

# RIVER EDGE CONCEPTUAL SCHEME

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## OFFICE CONSOLIDATION

This document has been consolidated for convenience only. A copy of the original Bylaw and all amending Bylaws can be obtained from Rocky View County. This office consolidation comprises the following Bylaws:

<b>Bylaw</b>	<b>Amendment Type</b>	<b>Date of Approval</b>
C-7863-2019	Original Bylaw	November 26, 2019
C-8138-2021	Amendment to Section 3.4. Original plans replaced with updated layout	April 13, 2021

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# 1. INTRODUCTION

## 1.1 River Edge Vision

The philosophy is to implement a development that contemplates an innovative form of residential design that specifically clusters smaller residential lots within a smaller footprint (within specific areas of the site). This scheme reduces the infrastructure necessary to provide access and service to parcels. In addition, this design would limit the required disturbances to the environmentally sensitive areas within the property and optimize the amount and functionality of green space. Current land use is agricultural with 100 horses grazing the lands during the winter and shoulder seasons and contains two existing residences. This designation allows for well water from the Elbow River and the use of septic fields- the solution proposed herein provides for a modern and sustainable approach to water treatment and environmental protection well beyond traditional methodologies. The proposed development with incorporated sustainable design elements is a material environmental improvement over the current application of agricultural land use, within the property, to the neighbors and the city of Calgary.

We have conducted comprehensive environmental and surrounding impact assessments to ensure our proposed design is consistent with Rocky View development principles, as well as a sustainably positive impact for our neighbors and the Springbank community as a whole. Our engineering report findings see no material issues in proceeding with the River Edge conceptual scheme.

## 1.2 Development Rationale

The purpose of the development is for the Prices' to create a family driven lifestyle, offering three generations the opportunity to collectively build a community and contribute to the broader community of Springbank. The Price family encompasses many relatives currently living in Calgary and surrounding areas. The current owners Art and Debra Price are recently retired and want to create a community that offers the opportunity to build a home comprised of family and friends. The family has strong entrepreneurial roots in Agriculture, Technology and Infrastructure and endeavors to create a sustainable modern community leveraging their diverse experience.

The Price family would introduce a sustainable community managed by a community owned Bareland Condominium Corporation ("BCC") with the following features:

- Water management- all drinking, storm and wastewater managed using latest technology and self-sustaining methodologies.
- Road infrastructure- implementation and ongoing maintenance and upgrades.
- Fibre optic infrastructure- world class Gigabit connectivity for each resident.
- Waste and Recycling- removal of waste and recycling on a weekly basis.
- Landscaping- common areas and overall grass management.
- Snow removal- all community roads and driveways.

The BCC offers city level amenities merged with the tranquility of rural living. The elimination of many manual activities currently shouldered by the homeowner in adjacent communities means the older demographic could choose to live their lives out in our community.

The ubiquitous fibre optic network to each resident in the community offers numerous environmental, health and lifestyle benefits. With world class connectivity, community members can reliably and consistently work from home simultaneously reducing the traffic impact and carbon footprint by an estimated 10 tones of CO<sub>2</sub> per year per household. This would be implemented during surface level utilities implementation placing conduit and home run fibre sheath throughout the community. The fibre would be trenched through the ditches, requiring a Municipal Access Agreement and interconnect with the SuperNet Point of Presence at the Springbank site.

The vision for the River Edge community focuses on detailed design and careful consideration of the natural topographies and unique environments surrounding the build out. Architectural sophistication and alignment will be emphasized to ensure a cohesive and aesthetically sustainable development.

The lots will aim to limit the need for alteration of the existing terrain and will facilitate the retention of diverse ecology, topography and vegetation throughout the site. The BCC management approach ensures sustainability beyond any comparable developments in Rocky View, offering city level amenities paired with the serenity of country living.

## 1.3 Development Goals & Objectives

The goal of the Conceptual Scheme is to offer a progressive solution to modern rural living, driven by family centric innovative thinking, that ensures preservation and sustainability clearly aligning with municipal objectives. The goals and objectives are closely aligned with Low Impact Development (LID) philosophies.

The following outline the key philosophies used in the preparation of the River Edge Conceptual Scheme:

- Identify areas of environmental significance within the site and ensure such areas will be preserved and integrated into the development.
- Ensure consistency in the quality and integrity throughout the development.
- Ensure high quality and uncompromising development standards.
- Incorporate innovative sustainable concepts merged with rigorous standards to promote water conservation and energy efficiency.
- Ensure the highest quality of life for all residents by providing a balance between the public areas and privacy of their owned land within the community that facilitates a safe and open community for its residents.
- The Storm Water Management Proposal will integrate existing natural storm water drainage patterns into the site design.

- Respect neighbors and local resident interests.
- Create a pedestrian friendly community through the design of a local road system and substantial open space network that incorporates existing unmaintained trails that are available for future coordination with the Active Transportation Plan.
- Create a unique residential community that takes advantage of the natural features and topography of the site, respects the adjacent country residential development, and generally enhances the unique opportunities that the site has to offer.

## 2. Existing Context

### 2.1 Local Context

The lands are legally described as NE & Pt. SE 17-24-3-W5M and includes  $\pm$  201 acres located approximately 1 mile south of Springbank Road, directly west of Range Road 34 and directly north of (and partially including) the Elbow River. The site includes two (2) residential dwellings and related accessory buildings serviced by groundwater wells and septic tanks. The balance of the site is undeveloped and contains a mix of relatively flat pasture areas (within the northern portion of the site) and sloped/vegetated areas within the southern areas (closer to the river).



## 2.2 County Plan

The current Area Structure plan is directly adjacent to River Edge on the east side of Range Road 34. This ASP is currently under review for augmentation contemplating amongst other avenues, western expansion.

This conceptual scheme adopts key themes defined in the directly adjacent ASP but seeks to establish improvements in terms of environmental impact, community contribution and sustainable management methodologies.

Price, Boychuk and Jackson (“PBJ”) development services, acting on behalf of the Price Family would establish a BCC, covering the following long-term liabilities:

- All ongoing costs related to road management, maintenance and upgrades within the community.
- All ongoing water infrastructure management costs and liabilities.
- All sewer management costs and liabilities.
- Mow and snow costs (community roads and ditches).
- Proactive mitigation of the transmission of noxious plants.

Given the inception of a BCC managing all of the above elements, PBJ proposes a re-designation of the existing property for residential purposes. As part of an approval of the conceptual scheme as described in this document, PBJ would be pleased to collaborate with Rocky View to provide any useful insight into the processes, technology and economics to create sustainable communities expanding on LID principles west of Calgary.

## 2.3 Location & Boundaries

Current landowners are:

- Arthur Price and Debra Price mutually occupying the property,
- At address 242161 Range Road 34 Rocky View County, Alberta, Canada.

