

Devonian Ridge Estates Conceptual Scheme



Prepared by:

**Westhoff
Engineering
Resources, Inc.**

Land & Water Resources Management Consultants

BYLAW C-7889-2019

A Bylaw of Rocky View County pursuant to Division 12 of Part 17 of the Municipal Government Act to amend Bylaw C-5354-2001, known as the “Central Springbank Area Structure Plan”, and adopt a Conceptual Scheme known as the “Devonian Ridge Estates Conceptual Scheme”.

The Council of Rocky View County enacts as follows:

PART 1 – TITLE

This bylaw shall be known as Bylaw C-7889-2019.

PART 2 – DEFINITIONS

In this bylaw, the definitions and terms shall have the meanings given to them in Land Use Bylaw C-4841-97 and the Municipal Government Act.

PART 3 – EFFECT OF BYLAW

- THAT** Bylaw C-5354-2001, known as the “Central Springbank Area Structure Plan”, be amended in accordance with the amendments contained in Schedule ‘A’, attached to and forming part of the Bylaw; and
- THAT** the “Devonian Ridge Estates Conceptual Scheme” be adopted to provide a policy framework for future redesignation, subdivision, and development proposal within NE-11-25-03-W05M consisting of an area of approximately ± 9.38 hectares (± 23.18 acres) as defined in Schedule ‘B’ attached to and forming part of this Bylaw.

PART 4 – TRANSITIONAL

Bylaw C-7889-2019 is passed when it receives third reading, and is signed by the Reeve/Deputy Reeve and the Municipal Clerk, as per Section 189 of the *Municipal Government Act*.

Division: 2
File: 05711004 – PL20180120

<i>PUBLIC HEARING WAS HELD IN COUNCIL this</i>	<i>11th</i>	<i>day of</i>	<i>June</i>	<i>, 2019</i>
<i>READ A FIRST TIME IN COUNCIL this</i>	<i>11th</i>	<i>day of</i>	<i>June</i>	<i>, 2019</i>
<i>READ A SECOND TIME IN COUNCIL this</i>	<i>11th</i>	<i>day of</i>	<i>June</i>	<i>, 2019</i>
<i>UNANIMOUS PERMISSION FOR THIRD READING</i>	<i>11th</i>	<i>day of</i>	<i>June</i>	<i>, 2019</i>
<i>READ A THIRD TIME IN COUNCIL this</i>	<i>11th</i>	<i>day of</i>	<i>June</i>	<i>, 2019</i>



ROCKY VIEW COUNTY
Cultivating Communities

A handwritten signature in blue ink, appearing to read "Steve Bell", written over a horizontal line.

Reeve

A handwritten signature in blue ink, appearing to read "Charlotte Schink", written over a horizontal line.

CAO or Designate

A handwritten date in blue ink, "June 11, 2019", written over a horizontal line.

Date Bylaw Signed

Devonian Ridge Estates Conceptual Scheme

Re-Issued for Approval

April 2019

Prepared for:

2036122 Alberta Ltd.

File: WER117-53

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In association with:

Bunt & Associates Engineering Ltd.



Curtis GEO
Solutions Inc.



Groundwater Information
Technologies Ltd.

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1 Introduction

1.1 Vision

The vision of the Devonian Ridge Estates Conceptual Scheme is to develop a 11 private lot community for a select group of owners who wish to build single family homes and amenities on a site with spectacular views to the Bow River, Rocky Mountains and skyline of The City of Calgary. The new community will have proximity to regional amenities, direct access to existing transportation infrastructure and to most unique environmental features of the Bow River valley.

The new lots will be accessed by a private road off Township Road 251 across from the Springbank Links golf course. Existing landscape features and additional hard and soft landscaping will be integrated with the visual aspects of the homes. Each single home will be customized and situated to maximize scenic views, respectfully integrated with the existing slopes and to provide privacy and tranquility.

1.2 Purpose of this Conceptual Scheme

The Devonian Ridge Estates Conceptual Scheme describes the owner's philosophy to establish a uniquely developed residential neighborhood that complements and integrates the existing landscape and the surrounding area.

1.3 Objectives

The objectives of The Devonian Ridge Estates Conceptual Scheme are to:

- a) Identify the rationale for the proposed land use re-designation;
- b) Identify opportunities and constraints within the plan area for subdivision and development;
- c) Establish a proposed land use concept to facilitate the development of a new residential development in the Springbank Area;
- d) Establish a strategy to implement appropriate servicing to support the new residential development.

2 Planning Framework

2.1 Rocky View County Plan

The Rocky View County Plan (Bylaw C-7280-2013) was approved on October 1, 2013 and Amended on July 25, 2017. The County Plan's vision is "Rocky View is an inviting, thriving, and sustainable county that balances agriculture with diverse residential, recreational, and business opportunities."

The County Plan establishes a framework of principles for future developments within the municipality including:

- Growth and Fiscal Sustainability;
- The Environment;
- Agriculture;
- Rural Communities;
- Rural Service; and
- Partnerships.

The County Plan's Residential Policies will direct new growth to designated development areas. The County Plan encourages country residential development to continue to locate within existing communities where Area Structure Plans are adopted. The Devonian Ridge Estates Conceptual Scheme proposes to amend the existing Central Springbank Area Structure Plan (CSASP) to allow for the location of new residential developments within the Plan Area so that the Conceptual Scheme is supported by an adopted statutory plan.

2.2 Central Springbank Area Structure Plan

The Plan Area is located within the existing Central Springbank Area Structure Plan (CSASP). The CSASP vision is:

"Central Springbank offers a rural lifestyle that blends residential uses with its agricultural heritage. The beauty and tranquility of Central Springbank coupled with the environmental sensitivity of the area, including the Bow and Elbow Rivers and their watersheds, requires responsible integration of further development through the guidance of the Area Structure Plan."

Concluding from Maps 1 to 14 within the CSASP, the Plan Area has the following characteristics:

- Current Land Use is Small Agricultural;
- Surrounding Land Use is public or institutional use (owned by The City of Calgary), a gravel extraction pit (owned by Rocky View County), special land use (golf course) and residential use;
- Is located within the Special Planning Area "Elbow River/ Bow River Planning Area";
- Partially contains potential gravel deposits;
- Contains treed areas as well slopes larger than 15%;
- Located adjacent to a City of Calgary Park Site;
- Accessed from a minor collector road (TWP Rd 251A);

- Is not crossed by major gas or electric utilities;
- Is not identified as Infill residential or New Residential Area;
- Is located within in the Joint Planning Area.

2.2.1 Bow and Elbow Rivers Special Planning Area

The Plan Area is located within the Bow and Elbow Rivers special planning area and additional requirements in the preparation of a conceptual scheme include, but are not limited to the following (CSASP):

- Maintenance of drinking water quality and supply in the Bow and the Elbow rivers;
- Identification and integration of wildlife corridors;
- Preservation of fisheries;
- Limited removal of vegetation cover;
- Flood fringe and flood way considerations;
- Slope stability;
- Gravel resources and their extraction potential.

2.3 Devonian Ridge Estates Conceptual Scheme Rationale

As the Plan Area is identified in the CSASP as “Small Agricultural”, re-designation of the subject lands as “New Residential Area” is proposed. This conceptual scheme plan is developed to support the application for the re-designation to “New Residential Area”.

The proposed development is located between lands that have already been fragmented. Adjacent to the east is a gravel pit, to the south and west is existing residential development and a golf course and west is a natural area planned by The City of Calgary as a park. The productivity, health and viability of local agricultural activities will not be comprised as the lands are not intended for future agricultural purposes.

