

Outline Plan

Lot 18, Block 2, Plan 102 6167
Lac La Biche County

1119408 Alberta Ltd.
March 2012

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1 Introduction

1.1 Purpose

This plan establishes the conceptual land use, transportation and servicing pattern for Lot 18 Blk 2 Plan 102 6167 to implement the general policies of the Municipal Development Plan (MDP). The plan will create low density hamlet residential subdivision adjacent to the Beaver Lake Area Structure Plan within the legal jurisdiction of Lac La Biche County. As required by the MDP, the ASP describes the following:

- Compliance to the municipal planning framework;
- The sequence of development proposed for the area;
- The land uses proposed for the area;
- The density of population proposed for the area; and
- The general location of major transportation routes and public utilities, circulation patterns and access and egress to site;
- Land suitability for the proposed development including environmental, historical and cultural aspects;
- Development scope;
- Infrastructure and site services;
- Municipal and Environmental Reserve dedication; and
- Community Services.

1.2 Authority of the Plan

The preparation and submission of the Outline Plan is in accordance with the Municipal Government Act (“the Act”) and conforms to the general policies stated in the Lakeland County Municipal Development Plan and the Lac La Biche County Land Use Bylaw.

1.3 Ownership

This current owner of the lands is 1119408 Ab. Ltd. This Plan has been prepared on behalf of the owner.

1.4 Location and Boundary

The subject lands are located in the Lac La Biche County just west of the Beaver Lake Hamlet Area Structure Plan, at the southwest corner of Township Road 665A (Young's Beach Road) and West Road. Figure 1 - Regional Context, illustrates the overall context of the plan area. The plan boundary includes lands legally described as Lot 18, Block 2, Plan 102 6167, includes approximately 6.24 hectares. Figure 2 – Site Location illustrates a detailed site location and plan boundary map.

1.5 Plan Rationale

Lac La Biche County is located 225 km northeast of Edmonton. The diverse economy of the region includes agriculture, oil and gas, manufacturing, forestry, service and retail trade, and tourism. Its strategic location makes it attractive from a residential and business development perspective. Lac La Biche County has seen unprecedented period of growth in recent years. There was 13% growth in the overall population including 20% increase in the rural areas between 2001 and 2006. Additionally, the regional trading population is 16,500 and during the summer months, the population increases to over 30,000 with cottagers and tourists visiting the area. The landowner believes this trend will continue with opportunities in the resource sectors to support the market for multi-lot residential development. Shifting demographics are changing rural agricultural landscapes making this area attractive for country residential housing because of: proximity to services in urban centres such as Lac La Biche and Plamondon; excellent access to recreational amenities that enhance the attributes of rural living; and affordable land.