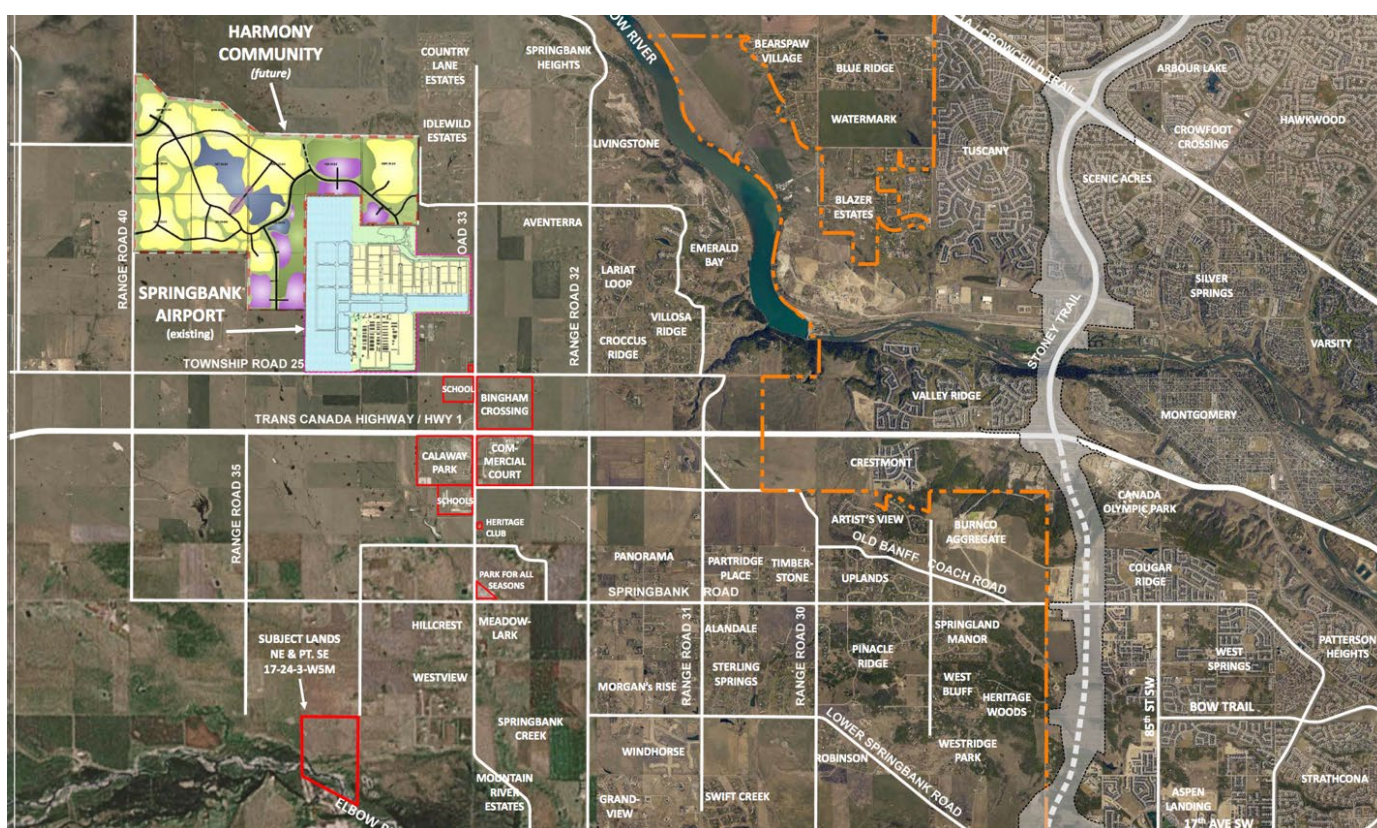
The surrounding lands are generally by default classified as RF (Ranch and Farm), with the following exceptions:

- The quarter section to the north is subdivided and designated RF-2 (Ranch and Farm Two District) to accommodate two single family homes.
- A farmstead to the NE is subdivided and designated AH (Agricultural Holding).
- The land to the south is designated B4 (Recreational Business District) for the River Spirit Golf Course.

The proposed development should be considerate of the surrounding land uses and thus, will act as a “buffer” between the Recreational Business District located to its south and the Ranch and Farm Two land use located directly north. Screening of the proposed development from the lands to the north (potentially with trees) could offer an option for protection upon collaboration if valued by the County/community.

Residential land use is developed on lands East, South and North of the Planning Area. Of note, Harmony development currently approved and under initial construction to an ultimate total of 3,600 units both North and West of the River Edge. Adjacent lands to the North, West, and East are primarily pasture land and zoned agricultural.

Parcel sizes are generally 2 acres with larger ten, twenty and forty acre parcels found adjacent on the west and north sides of the Conceptual Scheme. There are no intensive livestock facilities in proximity to the Planning Area.



## Policy

### 2.3.1 The provisions of this Conceptual Scheme shall apply to the following lands (the Planning Area):

- The NE 1/4 Sec. 17-24-03-W5M;
- That portion of the SE 1/4 Sec. 17-24-03-W5M described as follows: Commencing at the North East corner of said quarter section, thence southerly along the eastern boundary thereof 1353

feet thence north westerly in a straight line to the north west corner of said quarter section thence easterly along the northern boundary of said quarter section to the point of commencement, containing 16.6 Hectares (41 areas).

## **2.4 Compatibility with Adjacent Development**

Adjacent landowners have provided written support to the concept of this proposed development. The land is comprised of the ideal topographic characteristics. The slope towards the Elbow River Valley provides natural camouflage for the area and will largely be hidden from neighboring property's view. The following outlines and use in each direction of the proposed River Edge Developments:

- North - Agriculture land
- East - Multiple Country Residential developments
- South – Golf Course
- West – Agriculture land and potential Springbank Dam Location

The Primary development style in the Springbank area is country residential. In this development style land parcels are between 2-4 acres, there is minimal managed natural space, and well water and septic fields service each residence. The proposed cluster style development offers a more efficient use of land than the majority of the properties currently in the Springbank ASP.

### **Policy**

- 2.4.1 Continuity of roads and utility infrastructure to the neighbor to the west shall be included in the development and detailed as part of engineering ahead of development phase.
- 2.4.2 River Edge development shall abide by setbacks and provide easement for the future expansion per the Greater Springbank Functional Study.

## 3. Land Use Proposal

### 3.1 Community Design Elements

The River Edge community design contemplates the existing landform and topography. Access to future development has been considered with an easement in the Northwest corner of the Planning Area. While there is a primary entrance/exit to the community, multiple emergency exits are provided near the North East and East part of the property connecting to Range Road 34.

Purposeful lot design and the careful selection of building sites will create residential enclaves that blend the rural character with the individual desire for privacy and tranquility. In an effort to preserve the rural environment of the site perimeter fencing will not be permitted on individual lots in River Edge. In order to be sensitive to the existing landscape and environment, River Edge encourage the use of landscaping and vegetation as a natural boundary marker for homeowners to obtain privacy and consistency throughout the community.

Substantial green space has been strategically placed to allow the pedestrian to experience River Edge's unique landscape. The greenway system generally corresponds to the open grassland areas found in the Planning Area. Dedication of these grassland areas permits recreation use as well as preserves the open vistas and views.

### 3.2 River Edge Site Development Guidelines

Dwelling designs created by an architectural firm approved by the BCC in conjunction with the Development's Architectural Guidelines shall be permitted. This will ensure style continuity and thoughtful consideration of the natural elements of the area.

Consistent with county policy, dark sky standards will be implemented at River Edge. Residents will enjoy a dark sky, free from the light pollution commonly found in urban environments.

#### Policy

- 3.2.1 Before any alteration, subdivision or development may occur on the subject lands a Site Development Guidelines document shall be submitted that identifies:
  - a. The Natural Area to be protected on each lot which will include existing depressions for stormwater management, existing vegetation and other environmentally significant features to be protected pursuant to the policies of this document;
  - b. The Building Envelopes on each lot; and
  - c. The Construction Envelope on each lot.
- 3.2.2 The Site Development Guidelines document shall be registered on title with the Architectural Design Guidelines prior to or concurrent with the final Plan of Survey.

- 3.2.3 The community shall be developed according to a low-light policy (dark skies principles). Associated lighting shall be designed in a manner sensitive to a rural setting, all of which will be ground oriented and offer reduced levels of lighting within the community and power conservation.