Other characteristics of the Plan Area include:

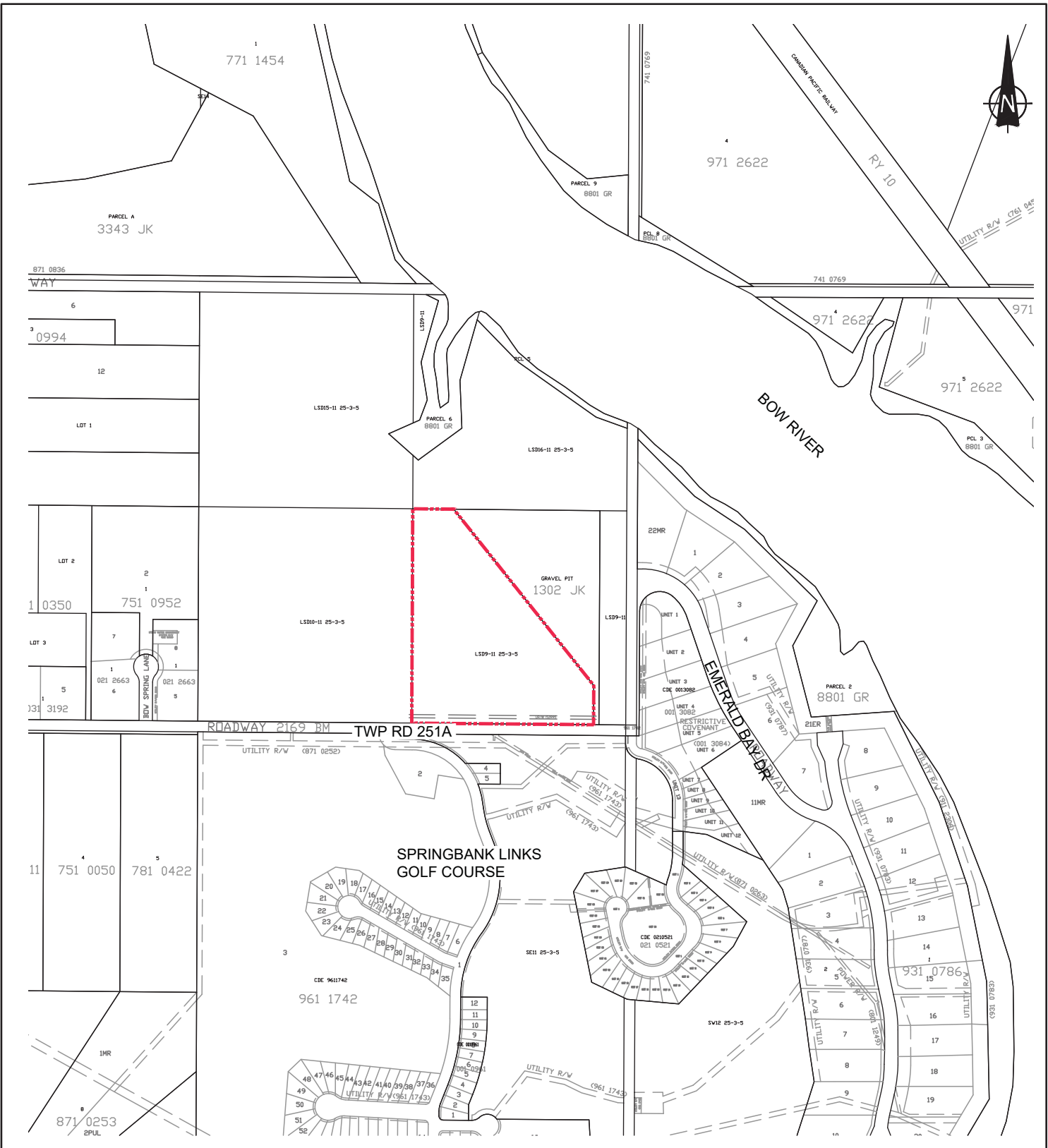
- The adjacent gravel pit is nearing the end of active operation. The potential gravel resources within a small portion of the Plan Area will not be extracted.
- The Plan Area is about 300 meter away from the Bow River / Bearspaw Reservoir. The Plan Area is outside the flood fringe and floodway of the Bow River.
- Sewerage disposal and stormwater management will be designed as per Alberta and County design standards and guidelines.
- A Biophysical Impact Study for the Plan Area (Westhoff, 2018) documents the vegetative coverage of the Plan Area and address potential wildlife aspects.
- Geotechnical investigation will address any potential slope instability.

3 Devonian Ridge Conceptual Scheme Plan Area

3.1 Plan Area

Figure 2 shows the proposed Devonian Ridge Estates Conceptual Scheme Plan Area and boundaries. The Plan Area measures approximately 23.0 acres (9.30 ha) which provides a land base for development of a private community comprising 11 lots with a single road access from Township Road 251A.

Policy 3.1: Where applicable, the policies of the conceptual scheme shall apply to lands identified in Figure 2 Conceptual Scheme Plan Area.



LEGEND

--- PLAN AREA 22.9 AC

Client:

2036122 ALBERTA LTD.

Project:

DEVONIAN RIDGE ESTATES

Title:

CONCEPTUAL SCHEME PLAN AREA

Date:

05-DEC-2017

Project No:

WER117-53

Scale:

AS SHOWN

FIGURE 2

Westhoff Engineering Resources, Inc.
Land & Water Resources Management Consultants

4 Existing Conditions

4.1 Location and Legal Description

The Devonian Ridge Estates Conceptual Scheme Plan Area location information is summarized as follows:

- Plan area size: 23.0 acres/ 9.30 ha;
- Address: 31038 Township Road 251A within Rocky View County;
- Bounded by Township Road 251A (south), The City of Calgary owned land (west and north) and a County owned gravel pit (east);
- Legal land description: Portion of NE-11-25-03-W05M, No Plan Number;
- A Restrictive Covenant, Plan 7412JL and Utility Right of Way 991321831 are located on the land; and
- A copy of the current title is presented in Appendix A of this conceptual scheme.

4.2 Historical Context

From the early 1900s Springbank was primary an agricultural community. The Plan Area was surrounded by dairy farming. Starting in the 1970s the area began to develop into residential parcels. East of the Plan Area a gravel pit operated starting from the early 1940s. Since the mid 1990s, the area located east along the Bow River was developed residential subdivision, as well as the Springbank Links golf course, located to the south.

The following is a narrative of the previous land owner, Stew Bradley.

Our land belonged to dairy farmers Morris and Marion Smith. They lived on the corner just as you turn to come east to our land. The whole area surrounding our land was occupied by dairy people. The McKnight farm directly below us was a homestead dairy farm situated along the Bow River, three generations of McKnights lived there. My 130-year-old rebuilt antique wagon sat in the field just south east of your place, for over 60 years. The oak draw bar and axels are original. We believe the wagon belonged to well-known Springbank stable owner horse trainer, Art Andersons parents who also were homesteaders. Back in the early days Goddard Lake was located were Harmony "3 miles west" has a 140 acre made Lake today. Billie Bradley my grandfather known as the "Cochrane Strongman" would come down to the McKnight farm right below your land, with two other men to unload logs from a sleigh were they cut and hauled logs from Bragg Creek. It used to take 2 men to lift the small end of the log off the sleigh Billie, would lift the heavy end off by himself. He was known for his feats of strength out lifting all comers at the "Murphy Hotel" in Cochrane. The sloughs still seen at the corner of Highway 22 and the Trans-Canada Highway were called the Bradley Sloughs or ponds that was the original location of the Bradley homestead. Jim Robinson Val Vista Farms started the first milk haul by truck in the Springbank district, he would pick up milk cans on the corner right where you are going to build homes.

4.3 Current Land Use

The Area is designated as Agricultural Holdings (AH) and will require land use re-designation to Residential (R-1).

Policy 4.1: Prior to subdivision the Agricultural Holdings (AH) land will require land use re-designation to Residential (R-1).

