

**MOUNTAIN VIEW COUNTY**

**BYLAW NO. 01/24**

**SOUTH MCDOUGAL FLATS  
AREA STRUCTURE PLAN**

Consolidated September 18, 2025

Note: All persons making use of the consolidation are reminded that it has no legislative sanction, that the amendments have been embodied for convenience of reference only, and that the original bylaw should be consulted for all purposes of interpreting and applying the bylaw.

Mountain View County  
Province of Alberta  
Bylaw No. 01/24

**A BYLAW OF MOUNTAIN VIEW COUNTY IN THE PROVINCE OF ALBERTA TO ADOPT THE SOUTH  
MCDUGAL FLATS AREA STRUCTURE PLAN**

**SECTION 1 - AUTHORITY**

- 1.01 Section 633(1) of the *Municipal Government Act*, as amended from time to time, provides Council the authority to prepare and adopt an Area Structure Plan describing the land uses proposed, the density, the transportation routes and public utilities proposed and such other things Council considers necessary for the area.
- 1.02 This Bylaw may be cited as the “South McDougal Flats Area Structure Plan”.
- 1.03 The South McDougal Flats Area Structure Plan has been prepared in accordance with the requirements of Part 17 of the *Municipal Government Act*, as amended from time to time.
- 1.04 It is deemed desirable and in the best interest of Mountain View County that an Area Structure Plan be adopted in order to guide future land use, subdivision potential and development.

**SECTION 2 - ENACTMENT**

- 2.01 The Council of Mountain View County does hereby adopt the South McDougal Flats Area Structure Plan which is attached hereto as Schedule “A” and forms part of this Bylaw.

**SECTION 3 – REPEAL OF BYLAW**

- 3.01 Bylaw No. 02/10 and all amendments thereto are hereby repealed.

**SECTION 4 - EFFECTIVE DATE**

- 4.01 This Bylaw shall come into effect at such time as it has received third (3rd) reading and has been signed in accordance with the *Municipal Government Act*.

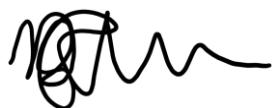
Read the first time this 14<sup>th</sup> day of February 2024,

Read the second time this 27<sup>th</sup> day of March 2024,

Read the third time this 27<sup>th</sup> day of March 2024.



Reeve



Acting Chief Administrative Officer

March 28, 2024

Date of Signing

Schedule "A"  
Bylaw No. 01/24



# **Mountain View**

## **C O U N T Y**

### **SOUTH MCDOUGAL FLATS**

#### **AREA STRUCTURE PLAN**

**Bylaw No. 01/24**



## Acknowledgements

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Greg Campkin	Member at Large/Chair
Cindy Iverson	Member at Large/Vice Chair
Kevin Saunders	Member at Large
Robert Killeleagh	Member at Large
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# 1 Introduction

## 1.1 Purpose of Plan

The purpose of this area structure plan (ASP) is to provide policy direction and guidance for the South McDougal Flats (SMF) area to ensure orderly development and sound land use planning decisions in the future.

An ASP is intended to function as a long range document with a planning horizon of around 20 years. It is anticipated that as variables change, this plan will evolve with amendments. Plan amendments in the future should remain consistent with the broad intent of the plan.

This plan is intended to replace the South McDougal Flats ASP that was adopted in 2010. The updated ASP will be compliant with the Intermunicipal Development Plan and the Municipal Development Plan, which together provide a strong base that has shaped the approach of this Plan.

## 1.2 Plan Area

The South McDougal Flats area, as shown on Figure 1, is located west from the Town of Sundre. The Plan area stretches from the western boundary of the Town of Sundre to Coal Camp Road (Range Road 63). While the majority of the Plan area is located south of Highway 584, a small portion of the planning area (5+ quarter sections) is located on the north side of Highway 584 (extending to the Bearberry Creek). The Red Deer River forms the southern boundary.

SMF has a land area of approximately 9500 acres and includes a diversity of uses and interests. The Plan area has an abundance of natural resources (e.g., gravel); natural beauty (e.g., river corridor); infrastructure (e.g., Highway 584, Sundre Airport), residential and recreational development (e.g., Coyote Creek RV Resort) which makes the area unique and attractive for industry, residential, recreation and tourism related pursuits.

## 1.3 History of South McDougal Flats

Originally, McDougal Flats was named after David McDougall - a Methodist missionary who purchased a significant landholding within the study area. David McDougall sold his land in 1909 to a Norwegian man named Nels T. Hagen. Hagen took over McDougall's trading post and added a post office naming it Sondre, which is Norwegian for south. This is how the Town of Sundre received its name. Hagen was also the first individual to begin farming on the Flats. Agriculture was the first land use and continues to be an integral component of the landscape and the community.

The first school in the area was established in 1910 at the present-day corner of Hwy. 584 and Range Road 60. This school closed in the 1960s and has been transformed into a community hall which hosts various clubs, functions and events to this day. Another significant development in the evolution of South McDougal Flats was the establishment of the McDougal Chapel Missionary Church which was organized in 1934. The area was home to a number of different organized religious groups including the Roman Catholics, the Evangelists, Anglicans, and Presbyterians. The diversity of its people added to a unique mix of religions and cultures in the area. A clear example of a strong spirit of cooperation occurred in 1911 when a fire burned down the Methodist church and services were held in another church until they could settle back into their own one again.

The Town of Sundre was born as a small settlement post that housed services such as a library, hotel and an outpost. Located on the banks of the Red Deer River and close to timber, aggregates, and oil reserves, Sundre (and its outlying area) was later able to meet the needs of resource developers after the Second World War. The proliferation of these industrial interests continues to this day.

## **2 Policy Context**

There are a number of policy documents and management guidelines that affect land use planning within SMF. The applicable legislation and some of the key background documents / studies are reviewed below.

### **2.1 Provincial Legislation**

The South McDougal Flats ASP has been prepared in accordance with Section 633 of the *Municipal Government Act* (MGA), as amended from time to time. The Plan is intended to provide guidance and policy direction for future land use, subdivision and development within the Plan area. According to the MGA, an ASP must address the following:

“633(1) For the purpose of providing a framework for subsequent subdivision and development of an area of land, a council may, by bylaw, adopt an area structure plan.

- (2) An area structure plan
  - (a) must describe
    - i. the sequence of development for the proposed area,
    - ii. the land uses proposed for the area, either generally or with respect to specific parts of the area,
    - iii. the density of the population proposed for the area either generally or with respect to specific parts of the area, and
    - iv. the general location of major transportation routes and public facilities, and
  - (b) may contain any other matters, including matters relating to reserves, as the council considers necessary.

### **2.2 Land Use Framework**

The Land Use Framework is implemented through the *Alberta Land Stewardship Act* (2009) that allows for the establishment of regional land use plans. The purpose of the Land Use Framework is to manage growth through sustainable and smart growth principles. Local decision making is left up to the municipalities; however, in the future their decisions and plans will have to be consistent with this regional plan. There are in total seven regional plans and Mountain View County falls within the Red Deer Regional Plan. This regional plan had not been started at the time of this ASP review. Once the Red Deer Regional Plan is adopted, this ASP will be reviewed for compliance.

## **2.3 Town of Sundre Intermunicipal Development Plan**

Mountain View County and the Town of Sundre worked together to develop an Intermunicipal Development Plan (IDP). The IDP, as shown on Figure 3: Intermunicipal Development Plan, delineates lands in MVC that are adjacent to the Town of Sundre identified as:

- Fringe Area: land with priority for future annexation by the Town.
- Referral Area: land for future, long-term for the eventual growth of the Town.

Lands within the Town of Sundre where the County has an interest in protecting adjacent land uses have been identified as Urban Referral Area.

## **2.4 Municipal Development Plan**

The County's Municipal Development Plan (MDP) provides guidance for growth management and development into the future. The MDP provides guidance and clarity for the facilitation of good, sound sustainable development within the County's boundary. The MDP identifies the South McDougal Flats area as a growth centre, with a focus on higher density growth. Generally, growth centre areas are intended to establish opportunities for economic development by providing a variety of opportunities and services for residents and businesses.

## **2.5 Adjacent Area Structure Plans**

The SMF lies adjacent to a number of ASPs: Bearberry – Red Deer River Corridor ASP, to the west and northwest, Bergen ASP, south of the Red Deer River, and Southeast Sundre ASP, east of the Red Deer River. While the adjacent areas do not necessarily impact the planning policy framework for this Plan, it is important to understand how policy may be applied in adjacent areas to ensure comprehensive planning for a feature that may cross through numerous ASPs (e.g. Red Deer River or a highway corridor).

## **2.6 Land Use Bylaw**

The Land Use Bylaw (LUB) establishes districts and the corresponding regulations for the use of the land and buildings in Mountain View County. While the MDP and this ASP provide the planning goals, objectives and policies for future land use and subdivision in the area, it is the LUB that regulates development. The LUB should be consistent with planning policy and direction in order to ensure the successful interpretation and implementation of this ASP.

## **2.7 Environmentally Significant Areas**

Mountain View County prioritized the protection of Environmentally Significant Areas through the adoption of policies and regulations contained within statutory plans and the Land Use Bylaw. The 2008 Environmentally Significant Areas Report completed by Summit Environmental Consultants and the 2014 Provincial Environmentally Significant Areas Report completed by Fiera Biological Consultants shall be considered the baseline information on determining when additional studies may be required on a specific site to determine the site suitability of a proposal.

There are two areas, as shown on Figure 5: Environmentally Significant Areas, within the SMF that are subject to an ESA classification: the Red Deer River Corridor in the south, identified as a Level 1 ESA; and the Bearberry Creek in the north, identified as a Level 4 ESA.

### **Other Studies**

#### **2.8 Red Deer River: State of the Watershed Report (2009)**

This report discusses the Red Deer River Watershed and the importance of protecting this watershed. The Red Deer River watershed provides clean water resources to agricultural, municipal, industrial and recreational users as well as helping to maintain healthy crops and supporting wildlife. The Red Deer River is 724 km long and stretches from the Rocky Mountains moving through rangelands, urban centres and rural municipalities to eight km beyond the Saskatchewan border. Watershed management seeks to maintain a pristine and healthy watershed which contributes to the overall health of the environment.

SMF is part of the Red Deer River Watershed. Therefore, development and activities of any kind should minimize and/or mitigate impacts on the Red Deer River and the corridor. This Plan seeks to adopt a watershed approach founded on the basis that Alberta's water resources must be managed within the capacity of individual watersheds, recognizing there are limits to the available water supply. While land and water are closely linked, these resources have not historically been managed in a fully integrated manner. Future development and activity in SMF should adhere to this approach.

#### **2.9 Mountain View Regional Parks, Recreation and Culture Master Plan (Final Report October 29, 2021)**

The Towns of Olds, Didsbury, Carstairs, and Sundre, the Village of Cremona, and Mountain View County, came together collaboratively to develop a Regional Parks, Recreation and Culture Master Plan in 2009. Since that time, each community has changed substantially, and all have experienced growth in residential, commercial and industrial areas. The master plan completed in 2021 includes an assessment of the current state of parks, recreation and culture infrastructure and service delivery, recommended priorities to meet current and future needs, and a prioritized implementation plan that will guide decisions related to parks, recreation and culture in the Mountain View region.

## **3 Existing Area Characteristics**

### **3.1 Physical Landscape**

SMF has a diverse landscape that is comprised of a range of land uses such as industry, agriculture, country residential, gravel pits, airport facilities and recreation. The area is served by Highway 584 which represents the northern boundary of the study area. Most of the business, institutional and industrial development is situated along this highway corridor including an industrial park, McDougal Flats Hall, McDougal Chapel, and West Fraser Mills Ltd.

The majority of development in SMF is concentrated along Range Roads 55 and 60. Key users in these locations include the following industries/businesses: West Fraser Mills Ltd, GDK Gravel Pit, GAP Creek Wood Products, Whiteley's Milling, Sundre Contracting and further south along Range Road 55 is the Sundre Airport. South of these industries, the uses thin out into agriculture, country residential and recreational uses along the Red Deer River Corridor. Uses in the southern half of the planning area consist of the Coyote Creek Golf & RV Resort, Arrowen Campground, a few country residential subdivisions, and rural acreages. Refer to Figure 4: Existing Land Use Zoning for an illustration of land use districts in the area.

The southern boundary of the planning area is represented by the Red Deer River corridor. The shoreline and vegetation communities along the Red Deer River are identified as Environmentally Significant Areas (ESA). The northern boundary of the planning area borders Bearberry Creek (along four quarters) and Highway 584 (five quarters). Bearberry Creek is also identified as an Environmentally Significant Area Level 4.

Generally, the lands in the planning area are relatively flat. Views of the mountains are fairly open with the exception of the southern and western parts of the planning area where the tree cover is quite dense.

Overall, the physical setting of SMF is diverse and provides opportunities for a range of desires and uses. Location along Highway 584 provides a good opportunity for industry and transportation; the Red Deer River Valley and adjacent lands provides a desirable setting for recreation development; the abundance and quality of aggregate reserves allows opportunity for natural resource extraction; the history of the area is supportive of agriculture; and the Sundre airport provides ample opportunities for economic development.

### **3.2 Land Ownership**

There are 3 types of land ownership within the Plan area: Crown, County and Private. Refer to Figure 2: Land Ownership Map. The majority of land within the planning area is privately owned (approximately 81%). Crown owned land constitutes 12% of the planning area while County owned lands represent the smallest portion, approximately 7% of the planning area.

The majority of Crown land is adjacent to the Red Deer River with a small portion around the airport. The County owns the airport lands and three quarter sections to the immediate east of the airport.

### **3.3 Industrial / Natural Resource Extraction**

SMF is home to a large number and mix of industrial uses. Uses which require extensive land areas for outdoor storage, stockpiling, etc. have tended to locate in the Flats outside of Town. The entire area is also identified as having an abundance of good quality gravel; therefore, natural resource extraction is a major land use consideration.

The West Road Industrial Park is a major industrial area that is home to a peat moss producer, trailer truck supplier and individual storage containers, among other uses. Also located within this industrial park is Sundre Contracting, the largest gravel producer in the area and a long-standing one, having extracted gravel since the 1940's. This gravel pit borders the northern portion of the Sundre Airport, and by all accounts, extraction is expected to continue over the long term. A number of other private and county owned gravel pits are situated in the area, as well as a future provincially owned quarter section of land (along Range Road 60) slated for long term extraction, likely beyond the planning horizon of this ASP. The County owns three quarter sections of land adjacent to the east side of the airport reserved for future gravel extraction to help meet the County's needs.

### **3.4 Roads**

The northern boundary of the planning area can generally be defined by Provincial Highway 584 (there are 10 quarter sections to the north of it up to Bearberry Creek). It is a paved highway that carries a high volume of traffic due to its function as a major east-west transportation route. It serves a mix of vehicle types from smaller automobiles to gravel and logging trucks. Hwy. 584 links the Town of Sundre west to Bearberry and Hwy. 734. Given its function as a key access route, many businesses, industries and highway commercial developments have located alongside it, generally between the Town of Sundre's boundary westward to Range Road 55.

There are six north/south roads linking Highway 584 to the southern reaches of the planning area. These roads include Highway 22, Range Roads 55, 60, 61, 62, and 63 (Coalcamp Rd). Refer to Figure 7: Roads.

### **3.5 Energy Facilities**

There are several companies that own pipelines in the area. The Alberta Energy Regulator (AER) stipulates setbacks that require a "minimum distance that must be maintained between any energy facility (i.e., a drilling or producing well, a pipeline, or gas plant) and a dwelling (i.e., rural housing development or public facility)". These setbacks vary according to the type of development and whether the well, facility or pipeline contains natural gas. The County has adopted these setbacks as a minimum.

## **4     South McDougal Flats Growth Analysis**

The Province's Land Use Framework seeks to manage growth responsibly through smart growth principles and preparing the Province for increased levels of growth while maintaining the pristine and natural components of the land. SMF is in a 'Growth Centre' and is intended to accommodate future growth and development to meet the County's needs. The MDP defines growth centres as "areas more suitable for future development including higher density residential, commercial and industrial uses". Sundre is the existing urban area around which this growth centre is based.

The MDP does not provide specific targets or parameters regarding uses or the types of growth that are to be directed to or accommodated within these growth areas. Rather, a very general policy approach has been used which allows a great deal of flexibility for individual growth centres to accommodate a wide range of uses and development types appropriate to the area. "Residential and business uses" represent the key directions for the accommodation of future population growth and economic development opportunities, however, there may be other uses that should be considered if they would be more appropriately located in SMF than the rural area of the County or urban areas, such as the Town of Sundre.

On a very broad scale, this Plan is intended to accommodate a wide range of development types and scales that contribute to economic development for the County. It is also intended to accommodate a moderate amount of population growth. Given the existing mix and character of uses already in the SMF area, addressing land use compatibility will be a major requirement of specific development proposals in the future.

### **4.1   Population Projection**

The Plan makes provision for population growth in areas designated for Residential development.

## 5 Key Directions

### 5.1 Plan Area Vision

Having a vision means we have a clear sense of purpose. A community vision is an image of the community's desired future. The McDougal Flats vision can only be accomplished by passion, dreams and real efforts from our business, our residents, and our governing bodies and stakeholders.