## 3.3 Landscaping Guidelines

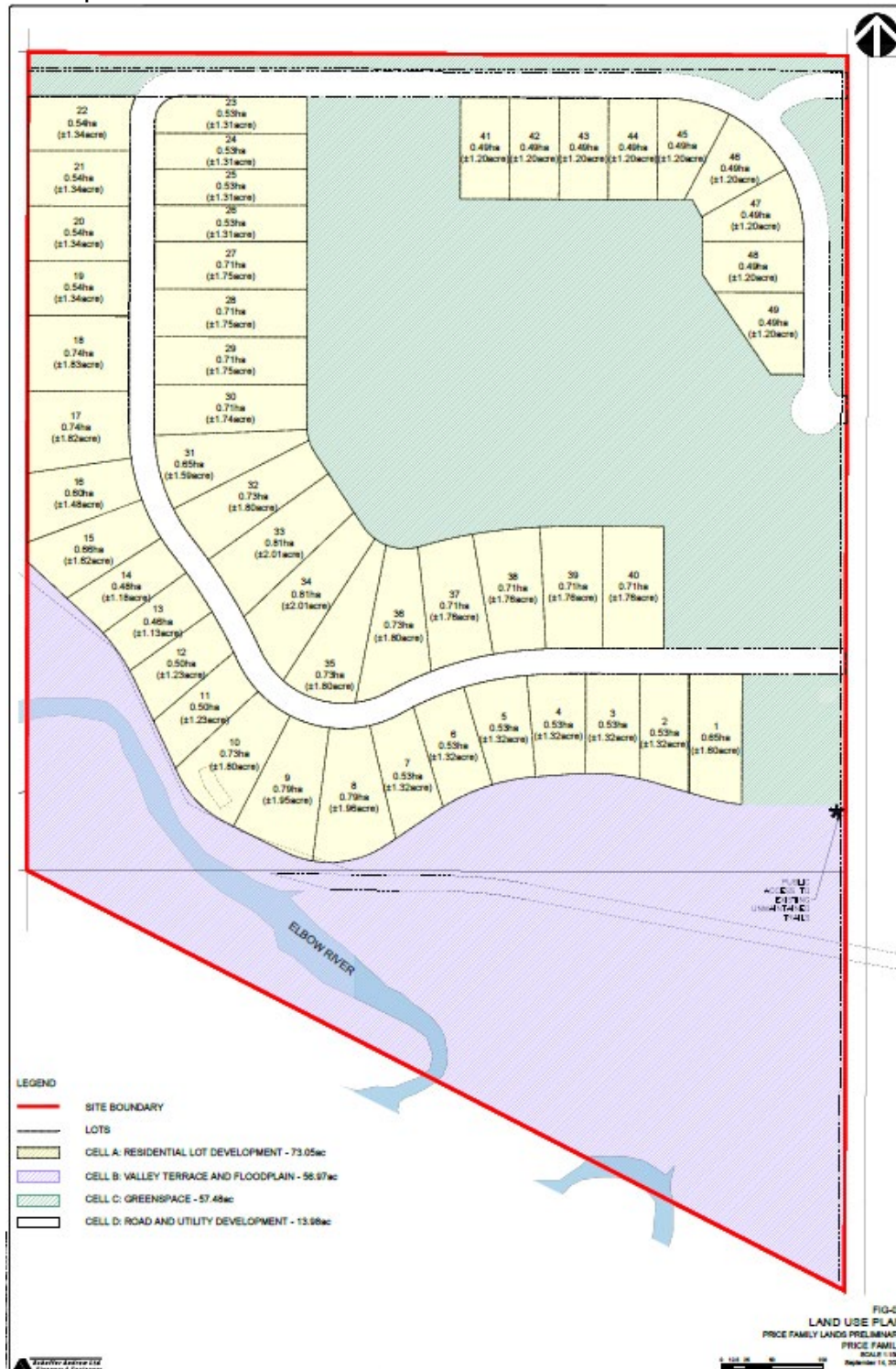
The proposed Development Area includes a rolling transition (North to South) from plateaued farmland to poplar bluffs down into the Bow River Valley. This natural gradient will be central in the landscaping theme to ensure compatibility with the natural surroundings including mindful placement of additional trees and low foliage. A Landscape Plan will be developed for public lands that facilitate the construction of passive recreational amenities and preserves as many of these landscape features as possible. Low Impact Development (LID) principles will be incorporated into the Landscape Plan to assist in managing storm water runoff.

### Policy

- 3.3.1 Landscaping within the building area shall be consistent with the surrounding landscape theme of the lot.
- 3.3.2 Planting adjacent to the house and garage shall be considered in terms of scale, texture, and colour. Trees planted alongside structures in the building area will be selected for ornamental and complimentary qualities, and also provide practical functions such as shade and wind protection.
- 3.3.3 The use of hedgerow shrub planting and vines shall be used.
- 3.3.4 Site grading will be minimized and appropriate for storm water best management practices.
- 3.3.5 The use of manicured turf will be limited and approved by the BCC.
- 3.3.6 Bio-Swales will be implemented for runoff control and natural water distribution throughout manufactured wetlands.

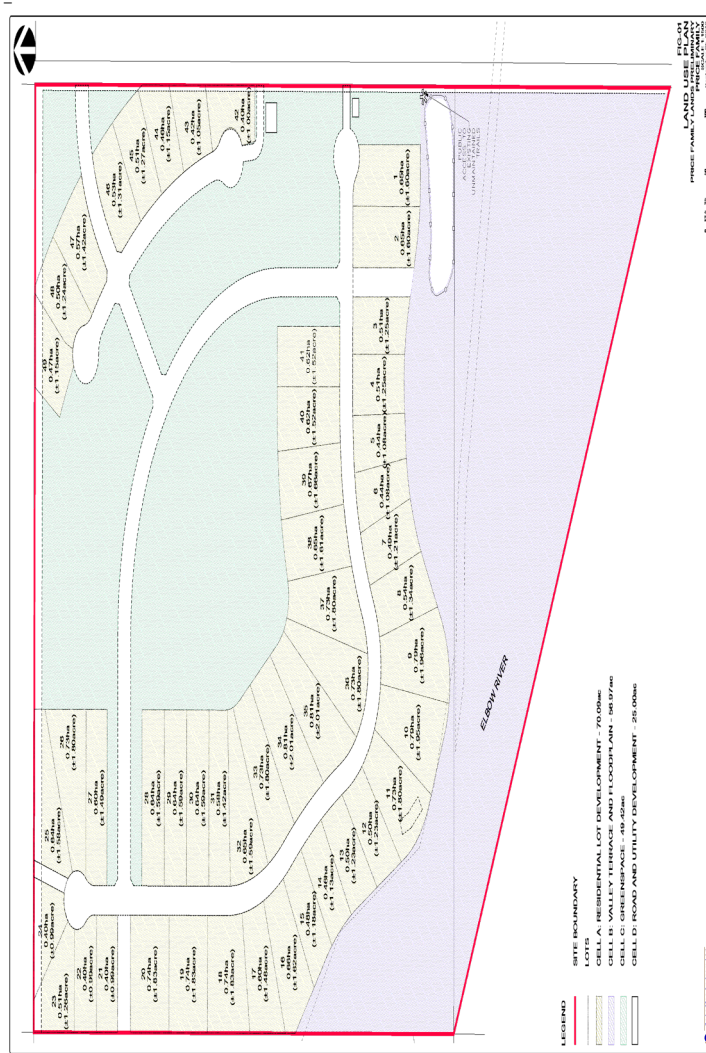
## 3.4 Subdivision & Development Concept

The following illustrates the River Edge lot layout combining all visual elements of the conceptual scheme:



The development cells are broken down into the following logical components:

- Cell A: Residential Lot Development
- Cell B: Valley Terrace and Floodplain
- Cell C: Greenspace
- Cell D: Road and Utility Development



As a New Residential Community, the development will be single detached residential housing including family homes as identified in Cell A.

Proximity to the Elbow River is the dominant feature of the development and accessibility will remain an essential theme throughout the various build out stages. The significant green space will provide the elements necessary to emulate the rural and country lifestyle character consistent with the progressive rural values coveted by Rocky View County residents.

## Policy

- 3.4.1 The Land use Districts Land use Bylaw c-4841-97 as amended, as well as Direct control Districts with Residential Guidelines should form the basis for land use re-designation applications.
- 3.4.2 With the exception of Home-Based Business, type 1, as allowed within Section 46, Residential one District (R-1) of Land use Bylaw c-4841-97, no applications for Business Development shall be accepted within the conceptual Scheme boundary.

## 3.5 Density and Lot Size

Lot density plans not exceed 49 lots for the River Edge quarter section. Cell A will allow for 49 lots ranging between 0.99 to 2.01 acres.

### Policy

- 3.5.1 For Development in Cells A, density and minimum lot size will be finalized by the developers through an amendment to this conceptual scheme in accordance with county standards and following fully engineered River Edge layout design.
- 3.5.2 For Cell A, the number of units should equal 49 lots ranging between 0.99 and 2.01 acres, finalized number of lots and sizes shall be provided to RVC ahead of subdivision phase.

