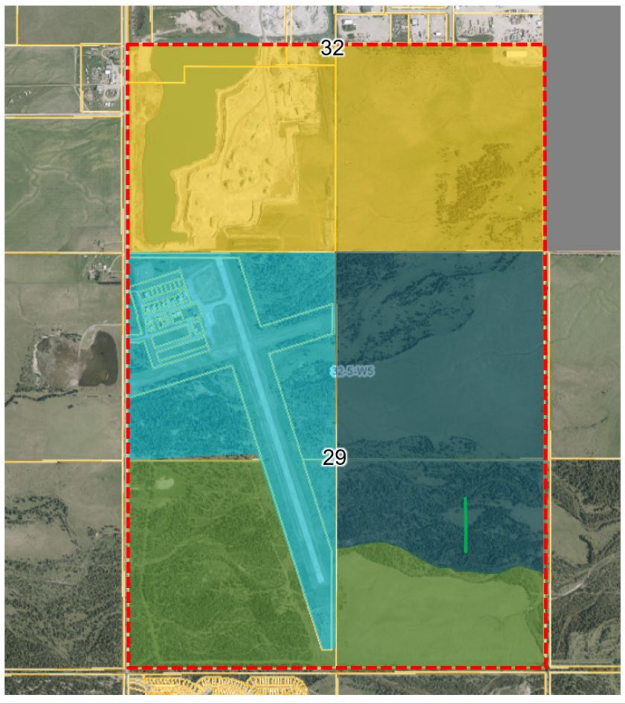
Mountain View COUNTY

Figure 6: South McDougal Flats Area Structure Plan (ASP) Land Use Concept Map



Legend

- Agricultural & Low Density
- Residential
- No Additional Residential Subdivision
- Community Centre
- Industrial & Highway Commercial Corridor
- Airport (Concept Plan Area)
- Recreation
- Crown Land
- Subdivision Potential Exceeded

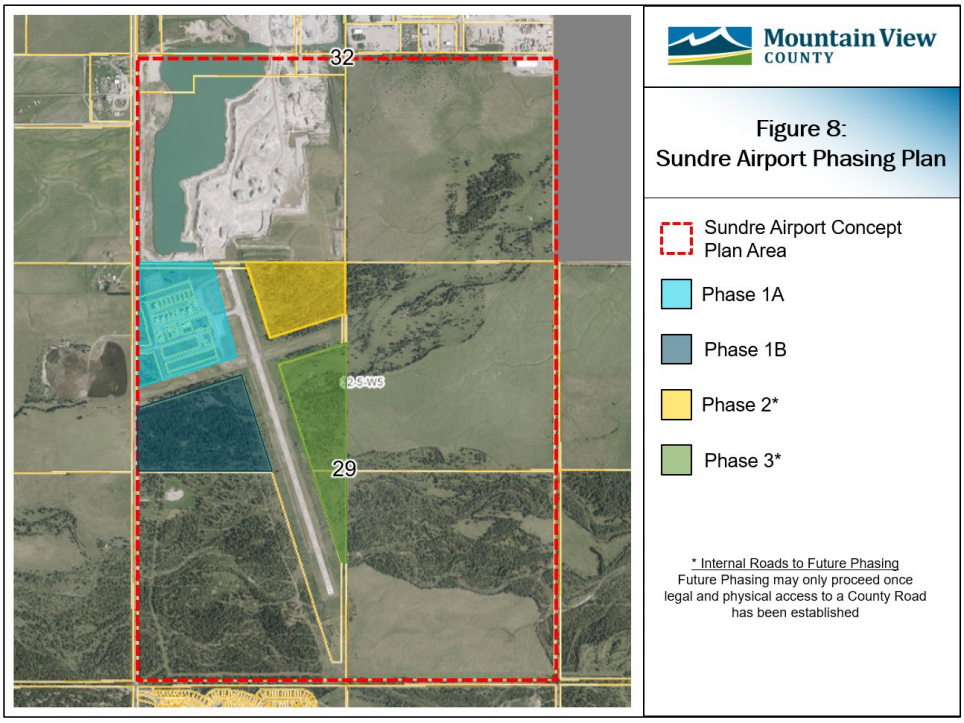


Mountain View COUNTY

Figure 7: Sundre Airport Concept Plan Future Land Use

- Sundre Airport Concept Plan Area
- Sundre Airport
- Parks & Conservation
- Aggregate Extraction*
- Potential Future Aggregate Extraction*

* Following Aggregate Extraction
Upon Reclamation, end land use consisting of mix of recreational and industrial uses. Following reclamation, Concept Plan for proposed land use to be presented to Approving Authorities for consideration


32
29
Mountain View
COUNTY
Figure 8:
Sundre Airport Phasing Plan
Sundre Airport Concept Plan Area
Phase 1A
Phase 1B
Phase 2*
Phase 3*
* Internal Roads to Future Phasing
Future Phasing may only proceed once legal and physical access to a County Road has been established

Aerodrome Reference Point: A designated geographical location of an aerodrome given to the nearest second of latitude and longitude. Note: The aerodrome reference point is located near the initial or planned geometric centre of the aerodrome and normally remains where first established. (Abbreviation: ARP) (TC, 2020).

Aircraft Movement: A takeoff, landing, or simulated approach by an aircraft (TC, 2020).

Airport Operational Reserve: applied to the lands used for airport infrastructure, such as runway, taxiway and aprons, as well as the lands on airport property with highly restricted development potential due to take off / approach areas and transition areas. This land can be developed for any use required for the successful operation of the airport, including terminal building and fueling facility. This land can also be used for extensive agricultural purposes until such time as it is required for airport use. This area also applies to land for future runway extensions. There is a small portion of land that extends into the northwest quarter of the section that may be required for acquisition by the County at some time in the future to allow for runway extension.

Airside Development: development within an aerodrome that is applied to all lands where development needs direct access to an apron, taxiway, or runway. These private or commercial uses shall be aviation related and complimentary to aircraft hangars or facilities.

Circling Procedure: A manoeuvre initiated by the pilot to align the aircraft with a runway for landing when a straight-in landing from an instrument approach is not possible or is not desirable. Note: After verifying with ICAO and FAA, NAV CANADA removed the term procedure from the circling procedure phraseology. (Also called: circling approach procedure, circling manoeuvre) (TC, 2020).

Crosswind: When referring to wind conditions, a wind not parallel to the runway or the path of an aircraft (TC, 2020).

Groundside Development: development within an aerodrome that is applied to lands that do not need direct airside access. Even though direct airside access is not available, uses shall be aviation related. The regulations controlling groundside development will not allow any use that negatively impacts the airport, such as but not limited to; smoke, steam, bird attraction or electronic interference.

Runway: defined rectangular area located on a land aerodrome and prepared for the landing and takeoff runs of aircraft along its length. (Abbreviation: RWY) (TC, 2020).

Taxiway: A defined path on a land aerodrome established for the taxiing of aircraft and intended to provide a link between one part of the aerodrome and another, including:

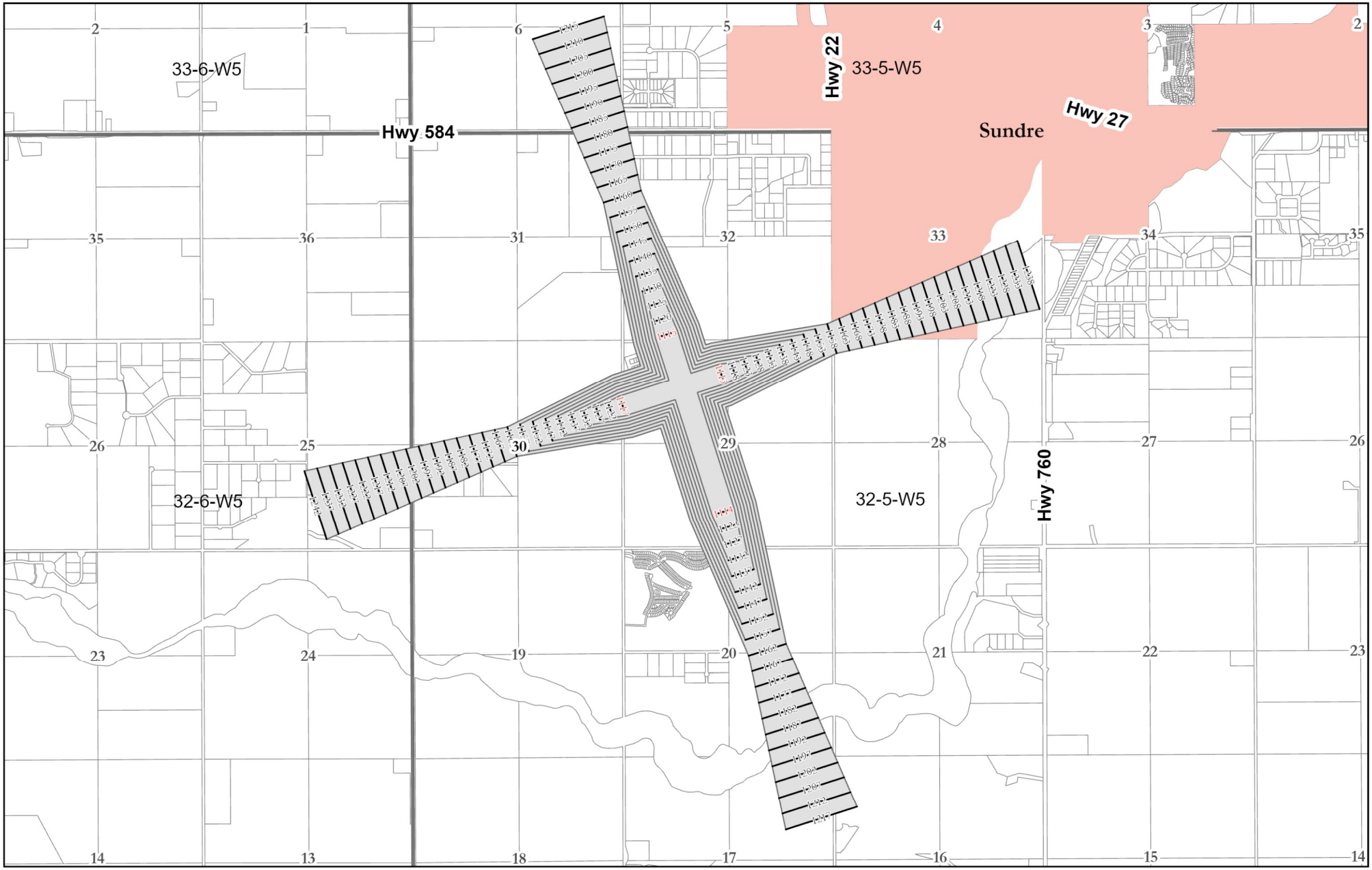
(a) the aircraft stand taxilane;

(b) the high speed taxiway; and

(c) the pathway for the air, hover or ground taxiing of helicopters.