4.4 Plan Area Land Context

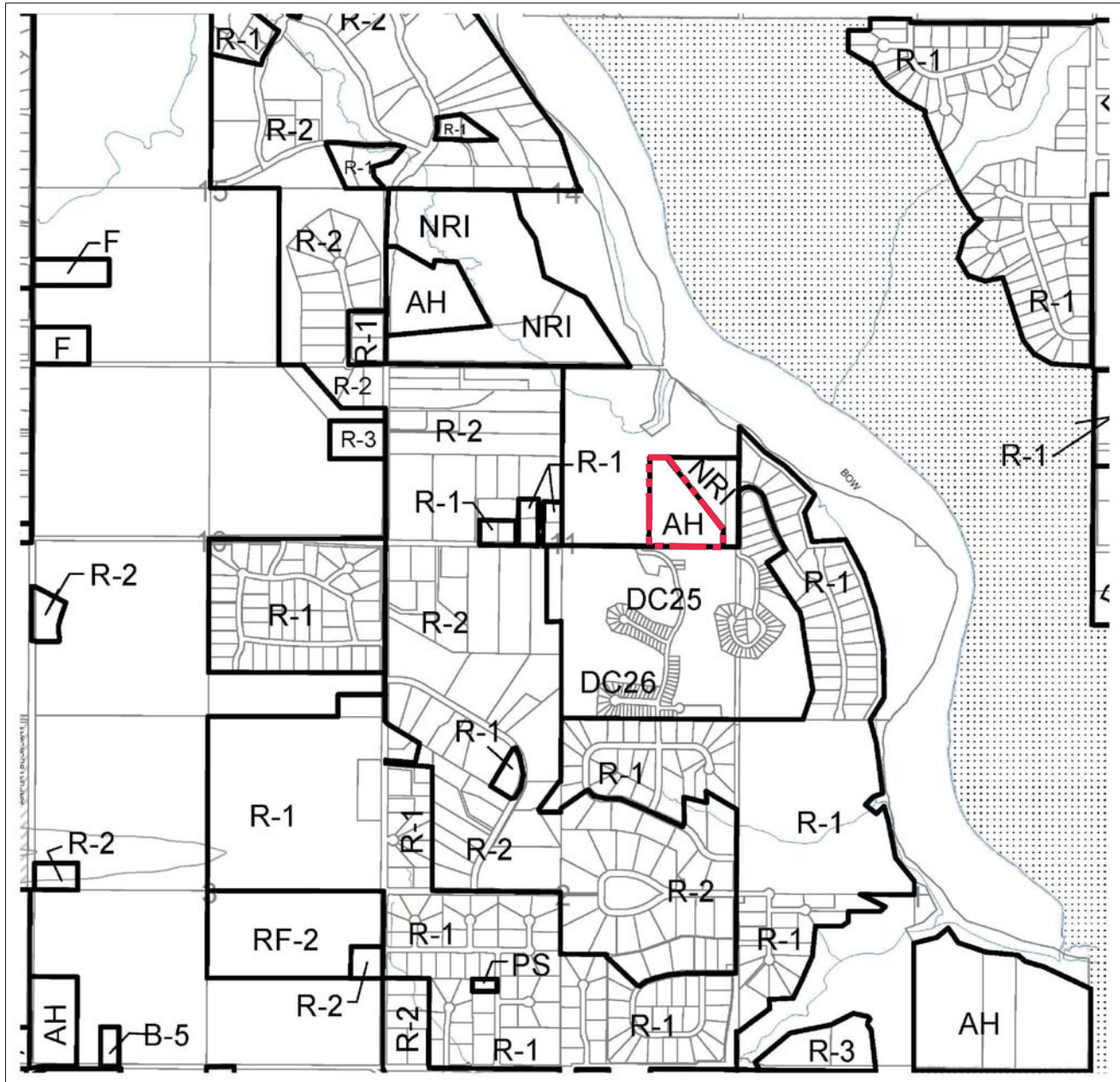
Existing residential development of the lands near the Devonian Ridge Estates Conceptual Scheme area include R-2 (Residential Two), R-1 (Residential One) and DC25/DC26 (Residential mixed/Public Services) land uses with parcel sizes ranging from 0.2 acres, 2 acres and larger. The land use in the proximity of the plan area is presented on Figure 3.

4.5 Terrain

The Plan Area slopes from the southwest to the east. For approximately 60% of the area, slopes are below 15%; about 17% of the area is sloped between 15 and 20% and about 23% of the area has slopes larger than 20%.

4.6 Existing Structures

On the south end of the Plan Area is a house, garage, shed and dog kennel and two access roads. These buildings were built in the late 1960s and late 1970s and will be redeveloped.



RANCH AND FARM DISTRICT.....	RF
SEE EXCEPTIONS LISTED WITH THIS DISTRICT.....	RF *
RANCH AND FARM TWO DISTRICT.....	RF-2
RANCH AND FARM THREE DISTRICT.....	RF-3
AGRICULTURAL HOLDING DISTRICT.....	AH
FARMSTEAD DISTRICT.....	F
RESIDENTIAL ONE DISTRICT.....	R-1
RESIDENTIAL TWO DISTRICT.....	R-2
RESIDENTIAL THREE DISTRICT.....	R-3
HIGHWAY BUSINESS DISTRICT.....	B-1
GENERAL BUSINESS DISTRICT.....	B-2
LIMITED BUSINESS DISTRICT.....	B-3
RECREATION BUSINESS DISTRICT.....	B-4
AGRICULTURAL BUSINESS DISTRICT.....	B-5
LOCAL BUSINESS DISTRICT.....	B-6
HIGHWAY FRONTAGE BUSINESS DISTRICT.....	B-HF
BUSINESS CAMPUS BUSINESS DISTRICT.....	B-BC
INDUSTRIAL CAMPUS BUSINESS DISTRICT.....	B-IC

LEGEND

--- PLAN AREA 22.9 AC

SOURCE: ROCKY VIEW COUNTY LAND USE MAP.

Client:

2036122 ALBERTA LTD.

Project:

DEVONIAN RIDGE ESTATES

Title:

EXISTING LAND USE MAP

Date:

05-DEC-2017

Project No:

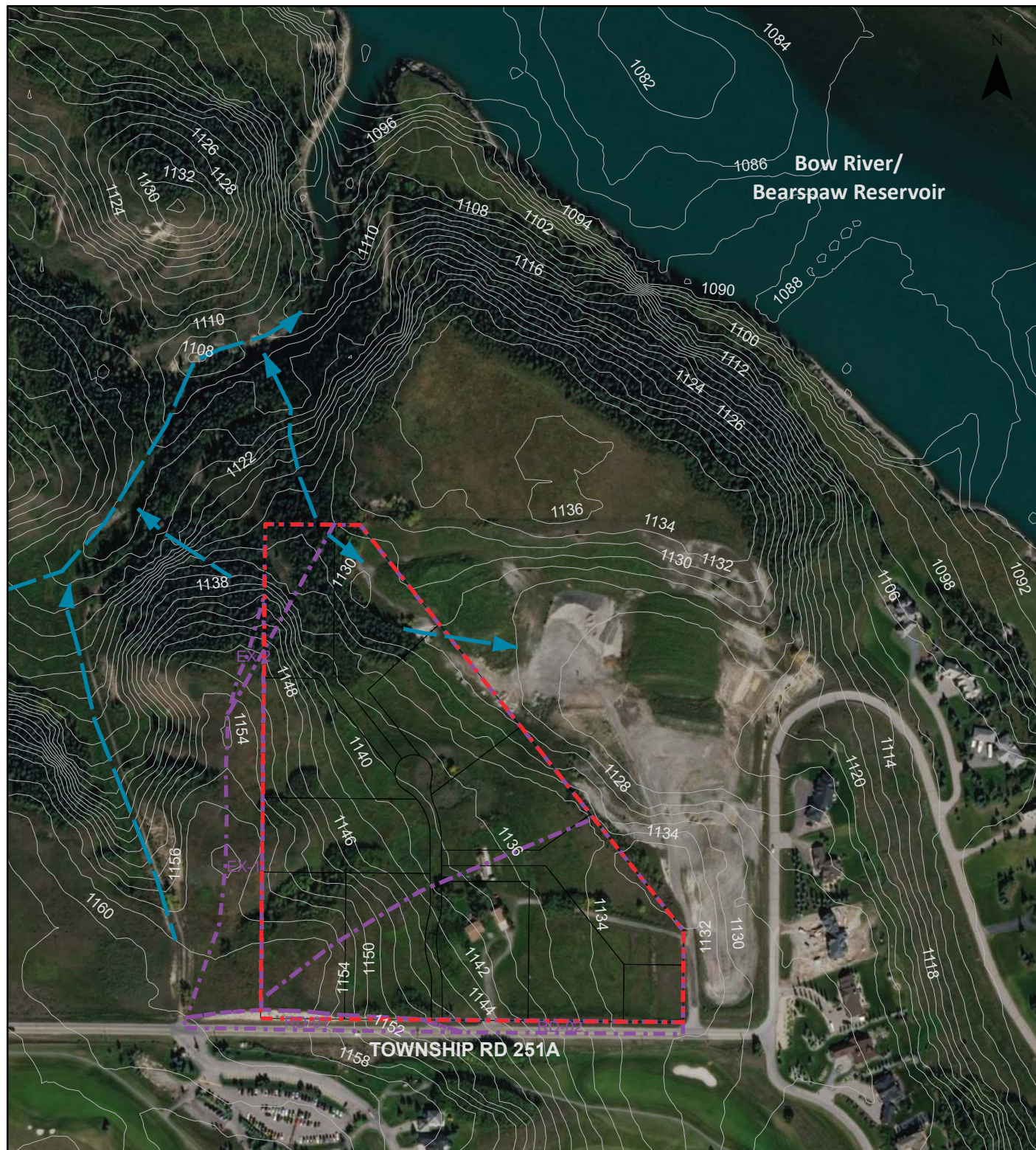
WER117-53

Scale:






AS SHOWN

FIGURE 3

Westhoff Engineering Resources, Inc.
Land & Water Resources Management Consultants



Legend

-  Temporary Ephemeral drainage (to be confirmed in field)
-  Project Area
-  Existing Catchment Area
-  Concept
-  Contours

0 70 140
Meters

Client: 2036122 ALBERTA LTD.			
Project: DEVONIAN RIDGE ESTATES CONCEPTUAL SCHEME			
Title: TOPOGRAPHY			
Date: 5/3/2019	Project No.: WER117-53	Scale: 1:4,500	FIGURE: 4

Westhoff Engineering Resources, Inc.
Land & Water Resources Management Consultants

5 Devonian Ridge Estates Land Use Concept

5.1 Proposed Site Plan

Figure 5 and Figure 6 show the land use concept for the Plan Area and the land use concept overlain on the aerial photo of the site. Lots 1 through 11 are new lots to be created by subdivision. A private road owned and maintained by the Condominium Corporation will access the development from Township Road 251A. Lots have panhandles or driveway right of ways to allow access to the main road. The triangular shape of the Plan Area as well as the topography makes the location of the lots very unique situated which are best accessed by panhandles as opposed to road access.

Eleven (11) residential lots are 1.98 acres (0.80 ha) in size and have been strategically situated to ensure integration in the existing site conditions. The existing buildings on Lot 9 will be demolished.

Retaining as much of the existing trees and vegetation as well as added landscaping will provide privacy and tranquility for the individual lots. The stormwater management system has been integrated into the natural drainage patterns of the Plan Area with onsite lot drainage features as well as a central stormwater pond.

A landscaped area along Township Road 251, including the stormwater pond will create a central place for the community to enjoy the views and the natural, historical and landscaped features. Devonian Ridge Estates residents and the public will enjoy this as an attractive walking destination within the community.

A 6-meter-wide gravel road located along the perimeter will provide a second access from the internal road with Twp Rd 251A in case of emergency.

Policy 5.1: There shall be a maximum of 11 residential R-1 lots within Devonian Ridge Estates.

Policy 5.2: As a condition of subdivision, the Condo Corporation shall be established as well as bylaws, establishing maintenance responsibilities of internal road, PSTS, overland drainage system, stormwater pond and green space.

Policy 5.3: A 6 meter URW shall be established on Lots 9 & 10 for the provision of the secondary emergency escape gravel road.


Policy 5.4: A 7.5 meter URW along the road shall be established on Lots 2,3,4,5,6,7,8,9, and 10 for the provision of the roadside drainage and utilities right of way.


Policy 5.5: A 7 meter URW shall be established on the outside perimeter of Lots 5, 6, 7 and 8 for the provision of stormwater infiltration.

Policy 5.6: The Stormwater Pond will be property of and maintained by the Condo Corporation.



Legend

 Conceptual Scheme Planning Area

0 60 120
 Meters

Client:				2036122 ALBERTA LTD.
Project:				DEVONIAN RIDGE ESTATES
Title:				LAND USE CONCEPT WITH AERIAL PHOTO
Date:	Project No.:	Scale:	FIGURE: 6	
31-01-2019	WER117-53	1:2,500		

Westhoff Engineering Resources, Inc.
 Land & Water Resources Management Consultants



Legend

- | | | | |
|--|---------------------------------|--|-------------------------------------|
| | Conceptual Scheme Planning Area | | Prop 7.0m Infiltration Facility R/W |
| | Park | | Prop 7.5m Ditch and Utilities R/W |
| | Lot | | Prop 6m Emergency Access R/W |
| | Road | | Utility R/W |
| | Pond | | Parcels |
| | Proposed Dry Hydrant Location | | R/W |

0 30 60
Meters

Client: 2036122 ALBERTA LTD.			
Project: DEVONIAN RIDGE ESTATES			
Title: LAND USE CONCEPT			
Date: 31-01-2019	Project No.: WER117-53	Scale: 1:2,500	FIGURE: 5

Westhoff Engineering Resources, Inc.
Land & Water Resources Management Consultants

