

Diamond Ridge

Area Structure Plan

Lac La Biche County

January 30, 2014.

SE DESIGN AND CONSULTING INC.

ENGINEERS • CONSULTANTS • SURVEYORS

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1 Introduction

1.1 Plan Purpose

This Area Structure Plan (ASP, plan) establishes the conceptual land use, transportation and servicing pattern for remaining portions of NE and SE 8-67-13-4, also referred to as River Lots 67 and 68 within the legal jurisdiction of Lac La Biche County, in order to implement the general policies of the Municipal Development Plan (MDP), Bylaw No.13-020. The plan will create a residential subdivision within the Hamlet of Lac La Biche. As required by Sections 3.1.2 and 3.1.3 of the MDP, the ASP describes the following:

- Conformity to the municipal planning framework;
- The sequence of development proposed for the area;
- The land uses and densities proposed for the area;
- The impact of the development on adjacent land uses and environment;
- The general location and connection to the County's transportation network including routes and public utilities, circulation patterns and on-site and off-site traffic impacts and required roadway upgrades;
- Land suitability for the proposed development including environmental, historical and cultural aspects;
- Development scope;
- Infrastructure and site services including water supply, stormwater management and sewage disposal with supporting documents as required under Policy 3.1.10 of the MDP;
- Municipal and Environmental Reserve dedication; and
- Community Services.

1.2 Authority of the Plan

The preparation and submission of the ASP is in accordance with Section 633 of the *Municipal Government Act* ("the Act") and conforms to the general policies stated in the Lac La Biche County Municipal Development Plan Bylaw No.13-020 and the Lac La Biche County Land Use Bylaw No. 12-024.

1.3 Timeframe of the Plan

The ASP depicts how the community of Diamond Ridge will build out over an unspecified period of time. Based on a sound market understanding and strong economic indicators the developer is proposing a phasing strategy that will use infrastructure investments and land in a fiscally responsible manner. Depending on market demand the plan will require a series of public and private sector initiatives to ensure it remains relevant with Council approved planning policies into the future. The plan anticipates that the first phase of the development will begin in 2014. Development phasing is further discussed under Section 5.

1.4 Ownership

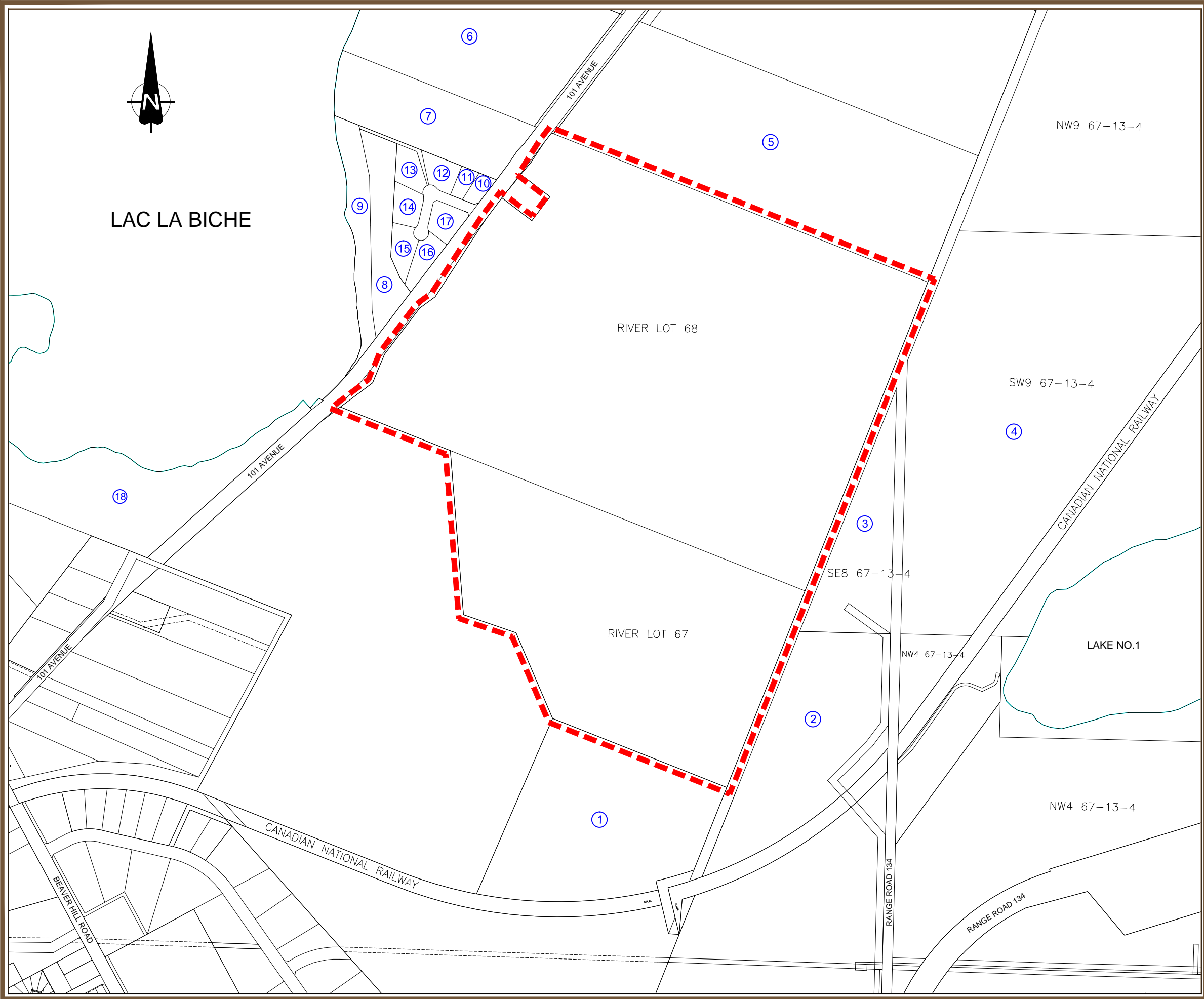
This current owner of the entire plan area is Kingdom Properties Ltd. This plan has been prepared on behalf of the owner. A number of public and private landowners abut the plan area. The ownership pattern is illustrated in **Figure 1 – Property Ownership**.

1.5 Location and Boundary

The subject lands are located in Lac La Biche County, within the north east corner of the Hamlet of Lac La Biche. The primary access to the site is from 101 Avenue. **Figure 2 – Regional Context**, illustrates the overall context of the plan area. The plan boundary includes lands legally described as remaining portions of NE and SE 8-67-13-4, also referred to River Lots 67 and 68, which together include approximately 84.76 hectares. **Figure 3 – Site Location** illustrates a detailed site location and plan boundary map.

1.6 Existing Land Use and Development Patterns

At the time of ASP preparation, the site exists in its natural state and is predominantly in agricultural use with large areas under tree cover. Lot 68 is currently districted as Agricultural and Lot 67 as Urban Reserve. One lot along the western boundary has been subdivided and is being used as a water reservoir by the County of Lac La Biche. There are no pipelines and underground utilities within the plan area.



Diamond Ridge Subdivision

River Lot 67/68
Lac La Biche County, Alberta

Legend:

AREA STRUCTURE PLAN BOUNDARY

| LAND OWNERSHIP MAP | | |
|--------------------|-----------------|------------------------------------|
| Parcel Number | Title Number | Current Owner |
| 1 | 112 080 564 +2 | Lac La Biche County |
| 2 | 102 290 831 | Rick & Wanda Gauthier |
| 3 | 092 026 084 | Norman Walberg |
| 4 | 972 246 573 | Eugene & Susan Rizzoli |
| 5 | 972 038 774 | Omar & Nadia Taha |
| 6 | 932 098 950 | Peter & Doreen Ponich |
| 7 | 160D264 | Madeleine Rudiger |
| 8 | 892 187 102 | Errol Hedin & Angeline Wakelin |
| 9 | 992 073 505 +20 | Lakeland County |
| 10 | 092 304 873 | Fozey & Seham Fyith |
| 11 | 092 304 873 +1 | Fozey & Seham Fyith |
| 12 | 982 348 114 +1 | Fozey & Seham Fyith |
| 13 | 022 107 869 | Koreen Nashim |
| 14 | 912 134 189 | Calnash Trucking Ltd. |
| 15 | 882 124 398 | Edward & Debra Hamilton |
| 16 | 072 657 231 | Steven & Alyson Nowicki |
| 17 | 132 258 278 | Albert Straticchuk & Joan Verbisky |
| 18 | 882 210 715 | Lac La Biche Garage Ltd. |