(Abbreviation: TWY) (TC, 2020).

APPENDIX B HEIGHT LIMITATIONS MAP



Mountain View COUNTY

Sundre Airport
Height Limitations Map

Legend

- Height Limitation Contour
- Height Limitation Area
- Town of Sundre

End of Runway Elevation (Red)

Elevation (Black)

N

500 250 0 500 Meters

Scale: 1:40,000

Map Created on: 7/2/2025

Mountain View County

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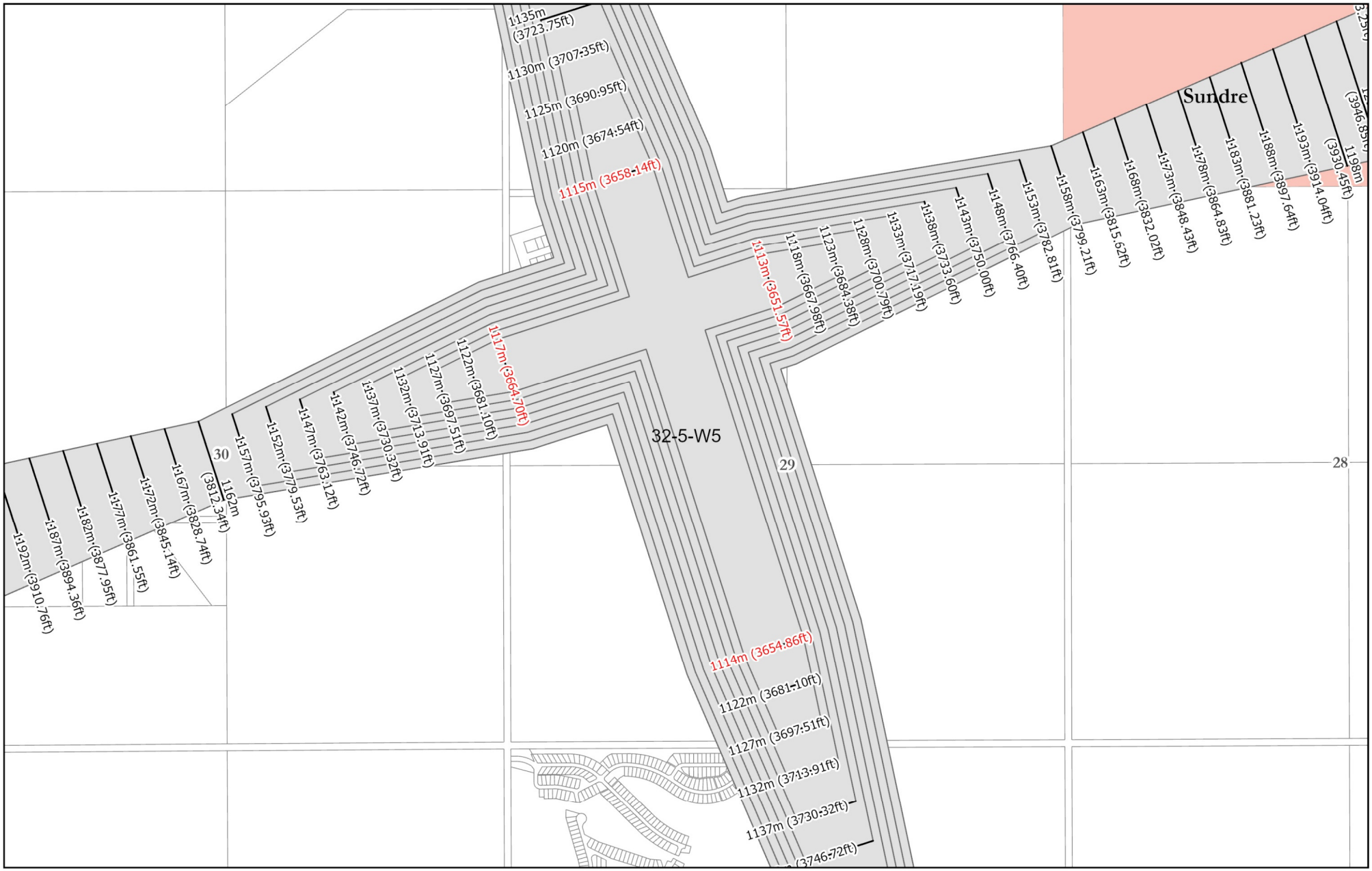

Mountain View COUNTY

Sundre Airport Height Limitations Map Close-Up View

Legend

- Height Limitation Contour
- Height Limitation Area
- Town of Sundre

End of Runway Elevation (Red)

Elevation (Black)

N

200 100 0 200 Meters

Scale: 1:15,000

Map Created on: 7/2/2025

Mountain View County

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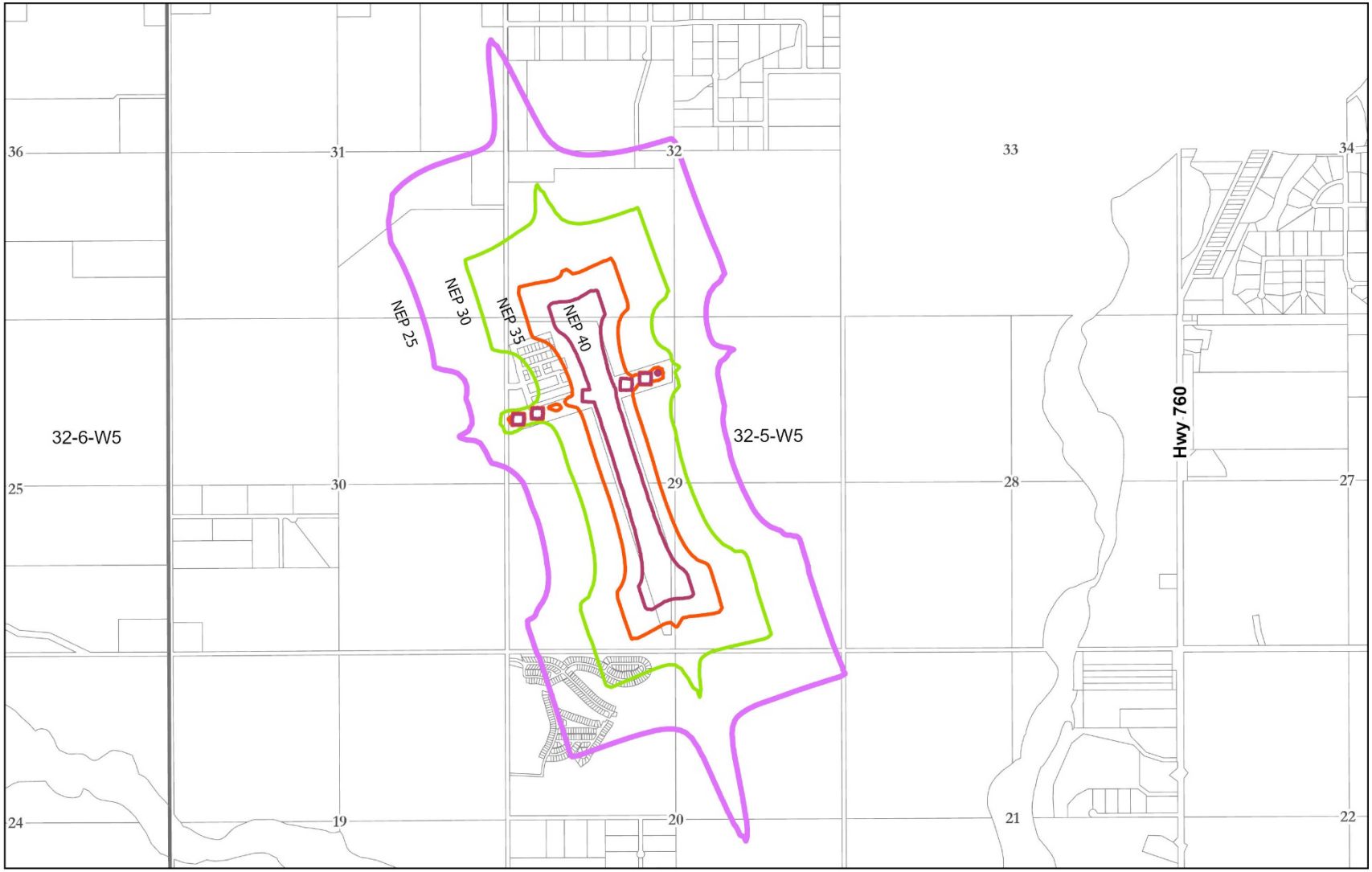
APPENDIX C NOISE EXPOSURE PROJECTION (NEP) CONTOURS MAP