Our Vision: *"McDougal Flats, a rural community that is safe, prosperous and a desirable place to live, work and play."*

### 5.2 Guiding Principles

As part of the review process and in spirit of the vision statement, the following guiding principles were created:

1. Land Use: To allow the opportunity for balanced progressive growth.
2. Social/Community: To support a diverse rural community that enhances the natural beauty of the area.
3. Recreation: To support recreation and tourism opportunities that are complementary to the Plan area.
4. Economic: To foster economic developments in appropriate areas.
5. Environment/Conservation: To encourage conservation practices and natural resource management that minimize negative environmental impacts.
6. Transportation/Infrastructure: To manage an efficient, sustainable and safe transportation and infrastructure system.
7. Airport: To enhance the airports ability to support economic development through a Concept Plan.

## **6 Key Components of Planning Area**

As a growth centre, the SMF area has evolved and developed over the past 100 years. Today, the area consists of diverse, mixed uses that include, Agriculture, Residential, Recreational, Institutional and Industrial developments. A key component of the review of this Plan is not to eliminate or constrain the ability of existing land uses, rather the intent is to recognize the diversity and to apply clear planning direction and policies.

A number of existing components or building blocks have been identified in the Plan area:

### **6.1 Agriculture**

- Many existing operational farms and ranches.
- Residents value these lands - maintaining the history of the area and connection to the past.
- Value the open space farming/ranching allows.
- Recognize limitations on the productivity of the land/soil (gravel resources).
- Majority of agriculture is in the western portion of the planning area.

### **6.2 Community Centre**

- The Community Centre is a focal point, comprised of mixed uses. It is located at the intersection of Highway 584 and Range Road 60 and has the opportunity to accommodate a variety of uses.
- The South McDougal Flats Hall has been in the area since the beginning of the twentieth century and is generally known and regarded as the area's social, cultural and community meeting place (originally it was a school).
- The community does not wish to replace the community hall but would like to build and expand on its unique character by creating a 'hub' for the community that could hold larger events (e.g. wedding parties, reunions).

### **6.3 Airport**

- Sundre Airport built in 1984/85 by Alberta Transportation.
- The runway is approximately 4,346 ft long.
- Airport is used by aviation enthusiasts, recreation seekers, Medivac (fixed-wing and helicopter), Charters, Alberta Sustainable Resource, Forestry and West Country Emergency Operations.
- Residents and stakeholders view the airport as a unique and important facility to have in the area (for recreation, tourism, and economic development).
- Majority of residents and stakeholders would like to see the airport play a larger role in future economic development.
- It is important to recognize the airport as an existing and expanding use that will be developed separately in a Concept Plan.

#### **6.4 Red Deer River and Bearberry Creek**

- The Red Deer River and the Bearberry Creek were mapped in the 2014 Provincial Flood Study. It is presumed that once the Provincial, draft report for the Upper Red Deer River Flood Study is completed, it will replace the 2014 Provincial Flood Study.
- The Red Deer River is classified as a Level 1 (Very High) ESA whereas the Bearberry Creek is classified as a Level 4 (Low) ESA.
- Desire to restrict the types of recreational uses to passive recreational use, ideal for trail systems, dog-walking, trail riding, picnics, and day use.
- Major component of open space system within SMF (well vegetated).

#### **6.5 Residential**

- A large amount of country residential housing is located in the southern area of the Plan, and west of Range Road 60 - strong desire to maintain the existing rural character of SMF.
- Where appropriate, opportunities for infill development within already established multi-lot residential development.
- Desire to allow for a variety of residential parcel sizes in order to provide different opportunities and meet market demands.

#### **6.6 Industrial**

- Important land uses for the County's tax base and economic development.
- Source of employment for residents in SMF and other parts of the County.
- Maintain and encourage small scale, local commercial development along Hwy 584.
- Direction to locate industrial uses within well planned Industrial/Business Parks and focus commercial uses along Hwy 584.
- Landscape buffers where industrial uses interface with non-industrial uses.
- Natural Resource Extraction activity is prevalent throughout the planning area and is expected to continue throughout the duration of the planning horizon for this ASP.

## **7 Land Use Policy Areas**

This section contains the specific policies to guide future land use and development within SMF. Each of the following policy areas corresponds to a designation on Figure 8: Land Use Concept. All lands within SMF are designated under a policy area in order to direct land uses to the most appropriate areas and to guide the development of land uses within the context of the planning goals for the area.

### **7.1 Agriculture & Low Density**

The conservation of farmland and ranchland is very important to the history and character of the County. Ranching operations and livestock grazing are the prominent agricultural uses within the planning area. The intent of these policies is to balance the number and locations of subdivisions to allow for continued agricultural operations without disruption or interference.

#### **7.1.1 Goals**

- a) To ensure that the significant aspects of the western agricultural history of SMF are retained.
- b) To recognize the importance of agriculture to the Plan area and the County.

#### **7.1.2 Objectives**

- a) To recognize the presence of existing agricultural operations within the Plan area.
- b) To ensure that agricultural uses are accommodated in appropriate areas through long range planning and buffering.
- c) To encourage specialized farming and other operations which conserve land and contribute to economic development.

#### **7.1.3 Policies**

- a) First parcel out may be supported in accordance with the Agricultural Land Use Policies of the MDP.
- b) Subdivision(s) with the intent to create agricultural or residential lots beyond the first parcel out and up to three titled lots with the remainder as the fourth title may be considered in accordance with the policies of the MDP.
- c) Applications for development, redesignation and subdivision, within lands in the Agriculture & Low Density area, that have the potential or are prone to flooding, will be subject to the policies of Section 8 of this Plan.
- d) Development of new Confined Feeding Operations (CFOs) shall not be supported within 1.6 km (1 mile) of SMF, as directed by the MDP.

### **7.2 Residential**

There are a number of country residential subdivisions and acreages within the Plan area. Throughout the years SMF continues to be a highly desirable location because it borders the Town of Sundre as a convenient service centre. It is relatively close to Calgary and the Hwy 2/2A corridor, as well as the

mountains, and it is also in close proximity to the Red Deer River, which provides for a range of recreational opportunities. Country residential lots have become increasingly popular for people seeking to move to a more rural lifestyle.

The following goals, objectives and policies are intended to guide residential development within the plan area.

### **7.2.1 Goals**

- a) To encourage a variety of residential parcel size options within the Plan area.
- b) To allow for subdivision of residential development while being conscious of the existing surrounding land uses and the existing natural features.

### **7.2.2 Objectives**

- a) To provide opportunities of diverse residential subdivision options in order to appeal to and accommodate a wider population demographic.
- b) To allow for additional residential development to locate within appropriate quarter sections, in already established residential subdivisions.

### **7.2.3 Policies**

- a) A first parcel out subdivision application within the Residential land use concept area, as shown in Figure 8, may be considered on a previously unsubdivided quarter section, in accordance with the MDP and compliant with Section 8 of this Plan.
- b) An application with the intent to create additional residential lots within NW 25-32-6-5, SW 25-32-6-5, SE 26-32-6-5, NE 26-32-6-5 and NW 26-32-6-5 as identified on Figure 8: Land Use Concept, shall meet all of the following criteria:
  - i. The application shall include a concept drawing of the subdivision potential for the entire title or the property that is the subject of an application.
  - ii. Parcel sizes shall meet the minimum parcel size as prescribed in the Land Use Bylaw and shall not be smaller than the smallest country residential lot within the quarter section.
  - iii. The maximum parcel size shall not be larger than 15.0 acres.
  - iv. Provide legal and physical access to each proposed lot(s) that meets County standards.
  - v. Consider and accommodate additional onsite water and wastewater servicing and stormwater management requirements in accordance with County's policies.
  - vi. Lands that are subject to or prone to flooding must comply with the policies of Section 8 of this Plan.
- c) Notwithstanding Policy 7.2.3 a), which may support first parcel out from a previously unsubdivided quarter section, further subdivision applications, beyond the first parcel out, within SW 26-32-6-5, SE 1-33-6-5, SW 6-33-5-5 and SE 6-33-5-5 as identified on Figure 8: Land Use Concept are subject to, but not limited to, the following requirements:

- i. A Concept Plan inclusive of community consultation, as defined in the MDP, for the entire build out of the quarter section;
- ii. Servicing study (groundwater and septic suitability analysis);
- iii. Biophysical Assessment;
- iv. Geotechnical Assessment
- v. Traffic Impact Assessment;
- vi. Stormwater Management Plan
- vii. Flood Hazard Assessment.

d) Parcel size, beyond the first parcel out, within SW 26-32-6-5, SE 1-33-6-5, SW 6-33-5-5 and SE 6-33-5-5 shall be at a minimum 5.0 acres and shall not exceed 15.0 acres.

e) The Concept Plan and supportive studies shall meet Provincial standards, and the requirements of County's Policies and the Land Use Bylaw.

f) New residential subdivision(s) within a quarter section of land that is subject or prone to flooding shall comply with the requirements and restrictions as prescribed for in Section 8 of this Plan.

g) Further to Policy 7.2.3 c), an internal subdivision road to paved standards, will be required at the developer's expense, in accordance with County Policy.

### **7.3 Industrial & Highway Commercial Corridor**

Areas designated as Industrial & Highway Commercial Corridor provide for a broad range of industrial and commercial development, strategically located along Highway 584 and south of the corridor. For the most part, this designated area is intended to cater services and uses for the travelling public and the regional resident. The range of development includes Home Hardware, Sundre Forest Products, Highland Project, warehousing and natural resource extraction. These businesses are important to the area economy as they support local employment opportunities. The intent of this Plan is to direct and group industrial and commercial uses to maximize their compatibility and minimize any negative impacts on nearby residential uses.

#### **7.3.1 Goals**

- a) To concentrate the highway commercial corridor along Hwy 584 generally between the 'Community Centre' and the Town of Sundre.
- b) To designate sufficient industrial and commercial land to accommodate future growth that allows choices for parcel size and servicing requirements.

#### **7.3.2 Objectives**

- a) To provide for a range of industrial and commercial uses along the Hwy 584 corridor.
- b) To provide adequate buffers between industrial/commercial uses and adjacent land uses.

### **7.3.3 Policies**

- a) A first parcel out subdivision application within the Industrial & Highway Commercial Corridor land use concept area, as shown in Figure 8, may be considered on a previously unsubdivided quarter section, in accordance with the MDP and compliant with Section 8 of this Plan.
- b) Land use redesignation and subdivision applications, if required, with the intent to create industrial or commercial development shall be submitted simultaneously for consideration to County standards and shall be sited in the Industrial & Highway Corridor as shown in Figure 8.
- c) Standalone subdivision proposals for industrial or commercial development located outside the areas identified for Industrial & Highway Corridor is discouraged.
- d) Where industrial or highway commercial corridor proposals are adjacent to existing or planned residential development, measures to mitigate potential impacts shall be required.
- e) A Concept Plan and supportive studies shall be required for the expansion of existing business park or for any proposed new business parks.
- f) The Concept Plan, inclusive of community consultation, as defined in the MDP, and supportive studies shall meet Provincial standards, and requirements of County's Policies and the Land Use Bylaw, including but not limited to:
  - i. Servicing Study;
  - ii. Geotechnical Assessment;
  - iii. Biophysical Assessment;
  - iv. Environmental Site Assessment;
  - v. Traffic Impact Assessment;
  - vi. Stormwater Management Plan;
  - vii. Ground Water Supply Evaluation;
  - viii. Septic Suitability Analysis;
  - ix. Emergency Response Plan.
- g) Applications for industrial, commercial or business park shall comply with County Policy with regards to the Business, Commercial and Industrial Design Guidelines.
- h) Applications with direct access to Hwy. 584 should be avoided, wherever possible. However, all applications will be circulated to Alberta Transportation to determine the standards for development.
- i) Applications with access directly from a municipal road, the County will determine the standards for development.
- j) Applications for industrial/commercial development north of Highway 584 within SW 6-33-5-5 and SE 6-33-5-5 shall require an internal subdivision road with the potential for lots on both sides of the road. The internal subdivision road shall be a service road with no direct access from lots to Highway 584.

## **7.4 Airport**

The Sundre Airport has been a successful community airport since its construction in 1984. MVC is the owner of the Airport. The Sundre Airport is an important economic driver for the region and the County as a whole.

### **7.4.1 Goals**

- a) To promote economic development at the airport.

### **7.4.2 Objectives**

- a) To develop a Concept Plan for the airport lands and adjacent properties.

### **7.4.3 Policies**

- a) A Concept Plan shall identify detailed policies for future land uses and development for the lands identified as Airport in Figure 8 taking into account aviation requirements, offsite impact as well as environmental restrictions.
- b) The Sundre Airport Concept Plan, adopted by Council in 2025, is included as “Schedule B.”
- c) Notwithstanding 7.5.3 a), a first parcel out subdivision application within the Airport land use concept area, as shown in Figure 8, may be considered on a previously unsubdivided quarter section, in accordance with the MDP and compliant with Section 8 of this Plan.

## **7.5 Community Centre**

The Community Centre, identified at the intersection of Hwy. 584 and Rge. Rd. 60 is intended to create a vibrant and active core that is comprised of a mix of uses. Existing institutional uses at this intersection provide a logical foundation upon which to build and strengthen this community focus. It is recognized that some flexibility regarding the ultimate size, location and configuration of the Community Centre may be necessary given existing development and uses at and in close proximity to the intersection. West Fraser Mills Ltd. is one such use.

South McDougal Flats Hall and McDougal Chapel provide existing venues for hosting events and meetings. This Plan supports the long-term viability of these institutions through facility upgrades and joint use arrangements, as required.

The Community Centre includes the intersection and its four quadrants. It is understood that this is a node that will develop and evolve over time, likely through the preparation of individual development applications. While individual applications are required in order to grow and strengthen this Centre, an integrated design is important to ensure the functionality of the Community Centre, as a whole. Individual applications shall not compromise the functionality of the Community Centre, as a whole.

The Community Centre will function as a mixed-use node. As a community gathering place, it shall be an activity hub comprised of local retail, personal service uses and institutional uses.

### **7.5.1      Goals**

- a) To create a vibrant and identifiable community focal point.
- b) To ensure the long-term viability of an attractive and unique Community Centre in SMF.

### **7.5.2      Objectives**

- a) To provide appropriate land uses adjacent to the Community Centre that complement the Centre's function as a community focal point.
- b) To encourage expansions and/or upgrades to SMF Hall in order to accommodate larger scale events and activities.
- c) To create visually pleasing corridors leading to the Community Centre.

### **7.5.3      Policies**

- a) Commercial development shall be limited to small-scale service and retail uses that contribute to the rural nature of the Plan area.
- b) Suitable setbacks or buffers shall be required to ensure compatibility with existing or proposed adjacent land uses.
- c) Major future public community amenities or facilities should be located at or in the vicinity of the Community Centre so as not to undermine its planned function.
- d) All new development or redevelopment of existing buildings and sites should comply with the County's Business, Commercial and Industrial Design Guidelines.
- e) The Community Hall and the Chapel shall continue as Institutional, Educational and Cultural District zoned parcels to serve the community.

## **7.6      Recreation**

The SMF area provides a number of recreational activities and opportunities. These activities range from active to passive recreational pursuits, some based on trails and others based on condominium resorts requiring servicing. Clearly, "recreation" can include uses which have varying degrees of intensity, impacts and infrastructure requirements.

The community has expressed a strong desire to limit recreational opportunities to passive recreational activities and a desire to restrict intensive uses which can negatively impact the functions and features of the Red Deer River, the Bearberry Creek, and Environmentally Significant Areas. As a result, the Plan designates Recreation areas, in Figure 8, near or adjacent to the Red Deer River and the Bearberry Creek.

### **7.6.1      Goals**

- a) To preserve and enhance the natural characteristics of the Red Deer River and the Bearberry Creek by allowing low impact recreational opportunities.
- b) To protect the river and creek corridors from inappropriate uses.

## **7.6.2      Objectives**

- a) To limit recreational opportunities.
- b) To direct recreational development in areas that will not negatively affect the Red Deer River or the Bearberry Creek.

## **7.6.3      Policies**

- a) Applications for expansion of existing approved campgrounds and recreational vehicle sites may be approved, subject to a Concept Plan, inclusive of community consultation, as defined in the MDP, and supportive studies.
- b) The Concept Plan and supportive studies shall meet Provincial standards, and requirements of County's Policies and the Land Use Bylaw, including but not limited to:
  - i. Servicing Study;
  - ii. Geotechnical Assessment;
  - iii. Biophysical Assessment;
  - iv. Environmental Site Assessment;
  - v. Traffic Impact Assessment;
  - vi. Stormwater Management Plan;
  - vii. Flood Risk Assessment;
  - viii. Ground Water Supply Evaluation;
  - ix. Septic Suitability Analysis;
  - x. Emergency Response Plan.
- c) New commercial recreational development including campgrounds, resorts, dude ranches with fixed roof accommodation, spas, golf courses and ancillary clubhouses and other forms of recreational operations that are operated for commercial gain may be supported within the Plan area.
- d) Notwithstanding Policy 7.7.3 c), future recreational opportunities involving the reclamation of gravel pits may be pursued where feasible.
- e) New low impact recreational opportunities may include uses without improvements, such as, but not limited to trails systems, dog-walking areas, trail riding, picnics and day use areas.
- f) New low impact recreational opportunities shall require Redesignation approval compliant with the Land Use Bylaw and the provisions of Section 8 of this Plan.
- g) Notwithstanding the above policies, a first parcel out subdivision application within the Recreation land use concept area, as shown in Figure 8, may be considered on a previously unsubdivided quarter section, in accordance with the MDP and compliant with Section 8 of this Plan.

