Blackfoot Business Park Area Structure Plan

Bylaw _____

County of Vermilion River, Alberta

Prepared for:

Reklaw Developments Ltd.

Prepared by:

redwillow planning

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1.0 Purpose, Scope & Background

1.1 Purpose & Scope

Purpose

Area structure plans provide guidance to decision-makers on future zoning, subdivision and development applications for a particular area that has not already been planned. It is noted that the lands contained within the Blackfoot Business Park Area Structure Plan (the ASP) have already been zoned, or districted, by the County of Vermilion River (the County) as Business (B) District.

Consequently the area is considered suitable for the uses listed in the Business (B) District under the 'permitted uses' category, such as 'Commercial uses', 'Institutional uses', and 'Veterinary services' (see **Appendix A**). Further, uses under the 'discretionary uses' category may be deemed suitable, depending on the specifics of a particular application, at the discretion of the County.

Thus, the purpose of this ASP is primarily to provide guidance to future subdivision and to support future development proposals consistent with this ASP and the County's other policies, regulations and standards.

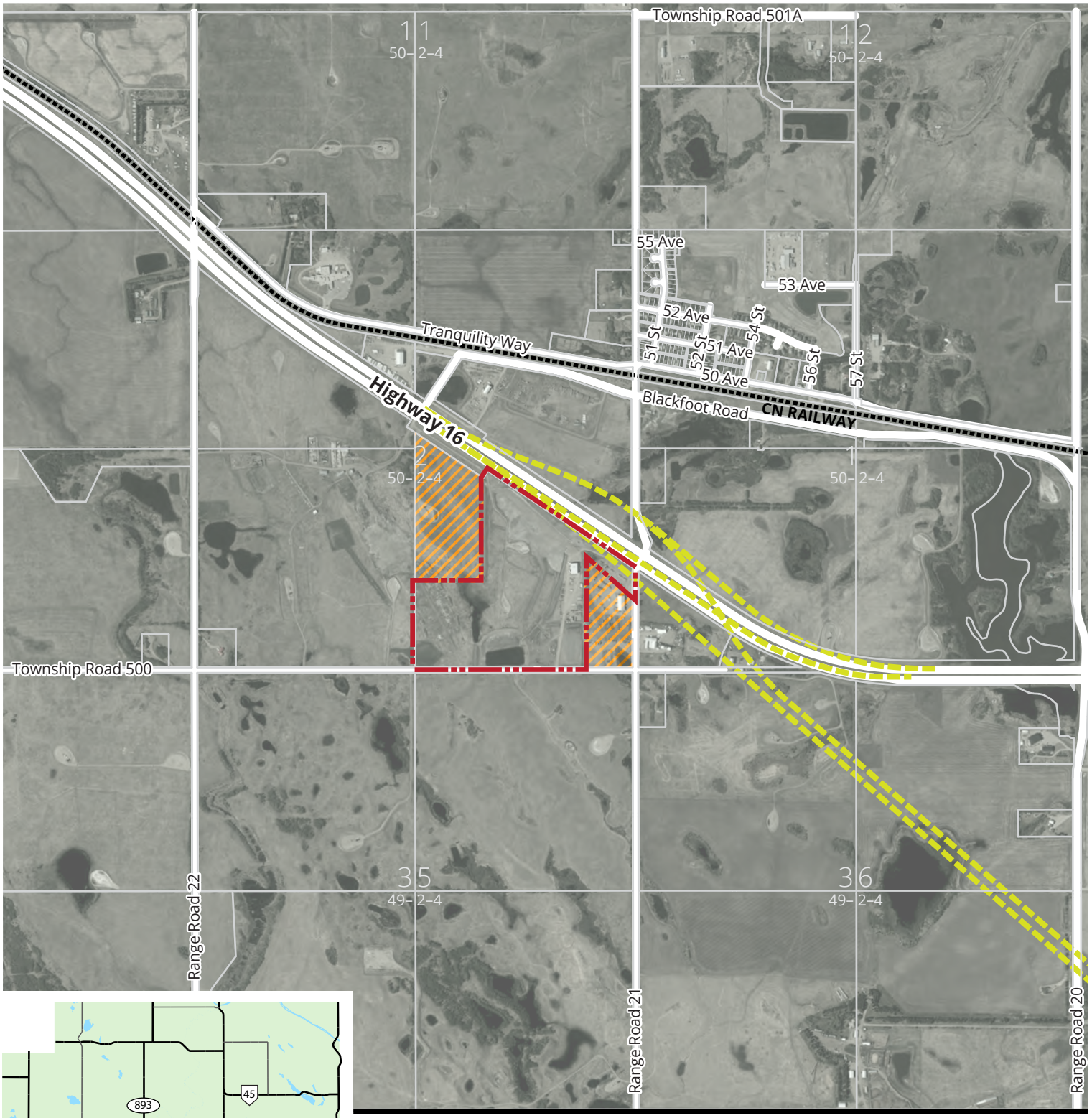
Scope

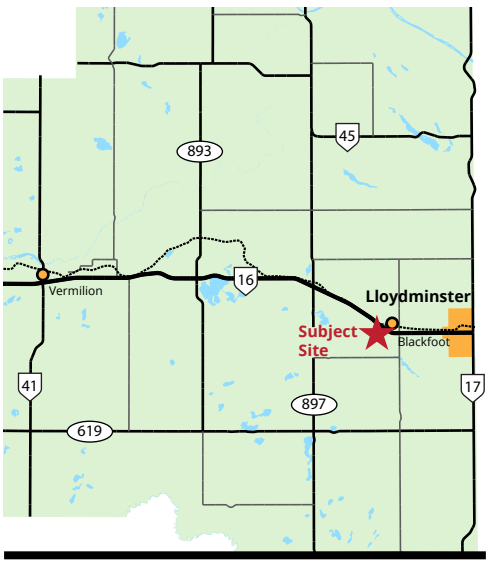
The ASP boundary comprises a single titled parcel legally described as Block 2, Plan 982 1806 (Alberta Title System reference E ½ 2-50-2-W4M) and located within the County of Vermilion River, Alberta, southwest of the Hamlet of Blackfoot on the south side of Highway 16 (see Figure 1. Context). The titled area is 31.84 ha (78.68 ac), more or less, owned by a single private entity, Reklaw Developments Ltd.

The ASP boundary has been analysed in detail through a number of engineering exercises, detailed further in subsequent sections of this document. To a lesser extent adjacent lands, Lot 2, Block 3, Plan 142 2730 to the east; and, Lot 1, Block 4, Plan 132 0133 to the west, have been analysed with an eye to possible impacts from development (see 'Additional Study Area' hatching on Figure 1). This additional analysis is also contained in the sections that follow. It should be noted that the policies of this ASP do not apply directly to lands outside the ASP boundary. However, the impact of development within the ASP boundary on adjacent lands located outside the ASP boundary has been taken under consideration.

1.2 Background

The ASP is in support of an application to subdivide Block 2, Plan 982 1806, and includes a phased tentative plan of subdivision with supporting technical analyses and policy direction.





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Local Context

LEGEND

- Site Location
- ASP Boundary
- Additional Study Area
- Canadian National Railway
- Proposed Future Highway 16 By–Pass Alignment

Figure 1
Reklaw ASP

2.0 Terms of Reference & Application

2.1 Terms of Reference

The ASP is prepared as a statutory plan in consideration of the requirements of the County's *Schedule 'B': A Checklist for Sustainable Development Standards and Development Costs of Residential/Business/Commercial/Industrial Area Structure Plans in the County of Vermilion River,* confirmed in person with County Administration February 4, 2016 and further clarified in person November 4, 2016.

Further, the County's Municipal Development Plan Bylaw 13-13 provides direction for what ASP's should address when in support of industrial uses, as may be contemplated by the land use district applied to the land.

Specifically, Policy 4.3.1.4 (a) states proposals for industrial development may only be considered if the use will not pose a conflict with or jeopardize existing surrounding uses. Further, Policy 4.3.1.4 (b) states that all industrial developments will only be considered in the context of an ASP or Development Concept Plan, and goes on to outline the minimum requirements of such a plan, which are addressed herein.

Consideration was also given to the statutory context, as detailed in Section 3.0 below, and to generally accepted principles of good planning practice.

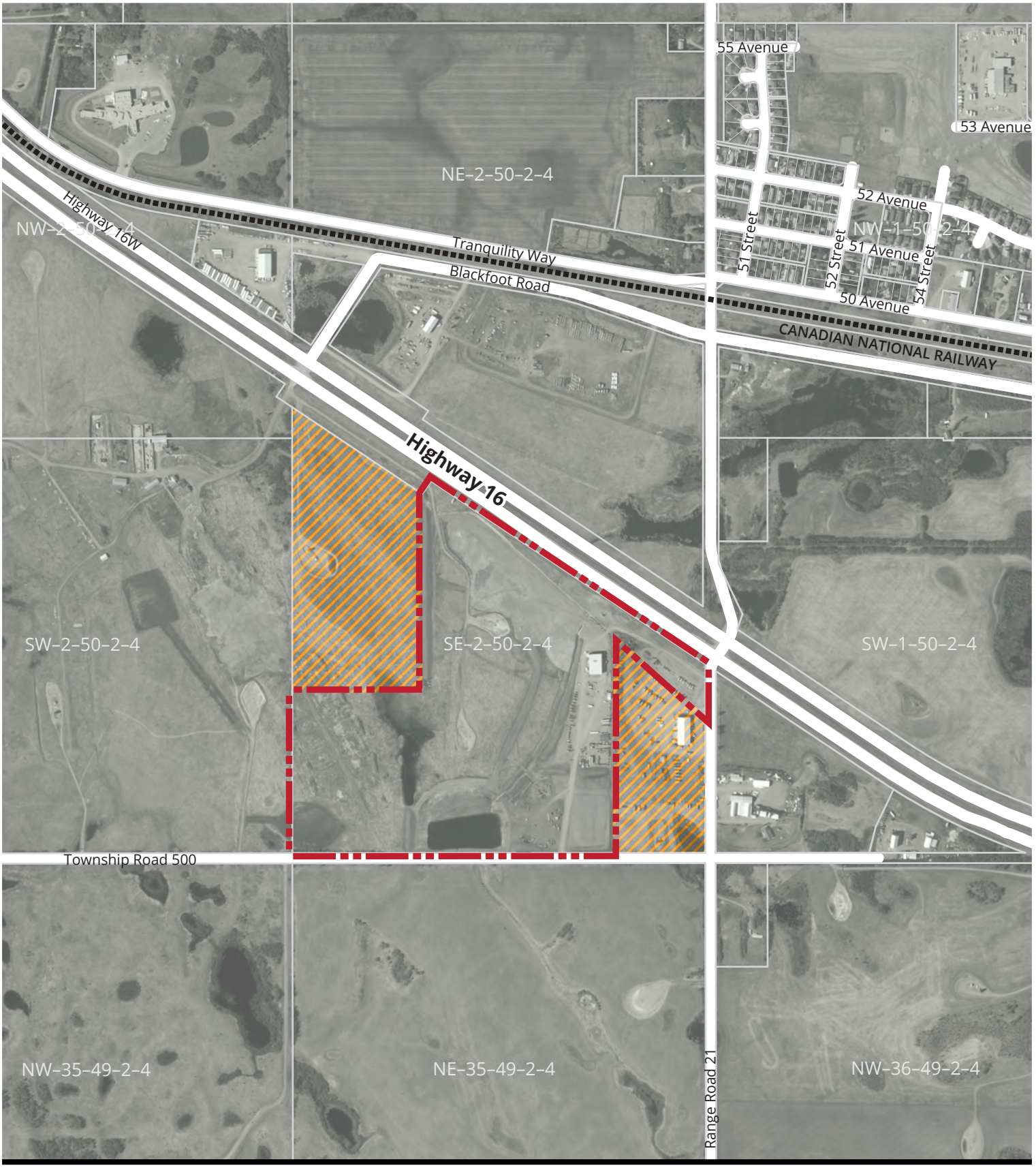
2.2 Application

The ASP is a statutory document prepared in support of a multi-lot commercial/light industrial subdivision. It is intended this ASP will be used by the County to help evaluate potential future subdivision and development applications that fall within the ASP boundary (see **Figure 2. Boundary**).

The text provides context through analysis to support policies and interpretation of the intent of the ASP. The figures contained herein are for both illustrative and interpretive purposes to support the text and policies.

The appendices are provided as important context for the future development concept, proposed subdivision, servicing proposals and policies contained herein. Future development proposals need to be consistent with the approved engineering studies contained in the appendices.

Given the length of the technical/engineering studies, they are noted as appendices but available separately from the County, with their key findings and recommendations are summarized in the appropriate sections that follow.



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LEGEND

- ASP Boundary
- Additional Study Area
- Canadian National Railway

Area Structure Plan Boundary

Figure 2

Reklaw ASP

3.0 Statutory & Regulatory Context

3.1 Municipal Government Act

Part 17, Section 633 of the *Municipal Government Act* (MGA) outlines the minimum requirements for the preparation of an Area Structure Plan,

"An ASP

(a) must describe

(i) the sequence of development proposed for the area,

(ii) the land uses proposed for the area, either generally or with respect to specific parts of the area,

(iii) the density of population proposed for the area either generally or with respect to specific parts of the area, and

(iv) the general location of major transportation routes and public utilities, and

(b) may contain any other matters the council considers necessary."

3.2 Regional Growth Management Strategy

Prepared in 2013, the Regional Growth Management Strategy (RGMS) guides future development in the County and identifies potential growth opportunities, areas suitable for growth and a means to monitor change over time.[1]

The ASP supports the RGMS goals and objectives by promoting economic development that does not require costly municipal services, supporting a diversified tax base, and by providing additional employment opportunities. It also supports residential growth of the nearby Hamlet of Blackfoot by locating amenities and employment opportunities adjacent to an existing built-up area.

The ASP lands fall within the Blackfoot employment growth node, a key area designated as the focus for investment for future employment in the commercial and industrial sectors[2]. Moreover, the ASP is strategically located in close proximity to major transportation corridors of Highway 16 and the Canadian National Railway, further supporting the goals of the RGMS.

3.3 Municipal Development Plan

The Municipal Development Plan (MDP), Bylaw 13-13, as amended, identifies in Map 2 the lands within the ASP boundary as Agricultural Area.

[1] *County of Vermilion River Regional Growth Management Strategy*, Dillon Consulting Ltd., 2013
[2] *County of Vermilion River Regional Growth Management Strategy*, Dillon Consulting Ltd., 2013

The ASP supports Objective 4.3.1.4, which endeavors "[t]o provide opportunities for low impact commercial development in the Agricultural Use Area without unnecessarily fragmenting working landscapes."

The ASP supports MDP Policy 4.3.1.4 as discussed above, and specifically as detailed in the analyses contained in ASP sections that follow.

3.4 Land Use Bylaw

County of Vermilion River Land Use Bylaw 13-14, as amended, identifies the ASP area as Business (B) District, which details permitted and discretionary uses, and development and subdivision regulations (see Appendix A).

The purpose of the District is to "allow development of extensive land using industrial, warehousing, service, and commercial uses in various locations which have very good accessibility where the demand for large lots for such use is increasing."

The ASP proposes uses consistent with the existing land use district; and, therefore supports the purpose of the Business (B) District.

3.5 General Municipal Servicing Standards

The County's General Municipal Servicing Standards (GMSS) is applied to all development proposals within the ASP boundary. Although this ASP does not articulate the level of detail contained in the GMSS, it does recognize that the GMSS will influence such aspects of development as, but not restricted to, landscaping, lighting, fire suppression and roadway standards.

4.0 Existing Conditions

This section outlines the existing natural and built environments within and adjacent to the ASP boundary. It identifies possible opportunities and constraints, and sets the stage for how the lands can be developed and serviced.