## 3.6 Open Space Management Plan

Rocky View County is exploring new forms and patterns of development to accommodate a growing population without compromising its rural character and agricultural heritage. The River Edge design will strategically align with approved Rocky View County policies and will reinforce the commitment to make the County “a vibrant and desirable community in which to live”.

The open space elements within the River Edge community are areas for passive recreational activities. A minimum of 36% of the developable land will be set aside for green space. This green space will include naturalized open areas and provide for passive recreational opportunities for both residents and visitors. The open space network will create amenity value for the River Edge Planning Area and will be open to all residents of the community, as well as the greater public.

Running along the south side of the community, there are existing unmaintained trails overlooking the Elbow River. These trails would be made available to the broader community. Currently the October 2018 Active Transportation Plan “County Trails – Proposed” design terminates east of River Edge. However, as future expansion of trail infrastructure occurs west of existing plans, River Edge would be pleased to participate in discussing future trail extensions.

Open space in Central Springbank is a common resource that binds the community. The landscape, the land, views, and access to natural areas are components of ‘open space’ and

their maintenance are a high priority in the Plan Area. Open space can be enjoyed and appreciated through physical and visual access.

### **Policy**

- 3.6.1. In advance of subdivision phase, the PBJ will purchase the lands in Cell B and include in the BCC and make available to the public.
- 3.6.2 Any pathways, signage or benches shall adhere to RVC standards.
- 3.6.3 River Edge shall provide access to the public to Cell B and Cell C during normal daylight hours throughout the year.
- 3.6.4 In advance of subdivision phase, the BCC shall develop detailed access principles to Cells B and C to ensure responsible access to River Edge to ensure environmental and community protection and preservation.
- 3.6.5 Bareland Condominium Corporation shall provide grass cutting and comprehensive management of natural vegetation within Cell C.

## **3.7 Pathway Connections**

An existing unmaintained pathway system will be fully interconnected and maximize exposure to the natural areas including access to the Elbow River valley.

The Rockyview Active Transportation Plan has “proposed county trails” that currently stop east of the River Edge property. The unmaintained trails within the community, however, will be open to the public for enjoyment.

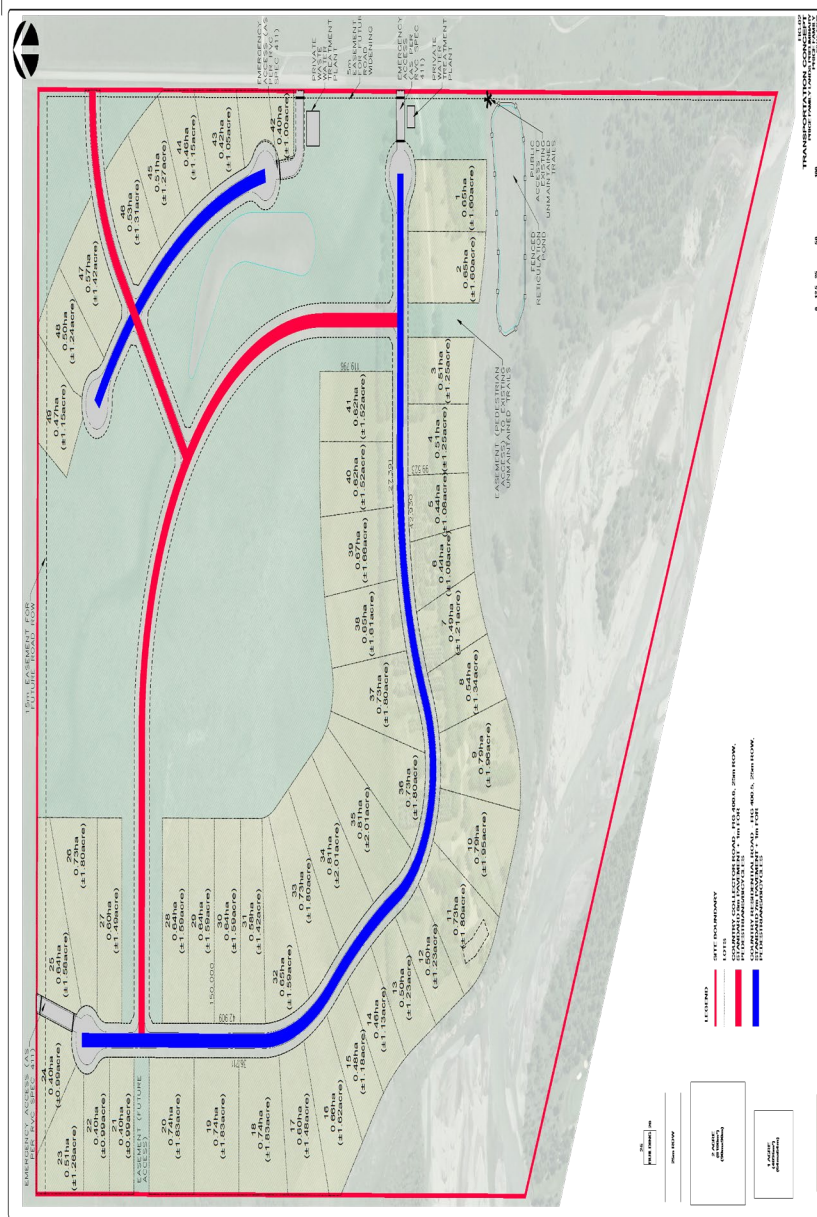
### **Policy**

- 3.7.1 River Edge commits to participate in subsequent planning of the Rockyview Active Transportation Plan if expansions contemplate River Edge land.
- 3.7.2 River Edge shall provide signage, pavement markings, and other required safety features at pedestrian crossings at the appropriate locations consistent with RVC standards upon final design ahead of subdivision.

## **4. River Edge Transportation**

### **4.1 Vehicular Accessibility**

Access to the Conceptual Scheme Area will be provided from Range Road 34 and Springbank Road. The following is a map of the proposed transportation infrastructure:



## 4.2 Transportation Network and Improvements

The intersection of Springbank Road and Range Road 34 may require upgrades. These could include East and West bound turn lanes along Springbank Road and additional work as required by Rocky View County.

Range Road 34 requires upgrading to Alberta Transportation secondary highway standards or as required by Rocky View County. Upgrades will be required from the junction at Springbank Road and Range Road 34 South 2.2 Km to the proposed developments North access. Based on the relatively small scale of this development and the moderate traffic volume on Springbank Road it is unlikely any upgrades will be required to this thoroughfare excluding RR 34 intersection.

Proposed development will have two access points from Range Road 34. The North access will be primary egress and handle the daily traffic volumes. The access on the Central-East and South-East edge of the development is for emergency vehicle access.

## **Policy**

- 4.2.1 Range Road 34 shall be upgraded to Alberta Transportation secondary highway standards at the holistic cost of PBJ.
- 4.2.2 The proposed development shall have three access points from Range Road 34; the North East primary access point, the Central-East Emergency Exit and the South-East Emergency Exit.
- 4.2.3 If necessary, access to adjacent Development cells may be provided at temporary locations until such time as the county approves permanent connections.
- 4.2.4 Deep utilities may be permitted inside or outside of the road structure in Cell D in accordance with county standards.
- 4.2.5 A road acquisition agreement to accommodate future development on the NW corner of the Planning Area shall be implemented for potential future expansion of adjacent western properties by the River Edge development in Cell D.
- 4.2.6 The internal road network shall be developed in general accordance with Figure illustrated in 4.1 and the County's Servicing Standards. The planned roadway system within Cell D shall be based upon the M.D. of Rocky View standards and wide enough to incorporate a safe area for cyclists and pedestrians.

# **5 Community Servicing Strategies**

The River Edge community will provide for a comprehensive network of supporting infrastructure to allow for the efficient and economical servicing of the Planning Area. Please refer to the conceptual map provided in section 3.4 for details of the water infrastructure plan.