## **8 Specific Policy Areas**

There are a number of planning and land use considerations that require specific policy direction. The policies of this section are intended to supplement the policy framework of Section 7 (Land Use Policy Areas).

### **8.1 Environmentally Significant Areas**

The protection and management of environmental resources is an important aspect to maintaining the Plan area's quality of life. Environmentally sensitive areas include watercourses, wetlands, woodlands, the Red Deer River and the Bearberry Creek corridors. The Red Deer River and the Bearberry Creek are watercourses that represent the area's most Environmentally Significant Areas (ESAs) and also the area's most significant natural amenities.

The policies in this Plan promote conservation measures to protect ESAs, to enhance the quality of life of the area's residents and to promote public safety.

#### **8.1.1 Goals**

- a) To protect ESAs and other sensitive features from inappropriate use.
- b) To limit development on identified ESAs in order to preserve the integrity of existing natural features.
- c) To create public awareness about protecting ESAs and other sensitive features.

#### **8.1.2 Policies**

- a) Natural sensitive areas identified on Figure 5: Environmentally Significant Areas may not be a complete representation of sensitive lands and features in the Plan area. MVC may determine upon review of an application for development, redesignation or subdivision proposal that a Biophysical Assessment or an Environmental Site Assessment may be required in support of an application.
- b) The Red Deer River and the Bearberry Creek corridors shall remain in their natural state. Any proposed future development in proximity to these corridors shall be setback sufficiently from these watercourses to avoid impact to the riparian areas. Applications shall demonstrate appropriateness, given the surrounding natural features.
- c) Environmentally significant lands should be protected, if necessary, via the dedication of land as Environmental Reserve, or via the registration of an Environmental Reserve Easement or Restrictive Covenant on the lands deemed to be environmentally significant, subject to the provisions of the Municipal Government Act as amended from time to time, and County's policy.
- d) When required, the width of an Environmental Reserve or Environmental Reserve Easement along the Red Deer River or the Bearberry Creek shall be no less than 20 m from the top of the bank, and no less than 10 m from the top of the bank for other streams and lakes within the Plan area. Larger dedications may be required by the County depending upon the nature and sensitivities of the shoreline area and banks and the scope and density of proposed uses.

- e) When required, an Environmental Reserve or Environmental Reserve Easement adjacent to a wetland shall be wide enough to preserve ecological functions but shall be no less than 6 m in width.
- f) Where a proposed subdivision or development is within a sensitive feature, the County may consider environmental protection measures and prescribe improvements upon the land as a condition of subdivision or development approval in accordance with County's policy.
- g) For subdivision and development applications in the locations that have a substantial portion of woodlands, the County shall encourage that Firesmart principles and fire prevention details are included as part of the application. In these areas, any approval of a development permit application shall encourage the implementation of Firesmart principles and fire prevention details.

## **8.2 Flood Hazard**

The Red Deer River and the Bearberry Creek are the main natural features in SMF that attract visitors to the area. However, throughout the years these two watercourses have experienced flooding that have caused injuries and damage to personal properties and County infrastructure.

In 2015, the Province finalized the McDougal Flats Flood Hazard Study, which identifies areas as Floodway and Flood Fringe, shown in Figure 6. The 2015 Provincial study is still in effect; however, it will change as the Province is working on a study called Upper Red Deer River Hazard Study. Once approved, the updated study will supersede the 2015 study.

Efforts should be made to minimize development in hazardous areas.

### **8.2.1 Objectives**

- a) To direct development in areas that will not negatively affect the river and creek corridors and are not in the flood hazard area or areas prone to flooding.

### **8.2.2 Policies**

- a) No development or subdivision proposals shall take place or be considered in areas identified as Floodway as shown in Figure 6 unless compliant with the regulations of the Land Use Bylaw.
- b) Subdivision proposals or development applications within the Flood Fringe as shown in Figure 6 may be considered, subject to, if required, by a Flood Risk Assessment.
- c) Development and subdivision shall be discouraged from hazards lands, those being:
  - i. Lands that are susceptible to erosion, subsidence or slumping; and
  - ii. Lands prone to flooding.
- d) Applications sited upon slopes of over 10% shall require a Geotechnical Assessment in accordance with County Policy, demonstrating stability and suitability of the land.
- e) Further studies may be required as part of any subdivision or development applications located within areas known to be hazard lands.

### **8.3 Natural Resource Extraction**

The jurisdiction over sand and gravel extraction operations is shared between the Province and County. Federal jurisdiction may even be involved in cases where fish and fish habitat may be affected.

The Provincial interest in non-renewable resources is expressed through general Land Use Policies developed in 1996 pursuant to the Municipal Government Act, as amended from time to time. The relevant policy framework is as follows:

- Municipalities are encouraged to establish land use patterns which accommodate natural resource extraction or harvesting and processing, while at the same time, minimizing potential conflict with nearby land uses and any negative environmental impact.
- Municipalities are encouraged to identify areas where the extraction of surface materials (e.g. sand and gravel) should be a primary land use.
- Municipalities are encouraged to direct subdivision and development activity so as not to constrain or conflict with non-renewable resource development.

In maintaining consistency with the Province's direction, MVC implemented general and specific policies within the MDP regarding planned extraction, buffering, agreements, and reclamation. Gravel pits are further regulated under the LUB, which take into consideration site and operating regulations. Operating regulations will further guide the Aggregate Extraction/Processing use through conditions. The guiding policy, in terms of planned extraction states:

*“Extraction of natural resources, particularly sand and gravel deposits, prior to the subdivision and/or development of the lands for other uses shall be encouraged.”*

It is well known that the SMF planning area has significant natural resources, particularly sand and gravel deposits, in addition to oil, gas and forest reserves.

There are a number of privately owned and County owned gravel pits operating in the area. Given the abundance of gravel underlying in SMF, it is acknowledged that there will likely be future interests by private landowners and other parties for natural resource extraction operations throughout the Plan area.

The Province, under the Code of Practice for Pits, permits and regulates gravel operations and may require additional approvals under other forms of legislation such as the Water Act, AEP, and others as required. Municipal jurisdiction over sand and gravel operations extends over the following matters: land use compatibility through statutory plans (MDP, ASP), the LUB, the development permitting process and subdivision process. Applications for land use change to Aggregate Extraction/Processing District, will be reviewed based on the merits, surrounding land uses and potential conflicts in alignment with the ASP vision.

There is jurisdictional overlap between a number of matters that must be addressed in a Natural Resource Extraction application. Therefore, it is essential that the authorization and permitting processes of both the Province and MVC operate in a harmonious and effective manner to the benefit of the operators, County, residents and all those affected by these projects.

Consistent with Provincial policy and the MDP, this ASP supports the extraction of gravel prior to development. However, applications for extraction shall be expected to be comprehensive in detail and include a thorough public consultation program that documents the process of addressing impacts and the public response.

### **8.3.1 Goals**

- a) To extract resources in an environmentally responsible manner that aligns with Provincial legislation and industry best practices.
- b) To recognize the importance of gravel to the County and Provincial economies.
- c) To recognize extraction as an interim land use requiring appropriate and timely reclamation to be done in phases.
- d) To mitigate any adverse effects that aggregate extraction may have on adjacent land uses.
- e) To manage the balance of aggregate extraction with all land uses within the Plan area.

### **8.3.2 Objectives**

- a) To ensure the public is privy to the final reclamation plans that are reviewed and approved by AEP, and to further encourage progressive reclamation of new gravel pits through phasing and open pit area conditions.
- b) To ensure that this type of industry is appropriate in the Plan area and provides a valuable contribution to the economic sustainability of the region.
- c) To ensure that resource extraction is contingent on the mitigation or minimalization of the adverse impact upon adjacent land uses and environmental constraints.

### **8.3.3 Policies**

- a) Natural Resource Extraction activities are considered an interim use rather than an ultimate or final land use within the Plan area.
- b) Extraction of natural resources, particularly sand and gravel deposits, prior to subdivision and development of the lands for other uses shall be encouraged.
- c) All new gravel pit extraction and expansions of existing gravel pits shall require redesignation approval to the appropriate district in compliance with the MDP and the LUB.
- d) Approvals from all government agencies must be obtained as required.
- e) The County will utilize and implement conditions at the development permit stage, in order, to minimize the impacts on adjacent developments, the South McDougal Flats community and the environment.
- f) To support progressive reclamation and reduce offsite impacts, all applications for new gravel pit or expanding gravel pits shall include a phasing plan and limit the disturbed area, excluding access roads, to maximum of 30.00 acres at any one time.
- g) A Comprehensive Site Development Plan is required to be submitted outlining all aspects of the operation as outlined in the LUB.

## **8.4 Supporting Services**

Although there is a sizable rural population residing in the Plan area, supporting services, including schools, health, protective and emergency services are located in and delivered out of nearby urban locations.

### **8.4.1 Goals**

- a) To ensure supporting services are available for new development.

### **8.4.2 Policies**

- a) In approving a subdivision, beyond the first parcel out, 10% of the area being subdivided into new parcels shall be required to be dedicated as Municipal Reserve lands. However, if site characteristics do not warrant the dedication of Municipal Reserve or there is an opportunity in the future to dedicate more suitable lands as Municipal Reserve from the balance of the parcel, then, the County may defer reserve dedication in whole or in part. If the County determines that the dedication of Municipal Reserve is not warranted, the County will require cash-in-lieu of municipal reserve.
- b) When Municipal Reserve lands are required as part of a subdivision, the design of a subdivision shall provide reserve lands that merit use as open space. Wherever possible, these lands should be located and aligned to provide continuity with existing or potential future municipal and environmental reserve lands or other forms of public open space in adjoining land.
- c) Within the Plan area, public recreation areas may be provided for day use activities, which may include but are not limited to sports fields, playground equipment, picnic sites and trails.

## **8.5 Cooperation with the Town of Sundre**

The Town of Sundre and MVC have agreed to undertake an Intermunicipal Development Plan (IDP) that addresses land use principles and policies affecting both jurisdictions.

The IDP forms the basis of cooperative effort between the Town and the County to work together to serve the needs of both communities.

SMF is adjacent to the Town of Sundre and there are 11 quarter sections (either partially or entirely) within SMF that are within the boundaries of the IDP. One of the purposes of the IDP is to protect the area surrounding the Town for future expansion.

### **8.5.1 Policies**

- a) Redesignation, subdivision and development applications within the 11 quarter sections identified in Figure 3 that are within this ASP and the IDP shall comply with the policies of this Plan and the IDP.
- b) The IDP policies, guide requirements for water and wastewater servicing, transportation systems, economic development and environmental consideration.

## **8.6 Roads and Utilities**

The main road network, Figure 7, in the Plan area consists of Highway 584 and Coalcamp Road on the western boundary. The remainder of the Plan area is served by a network of local roads. For the road network to continue to provide effective and safe access and egress, and thus contribute significantly to the life of the community, it is important that the road network is protected from undesirable encroachment and a multiplicity of accesses.

It is important for individual, family and community health, that each development is adequately serviced by water and sewer systems. To protect waterways, it is also important that stormwater management meets provincial standards.

### **8.6.1 Goals**

- a) To promote an effective and safe roadway network.
- b) To require appropriate setbacks from roadways.
- c) To require all development to provide water, sewer and stormwater management systems that meet county and provincial standards.
- d) To provide for development in a manner consistent with the sustainability of groundwater resources.

### **8.6.2 Policies**

- a) Internal subdivision roads shall be constructed in accordance with County Policy.
- b) Internal subdivision roads should be paved and provided at the developer's expense and the extent of paving shall be in accordance with County Policy.
- c) All new multi-lot development that requires access off a provincial highway shall develop the access to the standards of Alberta Transportation.
- d) The County may require a Traffic Impact Assessment, in accordance with provincial regulation, for any proposed subdivision or development application.
- e) A Stormwater Management Plan, prepared by a qualified professional engineer, in accordance with provincial regulation, may be required for all future subdivision and/or development in accordance with provincial regulations.
- f) The County may require grading plans and elevations to be registered on title through a restrictive covenant with the County prohibiting any development other than that which complies with the approved grading plans and elevations, in order to ensure proper post-development drainage of the site.
- g) Individual water well and private sewage treatment systems that meet provincial and municipal standards may be considered.
- h) The County shall not approve a development if the intended supply of water is groundwater and studies pursuant to the Water Act indicate the groundwater resources are insufficient or the use of groundwater may unduly impact groundwater users already in the area. However,

the County may approve the subdivision or development if hauling in potable water and a cistern or cisterns are to be used in place of or partially in place of groundwater.

## **8.7     Crown Lands**

Crown lands in SMF, as shown in Figure 2, are mostly within the Red Deer River corridor and subject to an ESA classification. These lands are very important for the amenity values they provide, including scenic treed highlands and slopes, streambank protection, habitat for wildlife and watershed conservation. However, these lands also are important to the agricultural industry for grazing. The use of these lands should be mostly limited to grazing and tree harvesting in accordance with the provincially approved timber harvesting plans. The County should initiate dialogue with the Province in an attempt to ensure consistency between the use and management of these lands and the County's Environmental Protection guidelines.

### **8.7.1     Goals**

- a) To liaise with Provincial Departments regarding the effective management and use of Crown land.

### **8.7.2     Policies**

- a) It is encouraged that grazing leases on Crown lands limit grazing to suitable lands such that steeper slopes along the Red Deer River remain wooded. Timber removal on grazing lease lands should be limited, particularly along ridgelines.
- b) Where Crown land forms part of or is adjacent to an ESA or sensitive feature, it is encouraged that any use of that Crown land should be undertaken in a manner that:
  - i.     Minimizes impacts on the lands;
  - ii.    Promotes continuity of woodland habitat; and
  - iii.   Protects site amenities, such as views, steep slopes and drainage courses.
- c) It is encouraged that any public recreation use on Crown land should be undertaken in accordance with the provincial rules and guidelines for public access onto Crown lands, including leased Crown land.

## **9      Administration**

### **9.1    Development Phasing**

The MGA requires that ASPs must describe the sequence of development. Development phasing or the sequence of development will be considered on an application basis within a particular policy area.

### **9.2    Monitoring and Review**

The effectiveness and the continued relevance of this Plan will be reviewed from time to time because factors affecting land use, development, servicing availability, farming and natural resource use are dynamic.

- a) The County shall monitor the effectiveness of this plan:
  - i. as the Plan's policies are applied in processing proposed applications to redesignate, subdivide and develop land; and
  - ii. in communications with other authorities and community groups in dealing with matters of common interest that affect the Plan area.
- b) The County should review this Plan in its entirety every eight to ten years.
- c) Between major reviews, the County shall monitor the rate and form of land use change in the Plan area. In the opinion of Council, if the rate and form of growth seems to exceed or lag behind that of the planning direction for the South McDougal Flats area, Council may initiate an amendment to the Area Structure Plan that would result in the desired effect.

### **9.3    Plan Amendment**

Because of the dynamics of social and economic change, it may be necessary from time to time to consider changes to the South McDougal Flats Area Structure Plan.

- a) The Council of Mountain View County or a person or persons having an interest in land in the Plan area may initiate an amendment to the South McDougal Flats Area Structure Plan.
- b) If an amendment is initiated by a person or persons having an interest in the Plan area, prior to commencement of the bylaw amendment process, the County may require the initiator to support the proposed amendment with a report or reports and other background information.
- c) The process to consider a proposed amendment to the Plan shall be in accordance with the process required in the Municipal Government Act and County policies.

### **9.4    Plan Interpretation**

When interpreting the policies of this plan, use of the words, "shall", "should", and "may" will have the following meaning:

"shall"	is an operative word which means the action is mandatory;
"should"	is an operative word which means that in order to achieve the Plan's objectives, it is strongly advised that the action be taken; and
"may"	is an operative word which means that there is a choice, with no particular direction or guidance intended.

## **Glossary of Terms**

The definitions of these terms are intended to provide a better understanding of the context in which the term is used within this Area Structure Plan. Not all terms used within this Area Structure Plan are defined below. This glossary should be read in conjunction with the glossary of the Municipal Development Plan.

### **Buffering**

An area within a property or site, generally adjacent to and parallel with the property line, either consisting of existing natural vegetation or created by the use of trees, shrubs, and/or fences which is designed to limit views and sound from affecting the development tract adjacent to property and vice versa.

### **Cash-in-Lieu**

This term refers to the contribution of money to the Municipal Reserve (MR) fund equivalent to the market value of the land required to meet the 10% Municipal Reserve dedication requirements under the Municipal Government Act; the acceptance of the contribution of cash-in-lieu of land dedication is at the discretion of Council.

### **Community Centre**

This is an area or meeting place used by members of the community for social, cultural, or recreational purposes. For the purposes of this ASP, the community centre does not refer to a single building but rather a collection of buildings, places and spaces located within a mixed-use node.