Figure 1 -
Property Ownership

1.7 Plan Rationale

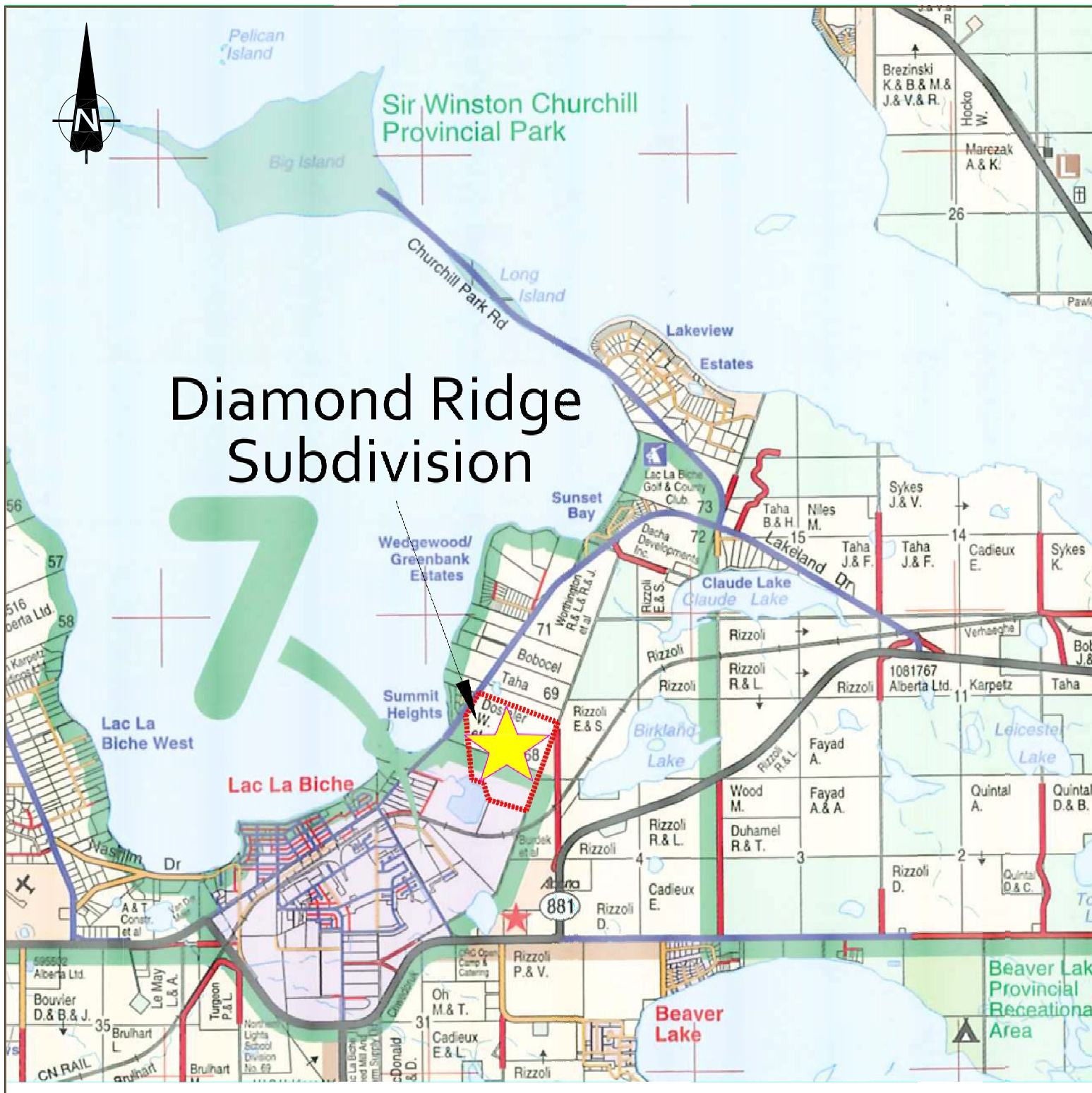
The Hamlet of Lac La Biche is located 225 km northeast of Edmonton and falls within the jurisdiction of Lac La Biche County. The diverse economy of the region includes agriculture, manufacturing, forestry, service and retail trade, and tourism. Lac La Biche serves as major commercial centre and gateway to the north for the oil



and gas sector. With a strong provincial and regional economy, the County's strategic location makes it attractive from a residential and business development perspective. Lac La Biche County has seen unprecedented growth in recent years. The overall population saw 13% growth including a 20% increase in the rural areas between 2001 and 2006. This growth is further supported by the County's 2013 municipal census data indicating a permanent population of 9,094 from 8,402 in 2001¹ and an additional 3,126 temporary residents for a combined total of 12,220.² The regional trading population is approximately 16,500 and during the summer months the population increases to over 30,000 with cottagers and tourists visiting the area. The developer believes these growth trends will continue to support the market for multi-lot residential development with continued opportunities in the resource sectors. Shifting demographics are changing rural agricultural landscapes making this area attractive for residential housing because of its proximity to services in urban centres such as Lac La Biche and Plamondon and excellent access to recreational amenities that enhance the attributes of urban living with more affordable housing.

¹ Lac La Biche Municipal Development Plan. June 2013 pg.3

² Lac La Biche County. County Municipal Census, July 2013.



Diamond Ridge Subdivision

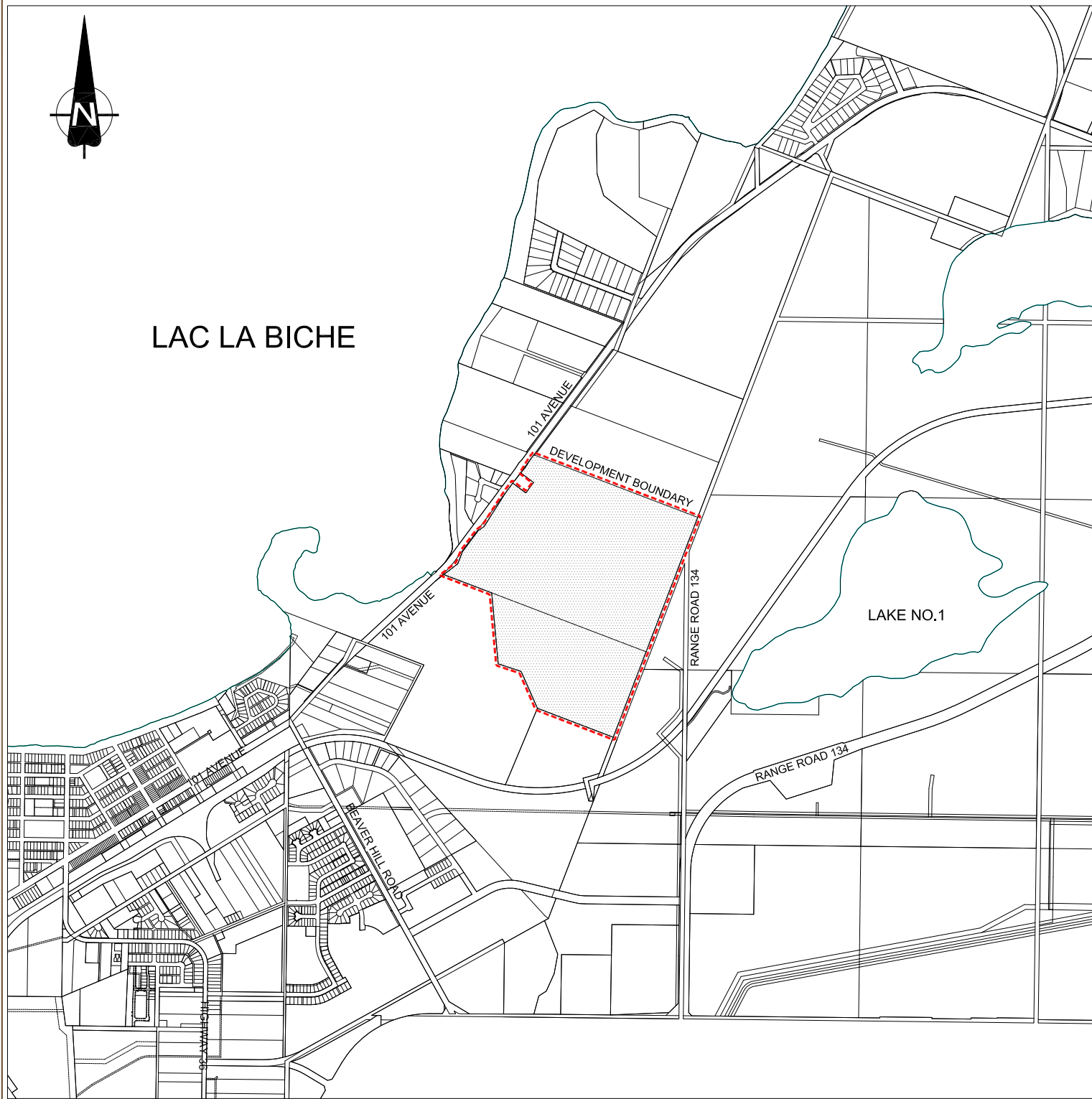
River Lot 67/68
Lac La Biche County, Alberta