Mountain View COUNTY

Sundre Airport Noise Exposure Projection (NEP) Contours Map

Legend

- NEP 25
- NEP 30
- NEP 35
- NEP 40

N

0.45 0.23 0 0.45 Km

Scale: 1:25,000

Map Created on: 3/14/2025

Mountain View County

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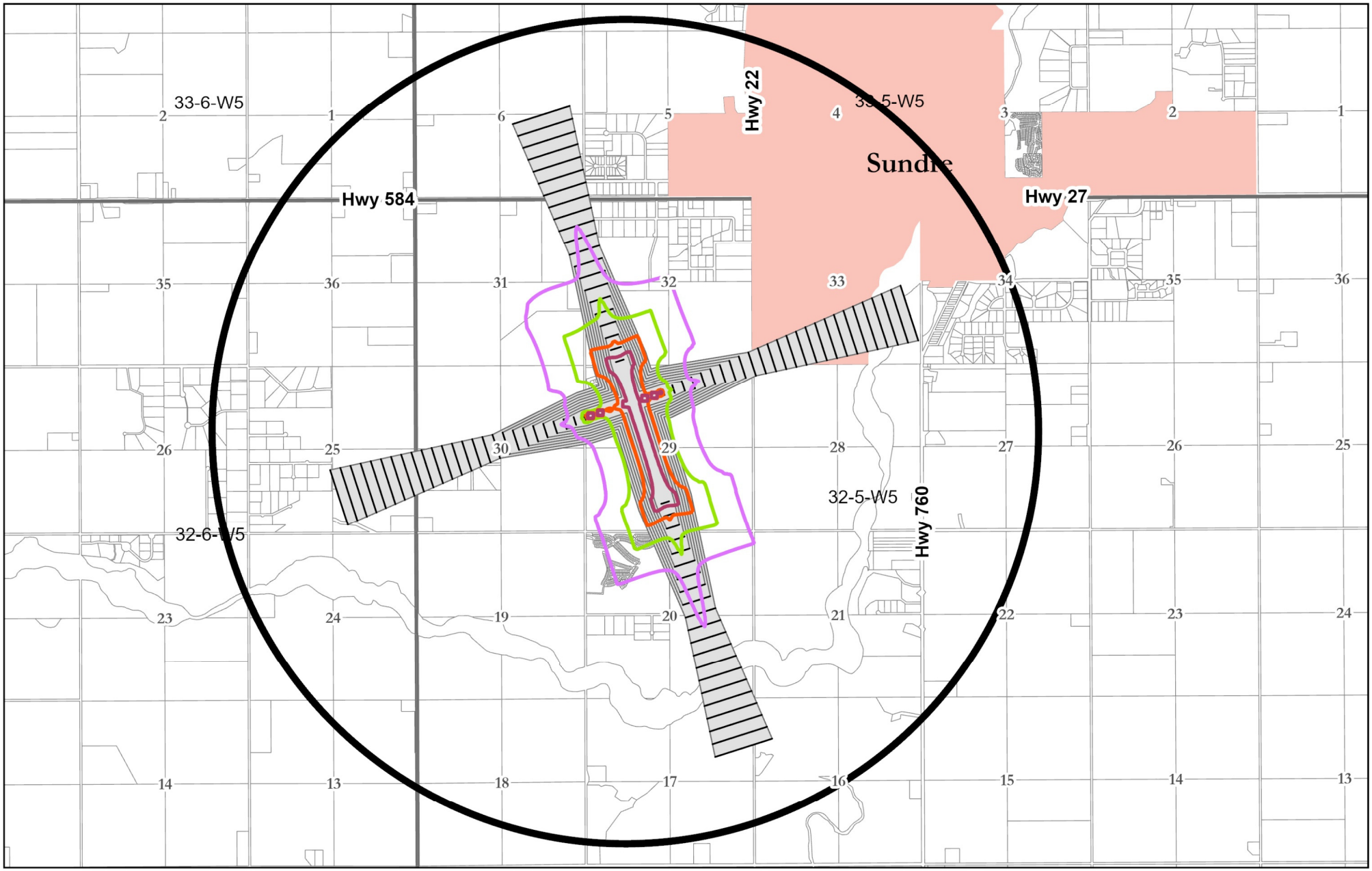
APPENDIX D SUNDRE AIRPORT AERODROME PROTECTION ZONE OVERLAY



Mountain View COUNTY

Sundre Airport Aerodrome Protection Zone Overlay

Legend

- Outer Surface (4000 m Buffer)
- Height Limitation Contour
- Height Limitation Area
- Town of Sundre
- NEF 25
- NEF 30
- NEF 35
- NEF 40

N

0.9 0.45 0 0.9 Km

Scale: 1:50,000

Map Created on: 6/26/2025

Mountain View County

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APPENDIX E NOISE EXPOSURE PROJECTION CONTOURS REPORT FROM HM AERO

Sundre Airport

Noise Exposure Projection Contours

Final Report | February 11, 2025

Sundre Airport

Noise Exposure Projection Contours

Mountain View County
1408 - Township Road 320, P.O. Bag 100
Didsbury, AB T0M 0W0

February 11, 2025

HM Aero Inc.
532 Montreal Road, Suite 209
Ottawa, ON K1K 4R4

Table of Contents

1 INTRODUCTION

1.1 Background and Purpose

Mountain View County (the "County") has commissioned the preparation of Noise Exposure Projection (NEP) contours for Sundre Airport (the "Airport"). The NEP contours will be used by the County in making future land use planning decisions.

1.2 Scope of Work

The preparation of NEP contours for the Airport has followed the structured process established by Transport Canada and the National Research Council using the industry recognized NEFcalc software system. Noise contours are representative of a near to worst-case 24-hour period and are based on the number of aircraft operations for a 95th percentile busy day.

The NEP contour development process includes seven primary steps:

1. Defining runway configurations, lengths, orientations, and locations;
2. Defining the arrival and departure paths for the runways (15, 33, 06, and 24), using appropriate air traffic procedures;
3. Assigning percent utilizations to each runway based on consultation with the contracted airport operator and County steering committee.
4. Identifying a 95 percentile busiest day through consultation with the contracted airport operator and steering committee. This consultation identified total aircraft movements (including circuits), aircraft fleet mix, and day/night split in addition to runway utilization. For each aircraft movement in the busy day, an aircraft type, destination distance, time of day, flight path, and runway used are assigned;
5. Entering input data and running the model in NEFcalc;
6. Exporting the calculated contours in the appropriate scale and geographic orientation; and
7. Overlaying the contours on geo-referenced mapping.

The steps followed by the project team are consistent with the methodology documented within NEFcalc Version 2.0.6.1 and with the guidance presented in Transport Canada's NEF Microcomputer System Users Manual – TP6907E (June 1990). NEP contours are reliant on appropriate inputs and assumptions to maximize the degree to which they capture the subjective annoyance associated with aircraft operations. Key elements of our strategy include:

- Applying an annual growth rate of 1.9% uniformly across aircraft movements by runway utilization, flight path, stage length, aircraft type, and time of day. The annual growth rate was informed by Alberta's historical quarterly population statistics and was applied to the 10-year planning period; and
- The runway length and alignment, aircraft fleet mix, activity distribution, and other inputs are assumed to stay constant over the planning horizon with the expectation that the type and role of the Airport will not change significantly from current conditions.

All inputs, assumptions, and sources have been documented for all elements of the NEP preparation process and four contours were generated (NEF 25, 30, 35, and 40) that meet the guidance prescribed by Transport Canada in TP1247 – Land Use in the Vicinity of Aerodromes (9th Edition). Digital mapping has been prepared to show the geographic extent of the NEP contours over the lands in the vicinity of the Airport, including affected properties.

2 NOISE EXPOSURE FORECAST SYSTEM

Annoyance from aircraft noise includes factors beyond the one-time impacts of an overflying aircraft. For example, the number of flights that occur per day, the concentration and distribution of flights, the time of day that overflights occur, and the Effective Perceived Noise Levels of aircraft in use all contribute to annoyance. In Canada, the NEF System has been used since 1971 to predict the overall subjective annoyance and community reaction levels caused by aircraft operations.

The NEF System generates noise contours, which are lines of constant levels of perceived annoyance caused by airport noise sources. Research and analysis by the National Research Council has resulted in a numeric rating for predicted annoyance levels and the recommended types of development that should be permitted within the affected areas.

2.1 Noise Exposure Contours

Noise contours are developed using a structured process through the NEFcalc software system and use an embedded database of aircraft types and their associated Effective Perceived Noise Levels, as a function of the phase of flight and the distance from the flight path.

Within the NEF System, Transport Canada describes three types of contours that are differentiated according to the planning horizon of the supporting data inputs:

1. **Noise Exposure Forecast Contours:** Aircraft types and mix as well as traffic volume used in calculating NEF contours are normally forecast for a period of 5 to 10 years into the future. The existing runway geometry is used, as well as any planned changes to the airfield within the 5 to 10-year horizon;
2. **Noise Exposure Projection Contours:** Based on a projection of aircraft movements 10 or more years into the future, including aircraft types and runway configurations that may materialize within this period; and
3. **Noise Planning Contours:** Produced to investigate planning alternatives, such as the impacts of a new runway, hypothetical airport traffic scenarios, changing aircraft fleet types, etc.

Despite their unique naming, NEF, NEP, and Noise Planning Contours are generated using the same software and methodology. The project team has prepared 10-year NEP contours assuming no changes in runway lengths or alignment and the continuation of current airport uses.

2.2 Community Response to Noise

TP1247 – Land Use in the Vicinity of Aerodromes (9th Edition) provides a generalized prediction of community responses to airport noise as a function of their location within various NEF contours, as shown in Table 2.1. For reference, Table 2.2 includes Transport Canada's guidance on the acceptability of relevant land uses across the four NEF contours.