### **Concept Plan**

Interchangeable with term outline plan which refers to a plan, may be adopted by resolution that relates to a proposed development and its relationship to existing and/or future development of adjacent lands. All Concept Plans may include the following information:

- 1) Existing situation – A baseline description of the following matters and an evaluation of the potential impacts on the proposed development:
  - a) Existing land use, ownership and development;
  - b) Topography geotechnical, hydrological, hazard and/or environmental conditions that characterized the area;
  - c) Existing servicing agreements, utilities, and transportation routes;
  - d) Any other matters that Municipality requires to be investigated.
- 2) Local Development Matters – A description and evaluation of the following matters describing the proposed development within the concept plan area:
  - a) The proposed uses of lands within the concept plan area;
  - b) The proposed parcel size and density for the concept plan area;
  - c) The proposed internal road hierarchy and its impacts on the Provincial and Municipal road networks;

- d) Reserve dedication strategy and environmental protection measures;
- e) Proposed servicing agreements; and
- f) Any other matter the Municipality requires to be investigated.

Based on the scope and intensity of development proposed, Concept Plans may require the provision of supportive reports and/or studies completed by a qualified professional including but not limited to: servicing study, geotechnical assessment, traffic impact assessment, stormwater management plan, biophysical assessment and preliminary engineering plans and specifications. Concept plans shall be prepared in accordance with approved County policy.

### **Conservation Design**

A density neutral system that takes into account the natural landscape and ecology of a development site and facilitates development while maintaining the most valuable natural features and functions of the site. One objective of this design approach is protecting the essential physical, chemical, and biological characteristics of the environment against degradation.

### **Contiguous**

The development of areas immediately adjacent to one another without intervening vacant land or undevelopable lands.

### **Density**

A measure of the number of units (lots, dwellings, people, etc.) within a specified area. This ASP often refers to density expressed as lots or parcels per quarter section.

### **Discretionary use**

Refers to a land use or building provided for in a land use bylaw that may or may not be permitted, subject to the discretion of the approving authority.

### **Environmentally Significant Lands**

Natural areas identified by either the Province or Mountain View County Policy 6009 as approved and amended by Council from time to time, which because of its features or characteristics, are significant to the County or Province from an environmental perspective, and which have the potential to remain viable.

### **Ecologically sensitive area**

Areas whose ecological function and integrity are, or may be, valuable to certain land uses. These may include Environmentally Significant Areas (ESAs), riparian areas, vegetated areas, or areas with steep slopes.

### **Floodway**

The portion of the Flood Hazard Area where flows are deepest, fastest and most destructive. The Floodway typically includes the main channel of a stream and a portion of the adjacent overbank area. The Floodway is required to convey the design flood.

### **Flood, Design**

The current design standard in Alberta that is the one percent flood, defined as a flood whose magnitude has a one percent chance of being equaled or exceeding in any year. Although it can be referenced to as a 100-year flood, this does not mean that it will occur once every hundred years.

### **Flood Fringe**

The portion of the Flood Hazard Area outside of the Floodway. Water in the Flood Fringe is generally shallower and flows more slowly than in the Floodway.

### **Flood Hazard Area**

The area of land bordering a water course or water body that would be affected by the 1 in 100 year design flood (a flood that has a 1% chance of occurring every year) under encroachment conditions. The Flood Hazard Area includes the Floodway and Flood Fringe and may include areas of overland flow.

### **Groundwater**

Water found beneath the surface of the earth. The depth at which soil pore spaces and fractures or voids in rock become saturated is known as the water table. Groundwater is naturally recharged through precipitation and infiltrated (and is therefore affected by the permeability of surface materials), and can be withdrawn for agricultural, industrial or municipal uses (and is therefore affected by settlement density and wells).

### **Growth Centre**

This refers to areas more suitable for future development including higher density residential, commercial and industrial uses.

### **Hazard Land**

Lands which may be prone to flooding, shoreline erosion or slope instability hazards or any hazard that may result in loss of life or injury, property damage, social and economic disruption or environmental degradation and lands in proximity to water bodies and water courses with slopes greater than 10%.

### **Intensification**

This term refers to a process of adding new development elements to an area by building on vacant lots and/or redeveloping existing lots and/or buildings.

### **Land Subdivision**

Subdivision is the legal division of a single parcel of land into two or more smaller parcels. By subdividing land, each parcel created is given a separate land title. Prior to being registered with Alberta Land Titles, each subdivision must receive subdivision approval from the County.

### **Municipal reserve**

With the approval of a subdivision application, the County is entitled up to 10% of the land being subdivided for municipal purpose (parks, schools, etc.) if for some reason, reserve land is not required, the County can take cash-in-lieu of the land.

### **Permitted use**

Land use or buildings that are not provided for in the Land Use Bylaw and that shall be approved.

### **Riparian area**

Area adjacent to a watercourse or water body, typically with unique ecosystems that occur in transitional areas between the terrestrial (dry) and aquatic (wet) ecosystems. They include Flood Hazard Areas, areas prone to flooding, streambanks, lakeshores and wetlands and may exist within any land use area. They are typically more productive in terms of plant and animal species, diversity and biomass, than upland area and often function as wildlife movement corridors.

### **Riparian buffer**

The area on either side of a water course or water body in which land use and development are highly controlled in order to protect the ecological function. According to the Alberta Fish and Game Association, 30 meters on either side of a water course or water body is normally adequate for nutrient, metal and chemical removal, however 100 meters is ideal for wildlife corridors and water/snow infiltration, and 200 meters are preferable for sediment removal and erosion control. Mountain View County currently requires dedication of a minimum of six meters Environmental Reserve and/or Environmental Easement from the surveyed top of bank at the time of subdivision.

### **Steep slopes**

A slope in excess of 10% is considered to be the threshold above which construction, drainage, layout of utilities, etc. are more complex and more expensive, and where erosion potential is increased. Mountain View County currently requires that development on slopes of 10% or more may require a geotechnical report.

### **Surface water**

Water collecting on the ground in the form of water courses (stream, rivers, etc.) water bodies (lakes, ponds, etc.) or wetlands (land whose soil is permanently or seasonally saturated with moisture, and which may be partially or completely covered by water, including swamps, marshes, bogs, sloughs, etc.). These features are important as sources of freshwater and as ecosystems containing often diverse plant and animal life.

### **Wetlands**

Areas that are inundated or saturated by surface water or ground water at a frequency and duration sufficient to support vegetation that is adapted for life in saturated soil conditions. Wetlands are protected through a variety of federal and other regulations.

### **Wildlife corridor**

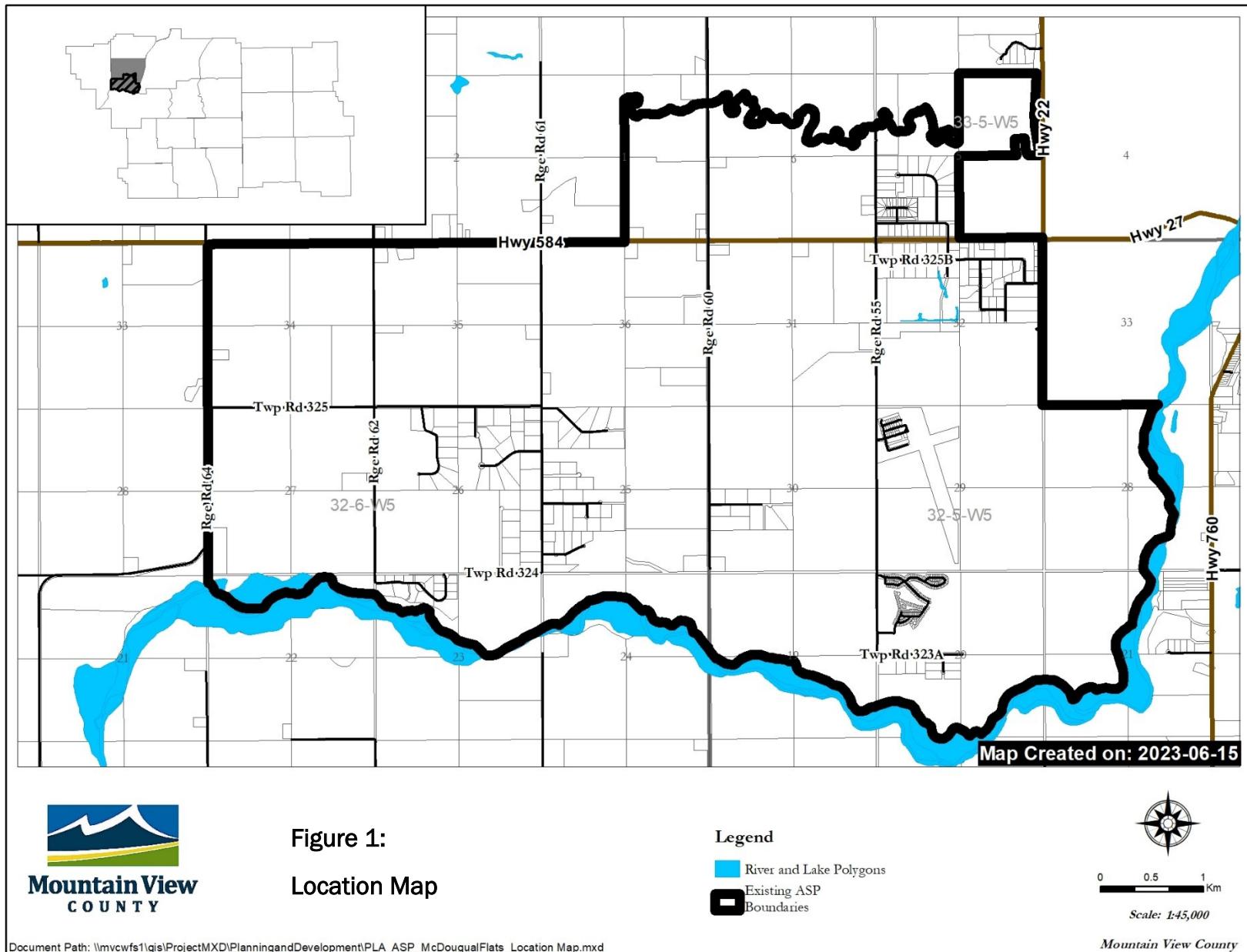
An area or habitat that allows movement of various species between areas of human habitation. It is desirable to avoid fragmentation of patches, so that continuous corridors for wildlife movement can be maintained.

## **List of Acronyms**

ASP:	Area Structure Plan
AT:	Alberta Transportation
CFO:	Confined Feeding Operation
ESA:	Environmentally Significant Area
IDP:	Intermunicipal Development Plan
LUB:	Land Use Bylaw
MDP:	Municipal Development Plan
MGA:	Municipal Government Act
MR:	Municipal Reserve
MVC:	Mountain View County
SMF:	South McDougal Flats
TC:	Transport Canada

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- Figure 4: Existing Land Use Zoning
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- Figure 6: Floodway & Flood Fringe
- Figure 7: Roads
- Figure 8: Land Use Concept

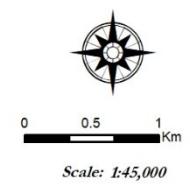




**Figure 2:**  
Land Ownership

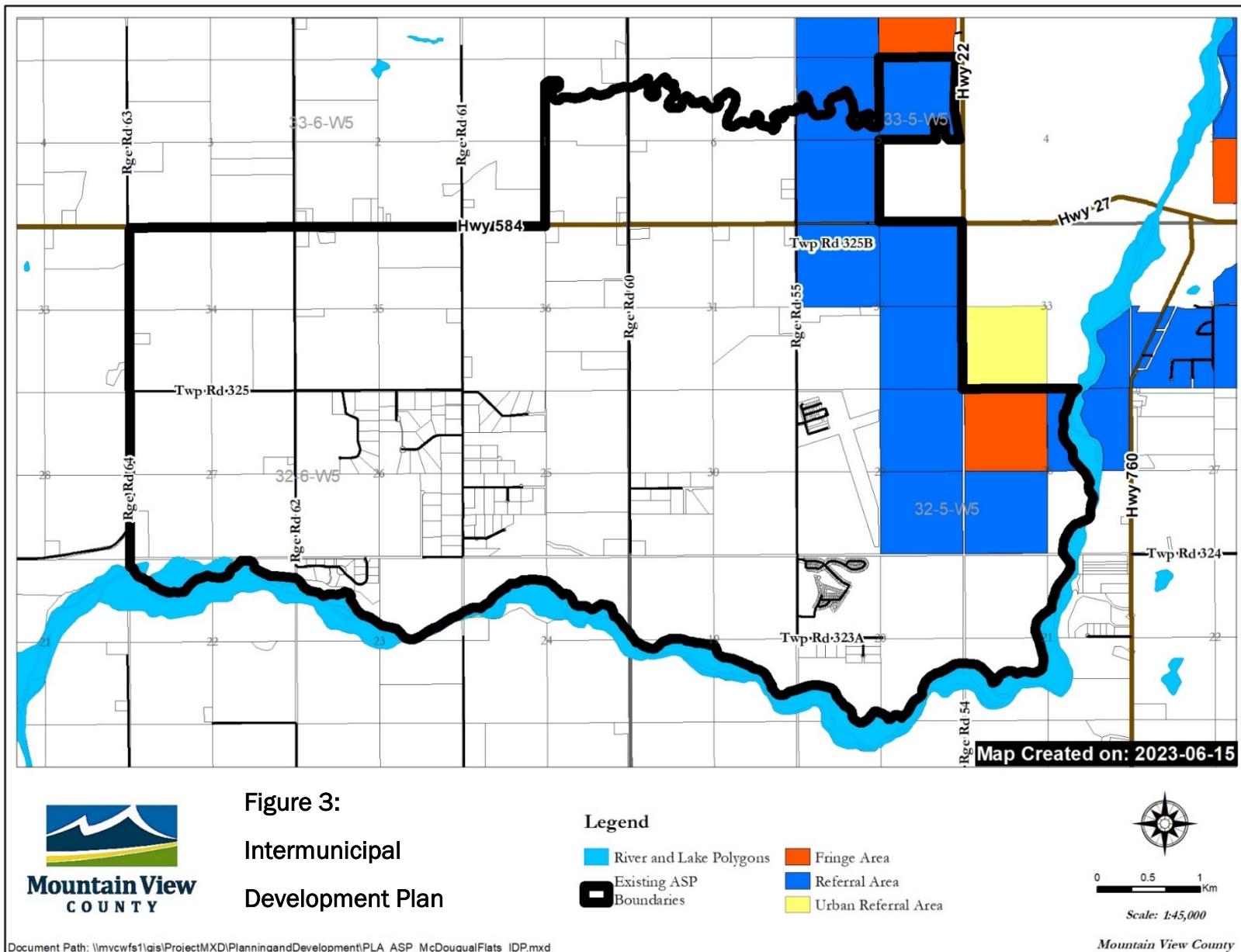
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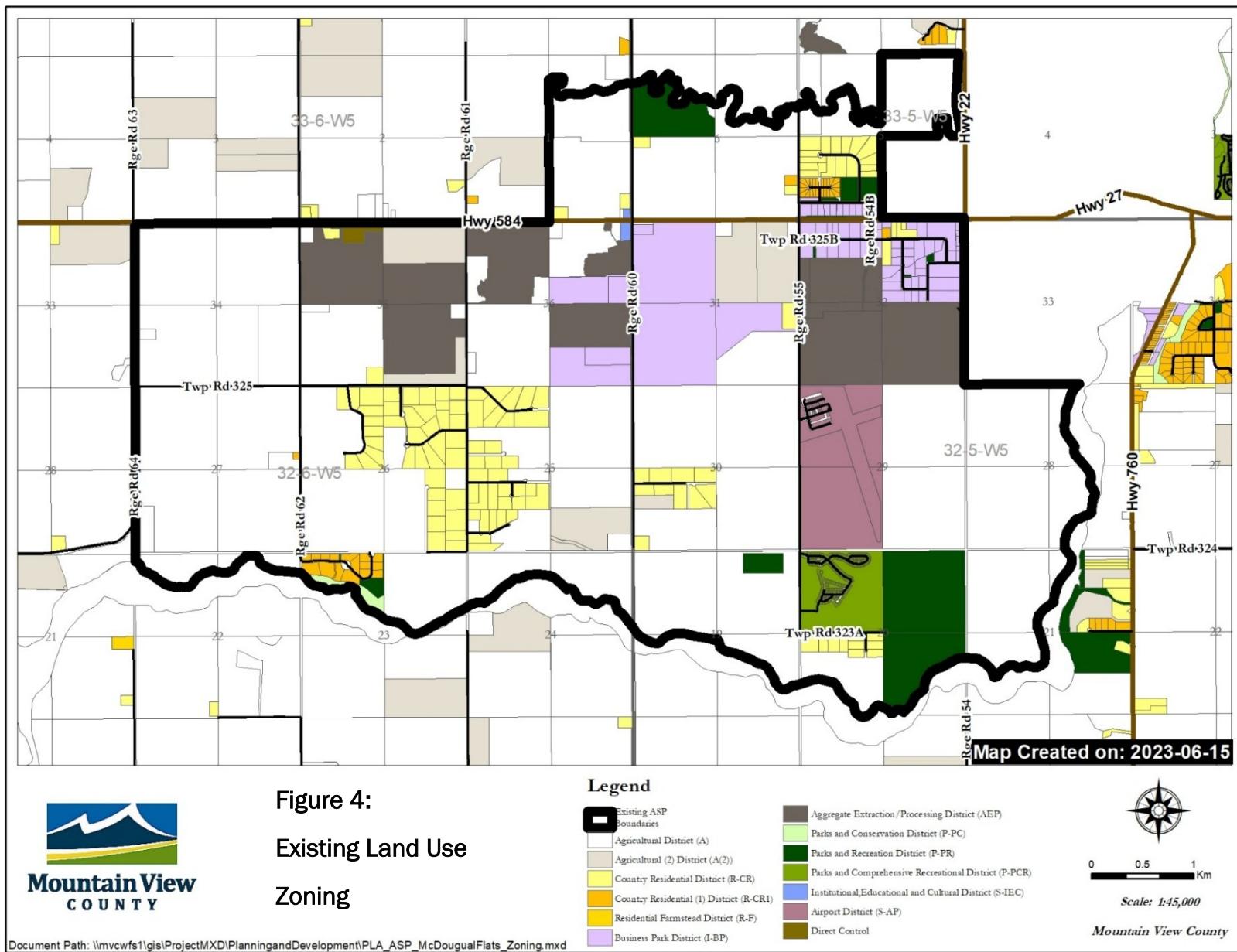
- River and Lake Polygons
- Roads
- Highway
- Existing ASP Boundaries
- Crown Land (Prov. and Fed)
- County Land