5.2 Green Space

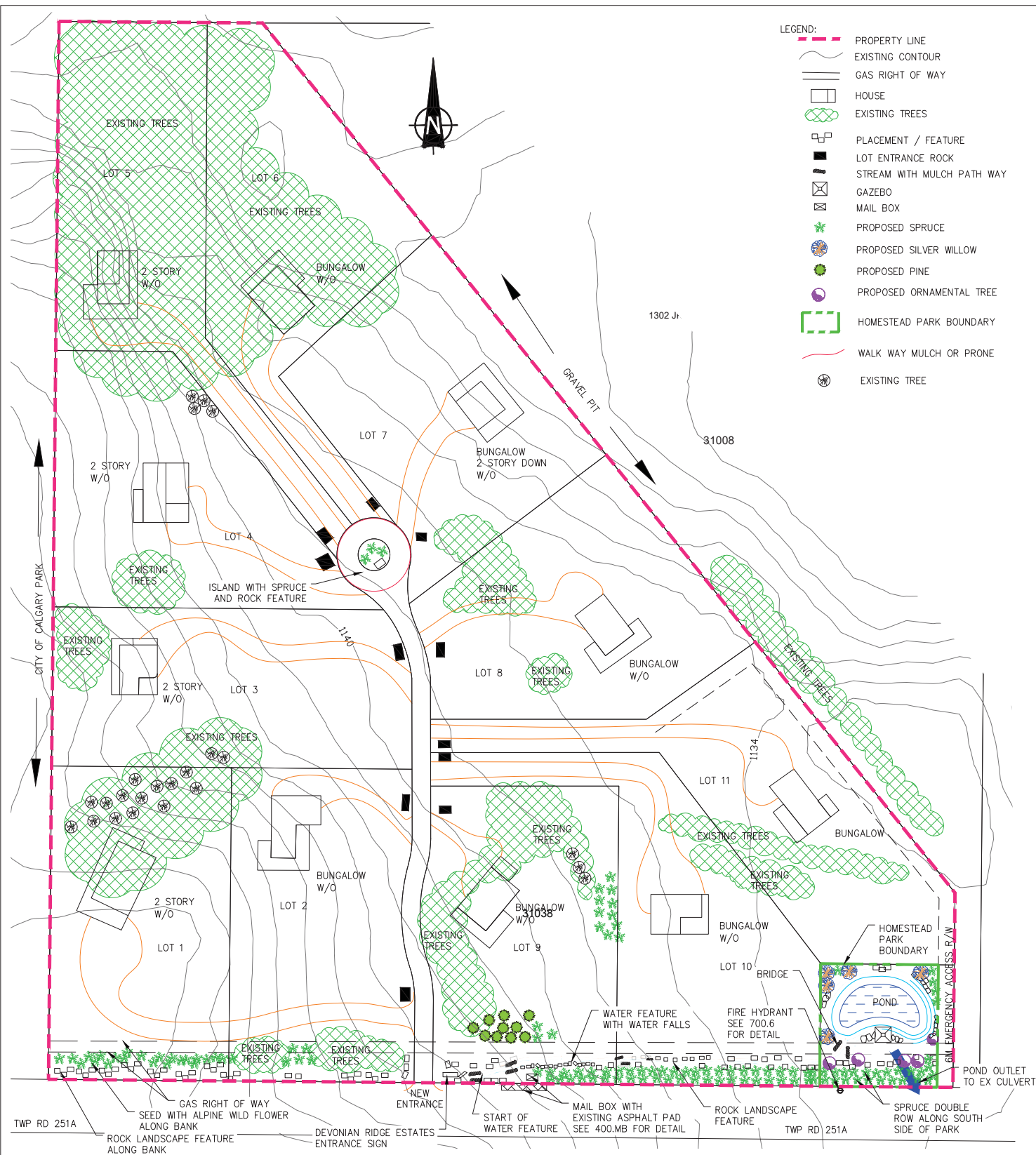
Green space will be a signature feature of Devonian Ridge Estates. The lot design will be specific for each site and will be based on topography, view lines, landscaping and sun angles. Buildings and structures will be integrated into the natural features of the site with minimal site disturbance.

In the south-east corner of the site a stormwater storage facility, a gazebo and surrounding landscaping will allow for enjoyment of the local community. On the south side of the Plan Area a 10-meter-wide strip will be green space with landscaped features. This will be an easement on Lots 9 and 10. The park features will be maintained by the Condominium Corporation. Municipal Reserve dedication will be dedicated by cash-in-lieu payment.

Figure 7 presents the existing tree cover and the proposed green space. A targeted 75% of the existing 1.7 hectare tree cover will remain undisturbed. Trees and shrubs removed will be reused within the development as much as possible.

Policy 5.7: The green space shall be maintained by the Condominium Corporation.

Policy 5.8: Municipal Reserve dedication will be dedicated by cash-in-lieu payment at the time of subdivision.



- NOTES:**
1. AS MUCH EXISTING PLANT MATERIAL TO BE USED IN NEW LANDSCAPE AS POSSIBLE.
 2. HOMESTEAD PARK TO HAVE INFORMATION ABOUT AREAS HISTORY.
 3. POND IS SELF CONTAINED AND WILL RUN WATER FEATURES, SPRINKLER AND FIRE SUPPRESSION.
 4. PARK DESIGN IS CONCEPTUAL AND MAY VARY UPON COMPLETION.

1:2000

0 50 100 m

Client:

2036122 ALBERTA LTD.

Project:

DEVONIAN RIDGE ESTATES

Title:

GREEN SPACE

Date:

21-AUG-2018

Project No:

WER117-53

Scale:

1:2000

FIGURE 7

Westhoff Engineering Resources, Inc.
Land & Water Resources Management Consultants

6 Proposed Subdivision Layout

6.1 Subdivision Lot Size Considerations

All of the residential lots provided in the Plan Area are 1.98 acres (0.8 ha) or greater which meet the requirements of Rocky View County Land Use Bylaw for Residential Two District (R-1).

6.2 Site Lotting and Setbacks

Proposed setback for each lot is 10 meter and may be reduced at the discretion of the developer on a site-specific basis to match the Residential District R-1 bylaw requirements of 3 meters. Minimum building setback as per bylaw requirement is 45 meter from the Township Road 251A and 15 meter from the internal road.

6.3 Architectural Design Guidelines

Prior to subdivision architectural design guidelines will be prepared which will be consistent with the development vision and lot design principles. The guidelines will require site specific design solutions.

Architectural design guidelines will be implemented by the developer with ongoing responsibility to be turned over to the Condominium Corporation when all the lots have been developed.

Policy 6.1: Architectural Design Guidelines shall be prepared at the subdivision application stage, and be registered by as a restrictive covenant against individual titles at the time of subdivision registration.

Policy 6.2: Enforcement of the Architectural Design Guidelines shall be the responsibility of the Developer and/or the Condominium Corporation.

6.4 Lot Development Design Principles

Each lot will be designed and developed according to the following design principals:

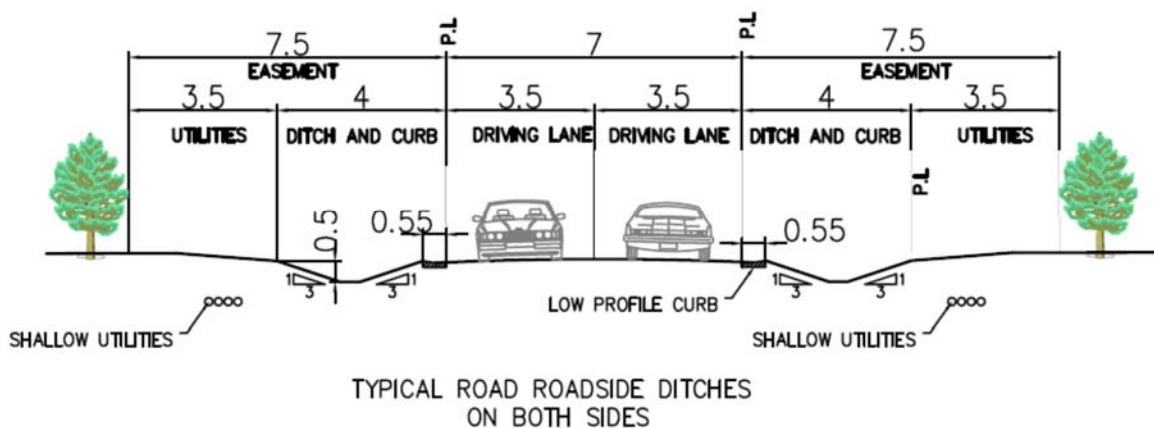
- The lot design will be specific for each site and will be based on topography, view lines, landscaping and sun angles. Buildings, structures will be integrated into the natural features of the site with minimal site disturbance;
- Internal lot landscaping with berms and planting will be professionally designed and is intended to be a significant part of the development of each lot and allow for privacy and tranquility.

7 Transportation

7.1 Internal Private Road Design

The entrance to the Plan Area will be from Twp Rd 251A via an internal road. The internal road will be privately owned and maintained by the Condominium Corporation. Design and construction standards will generally follow those published in Rocky View County 2013 County Servicing Standards 800.2 Residential Local (RL1) with a 7 meter paved road surface. Figure 7 shows the proposed cross section of the road right of way. The road right of way is located within the lots adjacent to the road and will provide drainage easement for road runoff as well as lot drainage. The shallow utility easements will be in the right of way on one side of the road as necessary.

