

McBride Charlie Leake Airport Development Plan

Village of McBride

October 2019



Submitted to:
Village of McBride
100 Robson Centre
McBride, B.C.
VOJ 2E0



Submitted by:
Dillon Consulting Limited
510-3820 Cessna Drive
Richmond, BC
V7B 0A2

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Executive Summary

Airports can contribute significantly to the local economy, whether through taxation, salaries, purchases at local businesses, or provision of emergency services such as medevac.

The purpose of the McBride Charlie Leake Airport (the Airport) Development Plan is to identify the opportunities for the Airport for expansion and increased economic development, to create revenue sources to support the operation of the Airport and ensure that the Airport is a safe, functioning, valued asset for the community.

The Plan provides a strategy for the future land use concept and the steps to achieve it. The actions are divided into immediate, short, medium, and long term timeframes. The Plan also looks at potential funding opportunities, revenue generation and partnering.

The current runway length of 2,700 feet is insufficient to accommodate medevac fixed wing aircraft. Many of the corporate aircrafts that would like to land at the Airport also cannot utilize a 2,700 foot long runway. One of the goals of the study is to look at options for runway extension: the proposed runway extension is a critical to drive growth at the Airport.

The critical aircraft identified for use by emergency services for medical evacuation and transfer is the King Air 350, which requires a runway length of 3,500 feet. In order to facilitate the runway extension, the only option is to develop to the northwest. This option would require the acquisition of land either through purchase, lease, or easement.

One of the actions proposed in the study is to provide new access to the Airport off Highway 16. This option would provide access to airside extension as well as a groundside industrial park and future rural residential development planned by the Village of McBride.

This Report includes a land use concept providing for the future development of a waterdrome along the Fraser River, should the Village deem this to be as part of a long term goal.

McBride Charlie Leake Airport Development Plan is a foundational step towards supporting technological advances and land use planning at the Airport that will facilitate economic development of aviation and other tourism, expansion of the regional supply chain connector, local business development and increasing Airport capacity in the event wildfire or other emergencies.

Thank you to the BC Rural Dividend Program for making possible the McBride Charlie Leake Airport Development Plan.



1.0 Introduction

The Village of McBride is located on Highway 16 in the Robson Valley, located 210 km east of Prince George and 166 km west of Jasper. It is a resource and recreation area, sitting in a rich agricultural valley. The population of McBride is 616 (2016 Federal Census) with a regional population of 1,586. The Village provides a broad range of services to Robson Valley residents including hospital and emergency services. The Village and area offers a diverse range of outdoor recreational opportunities including cross-country skiing, snowmobiling, ice fishing, hiking, camping, mountain biking, and fishing.

The McBride Charlie Leake Airport is a registered aerodrome as per Transport Canada regulations, owned and operated by the Village of McBride. The runway is 2,700 feet in length and 75 feet wide, accommodating aircraft as the Beaver and Cessna. The Airport is home to an operational Tiger Moth.



Currently, the runway cannot accommodate the fixed wing aircraft being used for medevac, the King Air 350. This results in patients being triaged in McBride and transported to Prince George either by helicopter or ground ambulance, at which point they are often transferred to another airplane to be sent to Vancouver. Transporting patients 210km to Prince George takes time, particularly in winter, and causes additional trauma and results in longer wait times for the patient to receive the proper medical care. The

growth of high-risk sports such as snowmobiling and mountain biking in and around McBride has resulted in an increase in significant injuries, placing additional pressure on the emergency and medical services available in McBride. If the patient could be flown directly from McBride to Vancouver, the health care system would benefit and patient care greatly improved.

A lengthened runway would accommodate corporate aircraft and support additional tourist focused aviation activity. An extended runway and improved airport services would foster business growth at the airport and in McBride and the Robson Valley – a number of local businesses have identified runway expansion as key to further expansion of their operations.

The Village has identified replacement of a culvert under the airport access road as a critical infrastructure priority to mitigate potential flood and road washout risk that would threaten the only road access to the airport. Replacement of the culvert under Airport Road will ensure this infrastructure complies with provincial and federal regulations as they pertain to Fisheries and Transportation by restoring fish habitat in Shelby Creek.

This Airport Development Plan reviews the opportunities and challenges related to the expansion of the McBride Airport.

2.0 Council and Airport Stakeholder Engagement

Throughout the development of this Plan, Dillon Consulting met with airport stakeholders, Council, and Village staff. These sessions provided valuable input into the vision for the Airport and the potential uses and revenue generators. The following is a summary of the engagement and direction.

2.1 Council

On June 25th, 2019 Dillon Consulting Limited presented the progress of the airport study and discussed the vision for the Airport with Council. Council agreed that the vision should include a lengthened runway, ability for all emergency services to utilize the Airport, and an increase in groundside development to allow for the growth of light industrial development. Council recognizes the costs of developing the Airport, but also recognizes the benefits of an airport to a community that could be isolated with a highway closure.

2.2 Stakeholders

There were several meetings held on June 18th and 19th with Airport users and stakeholders (Emergency Services, Small Business and Pilots). Key points raised include:

- Runway extension to handle emergency and corporate aircraft;
- Critical emergency aircraft is King Air 350;
- Amenities at the Airport need upgrading including the pilot's lounge, washroom facilities, and a possible campground;
- Fixed wing and rotary aircraft should be physically separated;
- Increase the hangar and airside lease length to encourage investment;
- Ultimately, install piped water and sewer, short term could be trucked-in and trucked-out with use of the water line for washing aircraft in a central location;
- Airport needs to have a variety of fuel available;
- The Airport needs a Fixed Base Operation or an Air Terminal Building to accommodate passengers, emergency service needs, pilots, and itinerant pilots;
- Direct access to Highway 16 would be a huge benefit;
- Airport needs an "anchor" tenant;
- Zoning should better reflect Airport uses;
- Maintain the old forestry base and the infrastructure in the ground for future use;



- Enlarge apron and extend taxiway;
- Fully fence entire airport and install security cameras;
- A GPS approach would be a major benefit to the Airport; and
- Governance and management need to be assessed, considering an Airport Advisory Committee.

2.3 Community

There is a component of the community that is unaware of the existence and the function of the current Airport. The Airport should serve the community, be part of the community and the community members should be familiar with and supportive of the Airport. The McBride Charlie Leake Airport Development Plan provides actions that will involve the community in the Airport through events, education and inclusion in tourism and economic development strategies.



Photo: Wheeler

3.0 Village of McBride Policies

The Village of McBride has several documents that relate to the Airport including the adopted Official Community Plan and Zoning Bylaws. This section identifies how the land use plan conforms to and helps to implement these documents.

3.1 Official Community Plan

The OCP, Bylaw 682, adopted in 2008 and amended in 2013 to guide “A Town on Track”. The document provides overriding goals for the Village. The OCP outlines that “Council desires to make provisions for growth and development in the future while attempting to minimize conflicts between adjacent land uses”. It is an objective of Council “to support small scale industrial uses to encourage local employment opportunities”.

A major challenge for all small communities is to attract and keep young families. While housing prices and availability are key, relocation or retention starts with good jobs. The OCP supports the growth of tourism, forestry, and agriculture.