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Lot 18 Blk 2 Plan 102 6167

Outline Plan

Hamlet of Beaver Lake

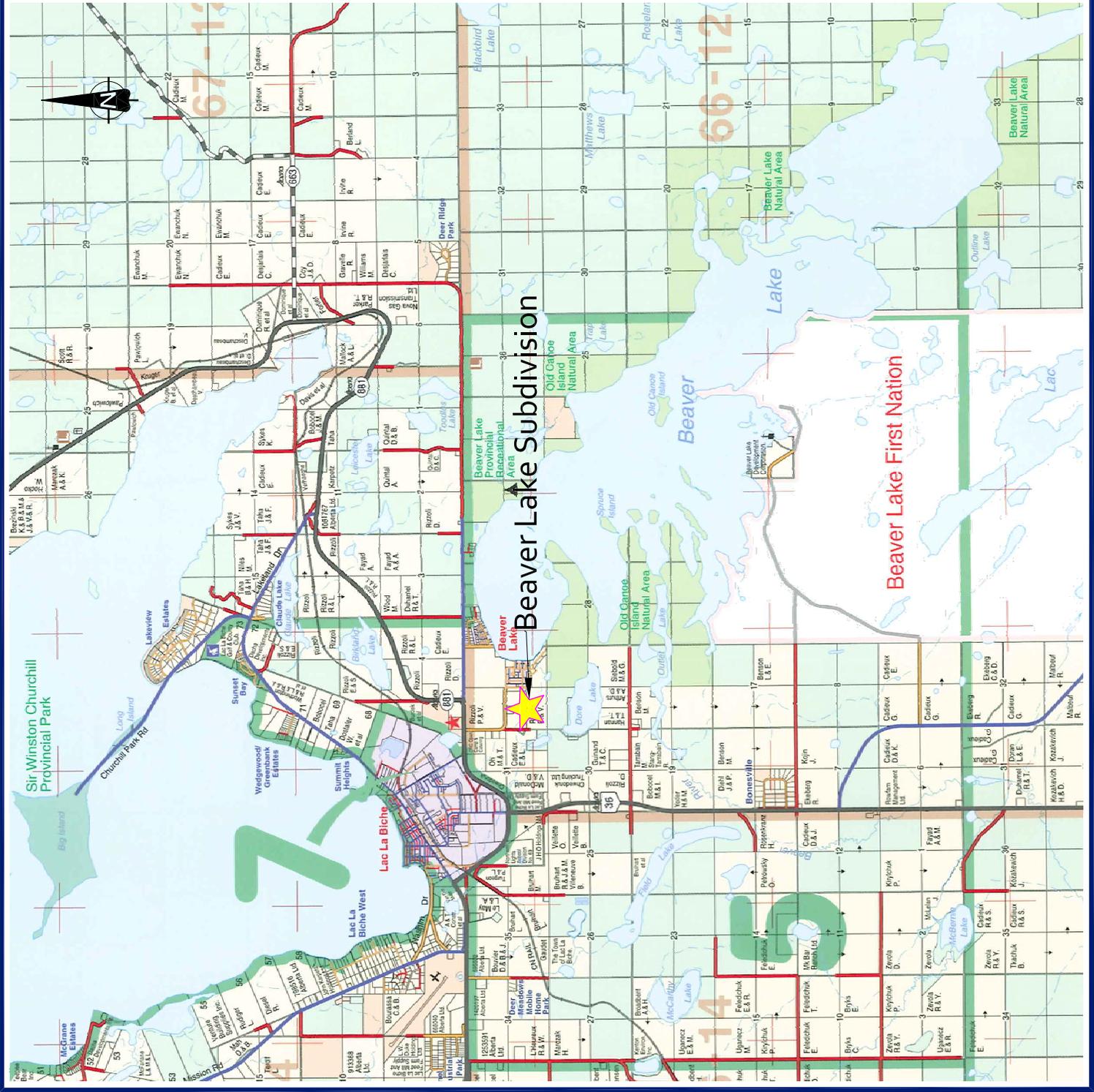
Legend



- Beaver Lake Subdivision

Figure 1 - Regional Context

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Lot 18 Blk 2 Plan 102 6167

Outline Plan

Hamlet of Beaver Lake

Legend

--- ASP Boundary



Figure 2 -
Site Location

2 Planning Context

The *Municipal Government Act* (RSA 2000, M-26) legislates local municipal planning. Section 633 of the *Act* gives municipalities the power to adopt an ASP as bylaw. The Outline Plan has been prepared within the context of the statutory planning for Lac La Biche County, as well as, other non-statutory master planning and servicing initiatives, which provide guidance for future land use and development initiatives.

1.6 Municipal Development Plan

The Lakeland County *MDP, Schedule D - Future Land Use Concept*, designates the plan area under Policy 5.2.3 Hamlet Growth Policy. The policy encourages growth in and within an 800 m (0.5 mile) radius of existing hamlets in the County. It states that Beaver Lake has the capacity to service new development and a density to enable standard single and multiple family development on lands adjacent to the hamlet boundary. The policy provides for standard single family development and country estate residential development.

1.7 Hamlet of Beaver Lake Area Structure Plan

The proposed Plan is located adjacent to the west boundary of the Hamlet of Beaver Lake Area Structure Plan directly abutting Beaver Lake Outline Plan for the north half of SW 32-676-13-W4, refer to Figure 2- Site Location. The proposed plan will continue similar single-family residential development already present on adjacent lands. The plan contributes to achieving the overall MDP goals of locating growth in and adjacent to existing hamlets; and to integrate new parks into the lakeshore open space system for the area. The proposed plan conforms to the Hamlet of Beaver Lake Area Structure Plan, which establishes a minimum of 0.1 ha (0.25 ac) for hamlet residential lots with a minimum 20 m (66 ft) lot width.

1.8 Land Use Bylaw

Currently, the Land Use Bylaw for the County designates the subject lands as Agricultural. The Bylaw provides for various low-density hamlet residential land uses, to which future development will conform.

2 Development Suitability

2.1 Existing Land Use

At the time of the Outline Plan preparation, the site exists in its natural state, and is used for farming as grazing pasture. It is zoned as Agricultural.

2.2 Adjacent Land Uses and Impacts

The lands abutting the quarter section to the north, west and south are currently zoned Agricultural, while lands abutting to the east are designated for low density hamlet residential.

2.3 Land Form

Overall, the plan area's topography slopes from the northwest in a downward direction to the south. Elevations range from approximately 578 m (above sea level) in the north portion to 572 m (above sea level) in the southwest portion of the property, as illustrated in Figure 5- Existing Topography. The site is predominantly covered in grassland with small tree stands and shrub located in the north and south portions of the property, as shown in Figure 3- Natural Features and Figure 4- Site Photos.

A site specific preliminary geotechnical/hydrogeological investigation was carried out by ENC Testing Inc. in August of 2011, based on a series of 6 boreholes to a depth range of 7.3 to 8.8 metres at various locations on the site. The report provides a summary of the general soil and groundwater conditions and an assessment of conditions for site development, site grading, residential construction, the construction of roadways, the installation of sewer and water systems and the construction of storm water management facilities. It concludes that the site is generally suitable for the proposed residential development and provides a number of recommendations for conditions to be considered at the time of development. The full report is provided under separate cover. Geotechnical investigations within the plan area are documented in the report.

