

# Bearspaw Heights

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## Bearspaw

### Conceptual Scheme

SE-13-26-03-W5M, being Plan 1501 LK, Block 7



Sim-Flo Systems Inc.



Western Water Resources (WWR) Inc.

Pintail Environmental Consulting Inc.



Carswell Planning



Submitted to Rocky View County, September 2018 (revised)  
December 2018 (rev. 6)

**BYLAW C-7836-2018**  
**A Bylaw of Rocky View County**  
**known as the Bearspaw Heights Conceptual Scheme**

The Council of Rocky View County enacts as follows:

**PART 1 – TITLE**

This Bylaw shall be known as Bylaw C-7836-2018.

**PART 2 – DEFINITIONS**

In this Bylaw, the definitions and terms shall have the meanings given to them in the Bearspaw Heights Conceptual Scheme, and the *Municipal Government Act*.

**PART 3 – EFFECT OF BYLAW**

**THAT** Bylaw C-4129-93, known as the “Bearspaw Area Structure Plan”, be amended in accordance with amendments contained in Schedule ‘A’, attached to and forming part of the Bylaw; and,

**THAT** Bylaw C-7836-2018 being the “Bearspaw Heights Conceptual Scheme”, be adopted, affecting Block 7, Plan 1501 LK as defined in Schedule ‘B’ which is attached to and forms part of this Bylaw.

**PART 4 – TRANSITIONAL**

Bylaw C-7836-2018 comes into force when it receives third reading, and is signed by the Reeve/Deputy Reeve and the CAO or Designate, as per the *Municipal Government Act*.

Division: 08

File: 06713003/PL20170078

PUBLIC HEARING WAS HELD IN COUNCIL this

8<sup>th</sup> day of January, 2019

READ A FIRST TIME IN COUNCIL this

8<sup>th</sup> day of January, 2019

READ A SECOND TIME IN COUNCIL this

8<sup>th</sup> day of January, 2019

UNANIMOUS PERMISSION FOR THIRD READING

8<sup>th</sup> day of January, 2019

READ A THIRD TIME IN COUNCIL this

8<sup>th</sup> day of January, 2019

  
\_\_\_\_\_  
Reeve

  
\_\_\_\_\_  
CAO or Designate

January 8, 2019  
\_\_\_\_\_  
Date Bylaw Signed

## ACKNOWLEDGEMENT PAGE

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### ON BEHALF OF:

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Bison Historical Services Ltd.  
Carswell Planning Inc.

Cover photo credit: Wikipedia, "View of Canadian Rockies from Bearspaw"

Contents

<b>1.0 INTRODUCTION</b>	<b>1</b>
1.1 Purpose of this Plan	1
1.2 Development Rationale	1
1.3 Primary Development Considerations	2
1.4 Conceptual Scheme Objectives	3
<b>2.0 POLICY CONTEXT</b>	<b>3</b>
2.1 Intermunicipal Development Plan	3
2.2 County Plan	4
2.3 Bearspaw Area Structure Plan	5
<b>3.0 PLAN AREA DESCRIPTION</b>	<b>7</b>
3.1 Location	8
3.2 Legal Descriptions & Ownership	8
3.3 Adjacent Lands	8
<b>4.0 EXISTING LANDS</b>	<b>9</b>
4.1 Local Development Context	9
4.2 Existing Transportation Infrastructure	9
4.3 Existing Utility Services	10
4.4 Existing Land Use	10
4.5 Existing Site Conditions	12
4.6 Existing Wetland Assessment	14
4.7 Existing Historical Resources	16
4.8 Existing Protective and Emergency Services	16
<b>5.0 DEVELOPMENT CONCEPT</b>	<b>16</b>
5.1 Development Concept	16
5.2 Land Use Concept	18
5.3 Residential Area	18
5.4 Municipal Reserves	19
5.5 Public Utility Lot	20
5.6 Roads	20
5.7 Utility Services - Stormwater	22
5.8 Utility Services – Water	27
5.9 Utility Services – Sanitary Wastewater	28
5.10 Shallow Utilities	28
5.11 Solid Waste and Recycling	28
5.12 Protective and Emergency Services	29
<b>6.0 IMPLEMENTATION FRAMEWORK</b>	<b>29</b>
6.1 The Conceptual Scheme Implementation Process	29
6.2 Land Use Redesignation	29
6.3 Subdivision Application	29
6.4 Architectural Design Considerations	30
<b>7.0 PUBLIC ENGAGEMENT</b>	<b>30</b>
7.1 Open House	30
7.2 Potential Surrounding Development	31

## List of Figures

Figure 1: Future Land Use Scenario – Bearspaw ASP .....	2
Figure 2: RVC / Calgary Intermunicipal Development Plan NW Section.....	4
Figure 3: Concept Scheme Areas – Bearspaw ASP.....	7
Figure 4: Location .....	8
Figure 5: Aerial Image of Adjacent Lands.....	9
Figure 6: Existing Water Servicing .....	10
Figure 7: Current Land Use Bylaw Districts.....	11
Figure 8: Photos of Areas of Minor Grazing .....	11
Figure 9: Wetland delineation.....	12
Figure 10: Mosaic Photo of Wetland in Winter (looking west showing dugout) .....	12
Figure 11: Pre - Development Catchment Areas .....	13
Figure 12: Mosaic Photo of Wetland in Summer (looking north) .....	14
Figure 13: Mapping of Wetland .....	15
Figure 14: Development Concept.....	16
Figure 15: Lot Sizes for <i>Bearspaw Heights</i> .....	17
Figure 16: Rendering of Typical Country Residential Dwelling .....	19
Figure 17: Rendering of Typical Cul-de-Sac Road .....	20
Figure 18: Transportation – Bearspaw ASP .....	21
Figure 19: Traffic Counts at Intersection of Township Rd 262 and Bearspaw Rd .....	22
Figure 20: Ponding in <i>Plan Area</i> and Environs .....	23
Figure 21: Post - Development Catchment Areas .....	24
Figure 22: Proposed Stormwater Pond Cross-section.....	25
Figure 23: Proposed Discharge/Overflow Pipe Schematic .....	25
Figure 24: Water Servicing.....	27
Figure 25: Photo of Bearspaw Fire Station 103.....	29
Figure 26: Storyboards of Open House.....	30
Figure 27: Conceptual Scheme Environs, 2018 .....	32

## List of Tables

Table 1: Development Concept Calculation .....	17
Table 2: Pre and Post Development Peak Hour Analysis .....	21

## ***Bearspaw Heights* Conceptual Scheme**

### **1.0 INTRODUCTION**

#### **1.1 Purpose of this Plan**

The Conceptual Scheme, named ***Bearspaw Heights***, has been prepared pursuant to the Rocky View County (RVC) Plan (Bylaw C-7280-2013) and Bearspaw Area Structure Plan (Bylaw C-4129-93) to provide supporting rationale for redesignation and subdivision of  $\pm 7.98$  ha ( $\pm 19.73$  ac) comprising one-eighth of SE-13-26-03-W5M, being Plan 1501 LK, Block 7. The site is municipally known as 262053 Bearspaw Road (Range Road 30).

The Conceptual Scheme is a non-statutory plan intended to describe the developer's rationale and motivation to establish a new subdivision with associated land uses. The policies of this Plan have been prepared to provide direction regarding subsequent land use redesignation, subdivision, and development permit applications required to implement the ***Bearspaw Heights*** development.

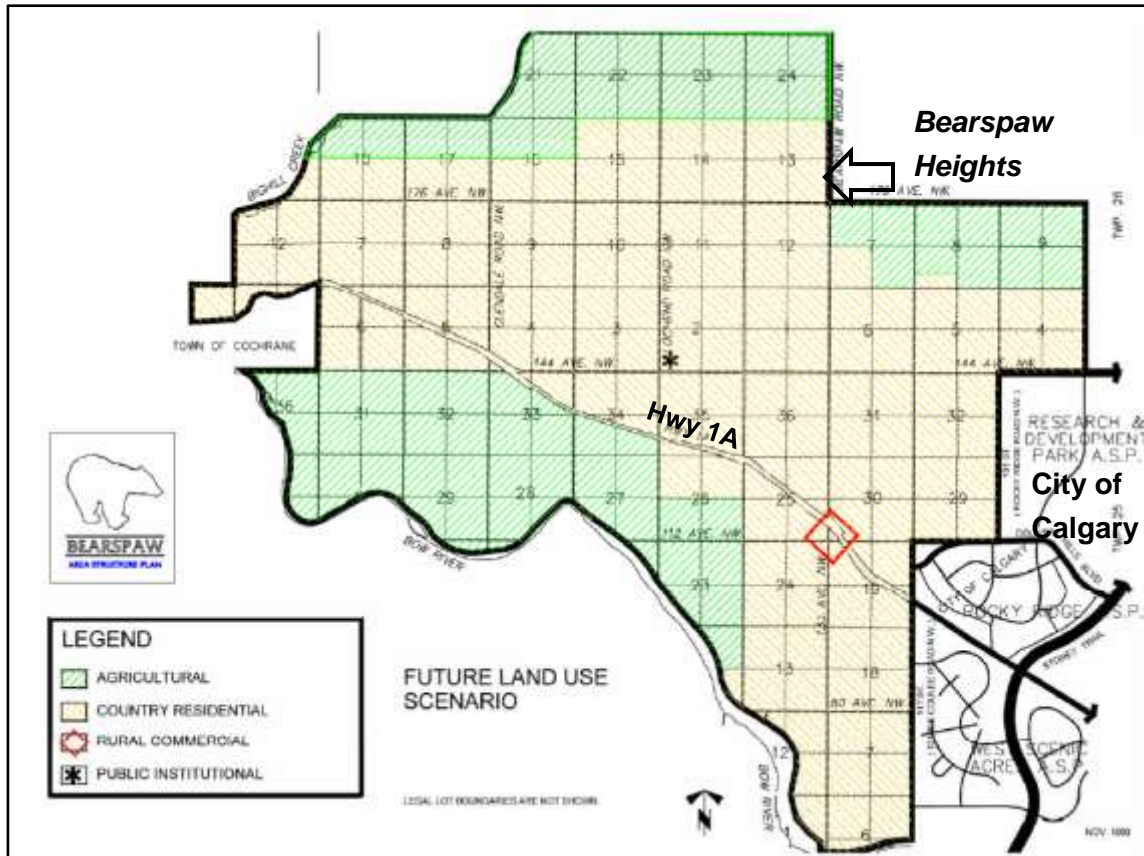
"A non-statutory plan, subordinate to an area structure plan, and may be adopted by bylaw or resolution. To ensure the opportunity for public input, the County will continue its practice of adopting a conceptual scheme by bylaw with a public hearing. If an area structure plan is amended to include a conceptual scheme, the conceptual scheme becomes a statutory plan. Conceptual schemes provide detailed land use direction, subdivision design, and development guidance to Council, administration, and the public. Conceptual schemes are meant to be developed within the framework of an area structure plan." (RVC County Plan).

It is the intent to apply the policies and design of this plan to guide development as one phase. Subdivision for the development will be applied for following adoption of this Conceptual Scheme and Land Use amendment.

#### **1.2 Development Rationale**

The subject lands of this Conceptual Scheme are referred to as ***Bearspaw Heights*** or the *Plan Area* in this document. Originally, a Canadian Pacific Railway station was located and named Bearspaw in 1909, after Chief Bearspaw, head of the Stoney Nations who was negotiator/signatory for the 1877 Treaty No. 7. The Bearspaw area in RVC has been subject to significant pressure for development primarily due to proximity to northwestern Calgary with close access to Highway 1A and Stoney Trail. The Conceptual Scheme meets the ASP's future land use scenario by proposing Country Residential development as delineated in Figure 1: Future Land Use Scenario -Bearspaw ASP.