4.1 Existing Roads & Access

The ASP area is bounded to the south by Township Road 500, with existing access therefrom (see Figure 2). Additional access to the ASP area is from Range Road 21, across the eastern Additional Study Area (Lot 2, Plan 982 1806), enshrined via Road Access Easement Agreement registered on title (see **Appendix B**). Both accesses serve the existing development in the northeastern area of the ASP, Bandit Pipeline. The north ASP boundary abuts the Highway 16 right-of-way.

4.2 Existing Land Use

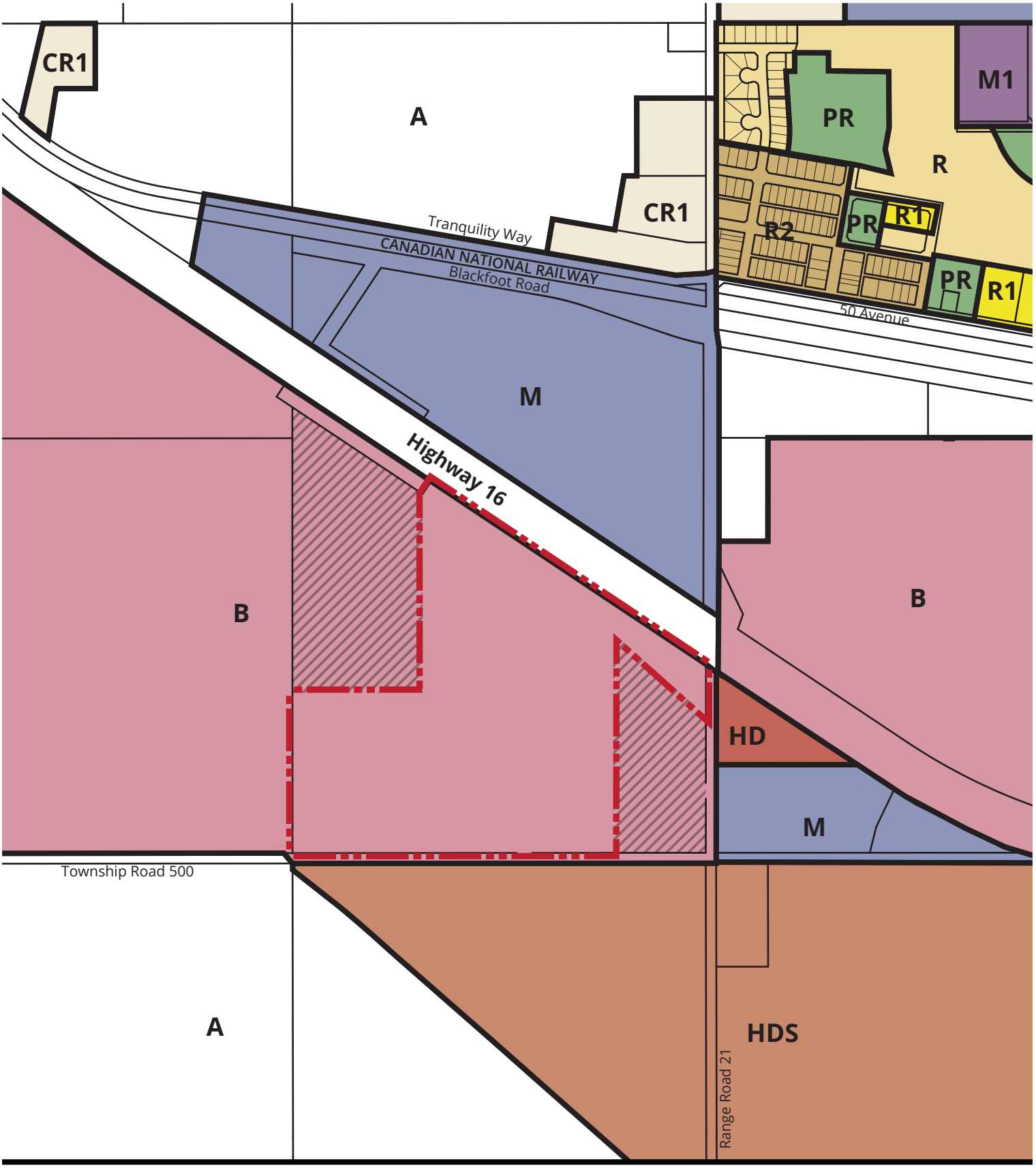
The entire ASP area is currently districted Business (B) in the County's Land Use Bylaw (see **Figure 3. Land Use**) and Agricultural Area in the Municipal Development Plan. The existing use within the ASP boundary comprises a privately owned company, Bandit Pipeline, specializing in pipeline and facility construction for the oil and gas industry. This development is located in the northeastern area of the ASP (see Figure 2). The remaining lands are currently undeveloped and used for grazing cattle.

Adjacent to and outside of the ASP boundary are located the following uses:

- North: Highway 16, Canadian National Railway; and, to the northeast across Highway 16, the Hamlet of Blackfoot.
- South: Undeveloped land in the Agriculture and Highway Development Special Purpose Districts.
- East: Partially developed land in the Business District (Tingley's Harvest Centre), Range Road 21, and partially developed land in the Business District (Hobblestone).
- West: Previously developed land in the Business District (feed lot).

Highway 16 serves as an effective buffer between lands to the north and the ASP lands, thereby minimizing the potential for land use conflict. Further, 'Additional Study Area' lands are also within the Business (B) District and are partially developed with uses allowed for by the District, as summarized in the bulleted list above.

All existing developments are in keeping with the intent of the existing land use district. As well, future developments within the ASP boundary would also be in line with the existing District and therefore inherently compatible. As such, potential for conflicting land uses in the immediate area is very low.



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Existing Land Use

LEGEND

- ASP Boundary
- Additional Study Area
- M Industrial Development
- M1 Light Industrial
- B Business
- HD Highway Development
- HDS Highway Deveopment Special Purpose
- CR1 Country Residential One
- R Large Lot Residential
- R1 Residential One
- R2 Residential Two
- PR Parks & Recreation
- A Agriculture

Figure 3
Reklaw ASP

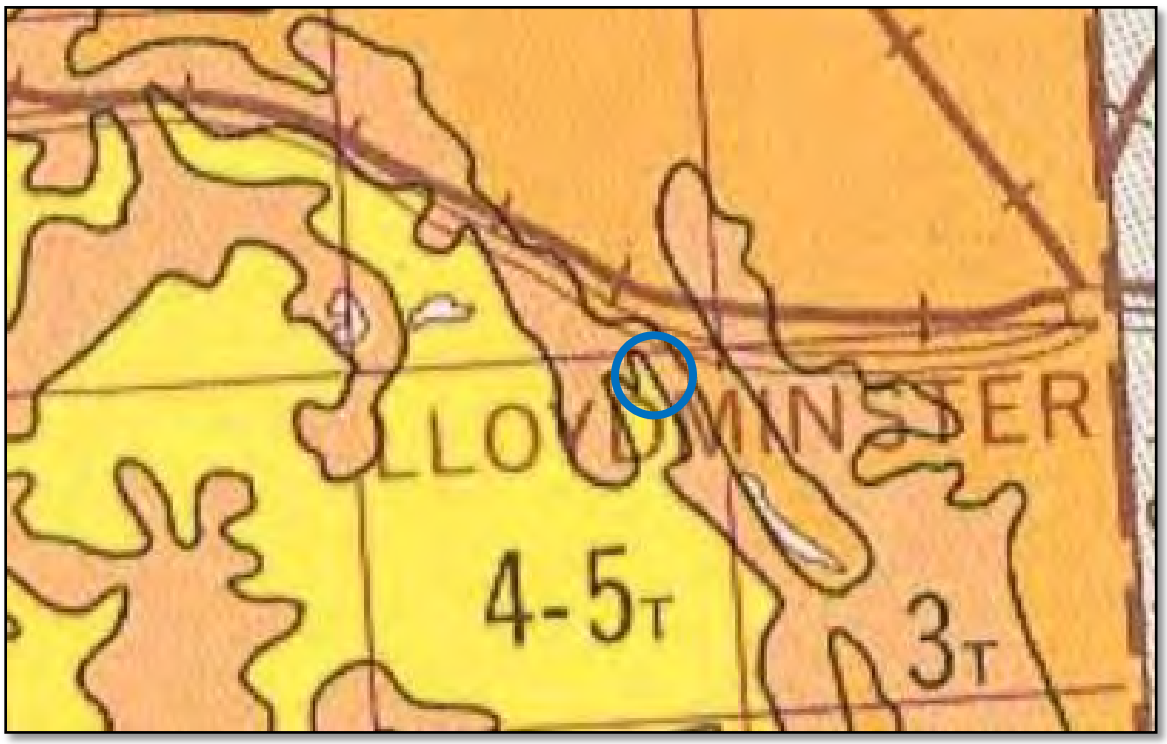
4.3 Soils, Topography & Vegetation

Soils

According to Alberta Agriculture and Forestry, the ASP lies within soil polygon 16169, characterized by Orthic Black Chernozem on medium textured till. The Polygon contains poorly draining soils and features undulating, high relief land forms with limiting slopes of 4%.[3] This is a generic description of all land contained within Polygon 16169, which is subject to local variances. Specific slopes on the subject land can be calculated using the contour intervals found on **Figure 4. Topography and Waterbodies**, should that be necessary.

The Canada Land Inventory (CLI) Soil Capability for Agriculture Map identifies soils in this area as predominately Class 3 to Class 5, with a finger of Class 2 extending south of Highway 16. The ASP boundary appears to fall within predominately Class 3, 4 & 5 soils. These classes have 'limitations that restrict the range of crops or require special conservation practices:[4] Class 3 has 'moderately severe limitations', Class 4 has 'severe limitations, and Class 5 has 'very severe' limitations. An excerpt of the 1:1,000,000 CLI Map prepared by Agriculture Canada in 1976 is found below as Image 1. The ASP land is located within the blue circle.

Image 1. CLI Soil Capability for Agriculture Map Excerpt



[3] Alberta Soil Information Viewer, Government of Alberta, www4.agric.gove.ab.ca
[4] The Canada Land Inventory Report No. 2, Environment Canada, 1972

Given the lower quality soils in this area, development of the land for non-extensive-agricultural purposes seems suitable, and would support preservation of higher quality agricultural lands within the County.

Topography

Figure 4 illustrates the topography within the ASP boundary using two metre contour intervals derived from the County's geographic information system. Existing slopes range from 0.2% to almost 7% in the southwest corner, excluding ditches.

The land is generally flat with a maximum elevation of 678 m. There are a number of pot-hole type depressions that contain water at various times of year.

Overland drainage is generally from the northwest to east on the north half of the site, with flows entering the site from a culvert draining south under Highway 16.[5] This water settles into Wetland #2 (Figure 4), which then drains southwestward to Wetland #1 via drainage channel.[6] Water from wetland #1 then flows south of the site via culvert under Township Road 500.[7] Wetland #1 is identified as the location for the stormwater management pond that will service future development. A small area in the southwest corner of the ASP area flows west outside of the ASP boundary and into Township Road 500's ditch, which eventually drains via culvert and overland into Blackfoot Creek.[8]

The land is generally suitable for development, with existing topographical constraints proposed to be mitigated through grading, wetland compensation, and stormwater management as discussed in Section 5.3.

Vegetation

Vertex Professional Services Ltd. conducted a field investigation during its wetland assessment process, and did not identify any rare or sensitive plant species.[9] Further, Vertex conducted an Alberta Conservation Information Management System (ACIMS) database search for rare or endangered/sensitive vegetation species which did not reveal any records for this site.[10]

Existing vegetation has been disturbed and comprises various grasses and forbs. There are no known impediments to development due to at risk or protected vegetation species.

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[5] *Surface Water Assessment SE 02-50-02 W4M*, Northwest Hydraulic Consultants Ltd., May 2016
[6] *Ibid.*
[7] *Ibid.*
[8] Ibid.
[9] *Wetland Impact Assessment Report*, Vertex Professional Services Ltd., October 14
[10] *Ibid*

4.4 Existing Utility Services

There are no existing municipal services in the ASP boundary, or in the immediate area. Bandit Pipeline, the existing development within the ASP boundary, is serviced by independent water and sewer.

The lack of municipal services is not an impediment to development as it is anticipated that should future developments require services, they would be serviced independently.

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Topography & Waterbodies

LEGEND

- ASP Boundary
- Additional Study Area
- 676 2.0m Contour Interval
- 3 Wetland

Figure 4

Reklaw ASP

4.5 Wetlands

A number of wetlands have been identified within the ASP boundary (see Figure 4). The landowner engaged Vertex Professional Services Ltd. (Vertex) to conduct a wetland impact assessment in August/September 2014 (revised February 2016) and a wetland permanence assessment in February 2016 for the purposes of establishing compensation requirements for wetlands impacted by future development. The Wetland Permanence Assessment Report is contained in **Appendix C** under separate cover, available from the County upon request.

The results of these two reports are summarized below:

- Of the 12 wetlands that were identified one was Class IV, two were Class III, and the rest were Class I.
- Class IV wetlands are permanent, Class III and I are semi-permanent and ephemeral respectively;
- Two Class III wetlands (Wetlands #2 and #11 on Figure 4) and one Class IV wetland (Wetland #1 on Figure 4) will be impacted by development;
- The Class IV wetland impacted will be converted into a stormwater management pond; and,
- A total of 7.920 ha of wetlands are located within the subject land, and of that 5.655 ha will be impacted by development. [11]

Compensation for impacted wetland area at a ratio of 3:1 has been approved by the County of Vermilion River under its Wetland Restoration Program, and the landowner has paid the compensation amount, fulfilling his obligations regarding compensation. A *Water Act* approval was issued effective June 10, 2016.

Wetland assessment and compensation has been finalized. Future development proponents will not be required to seek individual *Water Act* and County wetland compensation approvals, thereby increasing the marketability of the ASP lands and supporting economic development in the County.

4.6 Oil and Gas

Oil and gas wells and pipelines are shown in **Figure 5. Oil & Gas**. There are five abandoned wells and one flowing gas well within the ASP boundary. There are also a number of low-pressure gas lines within the area, which do not require development setbacks.

Development setbacks to pipelines, abandoned and active wells are dependent upon a number of factors. The Alberta Energy Regular (AER) gives direction on minimum setback requirements.

[11] *Wetland Impact Assessment Report* and *Wetland Permanence Assessment Report*, Vertex Professional Services Ltd., 2014 and 2016.

Of the six abandoned wells, three have received reclamation certificates, two were 'cut and capped' by Husky Energy in the third quarter of 2016,[12] and one awaits vegetation cover before a reclamation certificate can be issued by the Province.[13]

Abandoned Wells

1. Reclaimed

The AER's *Directive 079: Surface Development in Proximity to Abandoned Wells* pertains to setbacks to abandoned wells, as summarized here:

- Abandoned wells with a depth less than 150 m do not require a setback and are exempt from Directive 079.
- Abandoned wells with a depth 150 m or greater require a minimum 5 m setback radius around the well.
- Consultation with a well licensee may determine setback requirement greater than 5 m.

Further to bulleted point three above, discussion with the licensee of the abandoned wells in the ASP boundary, Husky Energy, revealed a setback greater than 5 m is required to abandoned wells in the ASP boundary.

For the three reclaimed abandoned wells (see Figure 5), Husky Energy requires minimum "work areas" or setbacks of approximately 35 m by 20 m, with an 8 m wide access corridor.[14] The configuration of this work area can vary, as long as minimum clear spaces are maintained. These work areas are shown on Figure 5 around the reclaimed, abandoned wells.

2. Non-Reclaimed

All non-reclaimed abandoned wells require a work area equivalent to the well's lease area. The lease areas are shown around these wells in Figure 5.

Suspended Wells

For the suspended oil wells located just outside the Plan boundary, a minimum 100 m setback is provided per Section 11 of the Subdivision and Development Regulation. The limiting distances do not impact the building envelope of the adjacent lots; and, therefore will not affect development of these two lots. Furthermore, once these wells are abandoned and reclaimed in the future, the setbacks can be reduced to the work area described above for reclaimed abandoned wells.

