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Professional Planning Proposal Comprehensive Development Review

Prepared for:

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1 BACKGROUND

1.1 INTRODUCTION

1.1.1 Project Location

This Comprehensive Development Review (CDR) has been prepared on behalf of Shercom Industries. Shercom Industries is proposing to subdivide Parcel #161788618 (Blk/Par B-Plan 101900641 Ext 0), NE-10-38-5-W3, to create a new industrial park in the Rural Municipality (RM) of Corman Park. Additionally, this application includes subdivision of Parcel #145389268 (LSD 7- 10-38-05-W3 Ext 174) and Parcel #145389246 (LSD 2- 10-38-05-3 Ext 173) to establish a secondary access point for the proposed development by extending a proposed access roadway from Township Road 382 (Lutheran Road) from the north to Township Road 381 in the south. Finally, the boundaries of the existing and adjacent agricultural residential Parcel #145176206 (Blk/Par A-Plan 101648167 Ext 207) will be adjusted so that an existing water well which services this parcel will be located entirely within the parcel following the proposed subdivision.

The parcel is approximately 1.3 km southeast of the City of Martensville, along Township Road 382, approximately halfway between HWY 12 and HWY 11.

Refer to **Figure 1** for the project location and surrounding context.

1.1.2 Land Area for Subdivision

As shown in **Appendix A**, the proposed subdivision consists of 5 industrial lots, and a proposed 30m road right-of-way. The proposed subdivision also includes a boundary adjustment of an existing agricultural residential parcel to ensure its existing well will be within its parcel boundaries following the subdivision.

The proposed subdivision affects four existing parcels (see **Figure 2**). **Table 1** summarizes the total area affected by the proposed subdivision.

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Table 1. Existing Parcel Information

Parcel	Description	Comment
#161788618 (Blk/Par B-Plan 101900641 Ext 0), NE-10-38-5-W3	Existing Shercom Light Industrial Parcel	Subdivision plans include 5 light industrial parcels and a 30 m road right-of-way.
Parcel #145176206 (Blk/Par A-Plan 101648167 Ext 207)	Existing Agricultural residential Parcel	As shown in the Plan of Proposed Subdivision, the boundaries of this parcel will be adjusted to ensure that an existing well is located within the residential parcel it services. The resulting parcel with updated boundaries will remain with the current owner and not be sold as part of the proposed subdivision. The parcel becomes 10m longer and 1m narrower at no cost to the landowner.
Parcel #145389268 (LSD 7- 10-38-05- W3 Ext 174) and Parcel #145389246 (LSD 2- 10-38-05-3 Ext 173)	Existing Agricultural Land	These parcels will include additional road right-of-way to extend the subdivision access road south to TWP Rd. 381. The remaining area will not be developed as part of this CDR and will remain agricultural land.

Table 2. Proposed Land Uses

Proposed Land Use	Area (ha)
Rural Light Industrial	18.94
Road Right-of-Way	4.77
Total:	23.71

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1.1.3 Number of Lots

The proposed subdivision will have 5 industrial lots. Shercom will maintain its business on a 7.36 ha (18.19 acre) parcel. The remainder of the subdivision will include 20 additional industrial lots, a Municipal Utility parcel with a ponding area for stormwater management, and a 30 m right-of-way for access. Refer to **Appendix A** for the Plan of Proposed Subdivision.

1.1.4 Purpose of the Development & Unique Attributes

Shercom Industries intends to subdivide its existing parcel for light industrial development. Additionally, this CDR includes adjustments to a neighbouring parcel's boundaries to ensure its well is located on the property (Parcel #145176206 Blk/Par A-Plan 101648167 Ext 207). The proposed subdivision location has several attributes which make it appropriate for light industrial development. These attributes include the following:

- Alignment with current RM of Corman Park P4G zoning for the parcel (DM1 Light Industrial 1 District);
- Alignment with long-term land use plans and zoning as outlined in the P4G Zoning Bylaw and Official Community Plan;
- Central location between Highways 11 and 12 with excellent site access from Township Roads 381 and 382.
- Proximity to the Cities of Saskatoon, Martensville, and Warman for commuter and business access.

Figure 1 shows the location of the parcel and its surrounding context.

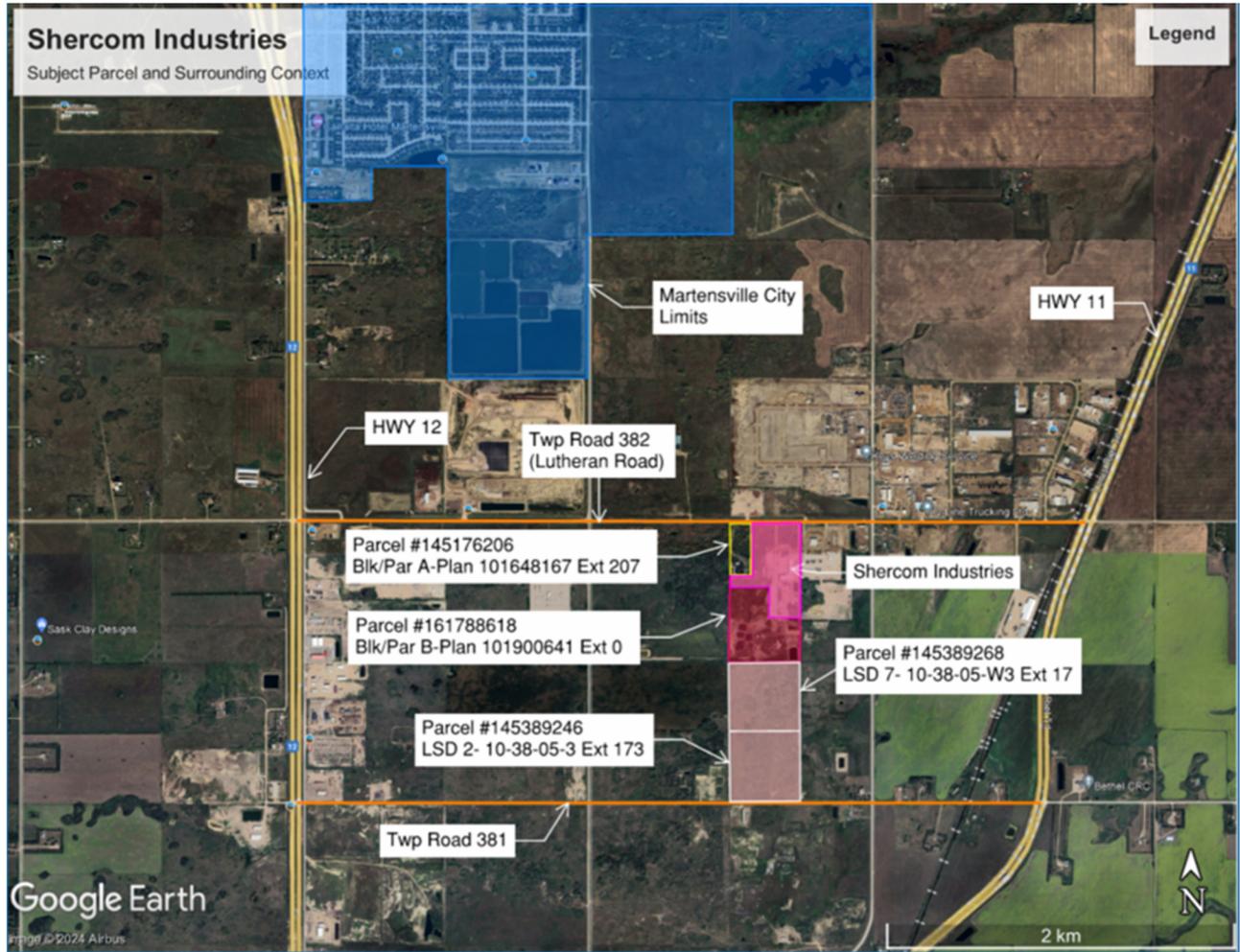


Figure 1. Subject Parcel and Surrounding Context

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2 DESCRIPTION OF PROPOSED DEVELOPMENT & LAND USE

2.1 LAND USE CONTEXT

2.1.1 Current and Proposed Land Uses

The primary parcel for subdivision is currently zoned as D-Light Industrial 1 District (DM1) by contract through Bylaw 19/19. The site is currently used for Shercom's existing industrial operations for manufacturing and tire recycling. The proposed zoning will be general D-Light Industrial 1 District (DM1).

Parcels #145389268 (LSD 7- 10-38-05-W3 Ext 174) and Parcel #145389246 (LSD 2- 10-38-05-3 Ext 173) are currently zoned as D-Agricultural District 2 (DAG2). These parcels consist of undeveloped land, which is occasionally utilized as marginal pasture land. These parcels will be subdivided for the construction of a proposed roadway.

The proposed subdivision statistics are summarized in **Table 2**.

2.1.2 Development Phasing

The proposed subdivision outlined in this CDR will be developed in a single phase, including all site grading, stormwater facility construction, and installation of utilities (water, natural gas, power, etc.). As part of this phase, the northern half of the proposed roadway (contained with current parcel #161788618 (Blk/Par B-Plan 101900641 Ext 0) will be paved as per RM standards. The southern portion of this roadway will function as a secondary access and will be constructed to a gravel structure for the preliminary development phase.

Future industrial development phases will continue to the south on parcels #145389268 (LSD 7- 10-38-05-W3 Ext 174) and #145389246 (LSD 2- 10-38-05-3 Ext 173). When this development occurs, an additional CDR will be prepared, including upgrading the interim gravel roadway to a paved standard.

2.1.3 Plan of Proposed Subdivision

Refer to **Appendix A** for the dimensioned Plan of Proposed Subdivision and land use statistics.

2.1.4 Existing Adjacent Land Uses

The surrounding land is mainly comprised of agricultural and rural industrial lands. The subject property is located within 1.6 km of several notable existing land uses. These existing uses are summarized as follows:

- Numerous Agricultural Residential (DAR1) Parcels are within 1.6 km of the proposed development, including immediately adjacent to the proposed subdivision.
- The City of Martensville's existing municipal boundary and wastewater lagoon is approximately 1.26km northwest of the subject property.
- The Loraas Disposal Landfill is approximately 913m northwest of the subject property.
- There are existing Light Industrial (DM1) and Heavy Industrial (DM2) land uses immediately north of the subject parcel across Lutheran Road.

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- No intensive livestock operations, mineral resource extraction areas, large bodies of water, or recreation or conservation sites were identified within 1.6km of the proposed development.

The key adjacent land uses within 1.6 km of the proposed development are summarized in **Figure 3**.

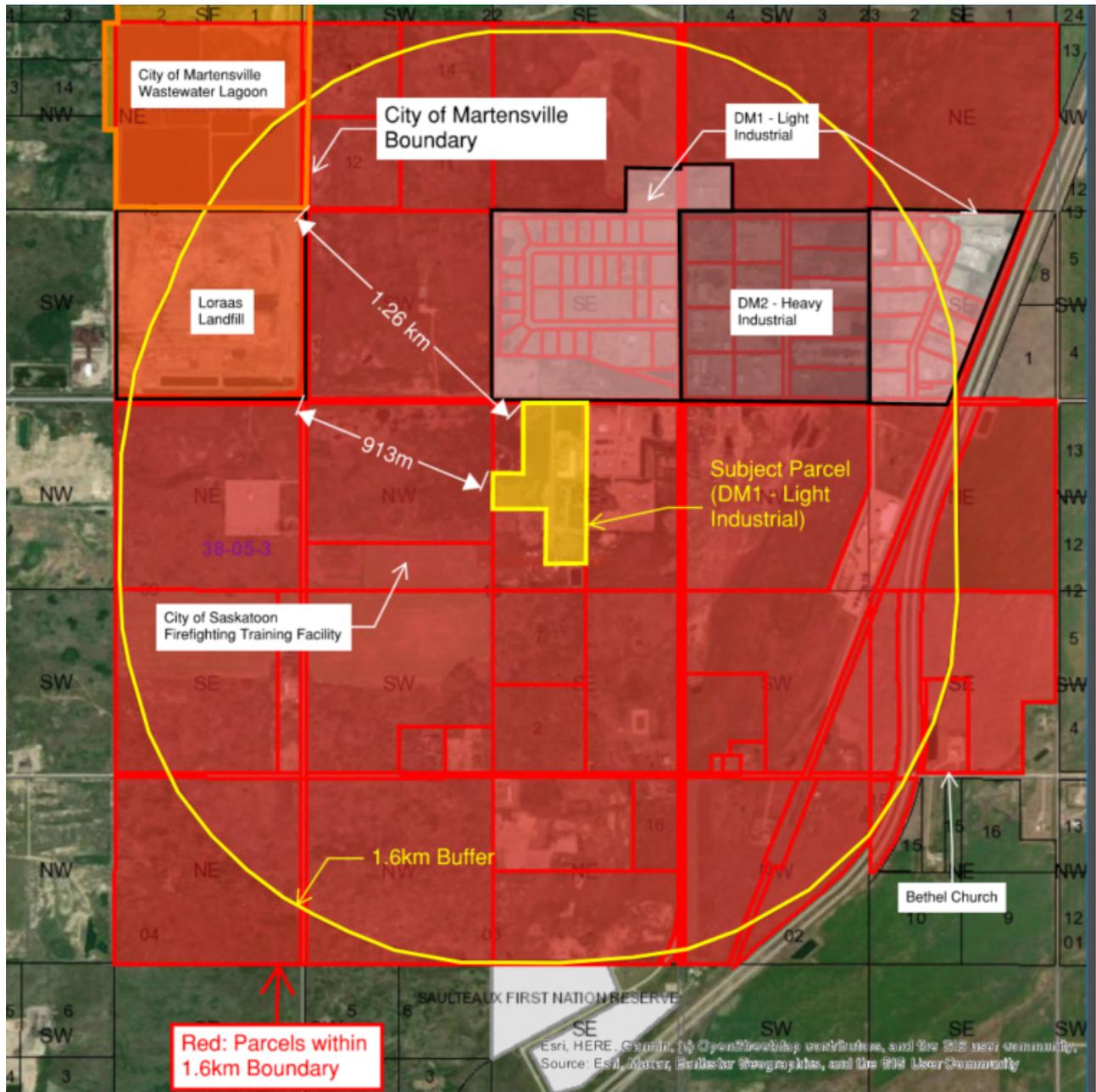


Figure 3. Summary of Surrounding Land Uses

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2.1.5 Relation to Existing Land Uses

The proposed development integrates well with surrounding land uses. Similar light industrial subdivisions are immediately adjacent to the proposed development, and there are no conflicting land uses within the 1.6km area of analysis. Additionally, the proposed development is aligned with the current parcel zoning (DM1—Light Industrial) and the long-term land use plans for the area as shown in the P4G Official Community Plan (See **Section 3**).

2.1.6 Public Facilities, Landscaping, and Lighting of Public Areas

As described in **Section 4.2**, the proposed development includes a stormwater retention pond south of proposed Lot 9. It is envisioned that this retention pond will be designated Municipal Utility during the next phase of development. It is assumed that the RM of Corman Park would ultimately own and maintain this facility. The applicant will enter into a servicing agreement at the RM's request. Expected maintenance of the proposed pond parcel will include periodic mowing of proposed channels and ponding areas and occasional removal of obstructions in proposed ditches and culverts.

Similarly, the RM would have ownership of the proposed roadway.

Landscaping of proposed public areas (road right-of-way ditches and utility parcel) would be limited to topsoil and seeding. No hard landscaping is proposed.

No additional lighting or public areas are proposed.

2.2 HAZARD LANDS

There are no known flooding, slope stability, or ground contamination issues in the subject parcel. The stormwater retention pond may create a manmade hazard and can be fenced to prevent public access.

The owner has completed two Environmental Site Assessments (ESA) for the subject parcel. A 2016 Phase 1 Environmental Site Assessment on the existing Shercom parcel did not find a Phase II ESA to be warranted. An additional Phase I ESA was completed in 2023 for the southern two parcels which will be subdivided for the proposed access road. This ESA report did not include any recommendations for further environmental work on the site.

The ESAs can be found in **Appendix B**.

2.3 NATURAL AND HERITAGE RESOURCES SCREENING

As part of the CDR process, a heritage screening and a HABISask Project Screening report were completed. The Heritage Screening Report indicated that the area is "Not Heritage Sensitive." The HABISask Project Screening report did not identify any Rare and Endangered Species likely to be present or critical habitats within the development area. Additionally, no ecologically managed areas were identified.

The Heritage Sensitivity Screening Report and HABISask reports can be found in **Appendix C**.

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2.3.1 Proposed Mitigation Effects

Based on the results of the Heritage and HABISask screenings, this project is unlikely to significantly impact heritage and wildlife features. No specific sustainable development or mitigation measures are proposed for this development beyond those typically required for Light Industrial Development.

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3 OFFICIAL COMMUNITY PLAN, ZONING BYLAW, AND OTHER POLICY REVIEW

3.1 INTRODUCTION

The parcel in question falls within the jurisdiction of the P4G Official Community Plan and P4G Zoning Bylaw. Section 31.3.16 of the P4G District Official Community Plan describes that a Comprehensive Development Review (CDR) is required to support any application for industrial development. This CDR has been prepared according to the standards provided in Section 2.8 of the P4G Planning District Zoning Bylaw and according to the “Community Development Review (CDR) Checklist” taken from the RM of Corman Park website.

The proposed development also falls within the study area for the P4G North Concept Plan. Where appropriate, commentary on servicing and transportation requirements is drawn from the more specific policy statements and concepts in the North Concept Plan rather than the general statements of the P4G Official Community Plan.

3.2 P4G DISTRICT OFFICIAL COMMUNITY PLAN

Official Community Plan Maps: Schedule B: District Land Use Map
The proposed development is located within the “Rural Commercial/Industrial” area in Schedule B of the P4G District Official Community Plan.
Official Community Plan Maps: Schedule C: Future Urban Growth Areas
The proposed development is not within a “Future Urban Growth Area.”
Section 10.3.4 c) Intent of the Land Use Designations
<u>Policy:</u> <i>c) Rural Commercial/Industrial accommodates general commercial and industrial uses, including lightly-serviced industrial, storage, and commercial areas that require a large land base. These areas shall be further designated as Rural Commercial or Rural Industrial areas through more detailed planning;</i>
<u>Response:</u> The policy’s description of Rural Commercial/Industrial is aligned with the developer’s intent. The Proposed development will feature relatively large light-industrial parcels with areas ranging from 1.44-7.36ha (3.55-18.19 acres) with rural levels of service (low-pressure water from Intervalley Water Utility and septic/holding tanks for wastewater servicing). Note that coordination is still actively occurring with Intervalley Water Utility for this project as they confirm industrial servicing capacity with the City of Saskatoon.
Section 14.2 Rural Industrial Objectives

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Policy:

- a) Promote well-planned and managed industrial growth through a range of land use options;*
- b) Promote economic development for Rural Industrial development based on industry needs, servicing availability and locational factors;*
- c) Encourage Rural Industrial development to cluster in industrial parks to provide for the efficient development of rural infrastructure and community services; and*
- d) Minimize conflicts between Rural Industrial development and other regional land uses.*

Response:

The proposed development meets the objectives for Rural Industrial development outlined in this section. It encourages clustered development and is located adjacent to other existing industrial developments. No conflicts are anticipated between the proposed development and other regional land uses.

Section 14.0 Rural Industrial

General Commentary:

The proposed development aligns with this policy. It would create a new industrial park to cluster future industrial development. The proposed development is not adjacent to an urban municipality boundary and will not require specific buffering for adjacent land uses. No specific hazardous uses are planned for this industrial park, and no urban servicing will be installed.

Section 17.0 Green Network Study Area

General Commentary:

Approximately 200m of the proposed access road within Parcel #145389246 (LSD 2- 10-38-05-3 Ext 173) falls within the Green Network Study Area as outlined in Schedule B: District Land Use in the P4G District Official Community Plan. Note that this CDR does not include any industrial subdivision within the Green Network Study Area. The proposed subdivision within the Green Network Study Area is limited to the proposed access road.

Section 17.3.5 Siting of Development

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Policy:

Development located within the Green Network Study Area shall:

- a) Be sited and developed to ensure that impacts are avoided or mitigated; and*
- b) Demonstrate to the satisfaction of Corman Park through supporting environmental and technical plans, that any potential negative impacts have been avoided or mitigated.*

Response:

The proposed development has minimal impact on the functionality of the Green Network Study Area. The proposed roadway is located west of the existing wetland areas, which form the core of the Green Network Study Area. As part of the access road construction, a culvert will be installed at the existing Township Road 381 Ditch to maintain local drainage patterns. Any future industrial development in this area will address Green Network Study requirements as part of a future CDR.

Section 17.3.7 Integration with Stormwater Management

Policy:

The Green Network Study Area should be integrated with the regional stormwater management system where feasible. Integration should consider the sensitivity and ecological functions of wetlands and watercourses and their associated riparian areas to ensure sustainability within their context.

Response:

The proposed stormwater approach is outlined in Section 4. Note that the proposed stormwater management is in accordance with the approach outlined in the North Concept Plan, which differs from the Green Network Study Area. Regional drainage patterns in this area drain to the south rather than to the north as suggested by the Green Network Study Area boundary. Proposed stormwater management facilities would drain into stormwater facilities within the proposed Green Network Study Area and then ultimately south in line with existing topography and long-term drainage plans for the area.

Section 26.3.10 “No Net Impact” Standard

Policy:

On-site stormwater management controls for site development will be encouraged to meet a “no net impact” standard, incorporating sufficient capacity to accommodate surface water runoff for a 1:100-year storm event with no incremental increase in offsite flows in excess of what would have been generated from the property prior to the new development.

Response:

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Refer to Section 4. Proposed stormwater management strategies are designed to accommodate surface water runoff from the 1-in-100-year event with no incremental increase in offsite flows.

Policy 27.3.3 Roadway Access

Policy:

Development must meet all municipal and provincial regulations respecting access to and from provincial highways and municipal roads.

Refer to **Section 4.1**. The proposed development contains access points to Township Roads 381 and 382.

Policy 27.3.4 Minimize New Roadway Construction

Policy:

To make the most efficient use of existing roadway facilities, residential, commercial, and industrial subdivisions and developments will be encouraged to locate adjacent to existing roads that have been designed and constructed to accommodate them.

Response:

The proposed access road provides the most efficient way of servicing the proposed development while minimizing the required road length.

Policy 27.3.5 Access Requirements for Developments

Policy:

Residential, commercial, industrial, recreational, and regional infrastructure and institutional developments shall have year-round, legal, all weather physical access to a municipally maintained roadway.

Response:

The proposed subdivision includes legal all-weather access to TWP Rd. 382 (Lutheran Road) in the north and TWP Rd. 381 in the south.

Policy 27.3.6 Safe Access and Egress

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Policy:

Developments must include safe access and egress from adjacent roadways without disruption of the roadway function. The type and number of access points provided onto municipal roadways may be limited through shared points of access along shared driveways or service roads where applicable.

Response:

The proposed development will include adjusting the existing Shercom access to service the proposed industrial subdivision. Therefore, no additional access points will be made to TWP Rd. 382. One additional access point will be made to TWP Rd. 381 in the south. This access point is approximately 190m from the nearest site access and 548m from the closest grid road intersection (measured centerline to centerline).

Policy 31.3.19 Consultation with Public Utilities

Policy:

The applicant must consult with public utility companies and provide the findings within the Comprehensive Development Review to protect existing and provide for future utility easements and to ensure new development is located in a way that will not compromise the long-term operation or future expansion of the utility.

Response:

Refer to Section 4. The applicant continues to coordinate with the Intervalley Water Authority. Correspondence from shallow utility providers has been appended (see **Appendix H**).

Public Engagement

Policy 31.3.21 Engagement for Significant Development

Policy:

Proponents of significant development proposals that entail amendments to this Plan, rezoning, or the subdivision or re-subdivision of multiple lots may be required to undertake significant public engagement as part of the application process.

Response:

The applicant has undertaken public engagement, including project mail-outs and an open house. Refer to **Section 5**.

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3.3 SCHEDULE D: NORTH CONCEPT PLAN

Map 3 – Existing Utilities

Commentary:

Map 3 shows that there are existing utility networks near the proposed development. A SaskWater (Intervalley) water main is located at Range Road 3052, approximately 415m from the proposed development. Previous correspondence with Intervalley also indicates that there is a water distribution line on the north side of Township Road 382 immediately north of the proposed development. There is existing SaskPower and SaskEnergy infrastructure which runs adjacent to the existing Shercom Parcel.

Map 4 – Existing Transportation Network

Commentary:

Map 4 shows that the proposed development is well situated within the RM's existing grid road network with access to Township Roads 381 and 382, Range Road 3052, and Rock Ridge Road (Range Road 3063). Additionally, this map outlines the development's central location with respect to provincial Highways 11 and 12.

Map 5 – Future Land Use Concept

Commentary:

This map appears to show the proposed development area as Rural Heavy Industrial. While this land use differs from the current Rural Light Industrial zoning of the subject area, the proposed development will not prevent long-term heavy industrial development in the subject area.

Section 4.3 Planning Cells – Cell 3

Commentary:

This section describes how the future development patterns for the area will feature a significant portion of industrial development. The development outlined in this CDR is centrally located in this planning cell and is well-aligned with the proposed future development patterns.

Section 5. Transportation

Commentary:

This section describes baseline assumptions for traffic generation for varying land uses. For rural industrial, the land use is assumed to have 13 jobs/ha (assumed to be gross developable hectares).

It also should be noted that the existing TWP Rd. 382 is classified as a future Major Arterial Roadway (6 lanes). TWP Rd. 381 is classified as a future Minor Arterial Road (4 lanes). Each of these roads will provide

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access to the proposed development. The proposed PPS includes a 5.0m easement along Township Road 382 for future road widening.

Section 6 Servicing

Commentary:

Section 6 outlines the servicing plans for the area, including the following key points relevant to the development:

- Map 8—Water Distribution shows plans for a future Primary Water Main that runs adjacent to the south and west boundaries of the existing Shercom parcel. Therefore, there may be ample opportunity for future urban water servicing. In the near term, the proposed development will have a rural level of water servicing using the low-pressure Intervalley Water Utility (See **Section 4: Servicing**).
- Map 9—Sanitary System shows plans for large-diameter gravity sewer pipes to run adjacent to the proposed development to the west and south. Therefore, there may be an opportunity for future gravity sewer servicing for the proposed development. In the short term, the proposed development will rely on trucked wastewater hauling.
- Map 10—Storm Sewer System shows that the proposed development area will drain to existing wetland areas to the southeast. Drainage will ultimately route to the south before crossing Highway 11 approximately 1.75 km southeast of the proposed development. Notably, this drainage direction differs from what is suggested by the Green Area Study network.
- Map 11 – Plan Area Grading confirms that the development area drains generally to the southeast (See **Figure 4**). The proposed stormwater management plan (see **Section 4**) captures stormwater in the southeast of the proposed subdivision, which is aligned with the regional grading and stormwater management plan.

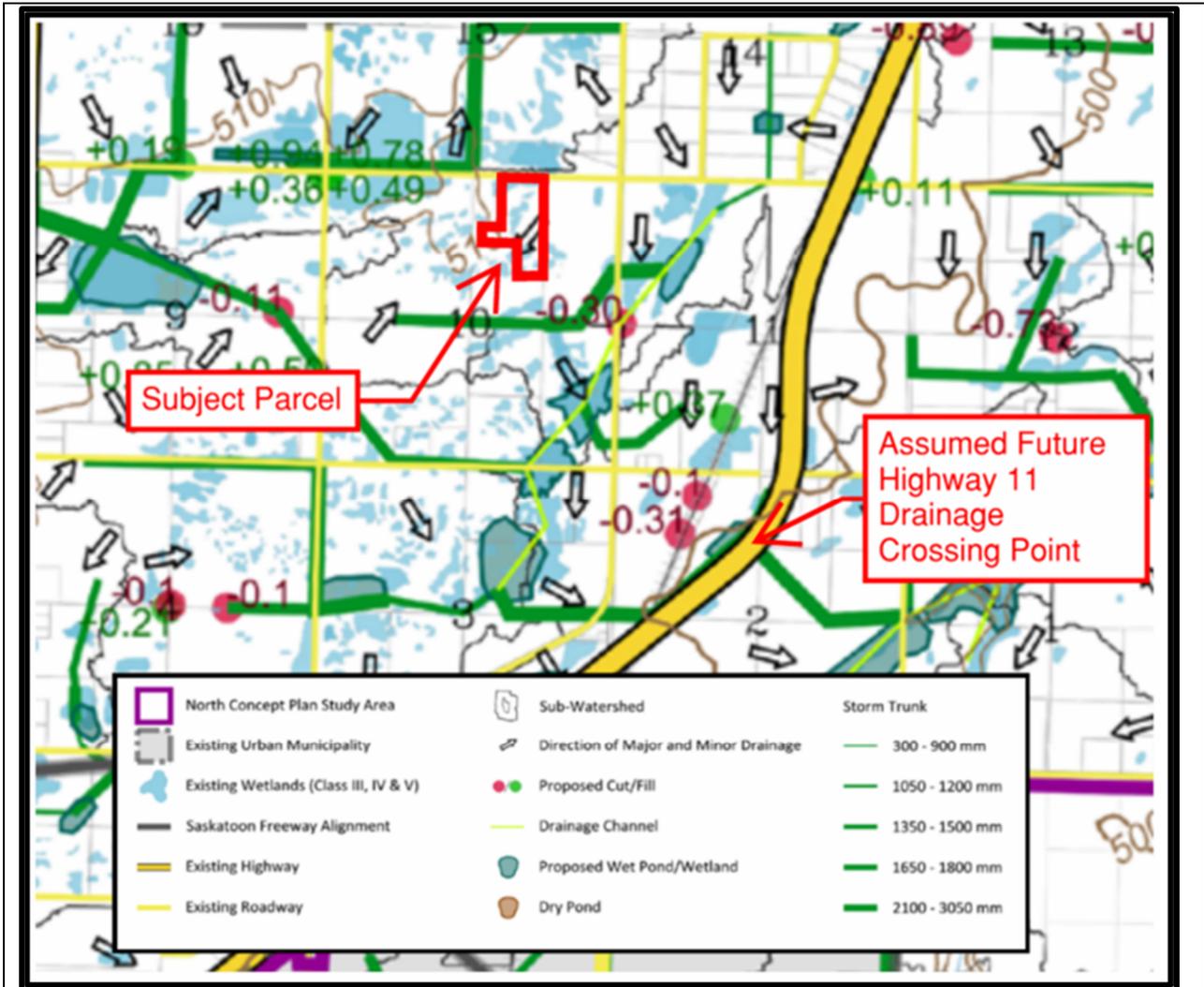


Figure 4. Excerpt From North Concept Plan Map 11 - Plan Area Grading

3.4 P4G PLANNING DISTRICT ZONING BYLAW

Section 2.7 Development Permit Applications

2.7.2e)

Policy:

e) where development is enabled within the Green Network Study Area land use designation pursuant to the District OCP, documentation showing the proposed development will not adversely affect drainage patterns, natural areas, riparian areas, habitat corridors for wildlife movement, the Wanuskewin Heritage Park viewshed or important ecological areas. The documentation shall consist of the following, depending on the location of the site and the nature of the proposed development:

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- i. an environmental assessment review;*
- ii. a drainage plan including any potential downstream and upstream impacts;*
- iii. a geotechnical report;*
- iv. a soil and slope stability analysis;*
- v. a screening of heritage resources; and,*
- vi. a plan for avoiding or minimizing impacts to any environmental, natural, cultural or historical assets identified in the above reports during development of the site;*

Response:

A portion of the proposed south access road is located within the Green Network Study Area. However, the proposed access road presents a relatively minimal impact on the Green Network Study area since it is proposed outside of any existing major wetlands. A culvert will be installed to maintain local drainage patterns along the existing ditch. Refer to the appended Natural and Heritage Area screening, Environmental Assessment Report, **Section 4.2**, and Geotechnical Report for additional supporting documentation.

Section 2.8 Comprehensive Development Review

Policy:

Section 2.8.2

The public engagement required for a CDR may consist of mail outs, advertising, information and open houses as considered appropriate, provided that the public, rights holders, and stakeholders who may be affected by the proposed development, are given the opportunity to provide feedback on the development concept and technical aspects of the proposal. At a minimum, all assessed landowners within 1.6 km (1 mile) of the subject property shall be notified of the CDR as part of any public engagement program.

Response:

Refer to **Section 5**. In early 2024, the RM was engaged to confirm public engagement requirements. Engagement included informational mailouts to all property owners within 1.6 km, which outlined how to provide feedback. The applicant also hosted an open house in early 2024.

Section 3.10 Drainage

Policy:

Section 3.10.1

Where development may alter site drainage potentially affecting adjacent, upstream or downstream properties, or the stability of the land, the applicant shall be required to construct engineered drainage works incorporating sufficient capacity to accommodate the surficial water runoff for a 1:100 year storm event with no incremental increase in offsite flows in excess of what would have been generated from the property prior to the grading and levelling.

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Response:

Refer to **Section 4.2**. The drainage study considers stormwater management infrastructure to accommodate runoff from the 1-in-100-year storm event.

Section 3.11 Environmental Features

Policy:

Section 3.11.6

Where development is enabled within the Green Network Study Area land use designation pursuant to the District OCP the applicant must demonstrate that the proposed development will not adversely affect drainage areas, natural areas, riparian areas, habitat corridors for wildlife movement, important viewsheds or important ecological areas.

Response:

A portion of the proposed south access road is located within the Green Network Study Area. However, the proposed access road presents a relatively minimal impact on the Green Network Study Area since it is outside of any existing major wetlands. A culvert will be installed to maintain local drainage patterns along the existing ditch. Refer to the appended Natural and Heritage Area screening, Environmental Assessment Report, Drainage Study, and Geotechnical Report for additional supporting documentation.

Section 3.22 Public Roadways

Policy:

3.22.1 All public roadways shall be constructed in accordance with the engineering standards of the Municipality or other jurisdiction having authority.

3.22.2 All development shall have frontage onto and direct physical and legal access to a maintained public roadway,

Response:

Refer to Section 4.1. The proposed roadway references the RM's Industrial Roadway cross-section and a Geotechnical Report. All parcels will have physical and legal access off of the proposed roadway.

Section 3.30 Wastewater Treatment Systems

Policy:

3.30.1 Where a development requires a means of sewage disposal or treatment, the developer shall be required to install a sewage disposal system in accordance with municipal and provincial requirements. The

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Development Officer, in conjunction with appropriate provincial regulatory agencies, shall determine the suitability of a site to accommodate a private wastewater treatment system.

Response:

The proposed development will have trucked wastewater services designed on a site-by-site basis subject to Saskatchewan Health Authority permitting, inspection, and approval requirements. Refer to **Appendix F** for correspondence from Econo Septic & Sewer Services regarding servicing the proposed subdivision.

Section 3.31 Water Supply

Policy:

3.31.3 All new multi-parcel commercial, industrial, community service and country residential development shall be serviced by a centralized potable waterline to the satisfaction of the municipality.

Response:

The Intervalley Water Utility has been engaged to service the proposed subdivision. Invervalley's capacity for industrial development servicing is currently being confirmed between the utility and the City of Saskatoon.

Section 6.13 D- Light Industrial 1 District (DM1)

Policy:

6.13.5 Site Development Regulations

a) Site Area - The minimum site area shall be 0.8 ha (2 ac).

b) Site Frontage - The minimum site frontage shall be 30 m (98.4 ft).

c) Front Yard Setback – A minimum of 45 m (147.6 ft) from the centerline of a municipal road allowance or provincial highway or as required by the Saskatchewan Ministry of Highways, excepting sites which front on an internal subdivision road which shall be setback a minimum of 20 m (65.6 ft) from the front site line.

Response:

Refer to the Plan of Proposed Subdivision in Appendix A. The proposed development meets all site area, frontage, and setback requirements. The proposed road ROW's location was designed to meet the 20m setback requirement from Shercom's existing structure to the proposed internal subdivision road. All other requirements from this section will be addressed on a site-by-site basis during the development permit process.