Figure 8: Internal Road



Policy 7.1: Internal road construction standards will be designed and certified by a qualified professional and shall be acceptable to the County.

Policy 7.2: The internal road shall be maintained by the Condominium Corporation.

7.2 Traffic Impact Assessment

Bunt & Associates Engineering Ltd. (Bunt) conducted a Traffic Impact Assessment (TIA) to “identify any improvements required as a result of the proposed development or conversely confirm no impacts results from the development”.

As recommended by Alberta Transportation’s technical guidelines traffic volumes at nearby intersections were reviewed to confirm where approach volumes would increase by 5% or more due to the proposed development. Additionally, traffics counts were reviewed conducted in 2018 by Bunt for the plan Area (RR 32 & Twp Rd 251A; RR 32 & Twp Rd 250; Old Banff Coach RD & Twp Rd 250), by Bunt from previously conducted traffic counts in 2018 (RR 33 & Twp Rd 250) and by Alberta Transportation (Hwy 1 & RR 33; Hwy 1 & RR 31).

An "Am Intersection Capacity Analysis" was undertaken for the study area as per Rocky View County TIA Guidelines. The Intersection Capacity Analysis confirms that all study area intersections will continue to operate acceptably even with the additional traffic associated with the proposed development.

Conclusions of the TIA report confirm the following:

- The proposed development is expected to generate 8 AM peak hour trips and 10 PM peak hour trips;
- All roadways will continue to carry traffic volumes within Rocky View County guidelines with the addition of site traffic;
- All intersections will continue to operate acceptably with the addition of site traffic;
- No external roadway or intersection upgrades are required to accommodate the proposed development.

Policy 7.3: At time of subdivision, no external roadway or intersection upgrades are required to accommodate the proposed development as per the Traffic Impact Assessment by Bunt & Associates Engineering Ltd. dated July 18, 2018.

Policy 7.4: At time of subdivision, the developer shall pay Transportation Off-site Levies in accordance with the applicable bylaw at the time of approval.

Policy 7.5: At time of subdivision, the developer shall enter into a Development Agreement for the construction of the internal roadway.

Policy 7.6: Roadside ditches shall be located within a 7.5 meter utilities right-of-way (URW) from the internal road.

8 Servicing Strategy

There are currently no piped services for sewage disposal, potable water or stormwater for the existing residence. There is a gas pipeline utility right of way located within the subject lands along Township Road 251A.

8.1 Attempt to Connect to Regional Water Servicing

Policy 2.8.2 of CSASP requires connection to an existing water distribution system for residential purposes where access is feasible and/or cost effective. North Springbank Water Co-Op Limited and Emerald Bay Water & Sewer Co-op have water distribution systems near the Plan Area.

The developer started communications with Emerald Bay Water & Sewer Co-op, but concluded that connection would not be economically feasible. The North Springbank Water Co-Op Limited did not approve the application to connect to their system.

After communications with both co-ops have not succeeded in a letter of intent to connect to one of the systems, the developer has decided to proceed with intention to provide domestic water wells for each lot.

8.2 Potable Water

The developer has decided to service the lots by individual water wells. All eleven lots will have a well drilled and tested for suitability as potable water. Testing will provide insight to treatment requirements.

Groundwater Information Technologies Ltd. prepared a Phase 1 Aquifer Analysis report (August 2018) to determine the zone of influence of the wells and an analysis of capacity and viability of the wells to meet Rocky View County requirements. Findings of the Phase 1 Aquifer Analysis report include:

- Assuming the wells at the site encounter average aquifer conditions for the area there should be sufficient water to provide water needs for the lots as specified in the Water Act of 1250 m³/year without causing adverse effects to existing domestic, licensed or traditional groundwater users in the area.
- Approximately 20 meter of silts and clays are underlaying the site as well as a gravel deposit. These units are dry and no usable aquifers are present. Aquifers in the area consists of sandstones underlying the silts, clays and gravels. Expected wells depths would be 200-300 feet due to the relatively deep static water levels in the area.
- Existing groundwater demand in the area is moderate to high. No evidence of aquifer dewatering with time is occurring. As the property is near the Bow River/ Bearspaw Reservoir, some recharge of the aquifers is likely to occur.
- Pumping test data from wells in the areas was interpreted and an average water yield of 128 m³/day (46,9000 m³/year or 20 gpm) is calculated.
- The water quality in the area is good to fair consisting of a sodium bicarbonate type water with moderate levels of total dissolved solids concentration. Treatment may be required to make the water acceptable as a potable water source.

Policy 8.1: At the time of subdivision test wells will be drilled to confirm a flow of 4.5 L/min or greater at each lot.

8.3 Wastewater

The 11 lots will not be connected to a regional or decentralized wastewater treatment system. Each lot will be installing individual sewage treatment and septic fields to collect, treat and dispose of sewage.

In 2018 Curtis Geo Solutions Inc. provided a Soil Texture for Septic Fields letter that concludes that the soil conditions are suitable for the installation of below grade septic fields. For each lot a Private Septic Treatment System (PSTS) Report is required. Packaged sewer treatment system meeting BNQ Standards will be required for each new residence to comply to Alberta Environment and Parks (AEP) and Rocky View County standards.

Packaged sewer treatment system meeting BNQ Standards will be required for each new residence to comply to Alberta Environment and Parks (AEP) and Rocky View County standards. As the Plan Area is located in the vicinity of the City of Calgary water source Bearspaw Reservoir, installation of manufactured packaged sewage treatment plants will be required for each lot

through the architectural controls. These systems are considered advanced treatment systems and will produce cleaner effluent than the typical septic tank and septic field. The Condominium Corporation will establish a long-term contract with a professional company for the monitoring and maintenance of the manufactured packaged sewage treatment plants.

Part of lots 5 and 6 surficial drainage is towards the northwest to a creek draining directly into Bearspaw Reservoir. The location of the sewage treatment and septic fields of these lots will be such that they will drain in eastern direction which will generate a longer flowpath to Bearspaw Reservoir (>500 meter).

Policy 8.2: Each new building site shall install a manufactured packaged sewage treatment plant as required by the Condominium Corporation and shall meet a minimum of BNQ Standards.

Policy 8.3: A Level 4 Private Sewage Treatment System Assessment shall be submitted at the time of subdivision meeting the County Servicing Standards.

8.4 Shallow Utilities

Shallow utilities (i.e. electricity, telecommunication, natural gas, etc.) will be provided within the Plan Area at the subdivision stage in consultation with all applicable shallow utility providers.

Policy 8.4: Shallow utilities shall be installed by the developer at the subdivision stage in consultation with all applicable utility providers.

Policy 8.5: Easements will be provided by the Developer to the utility provider as required.

8.5 Fire Suppression

In the southeast green space area, the stormwater pond will be designed to provide the dual function as a water reservoir equipped with a dry hydrant for fire suppression.

Policy 8.6: Fire suppression infrastructure shall be provided through a dry hydrant and reservoir system that is consistent with Rocky View County policy servicing standards.

9 Geotechnical Investigation

A Geotechnical Investigation Study including slope stability analysis has been completed in September 2018 and revised by Curtis Geo Solutions Inc. in February 2019. The geotechnical testing conclusions indicate the following:

- Subsurface conditions are considered suitable for residential development;
- Stratigraphy of the site consists of a topsoil layer overlying firm to stiff till to depths of 3.6 to 5.79 meters below ground surface;
- No groundwater was encountered up to depths of 5 meter below surface;
- Loads of the proposed buildings should be supported on strip footings or piles depending on the location, topography and size of the residence;
- Buildings shall be constructed with on strip footings or piles. A qualified geotechnical engineer shall perform inspections during foundation construction to verify the findings of the Geotech report;
- Modifications to existing slopes should be carried out under the supervision of a qualified geotechnical engineer to ensure slope stability.