Mountain View County

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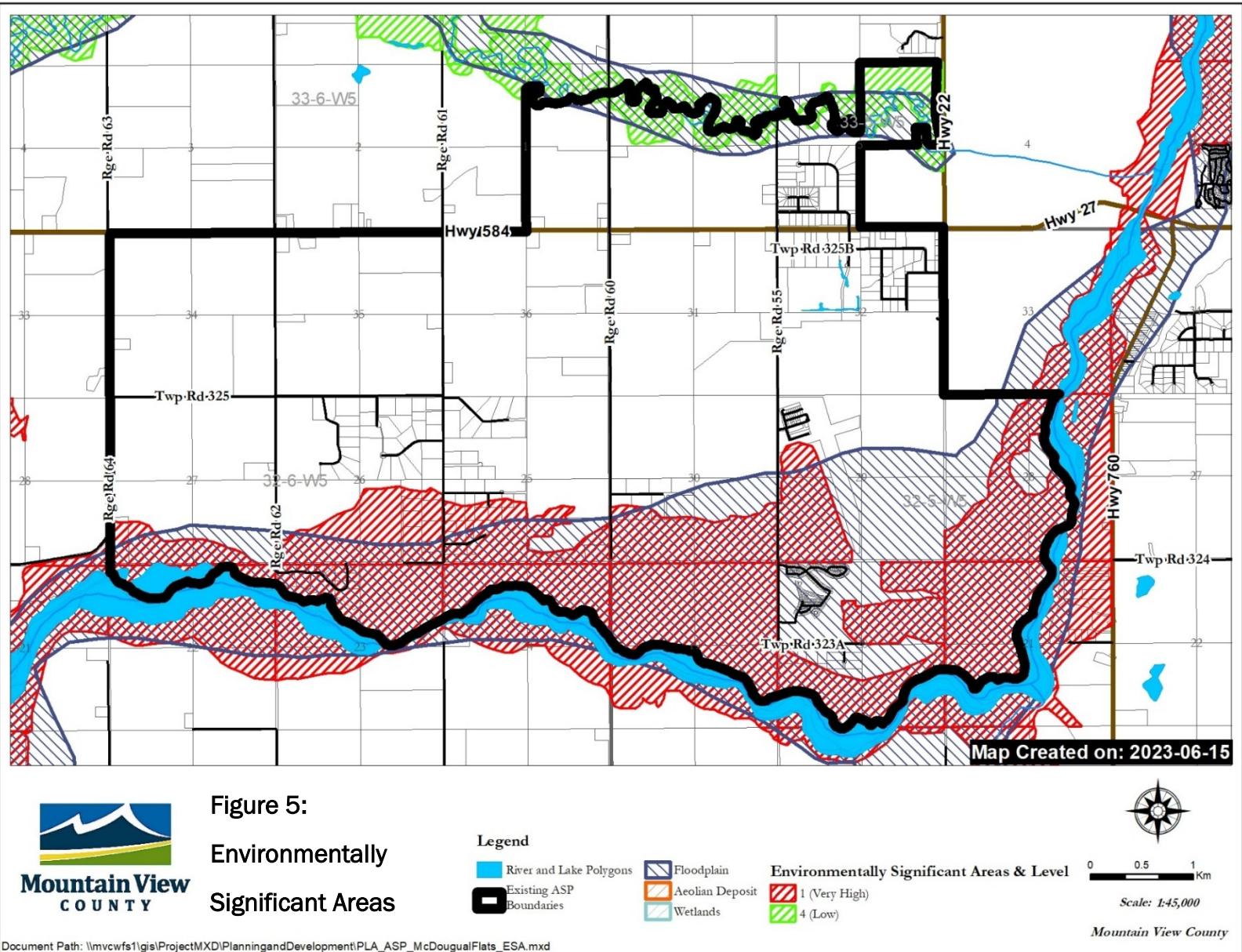
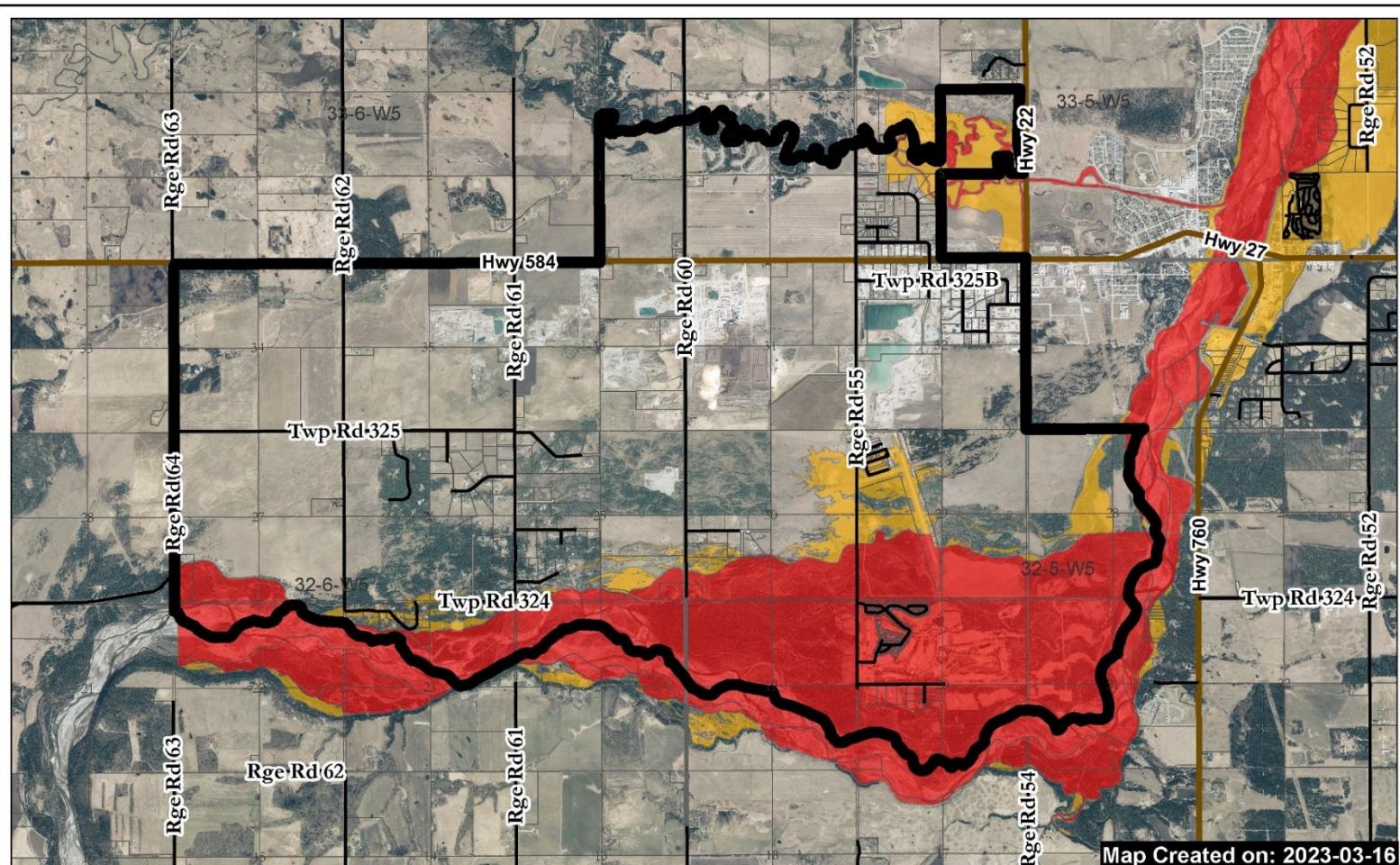


Figure 5:  
Environmentally  
Significant Areas



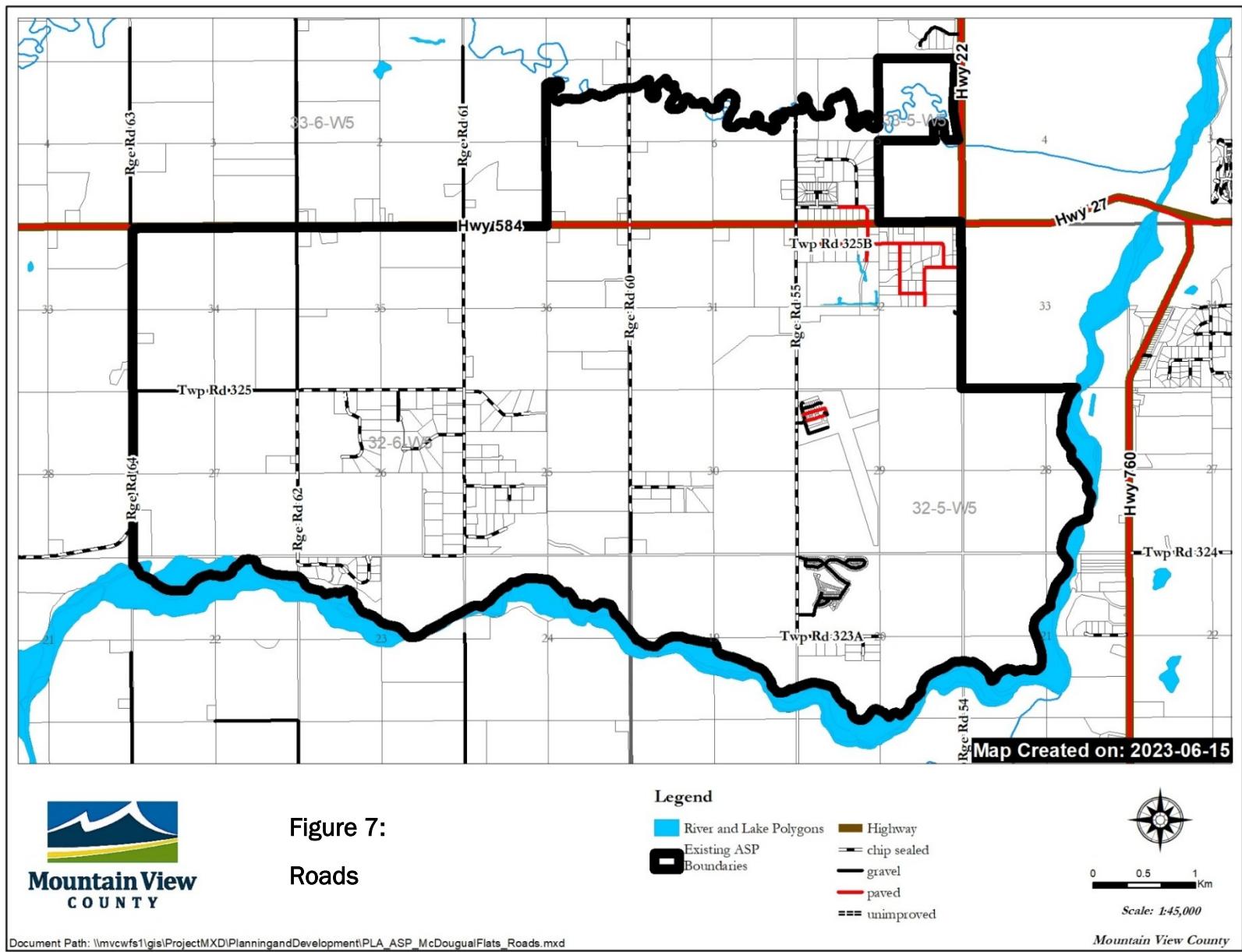
**Figure 6:**  
**Floodway & Flood Fringe**

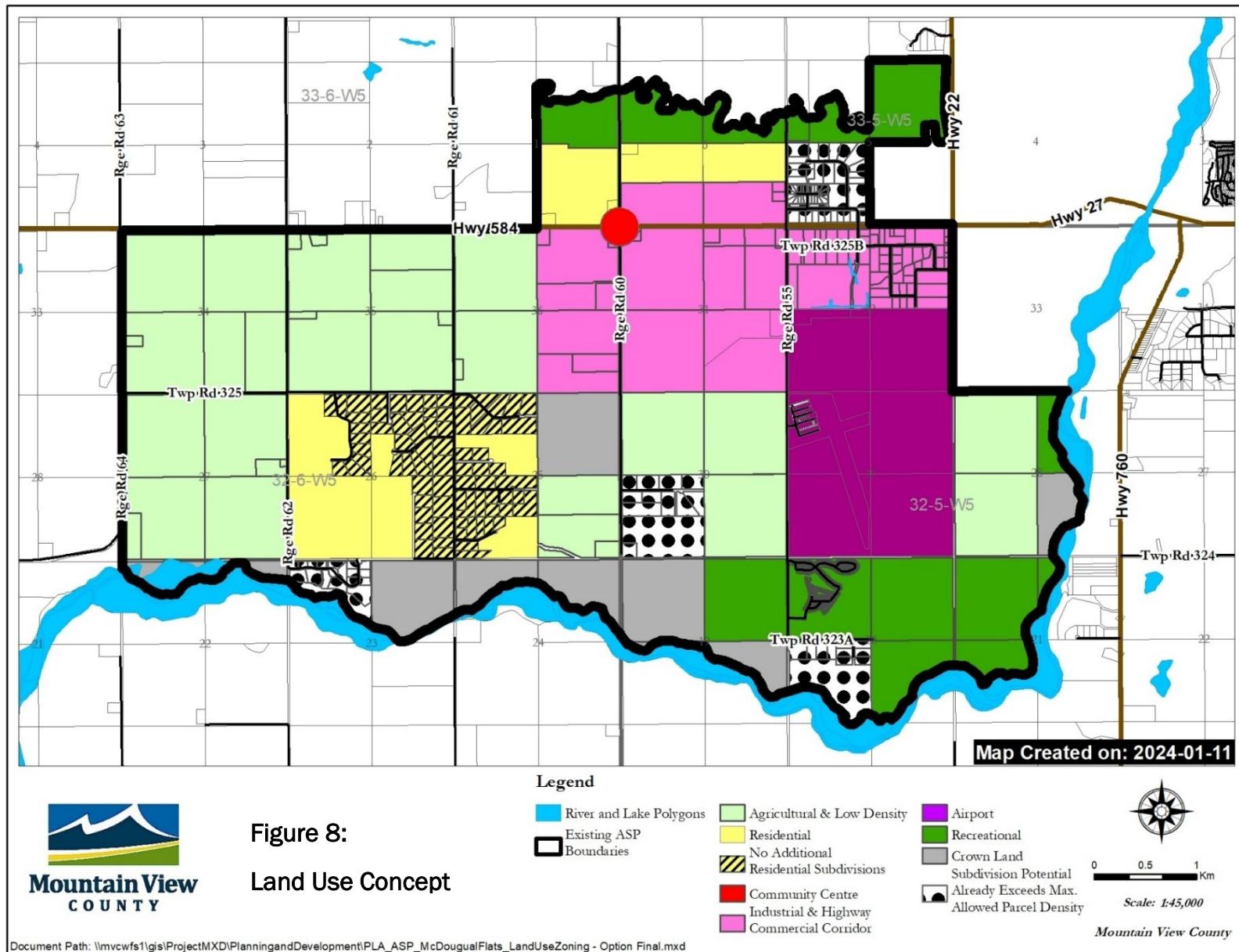
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**Legend**

- Existing ASP Boundaries
- Floodway
- Flood Fringe

0 0.5 1 Km  
Scale: 1:50,000  
Mountain View County







**Mountain View  
C O U N T Y**



## SUNDRE AIRPORT CONCEPT PLAN

Schedule “B”

## ACKNOWLEDGEMENTS

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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
Skyler Duncan	Member at Large
Les Volk	Member at Large
Mayor Richard Warnock	Town of Sundre Mayor
Reeve Angela Aalbers	Mountain View County - Division 5
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Appendix D Sundre Airport Aerodrome Protection Zone Overlay

Appendix E Noise Exposure Projection Contours Report from HM Aero

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## **1.0 INTRODUCTION**

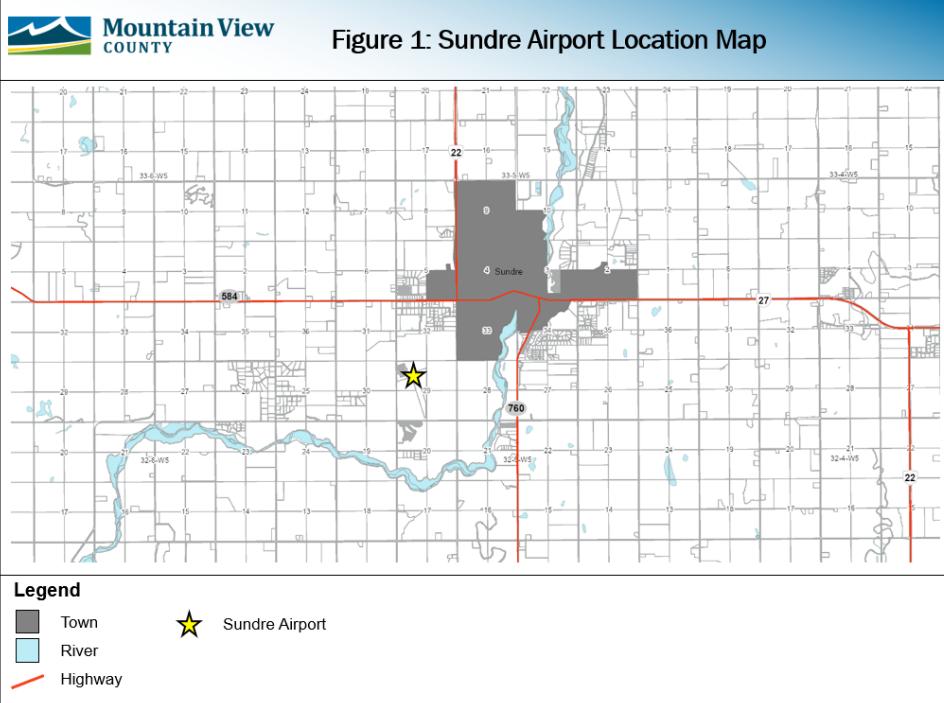
The Sundre Airport Concept Plan has been created to provide guidance on the airport's future growth while identifying compatible surrounding land uses and developments. The plan encompasses six quarter sections: one surrounds the airport's hangars and runways, one contains a portion of a runway but is 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 Location	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 JURISDICTION 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.