4 SERVICING

4.1 ROADWAYS

4.1.1 Provincial and Municipal Roadways

The proposed development will have direct access to Township Road 381 in the south and Township Road 382 in the north (Lutheran Road). These roadways provide access to provincial Highways 11 & 12. Township Road 382 provides access to Highways 11 and 12 with designated turning lanes. Township Road 381 only provides primary access to Highway 12. It also should be noted that the North Concept Plan classifies Township Road 382 as a future Major Arterial Roadway (6 lanes). Township Road 381 is classified as a future Minor Arterial Road (4 lanes).

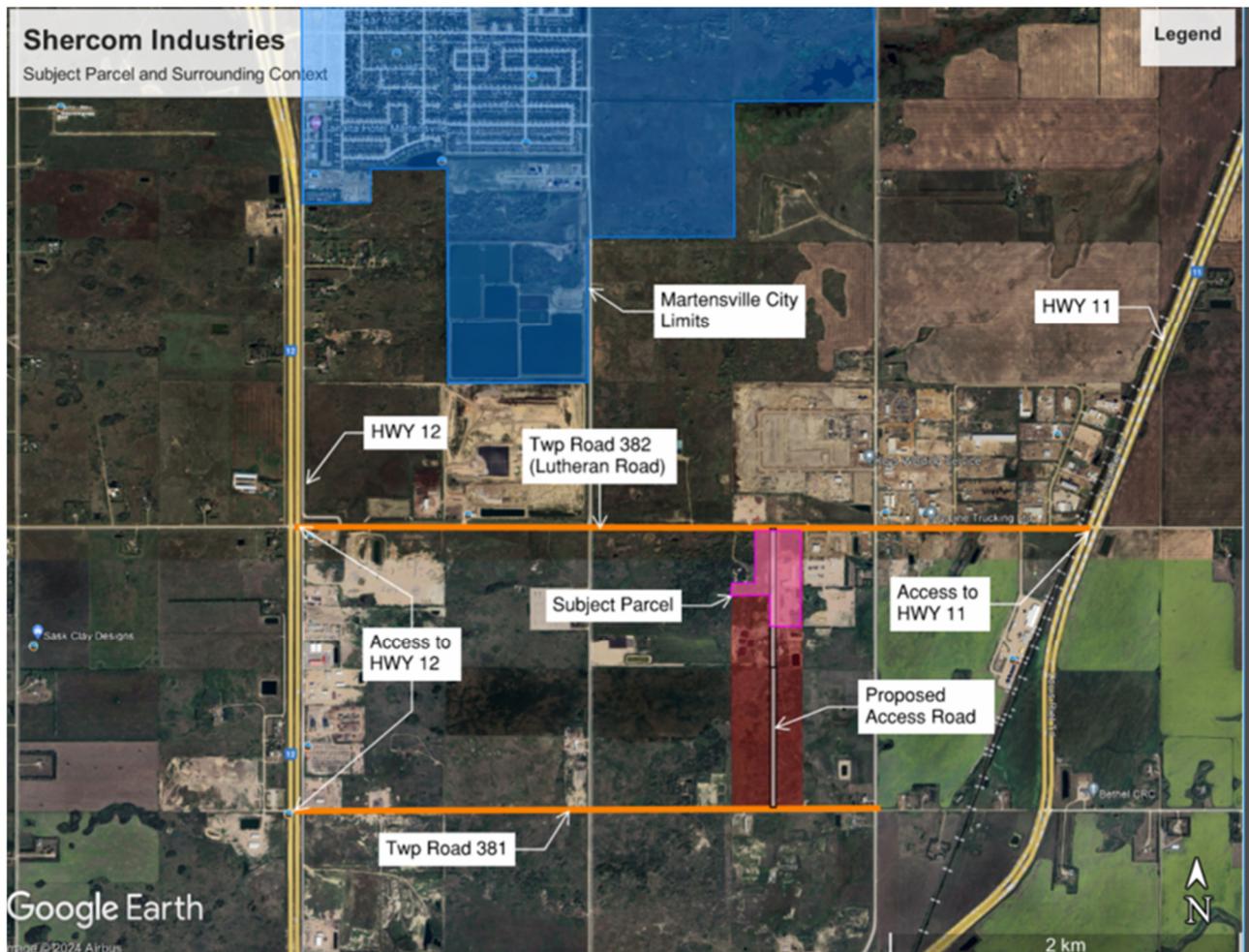


Figure 5. Surrounding Transportation Context

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4.1.2 Capacity of Existing Roadways

A Traffic Impact Assessment (TIA) was completed by Catterall & Wright for the proposed development (see **Appendix D**). The conclusions from this TIA can be summarized as follows.

- Generally, the intersections analyzed along Range and Township roads performed adequately.
- Existing intersections on Highway 11 & 12 were found to have several movements with a level of service (LOS) of F in the existing and future background condition scenarios examined. There are ongoing level of service concerns at these intersections regardless of the proposed development. Based on these concerns, the TIA suggests that the most appropriate solution is to upgrade these intersections to grade-separated interchanges (similar to what is recommended in the North Concept Plan). While this approach is aligned with the North Concept Plan, the design of these interchanges is not within the scope of this report.
- The TIA also states that the Highway 11 – Lutheran Road intersection meets Area Lighting warrant criteria in 2024 existing conditions.

Generally, the TIA identifies existing issues in the surrounding transportation network at intersections on Highways 11 and 12. Upgrades to these intersections are already planned for in the North Concept Plan. Specific upgrades are not required based on the proposed development.

4.1.3 Length of New Roadway Constructed

The proposed subdivision will have a north-south road between Twp Road 382 and Twp Road 381, which will provide access to all lots within the subdivision. This roadway will be approximately 1,600m long and will be aligned with Shercom's existing access in the north.

In the north, the access is approximately 133m from the nearest site access and 550m from the closest grid road intersection (measured centerline to centerline). In the south, the proposed access is approximately 170m from the nearest site access and approximately 575 m to the closest grid road intersection.

4.1.4 Roadway Standard

The proposed roadways will be constructed as per a 2016 geotechnical investigation and the RM of Corman Park's roadway standards.

The northern half of the proposed roadway (contained with existing NE-10-38-05-W3) will be built to a paved structure to provide primary access to Township Road 382. The southern half is intended to provide secondary and emergency access to Township Road 381. The south half will be constructed to a gravel structure. If industrial development continues to the south, then this road will be upgraded to a paved structure.

A 2016 geotechnical investigation (see **Appendix G**) includes recommendations for both paved and unpaved road structures. The northern half of the proposed roadway will be constructed to the "Heavy Truck Traffic" paved structure.

Table 3. Paved Road Structure

Layer	Thickness (mm)
Asphalt Concrete	100
Granular Base (Min CBR = 65)	200
Granular Sub-Base (Min CBR = 20)	300
Dried and Densified Subgrade	(600)
Geogrid/Geotextile	As required (to be confirmed with geotechnical consultant in the field)
Total Thickness	600

The Geotechnical investigation includes recommendations for granular surfaced structures. Generally, the report recommends that a 2:1 equivalent ratio be used to substitute granular layers for asphalt concrete. Therefore, the 100mm of Asphalt Concrete in the paved design is replaced by 200mm of granular material. The proposed gravel road structure is as follows:

Table 4. Granular Road Structure

Layer	Thickness (mm)
Surfacing Gravel	75
Granular Base (Min CBR = 65)	325
Granular Sub-Base (Min CBR = 20)	300
Dried and Densified Subgrade	(600)
Geogrid/Geotextile	As required (to be confirmed with geotechnical consultant in the field)
Total Thickness	700

Since the proposed roadway will exist only to service the proposed subdivision, the applicant intends to dedicate a 30m right-of-way rather than the typical 46m outlined in the RM's Industrial Paved Road cross-section.

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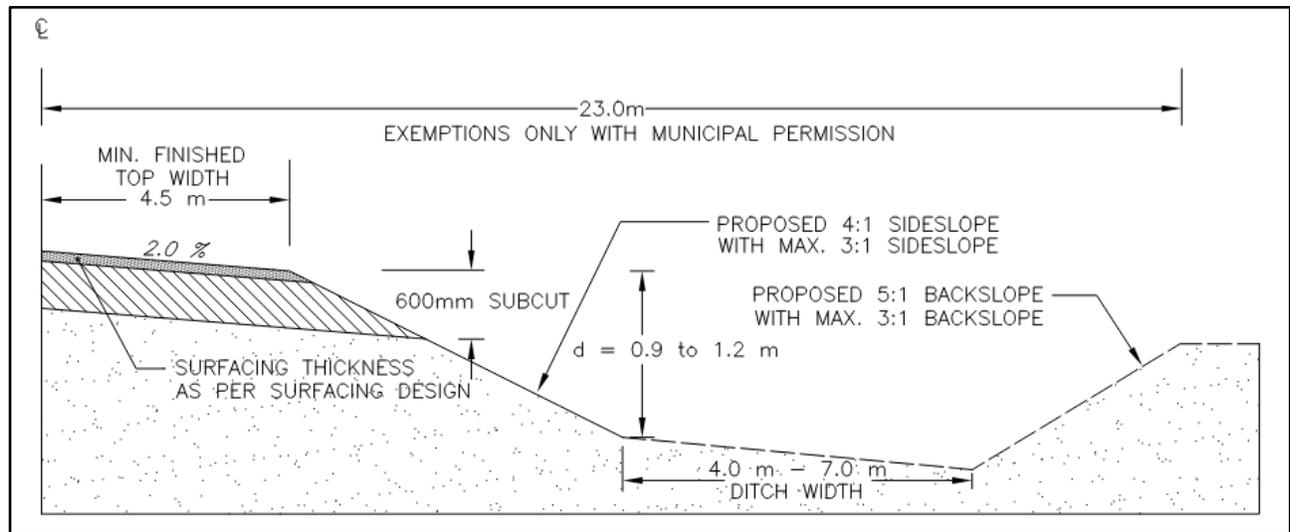


Figure 6. Industrial Paved – RM Typical Cross-Section

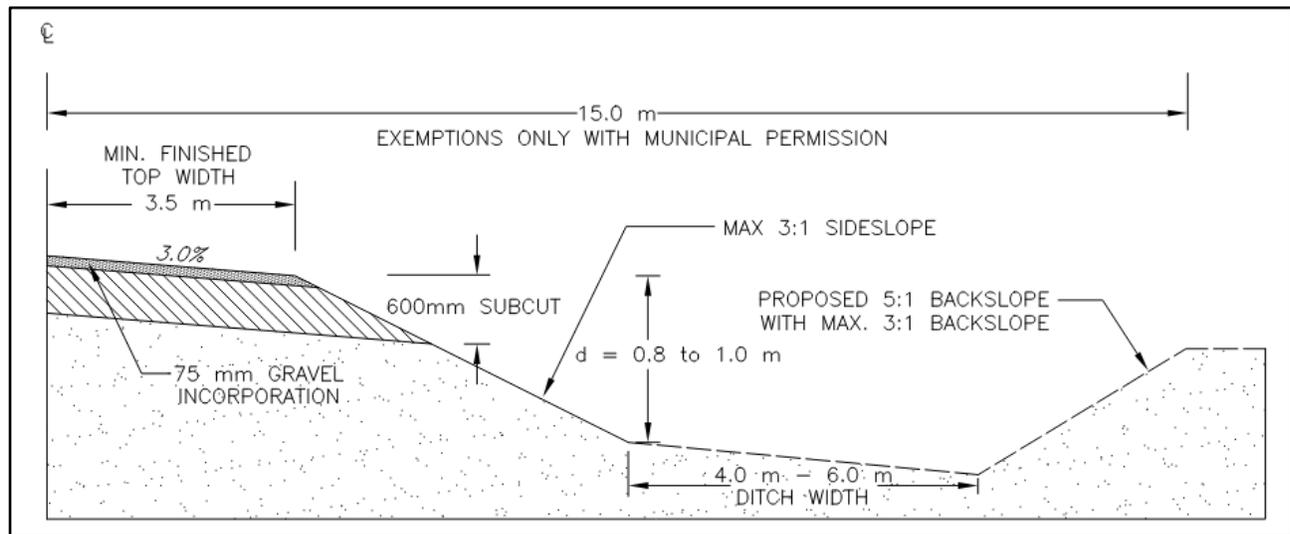


Figure 7. All Weather Gravel Access - Typical Cross-Section Subgrade

4.1.5 Referral to Highways

The Ministry of Highways and Infrastructure (Ministry) was engaged prior to commencing the TIA to confirm expectations for intersections and level of analysis. The applicant understands that the TIA will be circulated to the Ministry during the CDR review process.

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4.2 DRAINAGE

4.2.1 Introduction & Existing Drainage Patterns

The following stormwater analysis outlines the development area's pre-development and post-development runoff generation, and the required stormwater management infrastructure to mitigate development impacts on neighbouring parcels. The following analysis is intended to meet the requirements of the R.M. of Corman Park's CDR checklist. The engineering drawings for the Stormwater management study can be found in **Appendix E**.

The RM of Corman Park's North Concept Plan indicates that the region's drainage patterns generally flow from north to south to a wetland complex southeast of the proposed development. LiDAR data for the existing parcel confirms general drainage patterns from north to south with localized low points along the Twp. Rd. 382 ditch. Generally, runoff is captured in an existing ponding area in the southeast corner of the parcel. Drawing 885-00101 (**Appendix E**) shows the parcel's existing drainage patterns and topography.

4.2.2 Proposed Drainage Approach

4.2.2.1 Catchment Areas

The proposed stormwater management strategy consists of a single stormwater catchment area that drains into the development's existing stormwater retention pond in the southeast corner of the existing parcel. Ultimately, this pond will discharge to existing and proposed ditches to the southeast as per existing regional drainage patterns and the long-term stormwater strategy as outlined in the North Concept Plan.

The stormwater management strategy will manage drainage from a 24-hour 1-in-100-year storm event by grading the site to flow to the stormwater retention pond and limiting pond discharge rates to the pre-development 24-hour 1-in-100-year discharge rate. Drawing 885-00102 (**Appendix E**) shows the conceptual site grading plan.

The conceptual site grading includes back-to-front grading to direct runoff to the ditches of the proposed subdivision access road. These ditches will follow the natural drainage patterns from north to south, ultimately discharging to the proposed stormwater retention pond.

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4.2.2.2 Stormwater Design Parameters

Stormwater discharge from the proposed development will be limited to the pre-development release rate in the 1-in-100-year 24-hour design event. The following parameters were drawn from Section 6 of the City of Saskatoon's Design and Development Standards Manual (DDSM).

Table 5. Key Stormwater Design Parameters

Design Parameter	Value	Comment
Major System Design Event	1-in-100 year 24-hour event	Used to establish pre- and post-development release rates and estimate active storage requirements.
Design Event Intensity	5.33 mm/hr	Taken from Table B-1 from Section 6 of the City of Saskatoon DSSM.
Design Event Rainfall Depth	128 mm	Taken from Table B-1.1 from Section 6 of the City of Saskatoon DSSM.
Pasture/Range/Undeveloped/Greenspace 1-in-100-year Drainage Coefficient, C	0.25	Value used for greenspace and undeveloped lands.
Light Industrial 1-in-100-year Drainage Coefficient, C	0.6	Taken as value for low-site coverage rural industrial style development)
Wet Pond Normal Water Level (NWL) 1-in-100-year Drainage Coefficient, C	1	Used for wet pond NWL.

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4.2.3 Calculation of Pre- and Post-Development Runoff

Based on the parameters in **Table 5**, conceptual rational method calculations of pre- and post-development peak flow rates and runoff volume were completed for the 1-in-100-year 24-hour event (see **Table 6**). Since the existing parcel is partially developed with Shercom's existing business, the pre-development state was taken as the land's natural state before the development of Shercom's existing site compared to a post-development state, which considers the entire proposed development.

Table 6. Summary of Pre- and Post-Development Runoff and Peak Runoff Rate

Pre-Development Peak Flow Rate					
Pre-Development Land Use	C	24-hour 1-in-100 Year Intensity (mm/hour)	Area (ha)	Peak Runoff Flow (L/s)	Total Runoff Volume At Peak Rate Across Storm Duration (m ³)
Pasture/Range	0.25	5.33	23.71*	79.1	6,836
Post-Development Peak Flow Rate					
Post-Development Land Use	C	24-hour 1-in-100 Year Intensity (mm/hour)	Area (ha)	Peak Runoff Flow (L/s)	Total Runoff Volume At Peak Rate Across Storm Duration (m ³)
Industrial Lots	0.6	5.33	18.94	168.4	14,548
Road Right-of-way - North Half	0.3	5.33	2.42	10.8	929
Post-Development Total:			21.36	179.1	15,478
Increase in Release Rate/Runoff Volume - Total				100.0	8,642

*Note that total area does not include the south right-of-way extension which naturally drains to the south and will not be captured by the proposed stormwater retention facility.

Based on this table, the following conclusions can be drawn:

- The pre-development peak release rate for the entire parcel can be taken as 79.1 L/s
- The increase in runoff caused by the proposed development for the 1-in-100-year 24-hour design event is 8,642 m³. This value can be taken as the required active storage to limit discharge to the predevelopment rate.
- The total post-development runoff generated by the design event is taken as 15,478 m³.

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4.2.4 Proposed Stormwater Management Infrastructure

Based on the available topographic survey information, the existing stormwater retention pond has sufficient available volume to accommodate the runoff produced across the entire development during the design event. Therefore, the south pond is proposed to remain generally in its existing state with minor fine grading to ensure side slopes have a maximum slope of 4:1.

Discharge from the retention pond will be controlled using an outlet pipe or orifice plate to limit peak flow rates to 79.1 L/s. Preliminary calculations indicate that a 375mm outlet pipe installed at 0.21% slope would be sufficient to restrict overflow discharge. Based on the existing topography of the parcel and its surroundings, the outlet pipe will function as an overflow pipe at the HWL since its invert elevations will be constrained by the surrounding existing surface elevations.

A drainage swale/ditch will be constructed downstream of the proposed pond to direct pond overflow to the Township Road 381 ditch in the south. This approach aligns with the area's existing and long-term regional drainage patterns and will allow the proposed drainage system to be implemented into long-term regional plans.

It is assumed that these facilities would ultimately be owned and maintained by the RM of Corman Park. The applicant will enter into a servicing agreement with the RM, which will include transferring ownership and maintenance of the proposed ponds to the RM following development of the proposed subdivision. Expected maintenance of the proposed utility parcel will include periodic mowing of proposed channels and ponding areas as well as occasional removal of obstructions in proposed ditches and culverts.

Based on **Table 6** the following pond parameters are proposed.

Table 7. Conceptual Pond Design Information

Pond Parameter	South Pond (existing)
NWL	498.83 m
HWL	501.4 m
Top of Free Board Elevation	505.39 m
Active Storage Depth	2.57 m
Active Storage Volume	26,000 m ³ (existing) 8,642 m ³ (required based on runoff analysis in Table 6)
Total Runoff Produced during 1-in-100-year event	15,478 m ³
Pond Length (HWL)	69 m
Pond Width (HWL)	48 m
Length to Width Ratio	1.44:1
Peak Discharge Rate	79.1 L/s
Discharge Pipe	375mm @ 0.21% with flow control

4.3 WASTEWATER

The proposed new lots will have on-site septic or holding tanks, which will be permitted on a case-by-case basis depending on proposed developments. Liquid waste will be hauled on an as-needed basis by a licensed hauler to an approved disposal facility. When installation occurs, all new wastewater systems must be permitted, inspected, and approved by the provincial Health Authority. A letter was received from McGill's Industrial Services Inc. agreeing to provide septic pumping and hauling services for the proposed subdivision (see **Appendix F**).

4.4 POTABLE WATER SUPPLY

An agreement will be made between the developer and InterValley Water (SaskWater) to supply low-pressure potable water to the proposed subdivision. Each lot will require its own onsite water storage tanks (at least 500L) based on their individual needs. Each lot owner will be responsible for paying for the installation and maintenance of their water services.

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The low-pressure water distribution system is not capable of supplying fire suppression. Therefore, the proposed retention pond can be used as a fire protection water source if required.

4.5 GEOTECHNICAL

Eco Engineering completed a geotechnical report for the proposed development area in 2022. The report is included in **Appendix G**. An additional 2016 geotechnical report, which includes design recommendations for paved and unpaved road structures, was also referenced and included in **Appendix G**.

4.6 SHALLOW UTILITIES

There is existing power, natural gas, and telecommunications infrastructure adjacent to the parcel to service existing neighbouring parcels. The developer has received proposals from the SaskEnergy and SaskPower companies to service the entire subdivision. Refer to **Appendix H** for these quotes. SaskTel servicing will be coordinated as individual parcels are developed.

4.7 SOLID WASTE

Similar to liquid waste, solid waste hauling and disposal will be coordinated on a parcel-by-parcel basis as development occurs.

4.8 MUNICIPAL & PROTECTIVE SERVICES

The required level of municipal protective services is not expected to increase substantially from what is currently provided to the area and its neighbouring industrial subdivisions. Note that specific uses on future parcels are not yet confirmed, and the specific needs of future individual users will need to be assessed during site development.

Shercom maintains regular contact with fire protection services in Warman, Martensville, and Saskatoon. All three fire departments can and have provided fire protection and first responder services to the Shercom parcel. Currently, Saskatoon's Hall #7 officially supplies fire protection services through a contract with the RM of Corman Park.

MD Ambulance currently provides ambulance service, and the Corman Park Police Service and the RCMP provide policing.

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5 PUBLIC CONSULTATION

5.1 DESCRIPTION OF PUBLIC CONSULTATION APPROACH

To meet the public consultation requirements of the CDR process, the applicant coordinated with the RM to determine an appropriate level of engagement for the proposed development. Based on these conversations, an informational package was distributed to landowners with 1.6 km of the proposed development. This package provided recipients with a method for providing feedback over a 30-day period. Additionally, the applicant hosted a public open house on January 4, 2024, which gave neighbouring property owners an additional opportunity to provide feedback.

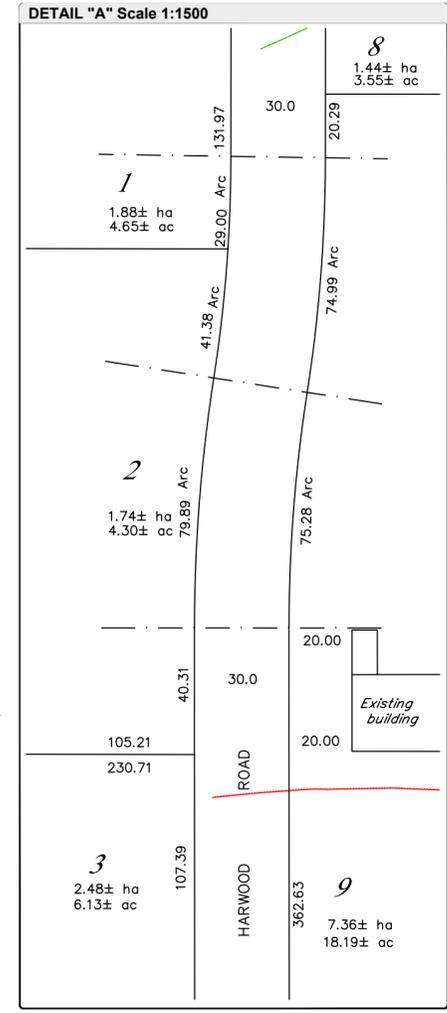
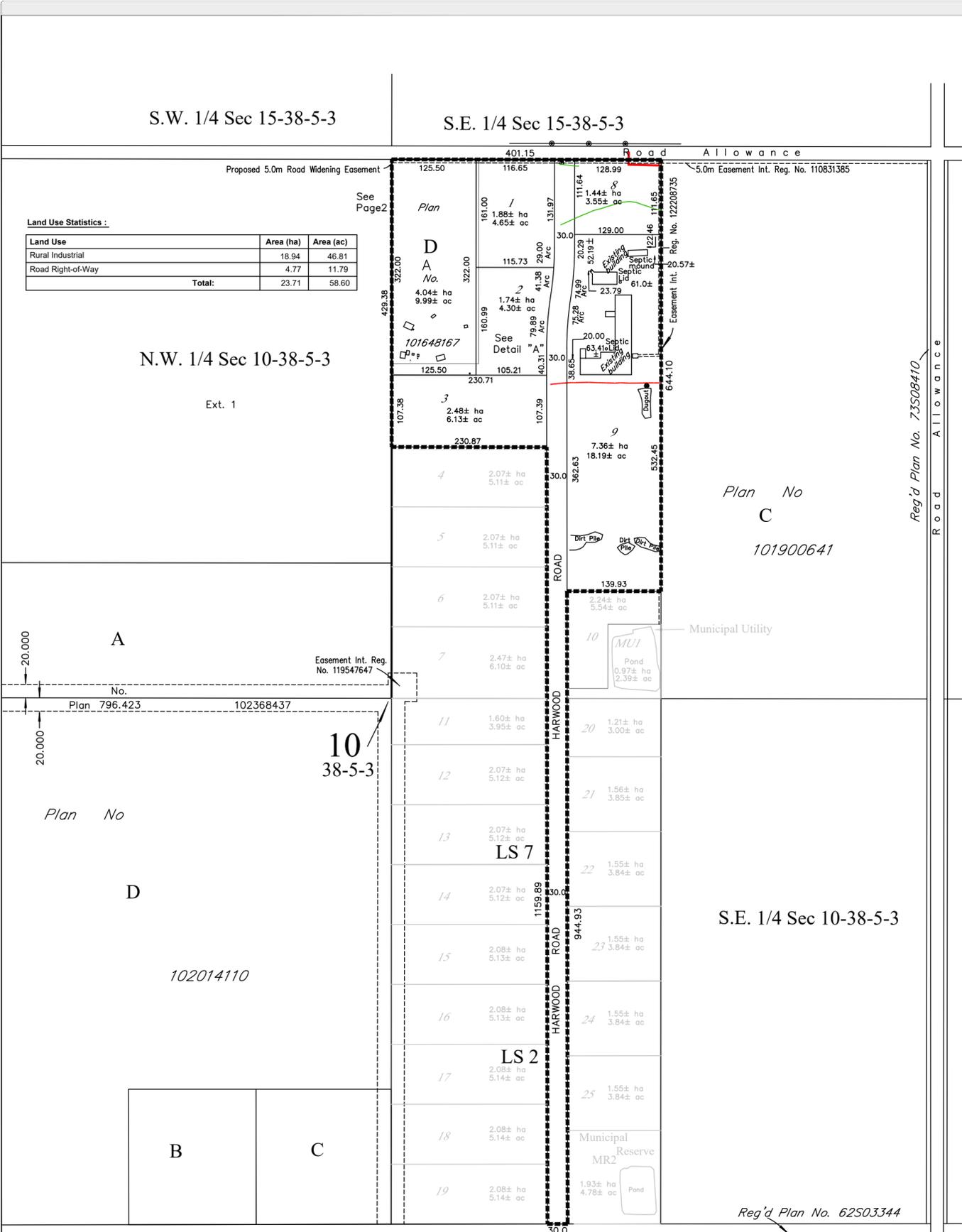
Feedback received is included in **Appendix I**. No negative feedback or concerns which warrant a response were received.

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Client: 101063662 Saskatchewan Ltd.

Shercom Industries Ltd.

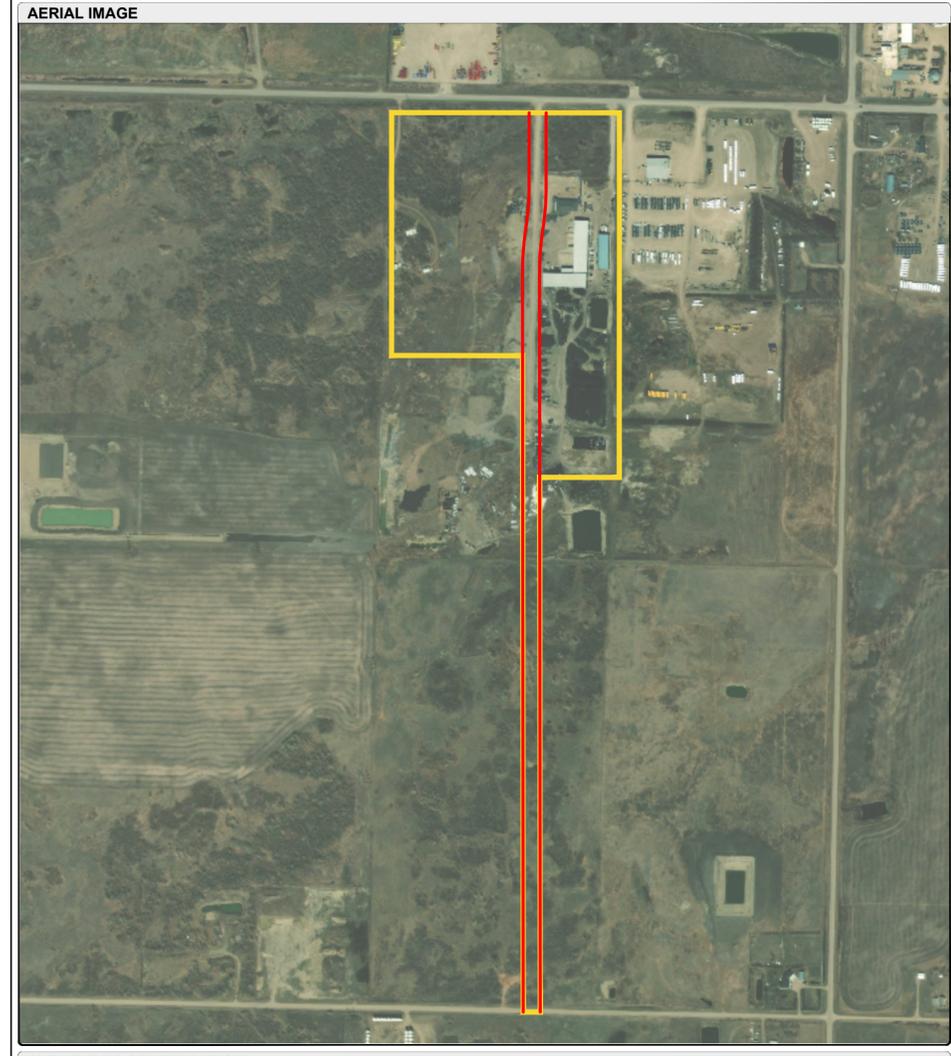
Appendix A Plan of Proposed Subdivision



PLAN SHOWING
PLAN OF PROPOSED SUBDIVISION
 OF
PARCEL A, PLAN NO. 101648167 &
PARCEL B, PLAN NO. 101900641
NE1/4 SEC 10, TWP 38, RGE 5, W3 Mer &
LSD 7 & LSD 2
SE 1/4 SEC 10, TWP 38, RGE 5, W3 Mer
 IN THE
R.M. OF CORMAN PARK No. 344, SASKATCHEWAN
2024
SCALE = 1: 5000

NOTES

- MEASUREMENTS ARE IN METRES AND DECIMALS THEREOF.
- SOME MEASUREMENTS ARE APPROXIMATE AND MAY DIFFER FROM THE FINAL PLAN OF SURVEY BY AS MUCH AS 5 METRES.
- PORTION TO BE APPROVED IS OUTLINED WITH A BOLD DASHED LINE AND CONTAINS 23.71± ha (58.60± ac) WHICH INCLUDES 4.77± ha (11.79± ac) FOR STREET.
- THE TOPOGRAPHICAL INFORMATION PROVIDED CURRENT AS OF 2016.



LEGEND

Buried cable lines shown thus:

Buried communication lines shown thus:

COMMUNITY PLANNING

Registered Owner dd/mm/yy
 The signature above indicates that I (we) approve the Plan of Proposed Subdivision as presented.

LANDOWNERS

Registered Owner dd/mm/yy
 The signature above indicates that I (we) approve the Plan of Proposed Subdivision as presented.

SURVEYORS CERTIFICATION

September 19, 2025
 Date

Saskatchewan Land Surveyor

No.	DATE	REVISION / ISSUED	JOB No.	PAGEN1/2
01	10/26/2023	FOR ISSUE	SC-0195-22	5 REVISION
02	03/09/2024	Road Revised		
03	07/11/2024	MR2 & MR Revised		
04	09/23/2024	Road Revised		
05	02/16/2025	Proposed 5.0m Road Widening Easement Added Revised By The Client		

SURVEYED BY: JK/JC CALC'D BY: BL/CR DRAWN BY: AM SC-0195-22-J1-PPS

Webb Surveys
 (A Division of Midwest Surveys Inc.)

222 JESSOP AVE
 SASKATOON, SK
 S7N 1Y4
 TEL: 306-955-5330

Comprehensive Development Review

Client: 101063662 Saskatchewan Ltd.

Shercom Industries Ltd.

Appendix B Environmental Assessment

PHASE I ENVIRONMENTAL SITE ASSESSMENT

PARCELS 145389268 & 145389246
IN THE

RURAL MUNICIPALITY OF CORMAN PARK NO. 344, SASKATCHEWAN



Prepared for:

Boyes Group Realty Inc.
Attention: Jordon Boyes
505 - 315 - 5th Avenue
SASKATOON, Saskatchewan

By:

Polson Environmental
Saskatoon, Saskatchewan

SEPTEMBER 27, 2023

POE-023-49



POLSON ENVIRONMENTAL

2001 St. Henry Ave, Saskatoon, SK S7M 0P4

Phone: 306-221-4569

Email: johnpolson@shaw.ca

Website: www.polsonenvironmental.com

September 27, 2023

Boyes Group Realty Inc.
Attention: Jordon Boyes
505 - 315 - 5th Avenue
SASKATOON, Saskatchewan
&
Lenders

The enclosed Phase I Environmental Site Assessment Report was prepared for **Boyes Group Realty Inc. and their lenders** by Polson Environmental for a Site consisting of two undeveloped parcels in the Rural Municipality of Corman Park No. 344 in Saskatchewan. The legal description of the Subject Property is as follows:

- a) LSD 2, Sec. 10, Twp. 38, Rge. 05, West of the Third Meridian, Extension 173, as described on Certificate of Title 89-S-06726, description 173 in the Rural Municipality of Corman Park No. 344, the Saskatoon Land Titles District and the Province of Saskatchewan.
- b) LSD 7, Sec. 10, Twp. 38, Rge. 05, West of the Third Meridian, Extension 174, as described on Certificate of Title 89-S-06726, description 174 in the Rural Municipality of Corman Park No. 344, the Saskatoon Land Titles District and the Province of Saskatchewan.

It is acknowledged that the information contained within this report will be used to evaluate the potential environmental liability for lending purposes.

The assessment was completed by Polson Environmental and follows guidelines contained in CSA Standard Z768 - 01 (Revised in 2022). The study was completed by Assessor John Polson BAg, MSc. AESAC and Eileen Barlow B.A. AESAC- Phase I Site Assessor (In Training). The opinions represented in this report are based on data collected for a Phase I Site investigation and are subject to limitations inherent in this level of investigation.

Sincerely yours,

John Polson MSc. AESAC - Phase I Site Assessor

POLSON ENVIRONMENTAL

**Eileen Barlow B.A. AESAC- Phase I Site Assessor
(In-Training)**

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APPENDIX G - SITE PHOTOS

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PHASE I ENVIRONMENTAL SITE ASSESSMENT FOR:

PARCELS 145389268 & 145389246

RURAL MUNICIPALITY OF CORMAN PARK

NO. 344, SASKATCHEWAN

FOR:

Boyes Group Realty Inc.