Section 2.8 of the OCP states

Air

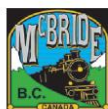
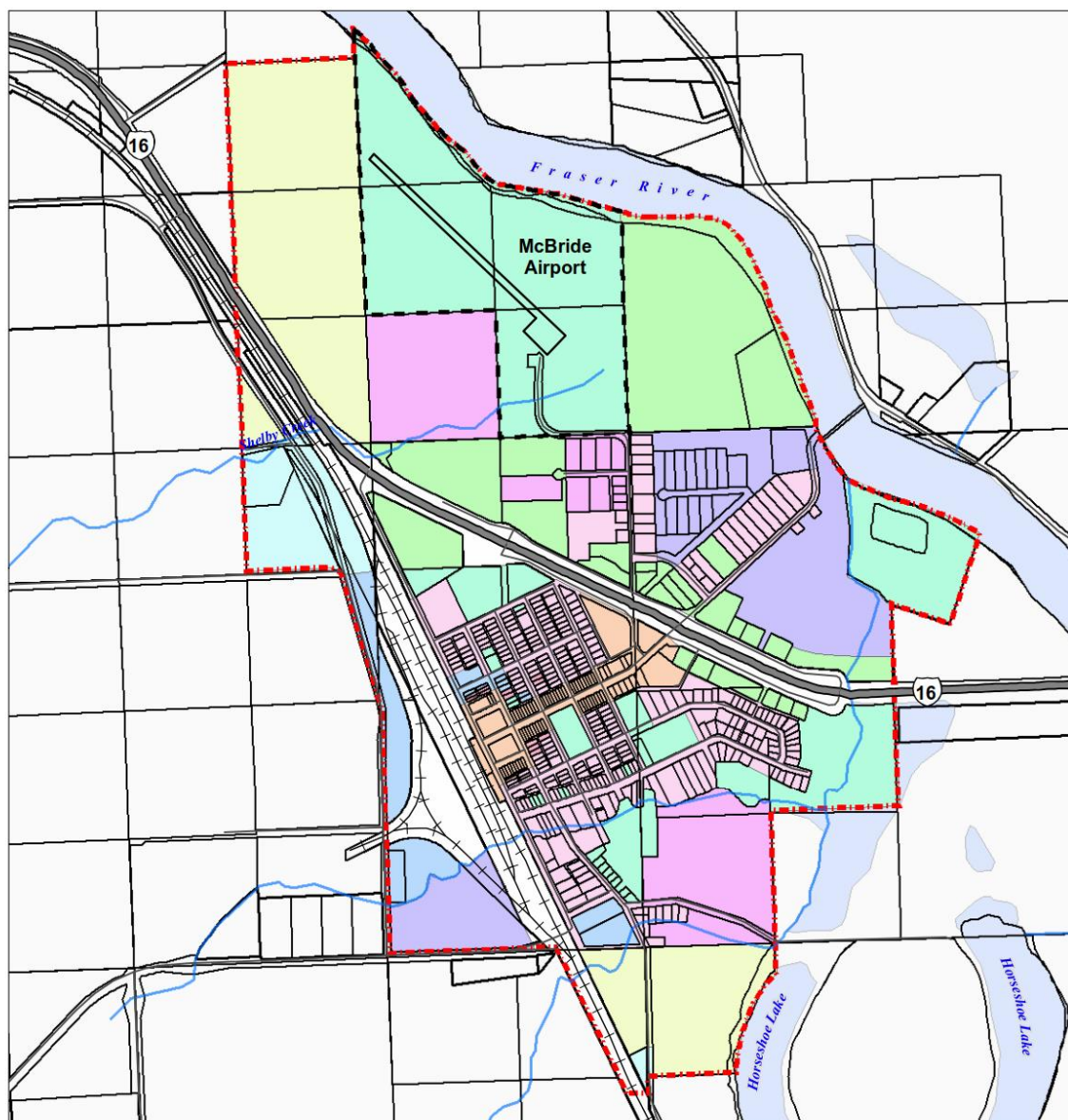
The McBride Airport is a 823 m (2700 ft.) long single paved runway oriented NW/SE. The airport is used for recreational flying, helicopter use, and some small business aircraft. There are several private hangers, and a Provincial Forest Service Rapattack base on the airport property. It is the objective of Council to work towards lengthening the runway to at least 1066 m (3500 ft.) to allow use by the air ambulance.

If and when there is the demand, the Council would encourage the inception of a commercial scheduled air service from McBride.

The Airport is included in the Public Development use category. While this supports the current operation, if the Airport is to grow, it requires the ability to attract light industrial tenants.

The Land Use Designation map of the OCP (**Figure 1**) illustrates the amount of land available for airport/light industrial development. In addition, piped water is currently servicing the Airport and piped sanitary services are at the foot of Airport Road. With the significant land areas, it is possible that septic fields could accommodate sanitary in the future. Generally, light industrial uses do not create a significant water and sewer volume.

Figure 1: Village of McBride Official Community Plan Land Use Designations



VILLAGE OF McBRIDE
AIRPORT DEVELOPMENT

FIGURE 1
OFFICIAL COMMUNITY PLAN

LEGEND
OFFICIAL COMMUNITY
PLAN DESIGNATIONS

AG	MSC
HC	PD
HI	R
LC	RR
LI	UR

ROAD
HIGHWAY
RAILWAY
WATERCOURSE
WATERBODY
PARCELS



SCALE 1:16,500
0 50 100 200 300 400 500 Meters

MAP DRAWING INFORMATION:
DATA PROVIDED BY: SRM Inc./Village of McBride
MAP CREATED BY: RBB
MAP CHECKED BY: PHH
MAP PROJECTION: NAD 1983 UTM Zone 10N



PROJECT: 19-9605
STATUS: DRAFT
DATE: 2019-07-22

FILE LOCATION: G:\GIS\2019\190605 McBride Airport\MXD\190605 McBride Airport - OCP.mxd

3.2 Zoning Bylaw

The Airport and the Airport lands are zoned Public Development under the Village of McBride Zoning Bylaw #703 Adopted in 2010 and Consolidated in 2018.

Public Development allows for airports as a principle use and allows temporary accommodation as an accessory use. The Zoning Bylaw does not define an airport, it does not address the obstruction areas, and it does not allow for any revenue generating uses. **Figure 2** illustrates the current zoning on the Airport property and adjacent properties.