It is anticipated that unique buildings will be constructed for which special geotechnical investigations may be required.

Policy 9.1: A qualified geotechnical engineer shall perform inspection during foundation excavation of home sites to verify the findings of the Geotechnical Investigation Report.

Policy 9.2: As condition of subdivision the following plans are required:

- *Finished grading plan;*
- *Updated slope stability analysis;*
- *Contiguous acre assessment.*

10 Biophysical Impact Assessment

Westhoff (2018) completed a Biophysical Impact Assessment (BIA) which identifies potential impacts of the proposed development as well as mitigation measures to reduce or eliminate these potential impacts.

Findings of the BIA include:

- The Plan Area is located within the Parkland Natural Region and the Foothills Parkland Natural Subregion. Terrain conditions are variable with the majority of the site consisting of non-native grasslands;
- The range of natural habitats are expected to support a number of wildlife species. A total of eight (8) upland plant communities were identified with more natural conditions persist in the western and northern portions of the Project Site;
- Field sampling indicates there are no rare plants or rare ecological communities within the Site;

- Approximately 1.7 hectare of the Plan Area is tree covered with scattered forested areas consisting of Aspen, Balsam Poplar and White Spruce;
- On a regional scale the Project Site is surrounded by country residential development. However, much of the natural landscape maintains a level of connectivity suitable for wildlife to travel in areas within and adjacent to the Project Site;
- A total of 17 species were observed within the Site, including the western wood pee-wee observed in the white spruce forest in the north, which is listed as May be at Risk in Alberta;
- No wetlands or watercourses are identified within the Plan Area.

Potential impacts of the proposed development include loss or alteration of soil, terrain and native vegetation as well as potential loss or disturbance of wildlife and wildlife habitat. The following mitigation measures will be implemented to reduce, eliminate, or control the potential negative impacts of the proposed development.

- Erosion and Sediment Control (ESC) Plan to limit or control deleterious substances leaving the Site or entering area water bodies;
- Environmental Protection Plan (EPP) to manage potential environmental impacts resulting from construction;
- Landscape and Weed Management Program to reduce post-development impacts to native plant communities and wildlife habitat;
- Stormwater management strategies;
- A Land Owner's Manual to educate area residents on what they can do to maintain the health of natural open spaces over the long-term and how to avoid conflicts with wildlife; and
- Timing of construction to avoid critical time periods for wildlife (Feb 1 to August 31).

Policy 10.1: As condition of subdivision, an Environmental Protection Plan (EPP) shall be prepared that meets Rocky View County standards and guidelines.

Policy 10.2: As condition of subdivision, a Landscape and Weed Management Program shall be developed to reduce post-development impacts to native plant communities and wildlife habitat and implemented for the site in accordance with the Weed Control Act (Government of Alberta, 2008).

Policy 10.3: As condition of subdivision, stripping and grading of or within treed areas should be completed outside the breeding bird season between April 1 to August 31.

Policy 10.4: As condition of subdivision, an Erosion and Sediment Control Plan (ESC Plan) shall be developed that meets Rocky View County standards and guidelines.

11 Stormwater Management

A Stormwater Management Plan (SWMP) was prepared by Westhoff Engineering Resources Inc. in September 2018 and updated in March 2019. The SWMP is in accordance with the Springbank Master Drainage Plan (MDP) (MPE, 2013). In the Springbank MDP the following stormwater targets are recommended:

- Providing peak rate control to minimize flood risk based on previous guidance of 1.71 L/s/ha and lower rates in areas where downstream restrictions exist.
- Provide a volume control target of less than 45 mm to achieve water quality improvement for stormwater discharging to receiving streams/water bodies and minimize erosion impacts in existing streams.

The Plan Area is located within the subcatchment Artist's View Creek that drains to the Bow River, which has potentially a very high risk of stream erosion (MPE, 2013)¹. Therefore adequately managed stormwater and particularly runoff volume is required. Furthermore, the Plan Area lies within the City of Calgary's Source Water Protection Plan (SWPP) (2018). In the SWPP stormwater from new and existing residential areas are considered a key risk factor. Either from ongoing loadings of low concentrations of pollutants or nutrients, or acute impacts due to spill events or runoff after severe storms. Secondary concern is temporary impact on water quality during construction and moderate concern associated with increasing volumes of treated wastewater discharges.

The storm water management concept provides for an overland drainage system without an underground piping system. Runoff from a small undeveloped external catchment area from the west will flow overland through the development. Stormwater runoff from each lot will manage storm runoff on its site individually with the use of Low Impact Development (LID's) technologies and Best Management Practices (BMP's). Use of absorptive landscaping and traplows will be incorporated to promote infiltration, evapotranspiration and improvement of water quality and to reduce water volumes for discharge downstream.

Lots 6, 7 and 8 will drain to a linear bio-detention/raingarden system along the perimeter infiltration gallery. The remaining 8 lots will drain to a stormwater pond in the south-east corner of the site. As the pond will serve less than 10 lots, it will be owned, operated and maintained by the Condominium Corporation and not be designated as PUL. The stormwater pond will serve for stormwater retention and will also provide a reservoir for fire suppression.

The site naturally drains from west to east to the low-lying area in the south-east corner. Lots 6, 7 and 8 cannot drain to the pond by gravity and these lots will be serviced by onsite raingarden/bio-detention system.

A temporary ephemeral drainage originates in lot 5. The building, driveway and services for this lot will be situated to the south property line so the temporary ephemeral drainage will not be bisected. All stormwater from impervious area and sewage treatment effluent infiltration will drain southeast and have a longer drainage path towards the Bearspaw reservoir. No grading is

¹ A detailed erosion potential study will be required at the time a development permit is submitted. The study should identify areas of concern and recommendations to stabilize Artist's View Creek and protect the downstream source water.

anticipated northeast of the watershed boundary draining northeast towards the Bearspaw Reservoir.

Conclusions of the SWMR report confirm the following:

- The proposed stormwater management concept is able to meet the permissible Unit Area Release Rate at 1.71 L/s/ha and to achieve a volume control target of less than 45 mm; and,
- Water Quality will be achieved by the overland drainage system and the stormwater pond whereby suspended solids are filtered out.

Policy 11.1: The components of the stormwater system will include natural overland drainage courses, naturalized depressions (traplows) on lots, roadside ditches and a constructed pond.

Policy 11.2: The components of the stormwater system will be within overland drainage rights-of way and the green space.

Policy 11.3: The stormwater plan will adhere to the Springbank Master Drainage Plan.

Policy 11.4: As condition of subdivision, a detailed Site Specific Stormwater Implementation Plan (SSIP) shall be prepared for each lot.

Policy 11.5: As condition of subdivision, a detailed erosion potential study will be required. The study should identify areas of concern and recommendations to stabilize Artist's View Creek and protect the downstream source water.

Policy 11.6: Easements will be established on the lots for the overland drainage features where applicable.

12 Plan Area Implementation

The policies of this Conceptual Scheme will be used as the foundation for the lot design and configuration on the tentative plan submitted for subdivision approval. To minimize the impact of construction activities the phasing of the development of the lots will proceed as follows:

- Site stripping and grading will be limited to road and utility construction and the green space area, including stormwater pond, as part of the first phase.
- As high standards are set for this development, a building envelope will be delineated to preserve the natural state as much as possible.
- When lots are developed:
 - *A finished grading plan shall be submitted including an updated slope stability analysis and a contiguous acre assessment if necessary;*
- a Site-specific Stormwater Implementation Plan (SSIP) will be prepared to demonstrate the management of drainage onsite and in compliance with current guidelines and regulations.