Attention: Jordon Boyes

505 - 315 - 5th Avenue

SASKATOON, Saskatchewan

By: Polson Environmental

Saskatoon Saskatchewan

September 27, 2023

POEN - 023 - 049

1.1 EXECUTIVE SUMMARY

Jordon Boyes has commissioned *Polson Environmental* to conduct a Phase I Environmental Site Assessment for 77 acres of land consisting of two legal parcels located in the Rural Municipality of Corman Park, Saskatchewan. The report was commissioned on behalf of **Jordon Boyes - Boyes Group Realty**.

totalling 77.87 acres or 31.52 hectares. The Site (Subject Property, Property) has the following legal description:

- a) *LSD 2, Sec. 10, Twp. 38, Rge. 05, West of the Third Meridian, Extension 173, as described on Certificate of Title 89-S-06726, description 173 in the Rural Municipality of Corman Park No. 344, the Saskatoon Land Titles District and the Province of Saskatchewan.*
- b) *LSD 7, Sec. 10, Twp. 38, Rge. 05, West of the Third Meridian, Extension 174, as described on Certificate of Title 89-S-06726, description 174 in the Rural Municipality of Corman Park No. 344, the Saskatoon Land Titles District and the Province of Saskatchewan.*

The Property is located approximately 3.1 km to the north of the northern City limits of Saskatoon between Range Road 3052 and 3053.

The Site is zoned AG2 - Agricultural District. The Subject Property is 1.8km to the south of the Corman Industrial Park. There are no gas stations currently operating in the general area. No hazardous materials storage sites or environmentally impacted sites within 300m of the Site were noted in the search of the Ministry of the Environment's databases.

CONCLUSIONS

A Phase I Site Assessment was conducted for a block of undeveloped land in the Rural Municipality of Corman Park No. 344 to the north of the City of Saskatoon.

None of our research identified any significant environmental concerns for the Property.

RECOMMENDATIONS

There are no recommendations for further environmental work on this Site at this time.

2.0 INTRODUCTION

A Phase I Site Assessment was conducted for **Jordon Boyes - Boyes Group Realty Inc.** for a 77.87-acre block of land located in the Rural Municipality of Corman Park No. 344 approximately 3.1km to the north of Saskatoon, Saskatchewan. The Property has the following legal description:

- a) *LSD 2, Sec. 10, Twp. 38, Rge. 05, West of the Third Meridian, Extension 173, as described on Certificate of Title 89-S-06726, description 173 in the Rural Municipality of Corman Park No. 344, the Saskatoon Land Titles District and the Province of Saskatchewan.*
- b) *LSD 7, Sec. 10, Twp. 38, Rge. 05, West of the Third Meridian, Extension 174, as described on Certificate of Title 89-S-06726, description 174 in the Rural Municipality of Corman Park No. 344, the Saskatoon Land Titles District and the Province of Saskatchewan.*

The purpose of the Phase I Environmental Site Assessment (ESA), as described in CSA Standard Z768-01 (most recent revision 2022) is to identify actual and potential site contamination and to reduce uncertainty about potential environmental liabilities. Findings and conclusions regarding contamination of the Subject Property are:

- 1) based solely on the extent of observations and information gathered during Phase I and
- 2) do not involve the selection or implementation of any measuring, sampling, analysis or remedial actions.

In completing the Phase I ESA, *Polson Environmental* has followed the requirements as set out in the CSA Standard Z768 - revised in 2022. They have examined the Property, conducted interviews, examined relevant historical documents and conducted and reviewed relevant file searches. This research is described in Sections 3 to 7.

3.0 SITE DESCRIPTION

The Subject Property is located on the north side of TWP Road 381 between Range Roads 3052 and 3053 in the Rural Municipality of Corman Park No. 344 (Figures 1 & 2, Appendix A). The Site consists of 77.87 acres (31.52 hectares) of vacant land. Properties to the east and west are cultivated. There is a site consisting of multiple grain bins to the south and the Corman Industrial Park is located 1.8km to the NE (Figures 1 & 2, Appendix A). Shercom Industries (Tire recyclers) is located to the north. There are no gas stations operating in the area.

The Site is situated 3.8 km to the NW of the South Saskatchewan River. The expected dominant Regional Groundwater Drainage would be to the SE towards the river valley (Figure 3, Appendix A).

Local water table levels are generally derived from Water Driller Reports (*Saskatchewan Water Security Agency*) in the vicinity of the Subject Property. Water table levels ranged from 4.88 to 9.75m. A summary of information from the available water well report is shown in Table 2 and a copy of the water well data sheet is included as Appendix B. The location of the vicinity well is shown in Figure 4, Appendix A.

Table 3 provides the soil profile of the nearest water well. This profile was dominated by tills and gravel. Water infiltration would be expected to be very good.

Table 1. Summary of Well Drillers Reports for Wells in the General Vicinity of Parcels 145389268 & 145389246 in the R.M. of Corman Park, Saskatchewan.

WELL ID NO.	OWNER	WELL USE	WELL LEVEL FEET (METRES)
WELL SITE A			
210707	Paulson	Domestic	n/a
WELL SITE B			
201386	Vanghei	Domestic	n/a

WELL ID NO.	OWNER	WELL USE	WELL LEVEL FEET (METRES)
<u>WELL SITE C</u>			
032027	Friesen	Domestic	30.00 ft (9.14m)
<u>WELL SITE D</u>			
104832	Schreiner	Domestic	32.00 ft (9.75m)
065733	Giesbrecht	Domestic	16.00 ft (4.88m)
<u>WELL SITE E</u>			
079797	Zacharias	Domestic	n/a
065734	Zacharias	Domestic	n/a

n/a - Information not available

Table 2. Soil Profile of the Nearest Water Well - 1st 100 feet.

Depth Feet (Metres)	Material
Water Well #201386	
1.0 ft (0.31m)	Topsoil
5.00 ft (1.52m)	Till
12.00 ft (3.66m)	Till
23.00 ft (7.01m)	Till
26.00 ft (7.93m)	Gravel
48.00 ft (14.63m)	Till

The Surficial Geology of the Site is classified as a Glacialfluvial Plain (GFp) (Appendix A, Figure 5). These sites tend to have well-drained soils.

4.0 SITE HISTORY AND RECORDS REVIEW

4.1 INTERVIEWS

Both the Real Estate Agent and one of the owners were interviewed. The Site has never had a building on it and the only activity in the past was the removal of gravel. It has lain idle for many years. The relator provided an information sheet for the site. this is included as Appendix C.

4.2 RURAL MUNICIPALITY OF CORMAN PARK NO. 344

The R.M. Office of Corman Park was visited. They did not have any permits for the Site. They did provide the zoning for the Property.

4.3 ZONING

The Subject Property is zoned "AG2" - Agricultural District. The intent is *"to accommodate large acreage residential and small scale agricultural uses"*.

A copy of the zoning bylaw is included in Appendix D.

4.4 FIRE INSURANCE MAPS

There are no fire insurance maps available for the Site or general area.

4.5 FIRE SUPPRESSION

Fire suppression, should it be needed, would be supplied by the vicinity cities.

4.6 MINISTRY OF THE ENVIRONMENT

A search of the Ministry of the Environment (MOE) databases was initiated for the study. These included the "Storage of Hazardous Materials", "Spills" and "Environmentally Impacted Sites" databases. The searches looked for hazardous materials storage and spills within a 300m radius of the Subject Property.

Storage of Hazardous Materials database (1980 to present)

This search is in a list format. Filters used included the community name "Corman Park". The database returned 37 hits for the community of Corman Park. Of these 37 hazardous storage sites, none (0) were identified within 300 metres of the Subject Property.

A copy of the database search is included in Appendix E.

Spills Database (January 1, 2015 to present)



This search is map-based. Blue dots indicate spill sites, and the red star is the location of the Subject Property. No recent discharges were identified within 300 metres of the Subject Property.

Environmentally Impacted Sites Database



This search is map-based. Blue dots indicate environmentally impacted sites, and the red star is the location of the Subject Property.

No environmentally impacted sites were identified within 300 metres of the Subject Property.

Copies of the results of the searches of both MOE databases are included in Appendix E.

4.7 LAND TITLES

The Land Title history was followed back to 1962 (61 years). The most recent owner is L & L Gravel & Ranching Co. Ltd. (16 August 2002). None of the Land Title records nor the caveats, easements or liens registered against the Site represent environmental concerns. A list of historic ownership is included in Table 3 and the caveats, easements and liens are shown in Table 4. Copies of the Land Titles are included as Appendix F.

Table 3: Land Titles History - Parcels 145389268 & 145389246 in the R.M. of Corman Park, Saskatchewan.

OWNER	DATE	TITLE NUMBER	LOT
L & L Gravel & Ranching Co. Ltd.	16 August 2002	112452285	LSD 02, Sec. 10, Twp. 38, Rge. 05, W3
L & L Gravel & Ranching Co. Ltd.	16 August 2002	112452308	LSD 07, Sec. 10, Twp. 38, Rge. 05, W3
L & L Gravel & Ranching Co. Ltd.	21 February 1989	89-S-06726	LSD 02 & 07, Sec. 10, Twp. 38, Rge. 05, W3

OWNER	DATE	TITLE NUMBER	LOT
Saskatoon Ready-Mix Concrete Company Limited	30 August 1968	68-S-18490	LSD 02 & 07, Sec. 10, Twp. 38, Rge. 05, W3
John J. Friesen	30 August 1968	68-S-18489	SE 10, 38, 05, W3

Table 4: Caveats, Easements & Liens - Parcels 145389268 & 145389246 in the R.M. of Corman Park, Saskatchewan, Saskatchewan.

ACTION	DATE	HOLDER
Easement	28 February 2014	Saskatchewan Power Corporation
Easement	02 February 1982	Saskatchewan Power Corporation
Easement	15 October 1981	Saskatchewan Power Corporation
Easement	07 October 1970	Saskatchewan Telecommunications
Tax Lien	20 January 1965	R.M. of Corman Park No. 344
Tax Lien	20 January 1965	R.M. of Warman No. 374
Caveat	6 September 1962	Caveat
Caveat	21 March 1961	Saskatoon Ready-Mix Concrete Company Limited

4.8 HENDERSON DIRECTORIES

The history of specific addresses can be traced through the Henderson Directories which, in Saskatchewan, where available, generally span the years from the early 1900's to 2000 at which time they were discontinued.

There has been no development on the Site and therefore the area would not have been surveyed for the Hendersons Directories.

4.9 REVIEW OF HISTORIC AERIAL PHOTOGRAPHS AND SATELLITE IMAGERY

Historic aerial photographs and high-resolution satellite imagery were available for the Site and vicinity properties for the years 1956 to 2023 (Figure 6 - 16, Appendix A). The photographs and imagery were reviewed and our findings are summarized in Table 5.

Table 5: Interpretation of Historic Aerial Photographs & High-Resolution Satellite Imagery for Parcels 145389268 & 145389246 in the R.M. of Corman Park, Saskatchewan.

YEAR & SCALE PHOTO QUALITY	SITE	TO THE NORTH & SOUTH	TO THE EAST & WEST	OTHER FEATURES	ENVIRONMENTAL CONCERNS
Fig. 6 1956 1:60,000 (Good Quality)	The area is undeveloped and may be largely pasture or hay land.	Pasture and/or hay land.	Pasture and/or hay land. A small portion is cultivated to the east.	No vicinity developments.	No concerns noted
Fig. 7 1975 1:50,000 (Fair Quality)	No significant change	No significant change	No significant change	No significant change	No significant change
Fig. 8 1998 1:60,000 (Good Quality)	There is a gravel pit on the north half of the Site.	No significant change	No significant change	There are now known as the Corman industrial Park has been developed 1.8km to the NE.	No significant change
Fig. 9 2002 1:5,000 SPOT Satellite Image (Good Quality)	There are a few small waterbodies on the Site.	There are two small disturbed areas on the south side of the road that bounds the south end of the Site.	No significant change	No significant change	No significant change

YEAR & SCALE PHOTO QUALITY	SITE	TO THE NORTH & SOUTH	TO THE EAST & WEST	OTHER FEATURES	ENVIRONMENTAL CONCERNS
Fig. 10 2006 1:5,000 SPOT Satellite Image (Good Quality)	No significant change	No significant change	There are a significant numbers of wetland area on the adjacent property to the east. Land to the west of the north half has been cultivated.	No significant change	No significant change
Fig. 11 2011 1:5,000 SPOT Satellite Image (Good Quality)	There are many small waterbodies on the site.	No significant change	No significant change	No significant change	No significant change
Fig. 12 2012 1:5,000 SPOT Satellite Image (Good Quality)	No significant change - still a wet year.	No significant change	No significant change	The current yard of grain bins south of the SW corner of the Site are now present.	No significant change
Fig. 13 2014 1:5,000 SPOT Satellite Image (Good Quality)	Much of the wetlands on the Site are now dry.	No significant change	No significant change	No significant change	No significant change
Fig. 14 2017 1:5,000 SPOT Satellite Image (Good Quality)	There is a new commercial development north of the Site. The area continues to dry up.	No significant change	No significant change	No significant change	No significant change

YEAR & SCALE PHOTO QUALITY	SITE	TO THE NORTH & SOUTH	TO THE EAST & WEST	OTHER FEATURES	ENVIRONMENTAL CONCERNS
Fig. 15 2023 1:5,000 SPOT Satellite Image (Good Quality)	No visible wet-lands	There are two dugouts north of the north boundary of the Site.	No significant change	No significant change	No significant change
Fig. 16 2023 1:5,000 SPOT Satellite Image (Good Quality)	Similar to the present.	Similar to the present.	Similar to the present.	Similar to the present.	No significant change

The review of historic aerial photographs and satellite imagery did not identify any environmental concerns.

4.11 SUMMARY OF FINDINGS

The Subject Property consists of vacant land located in the R.M. of Corman Park. The Site has, according to our interviews been mined in the past for gravel. There was no evidence of any permanent structures on the Site and none were noted in our review of historic aerial photographs and satellite imagery going back to 1956.

5.0 SITE INSPECTION

A Site Visit to the Property was conducted on September 19, 2023. The inspection included a review of recent high-resolution satellite imagery prior to conducting a walking tour of the land. The grounds were snow-free at the time of the Site Inspection.

Pertinent Observations:

- The Site consists of bushland interspersed with grassy areas within a willows and grass complex
- The Site includes a sparse cover of trees including trembling aspen, balsam poplar and cottonwood. The majority of the larger trees are either dead or in a stressed
- condition due to lack of water.
- A number of small wetlands are now dry and being vegetated by grasses and willows.
- Little evidence of wildlife was found on the Site.
- Horse trails are interspersed throughout the area as a number of horses currently graze the Site.

Adjacent Properties

- Sercom Industries is located to the north of the Site and Corman Industrial Park is located 1.8km to the NE.
- There were no gas stations operating in the vicinity.

Photographs were taken during the Site Visit and a selection of photographs is included in Appendix G.

6.0 FINDINGS

6.1 GENERAL OBSERVATIONS

A Phase I Site Assessment study was conducted for the Site. Prior to walking the land on foot, the area was reviewed by looking at up-to-date high-resolution colour satellite imagery. A review of existing information was conducted as well as interviews with persons familiar with the Property. Interpretation of aerial photographs and high-resolution satellite imagery extended back to 1956.

6.1.1 External Hazards

6.1.1.1 Hydrocarbons

There are currently no gas stations operating in the near vicinity of the Subject Properties.

No environmentally impacted sites involving hydrocarbons within 300m of the Subject Property are listed in the MOE database.

6.1.1.2 Other Hazardous Materials

No hazardous materials sites within 300m of the Subject Property were listed in the MOE database.

6.1.1.3 Vicinity Dry Cleaners

There are no dry cleaning businesses operating in the area.

6.1.1.4 Outside Staining and Stressed Vegetation

The grounds were snow-free at the time of inspection. There was no evidence found during our walking inspection of the Site of any evidence of oil or fuel staining on the Property.

6.1.1.5 Above-ground & Underground Fuel Storage Tanks

There was no historical evidence found, during the interpretation of aerial photography and satellite imagery nor during the Site Visit, to indicate the presence of above-ground storage tanks (ASTs) nor underground fuel storage tanks (USTs) having been on the Property.

6.1.1.6 Operation of Mechanical Equipment

The Site is currently vacant land. In the past gravel has been mined from the Property.

6.1.1.7 Exterior Drainage

Interpretation of historic aerial photography and satellite imagery and the Site Inspections did not identify any drainage concerns. A number of previously wet potholes are now dry and vegetated with grasses and willows.

6.1.1.8 Fill

Gravel has been mined in the past.

6.1.1.9 Sewage and Potable Water

There are no developments past or present on the Subject Property.

6.1.1.10 Solid Wastes

There was no evidence that the area had been used in the past as a local dump area. Two pieces of equipment left over from the gravel mining days were found on the Property during the Site Inspection. Neither had fuel tanks associated with them and were simply large metal equipment left over from the gravel mining process.

6.1.1.11 Wells, Pits & Lagoons

There were two lagoons north of the northern boundary of the Site noted in 2020 satellite image. These were not present in the 2023 imagery. Vicinity water wells are discussed in Section 3.0.

6.1.1.12 Watercourses, Ditches or Standing Water

There were no ditches in the area nor evidence of standing water. The closest watercourse was the South Saskatchewan River located 3.8km to the SE.

6.1.1.13 Roads, Parking Facilities, Rights-of-Way

The Site is located to the south of the Shercom Industries recycling plant and southwest of the Corman Industrial Park.

6.1.1.14 Vicinity Properties

Vicinity properties include areas similar to the Subject Property as well as some pasture and haylands. There are industrial properties situated to the north and northeast of the Subject Property.

6.1.1.15 Electromagnetic Fields (EMFs)

A high-tension transmission line runs north and south to the west of the western boundary of the Property.

6.1.1.16 Cemeteries

There are no known cemeteries in the vicinity of the Property.

6.1.2 Internal Hazards

There has not been and present is no development on the land and there was no evidence found to suggest that the area had ever contained a local dumping site.

6.1.2.1 Internal Staining

Not applicable.

6.1.2.2 Fluorescent Light Ballasts

No evidence was found that any appliances or fixtures had ever been dumped on the Site.

6.1.2.3 Heating and Cooling Systems

The Site has never been developed and there was no evidence found to suggest that the area had ever been a local dump area.

6.1.2.4 Drains and Sumps

It is not applicable as no development on the Site.

6.1.2.5 Indoor Mechanical

It is not applicable as no development on the Site.

6.1.2.6 Asbestos-containing Materials

Buildings constructed prior to 1985 may have asbestos or asbestos-containing materials (ACMs) that can crumble, powder or pulverize by hand pressure (i.e. friable) and represent an environmental concern. There was no evidence of asbestos or asbestos-containing materials being dumped or stored on the Site.

6.1.2.7 Lead-containing Paints

Canadian regulations (Hazardous Products Act) limited the amount of lead and mercury in paint in 2005. Older painted surfaces may contain lead. There is no evidence to suggest that any building materials have ever been stored on the Property.

6.1.2.8 Mercury-containing Materials

Mercury can be found in some thermostats and compact fluorescent light bulbs. No evidence that any appliances or fixtures have ever been dumped or stored on the Subject Property.

6.1.2.9 Urea Formaldehyde

The majority of Urea Formaldehyde Foam Insulation (UFFI) was installed in new and existing construction in Canada between 1975 and 1978 as part of the Canadian Home Insulation Program. UFFI was banned in Canada in 1980 due to health concerns. Not applicable as there has not been any development on the Property.

6.1.2.10 Ozone-depleting Substances

The Federal Government implemented the Ozone-Depleting Substances (ODSs) Regulations in 1994 to amend controls, on the manufacture and use of

chlorofluorocarbons (CFCs), halons, carbon tetrachloride and methyl chloroform. Not applicable as there has not been any development on the Property.

6.1.2.11 Bioaerosols

Bioaerosols include moulds and mildew. There was not any development on the Site noted during the Site Inspection.

6.1.2.12 Radon Gas

Not applicable as there has not been any development on the Property.

7.0 DISCUSSION

7.1 GENERAL

The Subject Property is 77.87 acres (31.52 hectares) of undeveloped land located in the R.M. of Corman Park No. 344. In the past, some gravel has been mined on the Property but there does not ever appear to have been any permanent structures on the Site.

Neither the historical research, interviews nor Site Inspections identified any significant environmental concerns for the Property.

7.2 CONCLUSIONS

A Phase I Site Assessment was conducted for a block of undeveloped land in the Rural Municipality of Corman Park No. 344 to the north of the City of Saskatoon.

None of our research identified any significant environmental concerns for the Property.

7.3 RECOMMENDATIONS

There are no recommendations for further environmental work on this Site at this time.

8.0 QUALIFICATIONS OF ASSESSORS & REPORT LIMITATIONS

8.1 QUALIFICATIONS OF THE ASSESSOR

The assessors for *Polson Environmental* were John Polson (MSc.) and Ms. Barlow.

Mr. Polson has been involved in environmental impact assessment for over 40 years. He is a member of the Associated Environmental Assessors of Canada (AESAC) and has conducted Phase I Site Assessments since 1995.

Ms. Barlow completed her AESAC Phase I Site Assessor training course in the spring of 2022 and began work with *Polson Environmental* in July 2022. Since joining *Polson Environmental* she has assisted in the Phase I study of over 45 commercial properties.

Additional information on *Polson Environmental*, including Proof of Insurance, is provided in Appendix H.

8.2 LIMITATIONS OF THE REPORT

Consistent with the accepted methodology for a Phase I Assessment, no on-site testing, sampling or analysis of soils, water, wastes, air or other materials was conducted. Our observations should be evaluated in light of this limited scope.

The study was conducted by *Polson Environmental* of Saskatoon, Saskatchewan for **Jordon Boyes - Boyes Group Realty of Saskatoon, Saskatchewan** to evaluate the potential environmental liabilities associated with the Site discussed in this report as of 27 September, 2023.

9.0 REFERENCES AND SUPPORTING DOCUMENTATION

Canadian Standards Associated. Phase I Environmental Site Assessment Document No. Z768-01 - Revised 2022.

Canadian Standards Associated. Phase I Environmental Site Assessment Document No. Z768-01 - Revised 2016.

Canadian Standards Associated. Phase I Environmental Site Assessment Document No. Z768-01 - Re-affirmed in 2012.

Saskatchewan Ministry of the Environment. Hazardous Materials Storage Database (1980-present) and Spills Database (1998-2014). Available at: <http://www.saskspills.ca>

Saskatchewan Water Security Agency. 2014. Water Well Information Database. Available at: <http://gis.wsask.ca/>

The GOS Initiative. Saskatchewan GeoHub. Discharge Cases (Spills) Database (2015-present). Available at: <https://environment-saskatchewan.hub.arcgis.com/datasets>

The GOS Initiative. Saskatchewan GeoHub. Environmentally Impacted Sites database. Available at: <https://environment-saskatchewan.hub.arcgis.com/datasets/saskatchewan::environmentally-impacted-sites>

Why Dry Cleaners Pose Problems for Commercial Real Estate Properties. 2016. ESSEL Environmental.

APPENDIX A

MAPS, FIGURES, AERIAL PHOTOGRAPHS

Figure 1: Location of the Subject Properties

Figure 2: Site & General Vicinity

Figure 3: Local Waterbodies

Figure 4: Vicinity Water Wells

Figure 5: Surficial Geology

Figure 6: 1956 Aerial Photograph

Figure 7: 1975 Aerial Photograph

Figure 8: 1998 Aerial Photograph

Figure 9: 2002 SPOT Satellite Image

Figure 10: 2006 SPOT Satellite Image

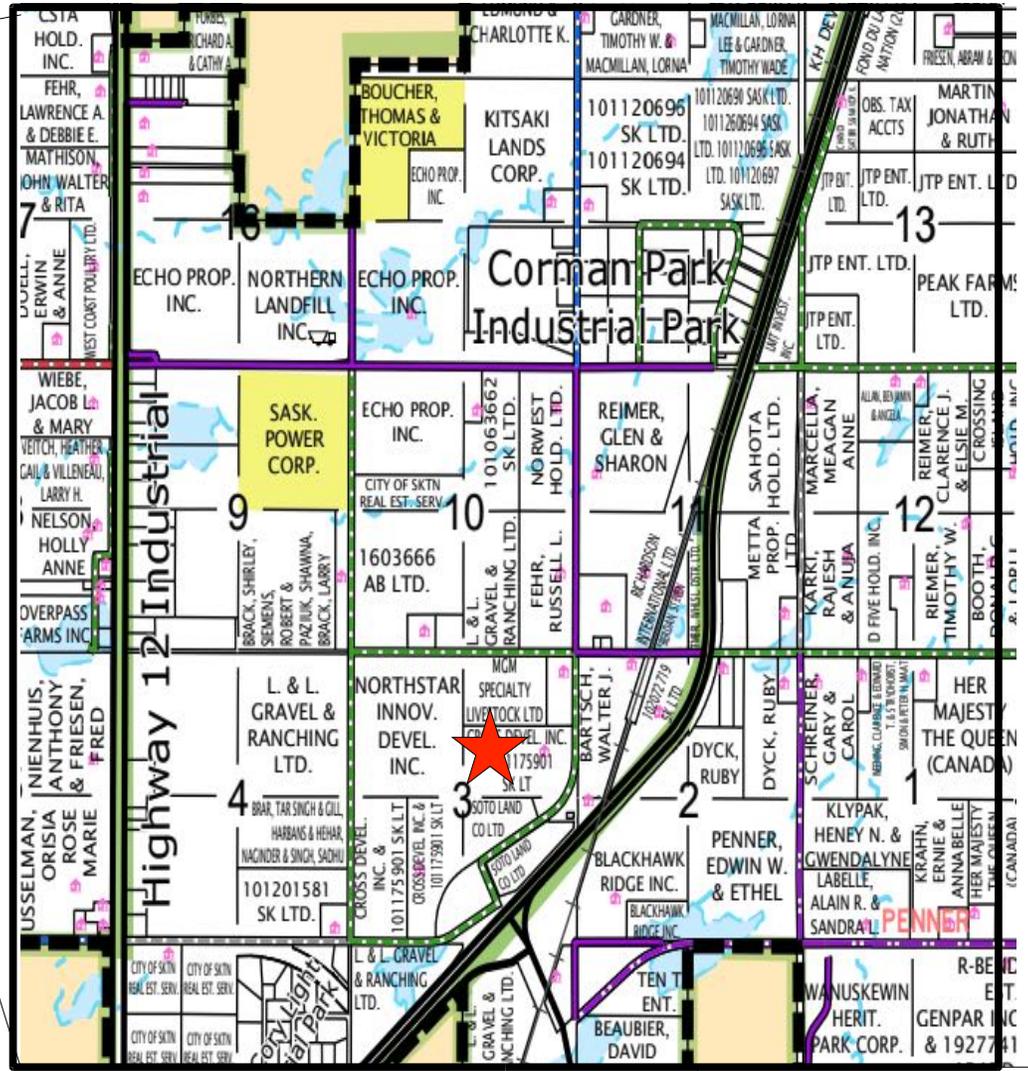
Figure 11: 2017 SPOT Satellite Image

Figure 12: 2012 SPOT Satellite Image

Figure 13: 2014 SPOT Satellite Image

Figure 14: 2017 SPOT Satellite Image

Figure 15: 2023 SPOT Satellite Image



R.M. of Corman Park

LEGEND:  LOCATION OF THE SUBJECT PROPERTY



2001 St. Henry Avenue
Saskatoon, SK
S7M 0P4 Canada

306-221-4569
Polsonenvironmental.com

DRAWING TITLE: FIGURE 1: LOCATION OF THE SUBJECT PROPERTY

PROJECT: PHASE I ENVIRONMENTAL SITE ASSESSMENT FOR PARCELS 145389268 & 145389246 IN THE R.M. OF COMAN PARK NO. 344, SASKATCHEWAN

DRAWN BY: JP

PROJECT NO:

DATE: SEPTEMBER 16, 2023

SCALE: NOT TO SCALE

POEN-023-049

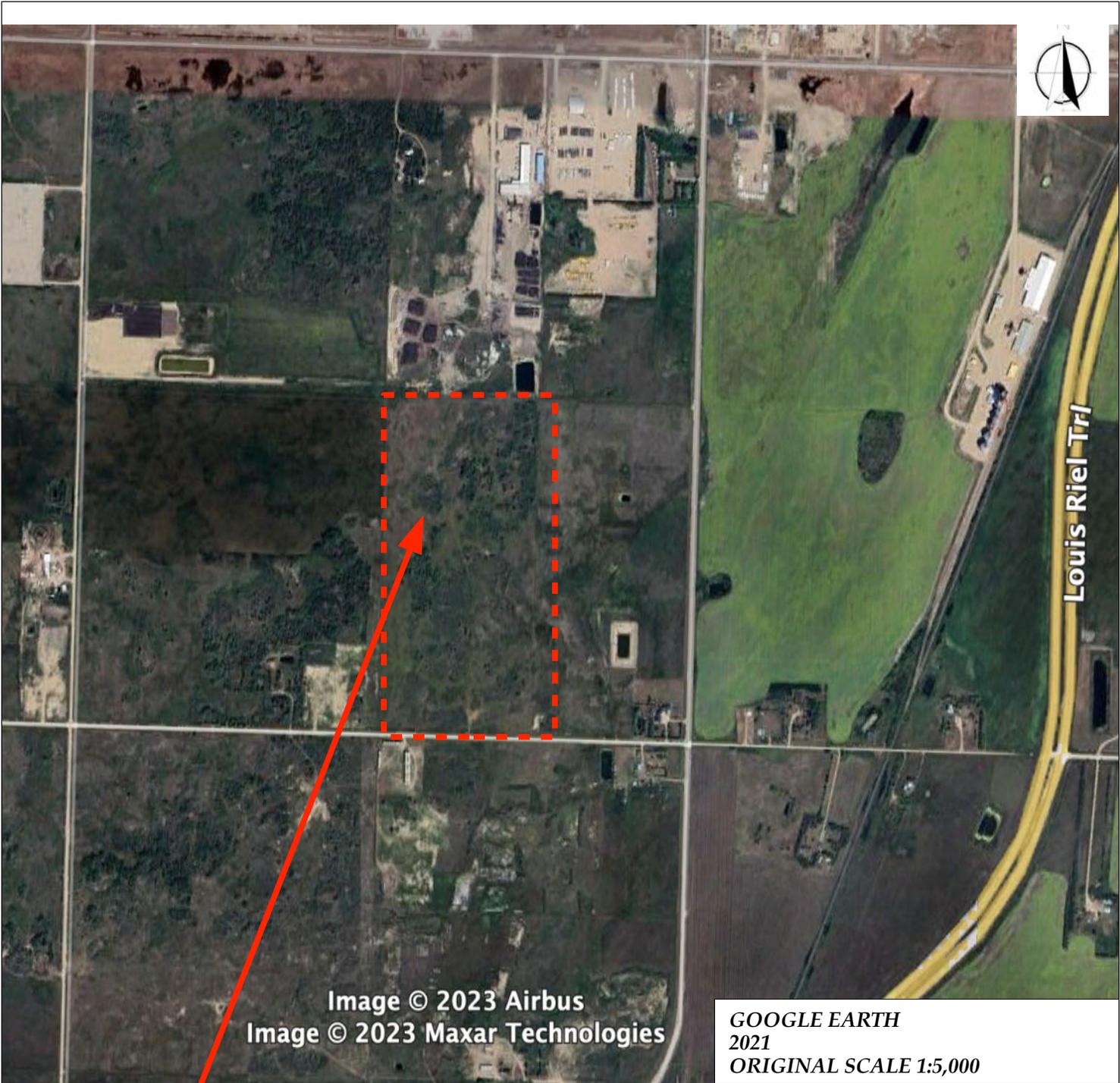


Image © 2023 Airbus
Image © 2023 Maxar Technologies

GOOGLE EARTH
2021
ORIGINAL SCALE 1:5,000

LEGEND:

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DRAWING TITLE: FIGURE 2: SITE & GENERAL VICINITY

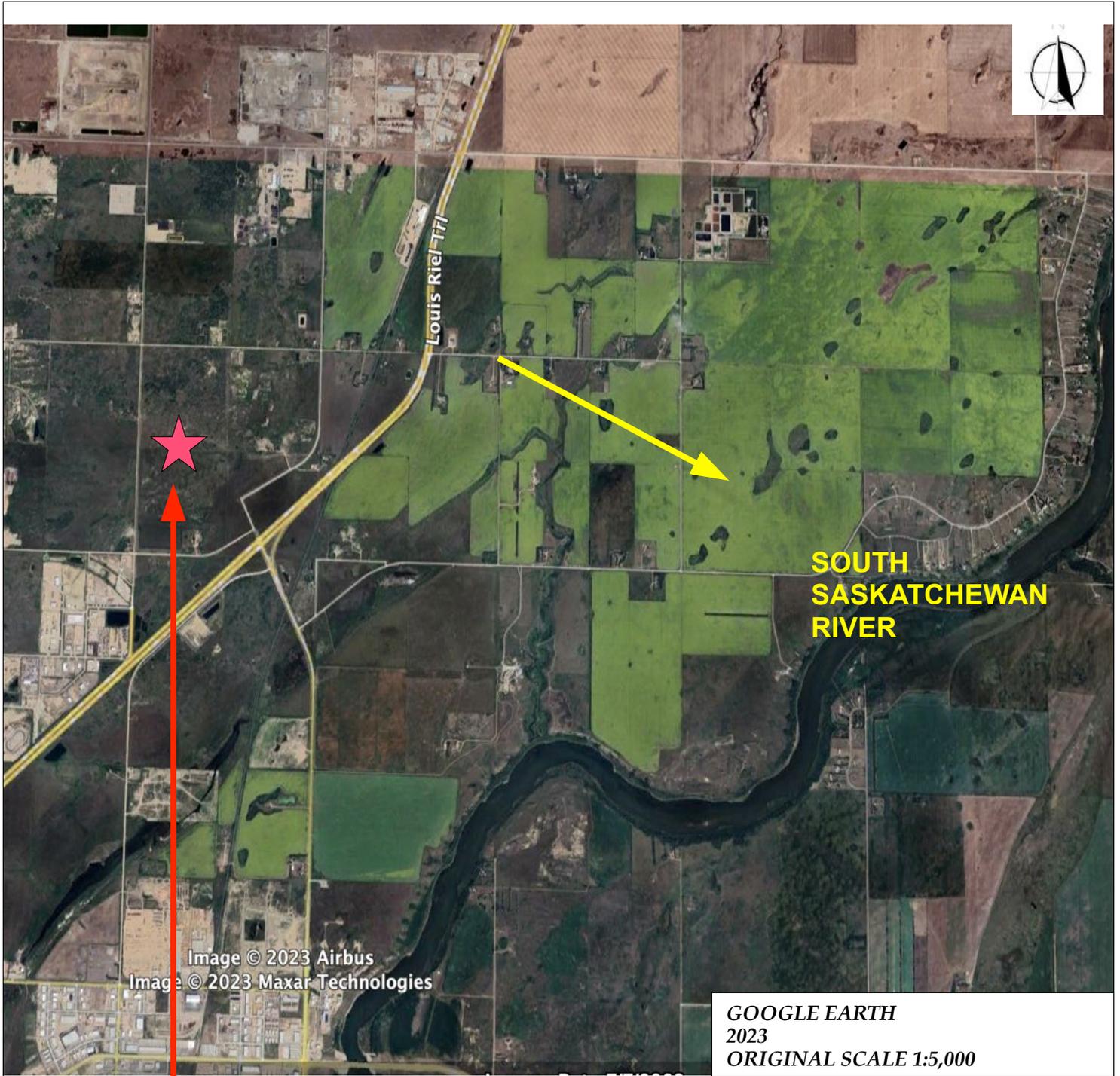
PROJECT: PHASE I ENVIRONMENTAL SITE ASSESSMENT
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Expected Direction of
Ground Water Flow