Diamond Ridge Subdivision

Figure 2 -
Regional Context



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Diamond Ridge Subdivision

River Lot 67/68

Lac La Biche County, Alberta

Legend:

- - - AREA STRUCTURE PLAN BOUNDARY

Figure 3 -
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 a bylaw. This ASP has been prepared within the context of the approved statutory plans for Lac La Biche County, as well as other non-statutory master planning and servicing documents which provide guidance for future land use and development initiatives.

1.8 Lower Athabasca Regional Plan

Under the authority of the *Alberta Land Stewardship Act* (ALSA) and the *Alberta Land-use Framework* (ALUF,) the Lower Athabasca Regional Plan (LARP) was approved by the Government of Alberta in August 2012. The regional plan “identifies and sets resource and environmental management outcomes for air, land, water and biodiversity, and will guide future resource decisions while considering social and economic impacts.” *ALSA* requires that municipal planning including the Municipal Development Plan be compliant with the provisions of the regional plan. The ASP meets the general policies set for agricultural uses and land development in the regional plan, and further implements the policies of the MDP as outlined in the following section.

1.9 Municipal Development Plan

The Lac La Biche County MDP, *Map 6A*, designates the plan area for Residential uses. Part 4 of the MDP specifically addresses future residential development in the vicinity of the Hamlet of Lac La Biche. The policy encourages residential growth in the ASP area to protect the Hamlet from incompatible uses; and identifies opportunities for a diverse range of housing forms to meet residential demand from economic growth in the oil sands sector. The development expansion of land is to be handled efficiently and must ensure that environmentally sensitive areas are appropriately addressed. The Diamond Ridge Area Structure Plan meets the general Residential Objectives stated in Section 4.1 of the MDP to:

- Provide sufficient land for residential use to meet future population demands;
- Support residential development that is orderly, efficient, and attractive; and
- Support a mix of housing types and forms for a diverse housing supply to accommodate various income levels, household types and needs.

The plan area is contiguous to already developed areas and uses a variety of Smart Growth principals in its residential neighbourhood design including:

- A mix of housing choices in terms of form to meet a variety of lifecycles and social and economic needs of residents;
- Where appropriate stands of trees, and other natural features are retained and integrated as dominate features of the design;
- A mixed-use, pedestrian-oriented neighbourhood activity centre to provide a focal point for a sense of place;
- Pedestrian oriented street design with a modified grid pattern to enhance the quality of the build environment and follow the natural contours and ridge lines found on the land;
- Integrated and well connected trail system; and
- Ample parks and open space to enhance the existing land form and connect to adjacent amenities.

In addition, multi-family residential sites are strategically located adjacent to arterial and collector roads, and in proximity to commercial areas, schools, and community and recreational amenities. The commercial sites are seamlessly integrated into the overall design and buffers, either through roadways or site design, will be developed to ensure compatibility with low density residential areas.

1.10 Land Use Bylaw

Currently, the Land Use Bylaw (LUB) for the County designates the subject lands as Agricultural. The LUB provides for various residential and some commercial land uses to which future development shall conform.

1.11 Other Relevant Planning Policies

1.11.1 Public Consultation Summary

In addition to Section 636 of the MGA that details requirements public notification requirements when a municipality is to approve a statutory plan, the developer carried out a Public Consultation Plan (PCP) in accordance with Lac La Biche County's *Policy No. PI-61-001 – Consultation Requirements for Planning and Development Processes*. The purpose of the policy is to increase public involvement in planning and development to “*inform decisions making, increase understanding, acceptance and ensure more enduring solutions.*” Two public open houses were hosted at the Bold Centre that provided a

conversation space for adjacent landowners and the general public to provide comments on the overall plan design and the proposed land uses. The Open Houses were advertised for two consecutive weeks in the local paper with additional letters mailed to land owners within 100 metres of the plan area boundary. All advertising described methods, including phone/ fax numbers and email to contact the developer's consultant for additional questions and clarification on the process.

In summary, six (6) people attended the first open house and no exit surveys were received. None of the attendees were adjacent landowners. One participant during the open house had questions about vegetation, natural features and wetlands on the site.

Twelve (12) people attended the second open house and seven (7) exit surveys were received. Only one person in attendance was an adjacent landowner. Overall, the submitted surveys and comments generally support the overall plan and land use concept. The following summarizes the comments:

- Ensure development remains affordable in terms of housing with an appropriate mix of residential dwellings;
- Ensure that traffic is appropriately managed along Secondary Hwy 868 and that visibility is adequate in terms of vehicular volume and access/egress, and
- That the planning process adequately assesses and protects any natural features present on site.

The proposed plan adequately addresses all the issues raised during the public consultation process and outlines the relevant information in this document. A detailed summary of the Public Consultation Plan (PCP) is provided in the appending documents.

2 Site Analysis & Development Suitability

2.1 Topography and Drainage

The overall the topography in the plan area slopes from the northeast in a downward direction to the southwest. Elevations range from approximately 576 m (above sea level) in the easterly portion characterized by a sharp relief along the southern boundary dropping to 552 m (above sea level). Existing vegetation, topographic and drainage characteristics are illustrated in **Figure 4 – Existing Topography**, **Figure 5 – Natural Features** and **Figure 6 – Site Photos**.

2.2 Natural Features

The site is located in the Dry Mixed-wood Natural Sub-region of Alberta generally characterized by undulating plains with aspen-dominated forests and fens. At present, the plan area is undeveloped including cultivated pasture and aspen forests. As explained in the previous section, a sharp relief characterizes the southern boundary of the plan area. The majority of this slope is retained in a natural state in the plan area to offer a unique feature for the park and open space system.

Preliminary site assessments conclude the plan area may include one water body located along the north boundary. The water body may be a classified wetland as defined by Alberta Environment and Sustainable Resources Development (ESRD) and be claimed under the *Water Act*. The permanence of the wetland is confirmed from aerial photos dating back to the 1960's. At the time of subdivision, ESRD must verify if the bed and shore of the wetland will be claimed by the Provincial Government under the *Public Lands Act*. The plan avoids damage and disturbance of the water body, and ensures its protection through setbacks and buffers to be determined at the time of subdivision.

2.3 Geotechnical Conditions

A site specific preliminary geotechnical investigation was carried out by ENC Testing Inc. and summarized in a report dated October 28, 2013. Based on a series of 30 boreholes to a variety of depth ranges and locations on the site, the report summarizes the general soil and groundwater conditions and provides 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 stormwater management facilities. The investigation found topsoil and/or peat, silt, native and till clay and sand in a number of locations. The report concludes that the site is generally suitable for the

proposed residential development and provides a number of standards and recommendations for the noted conditions to be considered at the time of development for specific improvements. The full report is provided in Appendix II which documents all the geotechnical investigations within the plan area.

2.4 Historical and Cultural Resources

Alberta Culture, Historical Resources Branch identified that the plan area has a high potential for archaeological sites. As required, a Historical Resources Impact Assessment (HRIA) for archeological resources was conducted by Western Heritage Limited in July 2013. The assessment included recommendations that were conditionally approved by Alberta Culture in a letter to proceed dated December 3, 2013. Approval is granted subject to avoidance or further studies of three specific sites as illustrated in **Figure 7 – Land Use Concept**. The developer opted to avoid the sites pursuant to Section 37(2) of *Historical Resources Act*, and provided Alberta Culture with documentation to meet the condition of an avoidance plan to ensure their future protection. The three sites identified for avoidance in Figure 7 comply with the buffers approved by Alberta Culture. Once ownership of the lands is transferred to the County of Lac La Biche as Municipal Reserve at the time of subdivision, ongoing monitoring and compliance to the conditions set by the province will be required. The full consultant report and approval documents from Alberta Culture are provided in Appendix III.