**Figure 1: Future Land Use Scenario – Bears paw ASP**



In addition to servicing efficiencies, the subject site is relatively free of any issues that may hinder its development. The site has an existing residential dwelling, is relatively flat and well connected to the major transportation network.

### 1.3 Primary Development Considerations

Primary development considerations include:

- Compatibility of residential uses to adjacent land uses as predominantly single-family dwellings;
- Incorporation of the existing residence into the Conceptual Scheme;
- Transportation access to Bears paw Road (Range Road 30) and the closest intersection with Township Road 262;
- Connectivity to future linear pathways between neighbourhoods;
- Open space features including the small wetland;
- Stormwater management;
- Provision of potable water;
- Sanitary wastewater treatment;



- Shallow utilities of telecommunications, phone, cable, fiber optics (where available), electrical and natural gas services;
- Solid waste disposal and recycling;
- Protective and emergency services;
- Architectural design; and
- Capital and operational considerations.

### 1.4 Conceptual Scheme Objectives

The intent of the **Bearspaw Heights** Conceptual Scheme is to:

- a) Provide a comprehensive summary of existing conditions within the *Plan Area* to identify development opportunities and significant constraints that require appropriate mitigation strategies;
- b) Present a subdivision and development concept that will comprise a preferred subdivision pattern and density;
- c) Investigate and conclude whether any post development mitigation is necessary to address traffic, environmental, or other identified issues;
- d) Present a public open space to provide connections to adjacent lands; and
- e) Provide a utility servicing strategy that will include stormwater management, potable water, and sewage collection and disposal.

## 2.0 POLICY CONTEXT

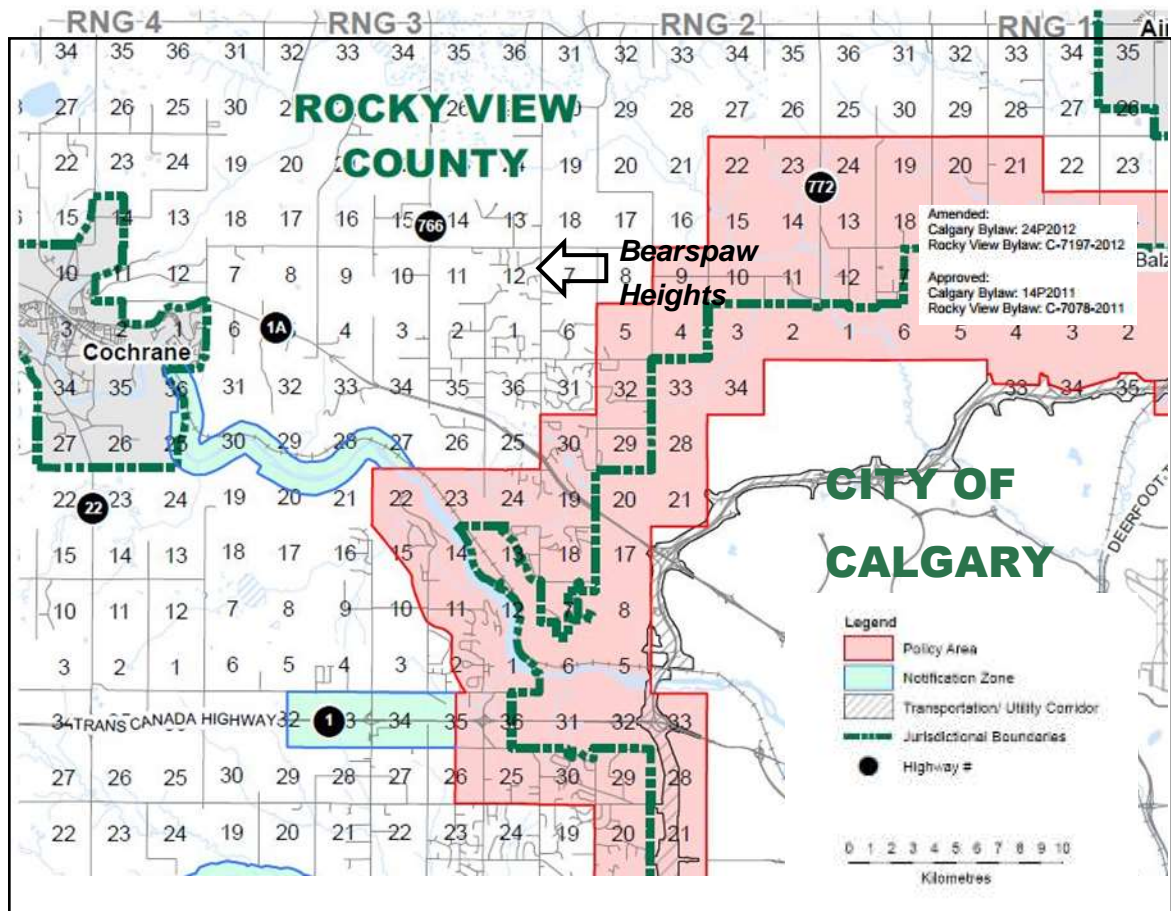
The Municipal Government Act, RVC's County Plan, Agriculture Master Plan, Parks and Open Space Plan, and the Bearspaw Area Structure Plan all provide guidance to the **Bearspaw Heights** Conceptual Scheme. These documents establish a policy framework to ensure that development respects rural character, promotes open space and recreational opportunities, respects the natural environment, implements cost-effective servicing infrastructure systems of roads, water and sanitary wastewater, and provides appropriate built form to the community.

### 2.1 Intermunicipal Development Plan

Land holdings near the fringe of the City of Calgary may fall under the policies and guidelines contained within the Rocky View County/City of Calgary Intermunicipal Development Plan (IDP), which was adopted by both municipalities. The IDP identifies an area of mutual inter-municipal interest and establishes policy direction and processes to address issues that may arise in the area. In this case, the **Bearspaw Heights** lands do not fall within the IDP designated notification area and the IDP policy and guidelines are not applicable as shown in Figure 2: RVC / Calgary Intermunicipal Development Plan NW Section.



**Figure 2: RVC / Calgary Intermunicipal Development Plan NW Section**



## 2.2 County Plan

The Rocky View County Plan Bylaw C-7280-2013 was approved in October 2013, in accordance with section 632 of the Municipal Government Act.

The County Plan is designed to provide policies that support the following principles:

1. Growth and Fiscal Sustainability - *direct new growth to designated development areas, and in doing so it will remain fiscally responsible.*
2. The Environment - *develop and operate in a manner that maintains or improves the quality of the environment.*
3. Agriculture - *respects, supports, and values agriculture as an important aspect of the County's culture and economy.*
4. Rural Communities - *support the development and retention of well-designed rural communities.*
5. Rural Service - *strive to provide an equitable level of rural service to its residents.*
6. Partnerships - *maintain a strong web of partnerships to help extend the range of services it provides to its residents.*

The County Plan sees Country Residential communities as a form of rural living. RVC has a number of country residential communities, some formally defined by area structure plan policy, as in the Bearspaw ASP. The goals and policies specific to Country Residential development are as follows:

- have safe, healthy, and attractive development that provides a strong sense of community
- encouraging and supporting country residential communities in providing a high quality built environment while maintaining rural character.
- encouraging alternative residential development forms that retain rural character and reduce the overall development footprint on the landscape
- orderly, efficient, and cost effective development of fragmented quarter sections in agricultural areas.

**Bearspaw Heights** aligns with the County's Plan by concentrating rural development in an ASP favouring the land use proposed. Bearspaw is enhanced and strengthened as integral part of RVC through the provision of smaller traditional Country Residential development within it.

### 2.3 Bearspaw Area Structure Plan

The Bearspaw ASP (Bylaw C-4129-93) was approved in 1994. It provides guidance for development in its policies and corresponding figures:

Figure 1: Plan Area, shows the Bearspaw ASP. **Bearspaw Heights** is within the ASP.

Figure 2: Calgary Restricted Development Area, shows restricted development the southern portion of the ASP in proximity to the Bow River. The *Plan Area* is not affected.

Figure 3: Concept Plans, shows the Plan Area as lands within Development Priority Area 1 recommended for Concept Plans, which supports requiring this document.

Figure 4: Distribution of Natural Resource Aggregates, shows the *Plan Area* as containing tertiary gravel. The existence of residences in the *Plan Area* and the surrounding area make the extraction of aggregates unpractical and incompatible.

Figure 5: Transportation Hierarchy, shows Bearspaw Road as a major collector road. The *Plan Area* fronts onto Bearspaw Road and has conducted a traffic impact analysis showing insignificant impact.

Figure 6: Environmentally Significant Features, shows features of concern. No known areas of potential archeological and/or cultural significance exist in the *Plan Area*. No potential high water table areas exist in the *Plan Area*. No potentially steep slope areas exist in the *Plan Area*. No flood prone areas exist in the *Plan Area*.

Figure 7: Future Land Use Scenario, shows Agricultural, Country Residential, Rural Commercial and Public Institutional land uses. The *Plan Area* is shown as County Residential, which is an appropriate land use (see Figure 1 of this Conceptual Scheme).

Figure 8: Phasing, shows Development Priority Areas 1 through 4 and Urban Fringe. The *Plan Area* is shown as Development Priority Area 1 and should develop.

The following ASP policies are directed to parcel size.

“8.1.20 Within the country residential areas identified in Figure 7, the minimum parcel size should not be less than four (4) acres.

8.1.21 Notwithstanding Policy 8.1.20 and in accordance with Figure 3, the Municipality may consider redesignation proposals and/or application for subdivision contemplating parcel sizes of less than four (4) acres in size, provided these proposals are supported by a Concept Plan that is prepared and adopted pursuant to the provisions of this Plan.”

The following ASP policies are directed to the Plan of Subdivision.

“8.1.19 When considering applications for subdivision approval, the Municipality should evaluate tentative plans of subdivision in terms of the following considerations:

- a) the natural condition of the lands proposed for subdivision and the manner in which these conditions (ie. topography, environmentally sensitive areas, etc.) have been integrated into the design of the tentative plan of subdivision;
- b) the serviceability of the proposed parcels by private and public utilities;
- c) the suitability of each of the proposed parcels to accommodate a building site of sufficient area to permit the development of a residential building and ancillary structures;
- d) the context of the lands proposed for subdivision and the compatibility of the proposed design with adjacent lands including, but not limited to, site conditions, parcel sizes, visual impact, etc.;
- e) the intensification potential of the tentative plan of subdivision and the flexibility of the proposed design to accommodate future subdivision;
- f) the conformity of the tentative plan of subdivision with any Concept Plan prepared and/or adopted pursuant to the provisions of this Plan;
- g) the design of the proposed road system having regard for Municipal Engineering Standards and integration with the Municipal and Provincial road hierarchy;
- h) conformity to this Plan, which may necessitate an amendment to the Plan;
- i) any other matter deemed appropriate by the Municipality.

8.1.24 Where a tentative plan of subdivision proposes a dead end cul-de-sac, the design and length of the cul-de-sac should sufficiently accommodate emergency vehicle access, or alternate provisions for emergency vehicle access shall be provided.”