3.3 Regional District of Fraser Fort George

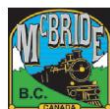
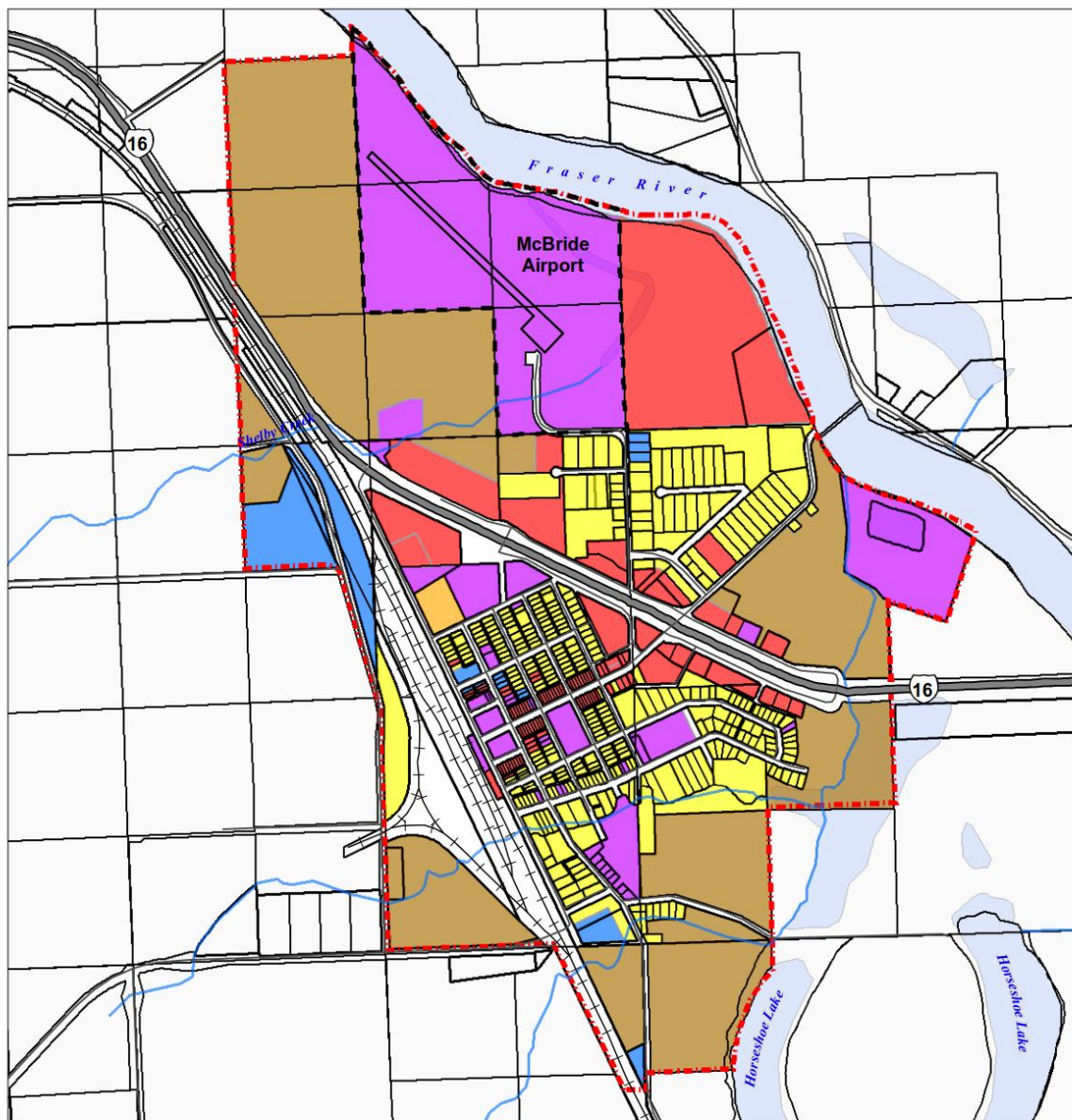
While the Airport is located within Village of McBride boundaries, the Obstruction Surface and the Outer Surface of the area crosses jurisdictional boundaries. This land is included in the Regional District of Fraser Fort George. The land uses northwest of the Village are zoned RU5 and CRC1, and do not pose any issue to the future ongoing operation of the Airport. The Rural Use 5 allows low intensity uses such as agriculture, forestry, kennel, and nursery with a maximum height of 10 metres. The Controlled Recreation Commercial Zone allows for agriculture, campground, recreation, tourist accommodation also with a maximum height of 10 metres. These should not pose any impediment to the continued safe operation of the Airport.

3.4 Five Year Financial Plan 2019-2023

The Village of McBride has completed a five year financial plan which includes a number of forward thinking airport projects. In 2019, the Council proposes to install the AWOS Weather Station at the Airport for \$100,000 (with the \$75,000 grant from the BCAAP), as well as complete the McBride Charlie Leake Airport Development Plan for \$10,000. In the year 2020, the Village has allocated \$75,000 to upgrade the Airport culvert, and in 2021 the Village proposes the runway extension for \$300,000. It is assumed that the Village will be successful with the grants applications to assist with the capital construction costs.

An interesting item identified in the financial plan is that zero tax money is generated by light industrial development. Airports should be economic engines and should generate revenue. The Airport will be a location that can be promoted for light industrial uses and expand and help to balance the Village tax base with more non-residential tax. The McBride Charlie Leake Airport Development Plan's proposed airport land use plan provides lands for light industrial uses and expanded hangar development that can generate revenue for the Village to cover operational costs and ultimately contribute to a capital reserve fund that will support the capital upgrades planned for the Airport.

Figure 2: Village of McBride Zoning Bylaw Map



VILLAGE OF McBRIDE
AIRPORT DEVELOPMENT

FIGURE 2
MUNICIPAL ZONING

LEGEND

ZONING

- COMMERCIAL
- INDUSTRIAL
- MOBILE HOME PARK
- PUBLIC DEVELOPMENT
- RESIDENTIAL
- RURAL

- ROAD
- HIGHWAY
- RAILWAY
- WATERCOURSE
- AIRPORT BOUNDARY
- MUNICIPAL BOUNDARY
- PARCELS
- WATERBODY

SCALE 1:16,500
0 50 100 200 300 400 500 Meters

MAP DRAWING INFORMATION:
DATA PROVIDED BY: ESRI Basemap, Village of McBride

MAP CREATED BY: RBB
MAP CHECKED BY: PH
MAP PROJECTION: NAD 1983 UTM Zone 18N



PROJECT: 19-9605
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FILE LOCATION: G:\2019\199605 McBride Airport\MXD\199605 McBride Airport - Zoning.mxd

4.0 Airports '101'

The truth of airports is that they are not-for-profit operations and while they may generate sufficient revenue to operate in the black, the capital costs generally far outweigh the ability of small airports to pay for themselves. A strong business plan with supporting land use regulations can assist the Village to encourage revenue generating development to ensure the sustainability of the Airport. As a registered aerodrome, McBride Airport is not eligible for federal grants through ACAP funding. However, the Airport is eligible for provincial grants through the BCAAP: the Village of McBride received \$75,000 from this program in 2019 for the installation of an Automated Weather Observation System at the Airport

The scope of the Land Use Development Plan portion of the McBride Charlie Leake Airport Development Plan is to review the current municipal documents, including the Official Community Plan and the Zoning Bylaw, federal regulations such as TP1247 Land Use in the Vicinity of Airports and other restrictions such as municipal utilities and landowner input, and to develop a strategy that will allow the Airport to grow and generate more revenue.

With a population of a little over 600 people (2016 Census) and a regional service area of almost 1,600 people, the potential for the Airport to grow and serve the community is significant. McBride is 210 km from the City of Prince George, located on Highway 16. With a hospital and BC Ambulance station, a community airport could be a significant contributor to the services provided and the local economy. Most small municipal airports function as general aviation aerodromes used by flying clubs, industry, and itinerant pilots. Increased use by corporate employees, just in time delivery, and tourism would grow revenue generation for the Airport and take off some of the financial burden from the Town.