Table 2.1 - TP1247 Community Response Prediction

Response Area	Response Prediction *
1 (over 40 NEF)	Repeated and vigorous individual complaints are likely. Concerted group and legal action might be expected.
2 (35-40 NEF)	Individual complaints may be vigorous. Possible group action and appeals to authorities.
3 (30-35 NEF)	Sporadic to repeated individual complaints. Group action is possible.
4 (below 30 NEF)	Sporadic complaints may occur. Noise may interfere occasionally with certain activities of the resident.

* It should be noted that the above community response predictions are generalizations based upon experience resulting from the evolutionary development of various noise exposure units used by other countries. For specific locations, the above response areas may vary somewhat in accordance with existing ambient or background noise levels and prevailing social, economic, and political conditions.

Table 2.2 - TP1247 Land Use Acceptability

Land Use	NEF > 40	NEF 40-35	NEF 35-30	NEF < 30
Residential Uses	NO	NO	NO[2]	YES[1]
Playgrounds	TBD[3]	TBD[3]	YES	YES
Park and Picnic Areas	NO	TBD[3]	YES	YES
Industrial Uses[4]	YES[5]	YES[5]	YES	YES
Crop Farming	YES	YES	YES	YES

[1] Annoyance caused by aircraft noise may begin as low as NEF 25. It is recommended that developers be made aware of this fact and that they inform all prospective tenants or purchasers of residential units. In addition, it is suggested that development should not proceed until the responsible authority is satisfied that acoustic insulation features, if required, have been considered in the building design.

[2] New residential construction or development should not be undertaken. If the responsible authority chooses to proceed contrary to Transport Canada's recommendation, residential construction, or development between NEF 30 and 35 should not be permitted to proceed until the responsible authority is satisfied that: (1) appropriate acoustic insulation features have been considered in the building and (2) a noise impact assessment study has been completed and shows that this construction or development is not incompatible with aircraft noise. Notwithstanding point 2, the developer should still be required to inform all prospective tenants or purchasers of residential units that speech interference and annoyance caused by aircraft noise are, on average, established and growing at NEF 30 and are very significant by NEF 35.

[3] It is recommended that serious consideration be given to an analysis of peak noise levels and the effects of these levels on the specific land use under consideration.

[4] Applies to all industrial uses identified in TP1247, excluding laboratories.

[5] Many of these uses would be acceptable in all NEF zones. However, consideration should be given to internally generated noise levels, and acceptable noise levels in the working area.

3 MODEL INPUTS

The model inputs required by NEFcalc include:

1. Runway layout;
2. Flight paths;
3. Aircraft mix; and
4. Aircraft movements for the PPD.

3.1 Runway Layout

Runway 15-33 is 4,346 ft. (1,325 m) long and is oriented in a north northwest-south southeast alignment. Runway 06-24 is 2,439ft. (743 m) long and is oriented in a west southwest-east northeast alignment. Runway 15-33 is paved, while Runway 06-24 is comprised of a grass surface. The runway threshold coordinates for all runways are presented in Table 3.1.

Table 3.1 - Runway Threshold Coordinate Inputs

Runway Threshold	Metres (m)		Feet (ft)		Kilofeet (kft)		UTM (Zone 11)	
	X	Y	X	Y	X	Y	X	Y
15	-120.347	344.122	-394.84	1129.01	-0.39	1.13	660374.57	5737901.39
33	316.811	-905.897	1039.40	-2972.09	1.04	-2.97	659937.41	5739151.41
06	-435.685	-154.483	-1429.41	-506.83	-1.43	-0.51	659622.07	5738652.80
24	264.691	93.853	868.41	307.92	0.87	0.31	660322.45	5738901.14

3.2 Flight Paths

Flight paths represent the routes that aircraft follow while arriving and departing the Airport, or while in a circuit pattern. Local movements are comprised of traffic circuits, while itinerant movements may include straight-in approaches, straight-out departures, and left and right-turn departures.

3.2.1 Local Movements

The Airport's traffic circuit is normally flown at 1,000 ft. Above Aerodrome Elevation (AAE) and consists of the following legs, as described in operational order below and shown in Figure 3.2:

1. Upwind / Departure: The leg flown after take-off while the aircraft climbs away from the aerodrome;
2. Crosswind: The path flown perpendicular to the Upwind and Downwind legs. Depending on pilot technique and aircraft performance, aircraft commonly turn from Upwind to Crosswind at 500 ft. AAE;
3. Downwind: The path flown parallel to and in the opposite direction of the landing runway at 1,000 AAE. Depending on pilot technique, aircraft may begin descending towards the end of the Downwind leg;
4. Base: The path flown perpendicular to the Downwind and Final legs while descending to the runway; and
5. Final: The path flown in the direction of the landing runway, culminating in the aircraft landing.

The circuit pattern specifications input in NEFcalc are shown in Table 3.2.

Figure 3.2 - Standard Traffic Circuit (Aeronautical Information Manual, TP14371)

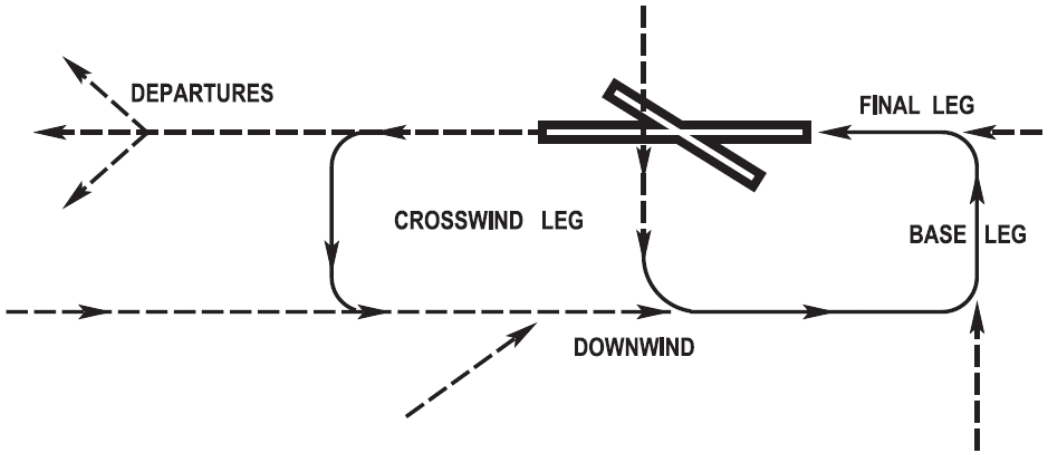


Table 3.2 - Local Movement Flight Paths

Flight Path	Description
15C	Left hand circuit pattern departing Runway 15 with first turn (rate 1) at 500 ft. AAE including a 3-degree approach slope beginning at 1,000 ft AAE
33C	Left hand circuit pattern departing Runway 33 with first turn (rate 1) at 500 ft. AAE including a 3-degree approach slope beginning at 1,000 ft AAE
06C	Left hand circuit pattern departing Runway 06 with first turn (rate 1) at 500 ft. AAE including a 3-degree approach slope beginning at 1,000 ft AAE
24C	Left hand circuit pattern departing Runway 24 with first turn (rate 1) at 500 ft. AAE including a 3-degree approach slope beginning at 1,000 ft AAE

3.2.2 Itinerant Movements

Itinerant movements are assigned to a runway's approach path or one of its three departure paths for a total of sixteen itinerant movement flight paths (four per runway). Descriptions of the itinerant flight path specifications as input into NEFcalc are shown in Table 3.3.

Table 3.3 - Itinerant Movement Flight Paths

Flight Path	Description
15A	Straight-in approach of Runway 15, 3-degree slope beginning at 15,000 ft AAE
15S	Straight-out departure from Runway 15
15L	Departure from Runway 15 with left turn (rate 1) at 500 ft. AAE, 90-degree turn
15R	Departure from Runway 15 with right turn (rate 1) at 500 ft. AAE, 90-degree turn
33A	Straight-in approach of Runway 33, 3-degree slope beginning at 15,000 ft AAE
33S	Straight-out departure from Runway 33
33L	Departure from Runway 33 with left turn (rate 1) at 500 ft. AAE, 90-degree turn
33R	Departure from Runway 33 with right turn (rate 1) at 500 ft. AAE, 90-degree turn
06A	Straight-in approach of Runway 06, 3-degree slope beginning at 15,000 ft AAE
06S	Straight-out departure from Runway 06
06L	Departure from Runway 06 with left turn (rate 1) at 500 ft. AAE, 90-degree turn
06R	Departure from Runway 06 with right turn (rate 1) at 500 ft. AAE, 90-degree turn
24A	Straight-in approach of Runway 24, 3-degree slope beginning at 15,000 ft AAE
24S	Straight-out departure from Runway 24
24L	Departure from Runway 24 with left turn (rate 1) at 500 ft. AAE, 90-degree turn
24R	Departure from Runway 24 with right turn (rate 1) at 500 ft. AAE, 90-degree turn

3.3 Peak Planning Day

NEP contours are representative of a near to worst-case 24-hour period and are based on the number of aircraft operations for a 95th percentile busy day. To determine the value and composition of the PPD, the following steps were completed:

3.3.1 Baseline Peak Planning Day Identification

As noted previously, the County does not record aircraft movements at Sundre Airport. To inform the 95th percentile busy day, the project team consulted with the contracted airport operator and the county steering committee to determine appropriate total busy-day aircraft movements, runway utilization, flights paths, and aircraft mix. The combination of approaches, straight-out departures, left and right turn departures, and circuit patterns resulted in 39 movements on the base 95th percentile busy day.

3.3.2 Activity Forecast

The preparation of NEP contours requires the application of an appropriate forecast to the baseline over 10 years to produce a defensible 95th percentile busy day. The project team reviewed quarterly provincial population statistics from the Province of Alberta for the period of July 1, 2008 to July 1, 2024. An annual average population growth rate of 1.9% was identified.