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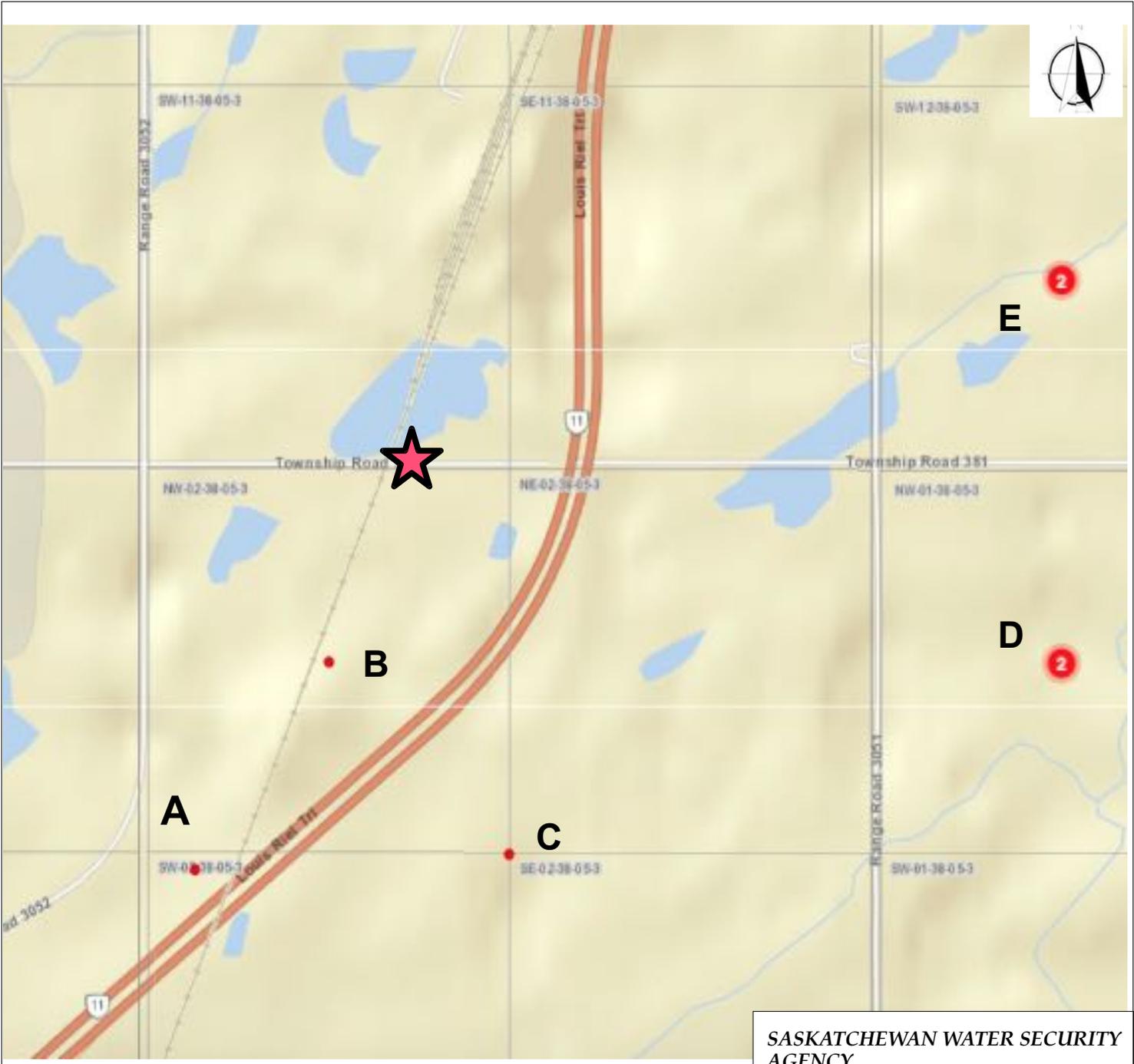
DRAWN BY: JP

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SASKATCHEWAN WATER SECURITY AGENCY

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DRAWING TITLE: FIGURE 4: LOCATION OF VICINITY WATER WELLS

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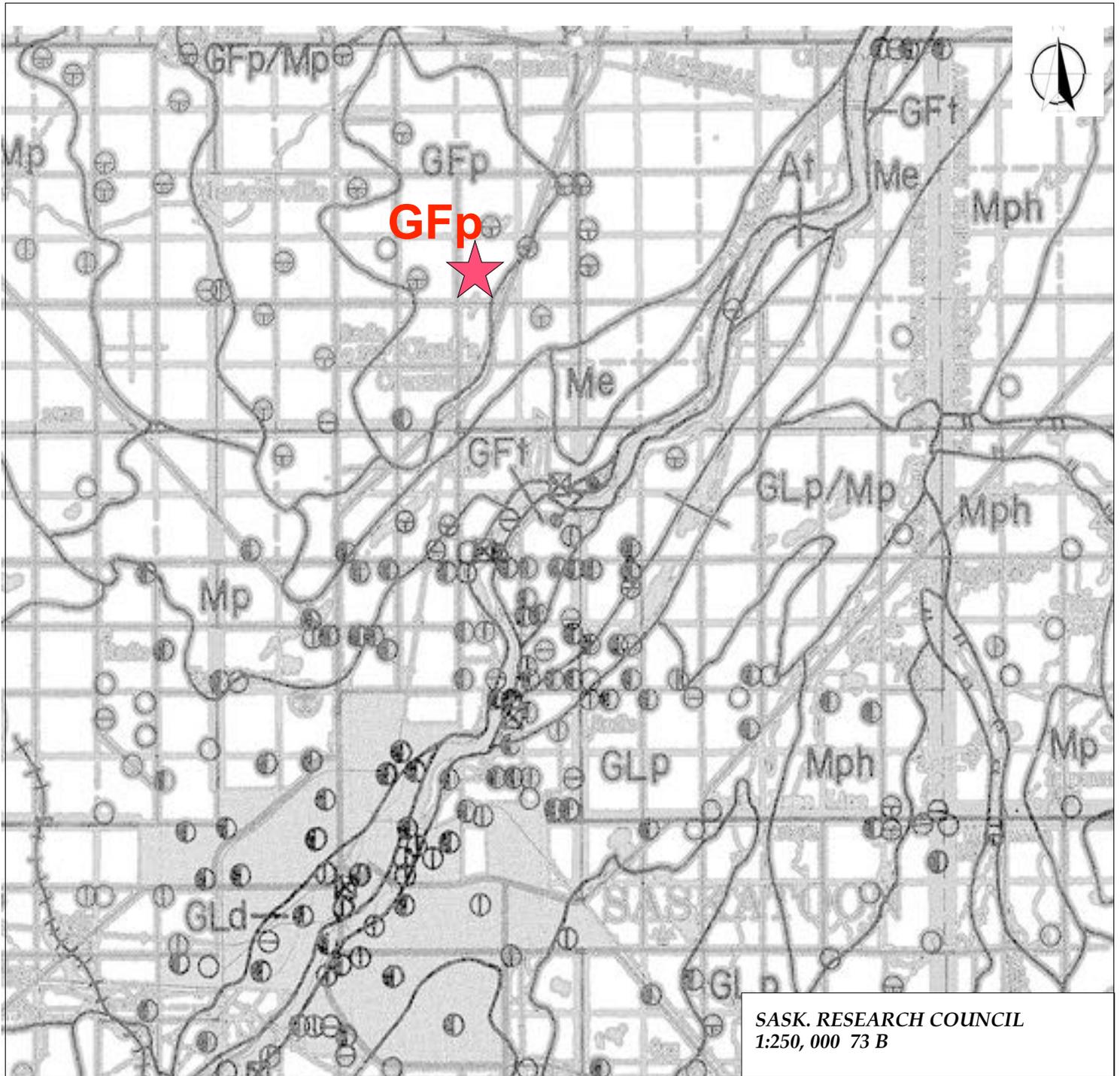
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DRAWING TITLE: FIGURE 5: SURFICIAL GEOLOGY MAP

PROJECT: PHASE I ENVIRONMENTAL SITE ASSESSMENT
FOR PARCELS 145389268 & 145389246 IN THE R.M. OF
COMAN PARK NO. 344, SASKATCHEWAN

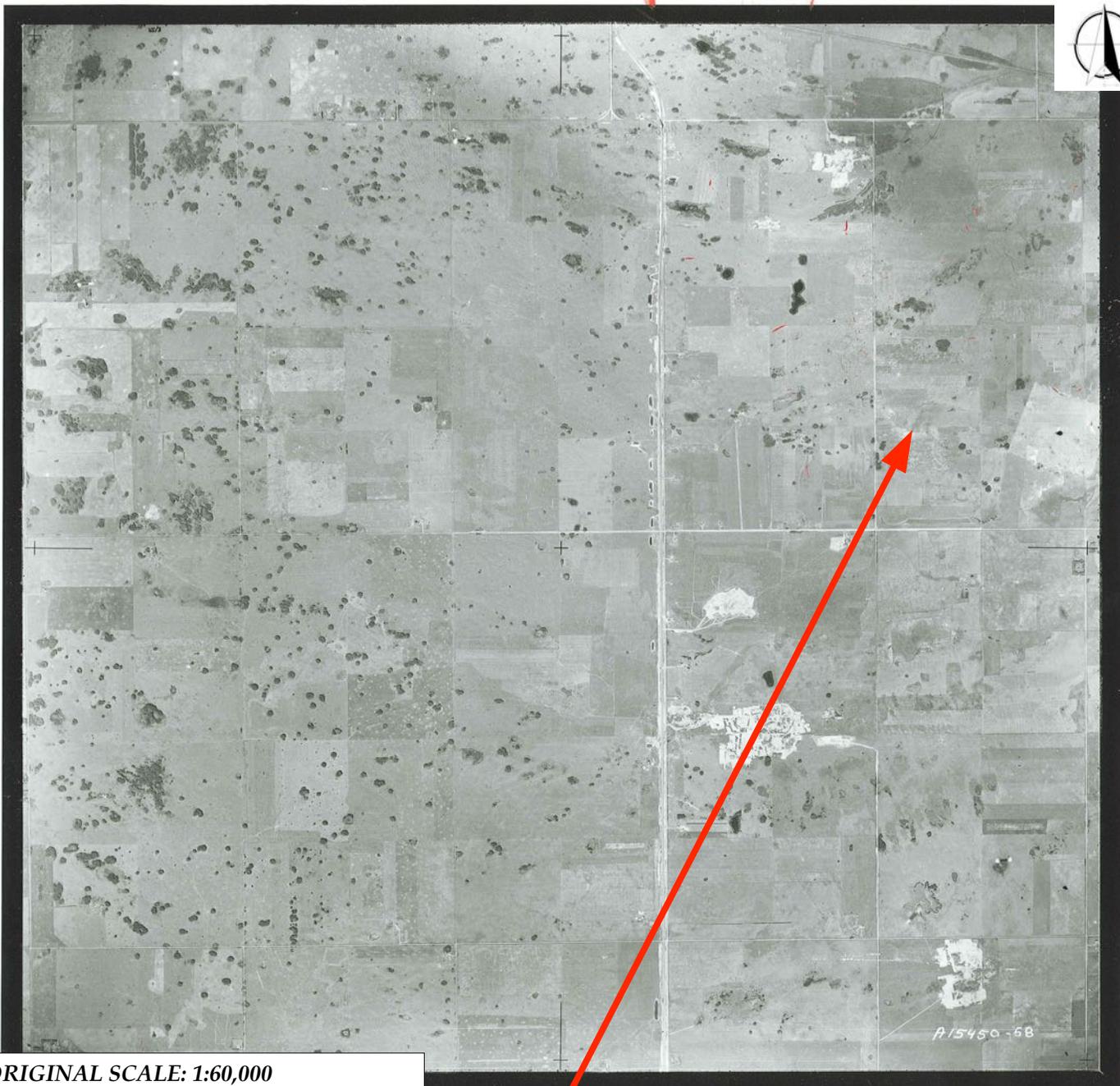
DRAWN BY: JP

**PROJECT
NO:**

DATE:
SEPTEMBER 16, 2023

SCALE:
NOT TO SCALE

POEN-023-049



Mantowishie, SASK

ORIGINAL SCALE: 1:60,000
ISC/PROVINCE OF SASKATCHEWAN
AERIAL PHOTO LIBRARY

© SA MAJESTE LA REINE DU CANADA, MINISTERE DE L'ENERGIE, DE

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DRAWING TITLE: FIGURE 6: 1956 AERIAL PHOTOGRAPH

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FOR PARCELS 145389268 & 145389246 IN THE R.M. OF
COMAN PARK NO. 344, SASKATCHEWAN

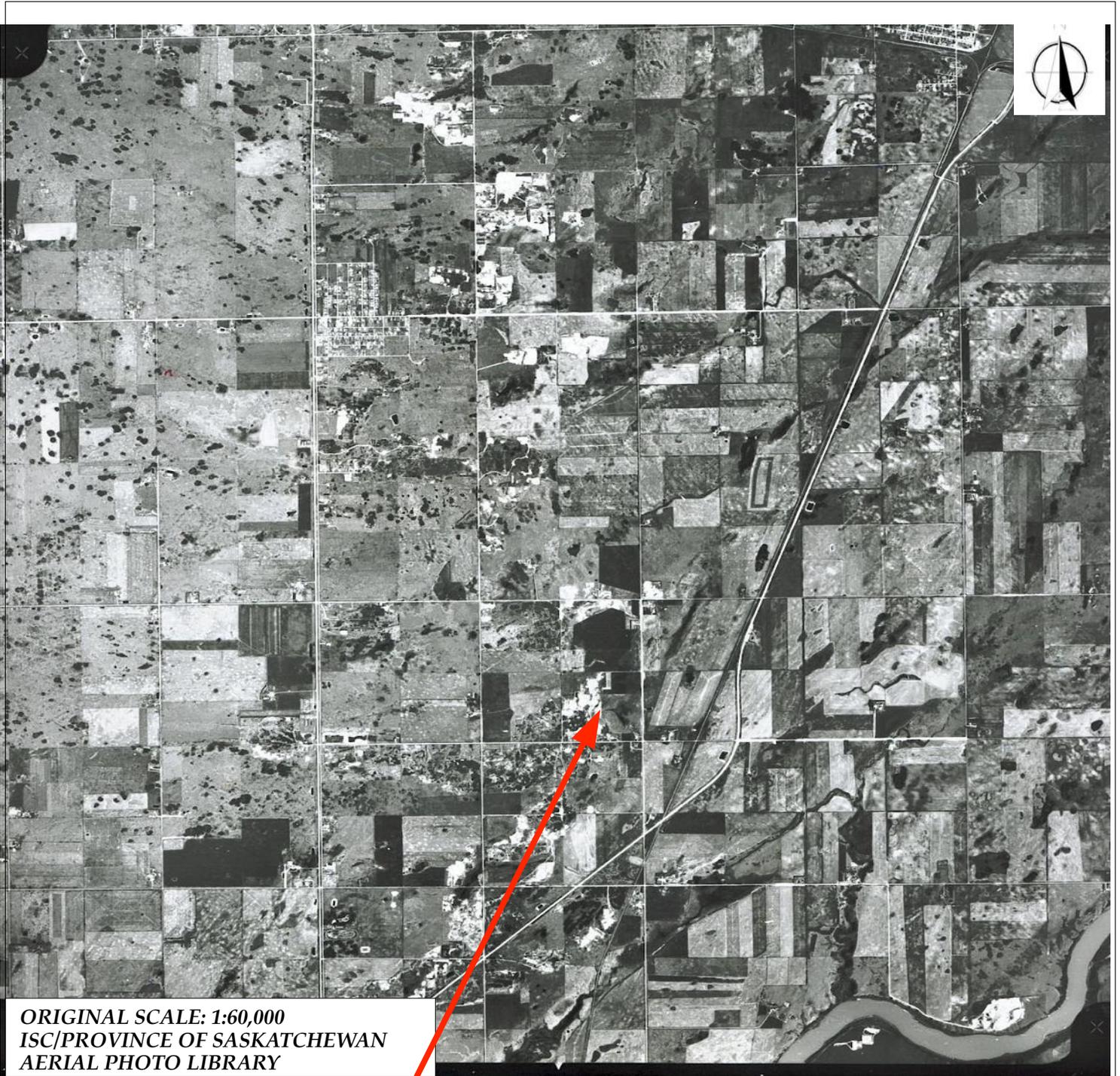
DRAWN BY: JP

PROJECT NO:

DATE:
SEPTEMBER 16, 2023

SCALE:
NOT TO SCALE

POEN-023-049



ORIGINAL SCALE: 1:60,000
 ISC/PROVINCE OF SASKATCHEWAN
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DRAWING TITLE: FIGURE 7: 1975 AERIAL PHOTOGRAPH

PROJECT: PHASE I ENVIRONMENTAL SITE ASSESSMENT
 FOR PARCELS 145389268 & 145389246 IN THE R.M. OF
 COMAN PARK NO. 344, SASKATCHEWAN

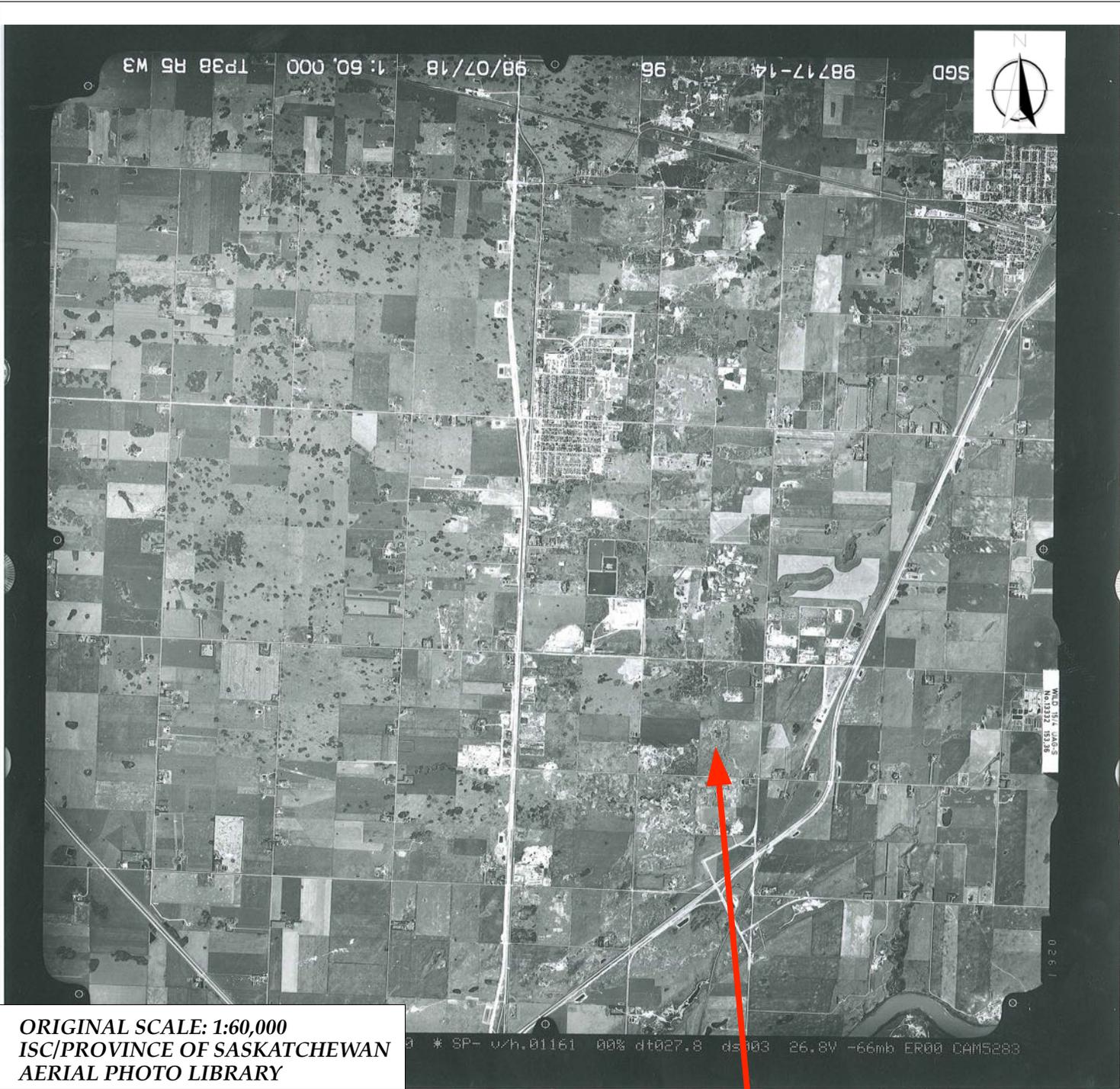
DRAWN BY: JP

**PROJECT
 NO:**

DATE:
 SEPTEMBER 16, 2023

SCALE:
 NOT TO SCALE

POEN-023-049



ORIGINAL SCALE: 1:60,000
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 AERIAL PHOTO LIBRARY

LEGEND: **LOCATION OF THE SUBJECT PROPERTY** →

PE POLSON ENVIRONMENTAL

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DRAWING TITLE: FIGURE 8: 1998 AERIAL PHOTOGRAPH

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 PARCELS 145389268 & 145389246 IN THE R.M. OF
 COMAN PARK NO. 344, SASKATCHEWAN**

DRAWN BY: JP

PROJECT NO:

DATE:
 SEPTEMBER 16, 2023

SCALE:
 NOT TO SCALE

POEN-023-049



ORIGINAL SCALE: 1:5,000
CITY OF SASKATOON

Image Landsat / Copernicus
Maxar Technologies

LEGEND: **LOCATION OF THE SUBJECT PROPERTY** →



POLSON ENVIRONMENTAL

2001 St. Henry Avenue
Saskatoon, SK
S7M 0P4 Canada

306-221-4569
Polsonenvironmental.com

DRAWING TITLE: FIGURE 9: 2002 SPOT SATELLITE IMAGE

PROJECT: PHASE I ENVIRONMENTAL SITE ASSESSMENT
FOR PARCELS 145389268 & 145389246 IN THE R.M.
OF COMAN PARK NO. 344, SASKATCHEWAN

DRAWN BY: JP

**PROJECT
NO:**

DATE:
SEPTEMBER 16, 2023

SCALE:
NOT TO SCALE

POEN-023-049



ORIGINAL SCALE: 1:5,000
CITY OF SASKATOON

LEGEND: **LOCATION OF THE SUBJECT PROPERTY** →

PE POLSON ENVIRONMENTAL

2001 St. Henry Avenue
Saskatoon, SK
S7M 0P4 Canada

306-221-4569
Polsonenvironmental.com

DRAWING TITLE: FIGURE 10: 2006 SPOT SATELLITE IMAGE

PROJECT: PHASE I ENVIRONMENTAL SITE ASSESSMENT FOR
PARCELS 145389268 & 145389246 IN THE R.M. OF
COMAN PARK NO. 344, SASKATCHEWAN

DRAWN BY: JP		PROJECT NO: POEN-023-049
DATE: SEPTEMBER 16, 2023	SCALE: NOT TO SCALE	

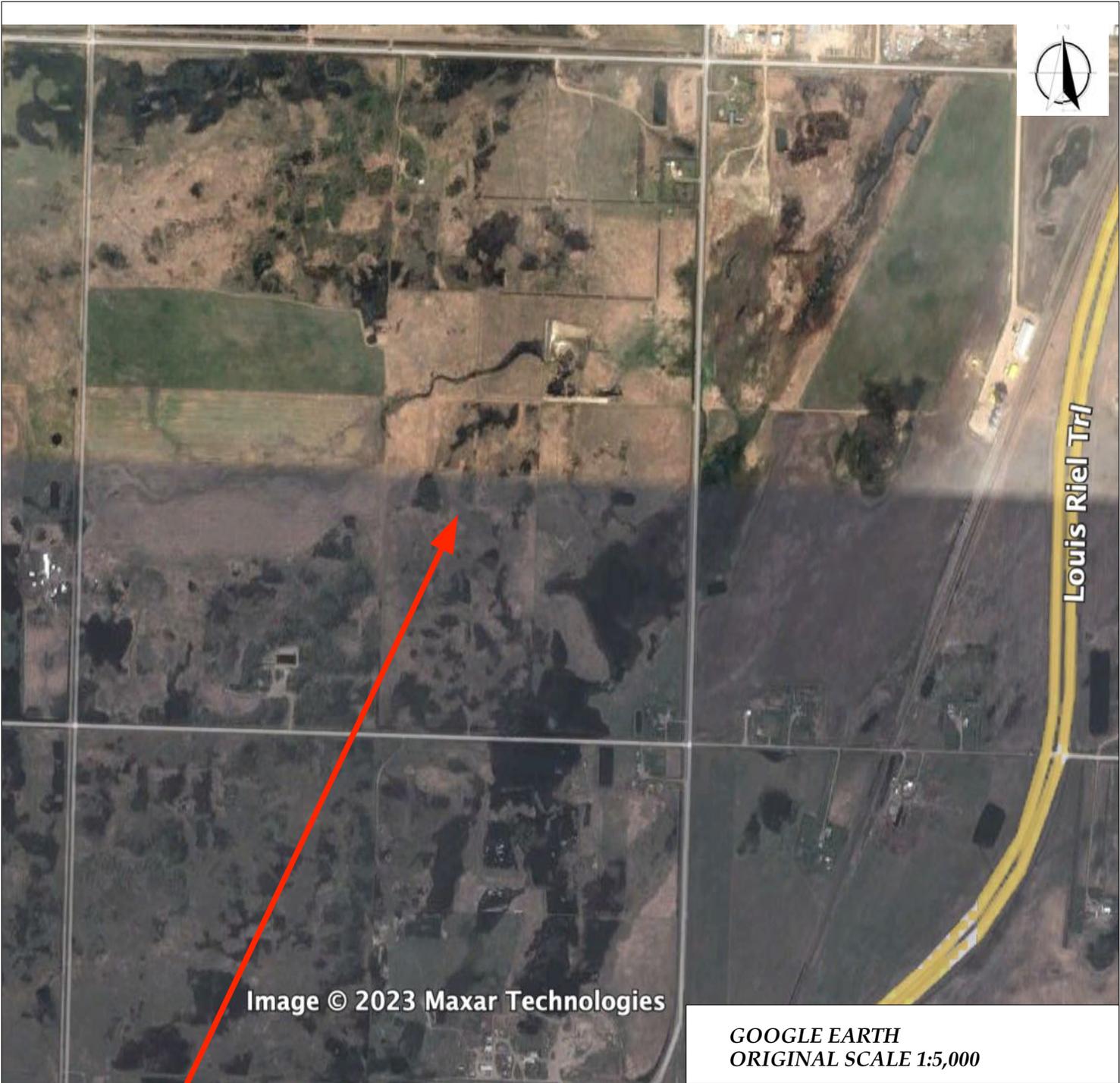


Image © 2023 Maxar Technologies

GOOGLE EARTH
ORIGINAL SCALE 1:5,000

LEGEND: **LOCATION OF THE SUBJECT PROPERTY**



2001 St. Henry Avenue
Saskatoon, SK
S7M 0P4 Canada

306-221-4569
Polsonenvironmental.com

DRAWING TITLE: FIGURE 11: 2011 SPOT SATELLITE IMAGE

PROJECT: PHASE I ENVIRONMENTAL SITE ASSESSMENT
FOR PARCELS 145389268 & 145389246 IN THE R.M. OF
COMAN PARK NO. 344, SASKATCHEWAN

DRAWN BY: JP

**PROJECT
NO:**

DATE:
SEPTEMBER 16, 2023

SCALE:
NOT TO SCALE

POEN-023-049



Image © 2023 Maxar Technologies

GOOGLE EARTH
ORIGINAL SCALE 1:5,000

LEGEND: **—** LOCATION OF THE SUBJECT PROPERTY

PE POLSON ENVIRONMENTAL

2001 St. Henry Avenue
Saskatoon, SK
S7M 0P4 Canada

306-221-4569
Polsonenvironmental.com

DRAWING TITLE: FIGURE 12: 2012 SPOT SATELLITE IMAGE		
PROJECT: PHASE I ENVIRONMENTAL SITE ASSESSMENT FOR PARCELS 145389268 & 145389246 IN THE R.M. OF COMAN PARK NO. 344, SASKATCHEWAN		
DRAWN BY: JP		PROJECT NO:
DATE: SEPTEMBER 16, 2023	SCALE: NOT TO SCALE	POEN-023-049

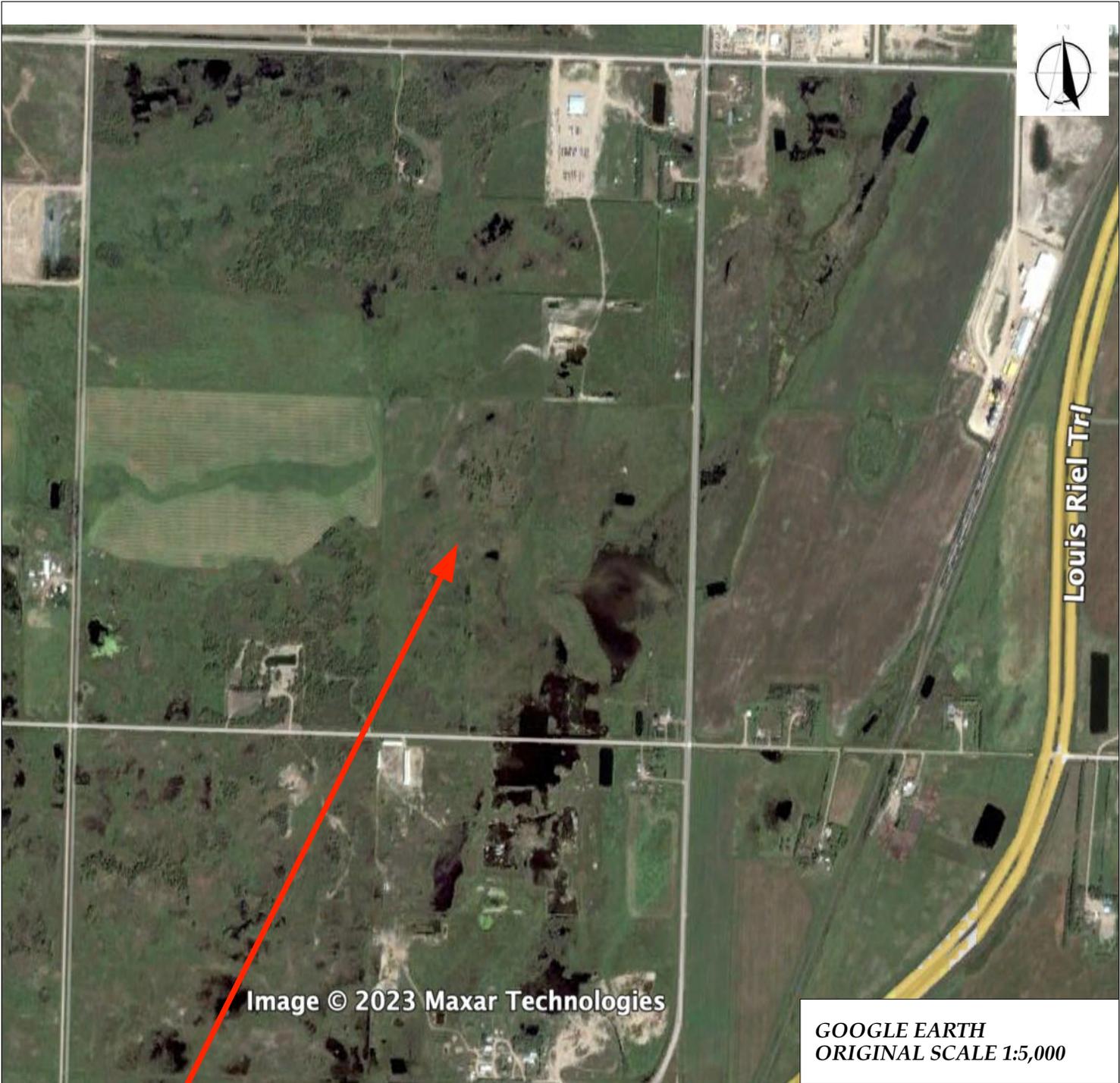


Image © 2023 Maxar Technologies

GOOGLE EARTH
ORIGINAL SCALE 1:5,000

LEGEND: **LOCATION OF THE SUBJECT PROPERTY**



POLSON ENVIRONMENTAL

2001 St. Henry Avenue
Saskatoon, SK
S7M 0P4 Canada

306-221-4569
Polsonenvironmental.com

DRAWING TITLE: FIGURE 13: 2014 SPOT SATELLITE IMAGE

PROJECT: PHASE I ENVIRONMENTAL SITE ASSESSMENT FOR PARCELS 145389268 & 145389246 IN THE R.M. OF COMAN PARK NO. 344, SASKATCHEWAN

DRAWN BY: JP	PROJECT NO: POEN-023-049	
DATE: SEPTEMBER 16, 2023	SCALE: NOT TO SCALE	



Image © 2023 Maxar Technologies

GOOGLE EARTH
ORIGINAL SCALE 1:5,000

LEGEND:  **LOCATION OF THE SUBJECT PROPERTY**

 **POLSON ENVIRONMENTAL**

2001 St. Henry Avenue
Saskatoon, SK
S7M 0P4 Canada

306-221-4569
Polsonenvironmental.com

DRAWING TITLE: FIGURE 14: 2017 SPOT SATELLITE IMAGE		
PROJECT: PHASE I ENVIRONMENTAL SITE ASSESSMENT FOR PARCELS 145389268 & 145389246 IN THE R.M. OF COMAN PARK NO. 344, SASKATCHEWAN		
DRAWN BY: JP		PROJECT NO:
DATE: SEPTEMBER 16, 2023	SCALE: NOT TO SCALE	POEN-023-049



Image © 2023 Maxar Technologies

GOOGLE EARTH
ORIGINAL SCALE 1:5,000

LEGEND:  **LOCATION OF THE SUBJECT PROPERTY**

 **POLSON ENVIRONMENTAL**

2001 St. Henry Avenue
Saskatoon, SK
S7M 0P4 Canada

306-221-4569
Polsonenvironmental.com

DRAWING TITLE: FIGURE 15: 2023 SPOT SATELLITE IMAGE		
PROJECT: PHASE I ENVIRONMENTAL SITE ASSESSMENT FOR PARCELS 145389268 & 145389246 IN THE R.M. OF COMAN PARK NO. 344, SASKATCHEWAN		
DRAWN BY: JP		PROJECT NO:
DATE: SEPTEMBER 16, 2023	SCALE: NOT TO SCALE	POEN-023-049