2.5 Adjacent Land Uses and Impacts

The plan area is bound by uses that generally include agriculture, forests and homesteads. The adjacent land uses abutting the plan areas are outlined below:

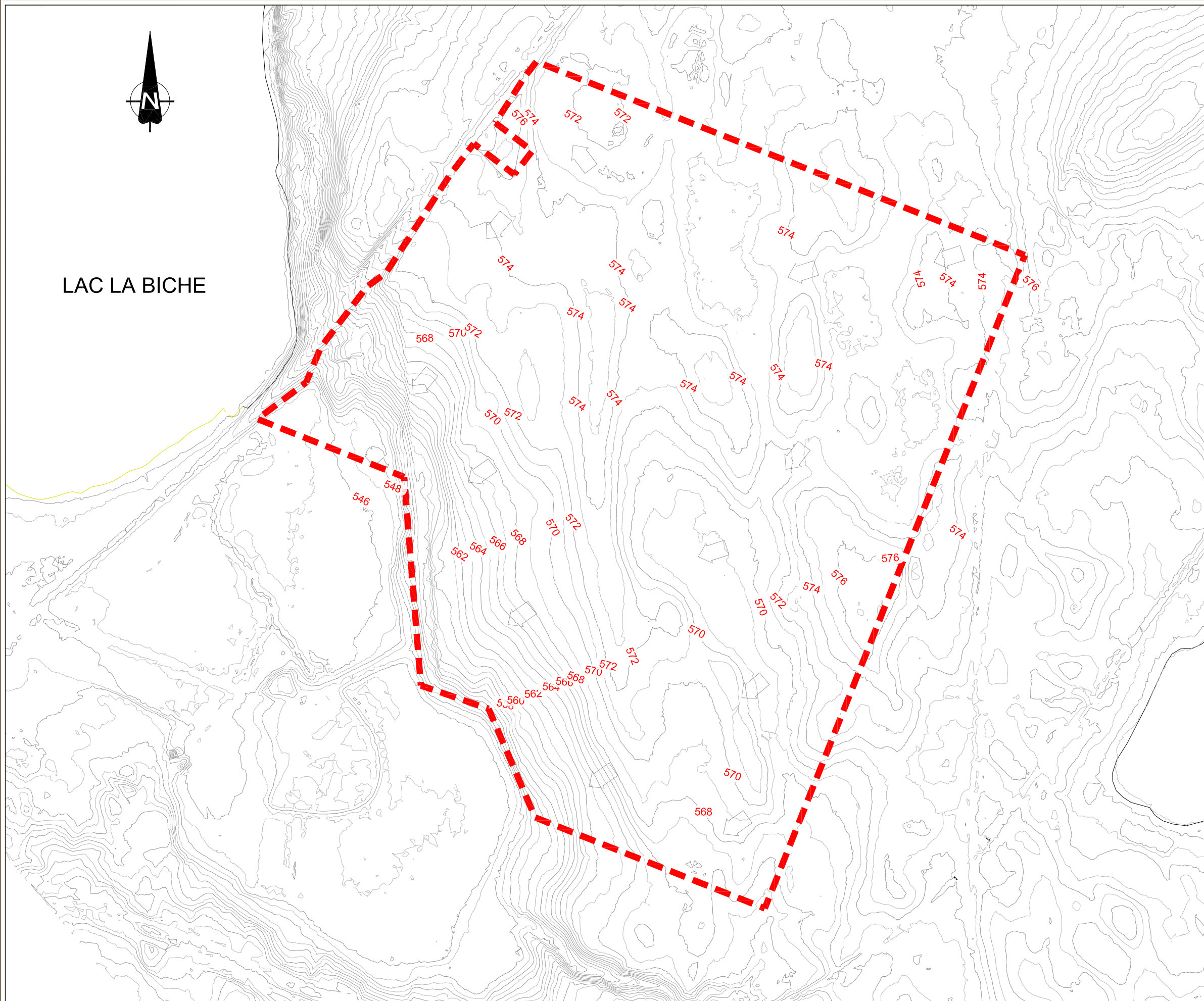
- North and east – The lands are districted at Agricultural (AG)
- South – The lands are districted at Urban Reserve (UR)
- West – The lands are districted at Country Residential (CR)

2.5.1 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 Appendix IV.



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Diamond Ridge Subdivision

River Lot 67/68
Lac La Biche County, Alberta

Legend:

 AREA STRUCTURE PLAN BOUNDARY

 EXISTING GROUND CONTOURS

 GENERAL DIRECTION OF FLOW

Figure 4 -
Existing Topography



Diamond Ridge Subdivision

River Lot 67/68
Lac La Biche County, Alberta

Legend:

--- - AREA STRUCTURE PLAN BOUNDARY

Figure 5 -
Natural Features

Figure 6 – Site Photos



3 Land Use Concept

3.1 Plan Objectives

The plan objectives are to:

- Develop an affordable neighbourhood with a diversity of housing options to accommodate a range income, age, social groups and tenure, which include apartments, attached and semi-detached houses, and single detached houses with urban service standards;
- Design a high quality neighbourhood that takes advantage of its strategic location to integrate views and vistas and to connect to adjacent amenities, in particular recreation facilities and parks open spaces;
- Create a community where vehicular and pedestrian routes are equally considered to link residential areas to schools and open spaces, commercial areas and adjacent lands.

The proposed land use concept is illustrated in **Figure 7**. Table 1 demonstrates a breakdown of the proposed land uses, and Table 2 outlines the demographic and density profile.

TABLE 1
LAND USE DISTRIBUTION

| | Area (ha) | % of GDA |
|--------------------------------|-----------|----------|
| Gross Area | 84.76 | 100% |
| Less Environmental Reserve | 1.12 | 1.3% |
| Gross Developable Area | 83.64 | |
| Residential Uses | | |
| Low Density Residential | 34.44 | 41.2% |
| Medium Density Residential | 6.07 | 7.3% |
| High Density Residential | 8.14 | 9.7% |
| Commercial Uses | | |
| Neighbourhood Commercial | 2.82 | 3.4% |
| Mixed Use | 0.84 | 1% |
| Municipal Reserve | 12.92 | 15.4% |
| Neighbourhood Parks | 11.82 | 14% |
| Buffers and Linear Pathways | 1.1 | 1.4% |
| Infrastructure | | |
| Internal Roadways | 18.41 | 22% |
| Public Utilities (SWMF & PULs) | 0 | 0 |

TABLE 2
DEMOGRAPHIC AND DENSITY PROFILE*

| | Area | Units | % | People/Unit | Population |
|----------------------------|-------|-------|------|-------------|------------|
| Low Density Residential | 34.44 | 758 | 43.8 | 3.5 | 2653 |
| Medium Density Residential | 6.07 | 200 | 11.6 | 3.0 | 600 |
| High Density Residential | 8.14 | 773 | 44.7 | 2.3 | 1778 |
| | 48.65 | 1731 | 100 | | 5031 |

*De

nsity: 41.8 pp/gda

Diamond Ridge Subdivision

River Lot 67/68
Lac La Biche County, Alberta

Legend:

- AREA STRUCTURE PLAN BOUNDARY
- PHASE I BOUNDARY
- LOW DENSITY RESIDENTIAL
- MEDIUM DENSITY RESIDENTIAL
- HIGH DENSITY RESIDENTIAL
- COMMERCIAL
- PUBLIC OPEN SPACE
- ENVIRONMENTAL RESERVE
- ROADWAYS
- MIXED USE
- POTENTIAL ACCESS
- KEY INTERSECTION LOCATIONS
- PEDESTRIAN LINKAGES
- EXISTING TRAIL SYSTEM
- SIGNIFICANT ARCHEOLOGICAL SITE SETBACKS

Figure 7 -
Land Use Concept



3.2 Future Land Use Concept

The plan includes three primary land use classes- residential, commercial and mixed use. Diamond Ridge is located in the northeast corner of the hamlet of Lac La Biche. The plan continues the dominant residential land uses in the area and provides complimentary commercial uses that will primarily serve the local shopping needs of the new community. This approach ensures its compatibility with existing land uses. One mixed use site is proposed with access to a major arterial roadway along the west plan boundary. This site may be suitable for a variety of either local or regional needs depending on the final use. The plan includes design elements that meet the general residential subdivision design objectives outlined in Section 4.1.4 of the MDP. A detailed description of each use is outlined in the following sections.