[12] Husky Energy, via email correspondence with Hal Weber, Surface Landman, January, 2017
[13] *Ibid.*
[14] Husky Energy, via email correspondence with Hal Weber, Surface Landman, June, 2016

All the wells within the ASP boundary are located in either Phase 2 or 3 of the development. Given Husky Energy's progress on obtaining reclamation certificates for the recently abandoned wells, it is likely that by the time the surrounding land develops the wells will have all been reclaimed, thereby reducing all setbacks down to the working areas as set by Husky Energy.

Overall, the oil & gas wells are not considered major impediments to development as the lots are large enough to be able to work around existing and future setback requirements.

4.7 Significant Historical Sites

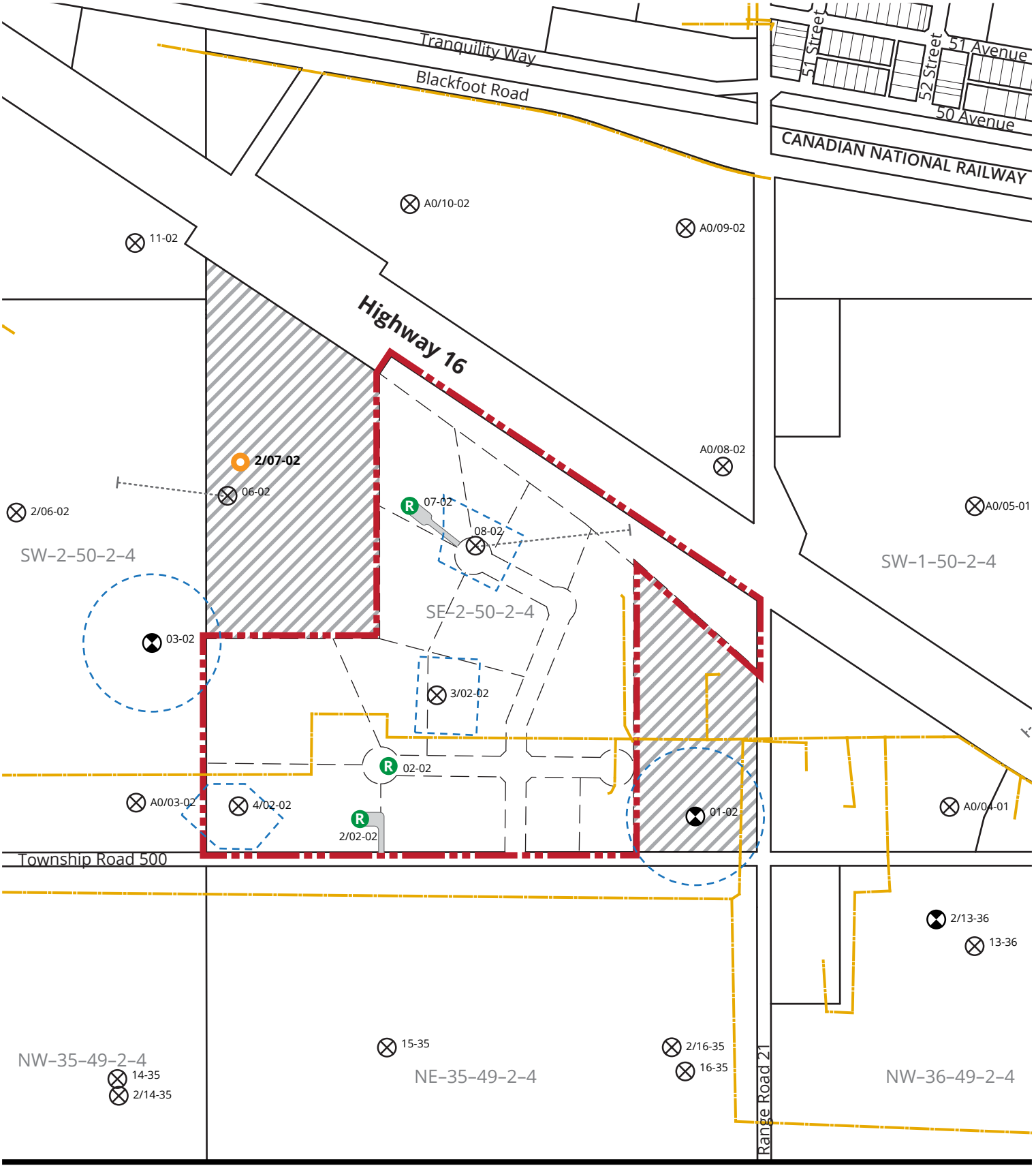
A search of the Heritage Resources Management Information System (HeRMIS) database (https://hermis.alberta.ca/arhp) completed on May 6, 2016 revealed no records of significant historical sites within the ASP boundary.

4.8 Fire, Emergency & Disaster Services

The ASP area falls within the service area of the Blackfoot Fire Department,[15] which would provide first responders in the case of a fire, emergency or disaster within the ASP area.

Furthermore, Bandit Pipeline maintains its own emergency management plan, which would be implemented, as required. A summary of this plan is found in **Appendix D**.

[15] County of Vermilion River website, http://www.vermilion-river.com/departments/fire_emergency_disaster/fire_protection_services/blackfoot_fire_department.html



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Oil & Gas

LEGEND

- ASP Boundary
- Additional Study Area
- Low Pressure Gas Line
- Well Downhole Line
- Flowing Oil Well
- Suspended Oil Well
- Abandoned Well
- Reclaimed Well
- 100 m Limiting Distance
- Potential Working Area

Figure 5

Reklaw ASP

5.0 Proposed Servicing

This section identifies proposed servicing plans within the ASP boundary to support future development.

5.1 Water

Independent water via wells or cisterns will be used to provide water service to developments requiring access to potable water.

Existing water well drilling reports available from the Province's online water well database (http://groundwater.alberta.ca/WaterWells/d/) suggest access to ground water is available in the ASP boundary. Furthermore, six water well reports were accessed (see **Appendix E**), as summarized in **Table 1** below, that further suggest access to ground water is possible in the general area. Additional groundwater analysis will be provided at the time of subdivision.

Based on Table 1, it is reasonable to assume that access to groundwater within the ASP boundary could be found at depths between 111 and 154 feet, with expected approximate flow rates of between 8 and 21 imperial gallons per minute (igpm). Therefore it is important to note that the stormwater management pond has been designed as a source of water for firefighting should the need arise, as discussed further in Section 5.3 below.

Table 1. Water Well Report Summary

No.	Well ID #	Test Date	Static Water Level (ft)	Flow Rate (igpm)
1	139710	1981/08/05	111.0	15.0
2	290830	1998/11/16	150.0	12.0
3	1421719	2015/03/10	147.60	15.0
4	1501343	2004/09/17	154.99	8.0
5	223484	1970/10/26	145.70	21.2
6	1502095	2012/11/08	154.10	10.0

Average daily water demand is assumed at 430 litres/capital/day (L/c/d), with peak daily demand at 860 L/c/d.[16] Using population densities for industrial (30 people/ha) and commercial (37 people/ha) uses found in the City of Lloydminster *Municipal Development Standards* with respect to water consumption, the total average daily water demand potential is estimated between 412,800 L/c/d and 509,120 L/c/d. The peak daily demand could be between 825,600 L/c/d and 1,018,240 L/c/d.

[16] City of Lloydminster Municipal Development Standards, March 2014, page 6-1.

However, as there are no specific developments identified at this time, these assumptions are very broad and provided at the request of the County for preliminary planning purposes.

5.2 Sanitary

Private sewage systems will be used to provide sanitary sewage disposal for developments requiring such servicing, likely in the form of holding tanks. Dry uses (i.e.: laydown yards) may not require sanitary servicing.

All private sanitary disposal systems would need to comply with Provincial regulations, and be installed by a certified installer, to the satisfaction of the County of Vermilion River.

5.3 Stormwater

Northwest Hydraulic Consultants Ltd. was retained to conduct a surface water assessment and BAR Engineering was retained to prepare grading plans (see **Appendix F**) in support of stormwater management within the ASP boundary[17]. The stormwater management plans have received Alberta Environment and Parks approval.

Surface Water Assessment

The surface water assessment used the following design events in its analysis:

- 100-year, 24-hour rainfall (City of Edmonton Huff Distribution),
- 100-year, 12-hour rainfall (AES Prairie Distribution),
- 5-year, 4-hour rainfall (Chicago Distribution), and
- 100-year, 10-day rain-on-snow event (Snowmelt).[18]

The 100-year events were used to size the stormwater management pond and the 5-year event was used to size the ditches and culverts. [19] The maximum unit stormwater release rate used for new development within the ASP boundary is 1.65 L/s/ha.[20]

1. Post-Development Conditions

Pre-development conditions are described in Section 4.3 above. The post-development stormwater management concept is illustrated in **Figure 6. Stormwater Management**. It shows runoff directed to a stormwater management pond at the south of the ASP area adjacent to Township Road 500. Additional flows from outside the ASP boundary enter the area from the north, northwest and east. It was

[17] *Surface Water Assessment SE 02-50-02 W4M*, Northwest Hydraulic Consultants Ltd., May 2016
[18] *Ibid.*
[19] *Ibid.*
[20] *Ibid.*

determined to not be feasible to direct these offsite flows around the development area and therefore they are directed to the pond via ditches and swales.[21]

Flow from the southwest corner that drains into Blackfoot Creek at pre-development is not directed into the stormwater management pond due to topography, and continues to flow into Blackfoot Creek via Township Road 500 ditch/culvert post-development.[22]

The stormwater management pond is constructed Wetland #1, improved to accommodate the post-development flows from the proposed development. This naturalized stormwater management pond forms part of the wetland compensation plan approved by the County. The pond is sized to accommodate the 1:100 year event without overflow into the adjacent Township Road 500 ditch to the south. The pond is discharged at the allowable rate (1.65L/s/ha) to the south via pump, thus pre- and post-development flow rates equalized. [23] This discharge water eventually drains into Devonia Lake[24], about 10 km to the southeast at a rate not to exceed 2.2 L/s/ha.[25] During storm events, the pond will be pumped to maintain normal water levels.[26]

To maintain normal water levels, the pond will be pumped down after storm events. The stormwater management pond is also designed to act as a source of firefighting water year-round.

Drainage Plans

The drainage plans were prepared in context with the *Standards and Guidelines for Municipal Waterworks, Watewater & Storm Design Systems*, January 2006, and with *Stormwater Management Guidelines for the Province of Alberta*, January 1999, with some exceptions as noted below, which have been approved by Alberta Environment and Parks.

1. Pond Design

1. The stormwater management pond area is less than 2 ha in size as catchment area did not warrant additional area; and
2. Interior side slopes in active storage zones are steeper than 5:2 (designed at 4:1) to utilize existing dugout geometry.

[21] *Surface Water Assessment SE 02-50-02 W4M*, Northwest Hydraulic Consultants Ltd., May 2016
[22] *Ibid.*
[23] *Ibid.*
[24] *Ibid.*
[25] *Ibid.*
[26] *Ibid.*

2. Water Quality Control

1. The length to width ratio of the pond is less than 4:1;
2. Minimum pool depth of 1.2 m utilized to generate sufficient fire storage volume;
3. The maximum active detention storage depth for the 1:100 year event is 4.0 m given the existing dugout geometry; and
4. No forebay is included in the design.

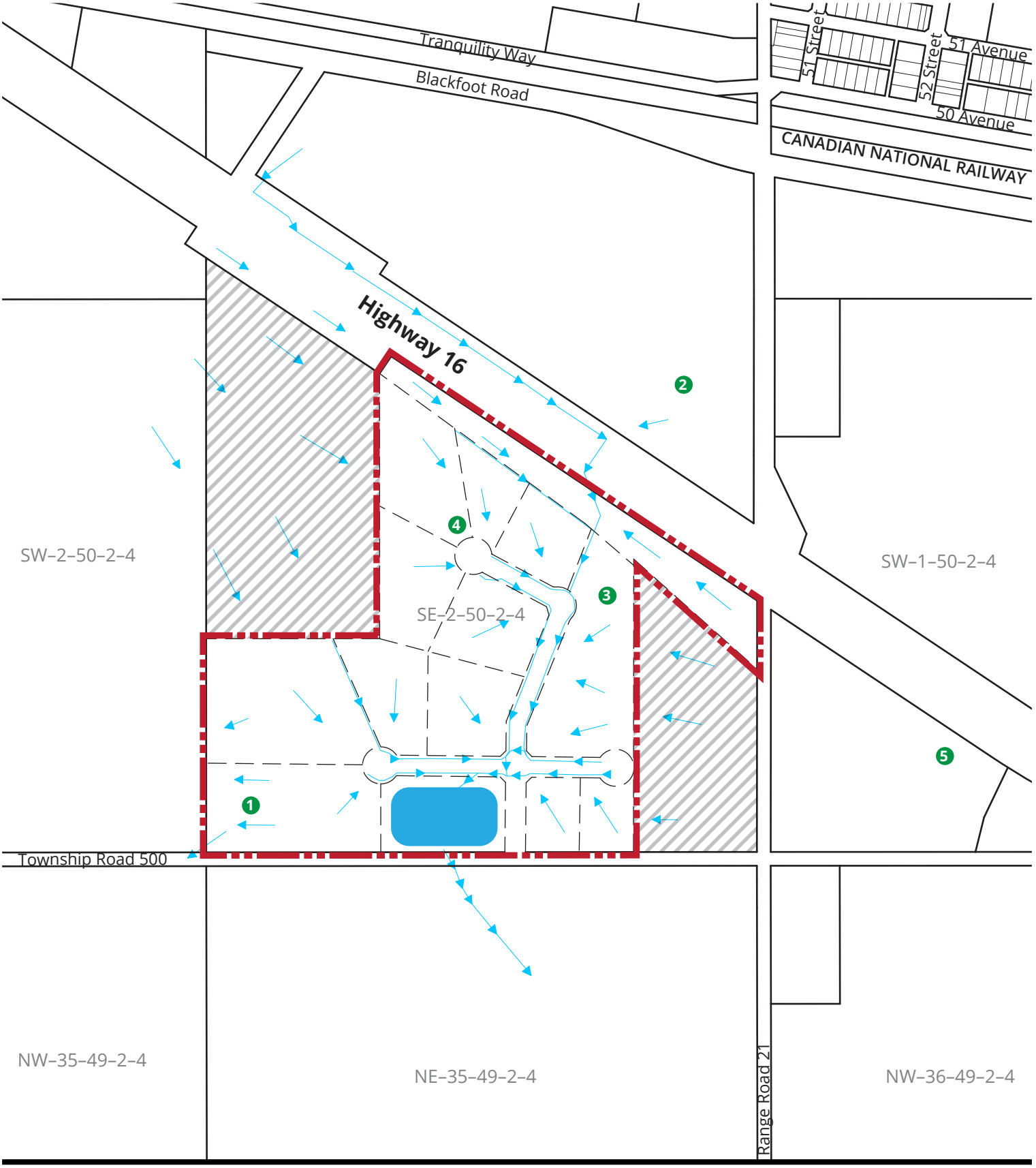
All lot drainage within the ASP boundary will be contained within the subdivision and directed to the stormwater management pond (PUL lot) via ditches and swales, which then drain into the Township Road 500 ditch. The storage volumes of the pond and ditches have been calculated and summarized on pages 8 and 9, Tables 9 and 10, in the Surface Water Assessment report.

Two lots in the southwest corner of the development area drain directly offsite into the Township Road 500 ditch as directing drainage from these two lots into the stormwater management pond would require extensive fill. The surface water assessment report outlines this drainage plan which has received Alberta Environment and Parks approval.