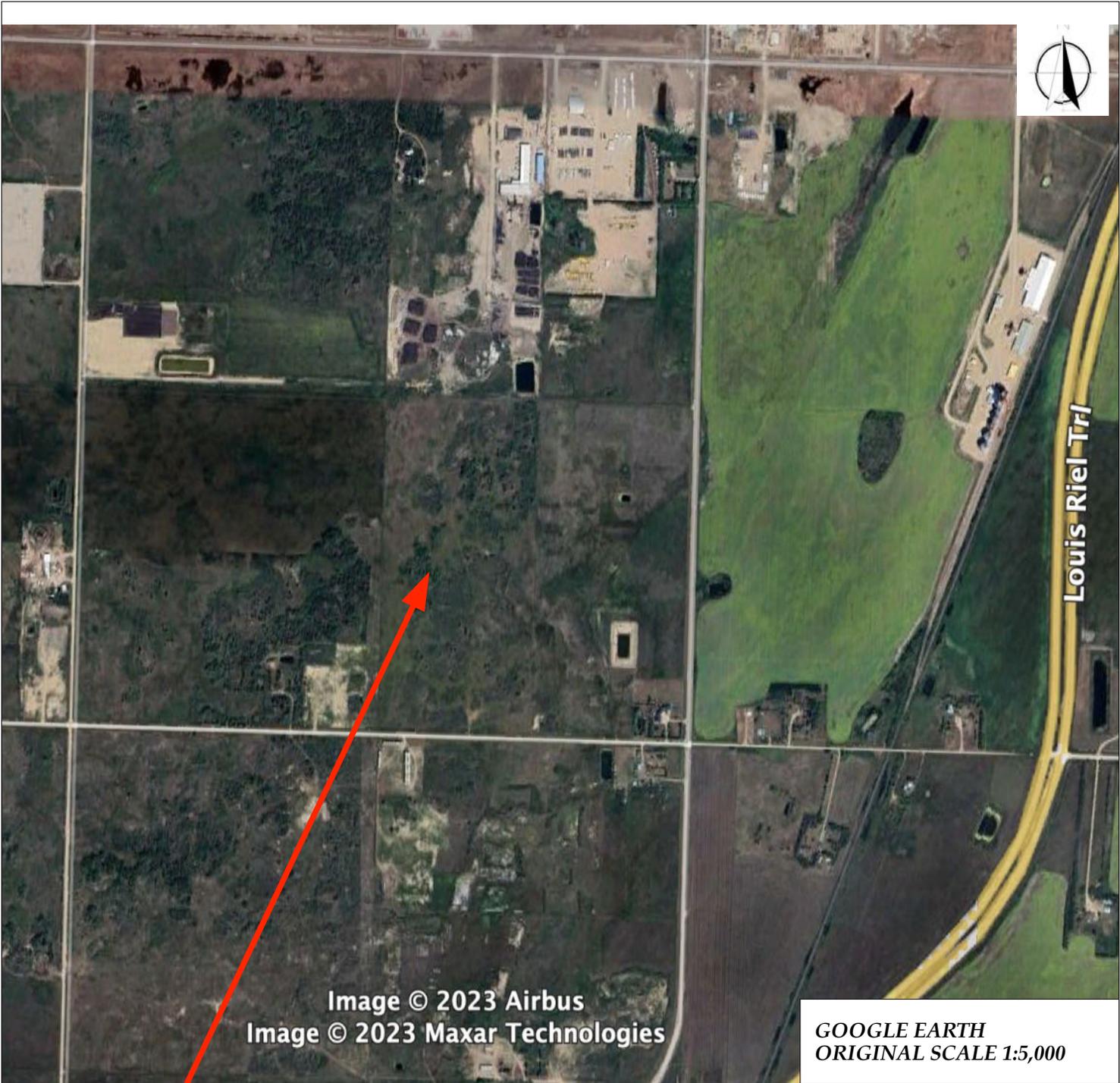


Image © 2023 Airbus
Image © 2023 Maxar Technologies

GOOGLE EARTH
ORIGINAL SCALE 1:5,000

LEGEND: **LOCATION OF THE SUBJECT PROPERTY**



POLSON ENVIRONMENTAL

2001 St. Henry Avenue
Saskatoon, SK
S7M 0P4 Canada

306-221-4569
Polsonenvironmental.com

DRAWING TITLE: FIGURE 16: 2023 SPOT SATELLITE IMAGE

PROJECT: PHASE I ENVIRONMENTAL SITE ASSESSMENT FOR PARCELS 145389268 & 145389246 IN THE R.M. OF COMAN PARK NO. 344, SASKATCHEWAN

DRAWN BY: JP	PROJECT NO:
DATE: SEPTEMBER 16, 2023	SCALE: NOT TO SCALE
PROJECT NO: POEN-023-049	

APPENDIX B

WATER WELL DATA

Well Name: Paulson	WWDR #: 210707
---------------------------	-----------------------

Well Location

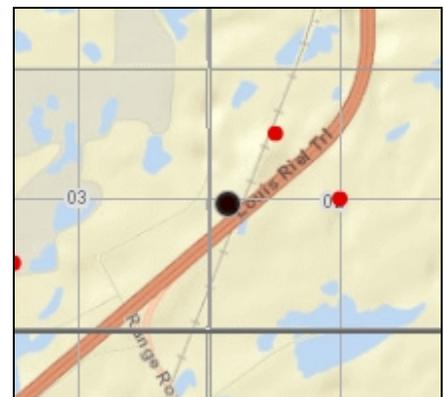
Land Location SW-02-38-05-3	Location of Well (in Quarter)
LSD	ft from N/S Boundary
Reserve	ft from E/W Boundary
RM: 344	
NTS Map: 73B02	Major Basin:
Elevation (ft) 1631	SubBasin: 30
Aquifer	

Well Information

Driller Unknown Client 031	Length (ft)	Well Casings Btm (ft)	Dia (in)	Material
Completion Date 2011.07.17	42	40	36	Concrete
Hole #				
Install Method Unknown				
Borehole Depth (ft) 0	Well Screens			
Bit Dia (in) 0	Length (ft)	Bottom (ft)	Dia (in)	Slot (in)
Water Level 0				Material
Flowing Head 0				
Water Use Domestic	Pump Test			
Well Use Withdrawal	Draw Down			0 ft
Completion Method	Duration			0 hrs
E-Log None	Pumping Rate			0 igpm
	Temperature			0 deg. F
	Rec. Pumping Rate			0 igpm

Lithology List

Depth (ft):	Material	Colour	Description
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Well Name: **Vanghel**

 WWDR #: **201386**
Well Location

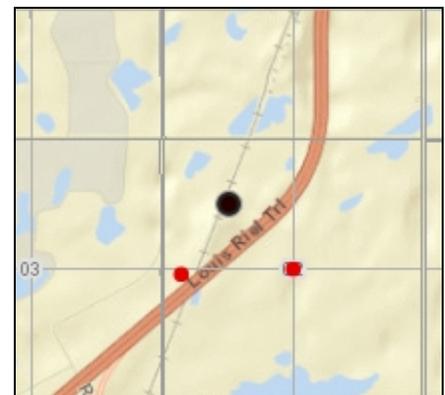
Land Location	NW-02-38-05-3	Location of Well (in Quarter)
LSD		ft from N/S Boundary
Reserve		ft from E/W Boundary
RM:	344	
NTS Map:	73B02	Major Basin:
Elevation (ft)	1650	SubBasin: 30
Aquifer		

Well Information

Driller	Prairie Water Ltd.	Length (ft)	Well Casings	Btm (ft)	Dia (in)	Material
Completion Date	2003.10.16	50		48	36	Porous Concrete
Hole #	001					
Install Method	Bored					
Borehole Depth (ft)	48		Well Screens			
Bit Dia (in)	42	Length (ft)	Bottom (ft)	Dia (in)	Slot (in)	Material
Water Level	0					
Flowing Head	0					
Water Use	Domestic		Pump Test			
Well Use	Withdrawal	Draw Down				0 ft
Completion Method	Curbed	Duration				0 hrs
E-Log	None	Pumping Rate				0 igpm
		Temperature				0 deg. F
		Rec. Pumping Rate				1 igpm

Lithology List

Depth (ft):	Material	Colour	Description
1	Topsoil	Unknown	Unknown
5	Till	Brown	Gravelly
12	Till	Brown	Unknown
23	Till	Grey	Unknown
26	Gravel	Unknown	Unknown
48	Till	Grey	Unknown



Well Name: Friesen	WWDR #: 32027
---------------------------	----------------------

Well Location

Land Location 02-38-05-3	Location of Well (in Quarter)
LSD	1500 ft from N/S Boundary N
Reserve	1400 ft from E/W Boundary E
RM:	
NTS Map:	Major Basin:
Elevation (ft) 1630	SubBasin: 30
Aquifer	

Well Information

Driller Hayter Drilling Ltd.	Length (ft)	Well Casings Btm (ft)	Dia (in)	Material
Completion Date 1969.05.05	0	85	4.5	Steel
Hole #				
Install Method Drilled				
Borehole Depth (ft) 90	Well Screens			
Bit Dia (in) 4.5	Length (ft)	Bottom (ft)	Dia (in)	Slot (in)
	5	90	4	25
Water Level 30				Stainless Steel
Flowing Head 0				
Water Use Domestic	Pump Test			
Well Use Withdrawal	Draw Down			55 ft
Completion Method Well Screen	Duration			5 hrs
E-Log None	Pumping Rate			2 igpm
	Temperature			0 deg. F
	Rec. Pumping Rate			2 igpm

Lithology List

Depth (ft):	Material	Colour	Description
12	Till	Brown	Unknown
45	Till	Blue	Unknown
85	Clay	Blue	Unknown
90	Sand & Gravel	Unknown	Unknown



Well Name: Giesbrecht	WWDR #: 65733
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Well Location

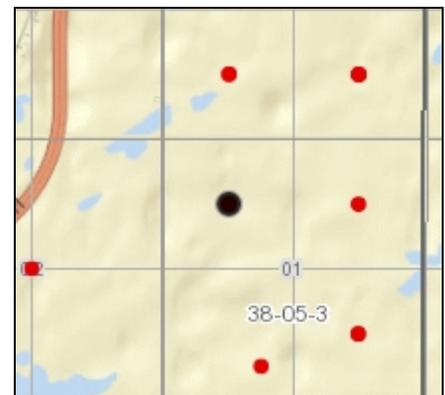
Land Location NW-01-38-05-3	Location of Well (in Quarter)
LSD	2640 ft from N/S Boundary N
Reserve	1300 ft from E/W Boundary E
RM: 344	
NTS Map: 73B02	Major Basin:
Elevation (ft) 1625	SubBasin: 30
Aquifer	

Well Information

Driller Sabre Construction Ltd.	Length (ft)	Btm (ft)	Dia (in)	Material
Completion Date 1981.04.17	32	0	0	Copper Bearing Steel
Hole # 001				
Install Method Drilled				
Borehole Depth (ft) 32	Well Screens			
Bit Dia (in) 16	Length (ft)	Bottom (ft)	Dia (in)	Slot (in)
Water Level 0				Material
Flowing Head 0				
Water Use Domestic	Pump Test			
Well Use Withdrawal	Draw Down			0 ft
Completion Method Perforated Casing	Duration			0 hrs
E-Log None	Pumping Rate			0 igpm
	Temperature			0 deg. F
	Rec. Pumping Rate			0 igpm

Lithology List

Depth (ft):	Material	Colour	Description
1	Topsoil	Unknown	Unknown
16	Clay	Brown	Cobblestones
18	Clay	Unknown	Sand Streaks
32	Till	Black	Cobblestones



APPENDIX C

REALTOR SHEET

Jordan Boyes
Boyes Group Realty Inc.
jordanboyes1@gmail.com
Cell: 306 270 9028
"Everything Real Estate"



Listing

77.87 Acres Corman Park

SK943084 Active

LP: \$749,900

OP: \$749,900

DOM: 12



Type: Land

Location: Corman Park
Rm No. 344

Trans Type: For Sale

Postal Code: S0K 2T0

Ownership: Freehold

Possession: Immed

Legal: Parcels 145389268 / 145389246

Zoning: Comm

BareLand:

Lease Type:

Tax Amt/Yr: \$662/2022

Member Only Remarks: Great location inside P4G Boundary located between Range Road 3052 and 3053. Located in the Rural Commercial Industrial Area. 77.87 Acres for sale.

Public Remarks: Great location inside P4G Boundary located between Range Road 3052 and 3053. Located in the Rural Commercial Industrial Area. 77.87 Acres for sale.
Recent Chg: 08/30/2023 : **NEW** : ->A

Property Information

PCDS: No

GST: No

PST: Remain Months:

Additions: No

Envn Audit: No

Renewal Opt:

Existing Real Property Report: No

Occ Costs:

Irrigated:

Land Area: 77.87 Acres

Lot Size:

Land Leased:

Mineral Rights: Not Included

Sub Division:

Bush: Some

Topography: Flat

Fences:

Agent & Office Information

Broker: [Boyes Group Realty Inc.](http://www.boyesgroup.com)

List Agent: [Jordan Boyes](mailto:jordanboyes1@gmail.com) jordanboyes1@gmail.com

Phone: (306) 653-2213

Website: <http://www.boyesgroup.com>

Phone: (306) 270-9028

List Date: 08/30/2023

Expire Date: 08/27/2024

Owner Name: L&L Gravel & Ranching CO. Ltd.

Commission: 2.25%

Occupancy: Vacant

H Phone:

Appointments: Text Agent

Lockbox: No

Expiry Consent: No

This information is believed to be reliable but should not be relied upon without verification.

APPENDIX D

ZONING BYLAW

SCHEDULE C - AR 2 - AGRICULTURAL RESIDENTIAL 2 DISTRICT

1. **THE INTENT OF THE AR 2 DISTRICT SHALL BE:**

To accommodate large acreage residential and small scale agricultural uses.

2. **THE PERMITTED USES IN THE AR 2 DISTRICT SHALL BE:**

In any Agricultural Residential 2 District (AR 2) no person shall use any land, building, or structure, or erect any building or structure except in accordance with the following provisions.

2.1 **THE PRINCIPAL PERMITTED USES SHALL BE:**

- a) A single detached country residence including a mobile home or RTM dwelling
- b) Agricultural operation
- c) Garage Suite (*Bylaw 52/21, Approved January 12, 2022*)
- d) Home Based Business Type I (*Bylaw 52/21, Approved January 12, 2022*)
- e) Home Based Business Type II (*Bylaw 52/21, Approved January 12, 2022*)
- f) Levelling, Filling and Grading Type I (*Bylaw 52/21, Approved January 12, 2022*)
- g) Municipal Facility
- h) Public Utilities
- i) Secondary Suite (*Bylaw 52/21, Approved January 12, 2022*)

2.2 **THE DISCRETIONARY USES SHALL BE:**

- a) Abattoir (*Bylaw 13/17, Approved September 28, 2017*)
- b) Aggregate Resource Extraction Industry
- c) Aggregate Resource Storage and Processing Operation
- d) Agricultural Support Service
- e) Agricultural Tourism Use
- f) Airport
- g) Animal Cemetery (*Bylaw 13/17, Approved September 28, 2017*)
- h) Animal Columbarium (*Bylaw 13/17, Approved September 28, 2017*)
- i) Animal Kennel (*Bylaw 13/17, Approved September 28, 2017*)
- j) Auction Facility (*Bylaw 13/17, Approved September 28, 2017*)
- k) Bed and Breakfast Home
- l) Bulk Fuel Sales & Storage (*Bylaw 13/17, Approved September 28, 2017*)
- m) Cannabis Micro Production Facility (*Bylaw 65/20, Approved February 11, 2021*)
- n) Cannabis Production Facility (*Bylaw 60/18, Approved February 21, 2019*)
- o) Cemetery (*Bylaw 13/17, Approved September 28, 2017*)
- p) Clean Fill Storage Operation (*Bylaw 52/21, Approved January 12, 2022*)
- q) Columbarium (*Bylaw 13/17, Approved September 28, 2017*)
- r) Community Care Facility
- s) Community Facility
- t) Equestrian Facility Type I (*Bylaw 52/21, Approved January 12, 2022*)
- u) Equestrian Facility Type II (*Bylaw 52/21, Approved January 12, 2022*)
- v) Farmhand Dwelling (*Bylaw 52/21, Approved January 12, 2022*)
- w) Garden Suite

- x) Guest House (*Bylaw 52/21, Approved January 12, 2022*)
- y) Home Based Business Type III (*Bylaw 52/21, Approved January 12, 2022*)
- z) Intensive Agricultural Operation – Horticulture
- aa) Intensive Agricultural Operation – Livestock
- bb) Land Farm
- cc) Levelling, Filling and Grading Type II (*Bylaw 52/21, Approved January 12, 2022*)
- dd) Mausoleum (*Bylaw 13/17, Approved September 28, 2017*)
- ee) Solar Farm (*Bylaw 61/18, Approved February 21, 2019*)
- ff) Solid & Liquid Waste Disposal Facility
- gg) Telecommunication Facility
- hh) Tourist Home (*Bylaw 52/21, Approved January 12, 2022*)
- ii) Vacation Farm (*Bylaw 25/15, Approved November 27, 2015*)
- jj) Veterinary Clinic (*Bylaw 13/17, Approved September 28, 2017*)

2.3 SPECIFIC DEVELOPMENT STANDARDS FOR DISCRETIONARY USES:

- a) For the purposes of this zoning district, a home based business may also include an equestrian facility, day care service or a pet care facility subject to compliance with the development standards for a home based business in addition to any other standards prescribed by this Bylaw for a specific use.

2.4 THE PERMITTED ACCESSORY USES SHALL BE: (*Bylaw 14/22, Approved July 4, 2022*)

- a) Any building, structure or uses which are customarily accessory to the principal use of the site including the keeping and raising of animals, but only if the principal permitted use has been established.
- b) Only those discretionary uses listed below may include a residential dwelling as a permitted accessory use:
 - Abattoir
 - Agricultural Support Service
 - Agricultural Tourism Use
 - Cannabis Micro Production Facility
 - Community Care Facility
 - Community Facility
 - Intensive Agricultural Operation - Horticulture
 - Intensive Agricultural Operation - Livestock
 - Vacation Farm
 - Veterinary Clinic

3. THE SITE REGULATIONS IN THE AR 2 DISTRICT SHALL BE:

In addition to the general provisions contained in this Bylaw the following regulations shall apply to every development in this district.

3.1 THE AREA REQUIREMENT FOR PERMITTED USES SHALL BE:

- a) 16.2 ha (40 acres) or equivalent shall be the minimum site area required to constitute an Agricultural Operation excepting parcels that existed prior to the adoption of this bylaw (June 30, 1982). **(Bylaw 19/08, Approved June 13, 2008)** Equivalent shall mean 16.2 ha (40 acres) or such lesser amount as remains in an agricultural holding because of the original township survey, road widening, road right-of-way or railway plans, drainage ditch, pipeline or transmission line development, or natural features such as water courses or water bodies, or as a result of residential subdivision as may be permitted in Section 5.2.2.8. of the Development Plan where the residential site is not attributed to the subject property. **(Bylaw 41/02, Approved February 11, 2003)**
- b) Country Residences shall have a minimum site area of 1 ha (2.47 acres) and a maximum site area of 4.05 ha (10 acres) except:
 - i. In the case of a parcel physically severed as a result of road right-of-way or railway plans, drainage ditch, pipeline or transmission line development, or natural features such as water courses or water bodies there shall be no maximum site area. Existing residential parcels may be enlarged to include adjoining land physically severed as a result of the above noted barriers.
 - ii. In the case of a parcel which existed prior to the adoption of this Bylaw there shall be no minimum or maximum site area.
 - iii. In the case of residential yard sites which existed prior to the adoption of this Bylaw, relaxations of the maximum site area may be permitted to allow the entire residential yard site to be included in the subdivision.
- c) Agricultural Residential Uses - 16.2 ha (40 acres) or equivalent shall be the minimum site area required to constitute an agricultural residential use. Equivalent shall mean 16.2 ha (40 acres) or such lesser amount as remains in an agricultural holding because of the original township survey, road widening, road right-of-way or railway plans, drainage ditch, pipeline or transmission line development, or natural features such as water courses or water bodies, or as a result of residential subdivision as may be permitted in Section 5.2.2.8. of the Development Plan where the residential site is not attributed to the subject property. **(Bylaw 41/02, Approved February 2003)**
- d) Municipal Facilities shall have no minimum site area requirement. **(Bylaw 63/96, Approved December 1996)**

3.2 THE AREA REQUIREMENTS FOR DISCRETIONARY USES SHALL BE:

All discretionary uses shall have a minimum site area of 1 ha (2.47 acres) excepting cemeteries, crematoria and mausoleums, and radio and television towers and facilities, **(Bylaw 34/01, Approved July 18, 2001)** which shall have no minimum.

4. THE BUILDING SETBACK REGULATIONS IN THE AR 2 DISTRICT SHALL BE:

- a) Front yards - all buildings shall be set back a minimum of 45 metres (147.6 ft.) from the center line of any municipal road allowance or provincial highway or such greater distance as required by the Saskatchewan Department of Highways and Transportation.
- b) Side yards - all buildings shall be set back a minimum of 15 metres (49.2 ft.) from the side property line. Where a side yard abuts a municipal road allowance or provincial highway, the front yard requirements shall apply.
- c) Rear yards - all buildings shall be set back a minimum of 15 metres (49.2 ft.) from the rear property line.

5. THE SIGN REGULATIONS IN THE AR 2 DISTRICT SHALL BE:

In addition to the General Regulations contained in this Bylaw, the following additional development standards shall apply to the placement or erection of signage within the AR2 District:

<p>Large Scale Agricultural Commercial or Industrial Establishments</p>	<ol style="list-style-type: none"> 1. Free standing signs shall not exceed a height of 14 m (45.9 ft). 2. Multiple free standing signs located on a single site shall maintain a separation distance of 12 m (39.37 ft) for every square meter of gross surface area of the larger of the two signs to a maximum separation distance of 150 m. 3. There is no gross surface area requirement for free standing signs.
<p>Community Facility</p>	<ol style="list-style-type: none"> 1. One (1) multi-faced free standing sign shall be permitted per building frontage not exceeding a gross surface area of 14 m² (150.7 ft²) and a height of 14 m (45.9 ft). 2. Where a building maintains direct exposure to more than one public right of way, a second free standing sign shall be allowable following the previous regulations.
<p>All other Permitted and Discretionary Uses</p>	<ol style="list-style-type: none"> 1. One (1) multi-faced free standing sign shall be permitted per building frontage not exceeding a gross surface area of 3 m² (32.3 ft²) and a height of 2.5 m (8.2 ft) 2. Where a building maintains direct exposure to more than one public right of way, a second free standing sign shall be allowable following the previous regulations. 3. Illumination limited to 75 watts and shall not include electronic message boards.

6. EXISTING SITES SHALL BE CONSIDERED IN THE FOLLOWING MANNER:

Any site which does not conform to the minimum area requirements for the AR 2 District, but which existed prior to the passing of this Bylaw, shall be deemed to be a conforming site.

SCHEDULE D - AR 3 - AGRICULTURAL RESIDENTIAL 3 DISTRICT – BLUMENHEIM
(Bylaw 34/21, Approved August 31, 2021)

1. **THE INTENT OF THE AR 3 DISTRICT SHALL BE:**

To accommodate agricultural residential development in the historic Mennonite Settlement of Blumenheim that compliments and retains its existing agricultural character.

2. **PERMITTED USES:**

- a) Agricultural Operation
- b) Home Based Business Type I (***Bylaw 52/21, Approved January 12, 2022***)
- c) Intensive Agricultural Operation – Horticulture
- d) Levelling, Filling and Grading Type I (***Bylaw 52/21, Approved January 12, 2022***)
- e) Park
- f) Public Utilities
- g) Secondary Suite (***Bylaw 52/21, Approved January 12, 2022***)
- h) Single Detached Country Residence

3. **DISCRETIONARY USES:**

- a) Agricultural Support Service
- b) Agricultural Tourism Use
- c) Bed and Breakfast Home
- d) Community Care Facility
- e) Community Facility
- f) Day Care Service
- g) Equestrian Facility Type I
- h) Garage Suite (***Bylaw 52/21, Approved January 12, 2022***)
- i) Garden Suite
- j) Guest House (***Bylaw 52/21, Approved January 12, 2022***)
- k) Home Based Business Type II (***Bylaw 52/21, Approved January 12, 2022***)
- l) Home Based Business Type III (***Bylaw 52/21, Approved January 12, 2022***)
- m) Intensive Agricultural Operation – Livestock
- n) Levelling, Filling and Grading Type II (***Bylaw 52/21, Approved January 12, 2022***)
- o) Mobile Home as a country residence
- p) Vacation Farm

3.1 **DISCRETIONARY USES EVALUATION CRITERIA:**

In addition to the discretionary use evaluation criteria contained in this Bylaw, the following criteria shall also apply to this district:

- a) Consistency with and recognition of the character and scale of existing developments; and
- b) Compatibility with the purpose, character, scale and density of the zoning district and surrounding area.

APPENDIX E

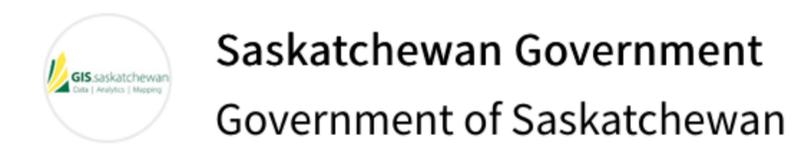
MINISTRY OF THE ENVIRONMENT

Hazardous Materials Searches

Spills Searches

Operation ID	Operation Name	Address	Legal Land Description	Operation Status	Community
4384	Custom Ag Services Inc. (Anhydrous Ammonia) Storage Site	R. M. Of Corman Park #344	SW-17-37-04-W3	Operating	Rm Of Corman Park
4497	Monsanto Research Farm, Monsanto Canada Inc. Storage Site	R. M. Of Corman Park #344	SE-15-37-4-W3	Operating	Rm Of Corman Park
4660	Pioneer Grain Co. Ltd. (R.m. Of Corman Park) Storage Site	R.m. Of Corman Park	NE-11-38-5-W3	Under Construction	Rm Of Corman Park
6433	Cleartech (R. M. Corman Park #344) Storage Site	R. M. Corman Park #344	S-14-38-5-W3	Operating	Rm Of Corman Park
6588	Farm Nw-33-38-9-W3 Storage Site	R. M. Of Corman Park #344	NW-33-38-9-W3	Operating	Rm Of Corman Park
6661	Farm Se-2-36-6-W3 Storage Site	R. M. Of Corman Park #344	SE-2-36-6-W3	Operating	Rm Of Corman Park
6664	Enns Farms Ltd. Storage Site	R. M. Of Corman Park #344	SE-14-34-4-W3	Operating	Rm Of Corman Park
6675	Farm Ne-24-39-5-W3 Storage Site	R. M. Of Corman Park #344	NE-24-39-5-W3	Operating	Rm Of Corman Park
6800	Farm Nw-10-36-4-W3 Storage Site	R.m. Of Corman Park #344	NW-10-36-4-W3	Operating	Rm Of Corman Park
6958	Farm Se-14-37-8-W3 Storage Site	R. M. Of Corman Park #344	SE-14-37-8-W3	Operating	Rm Of Corman Park
6997	Farm Se-24-39-5-W3 Storage Site	R. M. Of Corman Park #344	SE-24-39-5-W3	Operating	Rm Of Corman Park
6998	Farm Sw-19-39-4-W3 Storage Site	R. M. Of Corman Park #344	SW-19-39-4-W3	Operating	Rm Of Corman Park
7012	Farm Nw-29-39-6-W3 Storage Site	R. M. Of Corman Park #344	NW-29-39-6-W3	Operating	Rm Of Corman Park
7158	Revelstoke Redi-Mix Ltd. (3-38-5-W3) Storage Site	R. M. Of Corman Park #344	3-38-5-W3	Operating	Rm Of Corman Park
7159	Revelstoke Redi-Mix Ltd. (15-38-5-W3) Storage Site	R. M. Of Corman Park #344	15-38-5-W3	Operating	Rm Of Corman Park
7160	Revelstoke Redi-Mix Ltd. (3-39-5-W3) Storage Site	R. M. Of Corman Park #344	3-39-5-W3	Operating	Rm Of Corman Park
7170	Brekmar Industries Ltd. Storage Site	R. M. Of Corman Park #344	SE-14-38-5-W3	Operating	Rm Of Corman Park
7489	Agriculture Canada Research Farm Storage Site	R. M. Of Corman Park #344	NE-1-37-5-W3	Operating	Rm Of Corman Park
7617	City Of Saskatoon - Engineering Department, R M Corman Park	R. M. Of Corman Park #344	SW-29-36-4-W3	Operating	Rm Of Corman Park
7642	Safe Flight Aviation Inc. Storage Site	Corman Air Park, S-14-35-4-W3, R. M. Of Corman Park #344		Operating	Rm Of Corman Park
7727	Canada Concrete, Div. Of Lafarge Canada Inc., Rm 344 Storage	North Corman Industrial Park, R. M. Of Corman Park #344		Decommissioning	Rm Of Corman Park
8064	Hillcrest Memorial Gardens, Rm Of Corman Park 344 Storage Site	R. M. Of Corman Park #344	SW-20-36-4-W3	Reclaimed	Rm Of Corman Park
8161	Saskatchewan Highways & Transportation (R. M. Of Corman Park	R. M. Of Corman Park #344	SE-10-36-6-W3	Operating	Rm Of Corman Park
8338	The Car Mart (Se-10-36-6-W3) Storage Site	R. M. Of Corman Park #344	SE-10-36-6-W3	Decommissioning	Rm Of Corman Park
8455	Sasktel - Asquith Radio Asqtsko2 Storage Site	R. M. Of Corman Park #343	SW-10-37-9-W3	Reclaimed	Rm Of Corman Park
8600	Other Parcel A, Se-1-38-6-W3 Storage Site	Parcel A, Se-1-38-6-W3, R. M. Of Corman Park #344	SE-1-38-6-W3	Decommissioning	Rm Of Corman Park
8930	Loraas Disposal Services Ltd./northern Landfill Inc. Storage	Martensville, Se-16-38-5-W3, R. M. Of Corman Park #344	SE-16-38-5-W3	Operating	Rm Of Corman Park
9197	Envirotec Waste Management Ltd., Rm Corman Park 344 Storage	R. M. Of Corman Park #344	SE-16-38-5-W3	Reclaimed	Rm Of Corman Park
10757	Moon Lake Service Storage Site	R. M. Of Corman Park #344	N½-8-35-6-W3	Under Construction	Rm Of Corman Park
11868	Caron Transportation Systems Storage Site	R. M. Of Corman Park #344	SW-4-38-5-W3	Decommissioning	Rm Of Corman Park
12254	The Car Mart(se-10-36-6-W3) Storage Site	R. M. Of Corman Park #344	SE-10-36-6-W3	Operating	Rm Of Corman Park
12256	Saskatoon Used Truck Parts Centre Ltd. (Sw-14-38-5-W3) Stora	R. M. Of Corman Park #344	SW-14-38-5-W3	Operating	Rm Of Corman Park
12326	Star Valley Reclaimers Ltd. (R. M. Of Corman Park #344) Stor	R. M. Of Corman Park #344	SW-16-36-4-W3	Operating	Rm Of Corman Park
54524	Bioexx Speciality Proteins Inc., Rm Of Corman Park, Storage Site	33 Peters Avenue, Corman Industrial Park	SE-14-38-5-W3	Operating	Rm Of Corman Park
56798	Acropolis Warehousing Inc. (6 Prospect Place, Corman Park, Saskatoon)	Lot 5, Blk 4 Plan Ps#101953919, 6 Prospect Place	SE-19-37-5-W3	Operating	Rm Of Corman Park
62755	Green Prairie Environmental E1/2 Nw-20-35-5 W3m Storage Site	South Saskatoon Landfill E1/2 Nw-20-35-5 W3m	NW-20-35-5-W3	Operating	Rm Of Corman Park
67000	United Farmers Of Alberta Cooperative Ltd., 2 Henry Gate, Rm Of Corman Park, Storage Facility	2 Henry Gate, Rm Of Corman Park		Operating	Rm Of Corman Park

Discharge Cases (Spills)



Summary

This map data displays environmental discharges (spills) in Saskatchewan with location, confirmed substance and quantity. This data is limited to events that occurred between January 1, 2015 to present.

[View Full Details](#)

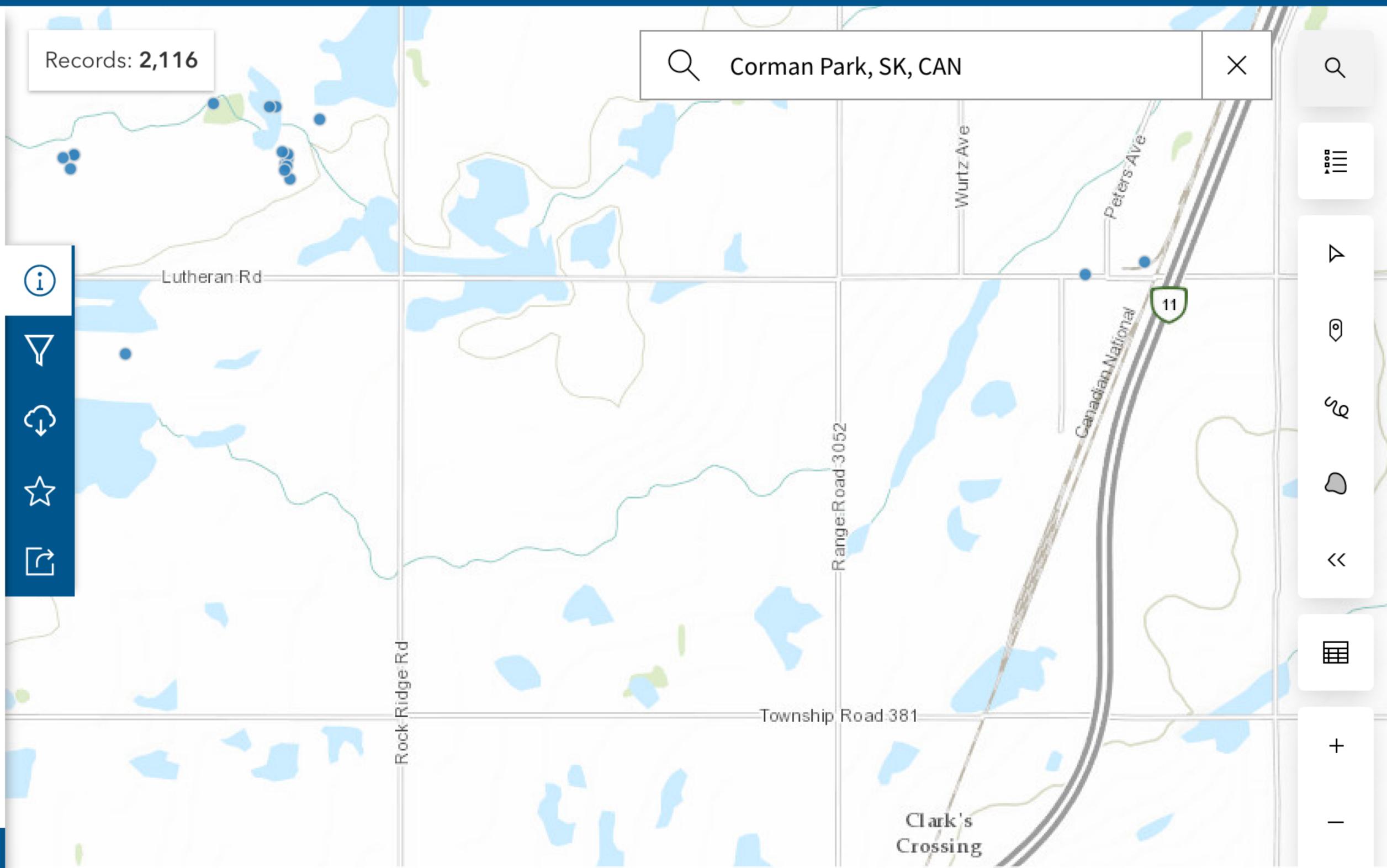
[Download](#)

Details

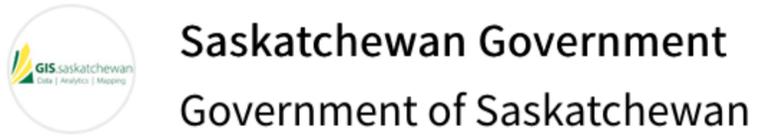
Dataset
Feature Layer

October 31, 2022
Info Updated

I want to use this >



Environmentally Impacted Sites



Summary

This map data displays environmentally impacted sites in Saskatchewan with location, confirmed substance and current status.