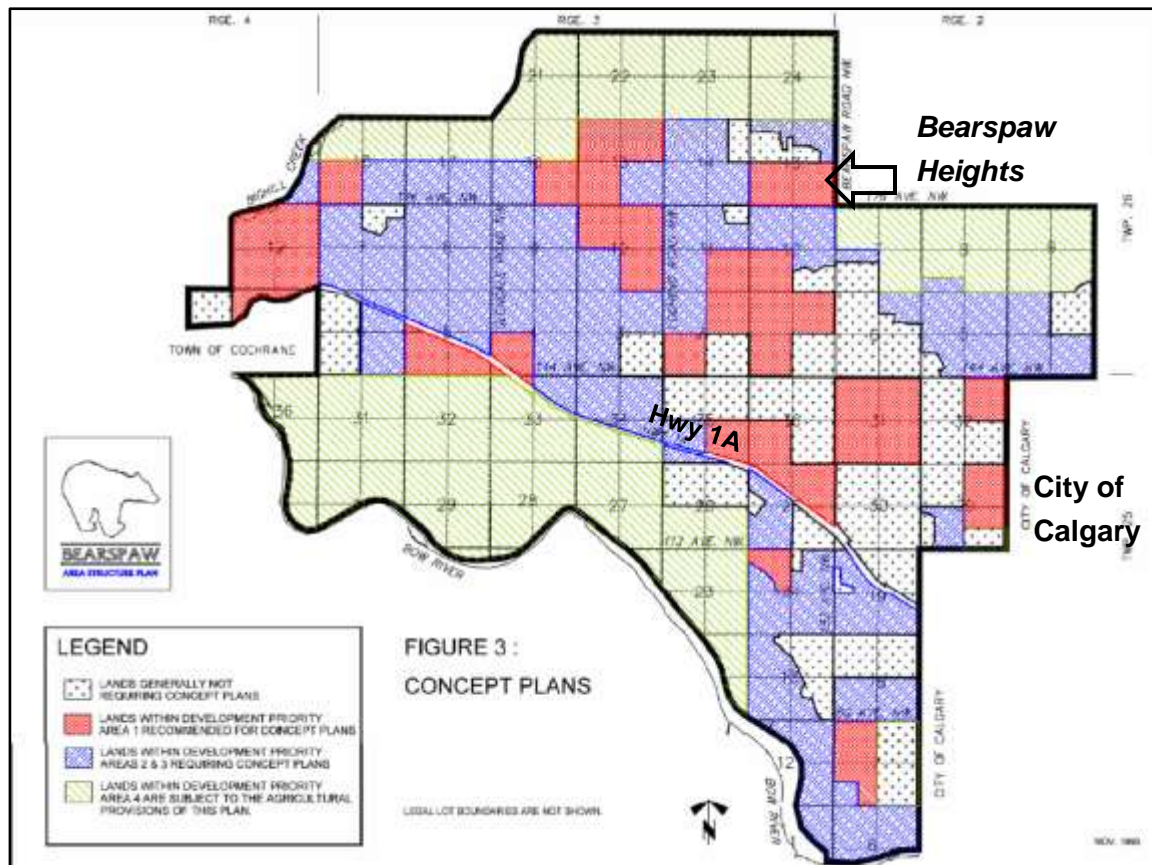
ASP Table 1: General Characteristics of Municipal Roads in the Transportation Hierarchy and associated policies show the function and specifications for Bearspaw Road as a major collector road. The traffic impact analysis satisfies this and is available for viewing under separate cover.

## Bearspaw Heights

ASP Appendix B: General Criteria for Development Priority Areas points out that Priority Area 1, which pertains to **Bearspaw Heights**, is favourable. The *Plan Area* is under 32 ha (80 ac.), surrounded by subdivided/developed areas and exhibits few constraints. Lands do not contain environmentally significant natural landscapes, archaeological, historical and/or cultural features. Lands generally comprise Lower Capability Agricultural Land (CLI equivalent of Class 4, 5, 6 and 7).

Figure 3: Concept Scheme Areas – Bearspaw ASP shows **Bearspaw Heights** as lands within development Priority Area 1 recommended, not necessarily required, for Concept Plans.

**Figure 3: Concept Scheme Areas – Bearspaw ASP**



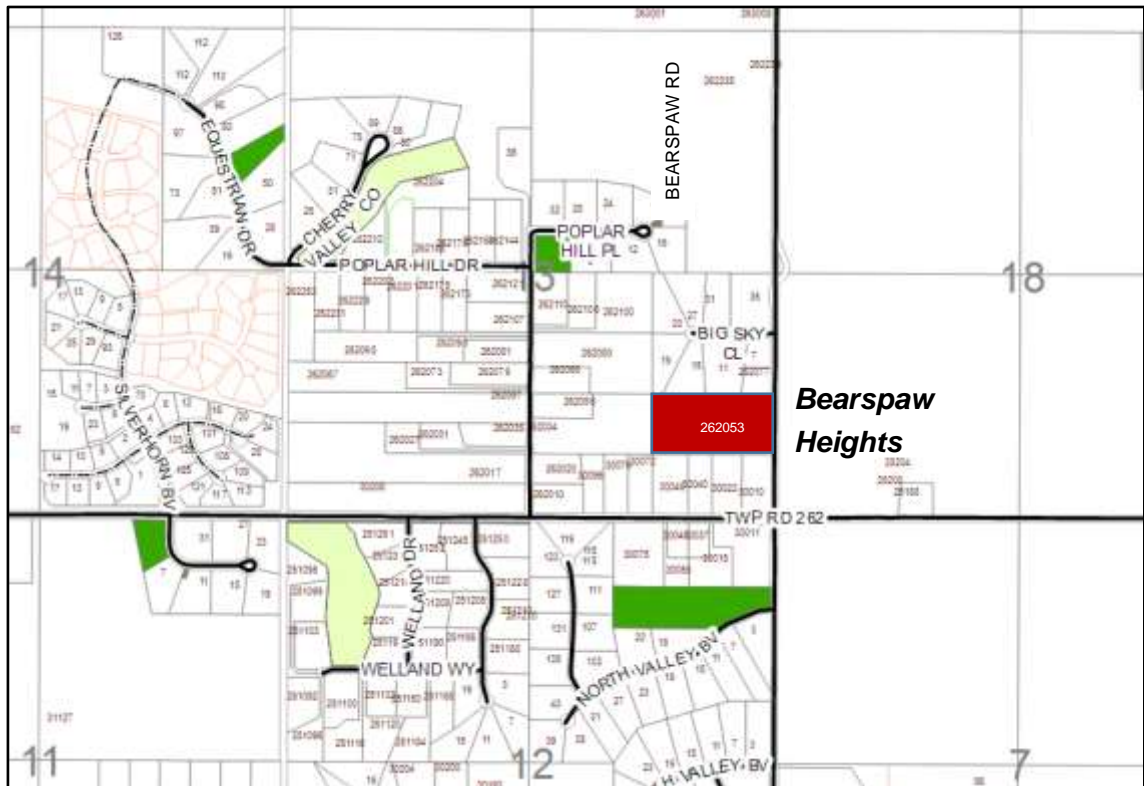


## 3.0 PLAN AREA DESCRIPTION

### 3.1 Location

Figure 4: Location shows **Bears paw Heights** on a  $\pm 7.98$  ha ( $\pm 19.73$  ac) parcel comprising one-eighth of SE-13-26-03-W5M, being Block 7, Plan 1501 LK. The site is municipally known as 262053 Bears paw Road, located approximately 200 m north of the intersection with Township Road 262. Geographically, the residence within the *Plan Area* is centred on  $51.22^{\circ}$  N,  $114.28^{\circ}$  W at elevation 1268 m (4160 ft.) above sea level (asl). The plan area provides contiguous development to properties to the north and south.

**Figure 4: Location**



(Source: RVC Bears paw Area Map, 2016)

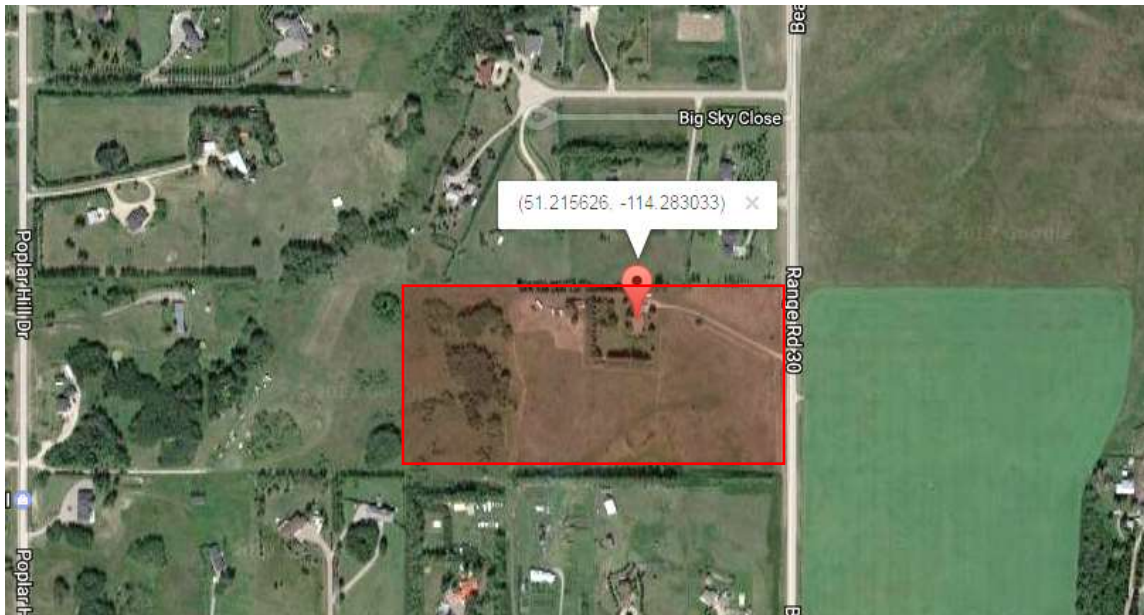
### 3.2 Legal Descriptions & Ownership

As shown below, ownership of Block 7, Plan 1501 LK of SE-13-26-03 W5M is under separate title and under single ownership to the developer, Alex Kurteev.

### 3.3 Adjacent Lands

Figure 5: Aerial Image of Adjacent Lands shows **Bears paw Heights** immediately west of Bears paw Road (Range Road 30), approximately 200 meters north of Township Road 262. The area is characterized as country residential. The lands are bordered by country residential development to the north, west and south, with agricultural lands to the east.

**Figure 5: Aerial Image of Adjacent Lands**



#### **4.0 EXISTING LANDS**

##### **4.1 Local Development Context**

Currently, community and recreational facilities in Bearspaw include: Bearspaw Lifestyle Centre, (banquet hall, stage, gymnasium, dance studio), Bearspaw Historical Society (historical school, replication of barn), Weedon Pioneer Hall (community events, small scale waste and recycling transfer site). A mobile recycling bin is located with limited days at the Bearspaw Lifestyles Centre, 253220 Bearspaw Road NW, south of Highway 1A. The Airdrie Transfer Site is operated by a neighbouring municipality, but can be used by Rocky View residents for garbage.

The nearest acute care hospitals with emergency services are: Alberta Children's Hospital or the Foothills Medical Centre in Calgary, and the Cochrane Community Care Centre in Cochrane. For parks and outdoor recreation: the Bearspaw Loop is accessible from Range Road 30 (natural municipal reserve area with a designated interpretive pathway), Big Hill Springs Provincial Park NE of Cochrane, Glenbow Ranch Provincial Park along the north shore of the Bow River, and 12 Mile Coulee in NW Calgary.