Based on the topography, lot drainage of individual lots varies. Some lots will drain from front to back, while others will drain from back to front. That being said, no cross-lot drainage will be permitted. The existing offsite drainage that flows into the ASP boundary from the Hwy 16 ditch has been accommodated for via ditches and swales within the subdivision plan. These ditches and swales will be established via easement and finished with 100 mm of topsoil and seeded to grass.

5.4 Shallow Utilities

Shallow utilities including power, gas, and cable/telephone will be provided at the time of subdivision, with rights-of-way protected by easement.



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Stormwater Management

LEGEND

- ASP Boundary
- Additional Study Area
- Drainage Pattern
- 1 Water Well Report No.
- Storm Pond

Figure 6

Reklaw ASP

6.0 Transportation & Access

This section identifies the existing transportation and access network and proposes future circulation patterns within the ASP boundary. It also provides information from the traffic impact assessment (TIA).

6.1 Local Roads & Access

Figure 7. Roads & Access illustrates existing and proposed roads and accesses adjacent to and within the ASP boundary. Internal subdivision road layout will closely follow Figure 7.

Township Road 500 is the southern boundary of the ASP. The primary public access to the ASP lands is from this unpaved, east-west County road. Access from Township Road 500 will be formalized in Phase 1, along with the stormwater management pond (PUL lot) and three other lots. This access will therefore become the dominant and most used access prior to full build out.

Range Road 21 to the east of the ASP boundary is a County gravel standard road running north-south.[27] Proposed local access to the ASP area is from Range Road 21 across adjacent Lot 2, Block 3, Plan 142 2730 via private road access easement agreement dated January 21, 2016. Access to and from all future development sites within the ASP boundary via this roadway is protected by the road access easement agreement, which will be registered on all subsequent titles. This proposed road across adjacent Lot 2 will function as a local private access to the ASP area, and as such is anticipated to be of lower standard (private gravel standard) and less used. The remaining roads within the ASP boundary will be public and built to County gravel road standards.

Given the ASP lands are adjacent to Highway 16, all future development will require Roadside Development Permits from Alberta Transportation. This Provincial permitting process will address any setback requirements of the Province to new development.

There is no direct access to Highway 16. Alberta Transportation's access management plan will eventually remove of all at-grade accesses to Highway 16. This will affect local access to the Plan area from Highway 16 via Range Road 21. Moreover, the proposed Lloydminster Bypass (as discussed in Section 6.2 below), will further compromise access to the Plan area via Range Road 21. These future Provincial projects highlight the importance of identifying the Township Road 500 access point as the primary public access to the development. They also serve to underscore the rationale for retaining the access road across adjacent Lot 2 as a private local road, built to private road standards as contemplated by the road access agreement found in Appendix B.

[27] A Traffic Impact Assessment (TIA) Report for the Proposed Reklaw Developments Industrial Subdivision Project, EASL Transportation Consultants, Inc., June 27, 2016.

6.2 Highway 16 Access & Lloydminster Bypass

According to Alberta Transportation's website, Highway 16 is moving toward a provincial freeway status. Alberta Transportation's standard access management guidelines for freeway status highways includes removal of all at-grade accesses and limiting all access to grade-separated interchanges. [28] Therefore, all access to the ASP land is proposed from local roads, as shown in Figure 7.

In 2000, Alberta Transportation and Saskatchewan Highways and Transportation retained Stantec Consulting Ltd. to undertake functional planning for the realignment of Highway 16 around the City of Lloydminster.[29] The Highway 16 Lloydminster bypass will eliminate at-grade access to Highway 16 from Range Road 21, although a grade-separated interchange will continue to provide access to Highway 16 for local traffic once the bypass is constructed. The bypass is not anticipated to be construction for at least another 20+ years.[30] Consequently, Alberta Transportation requested the traffic impact assessment, discussed below, not consider the bypass as it would exist outside the anticipated build out period of the development area.

The current alignment of Highway 16 and the Lloydminster bypass footprint/route are shown in relation to the ASP boundary and local road network in Figure 1. As identified, the proposed bypass route abuts the northern extent of the ASP area, yet does not encroach on any of the proposed lots. In fact, there is sufficient setback provided to protect for future Highway 16 alignment. As shown in Figure 7, the green dashed line represents future Highway 16 realignment to accommodate the proposed Lloydminster bypass.

6.3 Traffic Impact Assessment

EASL Transportation Consultants Inc. was retained to prepare a traffic impact assessment (TIA). The report can be found in **Appendix G** (under separate cover). Alberta Transportation is satisfied with the findings of the assessment and had no further concerns as of October 28, 2016.[31]

The TIA is a highly technical document and interpretation of the findings is required to be done by transportation engineering professionals. Therefore, the summary provided

[28] *Access Management on Alberta Highways*, Alberta Transportation, Government of Alberta, found here on July 4, 2016: http://www.transportation.alberta.ca/Content/docType329/Production/Access_Management_2010_Letter_Size.pdf

[29] *Highway 16 – Functional Planning Study Realignment Around Lloydminster* Executive Summary, Stantec Consulting Ltd., 2002

[30] A Traffic Impact Assessment (TIA) Report for the Proposed Reklaw Developments Industrial Subdivision Project, EASL Transportation Consultants, Inc., June 27, 2016.

[31] Letter correspondence to EASL Transportation Consultants Inc. from Alberta Transportation, dated October 28, 2016.

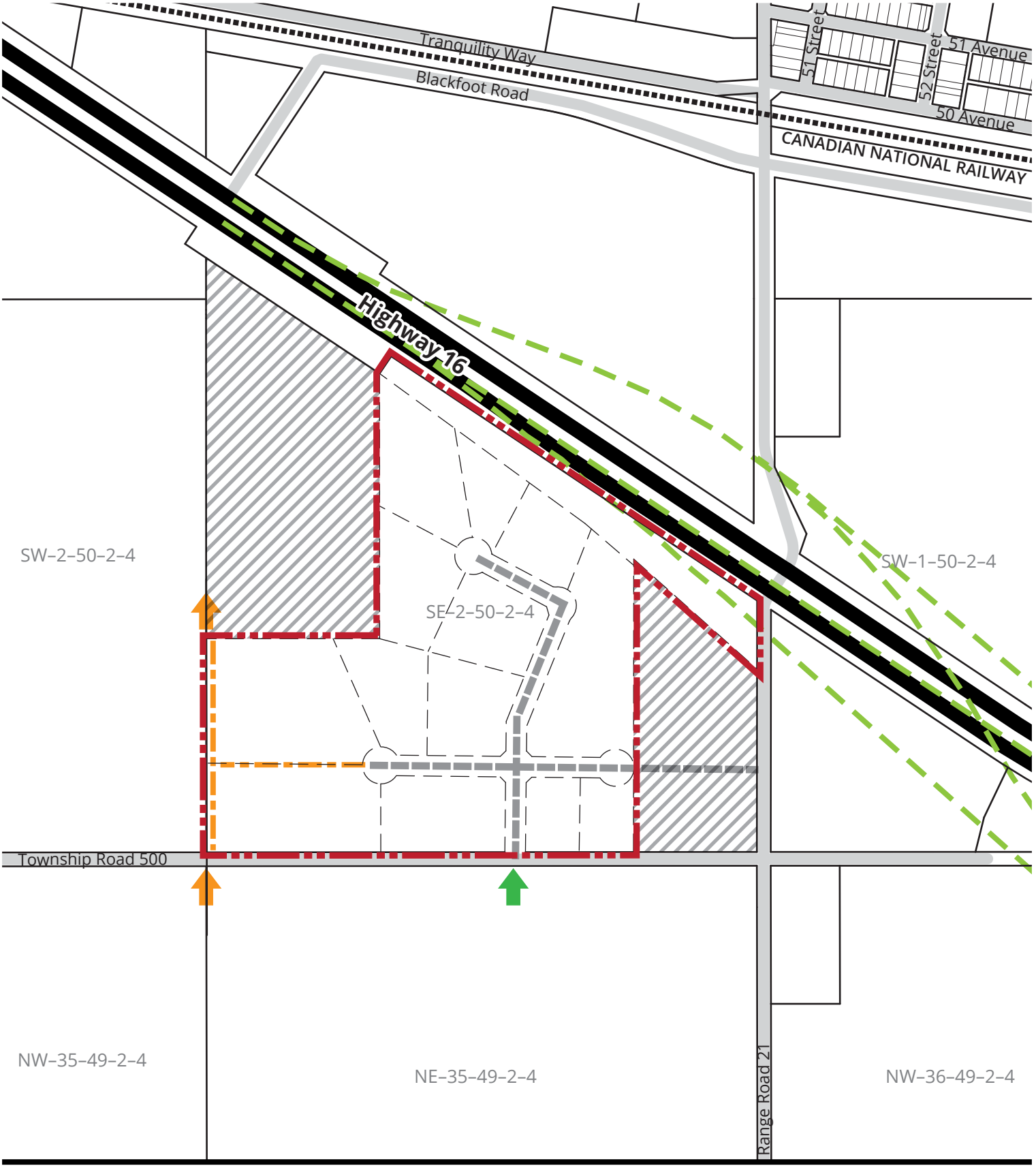
here is strictly a paraphrasing of the TIA's Section 5 *Conclusions and Recommendations* (pp 32-34) with no interpretation.

Conclusions & Recommendations:

- Level of service and capacity analyses indicated that under existing 2016 traffic conditions, the intersections of Township Road 500/Range Road 21 and Highway 16/Range Road 21 are operating at acceptable levels of service with ample capacities and that no intersection improvements are required.
- Project site traffic level of services analyses indicated that with background traffic in 2036 the Highway 16/Range Road 21 intersection would have southbound approach operating unacceptably with mitigations required. The Township Road 500/Range Road 21 intersection would operate acceptably under this condition.
- Project Site Traffic level of service analyses indicated that with full build out traffic in 2036 the Highway 16/Range Road 21 intersection would have south and north approaches operating unacceptably with mitigations required. The Township Road 500/Range Road 21 intersection, the site access at Range Road 21 and the site access at Township Road 500 would all operate at acceptable levels of service under this condition.
    - The proposed mitigation under full build out conditions in 2036 is a traffic signal control that has a westbound left turn phase, and appropriate left turn lane storage length.
    - Roundabout options determined not most appropriate solution at Highway 16/Range Road 21 intersection at full build out in 2036 because:
        - Highway 16 at this location is a high speed divided highway;
        - Preservation of high speed along the highway is desireable;
        - Roundabouts are not recommended in rural environments; and,
        - AT's plan to install a split interchange at this general location in the future.
- Project Site Traffic level of service analyses indicated that with interim build out at 2021the Highway 16/Range Road 21 intersection would operate at acceptable levels of service with existing north/south stop sign controls. This intersection can accommodate interim traffic volumes including background growth traffic without need for control modifications.
- Stop signs should be installed inside the Plan area at the Township Road 500 and Range Road 21 exits.
- Intersection lighting at interim build out in 2021 is recommended for Highway 16/Range Road 21 intersection.
- Intersection layout analyses at Highway 16/Range Road 21 at existing, interim and full build out conditions indicate the following:

- Left turn lane in westbound direction not warranted except under interim 2021 traffic conditions with a minimum storage length of 25 metres. Required length of westbound left turn land under 2036 conditions should be 120 meters.
- Right turn lane in the eastbound direction is NOT warranted under exising 2016 or interim 2021 conditions. Under the full build out 2036 conditions, and eastbound right turn lane would be warranted with a minimum of 100 meters parallel section and a taper with 40:1 ratio preceding the parallel section.

In summary, the TIA concludes the development of the ASP lands will have impact on the traffic operations of the future road network. However, these impacts can be alleviated by implementing the improvements recommended by the TIA.



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Roads and Access

LEGEND

- ASP Boundary
- Additional Study Area
- Railroad
- Highway
- Existing Roadway
- Proposed Roadway
- Proposed Future Highway 16 By–Pass Alignment
- Future Connection Option
- Public Access Point
- Future Access Point Option

Figure 7
Reklaw ASP

7.0 Proposed Land Use

This section discusses aspects of future overall development proposed within the ASP boundary.

7.1 Future Land Use – Commercial/Light Industrial

Figure 8. Proposed Land Uses illustrates future land use designations, internal roadways, development layout, and proposed site accesses. It is important to note here the difference between 'land use designations' and 'land use districts'. Land use designations are generalized land use classifications used in higher order policy documents, such as this ASP, to which certain policies are applied. In this instance, the only land use designation identified is CI – Commercial/Light Industrial as no other types of uses are anticipated. Land use districts, on the other hand, are specific land use classifications used in land use bylaws to which detailed regulations are applied. The land use district applied to the ASP lands is the Business (B) District.

The CI – Commercial/Light Industrial designation reflects the nature of the existing land use district for the ASP area as established by the County's Land Use Bylaw. Suitable uses in this location would be of a commercial or light industrial nature, and could include such uses as, but not limited to, rental yards, agricultural equipment sales, outdoor storage, and pipe/laydown yards. Specific allowable uses , however, are either permitted or discretionary according to the Business (B) District, and would be processed accordingly.

7.2 Development Layout

The development layout proposes up to 13 lots, one of which will contain the stormwater management pond discussed in Section 5.3 above, identified as a public utility lot (PUL).

Lot sizes vary from 2.4 to 10.0 ac, with frontages between approximately 40 m and over 163 m. One or more lots could be further subdivided or consolidated to suite market demand. Subdivision will proceed on a phased or staged basis, as discussed in the next section. Increases in lot density after the ASP is adopted would trigger an amendment to the ASP, as discussed in Section 9.2.

7.3 Staging

Subdivision staging is likely to occur in response to market demands. Proximity to Lloydminster, micro- and macro-economic conditions, and landowner preference all influence the rate at which the ASP lands will be subdivided and developed.

That being said, it is anticipated that the lands will develop in a staged manner as illustrated in **Figure 9. Staging**. Stage 1 will include the existing developed area, the two access points, part of the internal road network and the PUL lot for stormwater management.

Changes in future phasing to respond to market demand may be desirable or necessary, and will not constitute an amendment to this ASP so long as all required infrastructure is in place to support development.