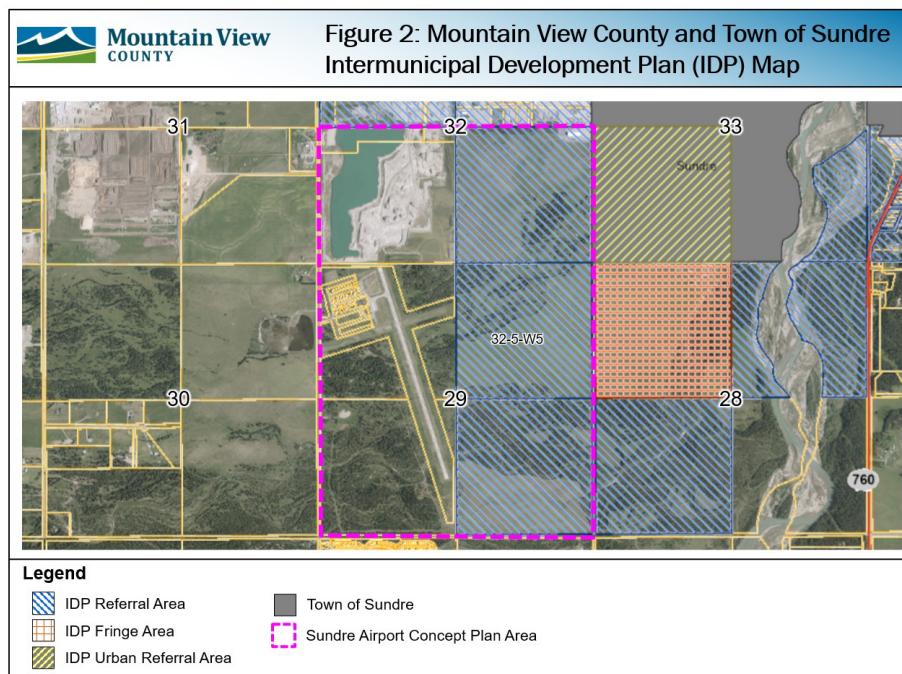
## 2.2 MUNICIPAL POLICIES

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.



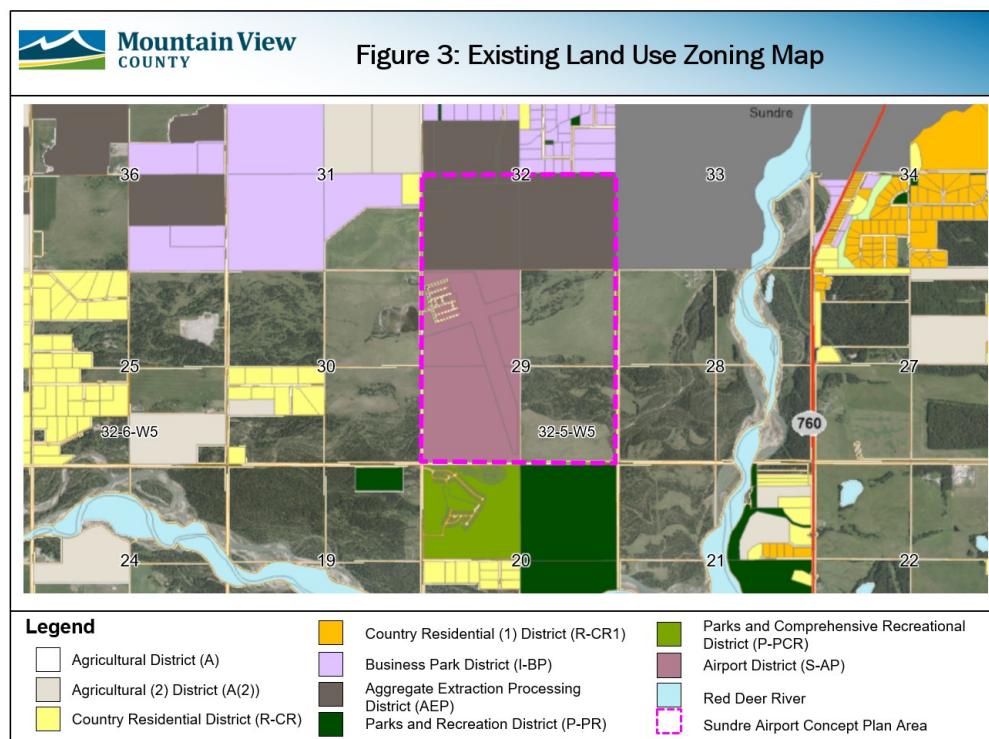
## 2.2.2 Land Use Bylaw (LUB)

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.



### 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.



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

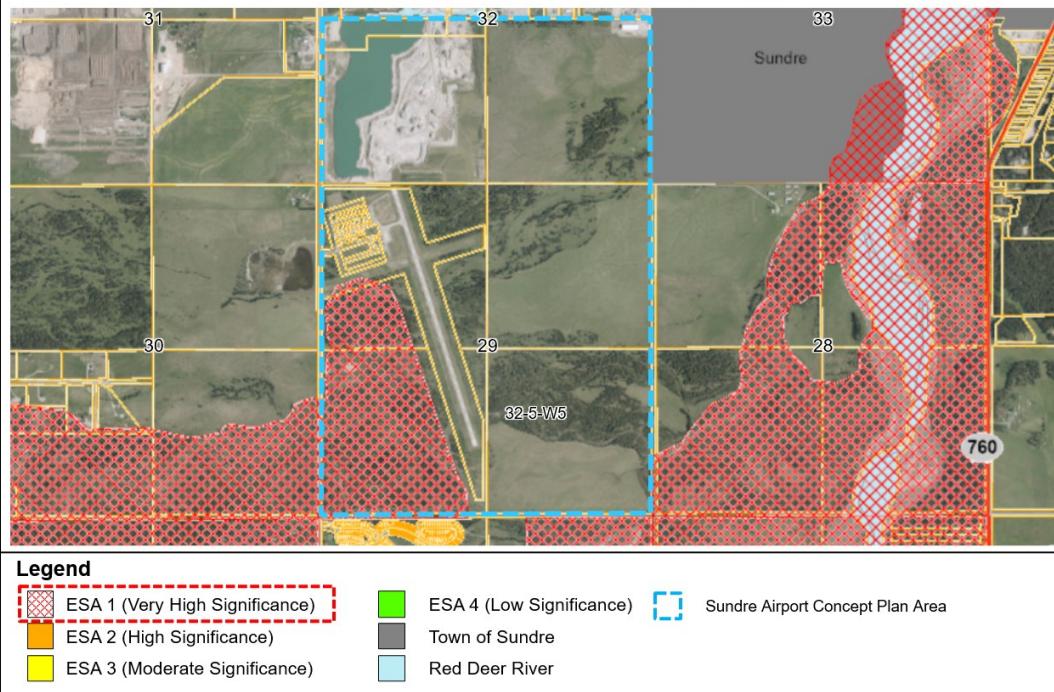
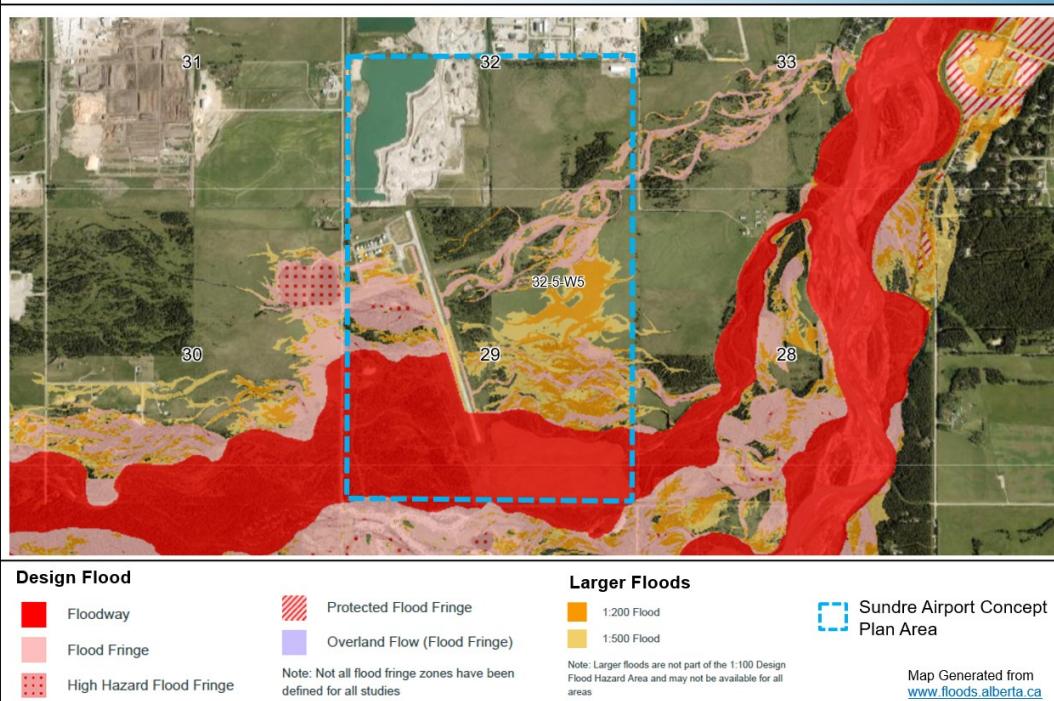


Figure 5: Red Deer River Flood Hazard Map  
(AEP, 2024)



### **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 55 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 (HEREAFTER, "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.

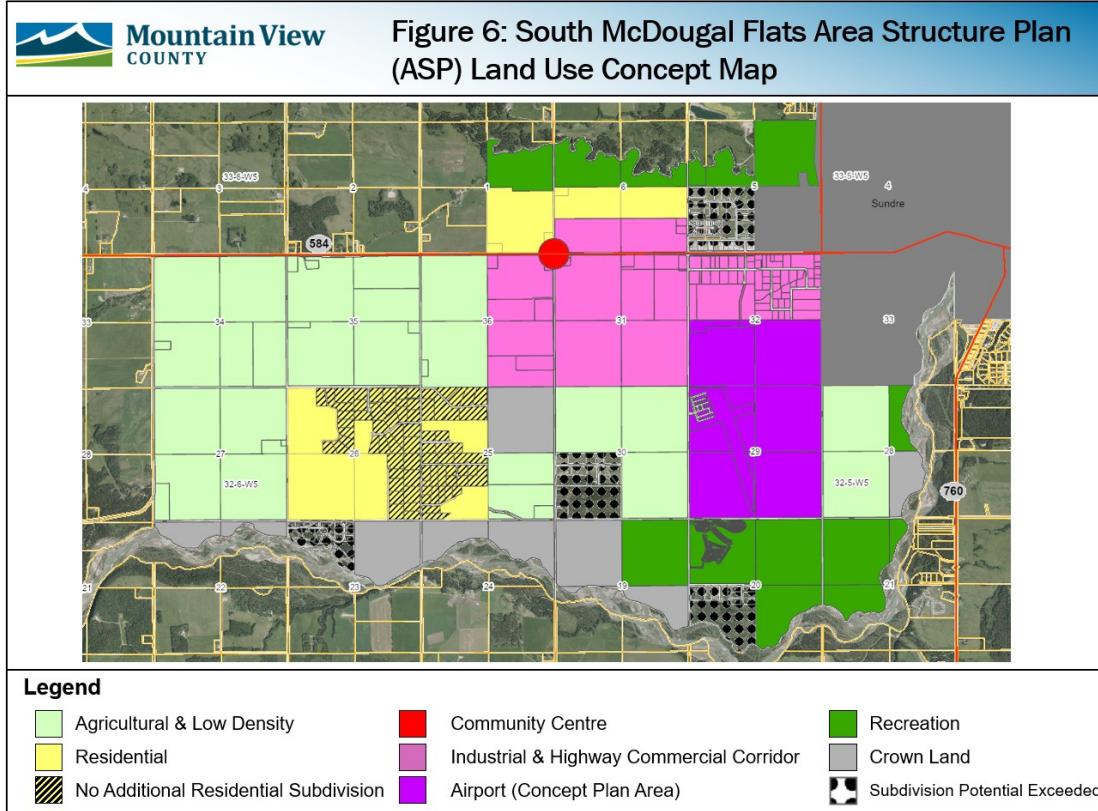
## **5.6 SW 32-32-5-5 LANDS NORTH OF THE SUNDRE AIRPORT (HEREAFTER “THE QUARTER SECTION”)**

- 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.

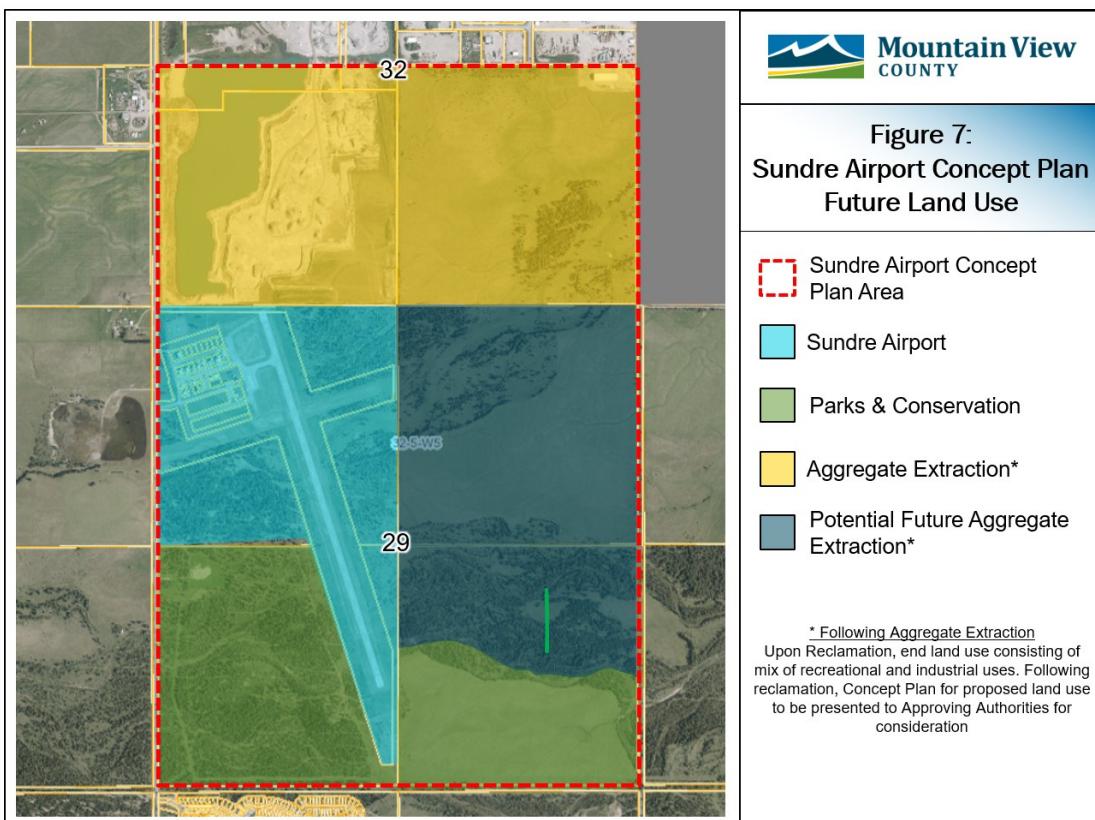
**Figure 6: South McDougal Flats Area Structure Plan (ASP) Land Use Concept Map**