## **5.1 Potable Water**

River Edge will be provided with potable water through an agreement reached with Bow Water and Land Limited Partnership ("BWL") (please refer to Appendix F). The mutual terms of agreement by PBJ and Bow Valley confirm a sale of 30 acre feet of water to River Edge providing the appropriate servicing for our residences contemplated in the conceptual design. Utilizing the urban standard consumption rate of .33 acre/feet per home River Edge will have approximately 30% surplus potable water capacity at full buildout. The granted water license draws through a recirculation pond from the Elbow River with access through the River Edge property.

An engineered water distribution network will be installed within the Planning Area with connections to each residence within the River Edge community.

A treatment plant will be constructed to the east of the proposed lot #1 in the SE corner of the subdivision. The agreement allows for BWL or River Edge to operate the potable water supply. Required permitting, licensing and water act approvals will be in place prior to subdivision construction beginning.

### **Calalta Servicing**

During the original application of River Edge submitted to RVC in October 2017, PBJ had understood that there was no available potable water capacity from Calalta. As of September 2019, RVC has represented that Calalta has added additional water capacity and may be in a position to providing potable water servicing to River Edge.

Following approval of the Conceptual Scheme, PBJ will pursue commercial discussions with Calalta on substantially similar terms as currently held with BWL to determine mutual fit from an economic and environmental impact point of view. PBJ will also consider RVC administration long term infrastructure objectives for the Springbank area. In the event we are able to achieve an agreement with Calalta we would revise our application and include as part of our submission for Subdivision Approval.

### **Policy**

5.1.1 All lots shall be serviced indefinitely with PBJ's ~~water license agreement~~ **water license agreement** ~~with Bow Water and Land Limited Partnership water license~~ in accordance with county standards.

5.1.2 All lots within the River Edge Conceptual Scheme will be designed for service with an approved piped potable water service in accordance with County standards. License will comply with AEP, RVC and PUL.

5.1.3 The piped water system shall provide for fire flow requirements via a hydrant suppression system in accordance with county standards.

### **Environmental Preservation**

~~An important environmental strategy for~~ River Edge **strategic objective** is to reduce the amount of potable water consumed on a per capita basis through implementation of water demand reduction practices including the following:

- Water meters for all development within River Edge, ensuring transparency of consumption for more informed and conservative water use.
- River Edge wide standards to include low-flow water fixtures (taps, toilets, showers), providing for standardized water use mitigation measures.
- Requiring all home owners within River Edge to implement a combination of low-flow irrigated and xeriscape landscape technology, as well as designed rainwater collection systems.

## **5.2 Sanitary Sewage**

Effluent generated by the development within the Planning Area will be collected and treated via a communal sanitary system. Presently PBJ has engaged with Orenco Systems for deployment of their AX-Max residential sewer system for River Edge. The AX-MAX is a leading methodology for tertiary treatment systems that are commercially available to treat effluent for a development of this size. This modular style of sanitary effluent treatment is regularly implemented in Northern Alberta, remote areas of British Columbia, the Northwest Territories and across the United States. This technology is proven and reliable with broad acceptance from national and provincial regulatory bodies including Environment Canada, and Alberta Environment & Parks (AEP). It has also been approved for similar use within Rocky View County for the Silverhorn development.

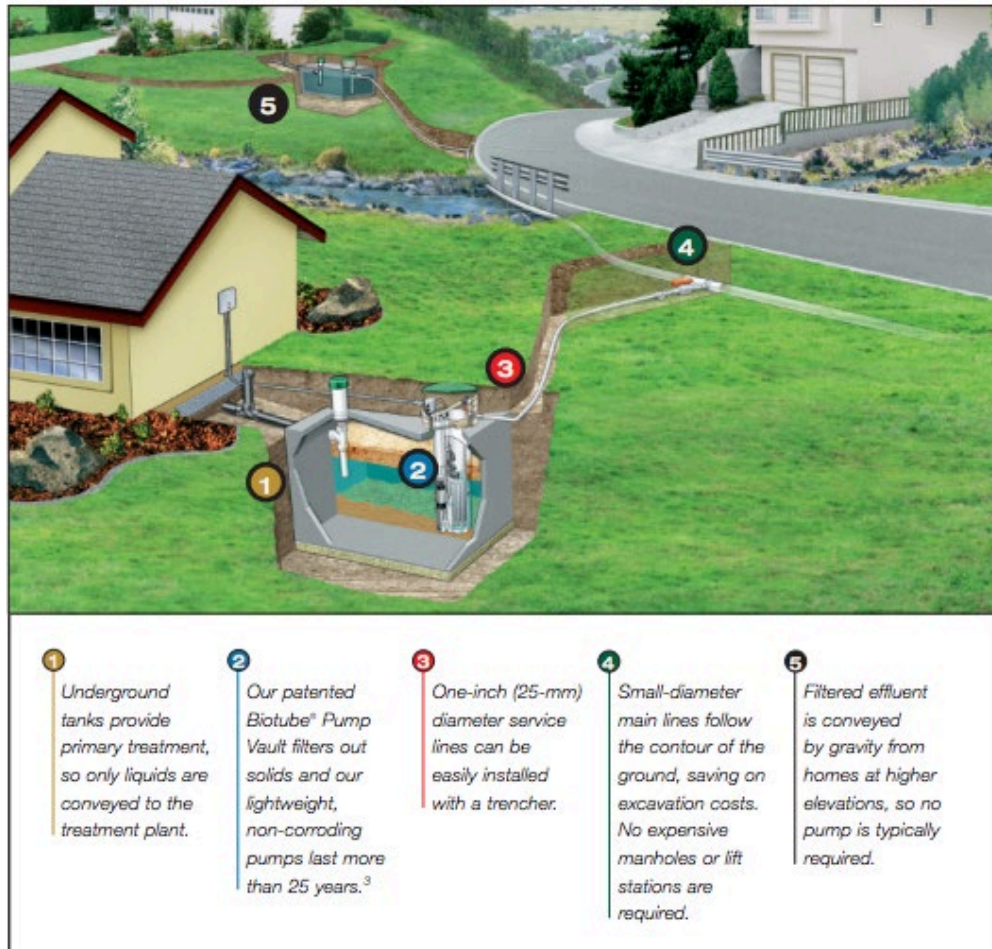
The sanitary system will closely mimic a robust urban sewer collection system. The developments treatment plant will include lot holding tanks, piping conveyance system and an AX-MAX treatment unit.

Raw sewage flows from the homes to an underground tank where the sewage is pretreated on each individual lot with a holding tank or two compartment septic tank. Only the filtered liquid is discharged through the service lines to shallow, small-diameter collection lines that follow the contour of the land. The treated effluent is transported to the treatment plant (AX-Max Unit) with a turbine pump. The pump is housed in the same septic tank that is on each individual lot. The piping for the common line to the treatment plant will follow the side of the road.

Typically, the effluent once passed through treatment plant, is dispersed sub-surface or at grade in greenspace. These methods distribute the effluent over suitable soils that would be able to treat the effluent to an acceptable quality that allows for safe re-entry into the water cycle. The treated wastewater will meet regulatory standards for natural watercourse release, which is suitable for a variety of reuses.

Solids collected in each of the home sites holding tanks will be collected and removed from site via vacuum truck for proper recycling at an AEP approved sanitary facility. Normal home consumption would lead to tank servicing every six to ten years, as the tank facilitates digestion for over 80% of accumulated solids.