7.4 Employment Projections

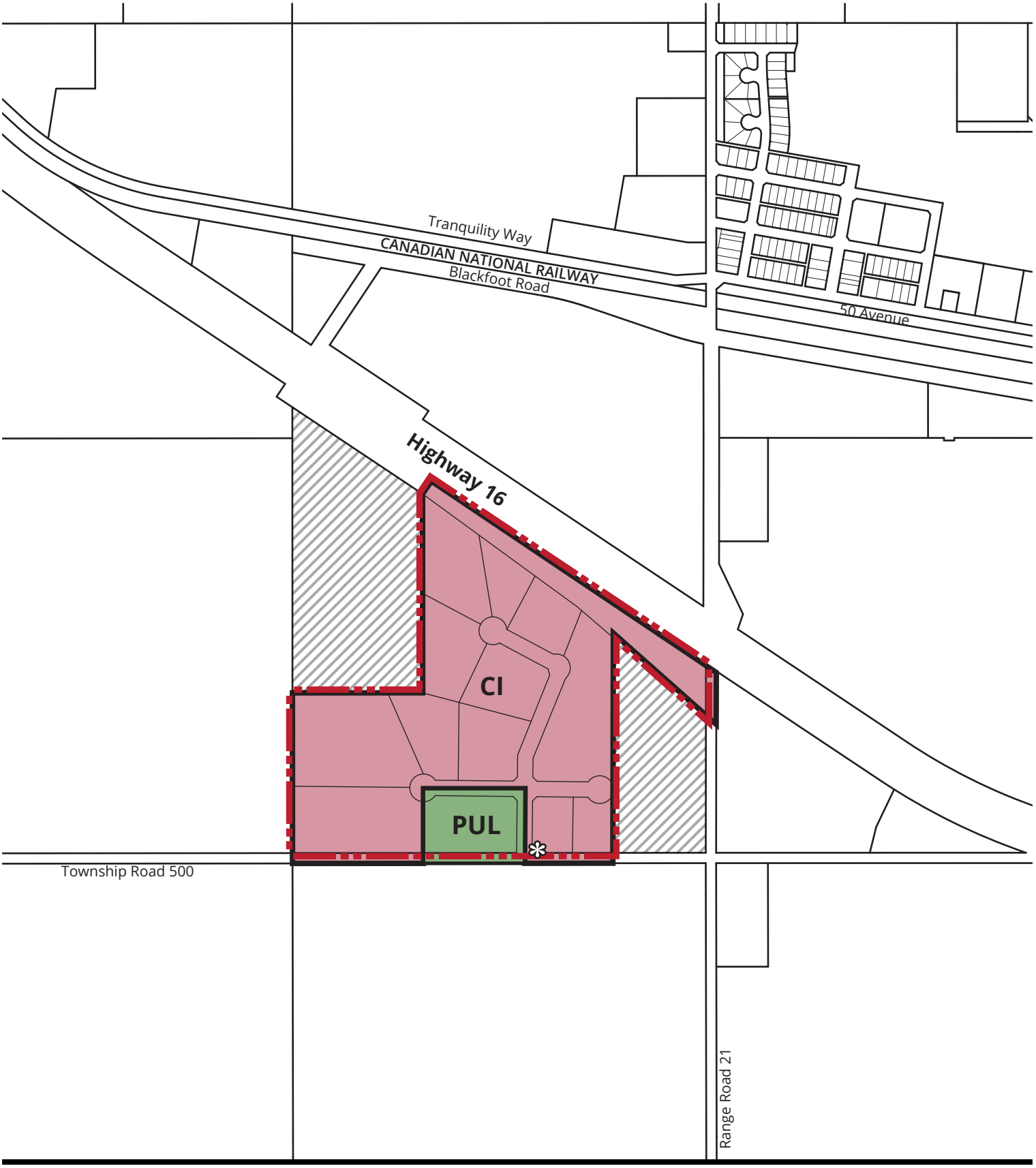
The County of Vermilion River employment generation rates were not available as of the writing of this ASP. However, the County agreed that the City of Lloydminster's employment generation numbers could be used instead.

The City of Lloydminster Municipal Development Standards provides that commercial/industrial/institutional type uses will generate employees at a rate of up to 48 persons/ha.[32] This rate may be high as it accommodates institutional uses, which will not be developed within the ASP boundary. Therefore, the population projections in this section are considered very optimistic.

Using the total ASP area of approximately 32 ha, the high-end employment projection is 1,536 people. This number is likely high because it doesn't use net developable area. That being said, a 15% reduction in total area ,to account for these other uses, results in an employment projection that is still over 1,300 people. Overall, a range of employment between 1,300 and 1,536 may be possible at full build out of the ASP lands.

This projection supports the Regional Growth Management Plan direction regarding employment growth nodes around the Hamlet of Blackfoot, as discussed in Section 3.2 above.

[32] City of Lloydminster Municipal Development Standards, March 2014, page 4-1.



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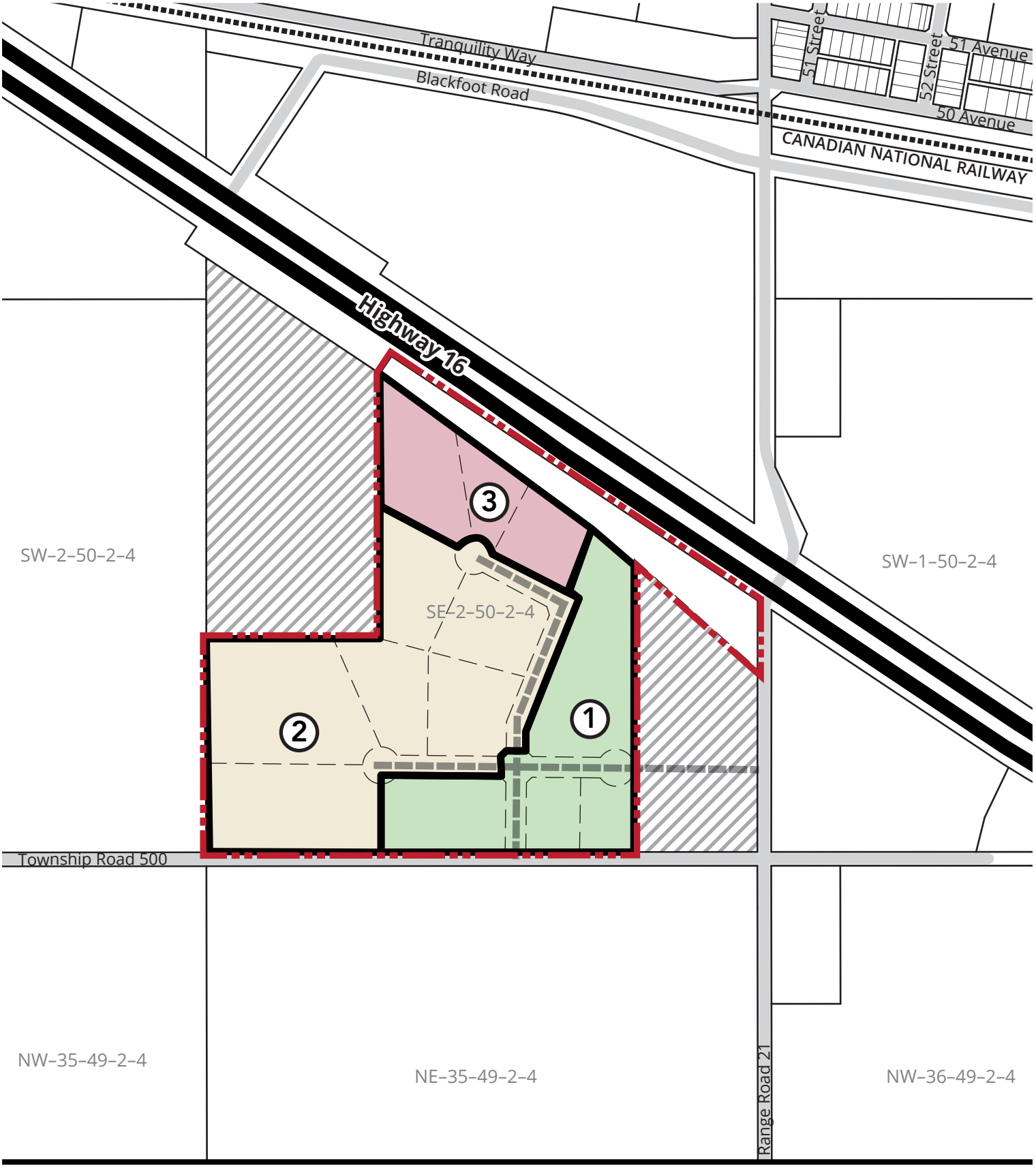
Proposed Land Use Designation

LEGEND

- ASP Boundary
- CI — Commercial/Light Industrial
- PUL — Public Utility
- Additional Study Area
- Potential Future Business Park Sign Location

Figure 8

Reklaw ASP



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Development Staging

LEGEND

- ASP Boundary
- Additional Study Area
- 2 Stage Boundary

Figure 9

Reklaw ASP

8.0 General Land Use Matters

8.1 Signage & Lighting

Signage

As the ASP lands develop, centralized signage at the entrance may be desirable and should be supported. The most likely location for the sign would be at the main public access off Township Road 500, on the east side of the entrance road, as shown in Figure 8. The sign would be located on private land, outside the road right-of-way.

All signage will need to conform to the requirements of the County's Land Use Bylaw, and all necessary permits, including any required by Alberta Transportation, would be obtained in advance.

Lighting

Light trespass into the night sky, onto Highway 16 and adjacent properties should be avoided. Excessively bright overhead lighting/yard lights should be avoided. Full cut-off lighting fixtures should be employed to avoid glare, which is a safety concern for drivers and an impediment to effective surveillance.

No internal roadway lighting is proposed. However, there will likely be an overhead light(s) installed at the main public access from Township 500. This light will be located outside of the road right-of-way and conform to all County standards and requirements.

8.2 Aesthetics, Screening & Landscaping

The minimum design, screening and landscaping standards of the County will be required to be applied to all subdivision and development within the ASP boundary.

The landowner has no specific landscaping design concepts/plans for the ASP area as of the writing of this ASP. Moreover, as there is low risk of land use conflict between development within the ASP boundary and the Additional Study Area lands, as discussed in Section 4.2, the need for landscaped buffers is not currently anticipated.

Should the County deem it necessary, screening around developments with lower visual appeal, such as outdoor storage yards, would be required in accordance with County bylaws and standards.

8.3 Agricultural Operations

Agricultural operations within the ASP area, if applicable, shall be allowed to continue in perpetuity at the will of the landowner. The owner currently grazes cattle on the land.

8.4 Sour Gas Facilities

There are no existing sour gas facilities in the ASP boundary. Sour gas facilities are not supported within the ASP boundary.

8.5 Reserve Land

Deferred reserve caveat (DRC) #982 109 846 is registered on Lot 1, Block 4, Plan 132 0133, located north of Highway 16, which historically was part of the SE 2-50-24-4. When the original SE2-50-24-4 was subdivided, the DRC was registered on the 'parent' parcel north of Highway 16, leaving that portion of SE2 laying south of Highway 16, the ASP lands, free and clear of reserve obligations. Therefore, no municipal or school reserve is owing on the lands the ASP lands. A copy of the DRC can be found in **Appendix H**. Also, there is no environmental reserve identified within the ASP boundary.

9.0 Policy Framework & Implementation

9.1 Interpretation

The policies in Section 10 are written using "shall", "should" or "may" statements. The interpretations of "shall", "should" and "may" that follow may provide the reader with a greater understanding of the intent of each policy statement:

> **'shall'** – is an operative word that means that action or actions outlined are obligatory and therefore must be complied with, without discretion, except in cases where a variance has been granted pursuant to the County's Land Use Bylaw and the provisions of this ASP.[33]
>
> **'should'** – is a directive term, which means that in order to achieve the established goals and objectives, it is strongly advised that the action be taken. Exception shall be made only under extenuating circumstances. When the regulations are directed to the developer, the onus to justify is on the developer/applicant; and,[34]
>
> **'may'** – is a discretionary term, meaning a choice is available with no particular direction or guidance intended, and is usually dependant on the particular circumstances of the specific parcel and application that are under consideration at any given moment.[35]

9.2 Amendment

Applications for amendment will require supporting documentation as required by the County of Vermilion River, and must be based on sound planning reasons and generally accepted planning practices.

Amendment 'triggers' include:

1. Changes that would result in an intensification of use. (Reduction in intensification of use would not trigger an amendment.)
2. Major realignment of internal roadways. (Minor deviations to secondary roadways would not trigger an amendment.)
3. Changes to the proposed subdivision layout resulting in more lots. (Consolidation of proposed lots would not trigger an amendment.)

All amendment applications would be required to comply with the County's requirements as well as those of the MGA.

[33] Wording provided by the County of Vermilion River
[34] Wording provided by the County of Vermilion River
[35] Wording provided by the County of Vermilion River

9.3 Review & Monitoring

It is recommended this document be reviewed at regular intervals until full build out is achieved. It is also recommended that a thorough review and update, as needed and in consultation with Alberta Transportation, be conducted upon completion of the Highway 16 Lloydminster bypass, if full build out has not been achieved by that time.

10.0 Policies

The following policies are intended for use by the County of Vermilion River, including the Development Authority, Subdivision Authority and Council, as the case may be, for guidance and direction when making decisions on land use, subdivision and development on lands within the ASP boundary.

Commercial/Light Industrial Land Use

Policy 1 The Developer shall ensure that all proposed uses within the 'B' designation as shown on Figure 8 Proposed Land Uses are consistent with the County of Vermilion River Land Use Bylaw 13-14, as amended, or its successor.

Servicing & Engineering

Policy 2 The Developer shall ensure that all site preparation, public roads, and any other public facilities/improvements are professionally engineered and constructed to the satisfaction of the County of Vermilion River in accordance with the County's standards.

Policy 3 The Developer shall ensure that subdivision and development permit applications comply with the approved grading, drainage and stormwater management plans for the ASP lands.

Policy 4 The Developer shall be responsible for making all necessary arrangements regarding the provision of potable water and the disposal/management of private sewage on a site subject to a development application, and for providing to the County all required documentation, permissions, approvals and/or other forms of authorization from all relevant agencies having jurisdiction in relation thereto.

Transportation

Policy 5 The Developer shall undertake, at the sole cost of the Developer, any engineering, requirements or improvements identified in or resulting from a traffic impact assessment (TIA) approved by the County of Vermilion River and/or Alberta Transportation, or any other engineering, requirement or improvement specified by Alberta Transportation in relation to Highway 16 as a result of or that is attributable to the development of this ASP area, and must be undertaken to the satisfaction of Alberta Transportation, in consultation with the County of Vermilion River.

Signage, Lighting & Landscaping

Policy 6 The Developer shall ensure all signage, lighting and landscaping comply with the County of Vermilion Rivers bylaws and standards.

Oil & Gas

Policy 7 The Developer shall adhere to minimum setback requirements to oil & gas wells, pipelines and facilities as set by the Alberta Energy Regulator, the Subdivision and Development Regulation, and the well, pipeline or facility licensee, as the case may be.

Compliance with ASP

Policy 8 The Developer shall enter into an agreement with the County of Vermilion River as a condition of an approved subdivision or development permit application pursuant to the *Municipal Government Act*, if required, to the satisfaction of the County.

Amending the ASP

Policy 9 The Developer shall be responsible for amending this ASP should proposed subdivision and/or development 'trigger' an amendment as outlined in Section 9.2 herein.

Notes:

The following Appendices may contain information prepared by others. Red Willow Planning accepts no responsibility for the accuracy or completeness of third party documents contained herein or under separate cover.

Copies of technical / engineering documents contained in the Appendices under separate cover may be obtained from the County directly.

Appendix A – Business (B) District

8.8 Business (B) District

The Purpose of this District is to allow development of extensive land using industrial, warehousing, service, and commercial uses in various locations which have very good accessibility where the demand for large lots for such use is increasing.

(1) DISTRICT BOUNDARIES

This District comprises all the land in the County of Vermilion River as designated on the Land Use District Map. As well as County approval, any development within this District may require an approval by a Provincial agency. If such Provincial approval is required, issuance of the Provincial approval will be a condition of the approval of any development permit in this District.

(2) PERMITTED USES

(a) Agri-tourism
(b) Commercial uses
(c) Extensive agriculture
(d) Highway maintenance yards, signs, weigh scales, and campsites
Amended By Bylaw 15-21
(e) Institutional uses
(f) Participant recreation facilities
(g) Public or quasi-public buildings and uses
(h) Public utilities and public utility buildings
(i) Recreational uses
(j) Veterinary services
(k) Buildings and uses accessory to permitted uses

(3) DISCRETIONARY USES

(a) Auctioneering establishments
(b) Automotive and minor recreational vehicle sales/rentals and service
(c) Bulk fuel storage & sales
(d) Dwellings existing as of the date of the approval of this Bylaw
(e) Health Services
(f) Home occupations, major
(g) Home occupations, minor
(h) Intensive agriculture
Amended by Bylaw 15-21
(i) Licensed industrial hemp production facility
(j) Light Industry
(k) Licensed medical marijuana production facility
(l) Outdoor storage
(m) Private liquor sales and storage facilities

(n) Signs that advertise businesses not located on the lot on which the sign is located
(o) Service stations
(p) Other uses which, in the opinion of the Development Authority, are similar to the above mentioned permitted and discretionary uses or required to serve the traveling public
(q) Buildings and uses accessory to discretionary uses

(4) REGULATIONS

(a) Minimum Lot Area - Permitted Uses

Farming - one quarter section except where the lot is subject to:

(i) an approved discretionary use,
(ii) a man-made barrier, registered in Land Titles, fragmenting the quarter section, or
(iii) a natural barrier that physically fragments the quarter section - usually this barrier cannot be crossed with farm machinery.