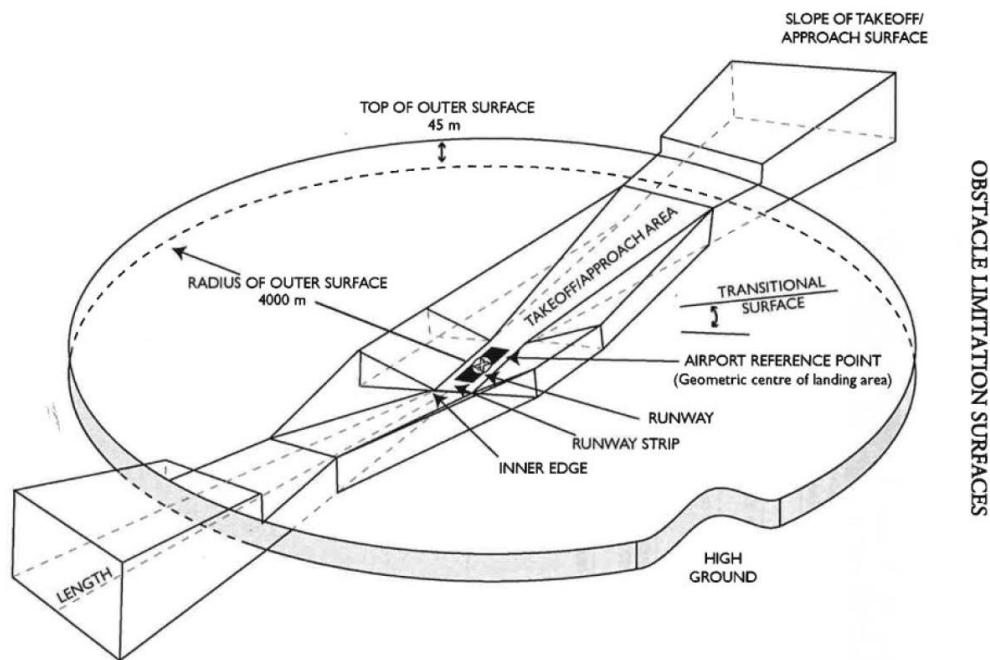
Airports are generally divided into three categories: airside, groundside and operational. These areas are further regulated by the takeoff and approach surfaces, transitional surfaces and the obstruction zone.



Airside uses are generally those that are aviation related and require direct access to runways, taxiways, and aprons to operate their business (for example airlines, couriers, agricultural operators such as crop dusters, and charter air operations). Groundside uses can be aviation related, but do not have to be aviation related and do not require direct access to the runways, taxiways, or aprons. Examples of aviation uses that do not require direct airside access could include avionics, upholstery, and catering. Groundside uses often seen at airports include light industrial, warehousing, storage, and specialty recreation (such as indoor climbing walls and gymnastics). Operational uses are those that airports requires to maintain a functional airport including the runways, taxiways, aprons, terminal building, control tower, weather stations, lighting, maintenance sheds etc.

Illustration 1 shows the obstruction limitations for airports as identified by Transport Canada¹. The obstruction limitation surface establishes the limit to which objects may project into the airspace associated with an aerodrome. This is primarily a height restriction parallel to the runway, at the ends of the runway and a 4 circle above the runway, 45 metres high, into which structures should not penetrate. This Outer Surface generally extends beyond airport property and out of the jurisdiction or control of the airport owner/operator, such as the Village of McBride. This area generally requires interjurisdictional cooperation and collaboration to ensure that the municipality regulating development does not approve something that may jeopardize the safe and continued operation of the airport.

Illustration 1: Obstruction Limitations



¹ Transport Canada, Land Use in the Vicinity of Airports, TP1247.

5.0 Airport Vision and Goals

The McBride Charlie Leake Airport is currently a small component of the overall economy of McBride and the Robson Valley. During the engagement process, Airport stakeholders and Council identified the potential to make the Airport a major contributing economic generator. This has led to the following vision and goals for the Airport.

5.1 Vision

The vision for the McBride Charlie Leake Airport is that:

The McBride Charlie Leake Airport is a safe, well-functioning airport that generates revenue to cover the operational costs, creates a variety of employment opportunities, provides the ability to handle emergency medical and evacuation aircraft, and contributes to the community on a daily basis.

5.2 Goals

The goals for the McBride Airport that will achieve the vision are:

- To be a safe and well-maintained airport that meets Transport Canada regulations;
- To generate revenue through leases, fuel, and landing fees to operate the Airport;
- To provide community benefit through the ability to provide medical and emergency services; and
- To function as an economic generator to attract more businesses and tourism.

6.0 Land Use Strategy

The overall strategy for the Airport is to encourage economic development and increase revenue to support the continued operation of this valuable asset for the benefit of the community. The land uses are divided into three categories and the proposed land use strategy is illustrated on **Figure 3**.

The Beechcraft King Air 350² is utilized by corporations and medevac and was identified by Airport stakeholders as the critical aircraft to determine the optimum specifications for the McBride Charlie Leake Airport. The King Air 350 has a wingspan of 58 feet, a load weight of 15,100 lbs., a takeoff length of 3,300 feet, and a range of 3,345 km and is the primary aircraft used for emergency and medical evacuations in the region.

² <https://beechcraft.txtav.com/en/king-air-350i#Specs>

6.1 Airside Development

The McBride Charlie Leake Airport Development Plan proposes a long term strategy to extend the runway to 3,500 feet. Included in the runway extension plan: a taxi way the entire length of the runway with two taxi accesses to the runway; an expanded apron; and, separation of rotary wing aircraft to the north end of the runway and fixed wing on the southern portion. This expansion plan will allow for almost 2,500 feet of hangar line for development.

Airside uses, particularly for fixed wing aircraft, require direct access to the runways, taxiways and aprons. The Apron currently cannot accommodate multiple aircraft. Extension of the runway to the southeast is not practical due to the significant drop in elevation, Shelby Creek and the proximity to the Beaver Creek Lodge. Development of a cross wind runway is also not practical due to inability to achieve the required length and the location of the Fraser River. Runway extension to the north, the most feasible option, will require acquisition of lands to the northwest. This can be accommodated by either outright purchase, acquisition through easement, or a long term lease with the property owner. In addition, runway expansion will require burying of a power line along Shovar Road. There are no houses in the direct take-off and approach line to the north and there are no current buildings in the take-off and approach area that penetrates the take-off and approach zone. For this McBride Charlie Leake Airport Plan, no geotechnical work has been completed. It has been assumed that the soils and conditions to the north will be similar to those under the current runway and that the extension of the runway, due to the fact that the land is relatively flat and open, will allow for relatively simple construction.

Extension of the runway will necessitate painting and addition of runway lights. This will be an opportunity to complete either resurfacing of the existing runway or major crack sealing. This is also the time to institute a pavement management program to ensure that the new and old pavement life span is extended as much as possible. A pavement management program will prioritize crack sealing and other runway repairs with an annual budget allocation.