2.4 Resource Extraction

Preliminary investigations in preparation for this plan indicate that no sour gas facilities are present in the vicinity of the proposed development. There are no resource related constraints in the area to restrict development. The assessment is available under separate cover.

2.5 Historical/Cultural Resources

An historical resources impact assessment is not required based on information obtained from Alberta Culture and Community Services, Historical Resources Management Branch in preparation for this Outline Plan. This fact is verified in the appending documents.

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Lot 18 Blk 2 Plan 102 6167

Outline Plan

Hamlet of Beaver Lake

Legend

----- - ASP Boundary



Figure 3 -
Natural Features



Figure 4- Site Photos

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Lot 18 Blk 2 Plan 102 6167

Outline Plan

Hamlet of Beaver Lake

Legend

- - - ASP Boundary

- Contours

Figure 5 -
Existing Topography

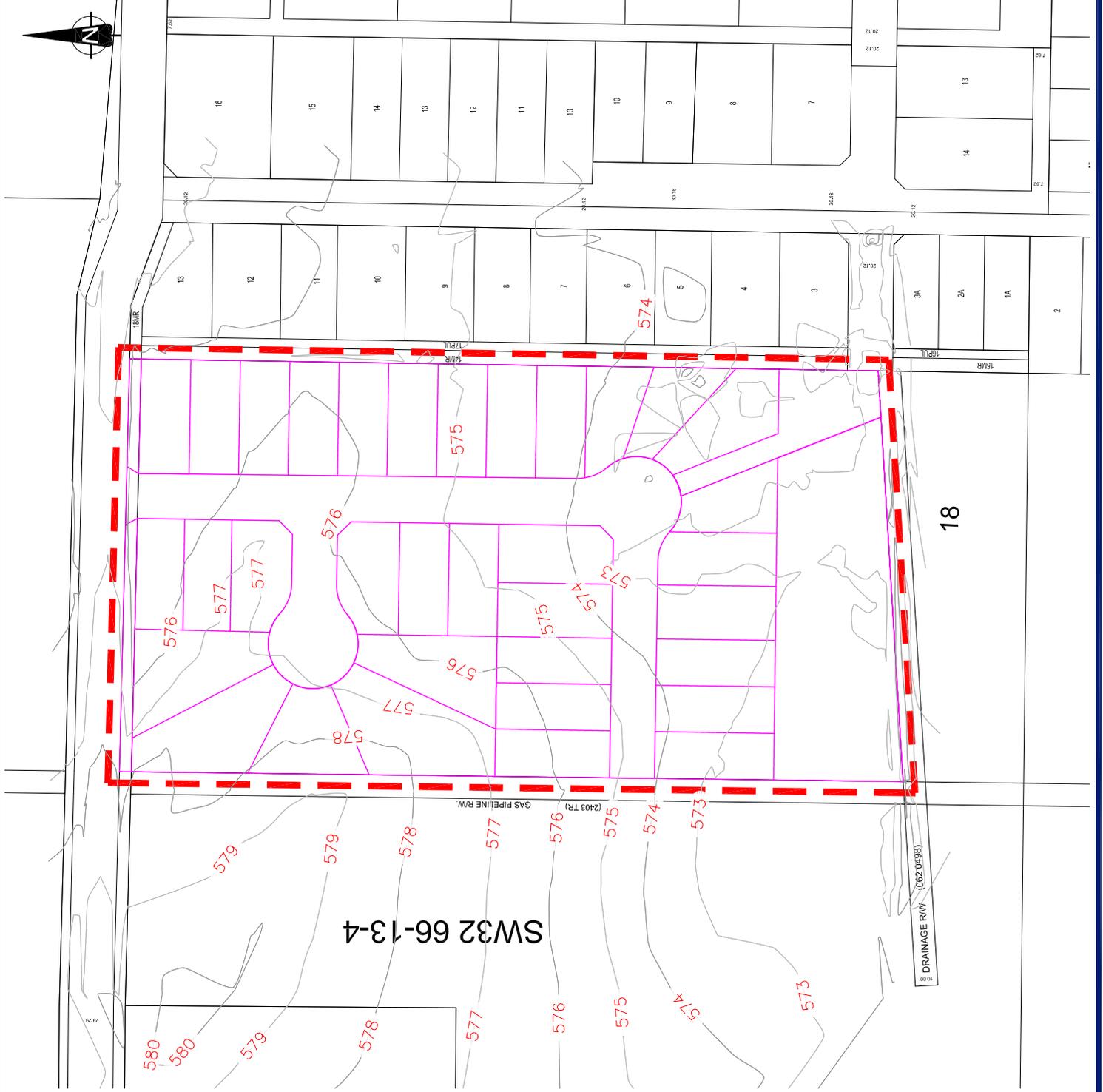
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SW32 66-13-4

GAS PIPELINE RW (2403 TR)

DRAINAGE RW (062 04987)

18



3 Development Concept

The proposed development concept is shown in Figure 6. Table 1 demonstrates a breakdown of the proposed land uses.