[View Full Details](#)

[Download](#)

Details

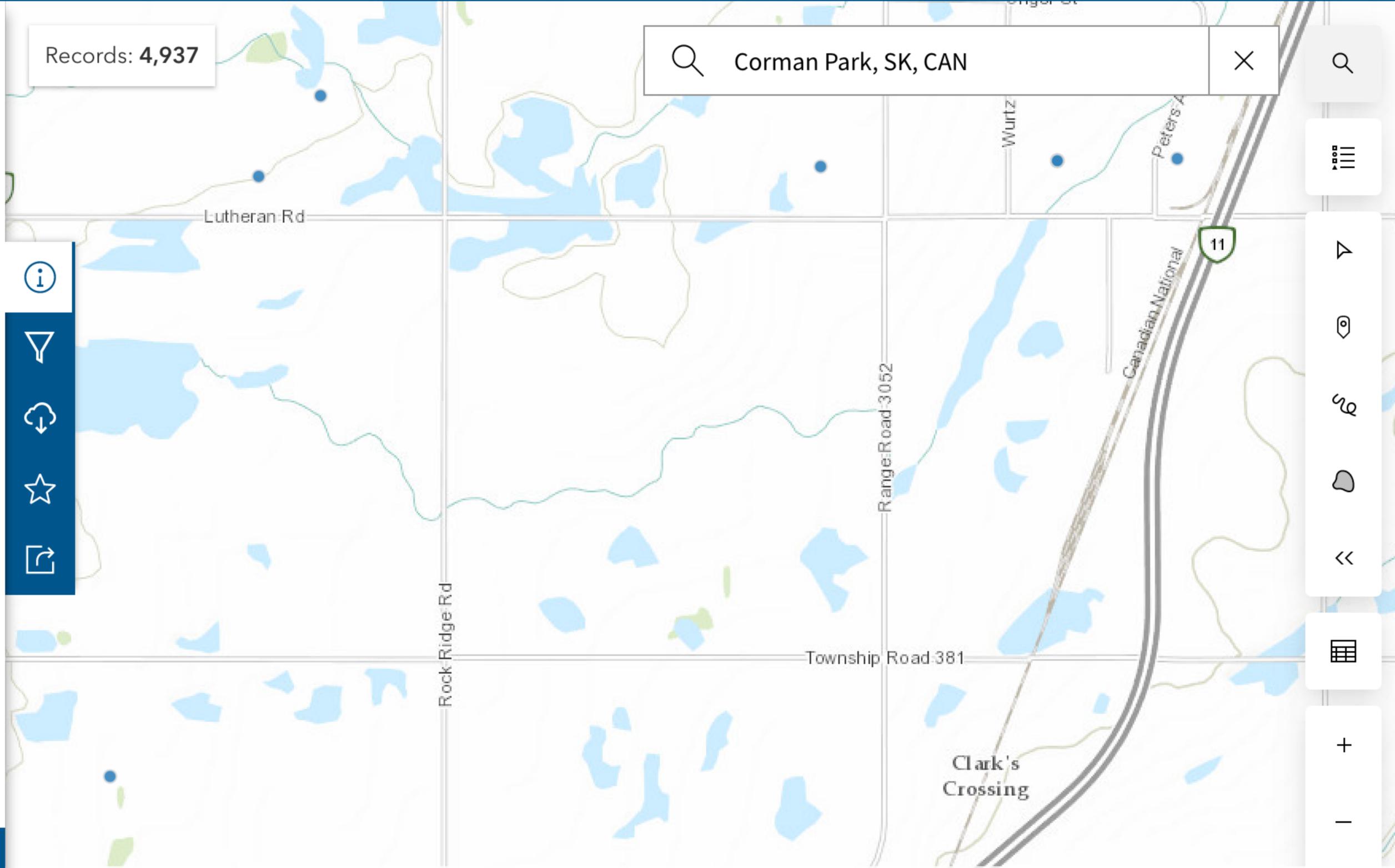
Dataset
Feature Layer

March 31, 2022
Info Updated

I want to use this >

Records: 4,937

-
-
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APPENDIX F

LAND TITLES Copies of Land Titles

Province of Saskatchewan Land Titles Registry Title

Title #: 112452285
Title Status: Active
Parcel Type: Surface
Parcel Value: N/A
Title Value: N/A
Converted Title: 89S06726
Previous Title and/or Abstract #: 89S06726

As of: 12 Sep 2023 21:33:17
Last Amendment Date: 24 May 2022 08:47:20.990
Issued: 16 Aug 2002 23:40:36.610

Municipality: RM OF CORMAN PARK NO. 344

L&L GRAVEL & RANCHING CO. LTD. is the registered owner of Surface Parcel #145389246

Reference Land Description: LSD 2 Sec 10 Twp 38 Rge 05 W 3 Extension 173
As described on Certificate of Title 89S06726, description 173.

This title is subject to any registered interests set out below and the exceptions, reservations and interests mentioned in section 14 of *The Land Titles Act, 2000*.

Registered Interests:

Interest #:
166151145

Power Corporation Act
Easement (s.23)

Value: N/A
Reg'd: 28 Feb 2014 15:28:12
Interest Register Amendment Date: 24 May 2022 08:47:21
Interest Assignment Date: N/A
Interest Scheduled Expiry Date: N/A
Expiry Date: N/A

EASEMENT FOR ELECTRICAL TRANSMISSION LINE DATED FEBRUARY 13, 2014 BETWEEN SASKATCHEWAN POWER CORPORATION AND L & L GRAVEL & RANCHING CO. LTD.

Holder:
SASKATCHEWAN POWER CORPORATION
2025 VICTORIA AVE
REGINA, SK, Canada S4P 0S1
Client #: 100307618

Int. Register #: 119814475
Feature #: 100287873

Addresses for Service:

Name	Address
Owner: L&L GRAVEL & RANCHING CO. LTD.	PO BOX 39136 LAKEWOOD SASKATOON, Saskatchewan, Canada S7V 0A9
Client #: 100263046	

Notes:

Under The Planning and Development Act, 2007, the title for this parcel and parcels 145389268 may not be transferred or, in certain circumstances, mortgaged or leased separately without the approval of the appropriate planning authority. If you believe this restriction does not apply to this parcel, please contact 1-866 ASK-ISC1 to have the restriction reviewed.

Parcel Class Code: Parcel (Generic)

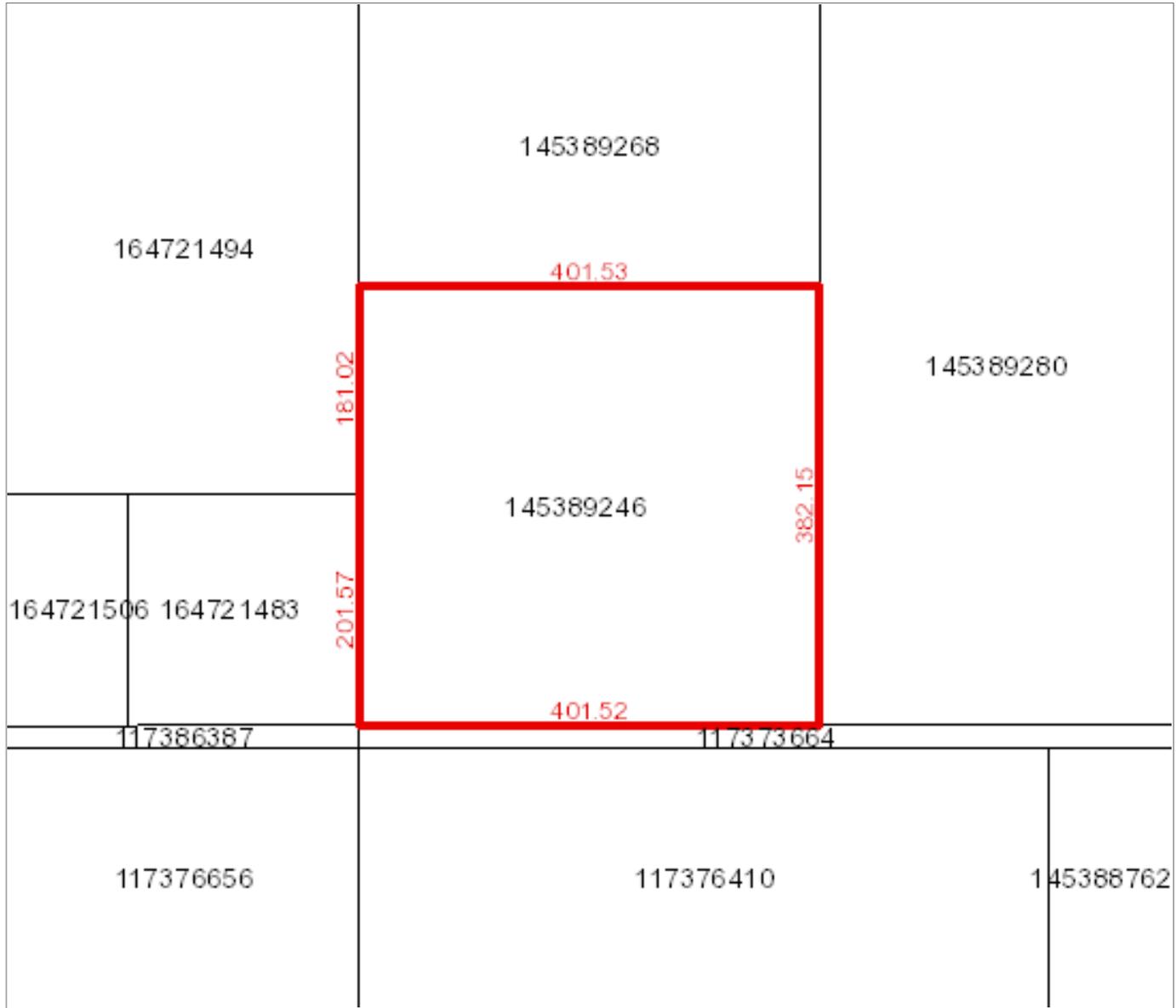
[Back](#)

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Surface Parcel Number: 145389246

REQUEST DATE: Tue Sep 12 21:33:28 GMT-06:00 2023



Owner Name(s) : L&L GRAVEL & RANCHING CO. LTD.

Municipality : RM OF CORMAN PARK NO. 344

Title Number(s) : 112452285

Parcel Class : Parcel (Generic)

Land Description : LSD 2- 10-38-05-3 Ext 173

Source Quarter Section : SE-10-38-05-3

Commodity/Unit : Not Applicable

Area : 15.353 hectares (37.94 acres)

Converted Title Number : 89S06726

Ownership Share : 1:1

Province of Saskatchewan Land Titles Registry Title

Title #: 112452308
Title Status: Active
Parcel Type: Surface
Parcel Value: N/A
Title Value: N/A
Converted Title: 89S06726
Previous Title and/or Abstract #: 89S06726

As of: 12 Sep 2023 21:31:24
Last Amendment Date: 24 May 2022 08:47:20.990
Issued: 16 Aug 2002 23:40:51.843

Municipality: RM OF CORMAN PARK NO. 344

L&L GRAVEL & RANCHING CO. LTD. is the registered owner of Surface Parcel #145389268

Reference Land Description: LSD 7 Sec 10 Twp 38 Rge 05 W 3 Extension 174
As described on Certificate of Title 89S06726, description 174.

This title is subject to any registered interests set out below and the exceptions, reservations and interests mentioned in section 14 of *The Land Titles Act, 2000*.

Registered Interests:

Interest #:
166151156

Power Corporation Act
Easement (s.23)

Value: N/A
Reg'd: 28 Feb 2014 15:28:12
Interest Register Amendment Date: 24 May 2022 08:47:21
Interest Assignment Date: N/A
Interest Scheduled Expiry Date: N/A
Expiry Date: N/A

EASEMENT FOR ELECTRICAL TRANSMISSION LINE DATED FEBRUARY 13, 2014 BETWEEN SASKATCHEWAN POWER CORPORATION AND L & L GRAVEL & RANCHING CO. LTD.

Holder:
SASKATCHEWAN POWER CORPORATION
2025 VICTORIA AVE
REGINA, SK, Canada S4P 0S1
Client #: 100307618

Int. Register #: 119814475
Feature #: 100287873

Addresses for Service:

Name	Address
Owner: L&L GRAVEL & RANCHING CO. LTD.	PO BOX 39136 LAKEWOOD SASKATOON, Saskatchewan, Canada S7V 0A9
Client #: 100263046	

Notes:

Under The Planning and Development Act, 2007, the title for this parcel and parcels 145389246 may not be transferred or, in certain circumstances, mortgaged or leased separately without the approval of the appropriate planning authority. If you believe this restriction does not apply to this parcel, please contact 1-866 ASK-ISC1 to have the restriction reviewed.

Parcel Class Code: Parcel (Generic)

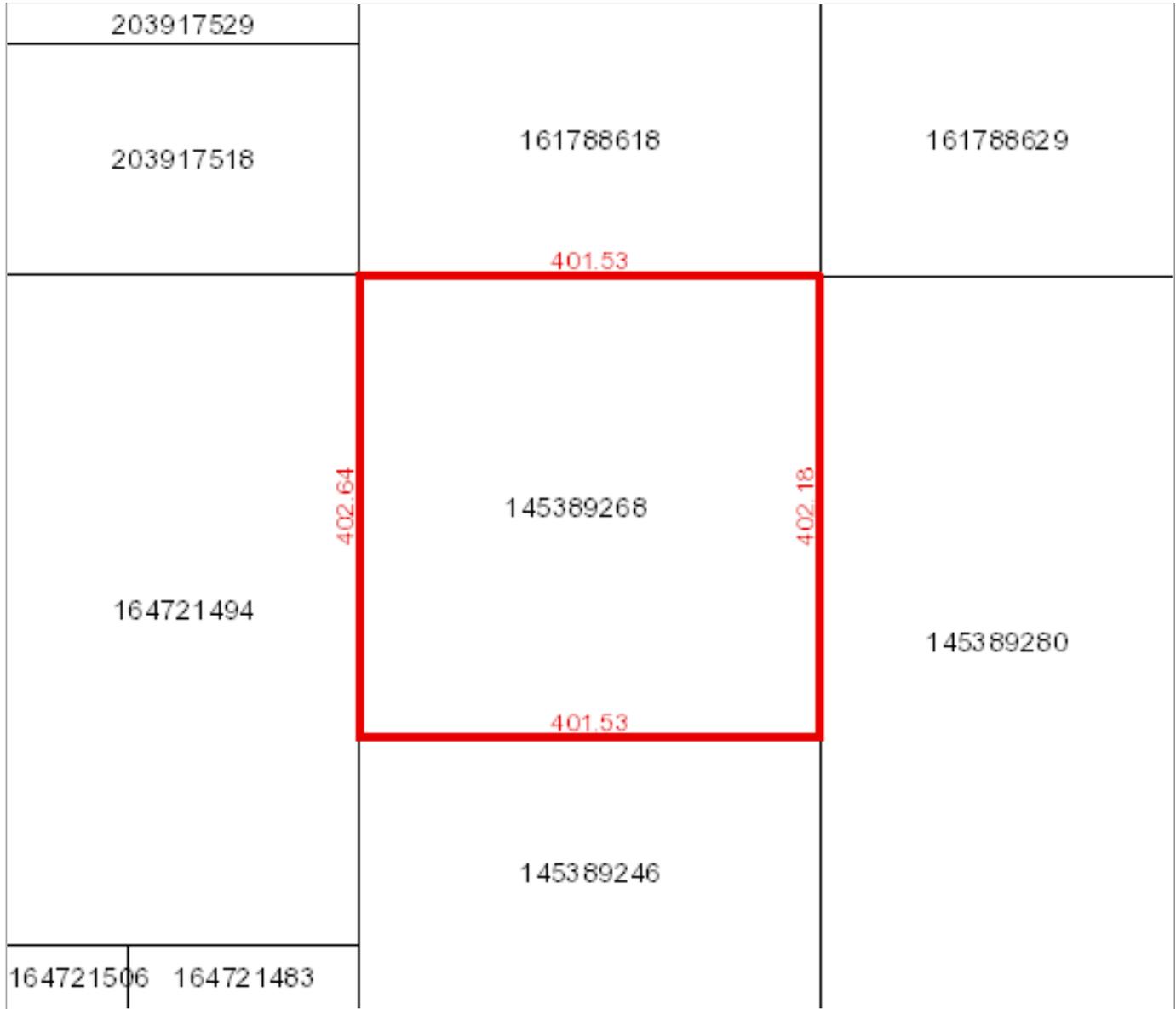
[Back](#)

[Back to top](#)



Surface Parcel Number: 145389268

REQUEST DATE: Tue Sep 12 21:31:47 GMT-06:00 2023



Owner Name(s) : L&L GRAVEL & RANCHING CO. LTD.

Municipality : RM OF CORMAN PARK NO. 344

Title Number(s) : 112452308

Parcel Class : Parcel (Generic)

Land Description : LSD 7- 10-38-05-3 Ext 174

Source Quarter Section : SE-10-38-05-3

Commodity/Unit : Not Applicable

Area : 16.158 hectares (39.93 acres)

Converted Title Number : 89S06726

Ownership Share : 1:1

Province of Saskatchewan Land Titles Registry Title

Title #: 112452308
Title Status: Active
Parcel Type: Surface
Parcel Value: N/A
Title Value: N/A
Converted Title: 89S06726
Previous Title and/or Abstract #: 89S06726

As of: 12 Sep 2023 21:31:24
Last Amendment Date: 24 May 2022 08:47:20.990
Issued: 16 Aug 2002 23:40:51.843

Municipality: RM OF CORMAN PARK NO. 344

L&L GRAVEL & RANCHING CO. LTD. is the registered owner of Surface Parcel #145389268

Reference Land Description: LSD 7 Sec 10 Twp 38 Rge 05 W 3 Extension 174
As described on Certificate of Title 89S06726, description 174.

This title is subject to any registered interests set out below and the exceptions, reservations and interests mentioned in section 14 of *The Land Titles Act, 2000*.

Registered Interests:

Interest #:
166151156

Power Corporation Act
Easement (s.23)

Value: N/A
Reg'd: 28 Feb 2014 15:28:12
Interest Register Amendment Date: 24 May 2022 08:47:21
Interest Assignment Date: N/A
Interest Scheduled Expiry Date: N/A
Expiry Date: N/A

EASEMENT FOR ELECTRICAL TRANSMISSION LINE DATED FEBRUARY 13, 2014 BETWEEN SASKATCHEWAN POWER CORPORATION AND L & L GRAVEL & RANCHING CO. LTD.

Holder:
SASKATCHEWAN POWER CORPORATION
2025 VICTORIA AVE
REGINA, SK, Canada S4P 0S1
Client #: 100307618

Int. Register #: 119814475
Feature #: 100287873

Addresses for Service:

Name	Address
Owner: L&L GRAVEL & RANCHING CO. LTD.	PO BOX 39136 LAKEWOOD SASKATOON, Saskatchewan, Canada S7V 0A9
Client #: 100263046	

Notes:

Under The Planning and Development Act, 2007, the title for this parcel and parcels 145389246 may not be transferred or, in certain circumstances, mortgaged or leased separately without the approval of the appropriate planning authority. If you believe this restriction does not apply to this parcel, please contact 1-866 ASK-ISC1 to have the restriction reviewed.

Parcel Class Code: Parcel (Generic)

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CERTIFICATE OF TITLE

M.C.

Value \$ 5000.00

Grant No.

No. 89 S 06726

Ref. 68 S 18490



THIS IS TO CERTIFY that L & L GRAVEL & RANCHING CO. LTD.

is now the owner of an estate in fee simple
of and in

LSD's 2 & 7 of Section 10

Township 38

Range 5

West of the Third Meridian, Saskatchewan

80 acres, EXCEPT: All that portion taken for Roadway by Plan 62 S 03344

M & B

LSD 2 ^{1 cell}
Description 173

LSD 7 ^{1 cell}
Description 174

MINERALS IN THE CROWN

Plan Ex

SUBJECT TO THE ENCUMBRANCES, LIENS AND INTERESTS NOTIFIED BY MEMORANDUM NOW OR HEREAFTER UNDERWRITTEN OR ENDORSED HEREON, OR WHICH ATTACH BY IMPLICATION UNDER THE LAND TITLES ACT. ANY REFERENCE TO AREA IS "MORE OR LESS".

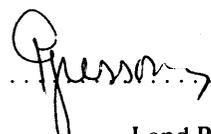
IN WITNESS WHEREOF I have hereunto subscribed my name and affixed my official seal this

...21... day of February, A.D. 19 89 .

Post Office Address . Box .1162.....

.....Saskatoon, Sask.....

.....

 Registrar

Saskatoon..... Land Registration District

Province of Saskatchewan

NOTICE: The Land Titles Act provides that "every owner or mortgagee shall notify the Registrar of any change in his Post Office Address."

Value \$ 5,000.00



No. 68-S-18490

Grant No.

Ref. 68-S-18489

CERTIFICATE OF TITLE

THIS IS TO CERTIFY that SASKATOON READY-MIX CONCRETE COMPANY LIMITED

is now the owner of an estate in fee simple

of and in Legal Subdivisions Two (2) and Seven (7) of Section Ten (10)

in Township Thirty-eight (38)

in Range Five (5)

West of the Third Meridian,

in the Province of Saskatchewan, in the Dominion of Canada, containing Eighty (80) acres, more or less, according to Dominion Government survey thereof, EXCEPT: That portion taken for Roadway, as shown on a Plan of Record in the Land Titles Office for the Saskatoon Land Registration District as No. 62-S-03344.

Minerals in the Crown.

CANCELLED

SUBJECT TO THE ENCUMBRANCES, LIENS AND INTERESTS NOTIFIED BY MEMORANDUM NOW OR HEREAFTER UNDERWRITTEN OR ENDORSED HEREON, OR WHICH ATTACH BY IMPLICATION UNDER THE LAND TITLES ACT.

IN WITNESS WHEREOF I have hereunto subscribed my name and affixed my official seal this Thirtieth

day of August, A.D. 1968.

Post Office Address Post Office Box 1162,

Saskatoon, Saskatchewan.

js

Registrar
Saskatoon Land Registration District
Province of Saskatchewan

Canada

Province of Saskatchewan

Value \$ 8,000.00



No. 68-S-18489

Grant No.

Ref. 62-S-03341

CERTIFICATE OF TITLE

THIS IS TO CERTIFY that *JOHN J. FRIESEN*

of Saskatoon, in the Province of Saskatchewan,

is now the owner of an estate in fee simple

of and in the South East Quarter of Section Ten (10)

in Township Thirty-eight (38)

in Range Five (5)

West of the Third Meridian,

in the Province of Saskatchewan, in the Dominion of Canada, containing One Hundred and Sixty (160) acres, more or less, according to Dominion Government survey thereof,

EXCEPT: Three and Ninety-nine Hundredths (3.99) acres, more or less, taken for Roadway, as shown on a Plan of Record in the Land Titles Office for the Saskatoon Land Registration District as No. 62-S-03344.

Minerals in the Crown.

CANCELLED

SUBJECT TO THE ENCUMBRANCES, LIENS AND INTERESTS NOTIFIED BY MEMORANDUM NOW OR HEREAFTER UNDERWRITTEN OR ENDORSED HEREON, OR WHICH ATTACH BY IMPLICATION UNDER THE LAND TITLES ACT.

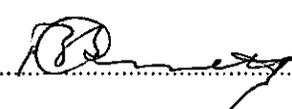
IN WITNESS WHEREOF I have hereunto subscribed my name and affixed my official seal this *Thirtieth*

day of *August*, A.D. 19*68*.

Post Office Address *Rural Route No. 4*

Saskatoon, Saskatchewan

is

 Registrar
.....
Saskatoon Land Registration District

Province of Saskatchewan

ABBREVIATIONS

T—Transfer
 Tr—Transmission
 M—Mortgage
 C—Caveat
 ML—Mechanic's Lien
 TL—Tax Lien
 E—Execution
 N—Notice

CERTIFICATE OF TITLE

Name ... *John J. Friesen*Land ... *SE $\frac{1}{4}$ of Sec. 10-38-5-M3rd.*

CHARGES, LIENS AND INTERESTS

Nature of Instrument	Registration Number	Date of Registration	Date of Instrument	Amount	Particulars	Signature of Registrar	Discharges and Withdrawals	
							Registration Number	Date of Registration
C	61-S-04740	Mar. 21/61	Mar. 21/61		By: Saskatchewan Ready-Mix Concrete Company Limited. Address for Service: Box 1162, Saskatoon, Sask.	<i>[Signature]</i>		
C	62-S-15685	Sept. 6/62	Aug. 29/62		By: Saskatchewan Ready-Mix Concrete Company. Address for Service: Box 1162, Saskatoon, Sask. (As to the $\frac{1}{2}$ of the <i>SE$\frac{1}{4}$</i>)	<i>[Signature]</i>		
TL	65-S-01019	Jan. 20/65	Jan. 15/65		By: R.M. of Warman No. 374. Address for Service: Warman, Sask.	<i>[Signature]</i>	77-S-25849	July 19/77
T	68-S-18490	Aug. 30/68	July 5/68		To: Saskatchewan Ready-Mix Concrete Company Limited. New C. of T. No. 68-S-18490. (As to LSDs 2 & 7)	<i>[Signature]</i>		
M	69-S-06742	Mar. 25/69	Mar. 20/69	\$5,000.00 @ 9%	Made by: John J. Friesen. In Favour of: Saskatchewan Credit Union Limited. Address of Mitgee: Saskatoon, Sask. as to ptn. of within land described in Inst. 70-S-18393, for public utility purposes in favor of Saskatchewan Telecommunications, Regina, Sask.	<i>[Signature]</i>	77-S-10529	Mar. 31/77
Easement	70-S-18393	7 Oct. 70	15 Sep. 70		To: Her Majesty the Queen (Sask.) New C. of T. No. 73-S-08410 (As to 1.00 acre, taken for Roadway)	<i>[Signature]</i>		
Plan	73-S-08410	Apr. 6/73			The land herein described is subject to The Meewasin Valley Authority Act as set out in Schedule "A" of the said Act.	<i>[Signature]</i>		
Order in Council	79-S-39753	Oct. 1/79			as to that ptn of within land descr. in Inst. No. 81-S-35879 for right of way purposes, in favour of: Saskatchewan Power Corporation, Regina, Sask.	<i>[Signature]</i>	<i>repealed</i>	
Easement	81-S-35879	Oct. 15/81	Oct. 7/81		As to that ptn. of within land descr. in Inst. No. 82-S-03678 for Right of Way purposes, in favour of: Saskatchewan Power Corporation, Regina, Sask.	<i>[Signature]</i>		
Easement	82-S-03678	2 Feb 82	26 Jan 82			<i>[Signature]</i>		

Continued

CERTIFICATE OF TITLE

CHARGES, LIENS AND INTERESTS

ABBREVIATIONS
 AM - Affidavit of Marriage
 BL - Builders' Lien
 C - Caveat
 CA - Commencement of Action
 CCE - Certificate of Chief Engineer
 CON - Consolidation
 E - Enlargement EA - Easement
 F - Forfeiture
 JO - Judge's Order
 L - Lease
 LP - Lis Pendens/ Certificate of Pending Litigation
 LDT - Lost Duplicate
 Certificate of Title
 M - Mortgage
 MBO - Mediation Board Order
 MC - Mineral Certificate
 MEA - Mortgage of Easement
 ML - Mechanics' Lien

CERTIFICATE OF TITLE NO. 68S18489
 NAME **John J. Friesen**
LAND SE 10-38-5-W3

ABBREVIATIONS
 MO - Maintenance Order
 MTO - Master of Titles Order
 N - Notice
 PA - Power of Attorney
 PLN - Plan
 PP - Postponement
 PPS - Personal Property Security Act Notice
 PWA - Party Wall Agreement
 R - Renewal
 REP - Replot
 REQ - Request
 SJT - Application by Surviving Joint Tenant
 T - Transfer
 TI - Transfer of Instrument
 TL - Tax Lien
 TR - Transmission
 WE - Writ of Execution

Nature of Instrument	Registration Number	Date of Registration	Amount	Particulars	Registration Number	Discharges and Withdrawals	Date of Registration
N	01SA19672	02 Aug 01		Re: 61S04740 will lapse in 30 days unless continued Mailing date: August 10, 2001			
N	01SA19673	02 Aug 01		Re: 62S15685 will lapse in 30 days unless continued Mailing date: August 10, 2001			
T	01SA19674	02 Aug 01		To: Russell Leslie Fehr and Colleen Katherine Fehr Title: 01SA19674			

CANCELLED


 Registrar

APPENDIX G

PHOTO PAGES



Photo 1: Shercom Industries was located to the north of the Site.



Photo 2: The bin yard was located just south of the SE corner of the site.



Photo 3: The transmission line is to the west of the western boundary of the Subject Property. The arrow shows the SW corner of the Site.



Photo 4: The Subject Property is along the north side of the road.



Photo 5: The site is largely vegetated with grasses and willows.



Photo 6: Horse trails can be seen throughout the Property. Several horses were currently grazing the Site.



Photo 7: A number of dry slough beds were present.



Photo 8: Open grassy areas were found intersperse with dense willow cover.



Photo 9: Tree cover was sparse.



Photo 10: Two pieces of machinery likely originally used during the gravel mining were noted. Neither had a fuel tank associated with them.



Photo 11: A few vegetated gravel piles were also present on the Site.



Photo 12: Horse watering troughs and a salt block were also noted.

APPENDIX H

QUALIFICATIONS PROOF OF INSURANCE



Polson Environmental **Phase I Environmental Site Assessments**

2001 St. Henry Avenue, Saskatoon, Saskatchewan, S7M 0P4
Phone: 306-652-7708, Cellular: 306-221-4569
Email: Johnpolson@shaw.ca Polsonenvironmental.com

John Polson. BAg., MSc., Site Assessor

Mr. Polson has been involved in the area of Environmental Impact Assessment since the early 1970's throughout Western Canada, particularly in the area of wildlife, baseline and environmental assessment of mines, hydro and linear and major industrial and agricultural developments in British Columbia, Saskatchewan, Alberta and the Northwest Territories.

Mr. Polson also has a good working knowledge of Agriculture since he graduated with a wildlife / range management degree under Dr. VC Brink, one of the leaders in his field. Mr. Polson trained in photo interpretation under JD Mollard, one of the foremost photo interpreters in the world. Mr. Polson was trained as a Remote Sensing Specialist under the tutorship of Harley Poikrant / Manitoba Remote Sensing Centre. The Centre is a leader in the field.

Mr. Polson began conducting Phase I Site Assessments in 1995 and has been a long time member of the the Association of Environmental Site Assessors of Canada where he completed training in 1996. AESAC – Associated Environmental Site Assessors of Canada is an organization that seeks to set standards for Phase I Assessments across Canada. AESAC has developed a code of ethics that is followed by all members.

AESAC, in addition to training, conducts peer reviews of their members' reports on a regular basis.

Mr. Polson has completed many Phase I Site Assessments in urban and rural areas throughout Saskatchewan as well as in Alberta and more limited numbers in Manitoba.

Site Assessments conducted by Mr. Polson follow the recommended procedures developed by AESAC (now CSA Standard Z768-01 – most recent revision 2022) which are recognized as the Canadian Standards for Site Assessment in Canada. Mr. Polson was involved in the updating of CSA Standard Z768-01 - 2012 while working with Pinter & Associates of Saskatoon.



ASSOCIATED ENVIRONMENTAL SITE ASSESSORS OF CANADA

CODE OF ETHICS

The purpose of this code is to establish clear and ethical guidelines for AESAC members. Should a member violate these Codes or Standards of Professionalism, their designation and membership may be revoked for a period of time and/or they may be expelled from the Association.

AESAC Members shall:

Be working or training in the field of environmental site assessments and working towards certification.

- 1. Conduct themselves in a professional manner at all times.***
- 2. Perform services with proper regard to safety, health and welfare of workers and the public and for the protection of the environment.***
- 3. Perform site assessments in accordance with the current CSA Standards for Environmental Site Assessments or equivalent standard applicable outside Canada.***
- 4. Undertake only such work as competent to perform by virtue of training and experience***
- 5. Strive to maintain and improve professional standards in the field of environmental site assessments***
- 6. Recognize the responsibilities he or she has to the public, the profession, their employer and all parties having an interest in environmental site assessments.***
- 7. Give independent objective opinions in any reports or information supplied to them in the course of an Environmental Site Assessment regardless of the source.***
- 8. Should be certain their client understands all the information presented in the final report and that suggestions and conclusions are carefully explained.***
- 9. Never be involved in an assessment where any direct or indirect conflict of interest may be cause for concern about the objectivity of the final report.***
- 10. Must be covered with adequate Errors & Omissions insurance when performing site assessments and supply AESAC documentation of such.***
- 11. In promoting environmental site assessments and obtaining assignments members must avoid misleading advertising which would be detrimental to the public interest.***
- 12. Respect the Professional reputation of other AESAC members.***
- 13. Respect the confidential relationship with other AESAC members as well as the***
- 14. confidential nature of site assessor/client relationship***
- 15. Not engage in any practice which is in violation of the law of the land.***

“AS A PREREQUISITE OF MEMBERSHIP ALL AESAC MEMBERS HAVE AGREED TO READ, AND ABIDE BY THIS CODE OF ETHICS AND CURRENT CSA STANDARDS FOR ENVIRONMENTAL SITE ASSESSMENTS”

**Errors & Omissions/Professional Liability &
Commercial General Liability & Excess Liability
Insurance
December 1, 2022 – December 1, 2023**

Policy

Errors and Omissions Insurance for Environmental Consultants

This is a claims-made and reported policy. Please read the entire policy carefully.

Terms in capital letters have special meaning. Please refer to the definitions section of this policy (Part I).

Part I – Definitions

As used in this policy, the following words or expressions shall mean:

1. **Bodily Injury**

Bodily injury, physical injury, sickness, disease, mental anguish, mental suffering or shock, including death resulting from any of these at any time.

2. **Claim**

Any written or oral allegations received by the INSURED resulting from an error, omission or negligent act in the rendering of INSURED SERVICES.

3. **Damages**

Compensatory DAMAGES, including all pre-judgment and post-judgment interest.

4. **Fissionable Substance**

Any prescribed substance that is, or from which can be obtained, a substance capable of releasing atomic energy by nuclear fission.

5. **Insurance Manager**

The insurance administrator under this policy, who is duly authorized to issue this policy as well as to issue and receive notices under this policy for and on behalf of the INSURERS, and whose name and address appear in the Declarations. The INSURANCE MANAGER is not a party to this contract of insurance.

6. **Insured**

The Named INSURED mentioned in the Declarations, as well as persons described hereafter, but solely for CLAIMS resulting from an error, omission, or negligent act in the rendering of INSURED SERVICES, while acting within the scope of their duties for the Named INSURED:

- (a) any present or former partner, director, officer or employee of the Named INSURED;
- (b) any independent contractor retained by the Named INSURED;
- (c) employees of others on loan to and while working for and under the guidance of the Named INSURED.

7. **Insured Services**

Those services rendered by the INSURED, while acting within the scope of the INSURED'S duties as an environmental consultant and customary to the practice of environmental consulting.

8. **Insurers**

The insurance companies whose names appear in the Declarations. It is agreed that such INSURERS are binding themselves severally and not jointly, each in its own layer of coverage only, and each only for that amount determined by multiplying its percentage proportion of coverage by the amount of the LOSS.

9. **Loss**

One or more CLAIMS resulting from the same or related error, omission or negligent act in the rendering of INSURED SERVICES, regardless of the number of suits, claimants or INSURED. Such CLAIMS will be considered first reported within the policy period in which the earliest CLAIM was reported and subject to that single limit of liability.

10. **Nuclear Energy Hazard**

The radioactive, toxic, explosive or other hazardous properties of RADIOACTIVE MATERIAL.

11. **Nuclear Facility**

- (a) Any apparatus designed or used to sustain nuclear fission in a self-supporting chain reaction or to contain a critical mass of plutonium, thorium, uranium, or any one or more of them;
- (b) any equipment or device designed or used for:
 - (i) separating the isotopes of plutonium, thorium, uranium, or any one or more of them;
 - (ii) processing or utilizing spent fuel; or
 - (iii) handling, processing or packaging waste;
- (c) any equipment or device used for the processing, fabricating or alloying of plutonium, thorium or uranium enriched in the isotope uranium 233 or in the isotope uranium 235, or any one or more of them, if at any time the total amount of such material in the custody of the INSURED at the premises where such equipment or device is located consists of or contains more than 25 grams of plutonium or uranium 233 or any combination thereof, or more than 250 grams of uranium 235;
- (d) any structure, basin, excavation, premises or place prepared or used for the storage or disposal of waste RADIOACTIVE MATERIAL.