(b) Minimum Lot Area - Discretionary Uses - as required by the Development Authority

(c) Minimum Front Yard

The minimum front yard shall be 71 m (234 ft.) from the centre line of any adjacent arterial road or 40 m (134 ft.) from the arterial road right-of-way, whichever is the greater.

(d) Minimum Side and Rear Yards - as required by the Development Authority

(e) The location of any shelterbelts shall be determined by the Development Authority

(f) In the consideration of any development proposal, adequate access to Highway #16 or Highway #17 will be an issue. Any development approval may be conditional upon the developer providing or agreeing to being responsible for the provision of whatever access or access improvements Alberta Transportation or the County may require to any road.

(g) Development proposals may be circulated to the City of Lloydminster or Town of Vermilion for comment prior to any consideration for approval. The comments of the City or Town will be carefully considered by the Development Authority; however, the Development Authority will not be bound by the City's or Town's

comments or recommendations.

(5) EXCEPTIONS

(a) Notwithstanding any other provision of this Bylaw to the contrary, a grain elevator and grain handling facility may be constructed in that portion of NW 27-50-6-W4 lying to the south of the Canadian National Railways right-of-way to a maximum height of 72 m (236.2 ft.), together with uses accessory to a grain elevator and a grain handling facility. As a condition of the approval of a development permit for such a facility, the Development Authority may impose such conditions as deemed, in his discretion, necessary to allow the Vermilion Airport to continue to function.

(b) Notwithstanding any other provision of this Bylaw to the contrary, dwellings existing as of the date of the approval of this Bylaw may be entirely restored and/or replaced, whether or not they have been damaged by fire or other incident, and whether or not the landowner/developer merely wishes to replace the building.

Appendix B – Road Access Easement Agreement

ROAD ACCESS EASEMENT AGREEMENT

THIS AGREEMENT dated as of the 21st day of January, 2016.

BETWEEN

REKLAW DEVELOPMENTS LTD.,
of P.O. Box 12248, Lloydminster, Alberta, T9V 3C5

("**Reklaw**")

OF THE FIRST PART

1688647 ALBERTA LTD.,
of P.O. Box 10146, Lloydminster, Alberta, T9V 3A3

("**1688647**")

OF THE SECOND PART

RECITALS:

A. 1688647 is the registered and beneficial owner of the Servient Lands;

B. Reklaw is the registered and beneficial owner of the Dominant Lands;

C. The Dominant Lands and the Servient Lands are adjoining Lands;

D. There is an Existing Roadway within the Roadway Easement Area that has been constructed by or at the request of Reklaw;

E. Reklaw wishes to secure from 1688647 access to the Dominant Lands from the Existing Roadway; and

F. 1688647 has agreed on and subject to the terms and conditions set forth herein, to grant to Reklaw an easement, in, through and across those portions of the Servient Lands lying within the Roadway Easement Area.

NOW, THEREFORE, this Agreement witnesses that, in consideration of the covenants, agreements and obligations hereinafter set forth and in consideration of the payment by Reklaw to 1688647 of the sum of TEN ($10.00) DOLLARS and other good and valuable consideration, the receipt and sufficiency of which are hereby conclusively acknowledged, the parties hereto do hereby grant, covenant and agree as follows:

ARTICLE 1 – DEFINITIONS

1.1 In this Agreement:

(a) **"Agreement"** means this roadway access easement agreement, including the recitals hereto and all schedules attached hereto, as the same may be amended, restated, supplemented or replaced from time to time;

(b) **"Dominant Lands"** means the following described lands located in the County of Vermilion River No. 24, in the Province of Alberta, namely: Plan 9821806, Block 2 and shall include each and every part into which the said lands may be subdivided;

(c) **"Existing Roadway"** means the existing road that has, as at the date of this Agreement, been constructed and is existing within the Roadway Easement Area, as the said road may be amended or upgraded from time to time;

(d) **"1688647"** means the registered and beneficial owner(s) of the Servient Lands from time to time, either individually, jointly, or collectively, as the context may require;

(e) **"Reklaw"** means, the registered and beneficial owner(s) of the Dominant Lands from time to time, either individually, jointly, or collectively, as the context may require;

(f) **"Roadway Easement Area"** means the most northerly 15 metres in perpendicular width throughout Plan 1422730, Block 3, Lot 2; and

(g) **"Servient Lands"** means the following described lands located in the County of Vermilion River No. 24, in the Province of Alberta, namely: Plan 1422730, Block 3, Lot 2 and shall include each and every part into which the said lands may be subdivided.

ARTICLE 2 – GRANT OF EASEMENT

2.1 On and subject to terms and conditions hereof, 1688647 hereby grants to Reklaw appurtenant to and for the benefit of the Dominant Lands and to bind the Servient Lands, a non-exclusive easement for Reklaw, its tenants, agents, servants, invitees, successors and assigns, in common with all others entitled thereto, to enter upon, drive across and to use those portions of the Servient Lands lying within the Roadway Easement Area for the purposes of gaining free and unobstructed vehicular and pedestrian access, ingress and egress between the Dominant Lands and any municipal roadway running along the boundary of the Dominant Lands and the Servient Lands, with or without motor vehicles, to have and to hold such easement unto Reklaw, its successors and assigns as appurtenant to the Dominant Lands, forever.

2.2 1688647 covenants and agrees with Reklaw as follows:

(a) there shall be included in the said grant all things necessary and incidental to the full enjoyment of the easement hereinbefore specifically granted;

(b) not to construct nor permit to be constructed any buildings, structures or other improvements on or over the Roadway Easement Area;

(c) there shall be no rent due or payable by Reklaw to 1688647 for the use of the Existing Roadway or the Roadway Easement Area by the Reklaw and its respective agents, servants, tenants, invitees and licensees;

(d) not to do or permit to be done any act or thing which in the reasonable opinion of Reklaw may interfere with, injure or impair the operating efficiency of, or obstruct access to or the use of the Roadway Easement Area; and

(e) to permit Reklaw to peaceably hold and enjoy the rights hereby granted.

2.3 Reklaw covenants and agrees with 1688647 as follows:

(a) not to park or allow the parking of motor vehicles or leave any chattel on any portion of the Roadway Easement Area;

(b) it shall use the Existing Roadway and the Roadway Easement Area entirely at its own risk and 1688647 shall not be liable (except for loss or damage resulting from the negligent and willful acts of 1688647 or any other person for whom 1688647 is responsible at law) for any loss, costs, damage, or injury suffered by Reklaw, its servants, agents, contractors, or invitees in connection with the use of the Existing Roadway or the Roadway Easement Area;

(c) it shall indemnify and hold 1688647 harmless (except for loss or damage resulting from the negligent and willful acts of 1688647 or any other person for whom 1688647 is responsible at law) from and against any damages, liability actions, claims, and expenses in connection with the loss of life, personal injury, and/or damage to the Existing Roadway arising from or out of any occurrence in or upon the Existing Roadway occasioned wholly or in part by any negligent or willful act or omission of Reklaw, or any other person for whom Reklaw is responsible at law;

(d) it shall be responsible for any damage to the Existing Roadway that Reklaw or any other person for whom Reklaw is responsible at law shall cause. If Reklaw shall fail to repair any such damage promptly, 1688647 may make or cause to be made such necessary repairs and the entire costs thereof shall be charged to and be paid by Reklaw.

2.4 The easement and restrictive covenant granted herein shall run with and bind Servient Lands, as the servient tenement, and shall benefit and be annexed to and run with each and every part of the Dominant Lands, as the dominant tenement.

ARTICLE 3 – MISCELLANEOUS

3.1 The parties hereto hereby covenant and agree that:

(a) the covenants, rights, liberties and easements granted herein by 1688647 to Reklaw shall be construed as being extended to and may be exercised by Reklaw and its successors and assigns, the occupiers for the time being of the Dominant Lands and every part into which the Dominant Lands may be subdivided and their licensees, invitees, agents, suppliers, contractors, servants and workmen and all other persons with their express or implied permission;

(b) the right, liberties and easements herein granted by 1688647 to Reklaw and the obligations of 1688647 hereunder shall be construed as running with the Servient Lands and shall attach to and run with each and every part into which the Servient Lands or any part thereof may be hereafter subdivided but no part of the fee simple title to the Servient Lands shall pass to or be vested in Reklaw under or by virtue of this Agreement; and

(c) this Agreement constitutes a private access easement agreement and nothing herein shall be construed to be or give rise to any dedication or any part of the Servient Lands as a public road.

3.2 Reklaw shall be liable and responsible for the obligations, covenants, agreements and responsibilities created by this Agreement and for any judgment rendered hereon only to the extent of its respective interest in the Dominant Lands thereto.

3.3 The covenants and agreements herein shall be severable and if any of the covenants or agreements herein contained or the application to any person or circumstance is to any extent held to be or rendered invalid, unenforceable or illegal, by a court of competent jurisdiction, the remaining covenants or agreements or the application thereof shall not be affected thereby and shall continue to be applicable and enforceable to the fullest extent permitted by law.

3.4 This Agreement shall enure to the benefit of and be binding upon the parties hereto and their respective successors, assigns and successors in title.

3.5 Wherever the singular or the masculine is used in this Agreement, they shall be construed as being the plural or feminine or body corporate and vice versa, where the context so requires.

(a) Any notices or other communications required or permitted to be given hereunder shall be in writing and shall be delivered to the parties as follows:
If to 1688647 Alberta Ltd.:

P.O. Box 10146, Lloydminster, Alberta, T9V 3A3

If to Reklaw Developments Ltd.:

P.O. Box 12248, Lloydminster, Alberta, T9V 3C5

Any such notice or other communication shall be deemed to be received on the date of actual delivery if delivered on a Business Day. For the purposes of this paragraph, **"Business Day"** means any day that is not a Saturday, a Sunday or a statutory holiday in the Province of Alberta. Any party may change its address for service herein by notice to the other parties hereto, delivered in the manner required in this paragraph.

3.6 This Agreement shall be governed by and construed in accordance with the laws of the Province of Alberta and the federal laws of Canada applicable therein.

3.7 Time shall be of the essence of this Agreement.

3.8 Each of the parties hereto covenants and agrees to execute and deliver such additional agreements and other documents as to take all such additional steps as may be reasonably required to implement this Agreement.

3.9 1688647 and Reklaw consent to the registration of this Agreement with the Alberta Land Titles office (North Division) against the title to the Dominant Lands and the Servient Lands.

3.10 No breach of the provisions of this Agreement shall entitle 1688647 to cancel, rescind or otherwise terminate this Agreement, but such limitation shall not affect, in any manner, any other rights or remedies which any party may have hereunder by reason of any breach of the provisions of this Agreement.

3.11 This Agreement and all other documents and agreements contemplated hereby may be executed and delivered in counterpart, including execution and delivery by facsimile or by email in PDF format, each of which when so executed and delivered shall be deemed to be an original, and such counterparts shall constitute one and the same agreement and shall be deemed to be and constitute a properly executed and delivered document and further, notwithstanding the date of execution of such counterparts shall be deemed to bear the date as of the date of the document so executed.

IN WITNESS WHEREOF, the parties hereto have executed this agreement.

1688647 ALBERTA LTD.

Per: _____
Shane Tingley

REKLAW DEVELOPMENTS LTD.

Per: _____
Jamie Walker

Appendix C – Wetland Permanence Assessment Report

(under separate cover – available from the County upon request)

Appendix D – Bandit Pipeline Emergency Management Plan

Emergency Response List of Names for Muster Area

Main Office

• Redacted (Names)	Redacted (Phone Numbers)

Emergency Response Plan For Blackfoot Office And Shop

All fires MUST be reported to the Blackfoot fire department.

WHEN THE EMERGENCY ALARM SOUNDS, THE FOLLOWING ACTIONS SHOULD BE TAKEN:

- ➲ BEGIN EVACUATING THE BUILDING
- ➲ ENSURE WHEN YOU LEAVE AN AREA, NO ONE IS LEFT BEHIND!
- ➲ LEAVE THE BUILDING THROUGH THE CLOSEST, SAFEST EXIT
- ➲ ONCE OUTSIDE, MOVE TO THE MUSTER AREA IN THE NORTHWEST CORNER OF THE YARD(MUSTER SIGN ON POST)
- ➲ IF THIS MUSTER POINT IS A DANGER OR INACCESSIBLE, PROCEED TO MUSTER AREA AT SOUTH SIDE OF YARD(ALSO HAS A MUSTER SIGN)
- ➲ NO SMOKING DURING EVACUATION

- ADMINISTER 1ST AID TO ANY INJURED PERSONS- FIRST AID KITS ARE LOCATED IN COPIER ROOM ON MAIN FLOOR AND COFFEE ROOM ON SECOND FLOOR.
- CALL 911 AND INFORM OF THE FOLLOWING:
  - TYPE OF EMERGENCY (FIRE, GAS LEAK, ETC.)
  - LAND LOCATION: SE 2-50-2 W4M
  - RURAL ADDRESS: 500018 RR21 HWY 16 WEST
  - DIRECTIONS: 6 ½ MILES WEST OF LLOYD ON HWY. 16, TURN SOUTH ON RGE. RD. 21, TURN WEST ON SERVICE ROAD INTO YARD

- GIVE 911 OPERATOR ANY AND ALL OTHER INFORMATION REQUESTED.
- WAIT FOR EMERGENCY PERSONNEL TO ARRIVE AND ASSIST WITH ANYTHING THEY ASK.

LIST OF FIRST

AIDERS

Redacted (Names)

EMERGENCY CONTACT NUMBERS

FIRE, AMBULANCE, POLICE

911

HOSPITAL	(780)875-5733
POISON CONTROL	(403)944-1414

Appendix E – Water Well Reports

Water Well Drilling Report

View in Metric | Export to Excel

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

GIC Well ID 139710
GoA Well Tag No.
Drilling Company Well ID
Date Report Received 1981/09/30

Well Identification and Location

Measurement in Imperial

Owner Name	Address	Town	Province	Country	Postal Code
HI GAIN CUSTOM FEEDLOT	LLOYDMINSTER				

Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description
	04	02	050	02	4				

Measured from Boundary of
ft from
ft from

GPS Coordinates in Decimal Degrees (NAD 83)
Latitude 53.279953 Longitude -110.197473
How Location Obtained
Map

Elevation 2185.00 ft
How Elevation Obtained
Estimated

Drilling Information

Method of Drilling
Rotary

Proposed Well Use
Domestic & Stock

Type of Work
New Well

Formation Log

Measurement in Imperial

Depth from ground level (ft)	Water Bearing	Lithology Description
16.00		Brown Till
64.00		Gray Till
77.00		Brown Sand
147.00		Gray Shale
166.00		Gray Fine Grained Sandstone
202.00		Gray Coarse Grained Sandstone
223.00		Gray Fine Grained Sandstone
240.00		Gray Shale

Yield Test Summary

Measurement in Imperial

Recommended Pump Rate 0.00 igpm

Test Date	Water Removal Rate (igpm)	Static Water Level (ft)
1981/08/05	15.00	111.00

Well Completion

Measurement in Imperial

Total Depth Drilled	Finished Well Depth	Start Date	End Date
240.00 ft		1981/08/02	1981/08/05

Borehole

Diameter (in)	From (ft)	To (ft)
0.00	0.00	240.00

Surface Casing (if applicable)
Steel
Size OD : 4.50 in
Wall Thickness : 0.156 in
Bottom at : 185.00 ft

Well Casing/Liner
Size OD : 0.00 in
Wall Thickness : 0.000 in
Top at : 0.00 ft
Bottom at : 0.00 ft

Perforations

From (ft)	To (ft)	Diameter or Slot Width(in)	Slot Length (in)	Hole or Slot Interval(in)

Perforated by

Annular Seal Formation Packer
Placed from 0.00 ft to 183.00 ft
Amount

Other Seals

Type	At (ft)

Screen Type
Size OD : 0.00 in

From (ft)	To (ft)	Slot Size (in)

Attachment
Top Fittings
Bottom Fittings

Pack
Type
Grain Size
Amount

Contractor Certification

Name of Journeyman responsible for drilling/construction of well
UNKNOWN NA DRILLER

Certification No
1

Company Name
MCALLISTER HOLDINGS LTD.