**TABLE 1
LAND USE DISTRIBUTION**

	Area (ha)	% of GDA
Net Development Area		
Roadways	0.96	15.38
Public Utility Lot	0.79	12.66
Public Open Space	0.27	4.33
Residential	4.22	67.63
Total Area	6.24	100.00

**TABLE 2
DEMOGRAPHIC PROFILE**

	Area	Units	%	People/Unit	Population
Country Residential	4.22	34	12.42	2.6*	85

Density: 2.6 pp/gda

*Stats Canada 2006 Census: Average Household Size for Alberta

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Lot 18 Blk 2 Plan 102 6167

Outline Plan

Hamlet of Beaver Lake

Legend

- ASP Boundary
- Storm Water Flow
- Storm Water Catchments Area



ROADWAY

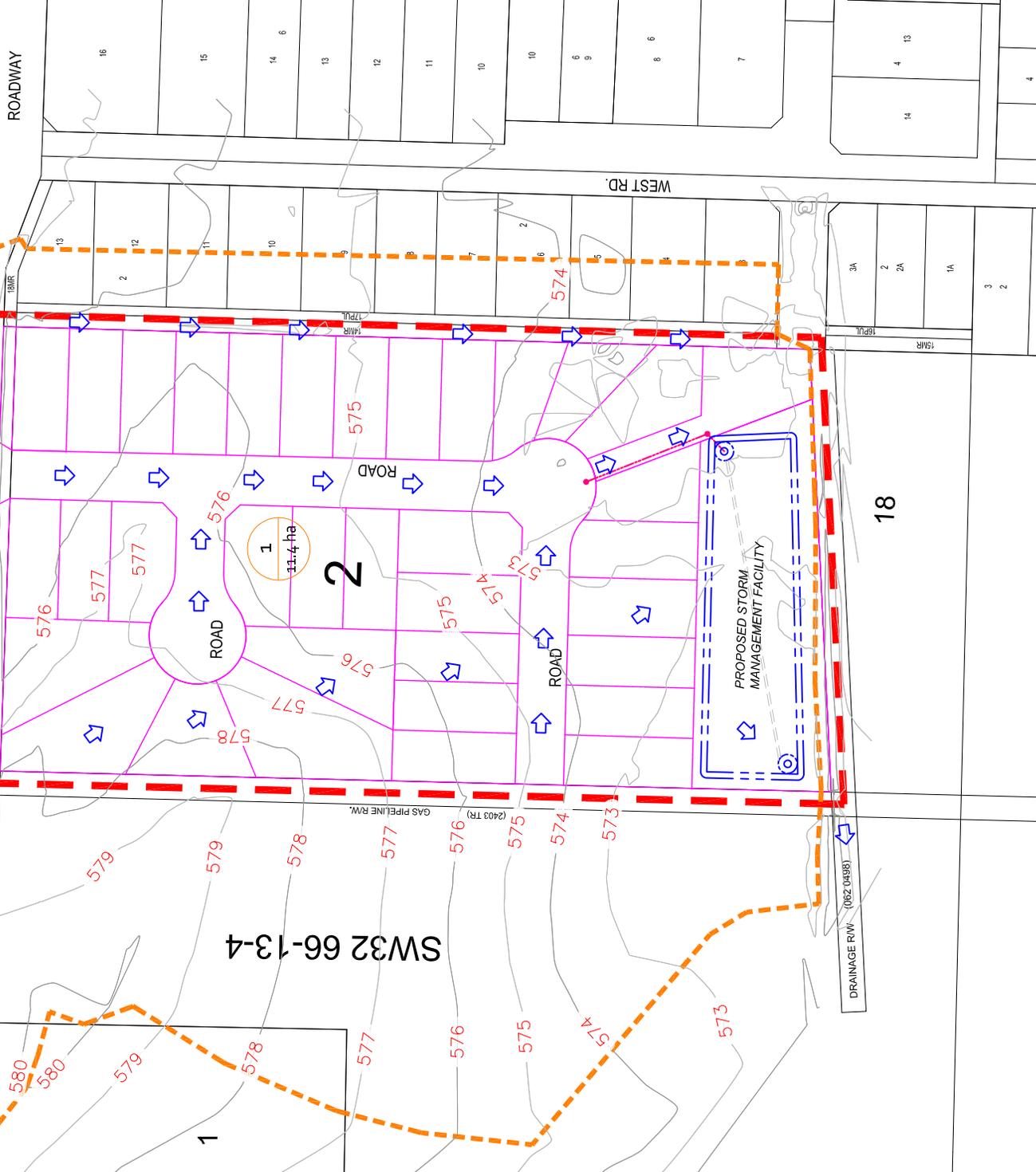


Figure 7 - Storm Water Collection

3.1 Land Uses

3.1.1 Residential

The proposed development concept will consist of primarily single detached residences on 6.24 hectares with 1.06 hectares (2.63 acres) of land dedicated for public open space. The development concept proposes to use the entire plan area for creating 34 residential lots and ancillary uses that will be developed in one phase. Figure 6, illustrates the proposed single-family residential development concept that conforms to the Municipal Development Plan and Land Use Bylaw. The specific type of districting that will be sought according to this Outline Plan is low-density hamlet residential.