The above includes the site on which any of the foregoing is located, together with all operations conducted thereon and all premises used for such operations.

12. **Pollution**

Emission, release, discharge, dispersal, escape or disposal of smoke, gases, vapours, soot, fumes, acids, alkalis, toxic substances, waste materials, irritants, contaminants or pollutants into or upon land or any water of any description no matter where located or how contained, or into any drainage or sewage system, or into the atmosphere.

13. **Radioactive Material**

Uranium, thorium, plutonium, neptunium, their respective derivatives and other compounds, radioactive isotopes of other elements and any other substances that the Canadian Nuclear Safety Commission may, by regulation, designate as being prescribed substances capable of releasing atomic energy, or as being requisite for the production, use or application of atomic energy.

Part II – Insuring Agreements

1. **General Agreements**

In consideration of the premium indicated in the Declarations, and in reliance upon the attachments to and the statements made in the application form, and subject to the terms, conditions and limitations contained in this policy, the INSURERS agree to pay on behalf of the INSURED all sums which the INSURED shall become legally obligated to pay as DAMAGES because of a CLAIM first made and reported to the INSURANCE MANAGER during the policy period resulting from an error, omission or negligent act in the rendering of INSURED SERVICES by the INSURED:

- (a) during the policy period; or

- (b) before the effective date of the initial policy issued and renewed without interruption by the INSURANCE MANAGER, but after the retroactive date (if one is shown in the Declarations), provided that on the effective date of this policy the INSURED did not know of the CLAIM or of the circumstance that could reasonably have given rise to the CLAIM.

This policy of insurance, subject to its terms, conditions and limitations, applies to CLAIMS first made against the INSURED and reported to the INSURANCE MANAGER during the policy period.

2. Defence and Other Payments

With respect to the insurance afforded by the General Agreements of Part II of this policy, the INSURERS further agree:

- (a) that they shall have the right and duty to defend the INSURED in any suit first brought against the INSURED before a court of civil jurisdiction in Canada or the United States of America;
- (b) to pay any premium payable under guarantee bonds required to release attachments and any premium payable on appeal bonds but without any obligation to apply for or furnish any such bonds;
- (c) to pay the reasonable and necessary legal, adjusting, investigating or expert expenses incurred for the defence of CLAIMS for which coverage is provided by this policy;
- (d) to pay costs taxed against the INSURED following a judgment by a court of civil jurisdiction;
- (e) to reimburse INSUREDS for the reasonable expenses incurred by the INSURED to assist in the investigation and defence of the CLAIM at the request of the INSURANCE MANAGER. Such expenses shall include the amount paid in salaries up to a total of three hundred dollars (\$300) per day per INSURED, subject to a maximum of ten thousand dollars (\$10,000) for all INSUREDS who, in lieu of work, attend at discoveries, mediation, trial, coroner's inquest or human rights tribunal as part of the defence of a CLAIM;
- (f) the INSURERS shall have no duty to defend a CLAIM which arises from demands or proceedings first brought against the INSURED outside Canada or the United States of America.

Where it is the duty of the INSURED to defend, the INSURED shall not select defence counsel without the INSURANCE MANAGER'S written consent, which shall not be unreasonably withheld. The INSURERS shall have the right and shall be given the opportunity to effectively associate with the INSURED in the investigation, defence and settlement of any CLAIM for which coverage is provided under this policy. The payment of sums provided for in Item 2 of Part II shall be on a current basis.

3. The payment of the sums provided for in Item 2 of Part II is to be considered an integral part of the applicable limit of liability of the INSURERS as it erodes the limit of liability.
4. The INSURERS' obligation to defend any CLAIM ends once the available limit of liability is exhausted.

5. Territory

This policy applies to CLAIMS which give rise to demands or proceedings against the INSURED anywhere in the world.

Part III – Exclusions

The coverage afforded under this policy does not apply to:

1. Asbestos Liability Bodily Injury

CLAIMS for DAMAGES for BODILY INJURY which is actually or allegedly, in whole or in part, directly or indirectly, caused by, based upon or in any way involving asbestos or any material derived therefrom in whatever form or quantity.

This exclusion applies to such CLAIMS regardless of any other cause or event (whether insured or not) contributing concurrently or in any sequence to the occasioning of the BODILY INJURY.

2. Bankruptcy/Insolvency

CLAIMS resulting from the bankruptcy or insolvency of the INSURED.

3. Care, Custody and Control

CLAIMS resulting from damage caused to property in the care, custody or control of the INSURED or property over which the INSURED is for any purpose exercising control.

4. **Deliberate, Dishonest or Fraudulent Acts**

CLAIMS resulting from deliberate, dishonest, criminal or fraudulent acts committed by the INSURED, unless it was done in order to protect persons or property, but this exclusion does not apply to any INSURED who is neither the author of nor an accomplice to the act.

5. **Design-build**

CLAIMS resulting from services rendered by the INSURED where:

- (a) actual construction, erection, fabrication, installation, assembly, manufacture thereof, or;
- (b) decommissioning, remediation, clean-up, removal, containment, detoxification or neutralization of any property, pollutants or contaminants;

is also performed by or on behalf of the INSURED or by or on behalf of an associated business enterprise in which the INSURED either directly or indirectly has an interest, or that directly or indirectly has an interest in the INSURED.

6. **Economic Return**

CLAIMS resulting from representations, forecasts or estimates of profit, return on capital or economic return.

7. **Fines, Penalties**

CLAIMS resulting from any fines, penalties, punitive or exemplary damages.

8. **Insured vs. Insured**

CLAIMS initiated by one or more INSUREDS against any other INSURED.

9. **Joint Venture**

CLAIMS resulting from the Named INSURED'S participation in a joint venture, partnership, associateship or any other entity which has not been endorsed on this policy as an additional Named INSURED unless this policy was specifically issued for this purpose.

10. **Liability of Others**

CLAIMS resulting from the liability of others assumed by the INSURED under a contract; however, this exclusion shall not apply to the INSURED'S legal liability for subconsultants contractually bound to the INSURED or for the INSURED'S liability for errors, omissions or negligent acts of the INSURED'S own employees.

11. **Libel and Slander**

CLAIMS resulting from DAMAGES resulting from:

- (a) oral or written publication of material, declaration or interview by the media that slanders or libels a person or organization or disparages a person's or organization's goods, products or services; or
- (b) oral or written publication of material that violates a person's right of privacy.

12. **Nuclear Energy**

CLAIMS:

- (a) resulting from any liability imposed by or arising under the Nuclear Liability Act; or
- (b) with respect to which an INSURED under this policy is also insured under a contract of nuclear energy liability insurance (whether the INSURED is named in such contract or not and whether or not it is legally enforceable by the INSURED) issued by the Nuclear Insurance Association of Canada or any other group or pool of insurers, or would be an INSURED under any such policy but for its termination upon exhaustion of its limit of liability; or
- (c) resulting directly or indirectly from the NUCLEAR ENERGY HAZARD arising from:
 - (i) the ownership, maintenance, operation or use of a NUCLEAR FACILITY by or on behalf of an INSURED;

- (ii) the furnishing by an INSURED of services, materials, parts or equipment in connection with the planning, construction, maintenance, operation or use of any NUCLEAR FACILITY; and
- (iii) the possession, consumption, use handling, disposal or transportation of FISSIONABLE SUBSTANCES, or of other RADIOACTIVE MATERIAL;

but this exclusion shall not be construed to apply in any commercial or medical radioactive isotopes.

13. Other Activities

CLAIMS resulting from the legal liability of the INSURED arising from the operation of any business enterprise, other than INSURED SERVICES.

14. Other Insurance

CLAIMS covered under another valid and collectible insurance policy. Any coverage provided by this policy shall be specifically excess of and shall not act in contribution with such other insurance policy.

15. Pollution

CLAIMS arising out of or attributable to POLLUTION.

16. Prior Knowledge

CLAIMS or circumstances, reported or not in the application, known to the INSURED before the effective date of the initial policy issued and renewed without interruption by the INSURANCE MANAGER to the INSURED.

17. Related Entities

CLAIMS made against the INSURED, when such CLAIMS are made by another business:

- (a) owned totally or partially by an INSURED;
- (b) controlled or managed totally or partially by an INSURED;
- (c) which is directly or indirectly involved in any way in the ownership or management of an INSURED'S business; or
- (d) of which an INSURED is a partner, director, officer or employee.

This exclusion shall not apply where the interest held by such an entity in the INSURED, or interest held by the INSURED in such an entity, whether held as equity, ownership or voting rights, is less than or equal to ten per cent (10%).

18. War Risk

CLAIMS resulting from DAMAGES caused directly or indirectly by war, invasion, acts of foreign enemies, hostilities (whether war be declared or not), civil war, rebellion, revolution, insurrection.

Part IV – Computation of Amounts Payable by the Insurers

Limit of Liability of the Insurers

Subject, when applicable, to the deductible as stated in the Declarations, the liability of the INSURERS under Part II – Insuring Agreements of this policy is limited, for each LOSS and per policy period, to the amounts as stated in the Declarations. It is agreed that the INSURERS and the INSURED shall contribute equally towards DAMAGES until the INSURED has paid the deductible referred to in the Declarations.

Part V – Conditions

1. Action Against the Insurers

No action or legal proceedings may be initiated against the INSURERS unless the INSURED has fully complied with the requirements of this policy.

2. Amendments

The terms of this policy may only be waived or changed by the INSURANCE MANAGER and then, only by written endorsement signed by the INSURANCE MANAGER. Such endorsement shall form a part of this policy.

3. Assignment

Assignment of interest under this policy shall not bind the INSURERS until their consent is endorsed hereon; if, however, the Named INSURED should be adjudged bankrupt, insolvent or incompetent or die within the policy period, this policy shall cover the Named INSURED'S legal representative as Named INSURED. The INSURED agrees that any notice of any kind the INSURANCE MANAGER mails to the Named INSURED at the address shown in the Declarations shall constitute notice to the INSURED'S legal representatives.

4. Cancellation of Policy

- (a) The Named INSURED may cancel this policy by giving written notice to the INSURANCE MANAGER to this effect, indicating when thereafter the cancellation shall be effective. The INSURANCE MANAGER will reimburse the excess of premium paid by the INSURED over and above the premium earned for the time on risk, the calculation being made in accordance with the customary short rate table and procedure.
- (b) The INSURANCE MANAGER may cancel this policy by giving to the Named INSURED written notice to this effect, either by registered mail or by delivering it by hand and the termination takes effect thirty (30) days after the date of the notice; in the event of non-payment of premium, the termination takes effect fifteen (15) days after the date of the notice. The INSURANCE MANAGER shall reimburse this excess premium paid by the INSURED over the earned premium for the time on risk, such calculation to be made on a pro rata basis.

5. Conformity to Statute

The terms of this policy that are in conflict with the terms of any applicable laws construing this policy, including the Quebec Civil Code, are hereby amended to conform to such laws.

6. Continuity

In the event this policy replaces, without interruption, a prior policy issued by the INSURANCE MANAGER, any CLAIMS or circumstances that could reasonably give rise to a CLAIM of which the INSURED is aware and which the INSURED reports to the INSURANCE MANAGER shall be deemed to have been reported on the date the INSURED first became aware of such CLAIM or circumstances and will be insured subject to the terms, conditions and limits of liability of the policy in force on such date.

7. Co-operation of the Insured

The INSURED must co-operate with the INSURANCE MANAGER and, at the request of the INSURANCE MANAGER, assist to effect settlement, forward proceedings, attend hearings and trials, assist in securing and giving evidence and in obtaining the attendance of witnesses.

The INSURED shall not, without the INSURANCE MANAGER'S approval and except at the INSURED'S own cost, voluntarily make any payment, assume any obligation or incur any expense.

8. Named Insured Represents All Insureds

The Named INSURED, INSURED, INSURERS and INSURANCE MANAGER agree that the Named INSURED represents all INSUREDS under this policy.

9. Notice of Claim

This is a claims-made and reported policy. The INSURED shall, as soon as practicable after being made aware of a CLAIM for which coverage would be afforded by this policy, provide written notice with the full particulars thereof to the INSURANCE MANAGER, Victor Insurance Managers Inc., at the address indicated in the Declarations.

If during the policy period the INSURED becomes aware of a circumstance which could reasonably give rise to a CLAIM, the INSURED shall give written notice thereof to the INSURANCE MANAGER as soon as practicable and prior to the date of the termination of the policy. Any such CLAIM received by the INSURED resulting from such circumstances shall be treated as a CLAIM made during the policy period in which such notice was given.

If the effective date of termination of the policy is a Saturday, Sunday or Statutory Holiday, any CLAIM presented to the INSURANCE MANAGER on the business day immediately following the termination date will be deemed to have been reported within the policy period.

Notwithstanding the aforementioned, any late notice or absence of notice is cause of forfeiture of the rights of the INSURED, if the INSURERS sustain injury therefrom.

10. Right to Audit

The INSURANCE MANAGER may, at any time, inspect the premises of the INSURED. In relation to the object of this policy, the INSURANCE MANAGER may also examine the financial records and files of the INSURED during the policy period and during the two (2) years which follow its expiry or cancellation provided that prior notice of forty-eight (48) hours is given to the INSURED.

11. Settlement and Contestation of Claims

In the event of a CLAIM, the INSURANCE MANAGER will not settle the LOSS without first obtaining the written consent of the INSURED.

However, if a settlement is rendered impossible by the sole refusal of the INSURED, the latter must continue the defence at the Named INSURED'S own expense and the liability of the INSURERS will then be limited to the amount for which the CLAIM could have been so settled together with expenses incurred under the present policy at the date of such refusal.

12. Severability of Interests

In the event that a CLAIM is made against more than one INSURED, it is agreed that the obligation of the INSURERS under this policy is the same as if separate policies had been issued to each. Notwithstanding the number of INSUREDS involved, the total amount payable hereunder on behalf of all INSUREDS shall not exceed the INSURERS' limit of liability stated in the Declarations.

13. Subrogation

In the event of any payment under this policy, the INSURERS shall be subrogated to all the INSURED'S rights of recovery therefore against any person or organization and the INSURED shall execute and deliver instruments and papers and do whatever else is necessary to secure such rights. The INSURED shall do nothing to prejudice such rights.

14. Suspension of Permit or Provisional Administration

If the Named INSURED has its permit or licence to practice suspended by virtue of the laws governing its practice, or if a provisional administration is imposed by governmental authority, notice must be given to the INSURANCE MANAGER within a period of not more than thirty (30) days from such suspension or provisional administration.



Victor Canada
500-1400 Blair Towers Place
Ottawa, Ontario K1J 9B8
Telephone 613-786-2000
Facsimile 613-786-2001
Toll Free 800-267-6684
www.victorinsurance.ca

Endorsement

Endorsement No.: 0001
Standard Form: M-3EO
Attached to and forming part
of Policy Number: SRD606871

Fungi Exclusion

It is agreed that this policy is amended as follows:

1. Part I - Definitions is amended to include the following:

14. Fungi

Any form of fungus, including but not limited to yeast, mould, mildew, rust, smut or mushroom.

2. Part III - Exclusions is amended to include the following:

19. CLAIMS based upon or arising out of, in whole or in part,:

(a) the actual, alleged or threatened inhalation of, ingestion of, contact with, exposure to, existence of, growth or presence of;

(b) any costs or expense incurred to prevent, respond to, test for, monitor, abate, mitigate, remove, cleanup, contain, remediate, treat, detoxify, neutralize, assess or otherwise deal with or dispose of;

(c) the actual or alleged failure to detect, report, test for, monitor, cleanup, remove, contain, dispose of, treat, detoxify, neutralize, or in any way respond to, assess the effects of or advise of the existence of or the conditions for the potential growth of;

any FUNGI or any spores, mycotoxins, odours, or any other substances, products or by-products produced by, released by, or arising out of the current or past presence of FUNGI.

Such CLAIMS are excluded regardless of any cause or event contributing concurrently or in any other sequence to the LOSS.

Except as otherwise provided by this endorsement, all terms, provisions and conditions of this policy shall have full force and effect.



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Endorsement

Endorsement No.: 0002
Standard Form: P-4EO
Attached to and forming part
of Policy Number: SRD606871

Pollution Coverage

It is agreed that Item 15 of Part III - Exclusions of this policy is deleted in its entirety.

Except as otherwise provided by this endorsement, all terms, provisions and conditions of this policy shall have full force and effect.



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Ottawa, Ontario K1J 9B8
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Facsimile 613-786-2001
Toll Free 800-267-6684
www.victorinsurance.ca

Endorsement

Endorsement No.: 0003
Standard Form: T-6EO
Attached to and forming part
of Policy Number: SRD606871

Terrorism Exclusion

It is agreed that this policy does not apply to CLAIMS directly or indirectly, in whole or in part, attributable to or arising out of TERRORISM.

TERRORISM means an ideologically motivated unlawful act or acts, including but not limited to the use of violence or force or threat of violence or force, committed by or on behalf of any group(s), organization(s) or government(s) for the purpose of influencing any government and/or instilling fear in the public or a section of the public.

Except as otherwise provided by this endorsement, all terms, provisions and conditions of this policy shall have full force and effect.



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Facsimile 613-786-2001
Toll Free 800-267-6684
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Endorsement

Endorsement No.: 0004
Standard Form: W-1EO
Attached to and forming part
of Policy Number: SRD606871

Warranties/Guarantees Exclusion

It is agreed that the following is added to Part III - Exclusions of this policy:

20. Warranties/Guarantees

CLAIMS resulting from the express warranties, guarantees or penalty clauses the INSURED has given for the benefit of others unless the INSURED's liability would have already existed at law in the absence thereof.

Except as otherwise provided by this endorsement, all terms, provisions and conditions of this policy shall have full force and effect.



December 21, 2022

John Polson
Polson Environmental
2001 St Henry Ave
Saskatoon, SK S7M 0P4

RE: Errors & Omissions/Professional Liability & Commercial General Liability & Excess Liability
Insurer: Victor Insurance Managers Inc. / Beazley
Policy #: SRD606871 / SGL606871 / 18601665
Policy Period: December 1, 2022 to December 1, 2023

Dear John,

We are pleased to enclose your new insurance policies providing coverages as discussed for the period **December 1, 2022 to December 1, 2023**. Thank you for your payment.

The enclosed documentation outlines the coverages provided and a copy of the policies wordings is included for your reference.

Please review the policies and wordings carefully to become familiar with the policies conditions, limitations and exclusions. It is important that you read all of the policies exclusions and conditions, however, we would like to draw your attention to a few in particular:

- **Warranties/Guarantees Exclusion** on page 13 of your Errors & Omissions/Professional Liability Policy
- **Separately Insured Wrap-Up and Joint Venture Liability Exclusion** on page 46 on your Commercial General Liability Policy
- **Warranty of Subcontractors to Carry Liability Insurance** on page 47 your Commercial General Liability Policy
- **Amended Retroactive Date Endorsement** on page 4 of your Excess Liability Policy

We would like to remind you that Professional Liability or Errors and Omissions Policies are written on a claims made basis. In order for the policy to respond, coverage must be in effect when an allegation of professional error or omission is first made, regardless of when the alleged error or omission may have taken place, subject to the Retroactive Date shown on the policy. Should you be aware of any claim or potential claim we recommend that you report it to our office immediately

HUB International Insurance Brokers are committed to controlling the use and disclosure of personal information about their clients. For information with respect to our privacy policy please refer to our web site at www.hubtos.com.



Hub International Insurance Brokers

400 - 4350 Still Creek Drive
Burnaby, BC, Canada V5C 0G5
T: (604) 269-1000
F: (604) 269-1001
www.hubinternational.com

Thank you for giving us the opportunity of arranging this insurance for you. We welcome your business and trust you will find our service entirely to your satisfaction.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Fellner".

Jordan Fellner, CIP, CRM, CAIB
Account Executive

Direct: 604.269.1888

Toll Free: 1.800.606.9969

Email: Jordan.Fellner@hubinternational.com



December 21, 2022

Named Insured: John Polson o/a Polson Environmental

DISCLOSURE NOTICE

The Financial Institutions Act requires that the information contained in this Disclosure Notice be provided at the time of providing a service or product to a customer.

Hub International Insurance Brokers is licensed as a general insurance agent by the Insurance Council of British Columbia.

This transaction is between you and Aviva Insurance Company of Canada Policy No. SRD606871. We have no interest in the above stated Insurance Company and the Insurance company also has no interest in our company.

The Financial Institutions Act prohibits the Insurance Company or our company from requiring you to transact additional or other business with the Insurance Company or any other person or corporation as a condition of this transaction.

Upon completion of this transaction, Hub International Insurance Brokers will be remunerated by way of commission and/or fee, which will be paid by the insurer named above or by you, the customer.

We may work together with other appropriately licensed third parties in marketing of insurance products; we may share commissions and/or pay or receive fees as a result of a joint venture.

To view our [Privacy Statement](#), [How We Get Paid](#) including contingent commissions we may receive, [CISRO Principles for Conduct](#) and [RIBO "About Your Insurance Broker" Fact Sheet \(RIBO Fact Sheet – for Ontario Clients Only\)](#) go to: www.hubinternational.com/en-CA/about-us/canada-disclosures/

We are pleased to provide insurance services to you.

Thank you for insuring with Hub International Insurance Brokers.



EXCESS LIABILITY INSURANCE

Effected with Certain Underwriters at Lloyd's (hereinafter called the "Insurer") through Lloyd's Approved Coverholder ("the Coverholder")

BEAZLEY CANADA LIMITED

100 King Street West, Suite 4530, Toronto, ON M5X 1E1

THIS IS A CLAIMS MADE POLICY. PLEASE READ IT CAREFULLY.

The Insured is requested to read this policy, and if incorrect, return it immediately for alteration. In the event of an occurrence likely to result in a claim under this Insurance, immediate notice should be given to the office designated above.

THIS POLICY CONTAINS A CLAUSE WHICH MAY LIMIT THE AMOUNT PAYABLE.

POLICY DECLARATIONS

POLICY NUMBER: 18601665

1.	Named Insured: Address:	John Polson - Polson Environmental 2001 St Henry Ave Saskatoon SK Canada S7M 0P4
2.	Policy Period:	From: 01 Dec 2022 To: 01 Dec 2023 (both days at 12:01am local standard time at the Address of the Insured)
3.	Limit of Liability:	\$ 1,000,000 Per Claim In the aggregate for the policy period
4.	Insurer: Broker:	As per attached list of subscribing companies Hub International Canada West ULC
5.	Retroactive Date:	15 Sep 2012
6.	Premium:	\$ 1,500
7.	Followed Policy:	\$ 2,000,000 Victor Policy # SRD606871
8.	Schedule of Underlying Insurance:	A) Primary \$ 2,000,000 Victor Policy # SRD606871 B) Other Underlying Insurance N/A
9.	The insurance contract consists of this Declarations page as well as coverage wording 300513 and endorsements 1 through 2.	

IDENTIFICATION OF INSURER/ACTION AGAINST INSURER

FOR THE PURPOSES OF THE *INSURANCE COMPANIES ACT* (CANADA), THIS DOCUMENT WAS ISSUED IN THE COURSE OF LLOYD'S UNDERWRITERS' INSURANCE BUSINESS IN CANADA.

This insurance has been effected in accordance with the authorization granted to the Coverholder by the Underwriting Members of the Syndicate Agreement No. B6012BEAZCAN22 (hereinafter referred to as « the Underwriters »).

In any action to enforce the obligations of the Underwriters they can be designated or named as "Certain Underwriters at Lloyd's" and such designation shall be binding on the Underwriters as if they had each been individually named as defendant. Service of such proceedings may validly be made upon the Attorney In Fact in Canada for Certain Underwriters at Lloyd's , whose address for such service is 200 Bay Street, Suite 2930, P.O. Box 51, Toronto, ON M5J 2J2

NOTICE

Any notice to the Underwriters may be validly given to the Coverholder.

In witness whereof this policy has been signed, as authorized by the Underwriters, by Beazley Canada Limited

Per: 

Issue date: 29/11/2022

EXCESS LIABILITY INSURANCE POLICY

IN CONSIDERATION OF THE PAYMENT OF THE PREMIUM, AND IN RELIANCE UPON THE STATEMENTS MADE TO THE INSURER OR ANY UNDERLYING INSURER, INCLUDING STATEMENTS MADE BY APPLICATION AND ANY AND ALL SUPPLEMENTARY INFORMATION PROVIDED THEREWITH, WHICH SHALL BE DEEMED TO BE INCORPORATED HEREIN, AND SUBJECT TO ALL THE TERMS AND CONDITIONS OF THIS POLICY, THE INSURER AGREES AS FOLLOWS:

SECTION I - INSURING AGREEMENT

The **Insurer** shall provide coverage to the **Insureds** in excess of the **Underlying Limits of Liability**, subject to and in accordance with the applicable insuring agreements, definitions, terms, conditions, exclusions and other provisions of the **Followed Policy**, except as otherwise provided herein.

The **Insurer** shall not be obligated to pay any further claim(s), nor shall it have any other obligation whatsoever under this Policy, upon exhaustion of the Limit of Liability as shown under Item 3 of the Declarations.

SECTION II - CONFORMANCE WITH FOLLOWED POLICY

This Policy is subject to the same insuring agreements, definitions, terms, conditions, exclusions and other provisions, as set forth in the **Followed Policy**, except as regards:

- 1) the premium;
- 2) the obligation to investigate and defend;
- 3) the amount and limits of liability;
- 4) the Policy Period;
- 5) any renewal agreement;
- 6) the subject matter of Sections III, IV, V, and VII and any endorsements attached hereto; and
- 7) any terms or conditions that may otherwise be provided herein.

The Policy also applies in conformance and subject to any other limitations, restrictions or exclusions in any **Underlying insurance**. In no event shall this Policy grant broader coverage than would be provided by the most restrictive **Underlying Insurance**.

SECTION III - DEFINITIONS

The following terms whenever used in this Policy shall have the meanings indicated.

- A) **Insured** means the individuals and organizations for whom coverage is afforded under the **Primary Policy**.
- B) **Insurer** means the Insurer identified in Item 4 of the Declarations.
- C) **Followed Policy** means the policy as described in the materials submitted to the **Insurer** in connection with the Application for this Policy and identified in Item 7 of the Declarations.
- D) **Primary Policy** means the policy identified in Item 8(A) of the Declarations.
- E) **Sublimit** means any limit of liability of any **Underlying Insurance** which:
 - (i) applies only to a particular type of coverage under such **Underlying Insurance**; and
 - (ii) is part of, and not in addition to, the applicable aggregate or other limits of liability of such **Underlying Insurance**.
- F) **Underlying Insurance** or **Underlying Insurer** means, respectively, all policies and insurers outlined in Item 8 of the Declarations, including the **Followed Policy**.
- G) **Underlying Limits of Liability** means the combined limits of liability of the **Underlying Insurance** as set forth in Item 8 of the Declarations, plus any applicable retention or deductible under the **Primary Policy**.

SECTION IV - MAINTENANCE OF UNDERLYING INSURANCE

This Policy provides excess coverage only. It is a condition precedent to the coverage afforded under this Policy that those insured hereunder maintain the **Underlying Insurance** as set forth in Item 8 of the Declarations in full force and effect and without alteration of any limit of liability, retention amount, insuring agreement, warranty, definition, term, condition, exclusion or any other provision (subject to reduction or exhaustion as a result of loss payments).

EXCESS LIABILITY INSURANCE POLICY

This Policy does not provide coverage for any claim or loss not covered by the **Underlying Insurance** except and to the extent that loss is not paid under the **Underlying Insurance** solely by reason of the reduction or exhaustion of the **Underlying Limits of Liability** through payments of covered loss thereunder as provided under Section V. C) of this Policy.

SECTION V - LIMIT OF LIABILITY

- A) The **Insurer** shall only be liable to pay covered loss under this Policy which is in excess of the **Underlying Limits of Liability** after:
- (i) the **Underlying Insurers** have paid or have been held liable to pay; or
 - (ii) the **Insureds** have paid: (a) pursuant to an agreement with the **Underlying Insurers**; or (b) because of the financial impairment or insolvency of the **Underlying Insurers**,
- the total amount of all **Underlying Limits of Liability** as covered loss thereunder. Any payments by the **Insureds** shall be subject to the same terms and conditions for any such payment of the **Underlying Insurers**. Any such payments by the **Insureds** in any claim shall not be recognized as reducing or exhausting the **Underlying Limits of Liability** for any other claim.
- B) Any claim, loss or coverage that is subject to any **Sublimit** shall not be considered covered loss under this Policy, but shall, for purposes of this Policy, reduce or exhaust the **Underlying Limits of Liability** to the extent such payment reduces or exhausts the aggregate limit(s) of liability of such **Underlying Insurance**.
- C) In the event of the reduction or exhaustion of the **Underlying Limits of Liability** by reason of payment of covered loss, this Policy shall:
- 1) in the event of reduction, pay covered loss excess of the reduced limits; and
 - 2) in the event of exhaustion, continue in force as primary insurance; provided, however that in the case of exhaustion, this Policy shall only pay covered loss excess of the retention or deductible applicable under the **Primary Policy**, which shall be applied to any loss in the same manner as specified in the **Primary Policy**.
- D) Notwithstanding any of the terms of this Policy which might be construed otherwise, this Policy shall drop down only in the event of reduction or exhaustion of the **Underlying Insurance** as described in Section V.C), and for no other reason, including uncollectability or non-payment, in whole or in part, of any **Underlying Limits of Liability**. The risk of uncollectability of the **Underlying Limits of Liability**, in whole or in part, whether because of financial impairment or insolvency of any **Underlying Insurer** or for any other reason, is expressly retained by the **Insured** and is not in any way, or under any circumstances, insured or assumed by the **Insurer**.

The amount shown in Item 3 of the Declarations shall be the maximum aggregate Limit of Liability of the Insurer for all covered loss resulting from all claims made against any insured during the Policy Period, or any discovery period or extended reporting period properly elected under this Policy, if applicable.

SECTION VI – CLAIM PARTICIPATION

The **Insurer** shall have the right and be given the opportunity to associate with the **Insured** and any **Underlying Insurer** in the control and defence of any claim even if the **Underlying Insurance** has not been exhausted.

SECTION VII - NOTIFICATION

- A) Where notice is permitted or required by the **Underlying Insurance**, the **Insureds** have the same rights and obligations to notify the **Insurer** under this Policy, except that such notice shall be given to the **Insurer** at the address set forth in paragraph B) below. Notice to any other insurer shall not constitute notice to the **Insurer** unless also given to the **Insurer** as provided above.

Notice given to any **Underlying Insurer** shall not constitute notice under this Policy.

- B) Notice to the **Insurer** provided for in this Section VII. shall be given to:

Beazley Canada Limited
First Canadian Place
100 King Street West, Suite 4530, P.O. Box 328
Toronto, Ontario M5X 1E1
Facsimile: +1 416-861-1617



Authorized Insurer's Representative
Beazley Canada Limited

Attached to and forming part of Policy No. 18601665

Endorsement # 1

Sanctions and Limitation Exclusion (AEM1056)

Named Insured: **John Polson - Polson Environmental**

Effective Date: 01 Dec 2022

No (re)insurer shall be deemed to provide cover and no (re)insurer shall be liable to pay any **Claim** or provide any benefit hereunder to the extent that the provision of such cover, payment of such **Claim** or provision of such benefit would expose that (re)insurer to any sanction, prohibition or restriction under United Nations resolutions or the trade or economic sanctions, laws or regulations of Canada, the European Union, United Kingdom or United States of America.

All other terms and conditions remain unchanged.



Authorized Insurer's Representative
Beazley Canada Limited

01 Dec 2022

Date

Attached to and forming part of Policy No. 18601665

Endorsement # 2

Amended Retroactive Date Endorsement (BZEX1091)

Named Insured: **John Polson - Polson Environmental**

Effective Date: 01 Dec 2022

This endorsement modifies insurance provided under the following:

EXCESS INSURANCE POLICY

In consideration of the premium charged for the Policy, it is hereby understood and agreed that the following clause is added to the Policy:

RETROACTIVE DATE

With respect to any "retroactive date", "continuity date" or similar term contained in the **Followed Policy** the following date shall apply for this Policy: 15 Sep 2012

All other terms and conditions remain unchanged.



Authorized Insurer's Representative
Beazley Canada Limited

01 Dec 2022

Date



POLSON ENVIRONMENTAL

2001 St. Henry Avenue, Saskatoon, Saskatchewan, S7M0P4
(306) 652-7708, Fax (306) 653-0223, Cell: (306) 221-4569
Email: johnpolson@shaw.ca

Comprehensive Development Review

Client: 101063662 Saskatchewan Ltd.

Shercom Industries Ltd.

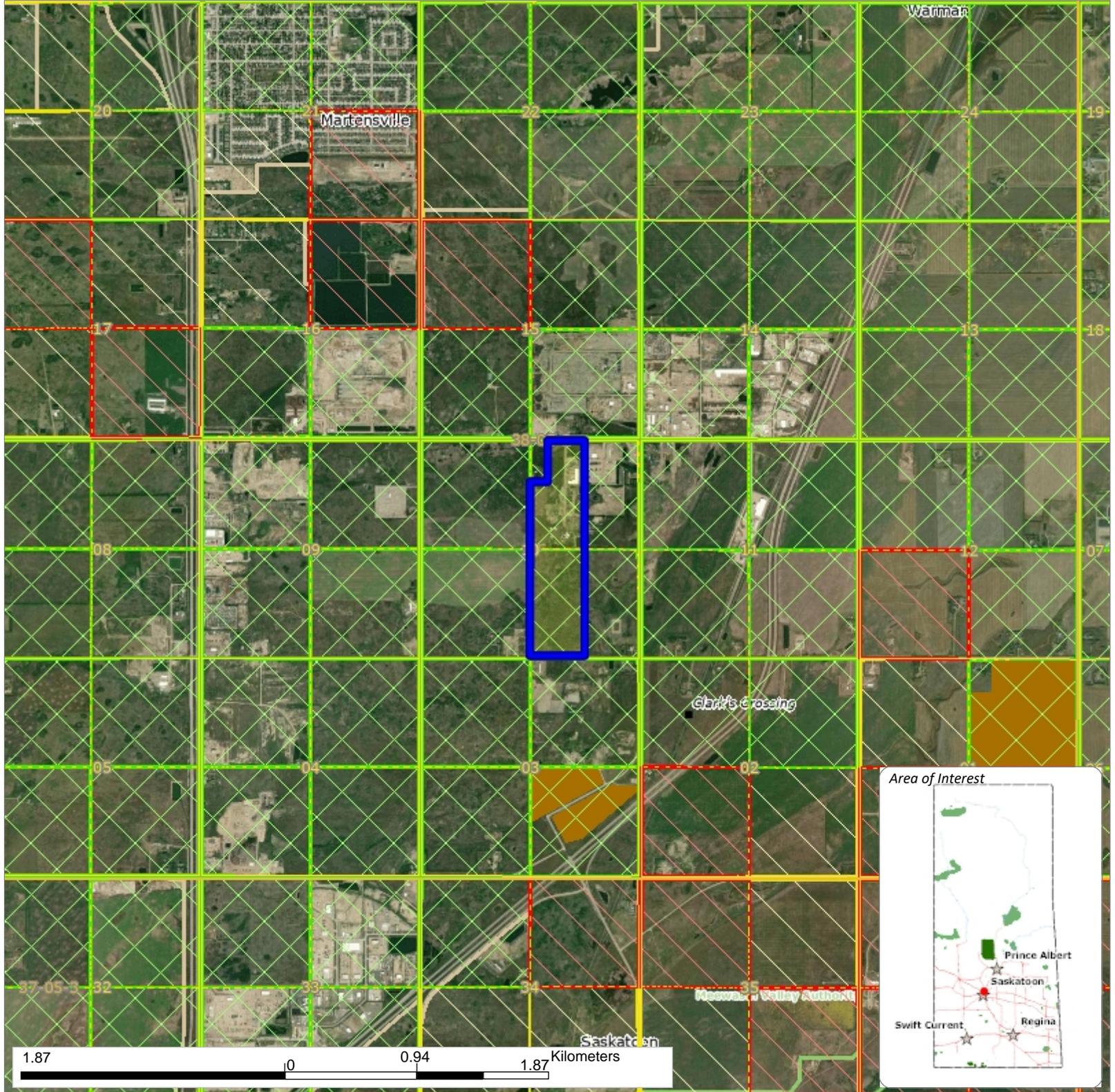
Appendix C Natural and Heritage Resources Screening Reports

Sensitivity: This selection is Not Heritage Sensitive.