3.2.1 Residential

The proposed residential land use concept dedicates 48.65 hectares to a range of housing including low, medium and high density. The plan proposes 12.92 hectares (31.9 acres) of land dedicated for public open space. A large stormwater management facility is proposed on adjacent lands to the south. **Figure - 7**, illustrates the Diamond Ridge land use concept that is in compliance to the general policies of the Municipal Development Plan.

3.2.1.1 *Low Density Residential*

The plan area includes 34.44 hectares of land for low density residential land uses. Low density will consist of single-family and semi-detached housing, including duplexes, and offer the opportunity for secondary suites. The anticipated number of residential units is 758 for a total population of approximately 2653. Approximately 43.8% of the total residential population will be from low-density units. Upon redistricting and subject to the Land Use Bylaw, the plan may include a variety of low density districts to allow single-detached and semi-detached housing on a range of lot sizes with the option to include front-attached garages and some rear lane access.

Image 1 - Concept Low Density Housing Options for Illustration



3.2.1.2 Medium Density Residential

The plan area includes 6.07 hectares of land for medium density residential land uses comprising 11.55% of the total population. Medium density will consist of townhouses with a minimum of three (3) and a maximum of five (5) attached dwelling units. The anticipated number of medium density residential units is 200 for a total population of approximately 600. Upon redistricting and subject to the Land Use Bylaw, the medium density housing will be primarily served by rear lane access.

Image 2 - Concept Medium Density Housing for Illustration



3.2.1.3 High Density Residential

The plan area includes 8.14 hectares of land for high density residential land uses. High density residential will consist of low rise apartment buildings and comply with regulations prescribed for in the Land Use Bylaw. The anticipated number of residential units is 773 for a total population of approximately 1778. Approximately 44.66% of the total residential population will be from high-density units. Upon redistricting and subject to the Land Use Bylaw, the plan may include a variety of apartment styles and building forms depending on the final lots sizes and configurations.

Image 3 - Concept High Density Housing for Illustration



3.2.2 Commercial

The overall plan area includes 2.82 hectares (6.97 acres) approximately 3.4% of the gross developable land area for commercial uses. The commercial sites are located adjacent to 101 Avenue at the primary intersection into the plan area. The access will be extended from the eastbound roadway into the plan area from 101 Avenue. The configuration of access/egress to each commercial site will be from internal roadways and finalized at the subdivision stage. The proposed commercial sites may include a variety of neighbourhood oriented uses traditionally associated with meeting the immediate service needs of the adjacent residential population, but may also include some highway commercial oriented uses that are equally compatible and complimentary, such as a gas station and drive-through restaurants. Buildings will be constructed according to the Land Use Bylaw regulations to ensure high standards for design, appearance, landscaping and signage. The sites will also accommodate pedestrian connections between the various uses and to adjacent residential development. Adequate buffers including appropriate landscaping, fences, and/or berms will be required where deemed appropriate by the Development Authority.

3.2.3 Mixed Use

One mixed use site of 0.84 hectares (2.1 acres) is proposed within the plan area with direct access to Hwy 868. The site helps achieve a neighbourhood activity centre to provide a focal point for land use cohesion, human interaction and a *sense of place*. Future uses may include ground floor oriented commercial services with apartment style housing or the possibility of a hotel. Depending on the market conditions the developer requires flexibility to determine the final uses for the site.

3.2.4 Parks and Open Space

The plan includes four (4) primary areas for public open space, in addition to linear pathways and natural buffers in order to enhance the visual quality of the area. There is one area to be considered for Environmental Reserve (ER) dedication at the time of development.

3.2.4.1 Municipal Reserve

The proposed development designates a total of approximately 12.92 hectares (31.9 acres) to be retained as Municipal Reserve (MR) upon subdivision approval. The MR is strategically located to take advantage of existing drainage patterns, to encourage the growth of natural vegetation for wildlife habitats, to retain significant natural features, and to provide buffers from and connections to adjacent land uses. The MGA specifies that 10% of the development lands be dedicated as MR. The plan area exceeds this requirement for a total percentage is 15.4%. A large park of 10.25 hectares (25.32 acres) is

proposed along the south portion of the property to be retained predominantly in a natural state for residents to enjoy. It provides access to adjacent green space to the south of the plan area that includes storm water facilities. The plan retains the trees in this large green space.

Additional, park spaces and linear pathway scattered though out the plan area to offer residents adequate leisure and recreational amenities and convenient trail connections. Linear pathways and buffers account for 1.1 hectares (2.7 acres). A centrally located 1.37 hectare site (3.4 acres) will provide a neighbourhood park space that may include a play structure and other amenities. A 0.25 hectare site is proposed as a gateway and entry feature into the plan area. All of the areas proposed for park and open space are illustrated in **Figure 7 – Land Use Concept**. All amenities and facilities will be designed in such a way to contribute to the overall visual quality of park spaces with soft surface trails to be built within the linear parkways where it is deemed appropriate at the time of development approval.

3.2.4.2 Environmental Reserve

The water body described under Section 2.2 *Natural Features*, if claimed by ESRD as significant under the *Water Act* and the *Public Lands Act* shall be dedicated as Environmental Reserve at the time of subdivision. The approximate area is 1.12 hectares (2.8 acres). An Environmental Assessment will be completed at the time of development and the final ER setbacks will be determined according to the Lac La Biche County Riparian Setback Matrix Model and Policies.

4 Services

4.1 Transportation

Three vehicular access points are proposed for the plan area, the first and the second will be located on 101 Avenue, which directly access the public roadway system. The second access point will serve the mixed use and commercial portion of the development. The third access point will be located on the east end of the property for future connection to a new road near the property line.

A Traffic Impact Assessment (TIA) was carried out by SE Design and Design Consulting Inc. dated December 2013 with the primary purpose to forecast traffic generated from the proposed development and collect background information for traffic generated from other developments; to evaluate the traffic operation at the main site access intersections located at 101 Ave; and identify required intersection control type and geometric configurations required as the development continues to be build-out over time.

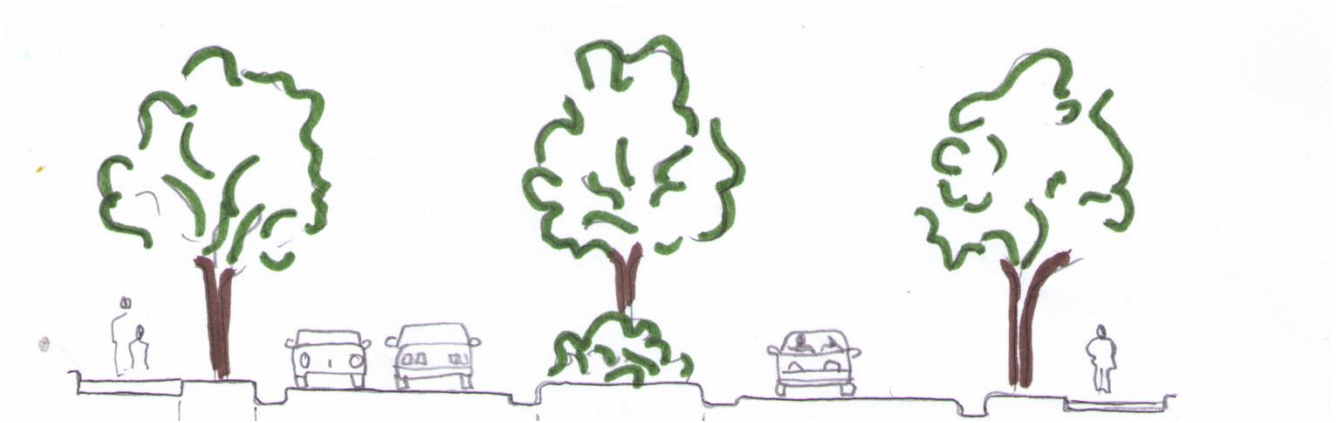
The TIA estimates the number of net trips entering and exiting the development will be 16,727 trips AADT, 1,184 trips during the AM peak, and 1,602 trips during the PM peak. The study concludes that all study intersection will operate at acceptable levels of service with the two-way stop control until 2023. After 2023 the intersection of 101 Avenue and site access to the mixed uses may require improvements or control type modifications. Capacity analysis of future 2033 traffic volume conditions at the intersection of 101 Avenue and the primary access to the development area indicate a traffic signal control will be required. The TIA outlines interim access intersections for the two 101 Avenue site access intersections will require Type IV(b) modified intersection improvements. A full discussion of the recommended improvements is outlined in the TIA report available in Appendix V.