3.3.3 Calculated Peak Planning Day

The NEP PPD was calculated by applying the 1.9% annual growth rate to the baseline of 39 movements over a 10-year period resulting in a 95th percentile busy day of 47.08 movements.

3.3.4 Peak Planning Day Composition

The project team does not anticipate significant changes in the type and role of the Airport over the next 10 years with respect to the types of activities and aircraft that will utilize the facility. The composition of the 95th percentile busy day therefore maintains the same proportions of movements as they relate to runway utilization, local and itinerant movements, aircraft types, typical destinations, and day/night operations.

3.4 Aircraft Mix

NEFcalc requires the selection of representative aircraft types from an integrated database. The database is not exhaustive and has not been updated since 2011. As a result, it is often necessary to select proxy aircraft that best represent the aircraft in question. Additionally, the NEFcalc database does not include helicopters. However, consultation with the Airport Steering Committee indicated that helicopter operations are witnessed regularly. A proxy aircraft (coded as GASPEV) has been selected to represent helicopter movements.

Tables 3.4 and 3.5 present the aircraft selected for modelling NEP contours at the Airport.

Table 3.4 – Runway 15-33 Aircraft Mix (Local and Itinerant)

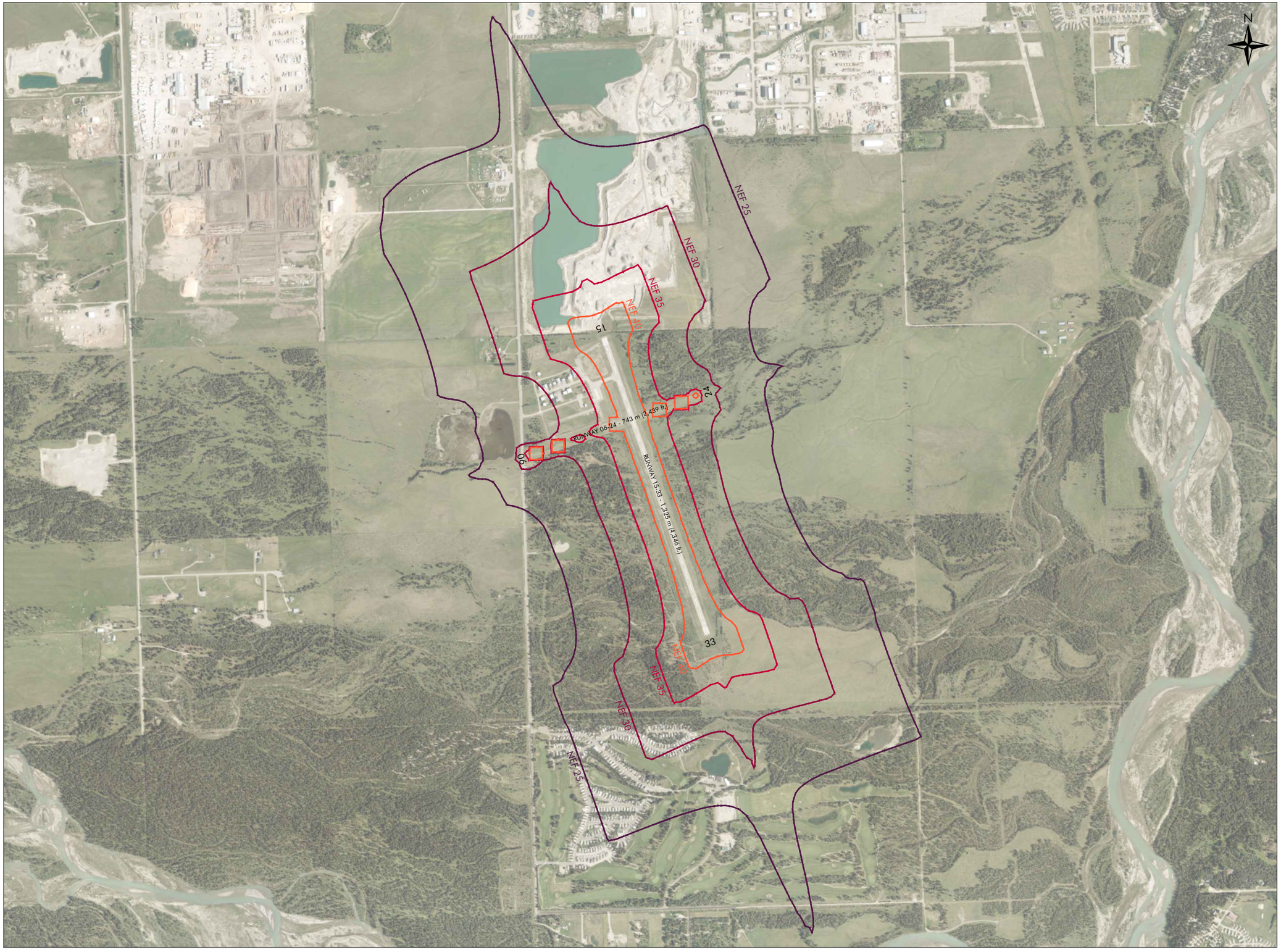
Aircraft Type	Aircraft	NEFCalc Database
Single Engine (Piston)	Cessna 150	CNA150
Single Engine (Piston)	Cessna 172	CNA172
Single Engine (Piston)	Cessna 185	CNA185
Single Engine (Piston)	Piper Cherokee	PA28CH
Single Engine (Piston)	Zlin Z400 Rhino	GASEPF
Single Engine (Piston)	De Havilland DHC-2 Beaver	DHC2
Single Engine (Piston)	Murphy Moose	GASEPF
Twin Engine (Piston)	Piper PA-30 Twin Comanche	PA31
Twin Engine (Turbine)	De Havilland DHC 6 Twin Otter	DHC6
Twin Engine (Turbine)	Douglas DC-3	DC3
Helicopter	Bell 206	GASEPV
Helicopter	Bell 212	GASEPV
Helicopter	Bell 412	GASEPV
Helicopter	Eurocopter AS350 (A Star)	GASEPV

Table 3.5 – Runway 06-24 Aircraft Mix (Local and Itinerant)

Aircraft Type	Aircraft	NEFCalc Database
Single Engine (Piston)	Cessna 150	CNA150
Single Engine (Piston)	Cessna 172	CNA172
Single Engine (Piston)	Cessna 185	CNA185
Single Engine (Piston)	Piper Cherokee	PA28CH
Single Engine (Piston)	Zlin Z400 Rhino	GASEPF
Single Engine (Piston)	De Havilland DHC-2 Beaver	DHC2
Single Engine (Piston)	Murphy Moose	GASEPF
Twin Engine (Piston)	Piper PA-30 Twin Comanche	PA31
Twin Engine (Turbine)	De Havilland DHC 6 Twin Otter	DHC6
Helicopter	Bell 206	GASEPV
Helicopter	Bell 212	GASEPV
Helicopter	Bell 412	GASEPV
Helicopter	Eurocopter AS350 (A Star)	GASEPV

4 2034 NOISE EXPOSURE PROJECTION CONTOURS

The 10-year (2034) NEP contours (NEF 25, 30, 35, and 40) for the Airport are presented in Figure 4.1. NEFcalc model report files are presented in Appendix A.



SUNDRE AIRPORT

FIGURE 4.1
2034 NEP CONTOURS

FEBRUARY 2025

Mountain View COUNTY

NEF 25
NEF 30
NEF 35
NEF 40

0 400 800
Meters

*FOR PLANNING PURPOSES ONLY

Appendix A - Model Input Files

Nef-Calc

Flightpaths

FLIGHTPATH 15S

Runway 15

Type Strait Departure

Notes

FLIGHTPATH 33S

Runway 33

Type Strait Departure

Notes

FLIGHTPATH 06S

Runway 06

Type Strait Departure

Notes

Nef-Calc

Flightpaths

FLIGHTPATH 24S

Runway 24

Type Strait Departure

Notes

FLIGHTPATH 15R

Runway 15

Type One Turn Departure

1st Turn Direction	Right		
Angle of Turn	90.00	degs.	
Criteria for Turn Start	Height	0.50	kFt
Turn Criteria	Rate	1.00	3 degs/Sec

Notes

FLIGHTPATH 15L

Runway 15

Type One Turn Departure

1st Turn Direction	Left		
Angle of Turn	90.00	degs.	
Criteria for Turn Start	Height	0.50	kFt
Turn Criteria	Rate	1.00	3 degs/Sec

Notes

Nef-Calc

Flightpaths

FLIGHTPATH 33R

Runway 33

Type One Turn Departure

1st Turn Direction	Right		
Angle of Turn	90.00	degs.	
Criteria for Turn Start	Height	0.50	kFt
Turn Criteria	Rate	1.00	3 degs/Sec

Notes

FLIGHTPATH 33L

Runway 33

Type One Turn Departure

1st Turn Direction	Left		
Angle of Turn	90.00	degs.	
Criteria for Turn Start	Height	0.50	kFt
Turn Criteria	Rate	1.00	3 degs/Sec

Notes

FLIGHTPATH 06R

Runway 06

Type One Turn Departure

1st Turn Direction	Right		
Angle of Turn	90.00	degs.	
Criteria for Turn Start	Height	0.50	kFt
Turn Criteria	Rate	1.00	3 degs/Sec

Notes

Nef-Calc

Flightpaths

FLIGHTPATH 06L

Runway 06

Type One Turn Departure

1st Turn Direction	Left		
Angle of Turn	90.00	degs.	
Criteria for Turn Start	Height	0.50	kFt
Turn Criteria	Rate	1.00	3 degs/Sec

Notes

FLIGHTPATH 24R

Runway 24

Type One Turn Departure

1st Turn Direction	Right		
Angle of Turn	90.00	degs.	
Criteria for Turn Start	Height	0.50	kFt
Turn Criteria	Rate	1.00	3 degs/Sec