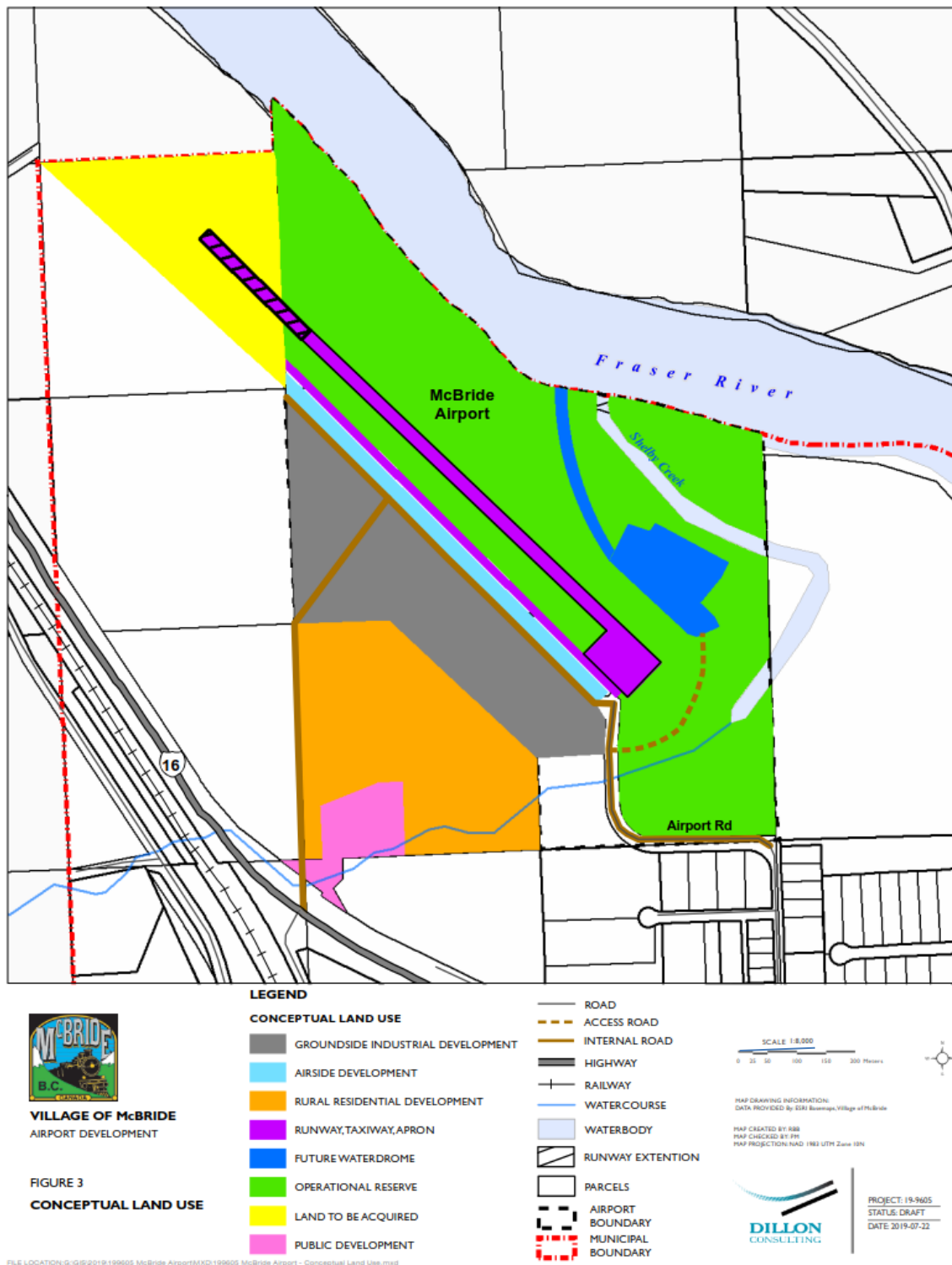
Photo: Wheeler

Phase 1 of the runway extension should be the 800ft extension to the north. The taxiway extension can occur as part of later phases or as hangar development occurs. There should always be a minimum of four lots with access to the taxiway available for lease at all times. Should a potential tenant want a lot and if a lot is not readily available for occupation, the tenant will move to the next available airport.

There is no proposal for residential air lots on the main hangar line. Mixing residential air lots with potential commercial lots is not a common practice.

An Automated Weather Observation Station will be installed at the Airport in 2019. In the future, a GPS approach should be installed. This infrastructure is foundational for future growth at the Airport.

Figure 3: Proposed Airport Land Use Concept



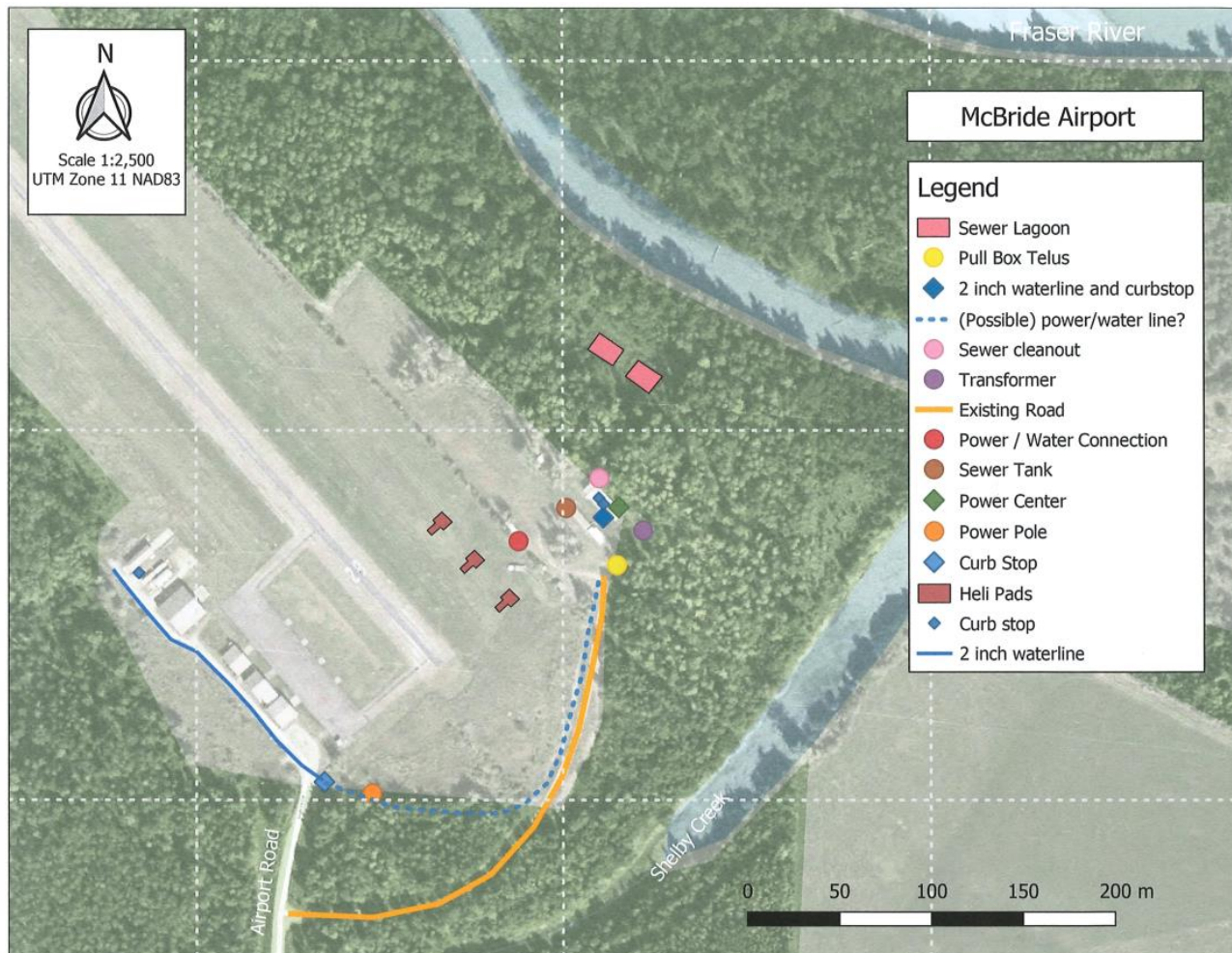
The current pilot's lounge is functional for itinerant pilots or local general aviation pilots, but it provides insufficient space for emergency services and evacuations. In addition, there is no facility for tourists or corporate clients waiting for a flight. It is strongly recommended that an Air Terminal Building be constructed that includes an indoor washroom, waiting room and a pilot's lounge. The total size of the structure does not need to exceed 800 square feet with the ability to add on at a later date. The structure could be moved on (trailer or house or multiple sea-cans) or constructed on sight (stick frame). Piped water connection would be optimal and it could be serviced by a sanitary holding tank to be pumped out as needed.

The Village water line currently extends to the Airport but is not tied into the individual hangars. There is a fire hydrant that will provide firefighting service located near the pilots lounge on Airport Road. The Plan proposes a goal to extend piped water and sanitary services to the entire Airport and loop the system through the Plan's proposed rural residential development out onto Highway 16.