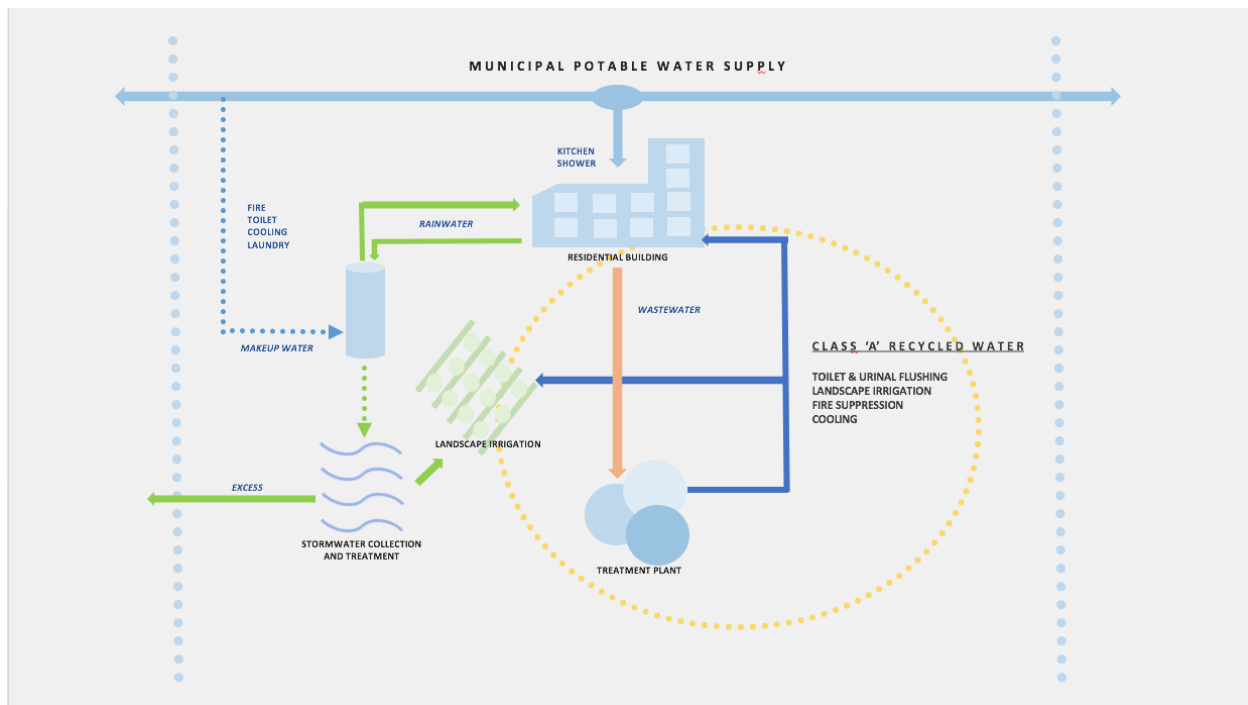
The figure below illustrated the Sanitary Process:



Treated water reuse is a water management strategy whereby a second treated water supply is supplied to homes for water intensive non-potable use. Irrigation, toilet operation, fire suppression and cooling are a few examples. This treated water supply will be drawn from the onsite wastewater treatment plant in accordance with the Canadian Water Reuse Standards, CSA Standards B128.01- 06/B128.2-06/B128.3-12 & Health Canada guidelines.

Reduced effluent volumes will be realized through the implementation of comprehensive water conservation strategies. This will reduce overall water resource demands, reduce storm water impacts, reduce total wastewater volume & reduce contaminants entering the environment. Onsite wastewater treatment and reuse is a cornerstone of ensuring River Edge development is at the leading edge of Low Impact Developments, raising the bar for water management in Rocky View County.

The following provides a conceptual view of the River Edge holistic water treatment plan:



## 5.3 Sanitary Sewage

Developments within the River Edge Conceptual Scheme will be designed as part of a regional wastewater system. Over-sizing of the wastewater mains can be appropriately engineered to accommodate adjacent developments, in addition to any offsite areas included in the regional servicing strategy. Individual private sanitary disposal systems will not be accepted.

### Policy

- 5.3.1 Internal servicing systems and networks within the Springbank conceptual Scheme shall be in accordance with county standards for connection to regional systems.
- 5.3.2 Each home will connect to a shared wastewater treatment system designed by qualified professionals in accordance with Alberta Environment guidelines.
- 5.3.3 The wastewater treatment facility is to be located on a Public utility Lot in Cell D to the satisfaction of the County.
- 5.3.4 Each residential parcel shall contain a minimum of 0.99 contiguous acre in accordance with the county servicing standards.
- 5.3.5 Under no circumstances will septic pump out systems, treatment lagoons or open discharge from septic tanks be permitted.
- 5.3.2 5.3.6 A sludge disposal plan will be prepared to the satisfaction of the county prior to the approval of the construction of the wastewater treatment system.

- 5.3.7 Effluent generated by the development within the Planning Area will be collected and treated via a communal sanitary system in Cell D.
- 5.3.8 Each home will connect to a shared wastewater treatment system designed by qualified professionals in accordance with Alberta Environment guidelines.
- 5.3.9 The wastewater treatment facility will be located in Cell D as described in the “Municipal Potable Water Supply” diagram above.
- 5.3.10 Under no circumstances will septic pump out systems, treatment lagoons or open discharge from septic tanks be permitted.
- 5.3.11 The Wastewater treatment system shall be constructed, refurbished and managed by the BCC.
- 5.3.12 The wastewater treatment pipeline infrastructure shall be designed to accommodate the volume needs of the 49 residential units within River Edge, fully engineered designs will be provided to RVC ahead of subdivision phase.

## 5.4 Storm Water Management

The proposed development area falls outside of the existing Springbank Master Drainage Plan. Ensuring usage of best in class water management practices will help shape the framework for the next master drainage plan. The River Edge will fully develop a comprehensive, well-contemplated surface run-off and Storm Water Management plan, raising the bar for future LID's.

Given the location of the Conceptual Scheme Area relative to the Elbow River and the necessity to safeguard any flows to the Elbow River, a staged master drainage plan is required. Such report shall be consistent with “A Report on Drainage Strategies for Springbank” by Westhoff Engineering Resources Inc. January 2004.

Bio-Swales & drainage corridors will divert excess runoff to Storm Ponds while safeguarding natural watercourse flows to continue the drainage course to the Elbow River basin in accordance with an approved drainage strategy.

Conveyance-system best management practices will be integrated into the open space network. They will include bio-swales, which are an excellent conveyance system, where the grassy vegetation & granular weirs alter suspended solids and significantly reduces sediment loads into natural drainage courses or Storm Ponds.

Collection and storage “Storm Ponds” will be a combination of wet ponds & wetlands. These facilities will be the last stop for surface water prior to release in the Elbow River Drainage Basin. Wet Ponds in conjunction with Wetlands are best in class at providing water quantity control and treatment of runoff.

The proposed subdivision design and site characteristics are specifically designed to integrate many of these best management practices throughout the development area in accordance with the LID nature of the development. Properly planned, designed, and constructed, they provide

benefit to the development, safeguard the environment, and demonstrate water conservation through implementation of Best Management Practices.

The Developer, as part of the tentative plan of subdivision, shall establish detailed erosion and sedimentation control plans during construction to the satisfaction of the County.

### **Policy**

- 5.4.1 Where applicable, swales and ditches within the municipal road allowances may be used for regulation and conveyance of storm water flows and not for storage purposes in accordance with county standards.
- 5.4.2 The River Edge Development, as part of the tentative plan of subdivision, shall establish detailed erosion and sedimentation control plans and submit to Rockyview during construction in accordance with county standards.

## **5.5 Solid Waste Management**

A solid waste and recycling management plan shall be provided for the entire River Edge Planning Area prior to implementation of infrastructure following subdivision approval. Implementation of the solid waste and recycling management plan shall be the responsibility of the BCC, at the discretion of the Municipality.

### **Policy**

- 5.5.1 The BCC shall deliver a solid waste and recycling management plan to Rockyview ahead of subdivision phase.

## **5.6 Shallow Utilities**

Shallow utilities will be provided by the appropriate utility company providing service to the Planning Area at the sole expense of PBJ. ATCO will provide natural gas and Fortis will provide electrical services to the River Edge Development. PBJ has made arrangements for Axia to be the provider of fiber-optic infrastructure. PBJ will provide easements to any utility company requiring them to provide services to River Edge.

### **Policy**

- 5.6.1 Shallow utilities will be provided by the service providers at the sole expense of PBJ. Easements will be provided as required.

## **5.7 Community Service Levels**

Fire protection and ambulance services are provided to the River Edge Planning Area and the greater Springbank community by the Municipality either directly or through agreements with other municipalities or the Province.