In addition, the Outline Plan process examined several factors that may affect the interface of residential development with fire risk and mitigation regarding adjacent land uses; density; access (right-of-way width, travel surface, emergency access); public utilities (enough available water for fire suppression). As a result residential lots sizes and widths should conform with the wildfire mitigation guidelines in *FireSmart: Protecting Your Community from Wildfire*.

3.1.2 Public Open Space

The plan includes three (3) areas for public open space, including natural buffers for the enjoyment of residents. There are no areas dedicated for environmental reserve purposes.

Public Open Space

The proposed development designates a total of approximately 1.06 hectares (2.63 acres) to be retained as Public Open Space. The Open Space is strategically located to take advantage of existing drainage patterns, to encourage the growth of natural vegetation for wildlife habitats; and provide buffers from to adjacent land uses. An area of 0.79 hectares (1.96 acres) along the south portion of the property, will allow for the construction of a designed storm water management pond and an additional 0.18 hectares (0.45 acres) for surrounding green space. The storm pond may be subdivided as a Public Utility Lot (PUL) at the time of subdivision if required by the County. The open space will offer recreation space for residents, and a trail connection to the residential subdivision to the east through a future closing of the road-right-of

way. Finally, 0.09 hectares (0.22 acres) will provide a buffer along Township Road 665A and extend to the existing MR on adjacent lands. This space can provide future opportunities for trail development in the area. All of the areas proposed for open space are illustrated in Figure 6 - Development Concept. All amenities and facilities will be designed in such a way to contribute to the overall visual quality of the park space. In addition, soft surface trails will be built within the linear parkways where it is deemed appropriate at the time of development approval.

3.1.3 Storm Water Management

Based on the site's overall topography, one storm water management facility along the south boundary of the plan area will be designed and constructed. The storm water management facility shall meet Alberta Environment's storm water management guidelines for water quantity and quality. The storm water management facility shall be designed in such a way to contribute to the overall aesthetic value of the open space. The layout of the proposed storm water management system is shown in Figure 7 – Storm Water Collection, and is further discussed under section 3.3 Services.

3.2 Transportation

Internal Circulation

The internal road layout includes one thru road to provide access and a future connection to lands to the west, and one cul-de sac. Roads shall be developed according to the County's Municipal Servicing Standards. The layout of the roadway network is shown in Figure 6- Development Concept.

Access

Primary access to the proposed development will be from the north, available from Township Road 665A connecting to a new road designed and constructed for the subdivision. A secondary access will be designed to connect onto the adjacent quarter to the west. Based on the scale of development, the submission of a Traffic Impact Assessment (TIA) is not necessary at this time. All road designs will meet municipal standards and will be subject to approval by Lac La Biche County.