There is also land identified for a potential Waterdrome or float plane base along the Fraser River. It was noted through the engagement process with stakeholders that there is no float plane base in the region. This would require the construction of a dock along the river – likely seasonal. The aircraft would taxi up to the apron that would be located near the site of the abandoned forestry base. This will require the construction of the ramp taxiway up from the river, an apron and a taxiway connection to the runway. While this has been identified as a potential project, it is not identified as a priority.

The McBride Airport was previously used as a rapattack site for the BC Wildfire service. Sometimes wildfires will occur in areas that are difficult to access, either on foot or by vehicle and where there are no suitable landing areas for helicopters nearby. In these instances, a rappel crew may be called on to respond to the fire. Firefighters rappel from a helicopter adjacent to the fire to take immediate action. Additionally, rapattack crews may be utilized to build helipads allowing helicopters to land and deliver personnel and equipment to difficult to access fires. The McBride site was dismantled many years ago due to lack of wildfires and consolidation of services to other locations. Despite the relocation of rapattack services elsewhere, water, sewer and electrical infrastructure remains in place at the Airport. **Figure 4** has been provided by the Village and illustrates the rapattack infrastructure still in place. In some cases, the condition of the infrastructure is unknown.

Figure 4: Rapattack Site at the McBride Airport



6.2 Groundside Industrial Development

Groundside uses can be aviation related but do not necessarily require direct access to aviation infrastructure. The McBride Charlie Leake Airport Development Plan's land use concept identifies land for groundside industrial development along the extension of Airport Road and the connector road from the Highway. This land would be suitable for a number of aviation related uses (such as avionics, upholstery, engine maintenance or offices for charter and tourism firms). Other appropriate uses might include warehousing and distribution buildings, outside storage, mini storage, mechanic shops, equipment rental, and small-scale manufacturing (microbrewery or micro distillery, agricultural products, or furniture manufacture for example). Some of these businesses would require full piped water and sanitary services. Other could operate before full services were installed. The key is to provide the Village with as many options as possible with the minimum financial expenditure until revenue is generated.

To create a viable industrial area, the Plan proposes to utilize a section of the land identified for rural residential development for groundside development. This industrial area would include direct access to Highway 16, a variety of lot sizes to attract a range of users, piped water and sanitary sewer and separation from non industrial uses. Direct access to the Highway 16 would be attractive to potential industry in that they would not be required to travel through residential areas (as current access to the Airport via Airport Road does) and would facilitate shortened transportation routes. This concept would incorporate a green belt that would separate the Airport groundside industrial lots from the rural residential lots. The area is heavily treed and it is proposed that a green belt of 10 to 20 metres be incorporated to provide screening and separation. This green strip could also be utilized as a walking path/trail for residents. The Village has considered this area for rural residential development (which was approximately 14 hectares of land). By expanding the groundside area for light industrial uses, the Village will lose approximately 3 hectares of land for rural residential development. However, the value of the industrial land is higher and would provide the Village a better tax base. These areas are very conceptual and have not been surveyed so areas are approximate.

6.3 Airport Operational Reserve

This area is dedicated to the runways, taxiways, aprons, weather, and navigational aids, lighting, take-off and approach and transitional areas of the Airport. This can include the Airport Terminal Building and Airport Maintenance buildings.

Several upgrades such as fencing and security cameras will help with the ongoing maintenance, reduce the number of NOTAMs and decrease the number of police call outs for vandalism and damages.

6.4 Governance

The McBride Charlie Leake Airport is owned and operated by the Village and sits on Village-owned land. This ensures the municipality has full control of the uses on the Airport. McBride's Official Community Plan Bylaw (OCP) does not provide clear direction for uses at the airport or definitions. It is suggested that the OCP be amended to create an airport zone and rezone the Airport lands specifically for Airport rather than community use. This allows the Village to clearly identify the types of uses they want to see at the Airport. Along with having the land zoned appropriately, the McBride Charlie Leake Airport Development Plan and supportive policies in the Official Community Plan provide marketing tools for the promotion of economic development and sale or lease of lots for potential development.

The Airport currently has a part time Airport Manager. Maintenance such as snow plowing is provided by the Village. The Village has talked about succession planning for the Airport Manager. Other small communities find a person who could double as municipal public works employee and airport manager. This allows cross training, ensures clear communication and connectivity with the Village, and allows the designated person to spend their time where it is most required. This also allows a municipal employee to become fully familiar with the Airport for such important elements as snow plowing, runway light maintenance, relationship with the tenants and maintenance of the washroom/terminal building.

In addition, to further involve the community, many municipalities have designated airport committees. Often known as the Airport Advisory Committee, the municipality appoints interested people to sit on the committee to review applications at the Airport, proposals for events, concerns from tenants, review budgets and master leases and provide input on the implementation of the McBride Charlie Leake Airport Development Plan. The development of an active Flying Club at the Airport with a pool of volunteers to promote and direct fun activities at the airport would support greater community awareness of and involvement with this important community asset.

As a general aviation registered aerodrome, McBride Charlie Leake Airport is required to follow all of the Transport Canada regulations.



7.0 Revenue Generation

The key for airports is to generate sufficient revenue to cover the operational costs and carry money over every year to be added to the airport reserve fund to contribute to the capital costs for future upgrades. This Airport is owned and operated by the Village of McBride and therefore the policies that are set represent public policy and public money and are more regulated than if the Airport was privately owned and operated.

This Development Plan does not recommend the sale of any of the Airport lands. It is recommended that the Village create long term leases for all future development on Airport land. The rationale for this is:

- Under federal regulations, the owner of airport land may determine the use of the land and circumvent any municipal planning process, unless subdivision is required. If the land is sold, the Village loses some control of the use of the land.
- Banks accept leases with a 25 year term or longer for financing and mortgaging. While the developer or leasee may complain that they cannot develop unless they own the land, it has been proven many times that long term leases are very successful for airport development³.
- Retention of the land by the Airport will meet the requirements of the transfer of the Airport from the Province, ensure that the Airport always has the asset and creates a steady guaranteed annual income.

Primary revenue generators for the McBride Charlie Leake Airport include:

1. **Hangar leases** – leasing the land, airside and groundside, will be the primary source of revenue for the Airport. These monies can be directly specifically to an airport line item in the budget. These leases should be a minimum of 25 to 49 year terms. This will encourage more investment in the structures. These long term leases can have escalator clauses to ensure that the rent stays current. They can be tied to cost of living or another indicator that the Village wants to use.
2. **Property Taxes** – the more investment in the structures, the more property taxes paid, based on the value of the structure. The hangar owners pay the property tax. If the Village wants to track the financial viability of the Airport, these taxes could be put into the same line item in the budget as the hangar leases. At some airports, where there is a private group managing the airport (such as a flying club) the taxes are returned back to the flying club to cover operating costs (the City of Lacombe operates in this manner).
3. **Landing fees** – small airports are resistant to charging any landing fees. However, any aircraft that lands on the runway, parks on the apron or uses the taxiway, or uses the Airport in any way, should pay for the use. Landing fees do not have to be significant. It should be noted that, without a full time airport manager to keep track of the aircraft that use the Airport, it is difficult to collect fees. There are devices that record a pilot's call letters as they landing. The Municipality can subsequently find the address of the owner of the aircraft and send a bill for the landing fees. Another way is to

³ Examples of airports that do not sell any land (airside or groundside) and instead lease on a 25 to 49 year lease, include: Nanaimo, Comox, and all 13 national airports. Even very small general aviation airports only provide long term leases such as High River, Boundary Bay and Tofino.

invoke the honour system and ask for money for every landing. Emergency services delivery agencies will pay landing fees for the use of the airport. If there is a flight school that uses the Airport, a flat rate can be charged each year. If the pilot has a hangar at the Airport, the landing fees may be waived, considering the other financial contributions they make to the Airport and Village.