Notes

FLIGHTPATH 24L

Runway 24

Type One Turn Departure

1st Turn Direction	Left		
Angle of Turn	90.00	degs.	
Criteria for Turn Start	Height	0.50	kFt
Turn Criteria	Rate	1.00	3 degs/Sec

Notes

Nef-Calc

Flightpaths

FLIGHTPATH 15C

Runway 15

Type Circuit

First Turn	Left		**Glide Slope 1**	3	degs
Height	0.5	kFt	**Altitude**	1	kFt
Rate	1	3 degs/Sec	**Glide Slope 2**	3	degs
			Height	0.5	kFt

Notes

FLIGHTPATH 15A

Runway 15

Type Approach

Glide Slope 1 (GS1)	3.00	degs.
Altitude that GS1 starts	15.00	kFt
Glide Slope 2 (GS2)	3.00	degs.
Altitude where GS2 starts	1.00	kFt

Notes

FLIGHTPATH 33C

Runway 33

Type Circuit

First Turn	Left		**Glide Slope 1**	3	degs
Height	0.5	kFt	**Altitude**	1	kFt
Rate	1	3 degs/Sec	**Glide Slope 2**	3	degs
			Height	0.5	kFt

Notes

Nef-Calc

Flightpaths

FLIGHTPATH 06C

Runway 06

Type Circuit

First Turn	Left		**Glide Slope 1**	3	degs
Height	0.5	kFt	**Altitude**	1	kFt
Rate	1	3 degs/Sec	**Glide Slope 2**	3	degs
			Height	0.5	kFt

Notes

FLIGHTPATH 24C

Runway 24

Type Circuit

First Turn	Left		**Glide Slope 1**	3	degs
Height	0.5	kFt	**Altitude**	1	kFt
Rate	1	3 degs/Sec	**Glide Slope 2**	3	degs
			Height	0.5	kFt

Notes

FLIGHTPATH 24A

Runway 24

Type Approach

Glide Slope 1 (GS1)	3.00	degs.
Altitude that GS1 starts	15.00	kFt
Glide Slope 2 (GS2)	3.00	degs.
Altitude where GS2 starts	1.00	kFt

Notes

Nef-Calc

Flightpaths

FLIGHTPATH 06A

Runway 06

Type Approach

Glide Slope 1 (GS1) 3.00 degs.
Altitude that GS1 starts 15.00 kFt
Glide Slope 2 (GS2) 3.00 degs.
Altitude where GS2 starts 1.00 kFt

Notes

FLIGHTPATH 15A

Runway 15

Type Approach

Glide Slope 1 (GS1) 3.00 degs.
Altitude that GS1 starts 15.00 kFt
Glide Slope 2 (GS2) 3.00 degs.
Altitude where GS2 starts 1.00 kFt

Notes

Nef-Calc
Runways

Runway 15

Start X	-0.39 kFt	**End X**	1.04 kFt
Start Y	1.13 kFt	**End Y**	-2.97 kFt

Notes

Runway 33

Start X	1.04 kFt	**End X**	-0.39 kFt
Start Y	-2.97 kFt	**End Y**	1.13 kFt

Notes

Runway 06

Start X	-1.43 kFt	**End X**	0.87 kFt
Start Y	-0.51 kFt	**End Y**	0.31 kFt

Notes

Runway 24

Start X	0.87 kFt	**End X**	-1.43 kFt
Start Y	0.31 kFt	**End Y**	-0.51 kFt

Notes

Nef-Calc

Airport Movements

FLIGHTPATH	Aircraft Code	DayTime Events	NightTime Events
06A			
06A	DHC6	0.12	0.00
06A	CNA150	0.05	0.00
06A	CNA172	0.05	0.00
06A	CNA185	0.05	0.00
06A	PA24	0.05	0.00
06A	GASEPF	0.05	0.00
06A	DHC2	0.05	0.00
06A	PA31	0.05	0.00
06A	GASEPF	0.05	0.00
06A	GASEPV	0.05	0.00
06A	GASEPV	0.05	0.00
06A	GASEPV	0.05	0.00
06A	GASEPV	0.05	0.00
06A		**0.72**	**0.00**
06C			
06C	DHC6	0.48	0.00
06C	CNA150	0.20	0.00
06C	CNA172	0.20	0.00
06C	CNA185	0.20	0.00
06C	PA24	0.20	0.00
06C	GASEPF	0.20	0.00
06C	DHC2	0.20	0.00
06C	PA31	0.20	0.00
06C	GASEPF	0.20	0.00
06C	GASEPV	0.20	0.00
06C	GASEPV	0.20	0.00
06C	GASEPV	0.20	0.00
06C	GASEPV	0.20	0.00
06C		**2.90**	**0.00**
06L			
06L	DHC6	0.03	0.00
06L	CNA150	0.01	0.00
06L	CNA172	0.01	0.00
06L	CNA185	0.01	0.00
06L	PA24	0.01	0.00
06L	GASEPF	0.01	0.00
06L	DHC2	0.01	0.00
06L	PA31	0.01	0.00
06L	GASEPF	0.01	0.00
06L	GASEPV	0.01	0.00
06L	GASEPV	0.01	0.00
06L	GASEPV	0.01	0.00
06L	GASEPV	0.01	0.00
06L		**0.18**	**0.00**
06R			
06R	DHC6	0.03	0.00

Nef-Calc

Airport Movements

FLIGHTPATH	Aircraft Code	DayTime Events	NightTime Events
06R	CNA150	0.01	0.00
06R	CNA172	0.01	0.00
06R	CNA185	0.01	0.00
06R	PA24	0.01	0.00
06R	GASEPF	0.01	0.00
06R	DHC2	0.01	0.00
06R	PA31	0.01	0.00
06R	GASEPF	0.01	0.00
06R	GASEPV	0.01	0.00
06R	GASEPV	0.01	0.00
06R	GASEPV	0.01	0.00
06R	GASEPV	0.01	0.00
06R		**0.18**	**0.00**
06S			
06S	DHC6	0.06	0.00
06S	CNA150	0.03	0.00
06S	CNA172	0.03	0.00
06S	CNA185	0.03	0.00
06S	PA24	0.03	0.00
06S	GASEPF	0.03	0.00
06S	DHC2	0.03	0.00
06S	PA31	0.03	0.00
06S	GASEPF	0.03	0.00
06S	GASEPV	0.03	0.00
06S	GASEPV	0.03	0.00
06S	GASEPV	0.03	0.00
06S	GASEPV	0.03	0.00
06S		**0.36**	**0.00**
15A			
15A	DC3	0.54	0.06
15A	DC3	0.54	0.06
15A	CNA150	0.16	0.02
15A	CNA172	0.16	0.02
15A	CNA185	0.16	0.02
15A	PA24	0.16	0.02
15A	GASEPF	0.16	0.02
15A	DHC2	0.16	0.02
15A	PA31	0.16	0.02
15A	GASEPF	0.16	0.02
15A	GASEPV	0.16	0.02
15A	GASEPV	0.16	0.02
15A	GASEPV	0.16	0.02
15A	GASEPV	0.16	0.02
15A		**2.99**	**0.33**
15C			
15C	DC3	1.09	0.12
15C	DHC6	1.63	0.18
15C	CNA150	0.63	0.07

Nef-Calc

Airport Movements

FLIGHTPATH	Aircraft Code	DayTime Events	NightTime Events
15C	CNA172	0.63	0.07
15C	CNA185	0.63	0.07
15C	PA24	0.63	0.07
15C	GASEPF	0.63	0.07
15C	DHC2	0.63	0.07
15C	PA31	0.63	0.07
15C	GASEPF	0.63	0.07
15C	GASEPV	0.63	0.07
15C	GASEPV	0.63	0.07
15C	GASEPV	0.63	0.07
15C	GASEPV	0.63	0.07
15C		**10.32**	**1.15**
15L			
15L	DC3	0.14	0.02
15L	DHC6	0.14	0.02
15L	CNA150	0.04	0.00
15L	CNA172	0.04	0.00
15L	CNA185	0.04	0.00
15L	PA24	0.04	0.00
15L	GASEPF	0.04	0.00
15L	DHC2	0.04	0.00
15L	PA31	0.04	0.00
15L	GASEPF	0.04	0.00
15L	GASEPV	0.04	0.00
15L	GASEPV	0.04	0.00
15L	GASEPV	0.04	0.00
15L	GASEPV	0.04	0.00
15L		**0.75**	**0.08**
15R			
15R	DC3	0.14	0.02
15R	DHC6	0.14	0.02
15R	CNA150	0.04	0.00
15R	CNA172	0.04	0.00
15R	CNA185	0.04	0.00
15R	PA24	0.04	0.00
15R	GASEPF	0.04	0.00
15R	DHC2	0.04	0.00
15R	PA31	0.04	0.00
15R	GASEPF	0.04	0.00
15R	GASEPV	0.04	0.00
15R	GASEPV	0.04	0.00
15R	GASEPV	0.04	0.00
15R	GASEPV	0.04	0.00
15R		**0.75**	**0.08**
15S			
15S	DC3	0.27	0.03
15S	DHC6	0.27	0.03
15S	CNA150	0.08	0.01