4.1.1 Roadway Network

The internal road layout responds to the natural topographic conditions found on the site. The local roadways follow a modified grid pattern that echo the natural land contours in the south portion of the property while a combination of curvilinear streets and cul-de-sacs characterize the northern portion of the plan area. Roads shall be constructed according to the County's General Municipal Servicing Standards (GMSS). The layout of the roadway network is shown in **Figure 7 – Land Use Concept** with the primary access point identified in the legend.

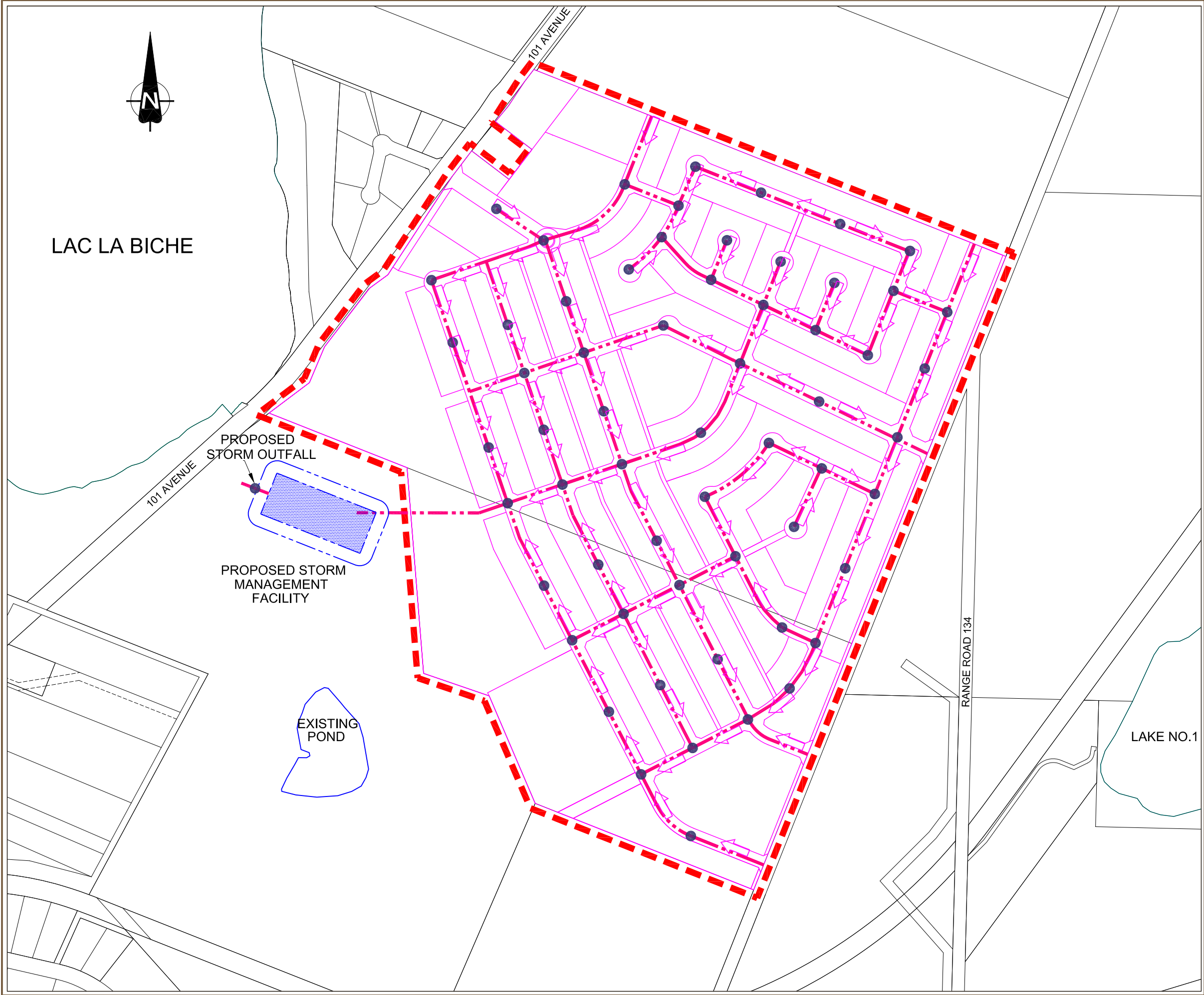
4.1.1.1 Collector Road Network

One collector roadway bisects the site providing the primary access from 101 Avenue and a future connection to lands to the east. This roadway will provide a dominant design feature for the community by including a landscaped dividing median with separated sidewalk from the carriage way with boulevards. A round a bout and clock tower feature is proposed in the centre of collector roadway upon entry into the community as illustrated in **Figure 7**. The collector cross-section is conceptually illustrated below.



4.1.2 Pedestrian and Bicycle System

The overall design places a high value on open space, with active and passive recreational amenities connected by a trail network to promote pedestrian and cyclist use. **Figure 7 – Land Use Concept** illustrates the existing pedestrian circulation system and where proposed trails and connections could be located. The walking system is comprised by a system of sidewalks and trails.



Diamond Ridge Subdivision

River Lot 67/68
Lac La Biche County, Alberta

Legend:

- AREA STRUCTURE PLAN BOUNDARY
- PROPOSED STORM MAINS
- ➡ MAJOR STORM FLOW
- MANHOLE

Figure 8 -
Storm Water
Collection System

4.2 Utilities

4.2.1 Stormwater Management and Facilities (SWMF)

The site's drainage will be designed for one principle catchment area with a storm water management facility (SWMF) on an adjacent property to the south in accordance with the Lac La Biche County Storm Water Master Plan. This facility may be connected through a combination of overland flows and buried pipes. The plan will include the submission of a stormwater management plan that shall meet Alberta Environment's stormwater management guidelines for water quantity and quality. Alberta Environment requires stormwater discharges from new development to be restricted to predevelopment flows. The proposed stormwater control practices will include an application for the construction of an outfall structure, under the Code of Practice for Outfall Structures on Water Bodies in Alberta. Storm water facilities will be designed to minimize water quality degradation including the release of hydrocarbons into the lake. The design of the outfall and all facilities for stormwater management will meet all provincial requirements.

In addition, the design of the SWMF will maximize opportunities to complement and enhance the existing facility and support habitat in the area. This may be accomplished through plantings that support wildlife and birds that rely on wetlands and marshes. The layout and design of the SWMF will also provide visual amenities for passive recreational uses. The preliminary layout of the proposed storm water management system and the location of the outfall are shown in **Figure 8 – Storm Water Collection System**. The exact location and details of the size and drainage outlet will be determined at the subdivision stage for approval by the County and Alberta Environment.

4.2.1.1 Drainage

All site grading and drainage plans within the ASP boundary will be prepared in accordance with the stormwater management plan.

4.2.2 Public Utility Lots

There are not planned Public Utility Lots in the plan area.

4.2.3 Waste Water Collection System (Sanitary)

The development will connect to municipal services in accordance with the County's General Municipal Servicing Standards. The wastewater collection system will use gravity and will flow south toward a proposed sewage lift station. The sewage lift station will pump sanitary sewage through a force main that will extend to the trunk sewer system located adjacent to the Bold Center. The preliminary layout

of the proposed sanitary sewer system is illustrated in **Figure 9 – Sanitary Sewer System**. 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, as determined acceptable by County.

4.2.4 Water Supply and Distribution

The plan area will be serviced with a potable water distribution system to be supplied from two existing sources: one being a 300mm water line adjacent to the Bold Centre; and connected to the existing 150mm line located adjacent to the plan boundary along 101 Avenue – before the existing water reservoir. Based on a preliminary analysis carried out in preparation for the plan, these connections should provide adequate service for the additional dwelling units and commercial uses associated with the development. Given the scope and size of the development area, it can be expected that upgrades to both the existing water treatment plant and pumping system will be required to service both this development and other developments in the area. The timing of these upgrades will have to be determined by the County based on the expanding needs of the community.