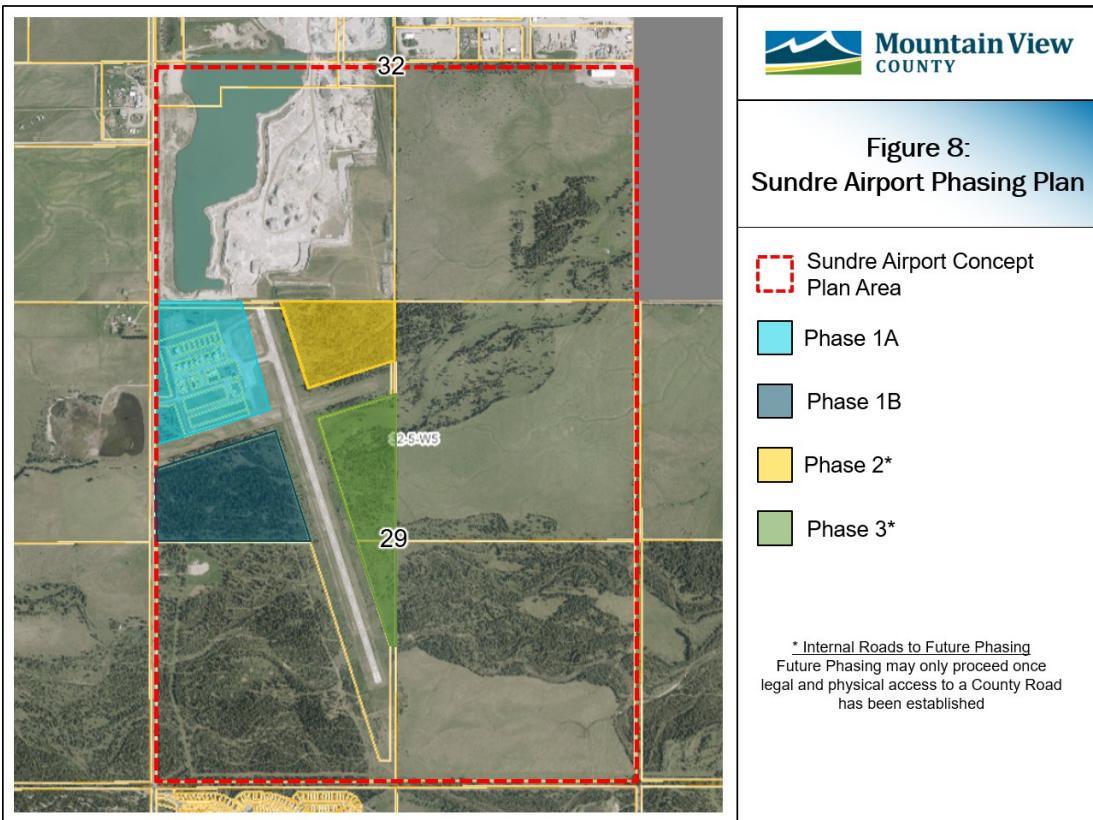


**Legend**

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

**Figure 7:  
Sundre Airport Concept Plan  
Future Land Use**





**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.

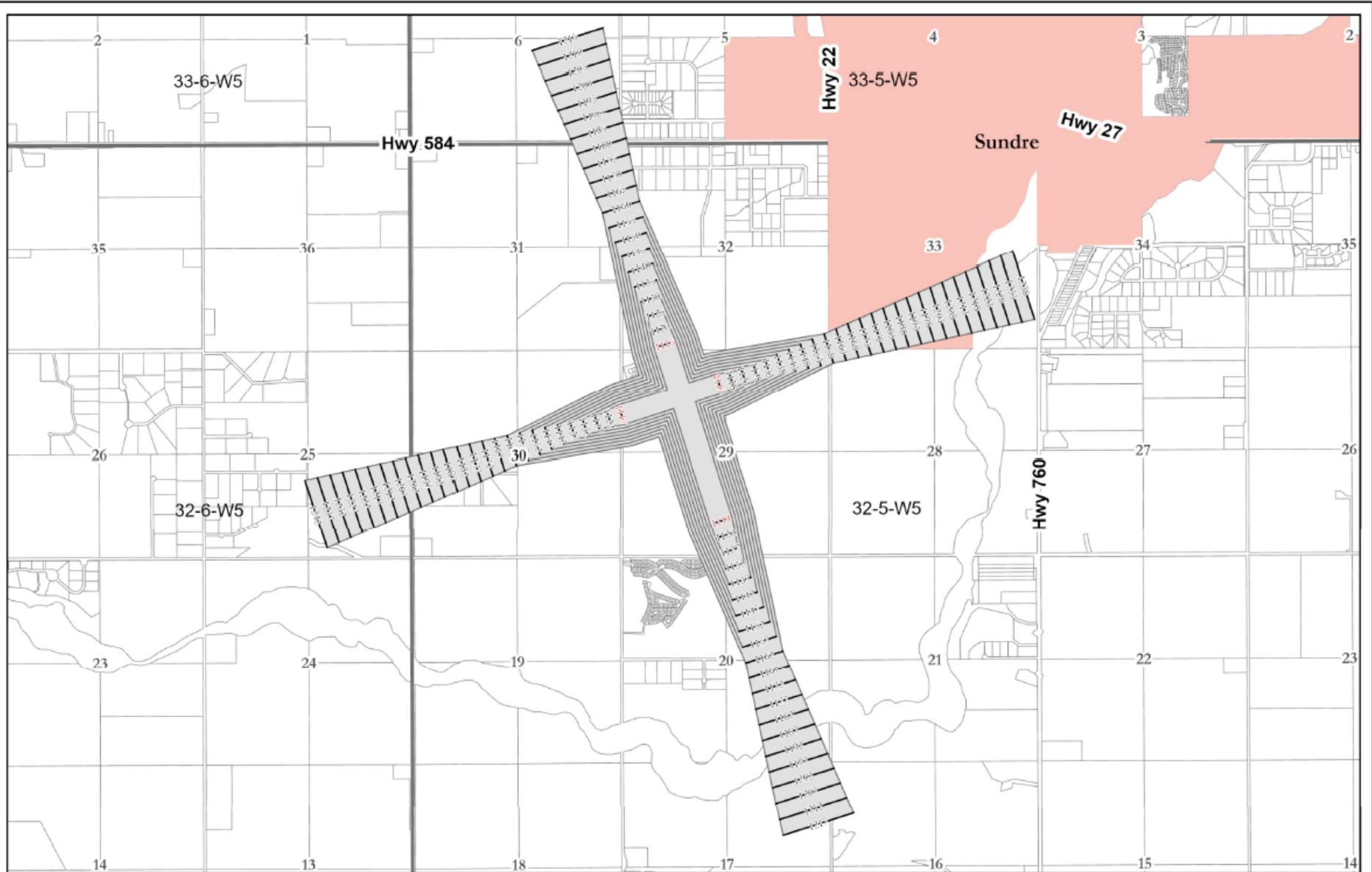
**Runway:** defined rectangular area located on a land aerodrome and prepared for the landing and takeoff runs of aircraft along its length. (Abbreviation: RWY) (TC, 2020).

**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**



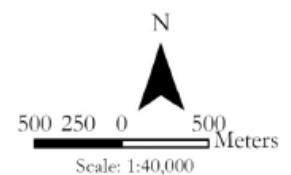
## Sundre Airport Height Limitations Map

**Legend**

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

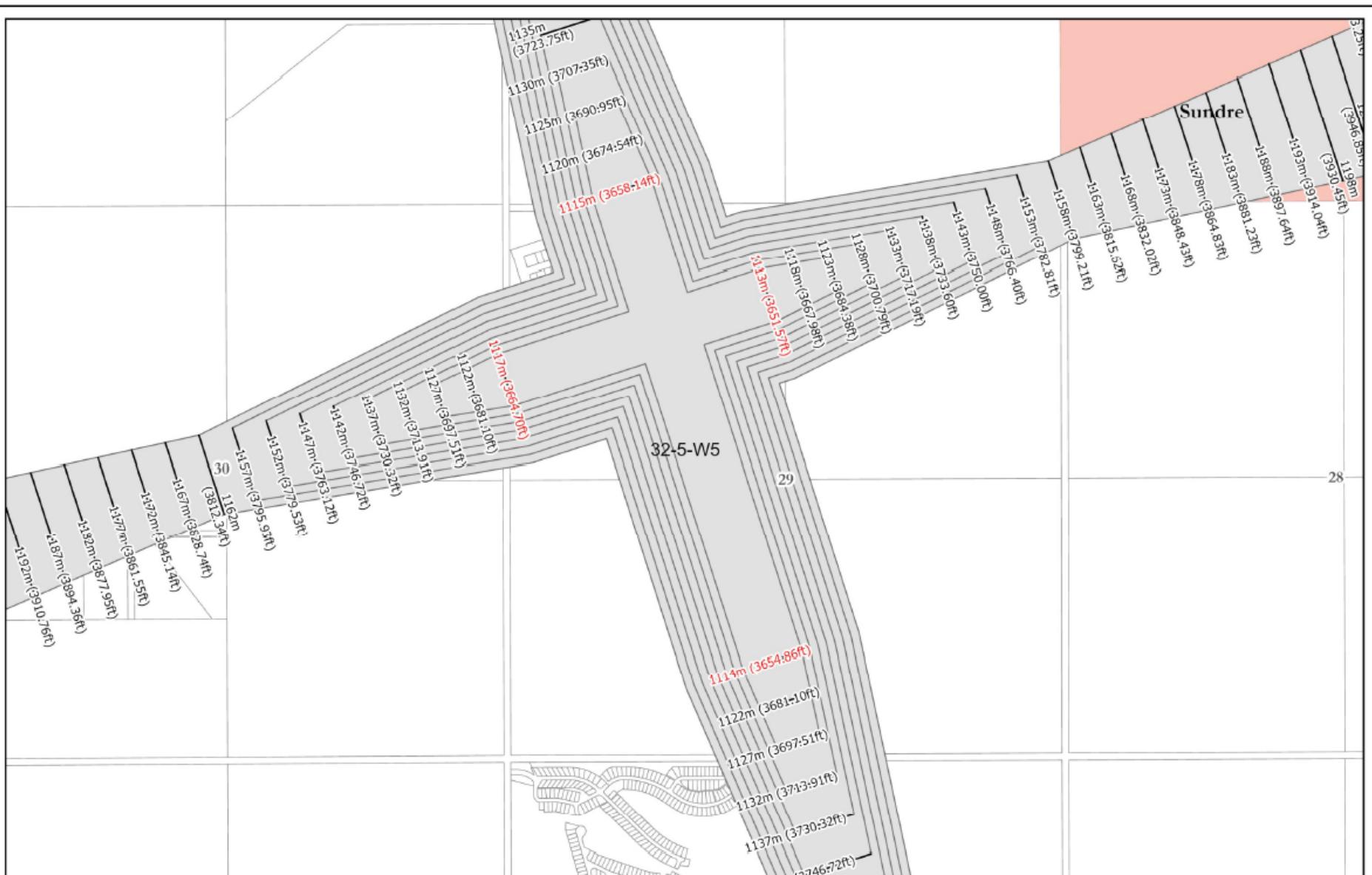
End of Runway Elevation (Red)

Elevation (Black)



Map Created on: 7/2/2025

Mountain View County



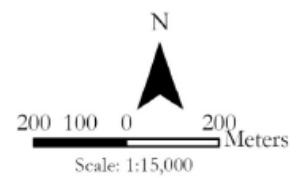
## Sundre Airport Height Limitations Map Close-Up View

### Legend

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

**End of Runway Elevation (Red)**

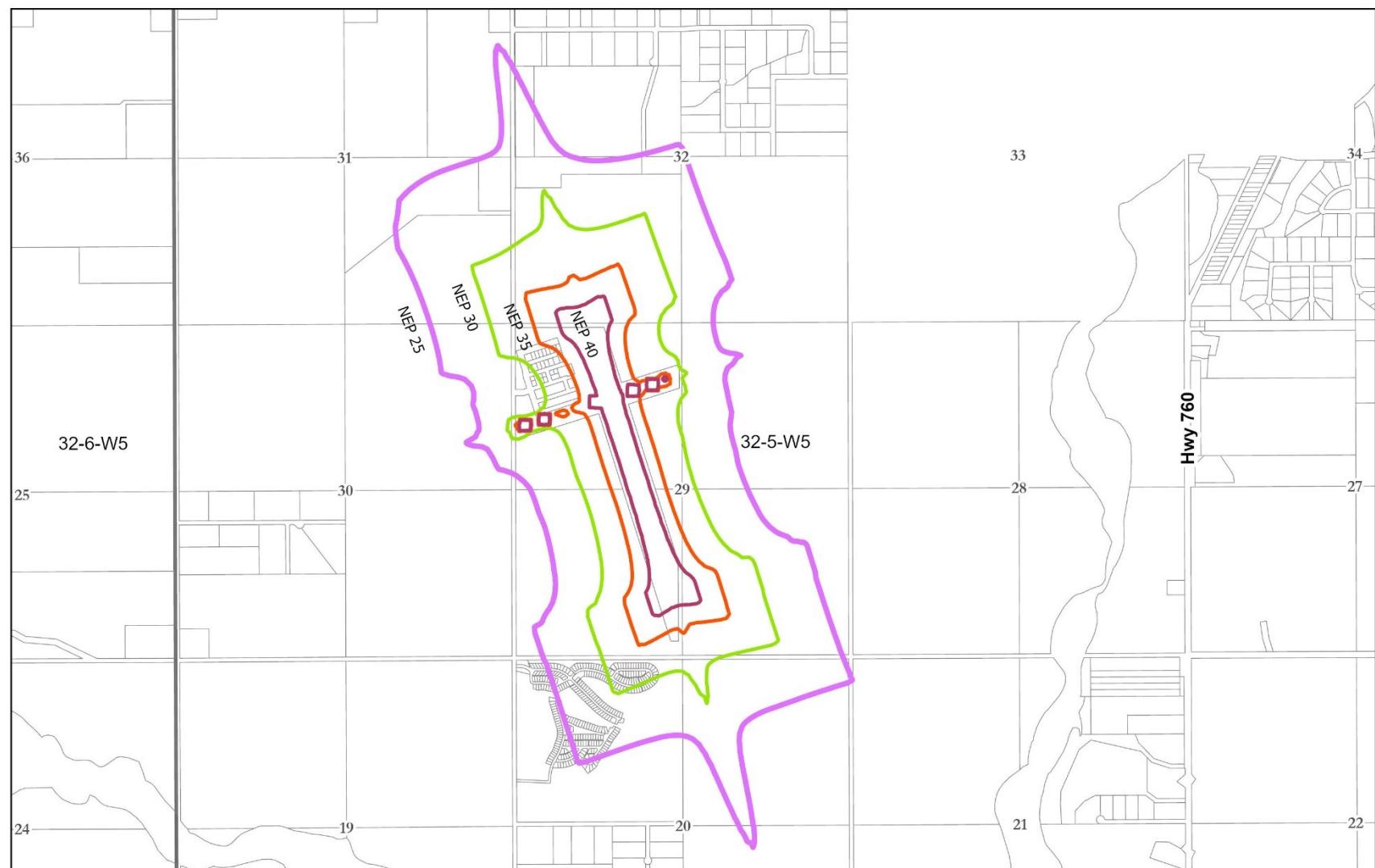
Elevation (Black)