Copy of Well report provided to owner
Date approval holder signed

Water Well Drilling Report

View in Metric | Export to Excel

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GIC Well ID 139710
GoA Well Tag No.
Drilling Company Well ID
Date Report Received 1981/09/30

GOWN ID

Well Identification and Location

Measurement in Imperial

Owner Name	Address	Town	Province	Country	Postal Code
HI GAIN CUSTOM FEEDLOT	LLOYDMINSTER				

Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description
	04	02	050	02	4				

Measured from Boundary of
ft from
ft from

GPS Coordinates in Decimal Degrees (NAD 83)
Latitude 53.279953 Longitude -110.197473
How Location Obtained: Map

Elevation 2185.00 ft
How Elevation Obtained: Estimated

Additional Information

Measurement in Imperial

Distance From Top of Casing to Ground Level in
Is Artesian Flow
Rate igpm
Is Flow Control Installed
Describe

Recommended Pump Rate 0.00 igpm
Recommended Pump Intake Depth (From TOC) 167.00 ft
Pump Installed Yes Depth ft
Type SUB Make BERKLEY H.P. .75
Model (Output Rating)

Did you Encounter Saline Water (>4000 ppm TDS) Depth ft
Gas Depth ft
Well Disinfected Upon Completion
Geophysical Log Taken Electric
Submitted to ESRD Electric

Sample Collected for Potability
Submitted to ESRD

Additional Comments on Well
DRILLER REPORTS MEDIUM HARD WATER

Yield Test

Taken From Ground Level
Measurement in Imperial

Test Date	Start Time	Static Water Level
1981/08/05	12:00 AM	111.00 ft

Depth to water level

Drawdown (ft)	Elapsed Time Minutes:Sec	Recovery (ft)

Method of Water Removal
Type Unknown
Removal Rate 15.00 igpm
Depth Withdrawn From 175.00 ft

If water removal period was < 2 hours, explain why

Water Diverted for Drilling

Water Source	Amount Taken	Diversion Date & Time
	ig	

Contractor Certification

Name of Journeyman responsible for drilling/construction of well
UNKNOWN NA DRILLER

Certification No
1

Company Name
MCALLISTER HOLDINGS LTD.

Copy of Well report provided to owner
Date approval holder signed

Water Well Drilling Report

View in Metric | Export to Excel

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GIC Well ID 223484
GoA Well Tag No.
Drilling Company Well ID
Date Report Received
GOWN ID

Well Identification and Location

Measurement in Imperial

Owner Name	Address	Town	Province	Country	Postal Code
BLACKFOOT, HAMLET OF	KITSCOTY				

Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description
	04	01	050	02	4				

Measured from Boundary of
ft from
ft from

GPS Coordinates in Decimal Degrees (NAD 83)
Latitude 53.279933 Longitude -110.173093
How Location Obtained
Not Verified

Elevation ft
How Elevation Obtained
Not Obtained

Drilling Information

Method of Drilling
Rotary

Proposed Well Use
Municipal

Type of Work
New Well

Formation Log

Measurement in Imperial

Depth from ground level (ft)	Water Bearing	Lithology Description
1.00		Topsoil
25.00		Brown Till
180.00		Gray Till & Rocks
187.00		Blue Sand
210.00		Gray Sandstone
211.00		Gray Rocks
260.00		Gray Shaly Sand & Sandstone

Yield Test Summary

Measurement in Imperial

Recommended Pump Rate 0.00 igpm

Test Date	Water Removal Rate (igpm)	Static Water Level (ft)
1970/10/26	21.17	145.70

Well Completion

Measurement in Imperial

Total Depth Drilled	Finished Well Depth	Start Date	End Date
260.00 ft			1970/10/26

Borehole

Diameter (in)	From (ft)	To (ft)
0.00	0.00	260.00

Surface Casing (if applicable)
Steel
Size OD : 5.25 in
Wall Thickness : 0.156 in
Bottom at : 218.00 ft

Well Casing/Liner
Size OD : 0.00 in
Wall Thickness : 0.000 in
Top at : 0.00 ft
Bottom at : 0.00 ft

Perforations

From (ft)	To (ft)	Diameter or Slot Width(in)	Slot Length (in)	Hole or Slot Interval(in)

Perforated by

Annular Seal Cement/Grout
Placed from 0.00 ft to 0.00 ft
Amount

Other Seals

Type	At (ft)

Screen Type Stainless Steel
Size OD : 4.00 in

From (ft)	To (ft)	Slot Size (in)
218.00	228.00	0.010

Attachment Coupled
Top Fittings Coupler
Bottom Fittings Plug

Pack
Type
Grain Size
Amount 0.00

Contractor Certification

Name of Journeyman responsible for drilling/construction of well
UNKNOWN NA DRILLER

Certification No
1

Company Name
MCALLISTER DRILLING LTD.

Copy of Well report provided to owner
Date approval holder signed

Water Well Drilling Report

View in Metric | Export to Excel

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GIC Well ID 223484
GoA Well Tag No.
Drilling Company Well ID
Date Report Received

GOWN ID

Well Identification and Location

Measurement in Imperial

Owner Name	Address	Town	Province	Country	Postal Code
BLACKFOOT, HAMLET OF	KITSCOTY				

Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description
	04	01	050	02	4				

Measured from Boundary of
ft from
ft from

GPS Coordinates in Decimal Degrees (NAD 83)
Latitude 53.279933 Longitude -110.173093
How Location Obtained: Not Verified

Elevation ft
How Elevation Obtained: Not Obtained

Additional Information

Measurement in Imperial

Distance From Top of Casing to Ground Level in
Is Artesian Flow
Rate igpm
Is Flow Control Installed
Describe

Recommended Pump Rate 0.00 igpm
Recommended Pump Intake Depth (From TOC) 213.00 ft
Pump Installed Yes Depth ft
Type SUB 220V 1PH Make JACUZZI 254C-52 H.P. 2
Model (Output Rating)

Did you Encounter Saline Water (>4000 ppm TDS) Depth ft
Gas Depth ft
Well Disinfected Upon Completion
Geophysical Log Taken Electric
Submitted to ESRD

Sample Collected for Potability
Submitted to ESRD

Additional Comments on Well

Yield Test

Taken From Ground Level
Measurement in Imperial

Test Date	Start Time	Static Water Level
1970/10/26	12:00 AM	145.70 ft

Method of Water Removal

Type Unknown
Removal Rate 21.17 igpm
Depth Withdrawn From 0.00 ft

If water removal period was < 2 hours, explain why

Depth to water level

Drawdown (ft)	Elapsed Time Minutes:Sec	Recovery (ft)
	1:00	168.80
	2:00	161.88
	3:00	157.52
	4:00	155.54
	5:00	153.63
	8:00	152.24
	10:00	151.82
	15:00	151.26
	20:00	150.81
	25:00	150.55
	35:00	149.97
	45:00	149.54
	60:00	149.06
	100:00	148.35
	420:00	145.67

Water Diverted for Drilling

Water Source	Amount Taken	Diversion Date & Time
	ig	

Contractor Certification

Name of Journeyman responsible for drilling/construction of well
UNKNOWN NA DRILLER

Certification No
1

Company Name
MCALLISTER DRILLING LTD.

Copy of Well report provided to owner

Date approval holder signed

Water Well Drilling Report

View in Metric | Export to Excel

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

GIC Well ID 290830
GoA Well Tag No.
Drilling Company Well ID
Date Report Received 1999/02/19

Well Identification and Location

Measurement in Imperial

Owner Name	Address	Town	Province	Country	Postal Code
LANE, KEVIN	P.O. BOX 253 BLACKFOOT				T0B 0L0

Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description
	NW	02	050	02	4				

Measured from Boundary of
ft from
ft from

GPS Coordinates in Decimal Degrees (NAD 83)
Latitude 53.288993 Longitude -110.194460
How Location Obtained
Not Verified

Elevation ft
How Elevation Obtained
Not Obtained

Drilling Information

Method of Drilling
Rotary

Proposed Well Use
Domestic

Type of Work
New Well

Formation Log

Measurement in Imperial

Depth from ground level (ft)	Water Bearing	Lithology Description
1.00		Topsoil
10.00		Brown Sand
46.00		Gray Till
70.00		Brown Sand
180.00		Shale
210.00		Sandy Shale
256.00		Sandstone

Yield Test Summary

Measurement in Imperial

Recommended Pump Rate 12.00 igpm

Test Date	Water Removal Rate (igpm)	Static Water Level (ft)
1998/11/16	12.00	150.00

Well Completion

Measurement in Imperial

Total Depth Drilled	Finished Well Depth	Start Date	End Date
256.00 ft		1998/11/12	1998/11/16

Borehole

Diameter (in)	From (ft)	To (ft)
0.00	0.00	256.00

Surface Casing (if applicable)
Plastic
Size OD : 5.00 in
Wall Thickness : 0.237 in
Bottom at : 238.00 ft

Well Casing/Liner
Size OD : 0.00 in
Wall Thickness : 0.000 in
Top at : 0.00 ft
Bottom at : 0.00 ft

Perforations

From (ft)	To (ft)	Diameter or Slot Width(in)	Slot Length (in)	Hole or Slot Interval(in)

Perforated by

Annular Seal Bentonite Chips/Tablets
Placed from 0.00 ft to 223.00 ft
Amount

Other Seals

Type	At (ft)

Screen Type Stainless Steel
Size OD : 3.00 in

From (ft)	To (ft)	Slot Size (in)
238.00	243.00	0.015

Attachment Attached To Casing
Top Fittings Coupler Bottom Fittings Plug

Pack
Type Artificial Grain Size
Amount 900.00 Pounds

Contractor Certification

Name of Journeyman responsible for drilling/construction of well
UNKNOWN NA DRILLER

Certification No
1

Company Name
MCALLISTER WATERWELLS LTD.

Copy of Well report provided to owner Date approval holder signed

Water Well Drilling Report

View in Metric | Export to Excel

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

GIC Well ID 290830
GoA Well Tag No.
Drilling Company Well ID
Date Report Received 1999/02/19

Well Identification and Location

Measurement in Imperial

Owner Name	Address	Town	Province	Country	Postal Code
LANE, KEVIN	P.O. BOX 253 BLACKFOOT				T0B 0L0

Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description
	NW	02	050	02	4				

Measured from Boundary of
ft from
ft from

GPS Coordinates in Decimal Degrees (NAD 83)
Latitude 53.288993 Longitude -110.194460
How Location Obtained: Not Verified

Elevation ft
How Elevation Obtained: Not Obtained

Additional Information

Measurement in Imperial

Distance From Top of Casing to Ground Level in
Is Artesian Flow
Rate igpm
Is Flow Control Installed
Describe

Recommended Pump Rate 12.00 igpm
Recommended Pump Intake Depth (From TOC) 220.00 ft
Pump Installed
Type
Depth ft
Make
H.P.
Model (Output Rating)

Did you Encounter Saline Water (>4000 ppm TDS)
Depth ft
Gas
Depth ft
Well Disinfected Upon Completion
Geophysical Log Taken Electric
Submitted to ESRD Electric

Sample Collected for Potability
Submitted to ESRD

Additional Comments on Well

DRILLER REPORTS DISTANCE FROM TOP OF CASING TO GROUND LEVEL: 2'.

Yield Test

Taken From Ground Level
Depth to water level

Measurement in Imperial

Test Date	Start Time	Static Water Level
1998/11/16	12:00 AM	150.00 ft

Method of Water Removal

Type Air
Removal Rate 12.00 igpm
Depth Withdrawn From 204.00 ft

If water removal period was < 2 hours, explain why

Drawdown (ft)	Elapsed Time Minutes:Sec	Recovery (ft)
	1:00	204.89
	2:00	186.98
	3:00	175.79
	4:00	169.00
	5:00	164.40
	6:00	161.48
	7:00	159.55
	8:00	158.30
	9:00	157.48
	10:00	156.86
	20:00	155.51
	30:00	155.31
	60:00	155.05

Water Diverted for Drilling

Water Source	Amount Taken	Diversion Date & Time
	ig	

Contractor Certification

Name of Journeyman responsible for drilling/construction of well
UNKNOWN NA DRILLER

Certification No
1

Company Name
MCALLISTER WATERWELLS LTD.

Copy of Well report provided to owner

Date approval holder signed

Water Well Drilling Report

View in Metric | Export to Excel

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

GIC Well ID 1421719
GoA Well Tag No.
Drilling Company Well ID
Date Report Received 2015/03/20

Well Identification and Location

Measurement in Imperial

Owner Name	Address	Town	Province	Country	Postal Code
REKLAW	P.O. BOX 12248	LOYDMINISTER	ALBERTA	CANADA	T9V 3C5

Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description
	SE	2	50	2	4				

Measured from Boundary of
ft from
ft from

GPS Coordinates in Decimal Degrees (NAD 83)
Latitude 53.281656 Longitude -110.182384
How Location Obtained
Not Verified

Elevation ft
How Elevation Obtained
Not Obtained

Drilling Information

Method of Drilling
Rotary - Mud

Proposed Well Use
Domestic

Type of Work
New Well

Formation Log

Measurement in Imperial

Depth from ground level (ft)	Water Bearing	Lithology Description
14.00		Brown Clay
79.00		Gray Clay
81.00		Sand
149.00		Gray Clay
192.00		Gray Shale
243.00		Sandstone
245.00		Gray Shale

Yield Test Summary

Measurement in Imperial

Recommended Pump Rate 10.00 igpm

Test Date	Water Removal Rate (igpm)	Static Water Level (ft)
2015/03/10	15.00	147.60

Well Completion

Measurement in Imperial

Total Depth Drilled	Finished Well Depth	Start Date	End Date
245.00 ft	236.00 ft	2015/03/09	2015/03/10

Borehole

Diameter (in)	From (ft)	To (ft)
7.88	0.00	238.00
5.00	238.00	245.00

Surface Casing (if applicable)
Size OD : in
Wall Thickness : in
Bottom at : ft

Well Casing/Liner
Plastic
Size OD : 5.00 in
Wall Thickness : 0.258 in
Top at : 0.00 ft
Bottom at : ft

Perforations

From (ft)	To (ft)	Diameter or Slot Width(in)	Slot Length (in)	Hole or Slot Interval(in)

Perforated by

Annular Seal Bentonite Chips/Tablets
Placed from 0.00 ft to 220.00 ft
Amount 14.00 Bags

Other Seals

Type	At (ft)
Shale Trap	220.00

Screen Type Stainless Steel
Size OD : 4.00 in

From (ft)	To (ft)	Slot Size (in)
226.00	236.00	0.010

Attachment Telescoped
Top Fittings Packer
Bottom Fittings Washdown

Pack
Type Artificial
Grain Size 10-20
Amount 8.00 Bags

Contractor Certification

Name of Journeyman responsible for drilling/construction of well
DARELL LEPPER

Certification No
5449Q

Company Name
LAKELAND DRILLING LTD.