Nef-Calc

Airport Movements

FLIGHTPATH	Aircraft Code	DayTime Events	NightTime Events
15S	CNA172	0.08	0.01
15S	CNA185	0.08	0.01
15S	PA24	0.08	0.01
15S	GASEPF	0.08	0.01
15S	DHC2	0.08	0.01
15S	PA31	0.08	0.01
15S	GASEPF	0.08	0.01
15S	GASEPV	0.08	0.01
15S	GASEPV	0.08	0.01
15S	GASEPV	0.08	0.01
15S	GASEPV	0.08	0.01
15S		**1.49**	**0.17**
24A			
24A	DHC6	0.18	0.00
24A	CNA150	0.08	0.00
24A	CNA172	0.08	0.00
24A	CNA185	0.08	0.00
24A	PA24	0.08	0.00
24A	GASEPF	0.08	0.00
24A	DHC2	0.08	0.00
24A	PA31	0.08	0.00
24A	GASEPF	0.08	0.00
24A	GASEPV	0.08	0.00
24A	GASEPV	0.08	0.00
24A	GASEPV	0.08	0.00
24A	GASEPV	0.08	0.00
24A		**1.09**	**0.00**
24C			
24C	DHC6	0.72	0.00
24C	CNA150	0.30	0.00
24C	CNA172	0.30	0.00
24C	CNA185	0.30	0.00
24C	PA24	0.30	0.00
24C	GASEPF	0.30	0.00
24C	DHC2	0.30	0.00
24C	PA31	0.30	0.00
24C	GASEPF	0.30	0.00
24C	GASEPV	0.30	0.00
24C	GASEPV	0.30	0.00
24C	GASEPV	0.30	0.00
24C	GASEPV	0.30	0.00
24C		**4.35**	**0.00**
24L			
24L	DHC6	0.05	0.00
24L	CNA150	0.02	0.00
24L	CNA172	0.02	0.00
24L	CNA185	0.02	0.00
24L	PA24	0.02	0.00

Nef-Calc

Airport Movements

FLIGHTPATH	Aircraft Code	DayTime Events	NightTime Events
24L	GASEPF	0.02	0.00
24L	DHC2	0.02	0.00
24L	PA31	0.02	0.00
24L	GASEPF	0.02	0.00
24L	GASEPV	0.02	0.00
24L	GASEPV	0.02	0.00
24L	GASEPV	0.02	0.00
24L	GASEPV	0.02	0.00
24L		**0.27**	**0.00**
24R			
24R	DHC6	0.05	0.00
24R	CNA150	0.02	0.00
24R	CNA172	0.02	0.00
24R	CNA185	0.02	0.00
24R	PA24	0.02	0.00
24R	GASEPF	0.02	0.00
24R	DHC2	0.02	0.00
24R	PA31	0.02	0.00
24R	GASEPF	0.02	0.00
24R	GASEPV	0.02	0.00
24R	GASEPV	0.02	0.00
24R	GASEPV	0.02	0.00
24R	GASEPV	0.02	0.00
24R		**0.27**	**0.00**
24S			
24S	DHC6	0.09	0.00
24S	CNA150	0.04	0.00
24S	CNA172	0.04	0.00
24S	CNA185	0.04	0.00
24S	PA24	0.04	0.00
24S	GASEPF	0.04	0.00
24S	DHC2	0.04	0.00
24S	PA31	0.04	0.00
24S	GASEPF	0.04	0.00
24S	GASEPV	0.04	0.00
24S	GASEPV	0.04	0.00
24S	GASEPV	0.04	0.00
24S	GASEPV	0.04	0.00
24S		**0.54**	**0.00**
33A			
33A	DC3	0.54	0.06
33A	DC3	0.54	0.06
33A	CNA150	0.16	0.02
33A	CNA172	0.16	0.02
33A	CNA185	0.16	0.02
33A	PA24	0.16	0.02
33A	GASEPF	0.16	0.02
33A	DHC2	0.16	0.02

Nef-Calc

Airport Movements

FLIGHTPATH	Aircraft Code	DayTime Events	NightTime Events
33A	PA31	0.16	0.02
33A	GASEPF	0.16	0.02
33A	GASEPV	0.16	0.02
33A	GASEPV	0.16	0.02
33A	GASEPV	0.16	0.02
33A	GASEPV	0.16	0.02
33A		**2.99**	**0.33**
33C			
33C	DC3	1.09	0.12
33C	DHC6	1.63	0.18
33C	CNA150	0.63	0.07
33C	CNA172	0.63	0.07
33C	CNA185	0.63	0.07
33C	PA24	0.63	0.07
33C	GASEPF	0.63	0.07
33C	DHC2	0.63	0.07
33C	PA31	0.63	0.07
33C	GASEPF	0.63	0.07
33C	GASEPV	0.63	0.07
33C	GASEPV	0.63	0.07
33C	GASEPV	0.63	0.07
33C	GASEPV	0.63	0.07
33C		**10.32**	**1.15**
33L			
33L	DC3	0.14	0.02
33L	DHC6	0.14	0.02
33L	CNA150	0.04	0.00
33L	CNA172	0.04	0.00
33L	CNA185	0.04	0.00
33L	PA24	0.04	0.00
33L	GASEPF	0.04	0.00
33L	DHC2	0.04	0.00
33L	PA31	0.04	0.00
33L	GASEPF	0.04	0.00
33L	GASEPV	0.04	0.00
33L	GASEPV	0.04	0.00
33L	GASEPV	0.04	0.00
33L	GASEPV	0.04	0.00
33L		**0.75**	**0.08**
33R			
33R	DC3	0.14	0.02
33R	DHC6	0.14	0.02
33R	CNA150	0.04	0.00
33R	CNA172	0.04	0.00
33R	CNA185	0.04	0.00
33R	PA24	0.04	0.00
33R	GASEPF	0.04	0.00
33R	DHC2	0.04	0.00

Nef-Calc

Airport Movements

FLIGHTPATH	Aircraft Code	DayTime Events	NightTime Events
33R	PA31	0.04	0.00
33R	GASEPF	0.04	0.00
33R	GASEPV	0.04	0.00
33R	GASEPV	0.04	0.00
33R	GASEPV	0.04	0.00
33R	GASEPV	0.04	0.00
33R		**0.75**	**0.08**
33S			
33S	DC3	0.27	0.03
33S	DHC6	0.27	0.03
33S	CNA150	0.08	0.01
33S	CNA172	0.08	0.01
33S	CNA185	0.08	0.01
33S	PA24	0.08	0.01
33S	GASEPF	0.08	0.01
33S	DHC2	0.08	0.01
33S	PA31	0.08	0.01
33S	GASEPF	0.08	0.01
33S	GASEPV	0.08	0.01
33S	GASEPV	0.08	0.01
33S	GASEPV	0.08	0.01
33S	GASEPV	0.08	0.01
33S		**1.49**	**0.17**
Grand Total:		**43.46**	**3.62**

ACODE	FLIGHTPATH	Range	DayTimeEvents	NightTimeEvents
CNA150				
CNA150	15S	1	0.08	0.01
CNA150	15R	1	0.04	0.00
CNA150	15L	1	0.04	0.00
CNA150	33S	1	0.08	0.01
CNA150	33R	1	0.04	0.00
CNA150	33L	1	0.04	0.00
CNA150	15A	0	0.16	0.02
CNA150	33A	0	0.16	0.02
CNA150	06S	1	0.03	0.00
CNA150	06R	1	0.01	0.00
CNA150	06L	1	0.01	0.00
CNA150	24S	1	0.04	0.00
CNA150	24R	1	0.02	0.00
CNA150	24L	1	0.02	0.00
CNA150	06A	0	0.05	0.00
CNA150	24A	0	0.08	0.00
CNA150	15C	1	0.63	0.07
CNA150	33C	1	0.63	0.07
CNA150	06C	1	0.20	0.00
CNA150	24C	1	0.30	0.00
CNA150			**2.66**	**0.21**
CNA172				
CNA172	15S	1	0.08	0.01
CNA172	15R	1	0.04	0.00
CNA172	15L	1	0.04	0.00
CNA172	33S	1	0.08	0.01
CNA172	33R	1	0.04	0.00
CNA172	33L	1	0.04	0.00
CNA172	15A	0	0.16	0.02
CNA172	33A	0	0.16	0.02
CNA172	06S	1	0.03	0.00
CNA172	06R	1	0.01	0.00
CNA172	06L	1	0.01	0.00
CNA172	24S	1	0.04	0.00
CNA172	24R	1	0.02	0.00
CNA172	24L	1	0.02	0.00
CNA172	06A	0	0.05	0.00
CNA172	24A	0	0.08	0.00
CNA172	15C	1	0.63	0.07
CNA172	33C	1	0.63	0.07
CNA172	06C	1	0.20	0.00
CNA172	24C	1	0.30	0.00
CNA172			**2.66**	**0.21**
CNA185				
CNA185	15S	1	0.08	0.01
CNA185	15R	1	0.04	0.00
CNA185	15L	1	0.04	0.00
CNA185	33S	1	0.08	0.01
CNA185	33R	1	0.04	0.00
CNA185	33L	1	0.04	0.00
CNA185	15A	0	0.16	0.02
CNA185	33A	0	0.16	0.02
CNA185	06S	1	0.03	0.00