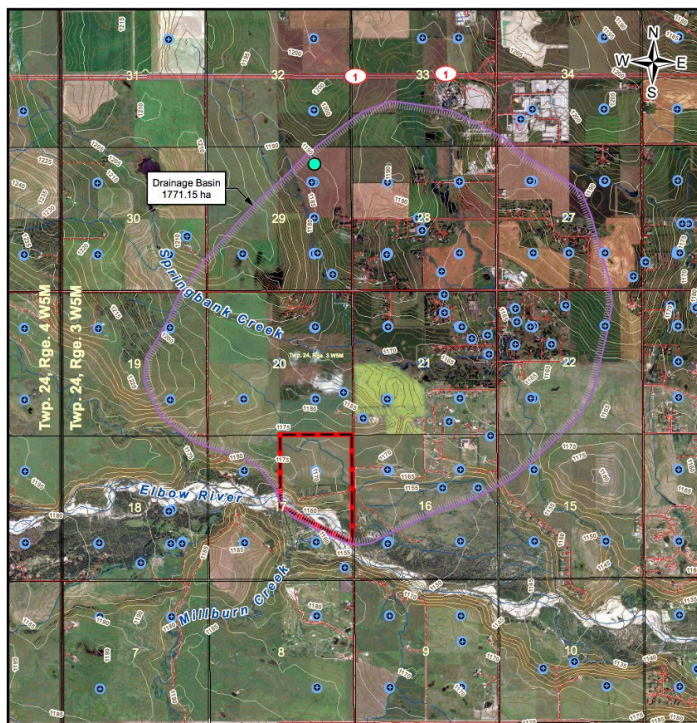
Protective services are provided to the River Edge Planning Area and the greater Springbank community by the RCMP and the Municipality's Protective Services.

## 6. Environmental

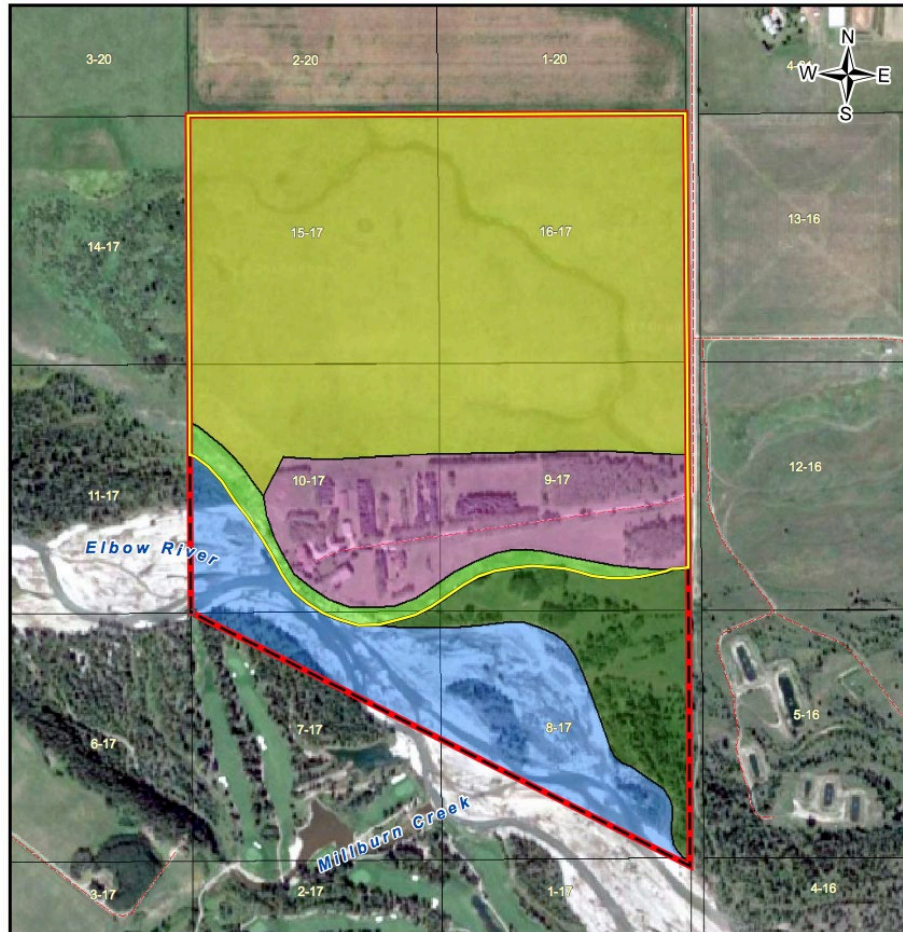
### 6.1 Biophysical Impact Assessment

Existing land use within the project site is agricultural (seeded pasture) and residential/farm yard, with associated barns, sheds, and corrals. Trees are confined largely to the farm yard and riparian valley in the southern portion of the project area. A shrubby swamp, temporary marsh, ephemeral water body, and ephemeral drainages are also present. The site is located on the plateau and slopes of the Elbow River Valley system.

The following diagram shows the hydrology within the proposed land:



The diagram below illustrates the Land Use and Habitats within the proposed project site:



Yellow: Seeded Pasture  
 Pink: Treed Yard Site  
 Light Green: Shrub-dominated Valley Scope  
 Dark Green: Aspen-dominated Valley Terrace  
 Blue: Riparian Flood Plain

Conversion of the site's existing agricultural land use to residential lots has the potential to alter River Edge current topographical and biological features. Points of analysis included the impact assessment on:

- Farmland
- Breeding and foraging habitat for wildlife
- Wetland function
- Change in topography
- Topsoil
- Air Quality and noise levels
- Site aesthetics

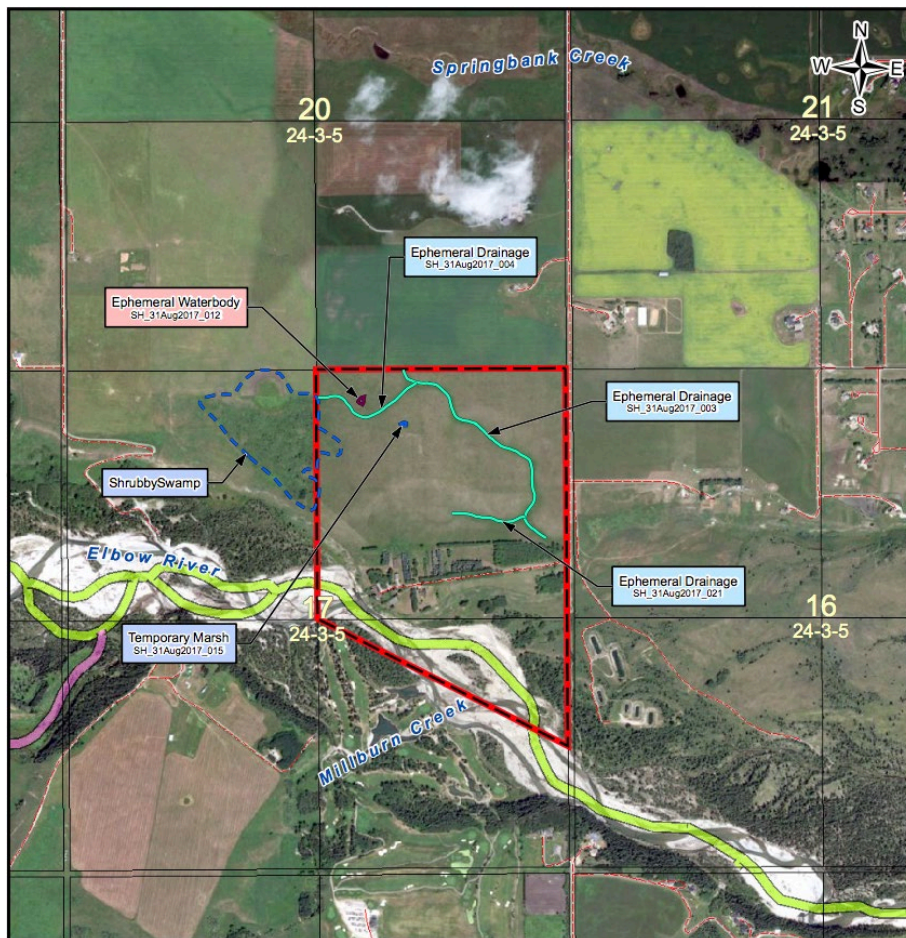
- Human health and or safety

The analysis concluded that with industry standard mitigation strategies, residual impacts are expected to be low with a high degree of expert confidence. Please refer to Appendix A for detailed findings of the BIA study.