Copy of Well report provided to owner
Yes

Date approval holder signed
2015/03/10

Water Well Drilling Report

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

View in Metric | Export to Excel

GIC Well ID 1421719
GoA Well Tag No.
Drilling Company Well ID
Date Report Received 2015/03/20

GOWN ID

Well Identification and Location

Measurement in Imperial

Owner Name	Address	Town	Province	Country	Postal Code
REKLAW	P.O. BOX 12248	LOYDMINISTER	ALBERTA	CANADA	T9V 3C5

Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description
	SE	2	50	2	4				

Measured from Boundary of
ft from
ft from

GPS Coordinates in Decimal Degrees (NAD 83)
Latitude 53.281656 Longitude -110.182384
How Location Obtained
Not Verified

Elevation ft
How Elevation Obtained
Not Obtained

Additional Information

Measurement in Imperial

Distance From Top of Casing to Ground Level 24.00 in
Is Artesian Flow
Rate igpm
Is Flow Control Installed
Describe

Recommended Pump Rate 10.00 igpm
Recommended Pump Intake Depth (From TOC) 200.00 ft
Pump Installed Yes
Type Submersible
Depth 200.00 ft
Make 10GPM
H.P. 1
Model (Output Rating)

Did you Encounter Saline Water (>4000 ppm TDS)
Depth ft
Gas
Depth ft
Well Disinfected Upon Completion Yes
Geophysical Log Taken Electric, Gamma
Submitted to ESRD

Sample Collected for Potability
Submitted to ESRD

Additional Comments on Well

Yield Test

Taken From Top of Casing
Measurement in Imperial

Test Date	Start Time	Static Water Level
2015/03/10	11:30 AM	147.60 ft

Method of Water Removal

Type Air
Removal Rate 15.00 igpm
Depth Withdrawn From 235.00 ft

If water removal period was < 2 hours, explain why

Depth to water level

Drawdown (ft)	Elapsed Time Minutes:Sec	Recovery (ft)
	1:00	197.60
	2:00	182.40
	3:00	177.30
	4:00	168.40
	5:00	157.60
	6:00	155.40
	7:00	154.20
	8:00	153.50
	9:00	152.60
	10:00	152.20
	12:00	151.70
	14:00	150.80
	16:00	150.10
	18:00	149.80
	20:00	149.50
	25:00	149.10
	30:00	148.70
	35:00	148.20
	40:00	147.90
	50:00	147.70
	60:00	147.60
	75:00	147.60

Water Diverted for Drilling

Water Source	Amount Taken		Diversion Date & Time
DITCH	2000.00	ig	2015/03/09 9:00 AM

Contractor Certification

Name of Journeyman responsible for drilling/construction of well
DARELL LEPPER

Certification No
5449Q

Company Name
LAKELAND DRILLING LTD.

Copy of Well report provided to owner
Yes

Date approval holder signed
2015/03/10

Water Well Drilling Report

View in Metric | Export to Excel

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GIC Well ID 1501343
GoA Well Tag No.
Drilling Company Well ID
Date Report Received

GOWN ID

Well Identification and Location

Measurement in Imperial

Owner Name	Address	Town	Province	Country	Postal Code
BARRETTA OILFIELD	BOX 21042	LLOYDMINSTER	AB	CA	T9V 2S1

Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description
	SE	02	050	02	4				

Measured from Boundary of
ft from
ft from

GPS Coordinates in Decimal Degrees (NAD 83)
Latitude 53.281700 Longitude -110.182000
How Location Obtained: Not Verified

Elevation ft
How Elevation Obtained: Not Obtained

Drilling Information

Method of Drilling: Rotary

Proposed Well Use: Domestic

Type of Work: New Well

Formation Log

Measurement in Imperial

Depth from ground level (ft)	Water Bearing	Lithology Description
10.00		Brown Till & Clay
30.00		Gray Till
46.00		Medium Grained Sand
68.00		Gray Sandy Till
103.00		Gray Till & Rocks
104.00		Rocks
105.00		Gray Till
110.00		Medium Grained Sand
140.00		Gray Till
141.00		Siltstone
178.00		Gray Shale
190.00		Sandstone
198.00		Sandy Shale
249.00		Sandstone

Yield Test Summary

Measurement in Imperial

Recommended Pump Rate 12.00 igpm

Test Date	Water Removal Rate (igpm)	Static Water Level (ft)
2004/09/17	8.00	154.99

Well Completion

Measurement in Imperial

Total Depth Drilled	Finished Well Depth	Start Date	End Date
249.00 ft		2004/09/16	2004/09/17

Borehole

Diameter (in)	From (ft)	To (ft)
8.75	0.00	249.00

Surface Casing (if applicable): Plastic
Size OD : 5.00 in
Wall Thickness : 0.258 in
Bottom at : 208.00 ft

Well Casing/Liner: Unknown
Size OD : in
Wall Thickness : in
Top at : ft
Bottom at : ft

Perforations

From (ft)	To (ft)	Diameter or Slot Width(in)	Slot Length (in)	Hole or Slot Interval(in)

Perforated by: Unknown

Annular Seal: Bentonite Chips/Tablets
Placed from 0.00 ft to 195.00 ft
Amount

Other Seals

Type	At (ft)

Screen Type: Stainless Steel
Size OD : 3.00 in

From (ft)	To (ft)	Slot Size (in)
208.00	218.00	0.015

Attachment: Attached To Casing
Top Fittings: Coupler
Bottom Fittings: Plug

Pack
Type: Artificial
Grain Size: 16/30
Amount: 1250.00 Pounds

Contractor Certification

Name of Journeyman responsible for drilling/construction of well: GEORGE MCALLISTER
Certification No: VA7828
Company Name: MCALLISTER DRILLING INC.
Copy of Well report provided to owner
Date approval holder signed

Water Well Drilling Report

View in Metric | Export to Excel

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GIC Well ID 1501343
GoA Well Tag No.
Drilling Company Well ID
Date Report Received

GOWN ID

Well Identification and Location

Measurement in Imperial

Owner Name	Address	Town	Province	Country	Postal Code
BARRETTA OILFIELD	BOX 21042	LLOYDMINSTER	AB	CA	T9V 2S1

Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description
	SE	02	050	02	4				

Measured from Boundary of
ft from
ft from

GPS Coordinates in Decimal Degrees (NAD 83)
Latitude 53.281700 Longitude -110.182000
How Location Obtained: Not Verified

Elevation ft
How Elevation Obtained: Not Obtained

Additional Information

Measurement in Imperial

Distance From Top of Casing to Ground Level: 24.02 in
Is Artesian Flow
Rate igpm
Is Flow Control Installed
Describe

Recommended Pump Rate: 12.00 igpm
Recommended Pump Intake Depth (From TOC): 200.00 ft
Pump Installed: Yes
Type: SUB @ 200'
Depth ft
Make: 12 GPM
H.P.: 1
Model (Output Rating)

Did you Encounter Saline Water (>4000 ppm TDS)
Depth ft
Gas
Depth ft
Well Disinfected Upon Completion
Geophysical Log Taken: Electric
Submitted to ESRD: Electric

Sample Collected for Potability
Submitted to ESRD

Additional Comments on Well

4. 46' ALSO COARSE GRAINED, 110' ALSO COARSE GRAINED.

Yield Test

Taken From Ground Level
Measurement in Imperial

Test Date	Start Time	Static Water Level
2004/09/17	12:00 AM	154.99 ft

Method of Water Removal

Type: Air
Removal Rate: 8.00 igpm
Depth Withdrawn From: 200.00 ft

If water removal period was < 2 hours, explain why

90% RECOVERY.

Depth to water level

Drawdown (ft)	Elapsed Time Minutes:Sec	Recovery (ft)
154.99	0:00	182.22
	1:00	169.00
	2:00	161.16
	3:00	157.05
	4:00	154.66
	5:00	153.58
	6:00	152.95
	7:00	152.63
	8:00	152.43
	9:00	152.33
	10:00	152.23
	12:00	152.13
	14:00	152.07
	16:00	152.00
	20:00	152.00

Water Diverted for Drilling

Water Source	Amount Taken	Diversion Date & Time
	ig	

Contractor Certification

Name of Journeyman responsible for drilling/construction of well: GEORGE MCALLISTER
Certification No: VA7828
Company Name: MCALLISTER DRILLING INC.
Copy of Well report provided to owner
Date approval holder signed

Water Well Drilling Report

View in Metric | Export to Excel

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

GIC Well ID 1502095
GoA Well Tag No.
Drilling Company Well ID
Date Report Received 2012/11/08

Well Identification and Location

Measurement in Imperial

Owner Name	Address	Town	Province	Country	Postal Code
HOBBLESTONE ENTERPRISES INC.	P.O. BOX 28	BLACKFOOT	ALBERTA	CANADA	T0B 0L0

Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description
	SW	1	50	2	4				(REPLACEMENT WELL)

Measured from Boundary of
ft from
ft from

GPS Coordinates in Decimal Degrees (NAD 83)
Latitude 53.281651 Longitude -110.170197
How Location Obtained: Not Verified

Elevation ft
How Elevation Obtained: Not Obtained

Drilling Information

Method of Drilling
Rotary - Mud

Type of Work
New Well

Proposed Well Use
Domestic

Formation Log

Measurement in Imperial

Depth from ground level (ft)	Water Bearing	Lithology Description
16.00		Brown Till
38.00		Gray Till
58.00		Sand
123.00		Gray Till
178.00		Hard Shale
181.00		See Comments Sandstone
181.10		Siltstone
193.00		See Comments Sandstone
198.00		Silty Shale
243.00		Sandstone
243.10		Siltstone
245.00		Sandstone
249.00		Siltstone
257.00		Shale
257.10		Siltstone
258.00		Sandstone

Yield Test Summary

Measurement in Imperial

Recommended Pump Rate 10.00 igpm

Test Date	Water Removal Rate (igpm)	Static Water Level (ft)
2012/08/17	10.00	154.10

Well Completion

Measurement in Imperial

Total Depth Drilled	Finished Well Depth	Start Date	End Date
258.00 ft	245.00 ft	2012/08/16	2012/08/17

Borehole

Diameter (in)	From (ft)	To (ft)
6.25	0.00	245.00

Surface Casing (if applicable)
Size OD : in
Wall Thickness : in
Bottom at : ft

Well Casing/Liner
Plastic
Size OD : 5.00 in
Wall Thickness : 0.258 in
Top at : -2.00 ft
Bottom at : 235.00 ft

Perforations

From (ft)	To (ft)	Diameter or Slot Width(in)	Slot Length (in)	Hole or Slot Interval(in)

Perforated by

Annular Seal Bentonite Slurry
Placed from 0.00 ft to 200.00 ft
Amount 200.00 Gallons

Other Seals

Type	At (ft)

Screen Type Stainless Steel
Size OD : 3.00 in

From (ft)	To (ft)	Slot Size (in)
235.00	245.00	0.015

Attachment Attached To Casing
Top Fittings
Bottom Fittings Plug

Pack
Type Artificial
Grain Size 16-30
Amount 20.00 Bags

Contractor Certification

Name of Journeyman responsible for drilling/construction of well
BRYON MCALLISTER

Certification No
VA4003

Company Name
MCALLISTER DRILLING INC.

Copy of Well report provided to owner

Date approval holder signed
2012/08/17

Water Well Drilling Report

View in Metric | Export to Excel

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

GIC Well ID 1502095
GoA Well Tag No.
Drilling Company Well ID
Date Report Received 2012/11/08

Well Identification and Location

Measurement in Imperial

Owner Name	Address	Town	Province	Country	Postal Code
HOBBLESTONE ENTERPRISES INC.	P.O. BOX 28	BLACKFOOT	ALBERTA	CANADA	T0B 0L0

Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description
	SW	1	50	2	4				(REPLACEMENT WELL)

Measured from Boundary of
ft from
ft from

GPS Coordinates in Decimal Degrees (NAD 83)
Latitude 53.281651 Longitude -110.170197
How Location Obtained: Not Verified

Elevation ft
How Elevation Obtained: Not Obtained

Additional Information

Measurement in Imperial

Distance From Top of Casing to Ground Level: 24.00 in
Is Artesian Flow
Rate igpm
Is Flow Control Installed
Describe

Recommended Pump Rate: 10.00 igpm
Recommended Pump Intake Depth (From TOC): 210.00 ft
Pump Installed: Yes
Type: Submersible
Depth: 220.00 ft
Make: AERMOTOR
H.P.: 1
Model (Output Rating): 120GPM

Did you Encounter Saline Water (>4000 ppm TDS)
Depth ft
Gas
Depth ft
Well Disinfected Upon Completion
Geophysical Log Taken: Electric
Submitted to ESRD
Sample Collected for Potability
Submitted to ESRD

Additional Comments on Well

LITH: 178' - 181' ALSO GLACIAL SAND, 181.1' - 193' ALSO GLACIAL SAND, ANNULAR SEAL: ALSO CUTTINGS

Yield Test

Taken From Top of Casing
Measurement in Imperial

Test Date: 2012/08/17
Start Time: 10:00 AM
Static Water Level: 154.10 ft

Method of Water Removal

Type: Air
Removal Rate: 10.00 igpm
Depth Withdrawn From: 220.00 ft

If water removal period was < 2 hours, explain why

Depth to water level

Drawdown (ft)	Elapsed Time Minutes:Sec	Recovery (ft)
154.10	0:00	224.51
	1:00	198.26
	2:00	182.91
	3:00	173.29
	4:00	168.34
	6:00	161.98
	7:00	161.32
	8:00	160.56
	9:00	160.04
	10:00	159.65
	12:00	159.25
	14:00	159.02
	16:00	158.96
	18:00	148.92
	20:00	158.66
	25:00	158.56
	30:00	158.43
	35:00	158.40
	40:00	158.37
	50:00	158.33
	60:00	158.27

Water Diverted for Drilling

Water Source	Amount Taken		Diversion Date & Time
NE-1-50-2-W4	3000.00	ig	2012/08/16 11:00 AM

Contractor Certification

Name of Journeyman responsible for drilling/construction of well: BRYON MCALLISTER
Certification No: VA4003
Company Name: MCALLISTER DRILLING INC.
Copy of Well report provided to owner
Date approval holder signed: 2012/08/17

Appendix F – Surface Water Assessment Report & Grading Plans

(under separate cover – available from the County upon request)

Appendix G – Traffic Impact Assessment

(under separate cover – available from the County upon request)

Appendix H – Deferred Reserve Caveat

ALBERTA GOVERNMENT SERVICES
LAND TITLES OFFICE

IMAGE OF DOCUMENT REGISTERED AS:

982109846

ORDER NUMBER: 30731261

FORM 2

File No. 98-D-799
County of Vermilion River

DEFERRED RESERVE CAVEAT

TO THE REGISTRAR OF THE NORTH ALBERTA LAND REGISTRATION DISTRICT

TAKE NOTICE that the County of Vermilion River has an estate or interest in the nature of municipal reserve, school reserve or municipal and school reserve under section 669 of the Municipal Government Act by virtue of the decision of the Subdivision Authority for the County of Vermilion River dated the 20th day of February, 1998 in 2.651 hectares of the lands described as follows:

Plan 982 1606
Block 1
Containing 26.51 Hectares (65.51 Acres) More or Less
Excepting Thereout all Mines and Minerals

being lands described in Certificate of Title 98 _____

standing in the register in the name of Wobeser Land & Cattle Co. Ltd. and KW Cattle Co. Ltd.

and the caveator forbids the registration of any person as transferee or owner of, or any instrument affecting, the said estate or interest, unless the instrument or certificate of title, as the case may be, is expressed to be subject to my claim.

I APPOINT Municipal Planning Services (Alberta) Ltd.,
#202, 10123 - 157 Street, Edmonton, Alberta, T5P 2T9

as the place at which notices and proceedings relating hereto may be served.

DATED this 7th day of April, 1998

Signed

Witness

Subdivision Authority

98210984S REGISTERED 1998 04 23
CAVE - CAVEAT
DOC 3 OF 3 DRR#: 2915711 ADR/JFERNHO

AFFIDAVIT IN SUPPORT OF CAVEAT

I, William David Dolman, of the City of Edmonton in the Province of Alberta, MAKE OATH AND SAY AS FOLLOWS:

1. I am the agent for the caveator.

2. I believe the caveator has a good and valid claim on the land and say that this caveat is not being filed for the purpose of delaying or embarrassing any person interested in or proposing to deal with it.

SWORN before me at the City of Edmonton in the Province of Alberta, this 7th day of April, A.D. 1998

M. Card (Marcella Card)
A Commissioner for Oaths in and for the Province of Alberta
My Commission Expires 12/15/98