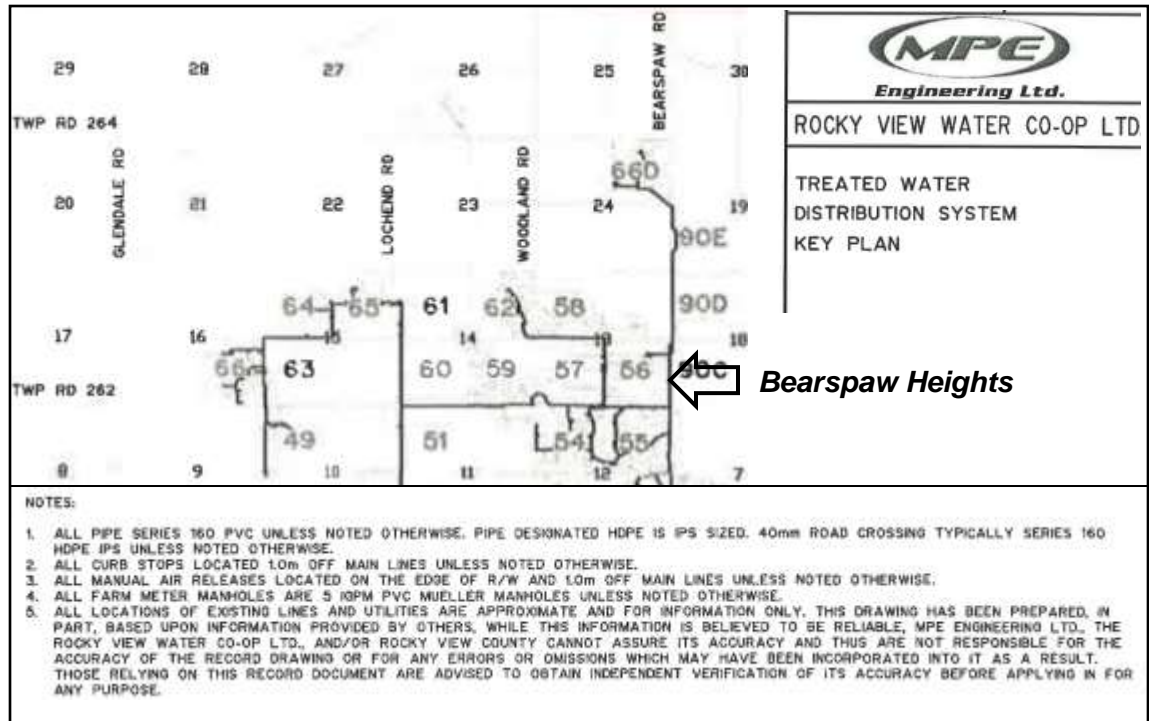
##### **4.2 Existing Transportation Infrastructure**

The transportation system serving Bearspaw is flanked to the north by Big Hill Springs Road and to the south by Highway 1A, which becomes Crowchild Trail NW as it approaches Calgary. The transportation system serving Bearspaw is flanked to the north by Big Hill Springs Road, which becomes Yankee Valley Blvd SW as it approaches Airdrie, then meets the Queen Elizabeth 2 Highway. The *Plan Area* fronts onto Bearspaw Road (Range Road 30), which runs north-south to connect the two. The closest intersection is Bearspaw Road and Township Road 262, located approximately 200 m to the south.

## 4.3 Existing Utility Services

Figure 6: Existing Water Servicing shows Rocky View Water Co-op Limited, a privately owned and operated utility company, provides potable water servicing throughout Bears paw through a franchise agreement with the County. Specific to **Bears paw Heights**, SE-13-26-03-W5M, Plan 1501 LK, Block 7, the 100 mm water line runs north to south along the west side of Bears paw Road (Range Road 30), inside the property line. Upgrades and expansion of the water treatment system and network will be implemented, as required, to support this development.

**Figure 6: Existing Water Servicing**



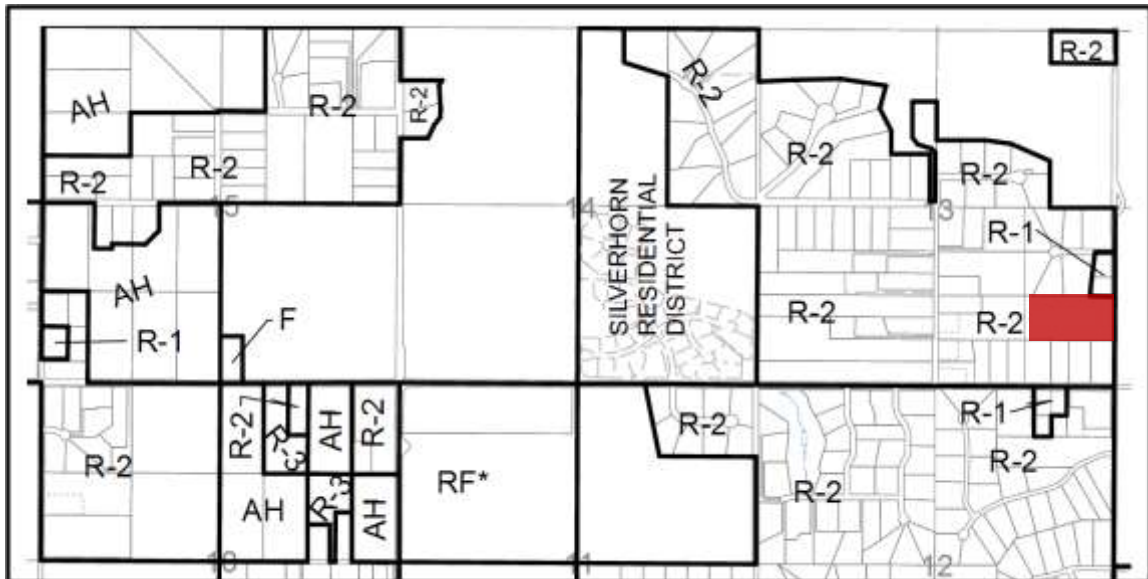
In this area of Bears paw, wastewater servicing is through a private sewage treatment system. The Alberta Private Sewage Systems Standard of Practice (2009) specifies that a private sewage treatment system may not be installed within 15 m of a wetland. As noted later in this Conceptual Scheme, a small  $\pm 0.25$  ha ( $\pm 0.63$  ac) wetland exists, which could remain or be used as part of the underlying mantle of a septic bed, subject to compensation. Depending on the septic system design, imported material may be needed as fill to meet the percolation rates to meet design regulations.

## 4.4 Existing Land Use

Figure 7: Current Land Use Bylaw Districts shows the **Bears paw Heights Plan Area** is currently designated Residential Two District (R-2) in accordance with RVC Land Use Bylaw C-4841-97. The Plan Area is bordered by Residential One District (R-1) to the north fronting on Bears paw Road.



**Figure 7: Current Land Use Bylaw Districts**



**Legend**

AGRICULTURAL HOLDING DISTRICT  
RANCH AND FARM DISTRICT  
FARMSTEAD DISTRICT  
RESIDENTIAL ONE DISTRICT  
RESIDENTIAL TWO DISTRICT  
RESIDENTIAL THREE DISTRICTS

AH  
RF  
F  
R-1  
R-2  
R-3

(Source: RVC Land Use Map No. 67-SE, 2014, as amended)

Figure 8: Photos of Areas of Minor Grazing shows the land has been used for residential use and some minor grazing purposes. Crop production and further agricultural capability is impaired by existing vegetation, poor soil, terrain characteristics and the proximity of residential development.

**Figure 8: Photos of Areas of Minor Grazing**



### 4.5 Existing Site Conditions

Existing site conditions of geology, wetlands, soils, vegetation, and overland drainage are described in this section. The **Bearspaw Heights Plan Area** consists of rolling and hilly terrain comprised of glaciofluvial and surficial deposits that may include extensive areas of hummocky and ground moraine as well as more restricted areas of outwash and glaciolacustrine deposits along valleys. Figure 9: Wetland delineation shows the wetland located on the site.

**Figure 9: Wetland delineation**



Western Water Resources conducted a Preliminary Wetland Assessment in 2014 noting a relatively small wetland located centrally along the southern property line, as Figure 10: Mosaic Photo of Wetland in Winter (looking west showing dugout) shows. The subject wetland is classified as III-A-1 (fresh seasonal wetland) due to the presence of low-prairie and wet-meadow zones. Its estimated size is  $\pm 0.2535$  ha ( $\pm 0.6264$  ac). No other wetlands were observed within the Subject Lands. The presence of the wetland has been taken into account for planning, lot configuration, wastewater servicing, and stormwater management.

**Figure 10: Mosaic Photo of Wetland in Winter (looking west showing dugout)**



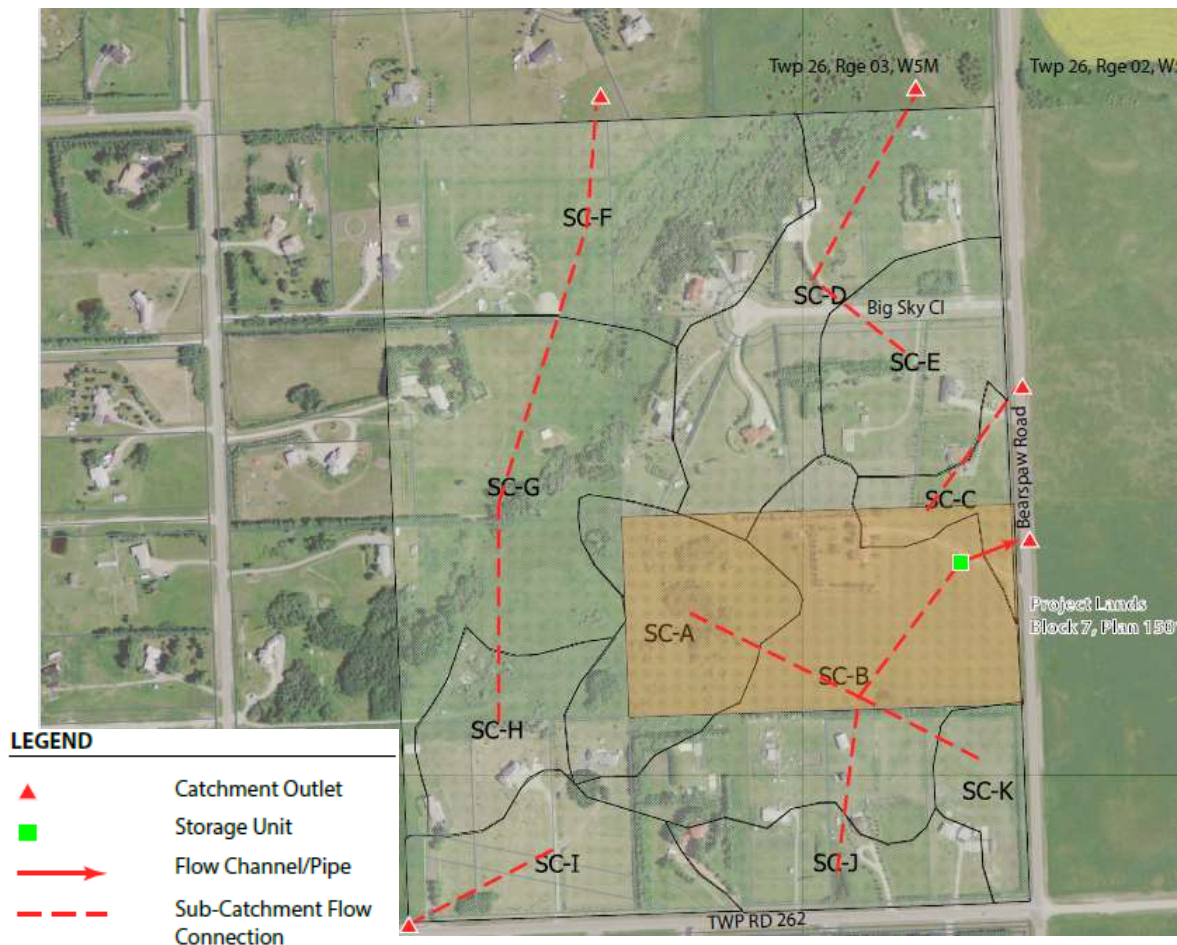


## Bearspaw Heights

Soils for the *Plan Area* are within an area mapped as Dunvargan 1 (DVG1). This soil unit is generally mapped on undulating to gently sloping or rolling morainal topography. The land surface is smooth, slopes are uniform, and there are generally few wet depressions. The soil unit is comprised of approximately: 70% well drained, 20% slightly leached, and 10% imperfectly to poorly drained soils. The parent material underneath is a glacial till with limited textural range. Generally, soils in the area are Orthic Black Chernozem on medium textured till. Topography is a hummocky, low relief landform with a limiting slope of 6%. Soils and characteristic slopes influence infiltration rates, resistance to the flow of runoff and other parameter values, as outlined in the Bearspaw-Glenbow Master Drainage Plan.