To service the Diamond Ridge Subdivision, water will be provided by a 300 mm trunk main looping through the development area and utilizing 200 mm water mains to service the remainder of the development area as per **Figure 10 – Water Distribution**.



LAC LA BICHE

101 AVENUE

101 AVENUE

RANGE ROAD 134

LAKE NO.1

LIFT STATION

FORCE MAIN TO
TRUNK SEWER AT
THE BOLD CENTER

Diamond Ridge Subdivision

River Lot 67/68
Lac La Biche County, Alberta

Legend:







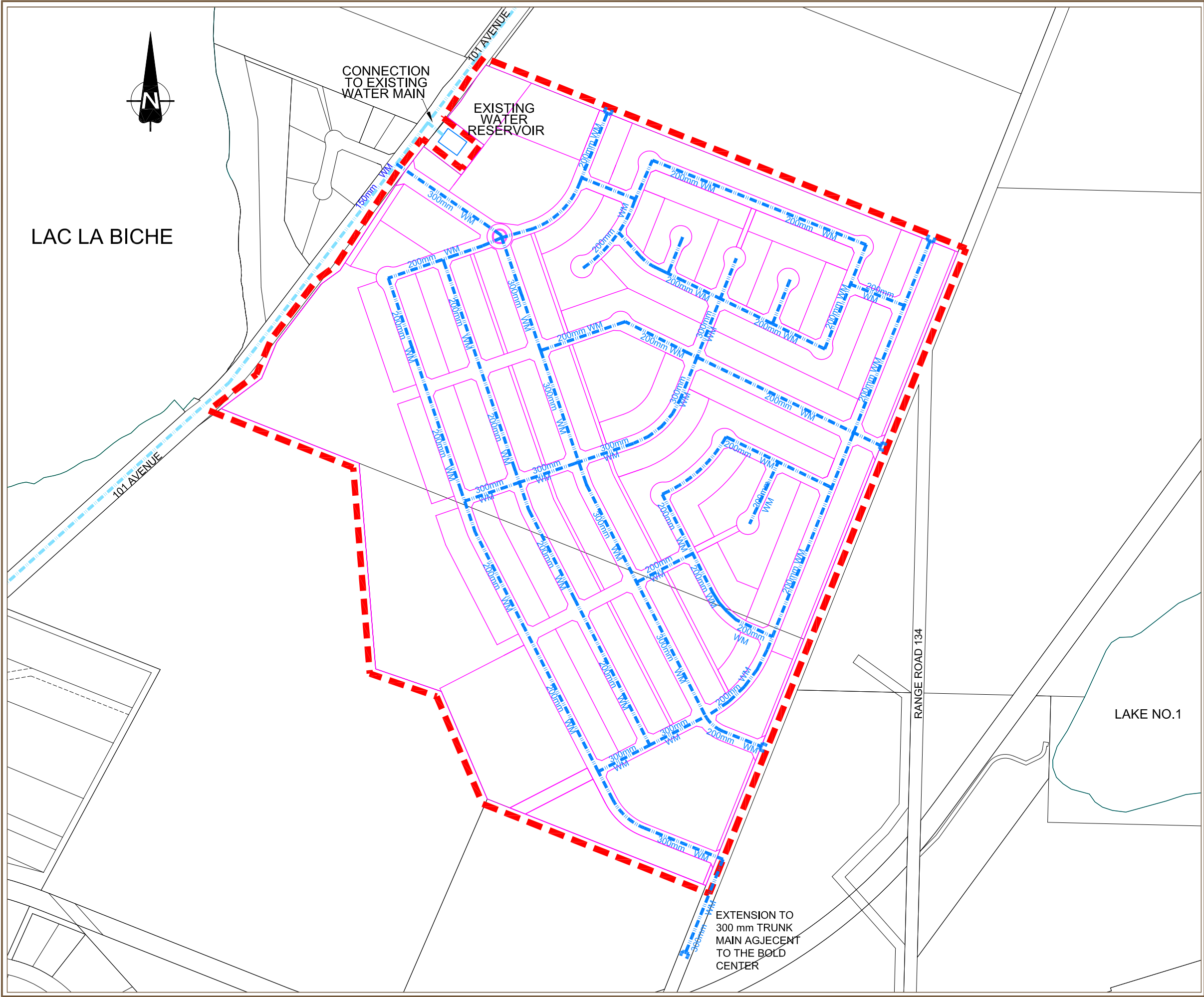
-  - AREA STRUCTURE PLAN BOUNDARY
-  PROPOSED SANITARY SEWER MAINS
-  SEWER CONNECTION TO FUTURE DEVELOPMENT
-  PROPOSED SANITARY LIFT STATION
-  MANHOLE
-  FORCE MAIN

Figure 9 -
Sanitary Sewer System

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Diamond Ridge Subdivision

River Lot 67/68
Lac La Biche County, Alberta

Legend:

- AREA STRUCTURE PLAN BOUNDARY
- 200 mm WM - PROPOSED WATER MAIN AND SIZE
- 150 mm WM - EXISTING WATER MAIN AND SIZE
- WATER MAIN CONNECTION TO FUTURE DEVELOPMENT

Figure 10 -
Water Distribution System

4.2.5 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 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 2 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.

4.3 Community Services

4.3.1 Emergency Services

Fire service for the proposed development will be provided from the Hamlet 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 Hamlet 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 hamlet of Lac La Biche.

4.3.2 Solid Waste and Recycling

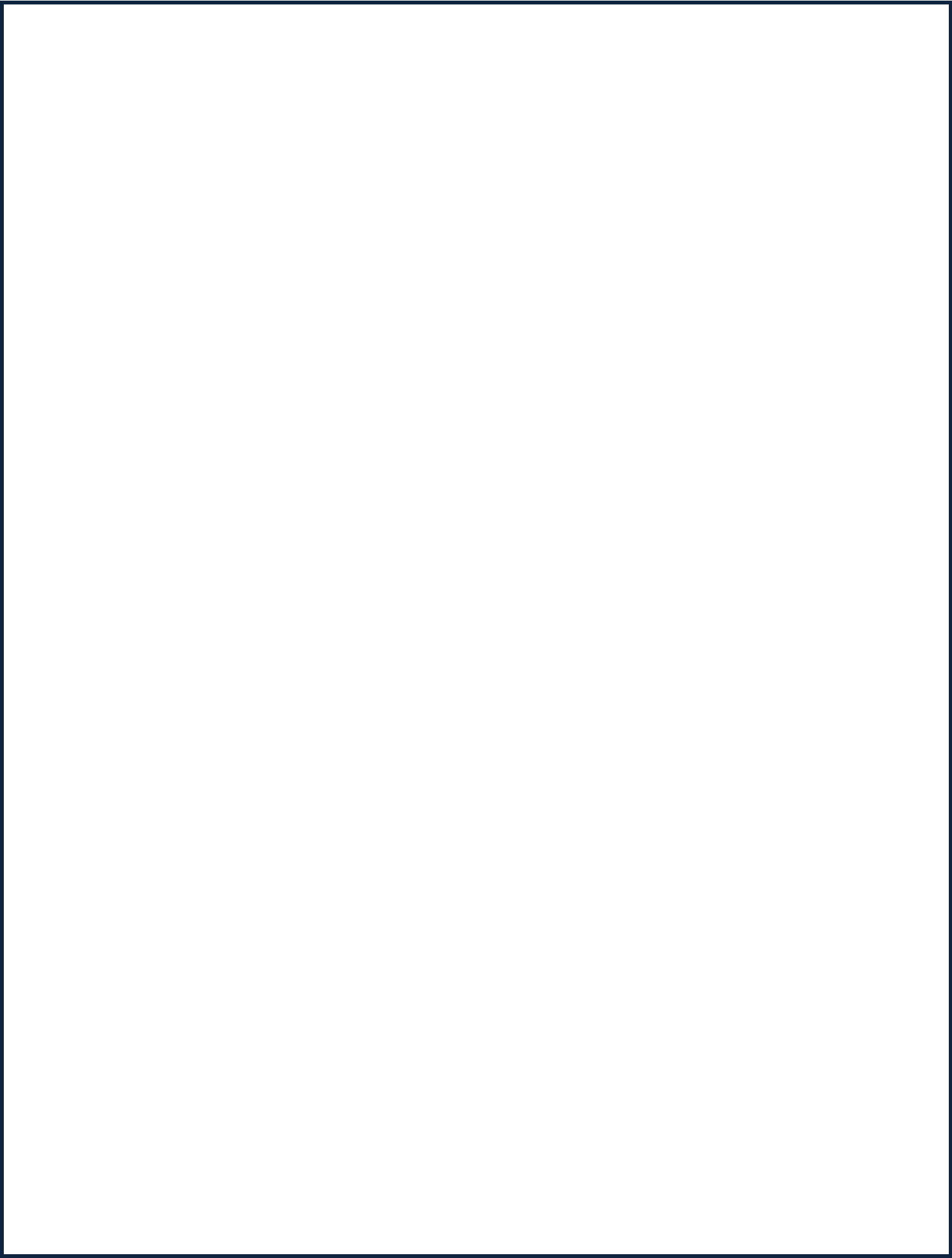
The plan area will include curbside waste and recycling pick-up service that is the same as the hamlet of Lac La Biche for all residential properties. Community waste management will be required for multi-family residential and commercial sites in accordance to the Waste & Resource Management Bylaw 12-050 as amended from time to time. All commercial properties with communal waste containers shall meet standards for screening and site location at the time of development approval.