4. **Fuel Sales** – while the McBride Charlie Leake Airport does not sell a lot of fuel, and pilots are very price sensitive for fuel, even a few cents a litre will contribute to the revenue for the Airport. The Village of McBride will continue to strategically price fuel at the Airport.
5. **Grants** – grants are a source of revenue for airports. The BC Air Access (BCAA) grant program has provided the funding for the purchase and installation of an automated weather system (AWOS II) at the Airport and the Village is anticipating that it will fund the majority of the runway extension costs through this grant program. In 2019 there were several airports that received a million dollars⁴ for runway and pavement upgrades, terminal building upgrades, and other airport infrastructure projects from BCAA. BCAA requires matching funds. There are other grant programs that may assist with infrastructure development and marketing and promotion of the Airport along with other economic development initiatives, including: BC Rural Dividend, Northern Development Initiative Trust, Investing in Canada Infrastructure Program and other grant programs that may be developed in future. Preparing the grant applications will be critical. They may require some financial commitment from the Village.
6. **Partners** – there are also possibilities of working with partners. Corporations who may see benefit in the expanded airport operations may contribute to airport upgrades if it can be demonstrated that it will specifically assist their business case and operation. This could items such as GPS approach, upgraded terminal building and lighting upgrades. There are many examples of corporations participating in cost sharing with municipal airports.⁵

⁴ Under the 2019 BC Air Access program Castlegar received \$1 million, Fort Ware \$1.7 million, Sechelt was granted \$1 million as was Pitt Meadows.

⁵ Sundre Airport (owned and operated by Mountain View County) partnered with Weldwood to purchase and install lighting for their runway. Strathcona County airport (owned and operated by the county) partnered with Shell to extend and pave the runway so Shell could transport crews to Fort McMurray thus saving them significant fees related to using the Edmonton International Airport.

8.0 Strategic Plan

The following Strategic Plan identifies the immediate, short term (0 to 3 years), medium term (4 to 7 years) and long term (more than 7 years) actions to achieve the vision for the McBride Charlie Leake Airport. The following cost estimates are order of magnitude estimates and have not been calculated by engineering studies and may vary significantly based on construction conditions, material costs at the time, availability of contractors, grant funding, and partner availability. In addition, the Village may choose to implement tasks in a different order based on Council's Strategic Priorities and availability of resources and funding.

The table below provides a summary of the actions, rational and importance of each specific action for the future of the McBride Charlie Leake Airport development.

Action	Benefit	Estimated Costs
Immediate		
<ul style="list-style-type: none"> Adopt the McBride Charlie Leake Airport Development Plan 	Most grant applications require the inclusion of a long term airport plan. The adoption of the McBride Charlie Leake Airport Development Plan will demonstrate the Village has made an investment in the Airport and that there is a long term plan for the infrastructure development and operational expansion.	NCC ⁶ VAR ⁷
<ul style="list-style-type: none"> Replace McBride Charlie Leake Airport Access Road Culvert 	Current culvert under the road leading to Charlie Leake Airport Road is undersized and must be replaced to mitigate potential for Shelby Creek flooding and risk of access road washout. A new culvert will bring the Airport Road creek crossing into compliance with provincial and federal regulations. Airport Road is the only access to the airport presently and must remain open to ensure access to the airport for all users including emergency services, itinerant pilots, maintenance personnel, hangar owners, fuel delivery and others servicing the airport.	\$250,000 VAR Grant Funding

⁶ NCC – no capital cost to the Village.

⁷ VAR – Village Administrative Resources

Action	Benefit	Estimated Costs
<ul style="list-style-type: none"> Re-write the leases and extend the term to 25 or 49 years with escalator clauses 	To grow the Airport, lease revenue and taxation will be critical. There is little incentive to invest in hangars if there is a short lease term. By extending the lease length to 25 years or more, the tenant is more likely to invest in larger, more sophisticated structures. They can get bank financing and amortize it over a reasonable time frame.	NCC VAR
<ul style="list-style-type: none"> Tender the construction and installation of the AWOS 	BCAA funding has been approved, the weather station will add value to the Airport, the construction and installation should be tendering in 2019.	\$27,487 VAR
<ul style="list-style-type: none"> Initiate conversations to secure land for runway expansion 	There is only one option for runway expansion. The Village needs to initiate the conversation with the land owner to determine if there is an option to acquire access to the land for runway expansion by lease, easement or purchase. If not, the Village has to determine what the future of the Airport is with the current runway length.	NCC VAR
<ul style="list-style-type: none"> Succession planning for Airport Manager 	The current Airport Manager works part-time and is planning for retirement. The Airport needs to have a manager. The Village will consider their needs, budget and the potential current staff that could be cross trained by the current Airport Manager.	NCC VAR
<ul style="list-style-type: none"> Develop an annual plan for tree topping 	The height of the trees interferes with the operation of the Airport. It needs to be a regular maintenance function put into the budget.	NCC VAR
<ul style="list-style-type: none"> Purchase and install security cameras at Airport 	There has been vandalism at the Airport. The purchase and installation of security cameras will reduce the incidents of vandalism either by deterring vandals or by providing information for convictions and arrests of those damaging property on the Airport.	\$5,000 VAR

Action		Benefit	Estimated Costs
Short (1-3 years)			
<ul style="list-style-type: none"> Ensure good Wi-Fi at the Airport 		Today all business needs reliable and dependable broad band service. To encourage business in the industrial park and increased aviation businesses, the Village should work with the communication supplier to improve the Wi-Fi service at the Airport.	\$2,000 VAR
<ul style="list-style-type: none"> Survey the take-off and approach area for the runway extension and transition areas 		Dependent upon the outcome of the communication with the landowner at the end of the runway, the Village should tender and hire a surveyor to survey the runway extension, the take off and approach area, the transition area parallel to the runway to clearly identify the future runway and requirements for the long term planning for the airside and groundside development.	\$20,000 VAR
<ul style="list-style-type: none"> Cost estimate and design for burying BC Hydro lines on Shovar Road 		The Village should ask their Engineering Firm to provide a cost estimate for the design and implementation of burying the hydro lines at the end of the runway. The runway cannot be extended with the hydro line as it is too low and creates a hazard to the Airport. The actual burying of the hydro line will occur at the same time as the runway extension takes place.	\$7,000 VAR
<ul style="list-style-type: none"> Develop an area and policy for camping at the Airport for itinerant pilots 		This area can be identified and the Village policies amended to allow for overnight camping. It is recommended that this site be in close proximity to existing or future water and sewer. The Camping and Tie Down area can be developed in phases. This will support itinerant pilots and those flying the Alaska Trench.	NCC VAR
<ul style="list-style-type: none"> Survey hangar line and create hangar lots⁸ using three categories of hangar size: 		One of the priorities is to generate revenue at the Airport. Surveying the existing hangar line and identifying lots for lease and putting them	\$15,000 VAR

⁸ Note that the hangar line may be developed in phases – the overall design can be accommodated upfront and lots surveyed and leased as required.