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Outline Plan

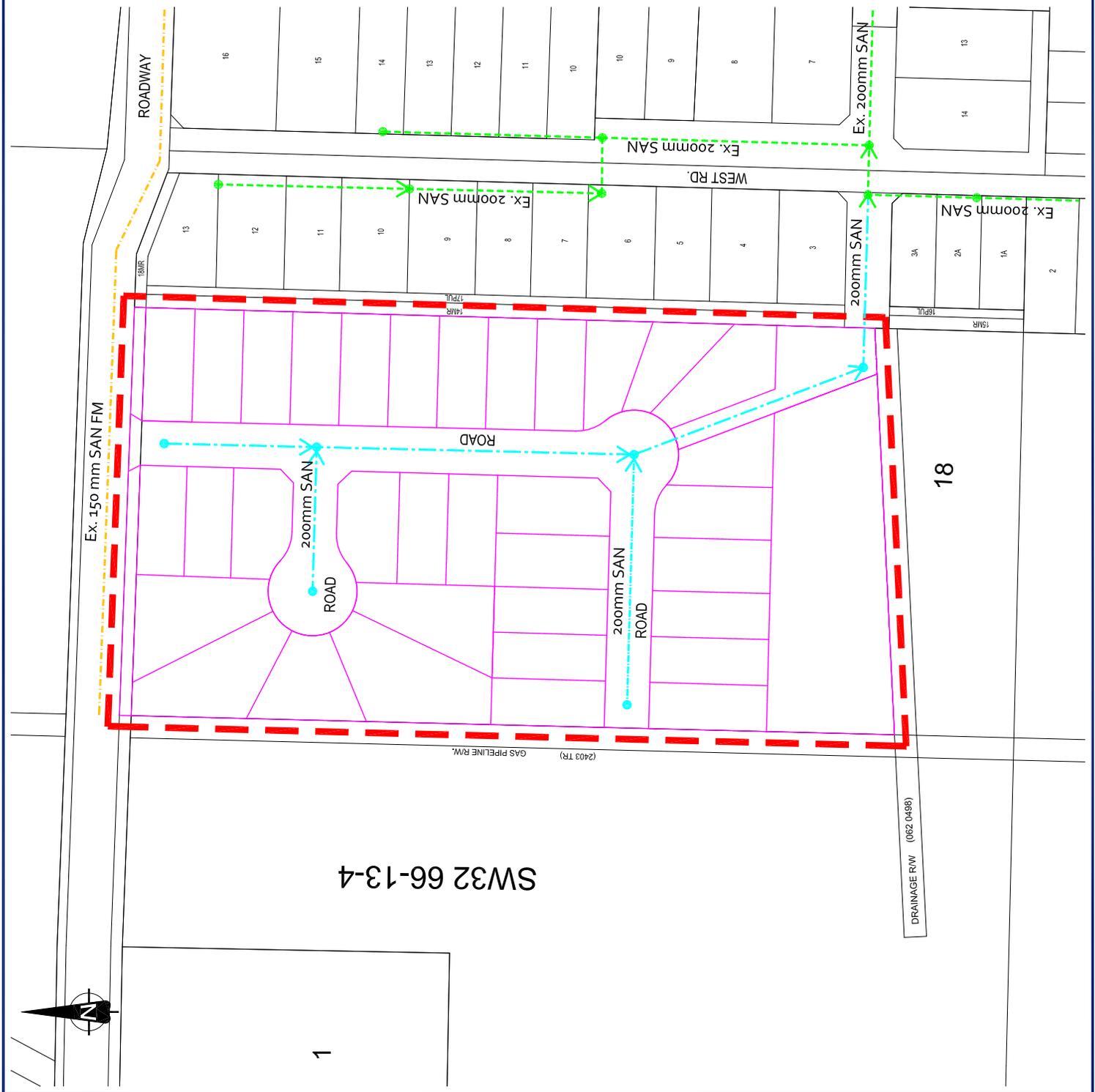
Hamlet of Beaver Lake

Legend

- ASP Boundary
- Proposed Sanitary Sewer Mains
- Sanitary Manhole
- Existing Sanitary Sewer Mains
- Existing Sanitary Forcemain