Vegetation supported on the soils is largely under a typical parkland type of vegetation. Open areas are typically fescue and other grasses. Periodic forested areas generally consist of aspen, poplar, willow, white birch and spruce. The Plan Area is being utilized for the grazing of horses and has a mixture of native and non-native species representing a tame pasture landscape.

**Figure 11: Pre - Development Catchment Areas**



(Source: Sim-Flo, Stormwater Management Report, Sep ,2016)

Drainage for pre-development conditions is shown Figure 11: Pre - Development Catchment Areas. The sub-catchment areas that impact on the proposed development site are SC-A, SC-B, SC-J and SC-K. All of these sub-catchments drain into the low area located in SC-B. Based

on simulations, the depth of ponding is estimated at 1.21 m or an elevation of 1265.96 m asl. The existing spill elevation is estimated at 1267.25 m asl. Flow is towards a storage unit, then northeast to the road ditch before travelling north.

### 4.6 Existing Wetland Assessment

Western Water Resources (WWR) conducted a preliminary wetland assessment of the Plan Area in 2014. During this assessment, only one wetland was identified. It was a seasonal wetland (Class III) according to the Stewart and Kantrud (1971) wetland classification system. The dugout was found to be the deepest portion of the wetland and contained some surface water.

Pintail Environmental Consulting Inc., August 1, 2018, prepared a Wetland Assessment and Impact Report for the Plan Area in support of the *Water Act* application to Alberta Environment and Parks (AEP) under the *Alberta Wetland Policy*, based on the *Alberta Wetland Rapid Evaluation Tool – Actual* (2015) methodology. Hydrologic, water quality, ecological/habitat and human use functions were gathered to determine an overall category (A, B, C or D) for the province and proponent to make decisions about the wetland. Figure 13: Mapping of Wetland shows this.

It was found to be a slightly brackish 0.36 ha seasonal marsh with an older dugout, being the deepest at 1 m, without an identifiable inlet or outlet. However, the water inputs could potentially come from the lands to the south as corroborated by the topography of the area. The relative wetland value was indicated to be a 'B' under the new classification.

Given the disturbed nature of the wetland, its size, and the fact that it is being proposed to be modified for stormwater purposes, it is not anticipated that the reduction of wetland area in the overall catchment will have a large effect. Many of the functions provided by the wetland currently are anticipated to be provided by the proposed stormwater facility.

**Figure 12: Mosaic Photo of Wetland in Summer (looking north)**





**Figure 13: Mapping of Wetland**



## 4.7 Existing Historical Resources

Bison Historical Services Ltd., on behalf of the proponent, received *Historical Resources Act* approval for the activities described in this application, which is available under separate cover. The chance discovery of historical resources is to be reported to the contact identified within the standard requirements under the Act.

## 4.8 Existing Protective and Emergency Services

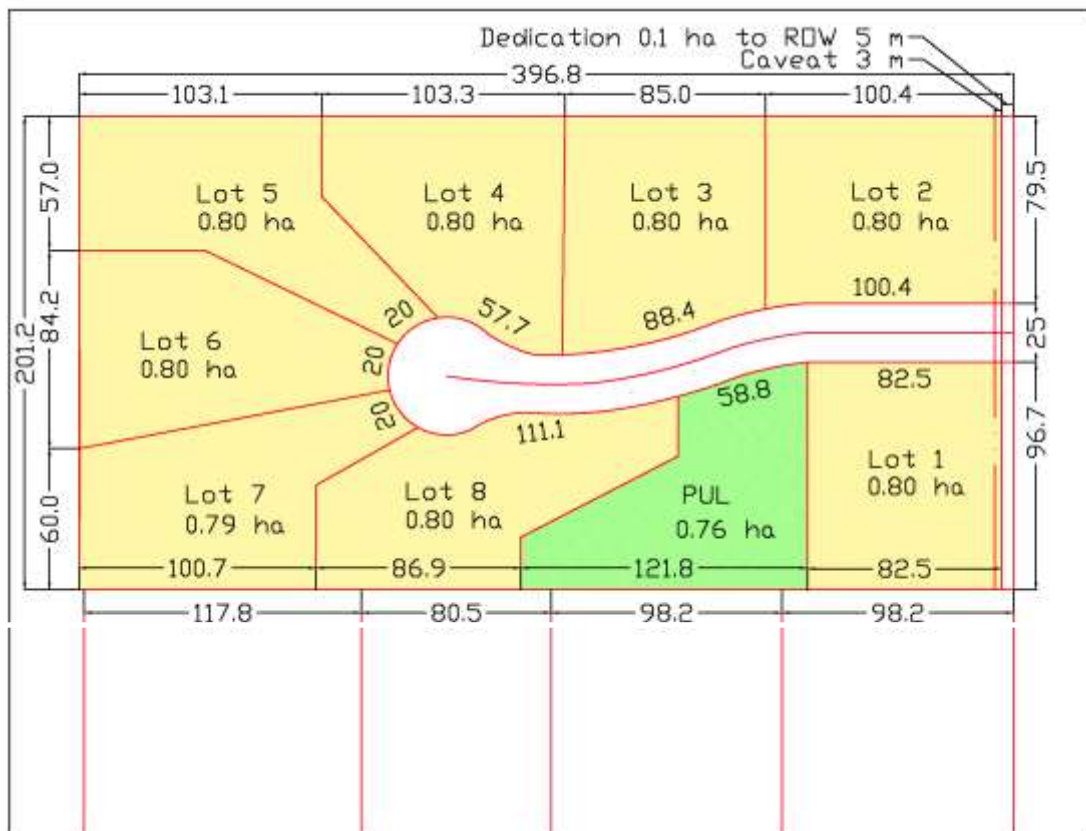
Bearspaw Fire Station 103 is a full-time staffed station providing fire coverage for the northwest area of the County and located at 291015 Rocky View Drive.

## 5.0 DEVELOPMENT CONCEPT

### 5.1 Development Concept

Figure 14: Development Concept and Table 1: Development Concept Calculations form the development concept for **Bearspaw Heights**.

**Figure 14: Development Concept**



**Table 1: Development Concept Calculation**

	Land Use	Hectares	Acres	Percentage
	Public Utility Lot	0.760	1.88	9.6%
	Road	0.745	1.84	9.4%
	Lot 1 Residential	0.800	1.98	10.0%
	Lot 2 Residential	0.800	1.98	10.0%
	Lot 3 Residential	0.800	1.98	10.0%
	Lot 4 Residential	0.800	1.98	10.0%
	Lot 5 Residential	0.796	1.97	10.0%
	Lot 6 Residential	0.797	1.97	10.0%
	Lot 7 Residential	0.784	1.94	9.8%
	Lot 8 Residential	0.797	1.97	10.0%
	Dedication for 5 m r-o-w widening	0.101	0.24	1.2%
	<b>Total</b>	<b>7.98</b>	<b>19.73</b>	<b>100.00%</b>

**Figure 15: Lot Sizes for *Bearspaw Heights***



Figure 15: Lot Sizes for Bearspaw Heights shows ***Bearspaw Heights*** as a small residential neighbourhood within the Bearspaw ASP, characterized as country residential. The neighbourhood will be designed to be compatible with the rural character and sense of place for its residents in the community. This development is designed to minimize the development footprint of buildings and infrastructure, and preserve significant natural features of the site.

***Bearspaw Heights*** is to consist of eight lots and will be similar to the surrounding developments Country residential developments surround the proposed development lands. The proposed subdivision of  $\pm 7.98$  ha ( $\pm 19.73$  ac) into 8 lots results in most parcels being approximately 0.8 ha (2 acres). Not all lots are 0.800 ha (1.98 ac.), some are slightly less due to lands for the dedication for a 5 m r-o-w widening of Bearspaw Road and lands needed for the PUL. Should the final design for the stormwater not require the full area set aside for the PUL,



then more acreage could be transferred to top-up the lots at the subdivision stage when lot configuration is finalized.

An open space of a public utility lot (PUL) approximately 0.76 ha (1.88 ac.) serves **Bearspaw Heights** by providing an area for stormwater management and is to be dedicated to RVC. Consideration of this area influenced lot yield and configuration. Future stormwater solutions such as low impact development, best management practices and green street development may alleviate the need for a stormwater pond and perhaps allow this lot to become developable land.

A cul-de-sac road, within the right-of-way of 298.6 m length along the centreline and 25 m width, serves **Bearspaw Heights** and is in character with surrounding developments.

### Policy

**5.1.1** Policies contained in this Conceptual Scheme shall apply to lands identified in Block 7, Plan 1501 LK of SE-13-26-03 W5M.

**5.1.2** Lot sizes and configurations shall generally be as described in the Figure 14: Development Concept, and the accompanying table of calculations.

### 5.2 Land Use Concept

Bearspaw is a highly sought-after community that offers a rural lifestyle near an urban setting with close access to major highways. The area has experienced considerable development pressure attributed to its close proximity to the City of Calgary, approximately 10 minutes away from the interchange of Highway 201 (Stoney Trail NW) and Highway 1A (Crowchild Trail NW). **Bearspaw Heights** has its identity as a country residential neighbourhood in the Bearspaw ASP with proximity to both Cochrane and Calgary.

### 5.3 Residential Area

As guided by the Bearspaw ASP, the County may consider redesignation proposals and/or application for country residential subdivision contemplating parcel sizes of less than 4 acres in size, provided these proposals are supported by a Concept Plan that is prepared and adopted pursuant to the provisions of the ASP. The lot size of 0.8 ha (2 acres) meets the suitability of each of the proposed parcels to accommodate a building site of sufficient area to permit the development of a residential building, ancillary structures and a private sewage treatment system. Figure 16: Rendering of Typical Country Residential Dwelling is an example of housing.

**Figure 16: Rendering of Typical Country Residential Dwelling**



### **Policy**

- 5.3.1** Single family dwelling units shall be the dominant form of residential development.
- 5.3.2** Lot sizes shall be 0.8 ha (2 ac) or as approved by the Subdivision Authority.
- 5.3.3** Entrances to individual dwelling units should be visually prominent from the front façade.
- 5.3.4** Private lighting, including security and parking area lighting, should be designed according to the County's "dark sky" Land Use Bylaw requirements for residential lighting in outdoor areas, which requires light to be directed downward.

### **5.4 Municipal Reserves**

The MGA Section 666(2) "The aggregate amount of land that may be required under subsection 1, (*namely developable land that is the subject of a proposed subdivision*) may not exceed the percentage set out in the municipal development plan, which may not exceed 10% of the parcel of land less the land required to be provided as environmental reserve and the land made subject to an environmental reserve easement." The County Plan requires 10% of net developable area.

### **Policy**

- 5.4.1** Municipal reserve shall be provided to a maximum of 10% at the subdivision stage in accordance with the Municipal Government Act.
- 5.4.2** The provision of municipal reserves may be made via cash-in-lieu based on a market value appraisal determined at the time of subdivision in accordance with the MGA.

### 5.5 Public Utility Lot

As directed in the MGA and Bearspaw ASP, a public utility lot (PUL) is public land dedicated to the County for public utilities during the subdivision process. This area is to be used for stormwater management and contains a small wetland on the southern boundary portion of the PUL.

### Policy

**5.5.1** The area generally identified as PUL on Figure 14: Development Concept of the *Plan Area* shall be dedicated as public utility lot through the subdivision process.

### 5.6 Roads

As identified in the Design Concept, a 7.0 metre wide paved cul-de-sac road, 298.6 m in length, is delineated within the 25 m right-of-way. Figure 17: Rendering of Typical Cul-de-Sac Road provides an example.