## 6.2 Wetlands and Waterbody Assessment

One ephemeral waterbody, and one temporary marsh are located within the project area, and the east edge of a shrub swamp is traversed by the west boundary of the project site. The ephemeral waterbody and temporary marsh are small size, with low vegetation diversity, and do not hold water for most of the growing season. The Ecological function is low. The wetlands or waterbodies assessed are not visible from a public access point (such as a road), hold no recreational potential, contain no rare or unique species, and are not accessible by the public (private-owned lands). Socio-economic function for all three waterbodies/wetlands is low.

Wetland boundaries illustrated in the Hydrology assessment in the following diagram:



For more information on Wetlands please refer to Appendix A.

## 6.3 Phase 1 Environmental Site Assessment

Phase 1 Environmental Site Assessment returned clean with no persistent issues for residential development.

Site detail and On-Site APEC's shown below:



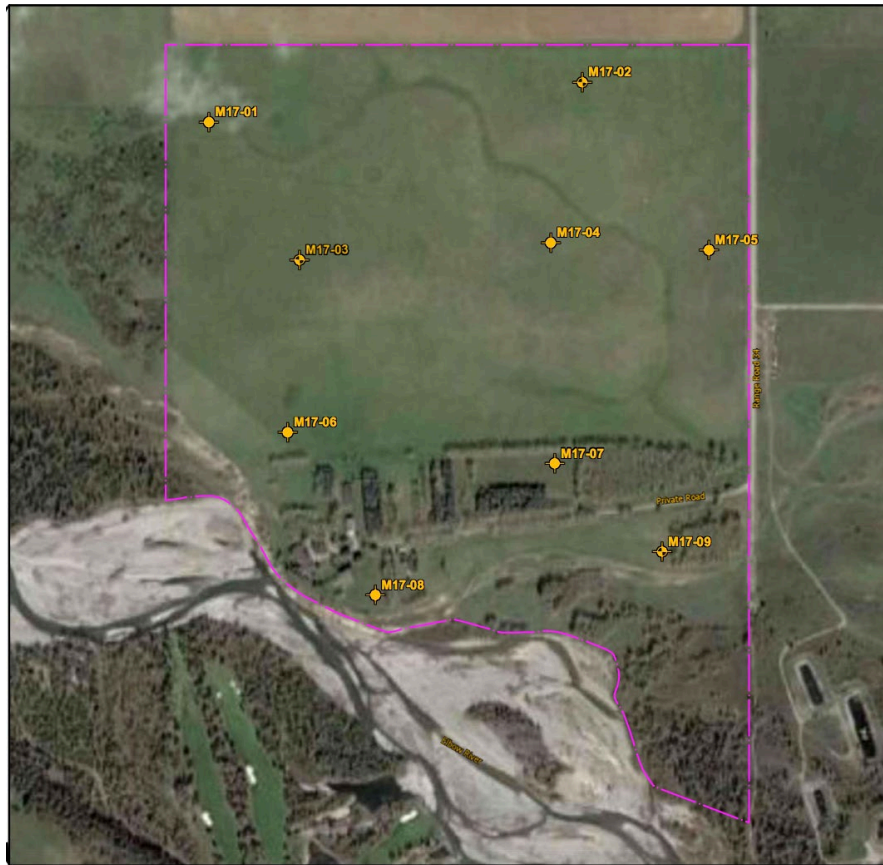
Three aboveground storage tanks (ASTs) containing fuel were present northwest of the shop building and adjacent to the driveway on the Property and, according to the questionnaire, have been present at this location for more than 35 years. The ASTs were noted to be in good condition with no visible signs of staining on or surrounding the units, but secondary containment was not used for the ASTs. These ASTs would be removed upon approval to

proceed with subdivision of the property. Upon removal of these tanks, impact to the property would move from moderate to low. Regulatory correspondence did not identify any environmental risks associated with the Property or surrounding area.

For detailed findings of the Environmental Site Assessment please refer to Appendix B.

## 6.4 Geotechnical Investigation

Nine Wells were drilled as part of the geotechnical investigation. The locations of the drilled sites are depicted in the following image:



The site soil conditions are favorable for the proposed development. The groundwater table was found to be greater than 9.5 mbg in the three monitoring wells installed, when measured two weeks following installation. Consequently, the groundwater is not expected to impact the construction during excavations.

Existing ground contours are as follows:



For the balance of the on-site roadway, the relatively thick layer of silty clay can bridge the entire site and distribute vehicular loading, thus minimizing the amount of imported engineered fill required. To provide an adequate roadway surface, a prepared clay sub-grade followed by a granular sub-base and capped with a granular base course will be implemented. A geotextile separating strip will be utilized to minimize the migration of fines into the gravel base course and to reduce the gravel sub-base thickness.

For more information on the Geotechnical investigation, please see Appendix C.

## 6.5 Topography and Drainage Report

The natural topography and drainage patterns for the site are highly conducive to the proposed development. In the developable area the water currently drains towards the Elbow river if it has not pooled in one of the three wetlands. The 40 acres of land below the developable area will not experience any change as part of this project, maintaining its natural habitat and drainage character.

For more information on the Topography and Drainage assessment in Appendix H a report will be provided shortly following application.

## 7. PUBLIC CONSULTATION

### 7.1 Process

The River Edge Conceptual Scheme began with an understanding that good community relations are part of any successful development.

The Partners of PBJ met with all adjoining landowners in the Spring of 2016. Signed letters or verbal confirmation of support from each adjacent neighbor were obtained, see letters of support in Appendix G.

PBJ has also met with Paul Rudolf, General Manager for the River Spirit Golf Course to the South of River Edge. Paul and team are supportive of the progressive concept contemplated by River Edge and are motivated to strategically align our initiatives to ensure environmental preservation and recreational support.

To date, PBJ has held two public open houses inviting community members to learn about the proposed development and detailing residential density, lot size, waste water treatment, environmental reserves, traffic impacts, and amenities including public access to the trail system along the Elbow River.

The first open house was held Sunday January 7, 2018 and a second was held on Tuesday Feb 13, 2018. Guests included community members that wished to learn more about the proposal and non-residents that had an interest in viewing the lands with intent to move into the community upon completion. The feedback from community members and neighbors was positive; the innovative approach to the development was applauded. PBJ was also encouraged by prospective customers representing a diverse demographic from Springbank, Calgary and other communities.

PBJ has also held several bilateral conversations with passionate community members and stakeholders. These include Springbank residents that wished to share their experiences living in subdivisions, architects, and homebuilders that endeavor to invest in the River Edge approach and see the precedent setting value for westward expansion.

### 7.2 Community Stakeholders

PBJ has met with several of the Springbank community organizations to learn about their objectives and discover how they may further align the initiatives of the development with the proposed community. PBJ has met with Springbank Park for All Seasons, Springbank Trails and Pathways Association and the Springbank Heritage Club.

In summary, common themes based on PBJ comprehensive community engagement is as follows:

- River access is important for recreational activities.
- Affordable options for young families and seniors provide a diversification opportunity that is critical to the sustainability of Springbank community.

- Clustering of lots with central management of critical amenities offers an improved lifestyle to the existing larger lot, self-managed concept evident in the current Springbank ASP.
- The community is motivated to build community fabric through supporting of/connecting to the centralization of a “community hub” both STAPA and SPFAS are key leaders of this philosophy.
- There is motivation for responsible, environmentally sustainable development and strong opposition to “Not In My Backyard” advocates.
- Unsolicited and meaningful interest in pre-orders for River Edge lots, confirming consumer and industrial interest in this concept.

PBJ will continue strengthening existing relationships and expanding its engagement across the community to ensure comprehension is high and feedback is incorporated into the long-term plans of River Edge.

## 8. PHOTOGRAPHS



Subject Lands.



Southwesterly view over the Elbow River.



Southwest view. Photo Taken from the NE corner of the lands.



North side of existing paved driveway. Looking west.



Southwest view taken from the SW corner of the lands.