Policy 12.1: As condition to subdivision approval the following documents shall be submitted to Rocky View County:

- *Architectural Design Guidelines;*
- *Stormwater Management plan, including detailed design of the stormwater management components;*
- *Erosion and Sediment Control Plan;*
- *Environmental Protection Plan (EPP);*
- *Landscape and Weed Management Program; and*
- *A Construction Management Plan;*

Policy 12.2: At the time of subdivision, a Site Improvements/Services Agreement (SISA) will be registered for each lot including the required foundation based on detailed geotechnical investigation;

Policy 12.3: A Deferred Services Agreement (DSA) will be registered for each lot.

13 Bare Land Condominium Corporation

The community will be set up as a Bare Land Condominium. A Condominium Corporation will be created under the Alberta Condominium Property Act. and the Corporation will be responsible for ownership, management, operation and maintenance of a range of infrastructures.

Policy 13.1: The Developer and/or the Condominium Corporation shall be responsible for the ownership, management, operation, and maintenance of the following within the plan area:

- *The internal road and associated infrastructure;*
- *Landscaping and associated infrastructures;*
- *All stormwater management infrastructure, including but not limited to the stormwater pond, green space, and the associated conveyance system;*

Policy 13.2: The Developer and/or the Condominium Corporation shall be responsible for the implementation and enforcement the architectural design guidelines.

14 Public Consultation

The owners of the proposed Devonian Ridge Estates Development are committed to consulting with the adjacent landowners and key stakeholders from the community about the intentions of their project.

On Wednesday September 5, 2018 an open house was held from 5pm to 8pm at the existing house on the property. Appendix I contains the following open house materials:

- Open House Invitation published in Rocky View Weekly;
- Photo of bold sign posted on Twp Rd 251A two weeks prior to Open House;
- Open House invitation spread around the neighbourhood;
- Open House Information boards;
- Photos taken during open house;

- Feedback email from a neighbor.

Twenty-six persons signed the attendance sheet. No written feedback was provided during the open house. One email was received after the open house which is attached in Appendix C.

Overall feedback was positive. During the open house the following comments were provided:

- Concern about dust control from developments and the neighbouring gravel pit.
- Will there be architectural controls?
- How will potable water and sewerage be serviced to the site?
- Interested in keeping updated with the progress of the project

15 Conceptual Scheme Policies Summary

Policy 3.1: Where applicable, the policies of the conceptual scheme shall apply to lands identified in Figure 2 Conceptual Scheme Plan Area.

Policy 4.1: Prior to subdivision the Agricultural Holdings (AH) land will require land use re-designation to Residential (R-1).

Policy 5.1: There shall be a maximum of 11 residential R-1 lots within Devonian Ridge Estates.

Policy 5.2: As a condition of subdivision, the Condo Corporation shall be established as well as bylaws, establishing maintenance responsibilities of internal road, PSTS, overland drainage system, stormwater pond and green space.

Policy 5.3: A 6 meter URW shall be established on Lots 9 & 10 for the provision of the secondary emergency escape gravel road.

Policy 5.4: A 7.5 meter URW along the road shall be established on Lots 2,3,4,5,6,7,8,9, and 10 for the provision of the roadside drainage and utilities right of way.

Policy 5.5: A 7 meter URW shall be established on the outside perimeter of Lots 5, 6, 7 and 8 for the provision of stormwater infiltration.

Policy 5.6: The Stormwater Pond will be property of and maintained by the Condo Corporation.

Policy 5.7: The green space shall be maintained by the Condominium Corporation.

Policy 5.8: Municipal Reserve dedication will be dedicated by cash-in-lieu payment at the time of subdivision.

Policy 6.1: Architectural Design Guidelines shall be prepared at the subdivision application stage, and be registered by as a restrictive covenant against individual titles at the time of subdivision registration.

Policy 6.2: Enforcement of the Architectural Design Guidelines shall be the responsibility of the Developer and/or the Condominium Corporation.

Policy 7.1: Internal road construction standards will be designed and certified by a qualified professional and shall be acceptable to the County.

Policy 7.2: The internal road shall be maintained by the Condominium Corporation.

Policy 7.3: At time of subdivision, no external roadway or intersection upgrades are required to accommodate the proposed development as per the Traffic Impact Assessment by Bunt & Associates Engineering Ltd. dated July 18, 2018.

Policy 7.4: At time of subdivision, the developer shall pay Transportation Off-site Levies in accordance with the applicable bylaw at the time of approval.

Policy 7.5: At time of subdivision, the developer shall enter into a Development Agreement for the construction of the internal roadway.

Policy 7.6: Roadside ditches shall be located within a 7.5 meter utilities right-of-way (URW) from the internal road.

Policy 8.1: At the time of subdivision test wells will be drilled to confirm a flow of 4.5 L/min or greater at each lot.

Policy 8.2: Each new building site shall install a manufactured packaged sewage treatment plant as required by the Condominium Corporation and shall meet a minimum of BNQ Standards.

Policy 8.3: A Level 4 Private Sewage Treatment System Assessment shall be submitted at the time of subdivision meeting the County Servicing Standards.

Policy 8.4: Shallow utilities shall be installed by the developer at the subdivision stage in consultation with all applicable utility providers.

Policy 8.5: Easements will be provided by the Developer to the utility provider as required.

Policy 8.6: Fire suppression infrastructure shall be provided through a dry hydrant and reservoir system that is consistent with Rocky View County policy servicing standards.

Policy 9.1: A qualified geotechnical engineer shall perform inspection during foundation excavation of home sites to verify the findings of the Geotechnical Investigation Report.

Policy 9.2: As condition of subdivision the following plans are required:

- *Finished grading plan;*
- *Updated slope stability analysis;*
- *Contiguous acre assessment.*

Policy 10.1: As condition of subdivision, an Environmental Protection Plan (EPP) shall be prepared that meets Rocky View County standards and guidelines.

Policy 10.2: As condition of subdivision, a Landscape and Weed Management Program shall be developed to reduce post-development impacts to native plant communities and wildlife habitat and implemented for the site in accordance with the Weed Control Act (Government of Alberta, 2008).

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Policy 11.1: The components of the stormwater system will include natural overland drainage courses, naturalized depressions (traplows) on lots, roadside ditches and a constructed pond.

Policy 11.2: The components of the stormwater system will be within overland drainage rights-of way and the green space.

Policy 11.3: The stormwater plan will adhere to the Springbank Master Drainage Plan.

Policy 11.4: As condition of subdivision, a detailed Site Specific Stormwater Implementation Plan (SSIP) shall be prepared for each lot.

Policy 11.5: As condition of subdivision, a detailed erosion potential study will be required. The study should identify areas of concern and recommendations to stabilize Artist's View Creek and protect the downstream source water.

Policy 11.6: Easements will be established on the lots for the overland drainage features where applicable.

Policy 12.1: As condition to subdivision approval the following documents shall be submitted to Rocky View County:

- *Architectural Design Guidelines;*
- *Stormwater Management plan, including detailed design of the stormwater management components;*
- *Erosion and Sediment Control Plan;*
- *Environmental Protection Plan (EPP);*
- *Landscape and Weed Management Program; and*
- *A Construction Management Plan;*

Policy 12.2: At the time of subdivision, a Site Improvements/Services Agreement (SISA) will be registered for each lot including the required foundation based on detailed geotechnical investigation;

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Policy 13.1: The Developer and/or the Condominium Corporation shall be responsible for the ownership, management, operation, and maintenance of the following within the plan area:

- *The internal road and associated infrastructure;*
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- *All stormwater management infrastructure, including but not limited to the stormwater pond, green space, and the associated conveyance system;*

Policy 13.2: The Developer and/or the Condominium Corporation shall be responsible for the implementation and enforcement the architectural design guidelines.

16 Appendices