Figure 8 - Sanitary Sewer System

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Outline Plan

Hamlet of Beaver Lake

Legend

- ASP Boundary
- Proposed Water Main
- Existing Water Main

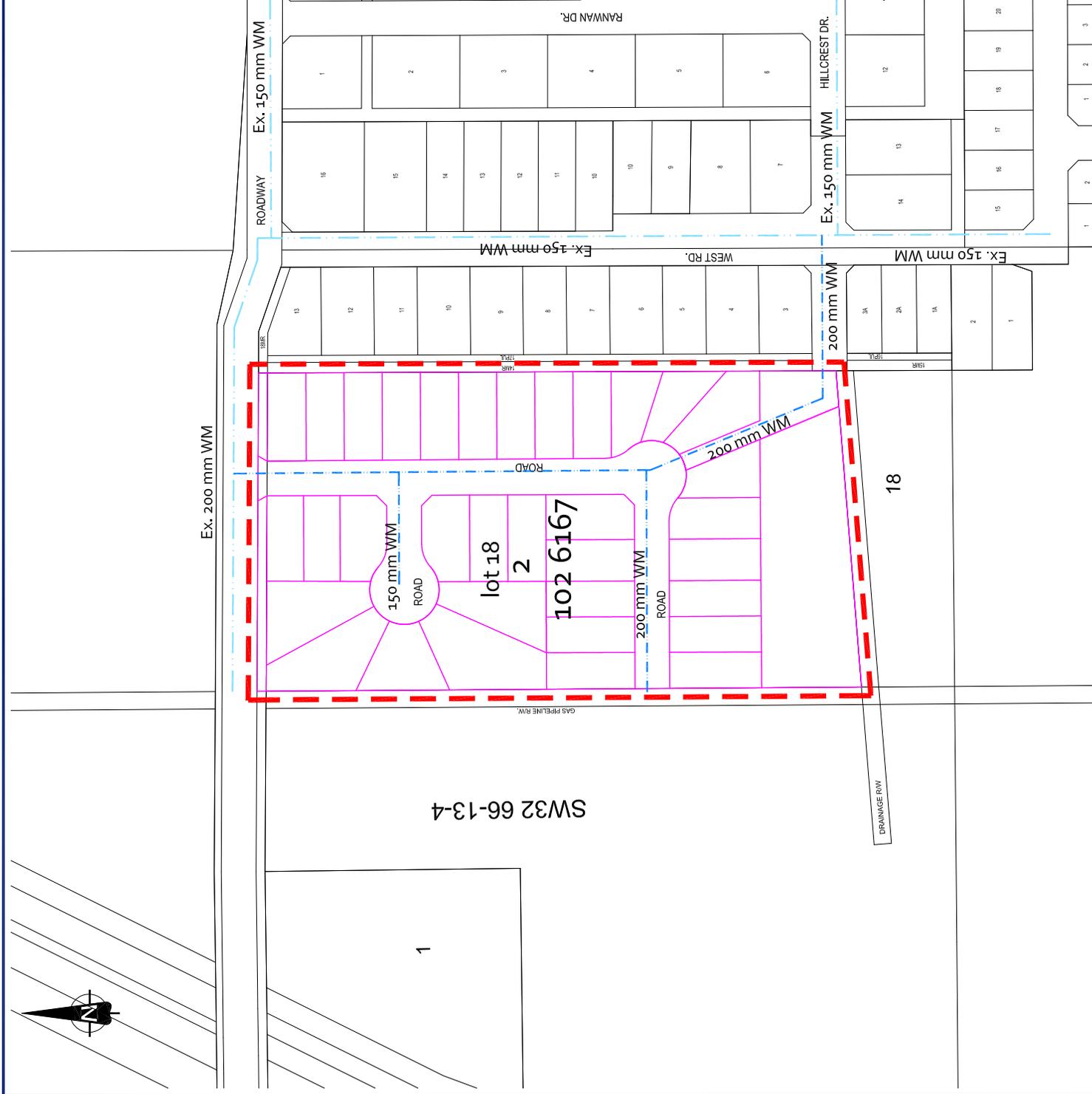


Figure 9 - Water Distribution

3.3 Services

3.3.1 Storm Drainage

As outlined in 3.1.3 Storm Water Management, the site's drainage will be designed for one storm catchment area (11.4 Ha of development area) with one storm water management facility along the southern portion of the property, where an existing low lying area is located. Alberta Environment requires storm water discharges from new development to be restricted to predevelopment flow rates for the 1:100 year storm. The entire development area and portions of the surrounding lands will contribute to the proposed storm management facility. To meet Alberta Environment requirements, it is proposed that the storm management facility (11.4 Ha of development area) be designed with a pre-development flow rate of 0.023 cms and a proposed storage capacity of 2,292 cu.m. The storm management facility will discharge into an existing ditch that drains west from the existing development areas within the Hamlet of Beaver Lake. The final design of the storm water retention pond will be provided at the development approval stage. The layout of the proposed storm water collection system is shown in Figure 7.

3.3.2 Sanitary Sewer

The wastewater collection system for the plan area is proposed by gravity and will flow south toward the existing development area. The existing 200 mm sanitary lines will be extended from existing lines located at the intersection of West Rd. and Hillcrest Dr. The proposed sanitary sewer pipe will extend through the public open space into the subdivision; see Figure 8- Sanitary Sewer System for illustration. The wastewater collection system components will be of appropriate size and depth, carried through the development and extend to the edge of the ASP boundary to the north. Design of the sanitary sewer system will meet municipal standards and will be subject to approval by Lac La Biche County.

A review of the existing sanitary collection system was conducted to ensure that there was capacity for the proposed development. The existing system is a network of 200mm and 250mm pipes with slopes of 0.40% and greater. It was found that the system constraint was based on the last 200mm pipe at the end of the catchment which is run at a 0.40%. Based on the sanitary design standards for Lac La Biche County, the pipe would meet required capacity for the existing system with the additional 34 lots developed. A copy of the design calculations and a figure denoting the catchment area is included in the appendix.

3.3.3 Water Distribution

The adjacent Hamlet is serviced with a potable water distribution system that has its supply from the County through existing water mains. Water will be provided to the plan area by connecting to the existing 200mm water main within Township Road 665A and an existing 150mm water main Hillcrest Drive, as per Figure 9- Water Distribution. Design of the water distribution system will meet municipal standards and will be subject to approval by Lac La Biche County.

3.3.4 Shallow Utilities

Natural gas, telephone, cable, and power servicing for the proposed development will be installed within the proposed road rights of way and provided for during the subdivision approval process via subdivision registration and upon entrance into a development agreement with the Lac La Biche County. The proposed shallow utilities will be extended from existing utilities adjacent to the property and accommodated during the development through Utility Right of Way agreement. A 5 metre right-of-way shall be required within the front of each lot property line for the installation of franchised services. The franchised services to the area will be provided through agreements established with the developer.

3.4 Community Services

3.4.1 Emergency Services

Fire service for the proposed development will be provided from the Town of Lac La Biche Fire Stations. The County provides policing services to the area for bylaw enforcement and the Traffic Act. Other policing services are provided from the RCMP detachment located in the Town of Lac La Biche and is provided for this location through existing agreements. Ambulance service will be provided from the William J. Cadzow Community Health Centre, located in the Town of Lac La Biche.