Map Created on: 7/2/2025

Mountain View County

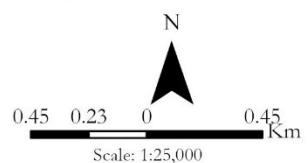
**APPENDIX C NOISE EXPOSURE PROJECTION (NEP) CONTOURS MAP**



### Sundre Airport Noise Exposure Projection (NEP) Contours Map

#### Legend

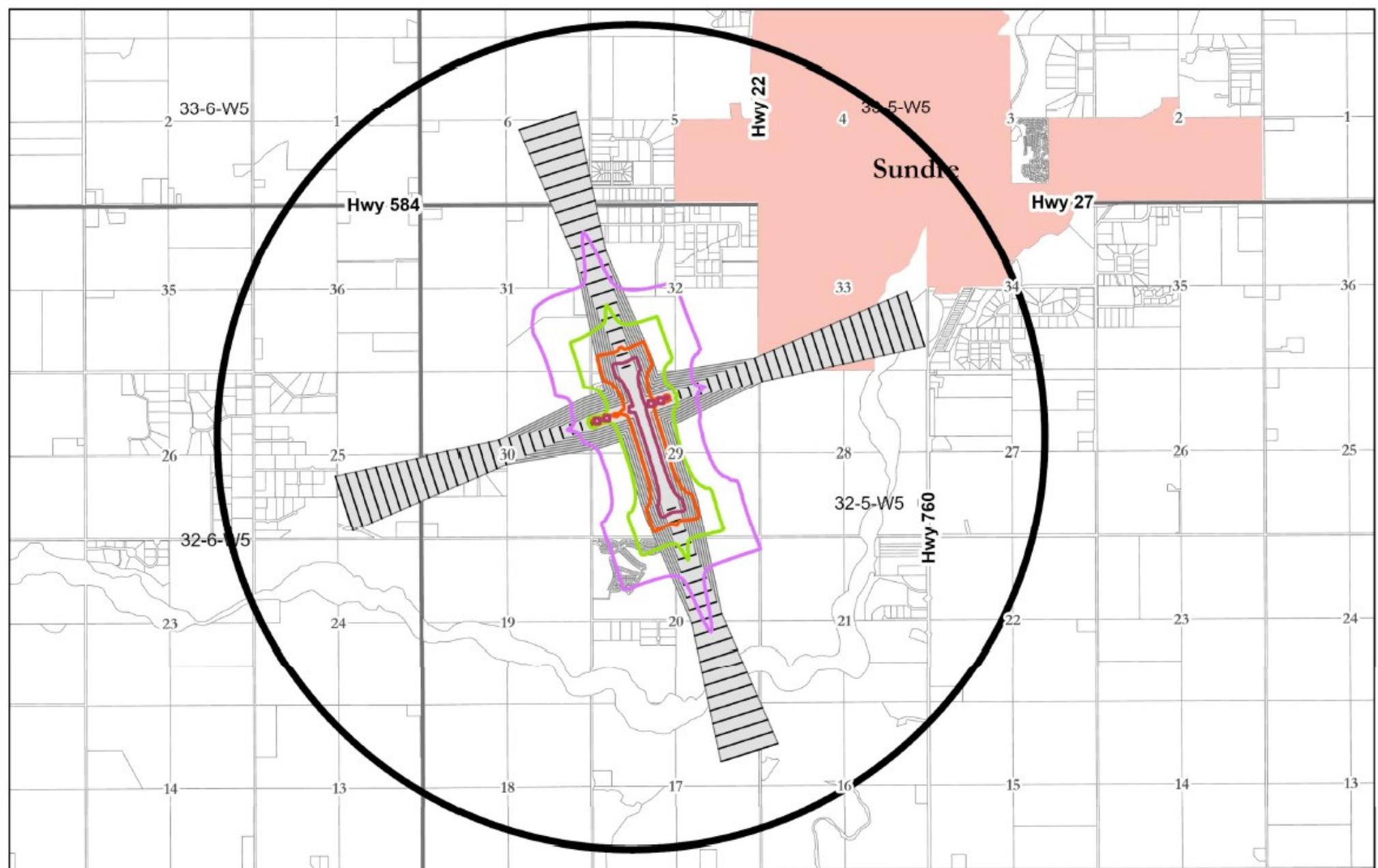
- NEP 25
- NEP 30
- NEP 35
- NEP 40



Map Created on: 3/14/2025

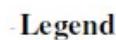
Mountain View County

**APPENDIX D SUNDRE AIRPORT AERODROME PROTECTION ZONE OVERLAY**



## Mountain View COUNTY

# **Sundre Airport Aerodrome Protection Zone Overlay**



○ Outer Surface (4000 m Buffer)



### — Height Limitation Contour



### Height Limitation Area



## Town of Sundre

Map Created on: 6/26/2025



0.9 0.45 0 0.9

Scale: 1:50,000

## Mountain View County

**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

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# 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 95<sup>th</sup> 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 (9<sup>th</sup> 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 (9<sup>th</sup> 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 <sup>2</sup>	YES <sup>1</sup>
Playgrounds	TBD <sup>3</sup>	TBD <sup>3</sup>	YES	YES
Park and Picnic Areas	NO	TBD <sup>3</sup>	YES	YES
Industrial Uses <sup>4</sup>	YES <sup>5</sup>	YES <sup>5</sup>	YES	YES
Crop Farming	YES	YES	YES	YES

<sup>1</sup> 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.

<sup>2</sup> 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.

<sup>3</sup> 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.

<sup>4</sup> Applies to all industrial uses identified in TP1247, excluding laboratories.

<sup>5</sup> 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
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.

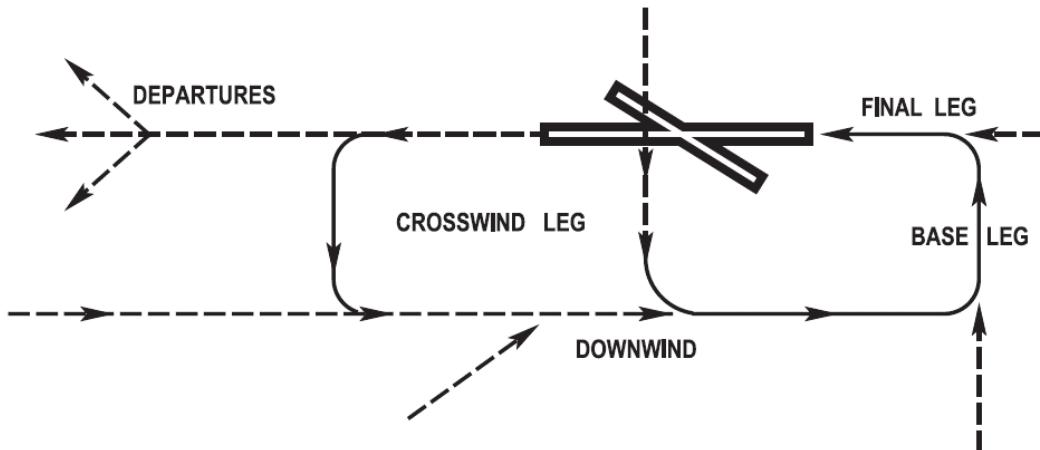
### 3.2.1 Local Movements

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 95<sup>th</sup> 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 95<sup>th</sup> 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 95<sup>th</sup> 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 95<sup>th</sup> 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 95<sup>th</sup> 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 95<sup>th</sup> 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)**

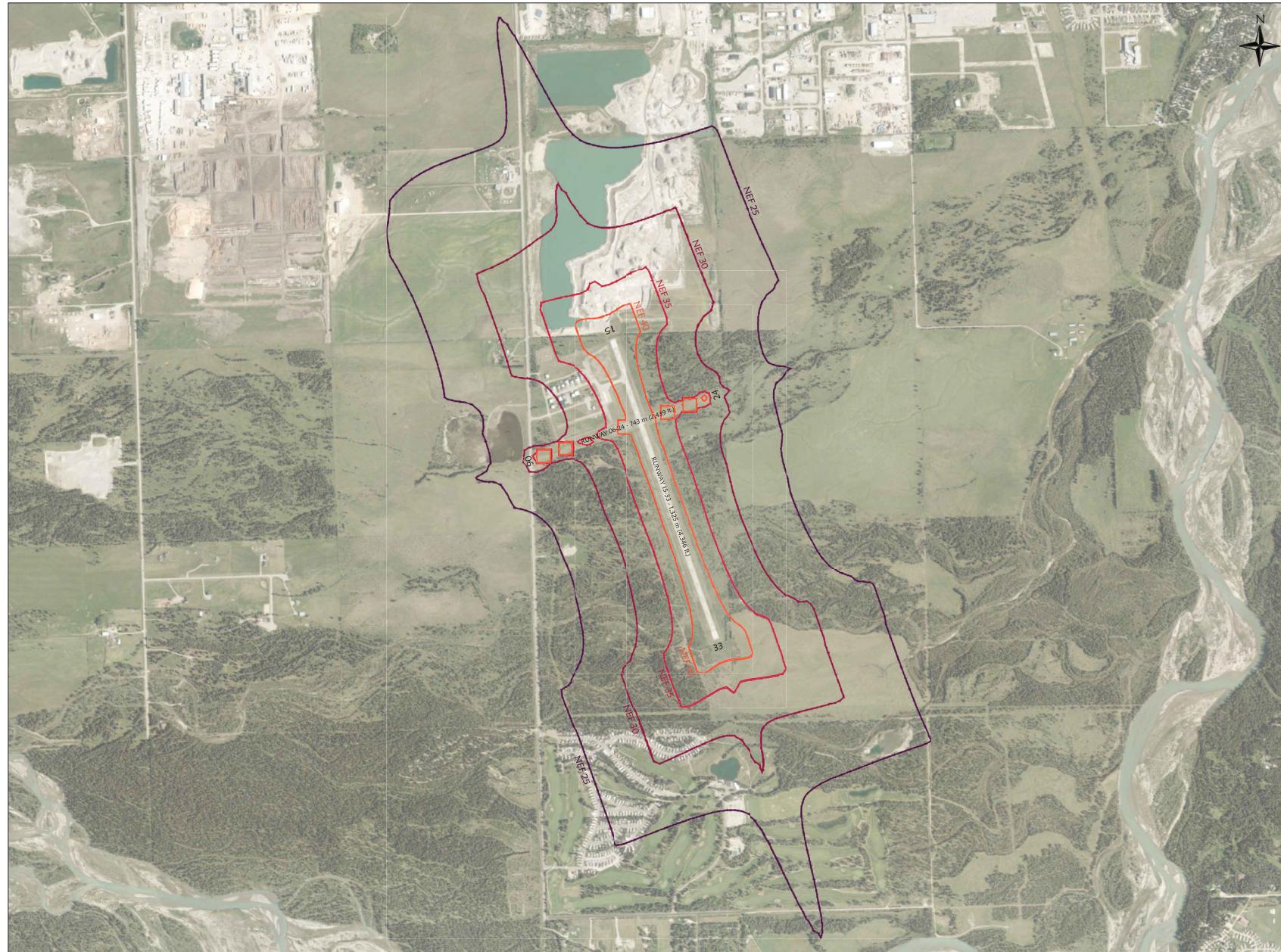
Aircraft Type	Aircraft	NEFcalc Database
Single Engine (Piston)	Cessna 150	CNA150
Single Engine (Piston)	Cessna 172	CNA172
Single Engine (Piston)	Cessna 185	CNA185
Single Engine (Piston)	Piper Cherokee	PA28CH
Single Engine (Piston)	Zlin Z400 Rhino	GASEPF
Single Engine (Piston)	De Havilland DHC-2 Beaver	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  
2024 NEF 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

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

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

Notes

---

# Nef-Calc

## Flightpaths

**FLIGHTPATH** 06C

**Runway** 06

**Type** Circuit

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

Notes

---

**FLIGHTPATH** 24C

**Runway** 24

**Type** Circuit

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

<b>Start X</b>	-0.39 kFt	<b>End X</b>	1.04 kFt
<b>Start Y</b>	1.13 kFt	<b>End Y</b>	-2.97 kFt

**Notes**

---

**Runway** 33

<b>Start X</b>	1.04 kFt	<b>End X</b>	-0.39 kFt
<b>Start Y</b>	-2.97 kFt	<b>End Y</b>	1.13 kFt

**Notes**

---

**Runway** 06

<b>Start X</b>	-1.43 kFt	<b>End X</b>	0.87 kFt
<b>Start Y</b>	-0.51 kFt	<b>End Y</b>	0.31 kFt

**Notes**

---

**Runway** 24

<b>Start X</b>	0.87 kFt	<b>End X</b>	-1.43 kFt
<b>Start Y</b>	0.31 kFt	<b>End Y</b>	-0.51 kFt

**Notes**

---

# Nef-Calc

## Airport Movements

FLIGHTPATH	Aircraft Code	DayTime Events	NightTime Events
<b>06A</b>			
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
<b>06A</b>		<b>0.72</b>	<b>0.00</b>
<b>06C</b>			
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
<b>06C</b>		<b>2.90</b>	<b>0.00</b>
<b>06L</b>			
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
<b>06L</b>		<b>0.18</b>	<b>0.00</b>
<b>06R</b>			
06R	DHC6	0.03	0.00

# Nef-Calc

## Airport Movements

### FLIGHTPATH

Aircraft Code	DayTime Events	NightTime Events
CNA150	0.01	0.00
CNA172	0.01	0.00
CNA185	0.01	0.00
PA24	0.01	0.00
GASEPF	0.01	0.00
DHC2	0.01	0.00
PA31	0.01	0.00
GASEPF	0.01	0.00
GASEPV	0.01	0.00
	<b>0.18</b>	<b>0.00</b>

### 06R

### 06S

DHC6	0.06	0.00
CNA150	0.03	0.00
CNA172	0.03	0.00
CNA185	0.03	0.00
PA24	0.03	0.00
GASEPF	0.03	0.00
DHC2	0.03	0.00
PA31	0.03	0.00
GASEPF	0.03	0.00
GASEPV	0.03	0.00
	<b>0.36</b>	<b>0.00</b>

### 06S

### 15A

DC3	0.54	0.06
DC3	0.54	0.06
CNA150	0.16	0.02
CNA172	0.16	0.02
CNA185	0.16	0.02
PA24	0.16	0.02
GASEPF	0.16	0.02
DHC2	0.16	0.02
PA31	0.16	0.02
GASEPF	0.16	0.02
GASEPV	0.16	0.02
	<b>2.99</b>	<b>0.33</b>

### 15A

### 15C

DC3	1.09	0.12
DHC6	1.63	0.18
CNA150	0.63	0.07

# Nef-Calc

## Airport Movements

### FLIGHTPATH

Aircraft Code	DayTime Events	NightTime Events
CNA172	0.63	0.07
CNA185	0.63	0.07
PA24	0.63	0.07
GASEPF	0.63	0.07
DHC2	0.63	0.07
PA31	0.63	0.07
GASEPF	0.63	0.07
GASEPV	0.63	0.07

**15C**

**10.32**

**1.15**

**15L**

DC3	0.14	0.02
DHC6	0.14	0.02
CNA150	0.04	0.00
CNA172	0.04	0.00
CNA185	0.04	0.00
PA24	0.04	0.00
GASEPF	0.04	0.00
DHC2	0.04	0.00
PA31	0.04	0.00
GASEPF	0.04	0.00
GASEPV	0.04	0.00

**15L**

**0.75**

**0.08**

**15R**

DC3	0.14	0.02
DHC6	0.14	0.02
CNA150	0.04	0.00
CNA172	0.04	0.00
CNA185	0.04	0.00
PA24	0.04	0.00
GASEPF	0.04	0.00
DHC2	0.04	0.00
PA31	0.04	0.00
GASEPF	0.04	0.00
GASEPV	0.04	0.00

**15R**

**0.75**

**0.08**

**15S**

DC3	0.27	0.03
DHC6	0.27	0.03
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
GASEPF	0.02	0.00
DHC2	0.02	0.00
PA31	0.02	0.00
GASEPF	0.02	0.00
GASEPV	0.02	0.00
<b>24L</b>	<b>0.27</b>	<b>0.00</b>

### 24R

DHC6	0.05	0.00
CNA150	0.02	0.00
CNA172	0.02	0.00
CNA185	0.02	0.00
PA24	0.02	0.00
GASEPF	0.02	0.00
DHC2	0.02	0.00
PA31	0.02	0.00
GASEPF	0.02	0.00
GASEPV	0.02	0.00
<b>24R</b>	<b>0.27</b>	<b>0.00</b>

### 24S

DHC6	0.09	0.00
CNA150	0.04	0.00
CNA172	0.04	0.00
CNA185	0.04	0.00
PA24	0.04	0.00
GASEPF	0.04	0.00
DHC2	0.04	0.00
PA31	0.04	0.00
GASEPF	0.04	0.00
GASEPV	0.04	0.00
<b>24S</b>	<b>0.54</b>	<b>0.00</b>

### 33A

DC3	0.54	0.06
DC3	0.54	0.06
CNA150	0.16	0.02
CNA172	0.16	0.02
CNA185	0.16	0.02
PA24	0.16	0.02
GASEPF	0.16	0.02
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
<b>33A</b>		<b>2.99</b>	<b>0.33</b>
<b>33C</b>			
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
<b>33C</b>		<b>10.32</b>	<b>1.15</b>
<b>33L</b>			
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
<b>33L</b>		<b>0.75</b>	<b>0.08</b>
<b>33R</b>			
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
<b>33R</b>		<b>0.75</b>	<b>0.08</b>
<b>33S</b>			
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
<b>33S</b>		<b>1.49</b>	<b>0.17</b>
<b>Grand Total:</b>		<b>43.46</b>	<b>3.62</b>

ACODE	FLIGHTPATH	Range	DayTimeEvents	NightTimeEvents
<b>CNA150</b>				
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
<b>CNA150</b>			<b>2.66</b>	<b>0.21</b>
<b>CNA172</b>				
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
<b>CNA172</b>			<b>2.66</b>	<b>0.21</b>
<b>CNA185</b>				
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
<b>CNA185</b>			<b>2.66</b>	<b>0.21</b>
<b>DC3</b>				
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
<b>DC3</b>			<b>5.43</b>	<b>0.60</b>
<b>DHC2</b>				
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
<b>DHC2</b>			<b>2.66</b>	<b>0.21</b>
<b>DHC6</b>				
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
<b>DHC6</b>		<b>6.16</b>		<b>0.48</b>
<hr/>				
<b>GASEPF</b>				
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
<b>GASEPF</b>		<b>5.31</b>		<b>0.42</b>

ACODE	FLIGHTPATH	Range	DayTimeEvents	NightTimeEvents
<b>GASEPV</b>				
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	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	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	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
<b>GASEPV</b>			<b>10.62</b>	<b>0.84</b>

**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
<b>PA24</b>			<b>2.66</b>	<b>0.21</b>

**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

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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
<b>PA31</b>			<b>2.66</b>	<b>0.21</b>
<b>Grand Total:</b>			<b>43.46</b>	<b>3.62</b>



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