**Figure 17: Rendering of Typical Cul-de-Sac Road**



To satisfy consideration of proposals for redesignation, subdivision, and/or development located adjacent to a major collector roads, as shown in Figure 18, a Traffic Impact Analysis was conducted. Assumptions were for 9 lots and not the proposed Development Concept of 8 lots.

Figure 18: Transportation – Bearspaw ASP

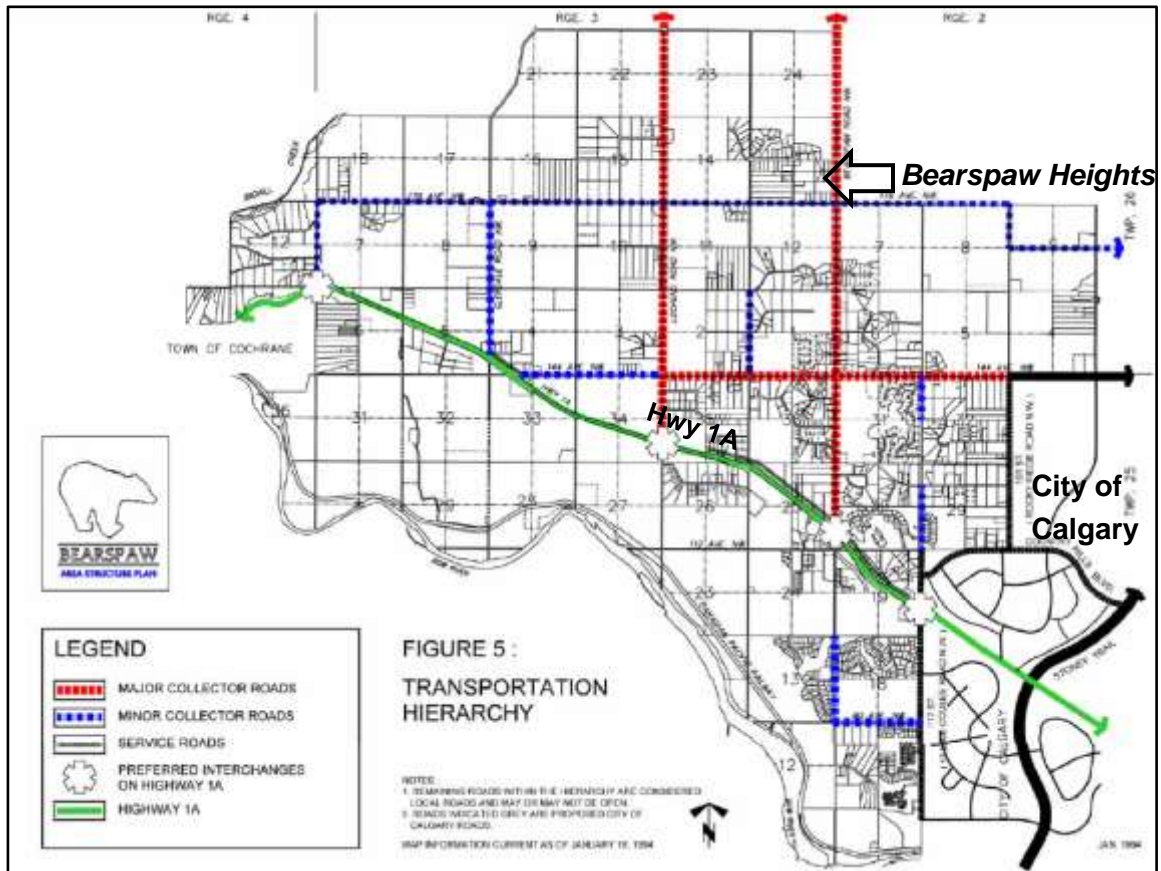


Figure 18: Transportation – Bearspaw ASP shows Bearspaw Heights in relation to roads. Bunt and Associates conducted a traffic impact study for the *Plan Area*. Being located off of Range Road 30 / Bearspaw Road, RVC requested the study.

Table 2: Pre and Post Development Peak Hour Analysis

Intersection	Movement	AM Peak Hour				PM Peak Hour			
		v/c	LOS	Delay	Queue	v/c	LOS	Delay	Queue
Bearspaw Rd and Township Rd 262 (E-W Stop-Controlled)	EB	0.09	A	9	2	0.08	A	9	2
	WB	0.01	A	10	0	0.04	B	10	1
	NB	0.02	A	4	1	0.03	A	4	1
	SB	<0.01	A	1	0	<0.01	A	1	0

Table 2: Pre and Post Development Peak Hour Analysis shows the results of the study. The study intersection is stop controlled for the east and west movements, and both Range Road 30 and Township Road 262 are two lane undivided paved roads. The pre and post development traffic volumes at peak hours are essentially the same with no significant change. Post-

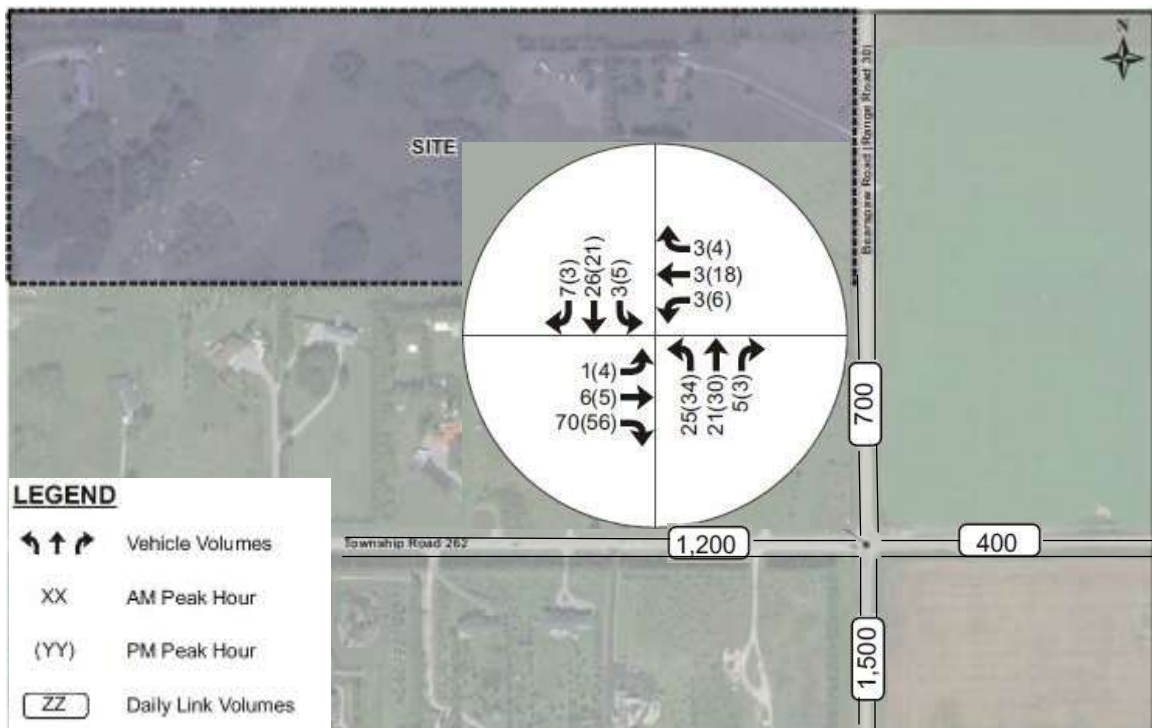
## Bearspaw Heights

development of subdivided lots does not present a significant impact on transportation. As such, there is no requirement for future expansion of the existing transportation network to accommodate traffic generated from the proposed development. Further, there is no mitigation measures required.

Trip generation rates: AM peak hour traffic is estimate at 1 vehicle in and 5 vehicles out; PM peak hour traffic is estimated at 6 vehicles in and 3 vehicles out.

Investigation also looked at the nearest intersection to the *Plan Area*, being Township Road 262 and Bearspaw Road as Figure 19: Traffic Counts at Intersection of Township Rd 262 and Bearspaw Rd. shows.

**Figure 19: Traffic Counts at Intersection of Township Rd 262 and Bearspaw Rd**



The Traffic Impact Study concluded the development will not make an appreciable impact on the existing road network. It was also aimed to provide information on the current condition of Township Road 262 and Bearspaw Road (Range Road 30) so that the County can keep a track of the cumulative effect of these various small subdivisions on its road network. The design and length of the cul-de-sac sufficiently accommodates emergency vehicle access.

### Policy

**5.6.1** Roads shall be constructed in accordance with Rocky View County Servicing Standards.

### 5.7 Utility Services - Stormwater

Sim-Flo Systems Inc., revised March 2018, conducted a Stormwater Management Plan for the *Plan Area* and environs. The report is available under separate cover. The stormwater



## Bearspaw Heights

management plan takes into account both upstream (contributing) lands and downstream (receiving) lands in order to ensure that no negative impacts are caused by the development of the land under consideration. RVC has mandated that post development peak discharges will not exceed the pre-development peak discharge rate. Pre-development mapping and parameters of the *Plan Area* and environs were presented earlier in this Conceptual Scheme.

Figure 20: Ponding in *Plan Area* and Environs shows that a natural overflow of ponding for the low area is located at the northeast of the development at an approximate elevation of 1267.25 masl. The extent of possible ponding that could occur on the site can be determined by tracing the 1267.25 masl contour. Based on this analysis, it can be seen that most of the residential buildings would not be inundated should this worst case scenario occur. Based on visits to the site, there is no evidence that runoff from the existing land has ever inundated the area to this extent.