4.3.3 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.



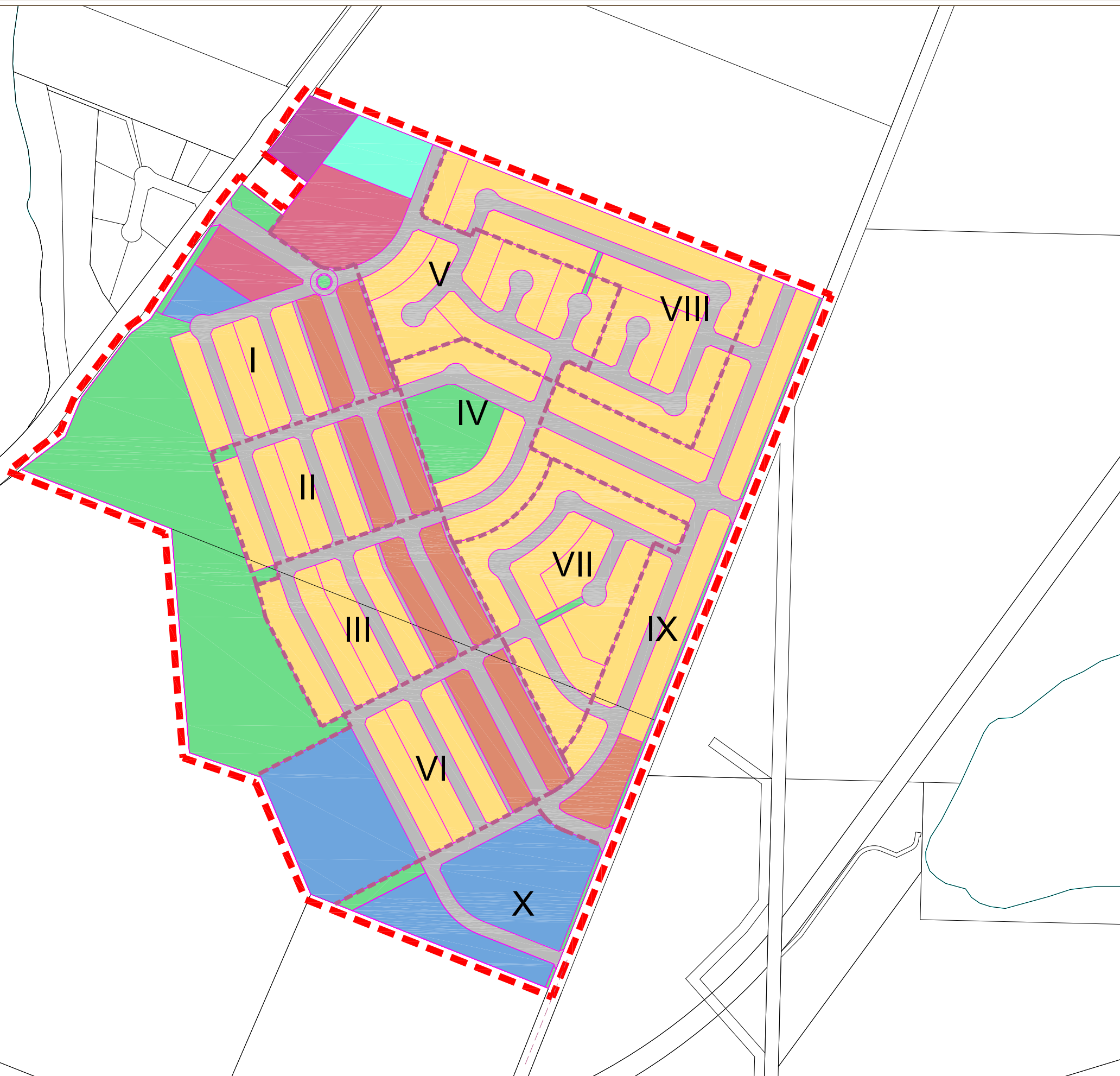
5 Implementation

5.1 Development Phasing

It is anticipated that the development will be built out in ten (10) phases. The first phase will begin in 2014 with the lands closest to 101 Avenue including one commercial and one multi-family site. The development will proceed in a southeast direction and concluding with the multi-family site in the southeast corner. The timing for remaining phases will be dictated by market conditions. See **Figure 11 – Phasing Strategy** for the anticipated development phases.

5.2 Redistricting and Subdivision

All subsequent redistricting and subdivision applications shall be in accordance with the land uses prescribed in the ASP.



Diamond Ridge Subdivision

River Lot 67/68
Lac La Biche County, Alberta

Legend:

- AREA STRUCTURE PLAN BOUNDARY
- PHASE BOUNDARY
- IX** PHASE BOUNDARY NUMBER
- LOW DENSITY RESIDENTIAL
- MEDIUM DENSITY RESIDENTIAL
- HIGH DENSITY RESIDENTIAL
- COMMERCIAL
- PUBLIC OPEN SPACE
- ENVIRONMENTAL RESERVE
- ROADWAYS
- MIXED USE

Figure 11 -
Phasing Strategy

SE DESIGN AND CONSULTING INC.

Appendix






Alberta Abandoned Well Locations

Disclaimer: The ERCB makes no representations, warranties, or guarantees, expressed or implied, that the data will be suitable for any use, including the intended use even if the intended use is known by the ERCB. The ERCB accepts no responsibility whatsoever for any inaccuracies, errors, or omissions in the data and the ERCB shall not be responsible for any losses or costs incurred as a result of you or anyone else using the data.

Printed on 12/17/2013

Map Legend

-  Abandoned Wells
-  Well Licence Number
-  ATS Grids
-  Towns & Cities
-  Municipal Boundaries
-  Provincial Boundaries

0 0.1 0.2 0.4 Kilometres

Base data provided by Spatial Data Warehouse Ltd.

Information Request

Company Name: SE Design and Consulting Inc.
Customer Name: Kim Carter
Order Date: December 17, 2013

Calgary Head Office
Suite 1000, 250 – 5 Street SW
Calgary, Alberta T2P 0R4
Canada

www.aer.ca

Requested Information on the well(s) listed below has not been supplied. Please see code index for reason.

| LE | LSD | SEC | TWP | RGE | M | E | CODE |
|----|-----|-----|-----|-----|---|---|------|
| | SE | 08 | 067 | 13 | 4 | | 1 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Additional Information:

Code 1 indicates there are no existing wells at the location provided.

Details (If Necessary):

- 1 Well Identifier Not On file
- 2 Confidential
- 3 Well Not on Production
- 4 No Cores Cut
- 5 Core Cut, Not Analyzed
- 6 Prior to 1962, DST Not Requested by Board
- 7 No Charge- Poor Copy
- 8 No Completion
- 9 No DST Run
- 10 No Pressure Tests Recorded
- 11 No Fluid Analyses Done
- 12 Log Not Recorded as Run
- 13 No Pipeline Recorded
- 14 File Out for Internal Use
- 15 Requested Information not on file at this time
- 16 No wells Abandoned in this location
17. No Environmental Records for this location
18. No Directional Survey