ACODE	FLIGHTPATH	Range	DayTimeEvents	NightTimeEvents
CNA185	06R	1	0.01	0.00
CNA185	06L	1	0.01	0.00
CNA185	24S	1	0.04	0.00
CNA185	24R	1	0.02	0.00
CNA185	24L	1	0.02	0.00
CNA185	06A	0	0.05	0.00
CNA185	24A	0	0.08	0.00
CNA185	15C	1	0.63	0.07
CNA185	33C	1	0.63	0.07
CNA185	06C	1	0.20	0.00
CNA185	24C	1	0.30	0.00
CNA185			**2.66**	**0.21**
DC3				
DC3	15S	1	0.27	0.03
DC3	15R	1	0.14	0.02
DC3	15L	1	0.14	0.02
DC3	33S	1	0.27	0.03
DC3	33R	1	0.14	0.02
DC3	33L	1	0.14	0.02
DC3	15A	0	0.54	0.06
DC3	33A	0	0.54	0.06
DC3	15A	0	0.54	0.06
DC3	33A	0	0.54	0.06
DC3	15C	1	1.09	0.12
DC3	33C	1	1.09	0.12
DC3			**5.43**	**0.60**
DHC2				
DHC2	15S	1	0.08	0.01
DHC2	15R	1	0.04	0.00
DHC2	15L	1	0.04	0.00
DHC2	33S	1	0.08	0.01
DHC2	33R	1	0.04	0.00
DHC2	33L	1	0.04	0.00
DHC2	15A	0	0.16	0.02
DHC2	33A	0	0.16	0.02
DHC2	06S	1	0.03	0.00
DHC2	06R	1	0.01	0.00
DHC2	06L	1	0.01	0.00
DHC2	24S	1	0.04	0.00
DHC2	24R	1	0.02	0.00
DHC2	24L	1	0.02	0.00
DHC2	06A	0	0.05	0.00
DHC2	24A	0	0.08	0.00
DHC2	15C	1	0.63	0.07
DHC2	33C	1	0.63	0.07
DHC2	06C	1	0.20	0.00
DHC2	24C	1	0.30	0.00
DHC2			**2.66**	**0.21**
DHC6				
DHC6	15S	1	0.27	0.03
DHC6	15R	1	0.14	0.02
DHC6	15L	1	0.14	0.02
DHC6	33S	1	0.27	0.03

ACODE	FLIGHTPATH	Range	DayTimeEvents	NightTimeEvents
DHC6	33R	1	0.14	0.02
DHC6	33L	1	0.14	0.02
DHC6	06S	1	0.06	0.00
DHC6	06R	1	0.03	0.00
DHC6	06L	1	0.03	0.00
DHC6	24S	1	0.09	0.00
DHC6	24R	1	0.05	0.00
DHC6	24L	1	0.05	0.00
DHC6	06A	0	0.12	0.00
DHC6	24A	0	0.18	0.00
DHC6	15C	1	1.63	0.18
DHC6	33C	1	1.63	0.18
DHC6	06C	1	0.48	0.00
DHC6	24C	1	0.72	0.00
DHC6			**6.16**	**0.48**
GASEPF				
GASEPF	15S	1	0.08	0.01
GASEPF	15S	1	0.08	0.01
GASEPF	15R	1	0.04	0.00
GASEPF	15R	1	0.04	0.00
GASEPF	15L	1	0.04	0.00
GASEPF	15L	1	0.04	0.00
GASEPF	33S	1	0.08	0.01
GASEPF	33S	1	0.08	0.01
GASEPF	33R	1	0.04	0.00
GASEPF	33R	1	0.04	0.00
GASEPF	33L	1	0.04	0.00
GASEPF	33L	1	0.04	0.00
GASEPF	15A	0	0.16	0.02
GASEPF	15A	0	0.16	0.02
GASEPF	33A	0	0.16	0.02
GASEPF	33A	0	0.16	0.02
GASEPF	06S	1	0.03	0.00
GASEPF	06S	1	0.03	0.00
GASEPF	06R	1	0.01	0.00
GASEPF	06R	1	0.01	0.00
GASEPF	06L	1	0.01	0.00
GASEPF	06L	1	0.01	0.00
GASEPF	24S	1	0.04	0.00
GASEPF	24S	1	0.04	0.00
GASEPF	24R	1	0.02	0.00
GASEPF	24R	1	0.02	0.00
GASEPF	24L	1	0.02	0.00
GASEPF	24L	1	0.02	0.00
GASEPF	06A	0	0.05	0.00
GASEPF	06A	0	0.05	0.00
GASEPF	24A	0	0.08	0.00
GASEPF	24A	0	0.08	0.00
GASEPF	15C	1	0.63	0.07
GASEPF	15C	1	0.63	0.07
GASEPF	33C	1	0.63	0.07
GASEPF	33C	1	0.63	0.07
GASEPF	06C	1	0.20	0.00
GASEPF	06C	1	0.20	0.00
GASEPF	24C	1	0.30	0.00
GASEPF	24C	1	0.30	0.00
GASEPF			**5.31**	**0.42**

ACODE	FLIGHTPATH	Range	DayTimeEvents	NightTimeEvents
GASEPV				
GASEPV	15S	1	0.08	0.01
GASEPV	15S	1	0.08	0.01
GASEPV	15S	1	0.08	0.01
GASEPV	15S	1	0.08	0.01
GASEPV	15R	1	0.04	0.00
GASEPV	15R	1	0.04	0.00
GASEPV	15R	1	0.04	0.00
GASEPV	15R	1	0.04	0.00
GASEPV	15L	1	0.04	0.00
GASEPV	15L	1	0.04	0.00
GASEPV	15L	1	0.04	0.00
GASEPV	15L	1	0.04	0.00
GASEPV	33S	1	0.08	0.01
GASEPV	33S	1	0.08	0.01
GASEPV	33S	1	0.08	0.01
GASEPV	33S	1	0.08	0.01
GASEPV	33R	1	0.04	0.00
GASEPV	33R	1	0.04	0.00
GASEPV	33R	1	0.04	0.00
GASEPV	33R	1	0.04	0.00
GASEPV	33L	1	0.04	0.00
GASEPV	33L	1	0.04	0.00
GASEPV	33L	1	0.04	0.00
GASEPV	33L	1	0.04	0.00
GASEPV	15A	0	0.16	0.02
GASEPV	15A	0	0.16	0.02
GASEPV	15A	0	0.16	0.02
GASEPV	15A	0	0.16	0.02
GASEPV	33A	0	0.16	0.02
GASEPV	33A	0	0.16	0.02
GASEPV	33A	0	0.16	0.02
GASEPV	33A	0	0.16	0.02
GASEPV	06S	1	0.03	0.00
GASEPV	06S	1	0.03	0.00
GASEPV	06S	1	0.03	0.00
GASEPV	06S	1	0.03	0.00
GASEPV	06R	1	0.01	0.00
GASEPV	06R	1	0.01	0.00
GASEPV	06R	1	0.01	0.00
GASEPV	06R	1	0.01	0.00
GASEPV	06L	1	0.01	0.00
GASEPV	06L	1	0.01	0.00
GASEPV	06L	1	0.01	0.00
GASEPV	06L	1	0.01	0.00
GASEPV	24S	1	0.04	0.00
GASEPV	24S	1	0.04	0.00
GASEPV	24S	1	0.04	0.00
GASEPV	24S	1	0.04	0.00
GASEPV	24R	1	0.02	0.00
GASEPV	24R	1	0.02	0.00
GASEPV	24R	1	0.02	0.00
GASEPV	24R	1	0.02	0.00
GASEPV	24L	1	0.02	0.00
GASEPV	24L	1	0.02	0.00
GASEPV	24L	1	0.02	0.00
GASEPV	24L	1	0.02	0.00
GASEPV	06A	0	0.05	0.00
GASEPV	06A	0	0.05	0.00
GASEPV	06A	0	0.05	0.00

ACODE	FLIGHTPATH	Range	DayTimeEvents	NightTimeEvents
GASEPV	06A	0	0.05	0.00
GASEPV	24A	0	0.08	0.00
GASEPV	24A	0	0.08	0.00
GASEPV	24A	0	0.08	0.00
GASEPV	24A	0	0.08	0.00
GASEPV	15C	1	0.63	0.07
GASEPV	15C	1	0.63	0.07
GASEPV	15C	1	0.63	0.07
GASEPV	15C	1	0.63	0.07
GASEPV	33C	1	0.63	0.07
GASEPV	33C	1	0.63	0.07
GASEPV	33C	1	0.63	0.07
GASEPV	33C	1	0.63	0.07
GASEPV	06C	1	0.20	0.00
GASEPV	06C	1	0.20	0.00
GASEPV	06C	1	0.20	0.00
GASEPV	06C	1	0.20	0.00
GASEPV	24C	1	0.30	0.00
GASEPV	24C	1	0.30	0.00
GASEPV	24C	1	0.30	0.00
GASEPV	24C	1	0.30	0.00
GASEPV			**10.62**	**0.84**
PA24				
PA24	15S	1	0.08	0.01
PA24	15R	1	0.04	0.00
PA24	15L	1	0.04	0.00
PA24	33S	1	0.08	0.01
PA24	33R	1	0.04	0.00
PA24	33L	1	0.04	0.00
PA24	15A	0	0.16	0.02
PA24	33A	0	0.16	0.02
PA24	06S	1	0.03	0.00
PA24	06R	1	0.01	0.00
PA24	06L	1	0.01	0.00
PA24	24S	1	0.04	0.00
PA24	24R	1	0.02	0.00
PA24	24L	1	0.02	0.00
PA24	06A	0	0.05	0.00
PA24	24A	0	0.08	0.00
PA24	15C	1	0.63	0.07
PA24	33C	1	0.63	0.07
PA24	06C	1	0.20	0.00
PA24	24C	1	0.30	0.00
PA24			**2.66**	**0.21**
PA31				
PA31	15S	1	0.08	0.01
PA31	15R	1	0.04	0.00
PA31	15L	1	0.04	0.00
PA31	33S	1	0.08	0.01
PA31	33R	1	0.04	0.00
PA31	33L	1	0.04	0.00
PA31	15A	0	0.16	0.02
PA31	33A	0	0.16	0.02
PA31	06S	1	0.03	0.00
PA31	06R	1	0.01	0.00
PA31	06L	1	0.01	0.00

ACODE	FLIGHTPATH	Range	DayTimeEvents	NightTimeEvents
PA31	24S	1	0.04	0.00
PA31	24R	1	0.02	0.00
PA31	24L	1	0.02	0.00
PA31	06A	0	0.05	0.00
PA31	24A	0	0.08	0.00
PA31	15C	1	0.63	0.07
PA31	33C	1	0.63	0.07
PA31	06C	1	0.20	0.00
PA31	24C	1	0.30	0.00
PA31			**2.66**	**0.21**
Grand Total:			**43.46**	**3.62**

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