**Figure 20: Ponding in *Plan Area* and Environs**

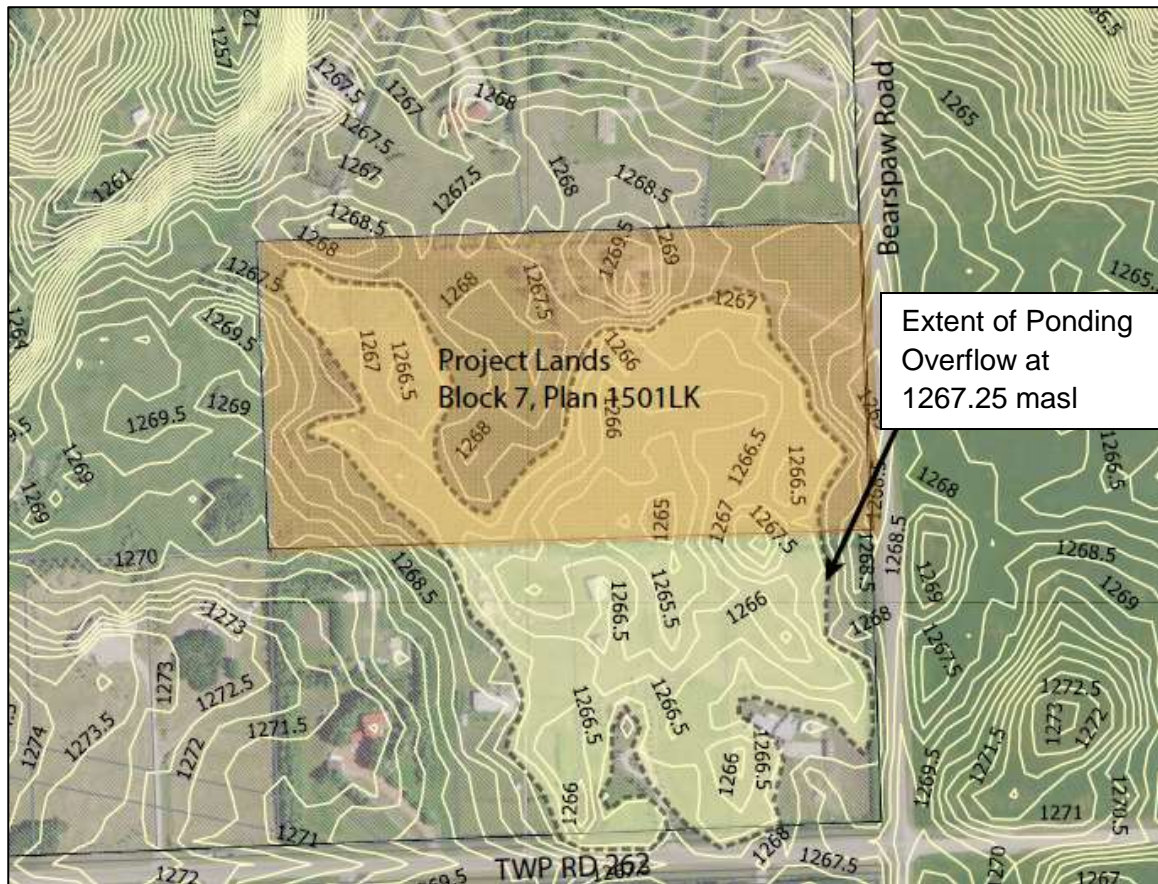
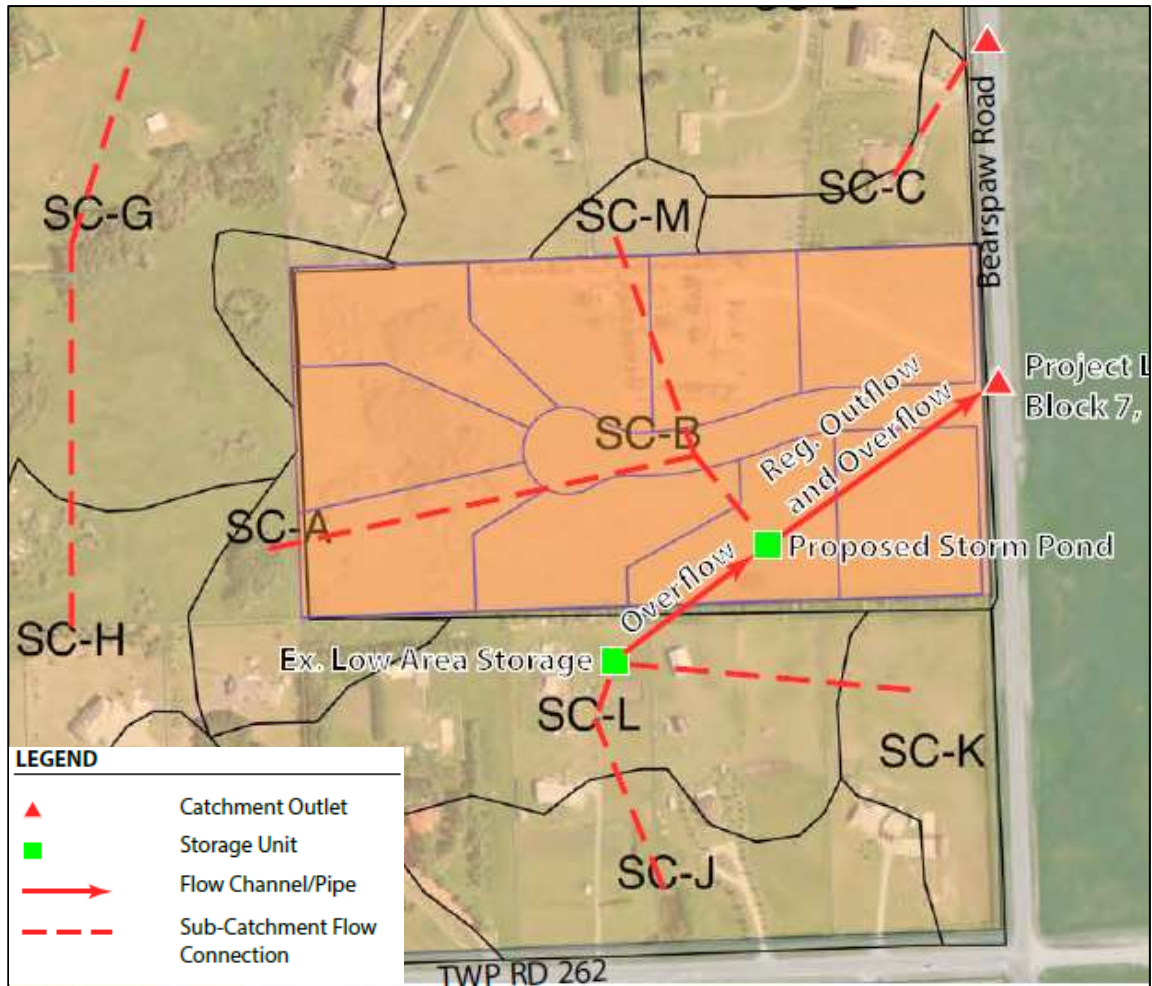


Figure 21: Post-Development Catchment Areas show the sub-catchment areas that could impact on the proposed development site are SC-A, SC-B, SC-J, SC-K, SC-L and SC-M. Runoff from sub-catchments SC-J, SC-K and SC-L flow into the natural low area located south of the proposed development.

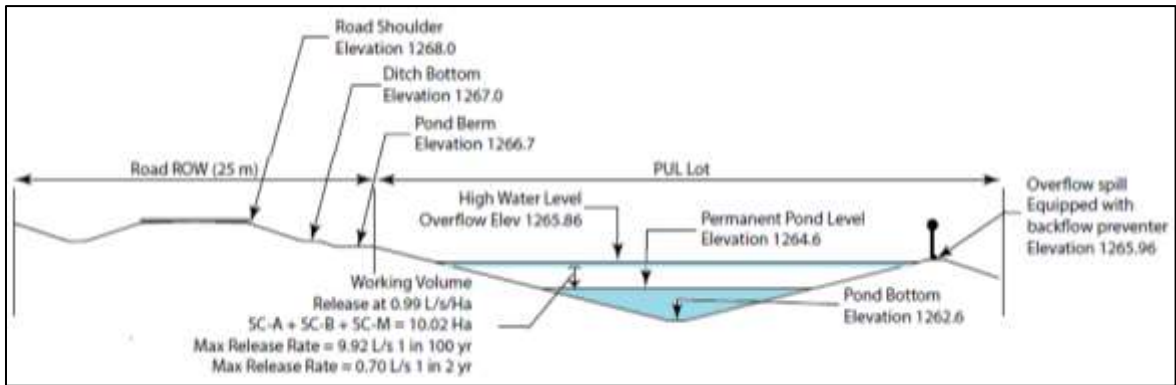
Figure 21: Post - Development Catchment Areas



To ensure runoff from the proposed development does not enter onto the adjacent lands to the south, a berm will be constructed with an overflow elevation of 1265.96 masl. An overflow structure with a one-way gate ensures that storm water from the southern lands can overflow into the proposed storm pond. Water from the proposed development will not be allowed to backflow onto the land to the south. Figure 22: Proposed Stormwater Pond shows the pond will have an overflow located at 2.0 m above the bottom of the pond at an elevation of 1264.6 masl. If the water level exceeds this elevation it is discharged through the overflow pipe at a rate of less than 0.07 L/s/Ha for the 1 in 2 year storm and 0.99 L/s/Ha for the 1 in 100 year storm.

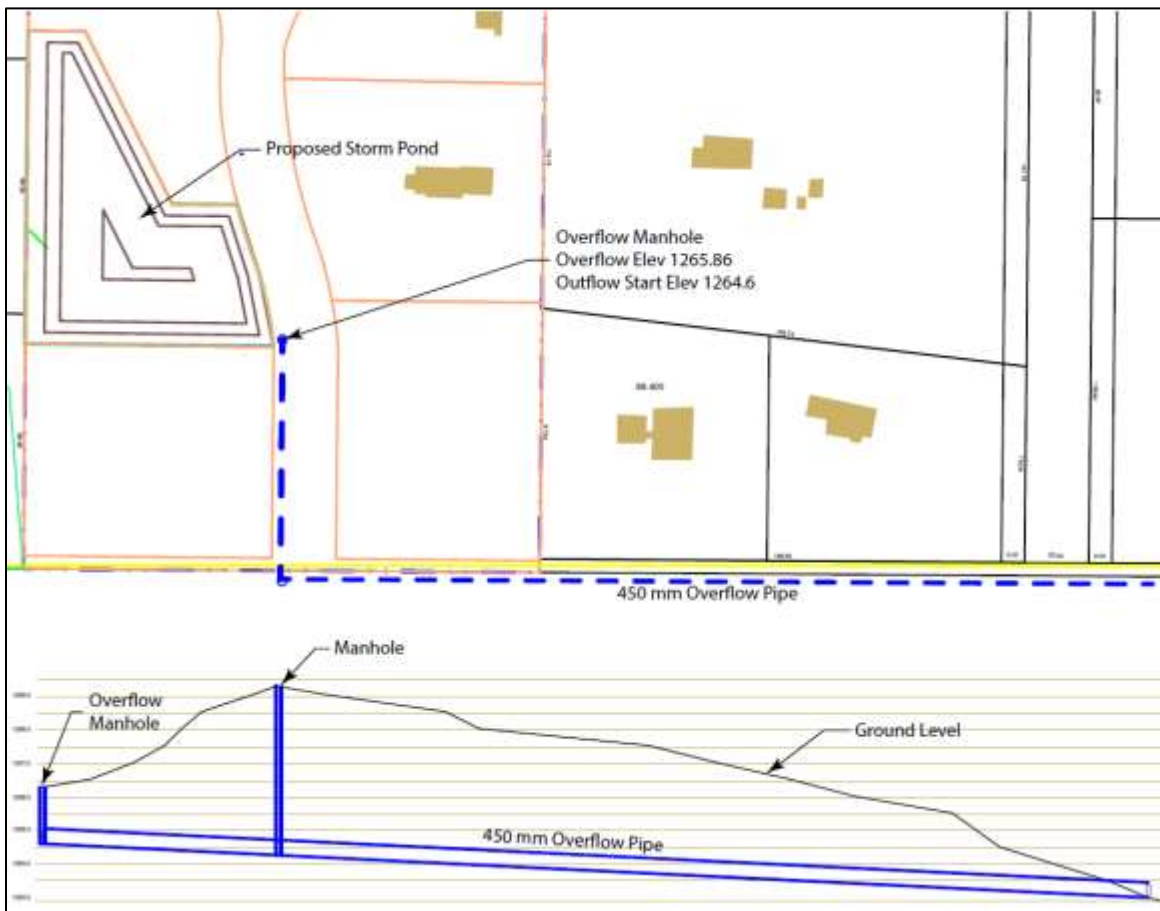


**Figure 22: Proposed Stormwater Pond Cross-section**



As Figure 23: Proposed Discharge/Overflow Pipe Schematic shows, if the water level exceeds the high water level in the pond (1265.86 masl), it overflows into the 450 mm pipeline and discharged into the county road ditch on the west side of Bears paw Road.

**Figure 23: Proposed Discharge/Overflow Pipe Schematic**



Measures such as Low Impact Development (LIDs) are described in Section 800 of the RVC Servicing Standards are an evolving science offering alternative design methods dealing with stormwater. Examples include grassed swale/bioswales, absorbent landscaping, bioretention, porous pavement, stormwater/rainwater reuse, and green roofs.