3.4.2 Schools

Based on the information provided by the relevant school authorities, public schools for students of this area are as follows:

- Northern Lights School Division No. 69; and
- East Central Francophone Education Region (ECER) #3Ecole.

According to referral made to individual school authorities no school reserve dedication is necessary at this time.

4 Development Sequence

It is anticipated that the development will develop one (1) phase. Timing for the phasing of the development will be dictated by market conditions. See Figure 6 - Development Concept for the development staging.

APPENDIX

SANITARY SEWER FLOW DESIGN

PROJECT:	Beaver Lake
CATCHMENT AREA	Hamlet + Development Area

RESIDENTIAL FLOWS

Daily Sewage Flow Generation	320	l/day/capita
Population Density	3.5	capita/household
Number of Contributing Lots	159	households
Design Contributing Population	556.5	capita
Minimum Peaking Factor	3.0	
Harmon's Peaking Factor	4.3	
Design Peaking Factor	4.3	

Q_{PDW} RESIDENTIAL	8.8058	l/s
Q_{PDW} RESIDENTIAL	0.00881	cms

COMMERCIAL FLOWS

Average Flows	18.0	m ³ /ha/day
Contributing Area	0.0	ha

Q_{PDW} COMMERCIAL	0.00000	cms
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INSTITUTIONAL FLOWS

Average Flows	18.0	m ³ /ha/day
Contributing Area	0.0	ha

Q_{PDW} INSTITUTIONAL	0.00000	cms
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EXTRANEIOUS FLOW ALLOWANCES

General Inflow/Infiltration	0.28	L/s/ha
Contributing Area	30.35	Ha
Manhole in Sags Allowance	0.4	L/s
Number of Manhole in Sags	0	manhole

Q_{PDW} EXTRANEIOUS FLOWS	0.00850	cms
------------------------------------------	----------------	------------

TOTAL Q_{PDW} FLOWS	0.01730	cms
------------------------------------	----------------	------------

TOTAL DESIGN FLOWS	0.02012	cms
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DESIGN PIPE		
Size	200	
Slope	0.40%	
Capacity	0.021	
Velocity	0.66	



2012 DEVELOPMENT
BOUNDARY

ROADWAY

1

SW32 66-13-4

SE32 66-13-4

BEAVER LAKE

30.4 Ha

7.0 Ha

EX. LIFT STATION

200mm SAN. @ 0.40%
CONSTRAINT FOR DEVELOPMENT
OF CATCHMENT #1

18

SE32 66-13-4

BEAVER LAKE

SANITARY DESIGN	
CATCHMENT 1:	
DAILY SEWAGE FLOW GENERATION	320 l/day/capita
POPULATION DENSITY	3.5 capita/household
NUMBER OF CONTRIBUTING LOTS	159 households
DESIGN CONTRIBUTING POPULATION	557 capita
DESIGN PEAKING FACTOR	4.3
Qpdw RESIDENTIAL	0.00881 cms
GENERAL INFLOW/INFILTRATION CONTRIBUTING AREA	0.28 l/s/ha 30.35 ha
Qpdw EXTRANEEOUS	0.00850 cms
TOTAL Qpdw FLOWS	0.01730 cms
TOTAL DESIGN FLOWS CATCHMENT #1	0.02012 cms
DESIGN PIPE	200mm PIPE @ 0.40%
PIPE CAPACITY	0.021 cms
CATCHMENT 2:	
DAILY SEWAGE FLOW GENERATION	320 l/day/capita
POPULATION DENSITY	3.5 capita/household
NUMBER OF CONTRIBUTING LOTS	56 households
DESIGN CONTRIBUTING POPULATION	196 capita
DESIGN PEAKING FACTOR	4.4
Qpdw RESIDENTIAL	0.00321 cms
GENERAL INFLOW/INFILTRATION CONTRIBUTING AREA	0.28 l/s/ha 6.98 ha
Qpdw EXTRANEEOUS	0.00195 cms
TOTAL Qpdw FLOWS	0.00516 cms
TOTAL DESIGN FLOWS CATCHMENT #2	0.0060 cms
DESIGN PIPE	200mm PIPE @ 0.40%
PIPE CAPACITY	0.021 cms

LEGEND				
01	2012-03-14	PRELIMINARY	SBE	
NO.	DATE	DESCRIPTION	BY	APP.
		REVISIONS		

SCALE	1:2000
DESIGNED BY	SBE
CHECKED BY	

PROJECT No.	26-11-72
DRAWN BY	ADMH
DATE	MARCH 14, 2012

SE DESIGN AND CONSULTING
 1005 5101-46 AVENUE COLD LAKE ALBERTA T9M 0C8 PH. (780) 594-5380

1119396 ALBERTA LTD.	
BEAVER LAKE SUBDIVISION	
SW 32-66-13-4	
PROPOSED RESIDENTIAL SUBDIVISION	
SANITARY LINES	
SHEET	1 OF 1 DWG. No. 01