Action	Benefit	Estimated Costs
<ul style="list-style-type: none"> Private individual – 30 x 40 Commercial – 100 x 120 Corporate – 100 x 80 	on the market (along with the longer lease) will generate interest and create more business at the Airport. Creating a variety of sizes will provide a variety of opportunities for small individual pilots as well as corporate opportunities.	
<ul style="list-style-type: none"> Prepare the Tourism Master Plan (McBride received a \$92,000 BC Rural Dividend grant) and build in the Airport, the Alaska Trench and joint marketing with other airports, and identify events that could happen at the Airport to bring community to the Airport 	While the Airport is only a portion of the tourism infrastructure for McBride, it is an important component and should be highlighted in the tourism master plan. Promotion of the Alaska Trench is one opportunity but adventure and outdoor holidays are another opportunity.	Grant funding VAR
<ul style="list-style-type: none"> Install wildlife and security fencing around perimeter of Airport 	The risk of animal incidents and the past experience with vandalism demonstrate the need for wildlife and security fencing that will keep out animals and people. The fencing could be installed prior to the runway extension, with the understanding that the fence would have to be extended after the runway extension is complete. The fencing will support the security cameras and will improve the overall security of the Airport operations. This is an Airport improvement that can be funded by the BC Air Access program.	\$500,000 VAR
<ul style="list-style-type: none"> Complete engineering design for runway extension 	Once the runway extension land is acquired and surveyed, the Village will have to commission the design of the runway extension. This project is also eligible for the BC Air Access program and could be combined with the fencing.	\$100,000 VAR
<ul style="list-style-type: none"> Prepare a new helicopter pad at north end and relocate all rotary winged aircraft to north end of Airport 	While helicopters can land in non-aerodrome situations, it would be critical to designate an area dedicated to helicopter landings that would be separated from fixed wing operations. This will make operations more efficient and safe.	\$100,000 VAR

Action	Benefit	Estimated Costs
<ul style="list-style-type: none"> Prepare grant application for GPS approach 	McBride is a visual landing Airport. The installation of an Instrument Landing System is not required for an airport with this volume of traffic. However, GPS approach will improve the safety, reliability and potentially the volumes for a moderate price.	\$5,000 VAR
<ul style="list-style-type: none"> Create right of way for access road off the Highway 16 	The land for the access to the Airport expansion and the rural residential development is owned by the Village. The dedication of the road will be critical to access the groundside industrial as well as the rural residential. It will run parallel to the Village public works and recycle centre and will create an entrance to the Airport that does not go through a residential area	NCC VAR
<ul style="list-style-type: none"> Design and construct the new road off Highway 16 	This road will be required to sell and construct on the rural residential lots as well as the groundside industrial.	\$100,000 VAR
<ul style="list-style-type: none"> Prepare the Rural Residential subdivision design, rezone lands and subdivide lots 	The Village has the vision of developing rural residential lots. Once the road right of way is dedicated, the subdivision can be designed, the lands can be rezoned and the Village can pre sell lots.	\$50,000 VAR
<ul style="list-style-type: none"> Design and construct Potable Water and Sanitary Sewer Service for entire Airport and Rural residential area 	The provision of piped water and sewer are critical for the development of both the residential and industrial lands. This should be installed before any residential lots are sold. There may be some light industrial uses or hangars that can operate without piped water and sewer but to encourage the high end investment that the Village wants to attract, piped services will be essential.	\$750,000 VAR
<ul style="list-style-type: none"> Create a Specific Airport Use Zone and definitions for the Airport and amend the OCP and Zoning Bylaws accordingly. 	To encourage development at the Airport, the planning documents can be clear and supportive of the uses that the Village wants to see at the Airport. The amended OCP can function as a marketing tool for the Airport. If	\$15,000 VAR

Action	Benefit	Estimated Costs
	the Village proactively zones the Airport, this will act as an incentive for development.	
<ul style="list-style-type: none"> Construct Runway Extension (800 feet) 	Assuming that the land has been acquired, the survey and design completed and funds acquired through grant applications, the runway lengthening. This will establish the McBride Airport as an appropriate location for medical emergency services and will support corporate flights and tourism based travel.	\$5,000,000 VAR
<ul style="list-style-type: none"> Repair, crack seal and repair existing runway, taxiways and apron as required 	When the runway extension is planned, pavement management on the existing runway should be completed. Should the runway not be extended, the current runway should be repaired, along with taxiways and apron.	\$300,000 VAR
Medium (4-7 years)		
<ul style="list-style-type: none"> Design and construct first phase of Taxiway extension 	By year 4 or later, the original taxiway will have been built out and there will be demand for additional hangar line development. With the generated revenue, expansion will be warranted.	\$200,000 VAR
<ul style="list-style-type: none"> Design and construct Apron expansion (100 metres by 50 metres) 	With the anticipated growth and increased landings, additional apron space will be required to continue to grow and attract aircraft as well as service the emergency response needs.	\$500,000 VAR
<ul style="list-style-type: none"> Construct new Terminal Building 	As more people use the Airport, a Terminal Building will be required. This will double as a pilots' lounge, waiting room and muster centre for emergency evacuation activities. The optimum size would be 1,800 sq. ft. with public washroom, a shower, pilots lounge, Airport Manager office and a strategy/board room for emergency situations. This would replace the current pilots lounge and outhouse. The structure can be a moved on building, modular or stick built. Access to the building would be controlled after hours.	\$160,000 VAR

Action	Benefit	Estimated Costs
<ul style="list-style-type: none"> Add a hydrant at the north end 	When the piped water is installed, it should be looped and a new fire hydrant located at the north end of the taxi way and then connect to the groundside industrial and the rural residential developments.	\$20,000 VAR
Long Term Non Essentials		
<ul style="list-style-type: none"> Set up an airside plane washing station with piped water 	While not a critical component, a washing station would be a selling feature for pilots and add to the overall amenity package that the Airport will provide to the users.	\$5,000 VAR
<ul style="list-style-type: none"> Install appropriate electrical charging station for electric planes (and advertise) 	Electrical vehicles and in future electric aircraft will become more common. A charging station at the Airport will increase the number of vehicles who can utilize the Airport. Three phase power will be required for the industrial park development and as such the cost of installing the charging station is relatively inexpensive and there may be “green” grants to install the station.	\$50,000 VAR
<ul style="list-style-type: none"> Design and obtain funding for the installation of an Instrument Landing System (BCAA is one funding source which requires 25% funding from municipalities). GPS design and installation estimated at \$25,000 	If air traffic volumes increase significantly, the GPS approach may not be sufficient to provide the confidence and reliability in the Airport. Because this is not a mandatory requirement, this would only be feasible if grant money were available.	\$10,000 VAR
<ul style="list-style-type: none"> Construct Waterdrome (build dock, ramp, taxiway, apron) 	There is infrastructure on the east side of the runway that remains from the original Forestry base. While it is not clear what the condition of this infrastructure is, it could provide an opportunity for a waterdrome with a ramp up from the river to the taxiway and the re-introduction of an apron. This would be an ideal site for an amphibian site. The Village would start with an assessment of the infrastructure in the ground.	\$1,000,000 VAR

9.0 Recommendations and Conclusions

In summary, this Airport development Strategy is provided to the Village of McBride as a “road map” to achieve all of its goals and create the vision for this Airport. The timelines are flexible given Council’s Strategic Priorities, available resources and funding opportunities.

The Development Plan for the Airport will require a commitment from Council, significant financial resources and support from the community to achieve the vision:

The McBride Charlie Leake Airport is a safe, well-functioning airport that generates revenue to cover the operational costs, creates a variety of employment opportunities, provides the ability to handle emergency medical and evacuation aircraft, and contributes to the community on a daily basis.



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