### Policy

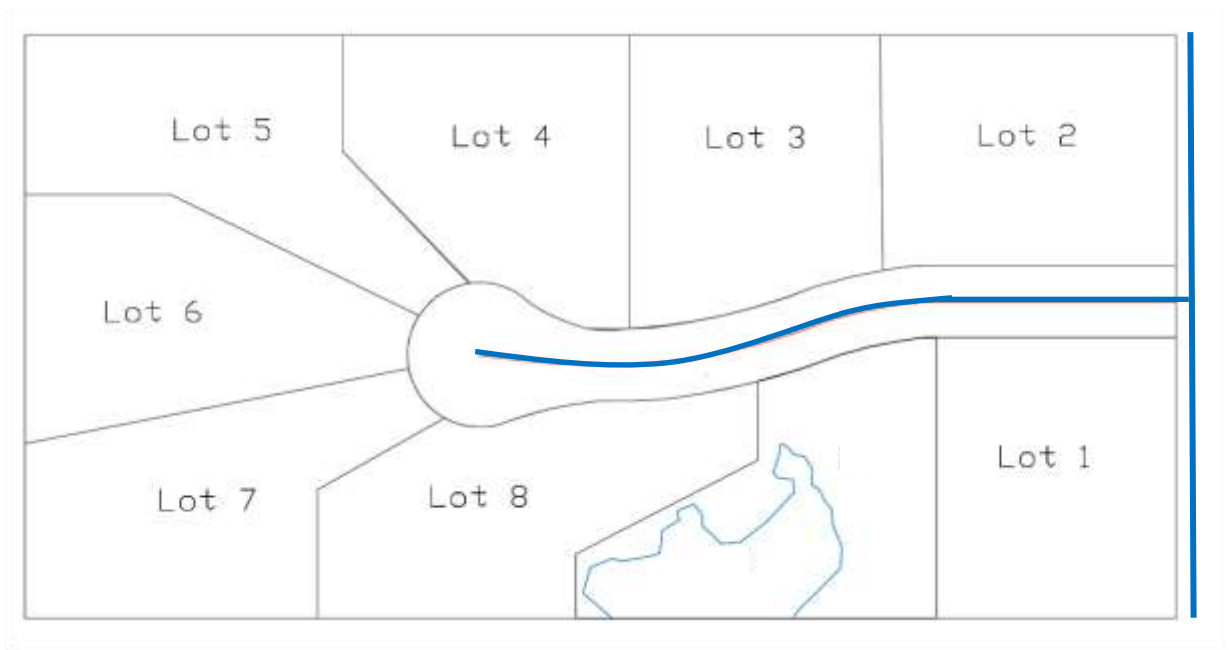
- 5.7.1** Development within the *Plan Area* shall generally conform with the Stormwater Management Plan referenced in this Conceptual Scheme that takes into consideration: best management practices, the Bearspaw – Glenbow Master Drainage Plan and the Nose Creek Watershed Water Management Plan.
- 5.7.2** In accordance with the Stormwater Management Plan, habitable buildings should be located outside of the area shown in Figure 20 - Ponding in *Plan Area* and Environs at 1,266.69 m, being 0.5 m higher than the probable maximum flood elevation.
- 5.7.3** Development shall minimize extensive stripping and grading, while also protecting natural depressions in the landscape as part of the overall design of the Stormwater Management Plan.
- 5.7.4** Detailed design of the necessary stormwater infrastructure identified in the Stormwater Management Plan shall be completed at the subdivision stage.
- 5.7.5** The use of low impact development measures such as rain gardens and infiltration areas may be required to manage and control the stormwater volumes generated by the development in order to meet the requirement of the Bearspaw Glenbow Master Drainage Plan.

### 5.8 Utility Services – Water

**Bearspaw Heights** will be provided with potable water via connection to the Rocky View Water Co-op regional water system that ties in to the 100 mm water line that runs north to south along the west side of Bearspaw Road (Range Road 30), east of the *Plan Area*. The Rocky View Water Co-op has verified in writing that it has available capacity to provide potable water service to the *Plan Area*. Accordingly, the Developer has entered into an agreement with the Rocky View Water Co-op to provide this essential service for the future subdivision and development of the *Plan Area*. Figure 24: Water Servicing shows the water line in relation to the road.

An engineered water distribution network will be installed within the *Planning Area* with connections to each residence within **Bearspaw Heights** that tie into the existing water network.

**Figure 24: Water Servicing**



#### Policy

- 5.8.1** Water mains and distribution pipes within the *Plan Area* shall be in conformance with Rocky View Water Co-Op's current servicing standards.
- 5.8.2** The water system shall incorporate fire protection via a drafting hydrant from the central pond, and shall adhere to best practices for water distribution.

### 5.9 Utility Services – Sanitary Wastewater

Sewage treatment and disposal will be managed on site with conventional septic fields. Alberta Environment prefers a minimum of 1 acre (0.4 ha) of developable land on each lot proposed through subdivision to facilitate the proper siting of tile fields. The proposed conceptual subdivision scheme has been designed to accomplish this.

#### Policy

- 5.9.1 Sewage treatment shall be provided via Packaged Sewage Treatment Systems on individual lots and shall meet the Bureau de Normalisation Du Quebec (BNQ) standards for the treatment quality.
- 5.9.2 Additional Geotechnical Evaluations including percolation and near surface water table testing confirming suitability for on-site septic field sewage treatment systems may be required as a condition of subdivision approval.

### 5.10 Shallow Utilities

Telecommunications, phone, cable, fiber optics (where available), electrical and natural gas services will be provided to the *Plan Area* at the subdivision stage, as per utility owner's guidelines and availability.

#### Policy

- 5.10.1 The development shall be serviced with private shallow utility systems such as electrical, natural gas, and telecommunications.
- 5.10.2 Locations for easements and line assignments for shallow utility extensions shall be determined at the subdivision endorsement stage.
- 5.10.3 Shallow utilities shall be provided by the appropriate utility company providing service to the *Plan Area*, at the sole expense of the Developer. The Developer of the lands shall(?) provide easements to any utility company requiring them to provide services to the *Plan Area*.

### 5.11 Solid Waste and Recycling

There are limited solid waste and recycling services available in Bearspaw, as described earlier in this Conceptual Scheme under 4.1 Local Development Context.

#### Policy

- 5.11.1 A solid waste and recycling management plan shall be provided for the Plan Area prior to endorsement of subdivision approval. Implementation of the solid waste and recycling management plan shall be the responsibility of the Developer and/or the **Bearspaw Heights** Homeowners' Association, at the discretion of the Municipality.



### 5.12 Protective and Emergency Services

Bearspaw is served by a full-time fire department centrally located at Bearspaw Fire Station 103 on Highway 1A, approximately 9 km by road southwest from the *Plan Area*. Figure 25: Photo of Bearspaw Fire Station 103 shows this building. Police services are provided by the R.C.M.P. enforcing the law through a detachment in Cochrane, or by RVC Peace Officers enforcing selected government acts and municipal bylaws. Medical emergencies are directed to facilities in the City of Calgary.

**Figure 25: Photo of Bearspaw Fire Station 103**



## 6.0 IMPLEMENTATION FRAMEWORK

### 6.1 The Conceptual Scheme Implementation Process

Adoption of this Conceptual Scheme will establish specific expectations that will guide the implementation of ***Bearspaw Heights***. The Conceptual Scheme policies must be considered prior to a land use amendment and/or subdivision approval. Consideration for adoption of this Conceptual Scheme by Council will occur following a Public Hearing. Council will consider adoption pursuant to the MGA. Subsequently, consideration of land use amendment, subdivision, and development permit applications will follow.

### 6.2 Land Use Redesignation

***Bearspaw Heights*** intends to work with the County to apply relevant land use districts for a land use redesignation application. A land use amendment is expected to be applied by Council in accordance with the RVC Land Use Bylaw at the time of redesignation.

### 6.3 Subdivision Application

A subdivision application will follow land use redesignation of the *Plan Area*.

## 6.4 Architectural Design Considerations

The developer will establish and implement specific Architectural and Design Guidelines to ensure all development and landscape design reflects a consistent style and theme.

### Policy

**6.4.1** A document outlining Architecture and Design Guidelines for residential buildings will be submitted at the subdivision n stage of the development approval process.

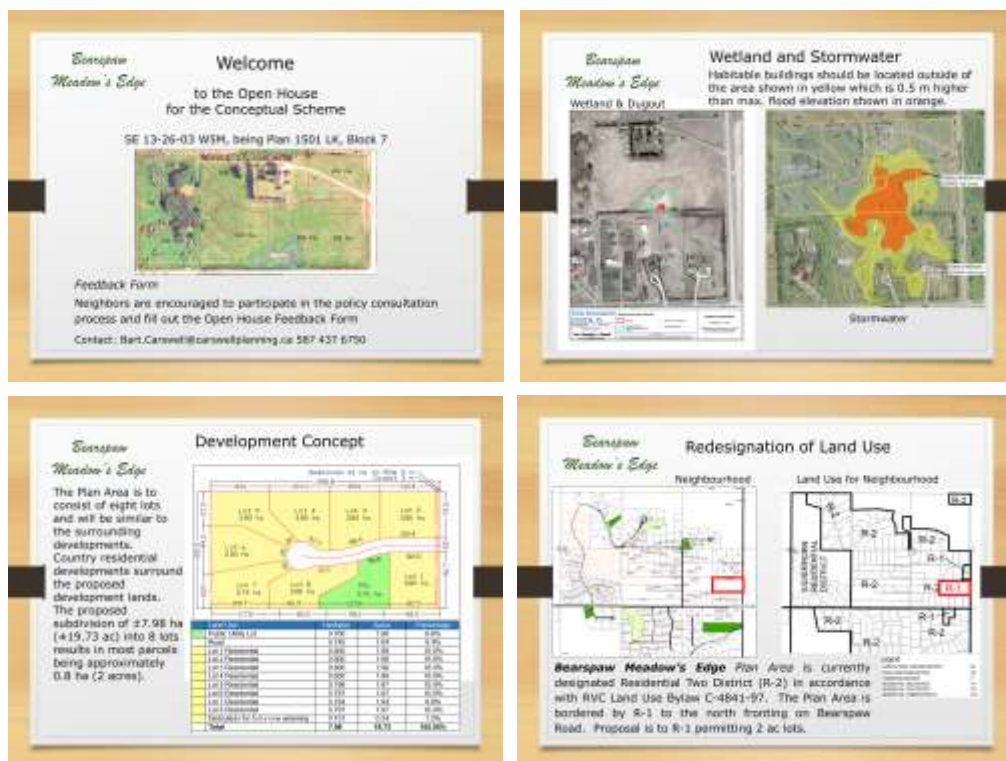
## 7.0 PUBLIC ENGAGEMENT

### 7.1 Open House

Two open houses were held on the site to engage the neighbours regarding the proposed development. Notices supplied were mailed by RVC. The first open house was at the site on July 18, 6:00 – 8:00 pm and seven attended. Numerous storyboards were on display and a question and answer session followed. Figure 26: Storyboards of Open House shows these. Brief surveys were distributed to seek public input. Primary concerns were with drainage/runoff and how it may affect the immediate neighbours.

A second open house was at the site on August 23, 6:00 – 8:00 with a stormwater engineer and groundwater engineer present to address the primary concern with drainage/runoff.

**Figure 26: Storyboards of Open House**



### 7.2 Potential Surrounding Development

Figure 27: Conceptual Scheme Environs, 2018 shows parcels (existing and proposed) of the quarter section and surrounding area. Bearspaw Heights is represented as eight (8) lots and a PUL lot, as shown by dashed lines. Note that other proposals have come forward that aren't depicted in this figure.

Neighbours have been consulted throughout the process on whether they were considering development and how this conceptual scheme may be able to accommodate them. To the west, a logical road connection was not supported by that property owner. That parcel has access off Poplar Hill Drive instead. To the south, some lands are susceptible to the maximum flood level, as shown previously in Figure 20: Ponding in *Plan Area* and Environs. Further over, 30046 Twp. Rd. 262 received approval (June 12, 2018) for R-1 leading to the creation of a new lot.

Other lots east of Poplar Hill Drive are also in the process of gaining approval for R-1 leading to the creation of a new lot as shown on Figure 27: Conceptual Scheme Environs, 2018. The proposal for Bearspaw Heights is in an area where R-1 is in character with surrounding development and has demonstrated through extensive technical reports that it represents good planning.

Figure 27: Conceptual Scheme Environs, 2018