Report Generated

You have indicated that the development will not be impacting undisturbed land within the road allowance. This development has heritage clearance to proceed. Do not submit this project to the Heritage Conservation Branch. Keep this report for your records.

Feb/29/2024 5:35 PM



Heritage Sensitivity Screening Report

Parcel Description	Sensitivity	Parcel Description	Sensitivity
SW-10-38-05-3	N	NW-10-38-05-3	N
SE-10-38-05-3	N	NE-10-38-05-3	N

Sensitivity Legend:

Y = Heritage Sensitive, C = Conditionally Heritage Sensitive, N = Not Heritage Sensitive, Blank = Heritage Sensitive.

When the parcel description and sensitivity listing is blank, the project is outside of the quarter sections screened for sensitivity. All projects within these areas are automatically heritage sensitive and require review.

If needed, please complete the appropriate referral form and submit the project to the Heritage Conservation Branch for further screening. Project referrals must be accompanied by survey plans. The Screening Report can be saved and/or printed for your records, but does not need to be submitted as part of the referral. <https://www.saskatchewan.ca/residents/parks-culture-heritage-and-sport/heritage-conservation-and-commemoration/archaeology/submit-your-land-and-resource-proposal-for-a-heritage-review>

Disclaimer:

Attention landowners: The majority of small scale activities that involve improvements to, or maintenance of, private property usually have little or no impact on archaeological heritage resources. Access the Exempt Activities Checklist for Private Landowners to determine if your proposed activity is exempt from archaeological heritage screening using the Developers' Online Screening Tool. If the activity is exempt, please retain a copy (paper or electronic) of the completed Exempt Activities Checklist for Private Landowners for your records. Include the completed checklist with any applications for regulatory approvals or permits that may be required for the proposed activity to confirm that heritage concerns have been addressed.

Exempt Activities Checklist: <https://applications.saskatchewan.ca/eachecklist>

Contact us:

For more information, please contact the Heritage Conservation Branch:

Email: arms@gov.sk.ca

Tel 306-787-2817.

Notes:

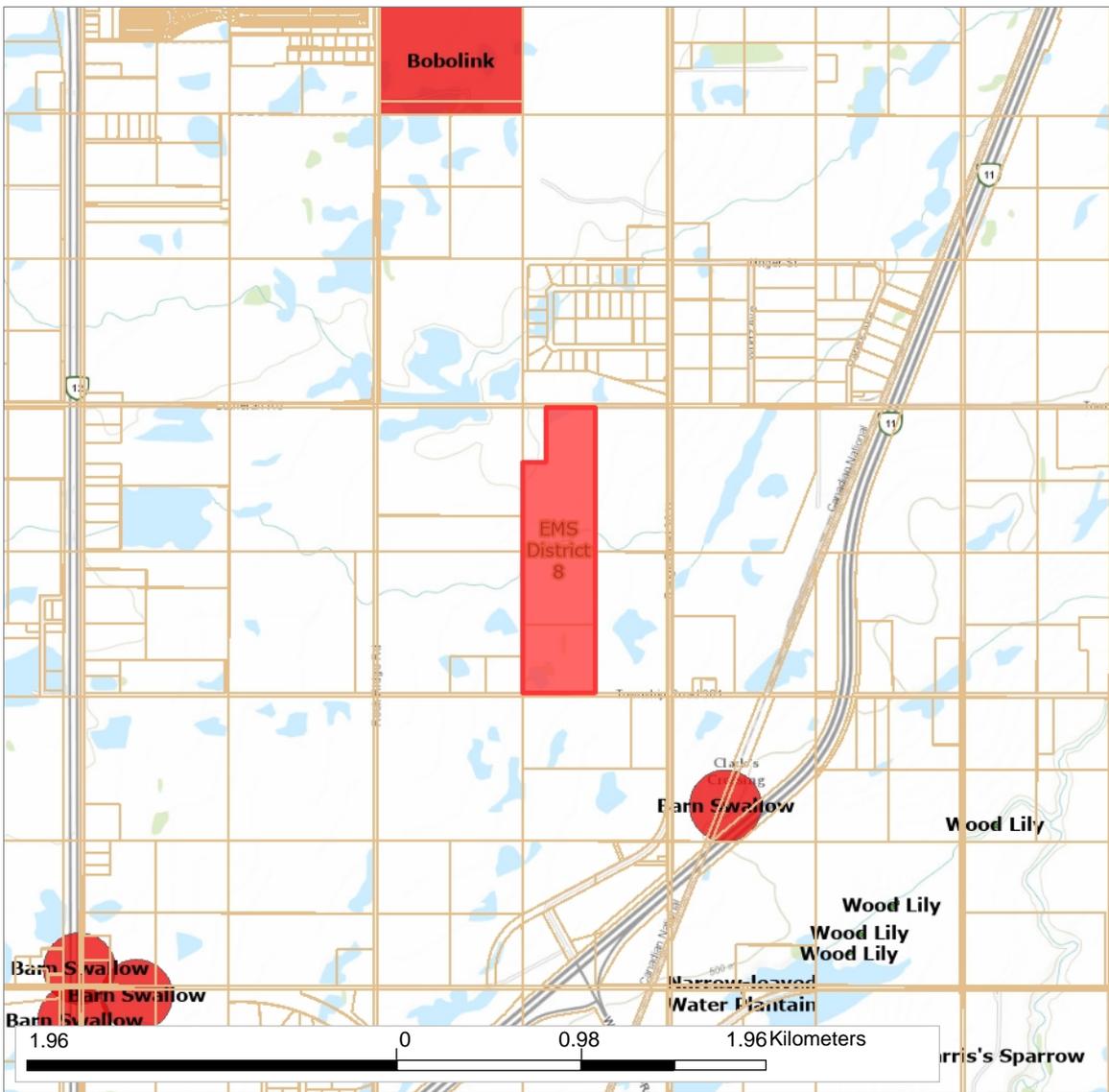
Report Generated
02/29/2024

Map Information 

Buffer Size:
1 Meters

Coordinates:
Lat: 52.25270° N
Lon: -106.63149° W

Area of Interest

- Screened Areas:**
- Ecological Management
 - Specialists (EMS) District
 - Compliance & Field Service (CFS) Area
 - Compliance & Field Service (CFS) Region
 - Area Fisheries Ecologists Area(s)
 - Area Wildlife Ecologist(s)
 - Rural Municipality
 - First Nation Reserve
 - AG Crown Land Management
 - Specialist Districts
 - Rare and Endangered Species
 - Fish Species
 - Woodland Caribou Range
 - Species Predictive Models
 - Whooping Crane Corridor
 - Barren-ground Caribou
 - Federal Critical Habitat
 - Proposed Critical Habitat
 - Wind Energy Avoidance Zones
 - Important Natural Areas
 - Provincial Parks
 - Recreation Sites
 - Game Preserves
 - RC Game Preserve
 - National Wildlife Areas
 - Federal Pastures
 - Wildlife Habitat Protection Act Lands
 - Fish & Wildlife Development
 - Fund Lands
 - Migratory Bird Sanctuary
 - Wildlife Refuge
 - Conservation Easements
 - Crown Conservation Easements
 - Ecological Reserves
 - Ramsar Wetlands
 - Reservoir Development Areas
 - Representative Areas
 - Special Management Areas

Species Likely to be Present

Known Species

“Known” species are species that have known occurrences in the area from the Saskatchewan Conservation Data Centre’s Rare and Endangered Species map layer. However, absence of species observation records does not preclude the existence of species in the area of interest. Observations may simply not have been recorded for the given area or may not have yet been entered into the ministry data holdings – new observation records are continuously being discovered. Information accessible through HABISask is not intended to be a definitive statement on the presence, absence or status of a species within a given area, nor as a substitute for onsite surveys.

Rare and Endangered Species

Category:

Common Name	Scientific Name:	G Rank	N Rank	S Rank	COSEWIC	SARA Status	Wild Species at Risk Regulations
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Expected Species

“Expected” is based on a modelled prediction if a species might occur in areas based upon developed statistical relationships between local and landscape characteristics and species presence. Models utilized by this report have only been created in the prairie ecozone for a selection of species. The boreal plain, boreal shield and taiga shield will not return any expected species results. Models are not a substitute for on the ground surveys to determine species presence.

Species Predictive Models

Category: Invertebrate Animal

Common Name	Scientific Name:	G Rank	N Rank	S Rank	COSEWIC	SARA Status	Wild Species at Risk Regulations
Monarch	<i>Danaus plexippus plexippus</i>	G4T3	N3B,NUM	S2B,SNRM	Endangered	Endangered	

Category: Vertebrate Animal

Common Name	Scientific Name:	G Rank	N Rank	S Rank	COSEWIC	SARA Status	Wild Species at Risk Regulations
Baird's Sparrow	<i>Centronyx bairdii</i>	G4	N4B,N4M	S4B	Special Concern	Special Concern	
Bank Swallow	<i>Riparia riparia</i>	G5	N4N5B, N5M	S4B,S5M	Threatened	Threatened	
Bobolink	<i>Dolichonyx oryzivorus</i>	G5	N5B, N4N5M	S5B	Special Concern	Threatened	
Common Nighthawk	<i>Chordeiles minor</i>	G5	N4N5B, N5M	S4B	Special Concern	Special Concern	
Ferruginous Hawk	<i>Buteo regalis</i>	G4	N3B,N2M	S3B	Special Concern	Threatened	
Horned Grebe	<i>Podiceps auritus</i>	G5	N5B, N4N5N	S5B	Special Concern	Special Concern	
Loggerhead Shrike	<i>Lanius ludovicianus excubitorides</i>	G4T4	N3B	S3B	Threatened	Threatened	
Northern Harrier	<i>Circus hudsonius</i>	G5	N5B,N4N	S4B	Not at Risk		
Northern Leopard Frog	<i>Lithobates pipiens</i>	G5	N5	S3	Special Concern	Special Concern	
Piping Plover	<i>Charadrius melodus circumcinctus</i>	G3T3	N3B	S3B	Endangered	Endangered	Endangered
Short-eared Owl	<i>Asio flammeus</i>	G5	N4B,N3N, N4M	S3B,S2N	Threatened	Special Concern	
Sprague's Pipit	<i>Anthus spragueii</i>	G3G4	N3N4B	S3B	Threatened	Threatened	

Fish Species by Watershed

All fish species expected to be in any watershed that intersects the area searched are provided and their presence in the direct project area will depend on habitat.

Watershed: South Saskatchewan River

Common Name	Scientific Name:	G Rank	N Rank	S Rank	COSEWIC	SARA Status	Wild Species at Risk Regulations
Blacknose Dace	<i>Rhinichthys obtusus</i>	G5	N5	S3			
Brook Stickleback	<i>Culaea inconstans</i>	G5	N5	S5			
Brook Trout	<i>Salvelinus fontinalis</i>	G5	N5B,N5N, N5M	SNA			
Burbot	<i>Lota lota</i>	G5	N5	S5			

Watershed: South Saskatchewan River

Common Name	Scientific Name:	G Rank	N Rank	S Rank	COSEWIC	SARA Status	Wild Species at Risk Regulations
Cisco	<i>Coregonus artedii</i>	G5	N5B,N5N, NUM	S5			
Common Shiner	<i>Luxilus cornutus</i>	G5	N5	S3			
Emerald Shiner	<i>Notropis atherinoides</i>	G5	N5	S5			
Fathead Minnow	<i>Pimephales promelas</i>	G5	N5	S5			
Finescale Dace	<i>Chrosomus neogaeus</i>	G5	N5	S4			
Flathead Chub	<i>Platygobio gracilis</i>	G5	N5	S3			
Goldeye	<i>Hiodon alosoides</i>	G5	N5	S4			
Iowa Darter	<i>Etheostoma exile</i>	G5	N5	S5			
Johnny Darter	<i>Etheostoma nigrum</i>	G5	N5	S5			
Lake Chub	<i>Couesius plumbeus</i>	G5	N5	S5			
Lake Sturgeon	<i>Acipenser fulvescens</i>	G3G4	N3	S2	Endangered		
Lake Trout	<i>Salvelinus namaycush</i>	G5	N5	S5			
Lake Whitefish	<i>Coregonus clupeaformis</i>	G5	N5B,N5N, N5M	S5	Not at Risk		
Logperch	<i>Percina caprodes</i>	G5	N5	S5			
Longnose Dace	<i>Rhinichthys cataractae</i>	G5	N5	S5			
Longnose Sucker	<i>Catostomus catostomus</i>	G5	N5	S5			
Mooneye	<i>Hiodon tergisus</i>	G5	N5	S3			
Ninespine Stickleback	<i>Pungitius pungitius</i>	G5	N5B,N5N, N5M	S5			
Northern Pike	<i>Esox lucius</i>	G5	N5	S5			
Pearl Dace	<i>Margariscus nachtriebi</i>	G5	N5	S5			
Prussian Carp	<i>Carassius gibelio</i>	GNR	NNA	SNA			
Quillback	<i>Carpoides cyprinus</i>	G5	N5	S4			
Rainbow Trout	<i>Oncorhynchus mykiss</i>	G5	N5B,N5N, N5M	SNA			
River Shiner	<i>Notropis blennioides</i>	G5	N5	S3			
Sauger	<i>Sander canadensis</i>	G5	N5	S5			
Shorthead Redhorse	<i>Moxostoma macrolepidotum</i>	G5	N5	S4			
Silver Redhorse	<i>Moxostoma anisurum</i>	G5	N5	S4			
Slimy Sculpin	<i>Cottus cognatus</i>	G5	N5	S4			
Spoonhead Sculpin	<i>Cottus ricei</i>	G5	N5	S5	Not at Risk		
Spottail Shiner	<i>Notropis hudsonius</i>	G5	N5	S5			
Trout-perch	<i>Percopsis omiscomaycus</i>	G5	N5	S5			
Walleye	<i>Sander vitreus</i>	G5	N5	S5			
White Sucker	<i>Catostomus commersonii</i>	G5	N5	S4			
Yellow Perch	<i>Perca flavescens</i>	G5	N5	S5			
Whooping Crane Corridor	50% Core Area						
Whooping Crane Corridor	95% Core Area						
Whooping Crane Corridor	75% Core Area						
Common Name	Scientific Name:	G Rank	N Rank	S Rank	COSEWIC	SARA Status	Wild Species at Risk Regulations

Species with Critical Habitat Present

This dataset displays the geographic areas within which federal Critical Habitat for species at risk listed on Schedule 1 of the federal Species at Risk Act (SARA) occurs in Saskatchewan. Please be aware that not all of the area within these boundaries is necessarily Critical Habitat. To determine if a specific area is Critical Habitat and if your activity might be considered “destruction” of Critical Habitat, other information available in each individual species’ Recovery documents (<http://www.sararegistry.gc.ca>) need to be considered, including biophysical attributes and activities likely to result in destruction of Critical Habitat.

Note that recovery documents (and therefore Critical Habitat) may be amended from time to time. Species are added as the data becomes ready, which may occur after the recovery document has been posted on the SAR Public Registry. Although HABISask will try to provide the latest data, the SAR Public Registry should always be considered as the official source for Critical Habitat information.

Common Name	Scientific Name:	G Rank	N Rank	S Rank	COSEWIC	SARA Status	Wild Species at Risk Regulations
No Critical Habitat found							

Proposed Critical Habitat Present

This section identifies federally proposed critical habitat that is up for consultation as per the information contained within the federal recovery strategies developed under the federal Species at Risk Act (SARA). This information on location of critical habitat is intended for reference by landowners and/or lease holders. Shapefiles or additional maps of critical habitat can be obtained by contacting Environment and Climate Change Canada at ec.leprn-sarapnr.ec@canada.ca.

Common Name	Scientific Name:	G Rank	N Rank	S Rank	COSEWIC	SARA Status	Wild Species at Risk Regulations
No Critical Habitat found							

Managed Areas

Managed areas are a diverse collection of lands and waters on which the conservation of biodiversity and ecosystem function are among the goals of the land management programs. Each of the unique or sensitive landscapes, within the network of managed areas, have some level of protection or activity restrictions placed on them by legislation, agreement or policy. These lands include provincial and national parks, ecological reserves, wildlife lands, game preserves, conservation easements and other privately held stewardship lands.

Provincial Park

Nothing Found

Ecological Reserve

Nothing Found

Recreation Site

Nothing Found

Ramsar Wetland

Nothing Found

Game Preserve

Nothing Found

Reservoir Development Area

Nothing Found

Road Corridor Game Preserve

Nothing Found

Representative Area Ecological Reserve

Nothing Found

National Wildlife Area

Nothing Found

Special Management Area

Nothing Found

Pasture Boundary

Nothing Found

Wildlife Habitat Protection Act (WHPA)

Nothing Found

Fish & Wildlife Development Fund (FWDF)

Nothing Found

Migratory Bird Sanctuary

Nothing Found

Wildlife Refuge

Nothing Found

Conservation Easement

Nothing Found

Crown Conservation Easement

Nothing Found

Rare and Endangered Species Occurrences

The absence of information provided by the Saskatchewan Conservation Data Centre (SKCDC) does not categorically mean the absence of sensitive species or features. The quantity and quality for data collected by the SKCDC are dependent on the research and observations of many individuals and organizations. SKCDC reports summarize the existing natural heritage information, known to the SKCDC, at the time of the request.

SKCDC data should never be regarded as final statements on the elements or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments. The user therefore acknowledges that the absence of data may indicate that the project area has not been surveyed, rather than confirm that the area lacks natural heritage resources.

Occurrence ID:

First Observation:

Occurrence Class:

Last Observation:

Scientific Name:

Common Name:

Occurrence Rank:

General Description:

Occurrence Data:

Directions:

Wild Species Research Permitting

A Research Permit is required to detect or observe plants or wildlife for commercial purposes, such as pre-screening surveys to collect baseline data or other activities, or to conduct academic research. Research Permits are not required if you are doing surveys for personal, recreational, educational or other non-commercial purposes. Revisions were made to Section 21 of The Wildlife Act in 2015 and to Section 6.2 of The Wildlife Regulations in 2016.

See the Government of Saskatchewan [Wild Species Research Permitting](#) page for more information.

All forms and related information pertaining to Research Permits can be found in the Publications Centre. Be sure to check out the Conservation Standards Terms and Conditions for Research Permits for general, wildlife and research-specific and information submission conditions that pertain to all research permits.

Subscribe to our Mail-out List Subscriptions for updates regarding Species Detection Permits, SKCDC Lists and Ranks, Legislation and Policy and HABISask.

Species Detection Survey Protocols

The [Species Detection Survey Protocols](#) are used to detect rare and sensitive species so Activity Restriction Guidelines can be applied. Their use is required by industry/environmental consultants for proposed or existing commercial activities.

Activity Restriction Guidelines for Sensitive Species

The [Activity Restriction Guidelines for Sensitive Species](#) outline restricted activity periods and distance setbacks for rare and sensitive species to assist proponents in minimizing impacts to rare and sensitive species and habitats.

Administrative Areas

District 8	Ecological Management Specialist (EMS) District(s)
Saskatoon	Compliance and Field Services Area(s)
Saskatoon	Compliance and Field Services Region(s)
Saskatoon	Area Fisheries Ecologist Area(s)
PARKLAND REGION	Area Wildlife Ecologist(s)
344 - CORMAN PARK	Rural Municipality
Nothing Found	First Nation Reserve
District 9	AG Crown Land Management Specialist District

Contact Us

For more information, please contact our Client Service Office:

Email: centre.inquiry@gov.sk.ca

Tel (toll free in North America): 1-800-567-4224

Tel (Regina): 306-787-2584

Comprehensive Development Review

Client: 101063662 Saskatchewan Ltd.

Shercom Industries Ltd.

Appendix D Traffic Impact Assessment

June 12, 2024

Shercom Industries Ltd.
305230 Township Road 382,
Martensville, SK S7K 3J7

via email: Shane@shercomindustries.com

Attention: Shane Olson, President – Shercom Industries

RE: SHERCOM INDUSTRIES LTD. COMPREHENSIVE DEVELOPMENT REVIEW TRAFFIC IMPACT ASSESSMENT

Shercom Industries Ltd. is proposing to subdivide an existing parcel to create a new industrial park in the Rural Municipality (RM) of Corman Park. Additionally, they are applying to include a subdivision of two other parcels to establish a secondary access point for the proposed development. A comprehensive development review (CDR) is required to accomplish these tasks.

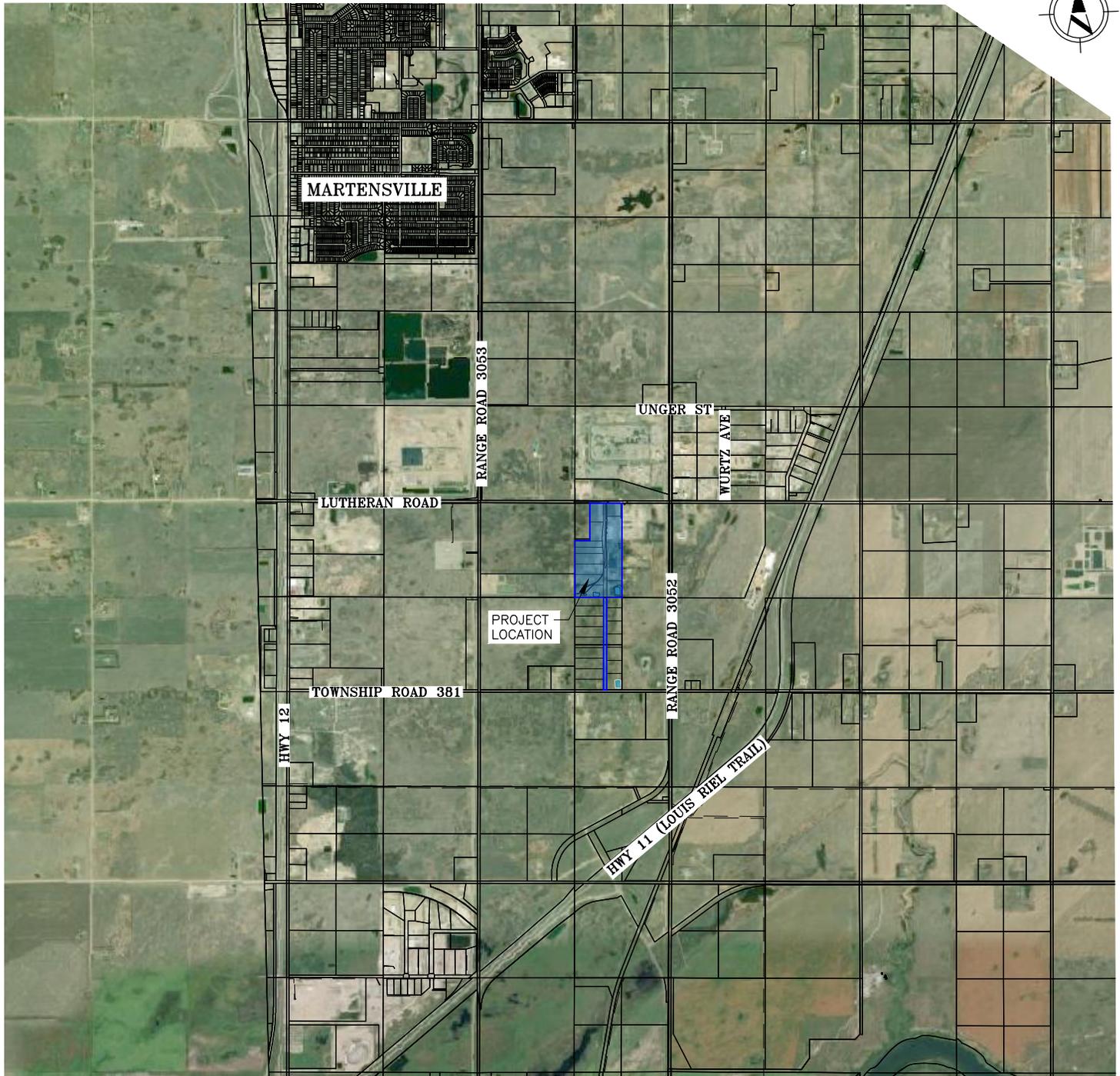
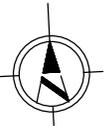
As part of the CDR, a traffic impact assessment (TIA) is required to determine the potential impacts, if any, that the development will have on the surrounding transportation network. Catterall & Wright (C&W) has prepared a TIA on behalf of Shercom Industries Ltd. that reviews said impacts and makes recommendations for mitigating impacts, as needed.

PROJECT LOCATION

Shercom Industries is proposing to subdivide Parcel #161788618 (Blk/Par B-Plan 101900641 Ext 0), NE-10-38-5-W3 to create a new industrial park in the Rural Municipality (RM) of Corman Park. Additionally, this application includes subdivision of Parcel #145389268 (LSD 7- 10-38-05-W3 Ext 174) and Parcel #145389246 (LSD 2- 10-38-05-3 Ext 173) to establish a secondary access point for the proposed development by extending a proposed access roadway from TWP Rd. 382 (Lutheran Road) in the north to TWP Rd. 381 in the south. Shercom Industries is the landowner of these three parcels. Finally, the boundaries of existing agricultural residential Parcel #145176206 (Blk/Par A-Plan 101648167 Ext 207) will be adjusted so that existing water well infrastructure which services this parcel is located entirely within the parcel.

The parcel is approximately 1,300m southeast of the City of Martensville's City limits and is located along TWP. Road 382 approximately halfway between HWY 12 and HWY 11.

Refer to **Figure 1** for the project location and surrounding context.



\\ew-d2\Work\101063662 Saskatchewan Ltd. - 885\001 - Shercom CDR\Drawings\885-001-TIA.dwg Dorelle 23/05/24 - 10:46 A

PRELIMINARY
NOT FOR CONSTRUCTION

DATE	REVISION

SCALE VERIFICATION
 WHEN DRAWING IS PLOTTED FULL SIZE
 THIS LINE IS 30mm IN LENGTH.

SCALE	NTS	DESIGNED	BW
DRAWN	DL	CHECKED	
DATE	23/10/30	SHEET	1 of 1

OWNER/CLIENT
101063662
SASKATCHEWAN
LTD.

LOCATION
 RM OF CORMAN PARK, SK

PROJECT
 SHERCOM CDR
 TRAFFIC IMPACT
 ASSESSMENT

SHEET TITLE
 LOCATION PLAN

FIGURE 1

EXISTING CONDITIONS

The following existing roadways and intersection were considered as part of the study area:

Study Roadways

Highway No. 11 is a provincial four-lane divided highway within the study area. Within the study area, the posted speed limit is 110km/h. Highway No. 11 provides access to the development via Township Rd. 382.

Highway No. 12 is a provincial four-lane divided highway within the study area. Within the study area, the posted speed limit is 110km/h. Highway No. 12 provides access to the development via Township Rd. 382.

Township Rd. 381 is a provincial two-lane undivided gravel grid road within the study area and borders the development to the south. Township Rd. 381 has an unposted speed limit of 80km/h.

Township Rd. 382 (Lutheran Road) is a provincial two-lane undivided highway that provides access to the development and borders the development to the north. Township Rd. 382 has a posted speed limit of 80km/h.

Range Rd. 3053 (Rock Ridge Rd.) is a provincial two-lane undivided highway to the north of Township Rd. 382 and a two-lane undivided gravel grid road to the south of Township Rd. 382 that provides access to the development. Range Rd. 3053 has a posted speed limit of 80km/h to the north of Township Rd. 382, and an unposted speed limit of 80km/h, south of Township Rd. 382.

Range Rd. 3052 is a provincial two-lane undivided highway that provides access to the development. Range Rd. 3052 has a posted speed limit of 80km/h. The extent of Range Rd. 3052 in proximity to the development is paved.

Study Intersections

Highway No. 11 & Township Rd. 382 is a non-signalized intersection with a major provincial highway providing access to the development. Township Rd. 382 is stop controlled while Highway No. 11 operates as free flow. The intersection features dedicated acceleration and deceleration lanes in the northbound and southbound directions of Highway No. 11 for traffic turning to or from the west. The eastbound and westbound directions both provide a single shared right-through-left lane, however, adequate width is provided in both of these directions' approaches to allow for simultaneous right and through or left movements of typical passenger vehicles. As Highway No. 11 is divided, a gap of approximately 26 meters is provided between the edge of pavement on shoulders between the northbound and southbound roadways, allowing for eastbound and westbound traffic to cross northbound and southbound roadways at different times. Lighting of this median area is provided by a single light post. The eastbound approach

is located with close proximity to the Canadian National Railway line, with approximately 40 meters of space between the railway crossing and the southbound lanes of Highway No. 11.

Highway No. 12 & Township Rd. 382 is a non-signalized intersection with a major provincial highway providing access to the development. Township Rd. 382 is stop controlled while Highway 12 operates as free flow. The intersection features dedicated deceleration lanes for northbound and southbound traffic on Highway 12, except for southbound traffic turning west, along with an acceleration lane for southbound traffic coming from the east. The eastbound and westbound directions both provide a single shared right-through-left lane, however, adequate width is provided in both of these directions' approaches to allow for simultaneous right and through or left movements of typical passenger vehicles. As Highway No. 12 is divided, a gap of approximately 24 meters is provided between the edge of pavement on shoulders between the northbound and southbound roadways, allowing for eastbound and westbound traffic to cross northbound and southbound roadways at different times. Area lighting is provided at this intersection. A service road runs parallel to the northbound lane of Highway 12, south of Township Rd. 382. The service road is stop controlled with approximately 17 meters of space between its intersection with Township Rd. 382 and the northbound lanes of Highway 12.

Township Rd. 382 & Range Rd. 3052 is a four-way stop controlled intersection northeast of the development. Each direction provides a single shared right-through-left lane, without adequate width for simultaneous right and through or left movements.

Highway No. 11 & Range Rd. 3053 On-Ramp is a non-signalized on-ramp from Range Rd. 3053 to the southbound direction of Highway No. 11. The ramp connects to an acceleration lane on Highway No. 11 providing approximately 590 meters of merging space. No delineation or area lighting is provided at the ramp.

Existing Traffic Counts

In early consultation with Saskatchewan's Ministry of Highways (MoH, Ministry) on other adjacent projects, no recent turning movement count data were available for use. MoH did provide the following K factors, 15-year growth factors, annual average daily traffic (AADT), and average daily truck traffic (TADT) data at study roadways at or near the study area that are summarized in **Table 1**.

Table 1: Ministry of Highways Provided Traffic Data

Roadway Name & Location	Control Section	KM	Intersecting Road	K Factor (2022)	15-yr Growth Factor (2022)	AADT (2022)	TADT (2022)
Highway 12 - NB	0120100MDA	2.292	Cory Road	0.12	1.45	10,200	880
Highway 12 - SB	0120100MBA	1.75	Cory Road	-	-	-	-
Highway 12 - NB	0120100MDA	3.097	Township Rd 380	0.12	1.45	10,200	880
Highway 12 -SB	0120100MBA	2.557	Township Rd 380	0.12	1.45	9,610	880
Highway 11 - NB	0111000MDA	10.99	Township Rd 382	0.12	1.55	11,200	760
Highway 11 -SB	0111000MDB	11.106	Township Rd 382	0.12	1.55	11,200	760
Highway 11 - SB	0111000MDB	4.945 - 5.632	Rock Ridge Rd On-Ramp	0.12	1.55	6,290	630

C&W collected 12 hours of turning movement count (TMC) data at the Highway No. 12 & Township Rd. 382 intersection between May 7, 2024, using the MioVision Camera. Peak AM hour traffic occurred between 7:00:00 AM and 8:00:00 AM, while peak PM hour traffic occurred between 4:30:00 PM and 5:30:00 PM. C&W also collected 12 hours of (TMC) data at the Highway No. 11 & Township Rd. 382 intersection on May 8, 2024, using the MioVision Camera. Peak AM hour traffic occurred between 7:15:00 AM and 8:15:00 AM, while peak PM hour traffic occurred between 4:45:00 PM and 5:45:00 PM.

C&W manually collected TMC data at the Township Rd. 382 & Range Rd. 3052 intersection between 7:00:00 AM to 9:00:00 AM and 4:00:00 PM to 6:00:00 PM on May 8, 2024. Peak AM hour traffic occurred between 7:15:00 AM and 8:15:00 AM, while peak PM hour traffic occurred between 4:00:00 PM and 5:00:00 PM. C&W also manually collected TMC data at the Highway No. 11 & Range Rd. 3053 on-ramp between 7:00:00 AM to 9:00:00 AM and 4:00:00 PM to 6:00:00 PM on May 9, 2024. Peak AM hour traffic occurred between 7:00:00 AM and 8:00:00 AM, while peak PM hour traffic occurred between 4:00:00 PM and 5:00:00 PM.

C&W did not collect traffic data at the existing Shercom access from Lutheran Road. Instead, data on employees, operational hours, and typical delivery rates were used to estimate existing traffic generated to this access. The following was provided from the client:

- Shercom operates 24 hours a day, 5 days a week (Monday to Friday).
- There are currently 103 employees at Shercom Industries.
 - o 55 employees typically work during the day,
 - o 25 employees typically work during the evenings, and
 - o 25 employees typically work during the nights.
- Total deliveries during a given workday is approximately 10.

From these provisions, the follow was assumed for the trip generation of the existing business:

- 80% of employees working the dayshift would arrive during the AM peak (44 trips).

- 80% of employees working the nightshift would depart during the AM peak (20 trips).
- 80% of employees working the dayshift leave during the PM peak (44 trips).
- 80% of employees working the evening shift arrive during the PM peak (20 trips).
- Four deliveries (to/from) the existing Shercom Industries Inc. business occur during the AM peak.
- Four deliveries (to/from) the existing Shercom Industries Inc. business occur during the PM peak.
- All deliveries are assumed to be large trucks.

This equates to a total of 48 trips (44 cars and 4 trucks) entering and 24 trips (20 cars and 4 trucks) exiting the site during the AM peak hour and 24 trips (20 cars and 4 trucks) entering and 48 trips (44 cars and 4 trucks) exiting the site during the PM peak.

These estimated existing trips were distributed as follows based on counts at adjacent intersections:

- During the AM peak hour:
 - o 80% of trips were assumed to enter the site from the west via Highway No. 12 & Lutheran Road intersection.
 - o 20% of trips were assumed to enter the site from the east via Highway No. 11 & Lutheran Road intersection.
 - o 65% of trips were assumed to exit the site to the west (split between the Highway No. 11 & Rock Ridge Road On-Ramp and the Highway No. 12 & Lutheran Road intersection).
 - o 35% of trips were assumed to exit the site to the east via Highway No. 11 & Lutheran Road Intersection.
- During the PM peak hour:
 - o 60% of trips were assumed to enter the site from the west via Highway No. 12 & Lutheran Road intersection.
 - o 40% of trips were assumed to enter the site from the east via Highway No. 11 & Lutheran Road intersection.
 - o 65% of trips were assumed to exit the site to the west (split between the Highway No. 11 & Rock Ridge Road On-Ramp and the Highway No. 12 & Lutheran Road intersection).
 - o 35% of trips were assumed to exit the site to the east via Highway No. 11 & Lutheran Road Intersection.

These estimated existing Shercom Industries Ltd. trips, split into passenger car and truck trips assigned to the network can be seen in **Figure 2**.

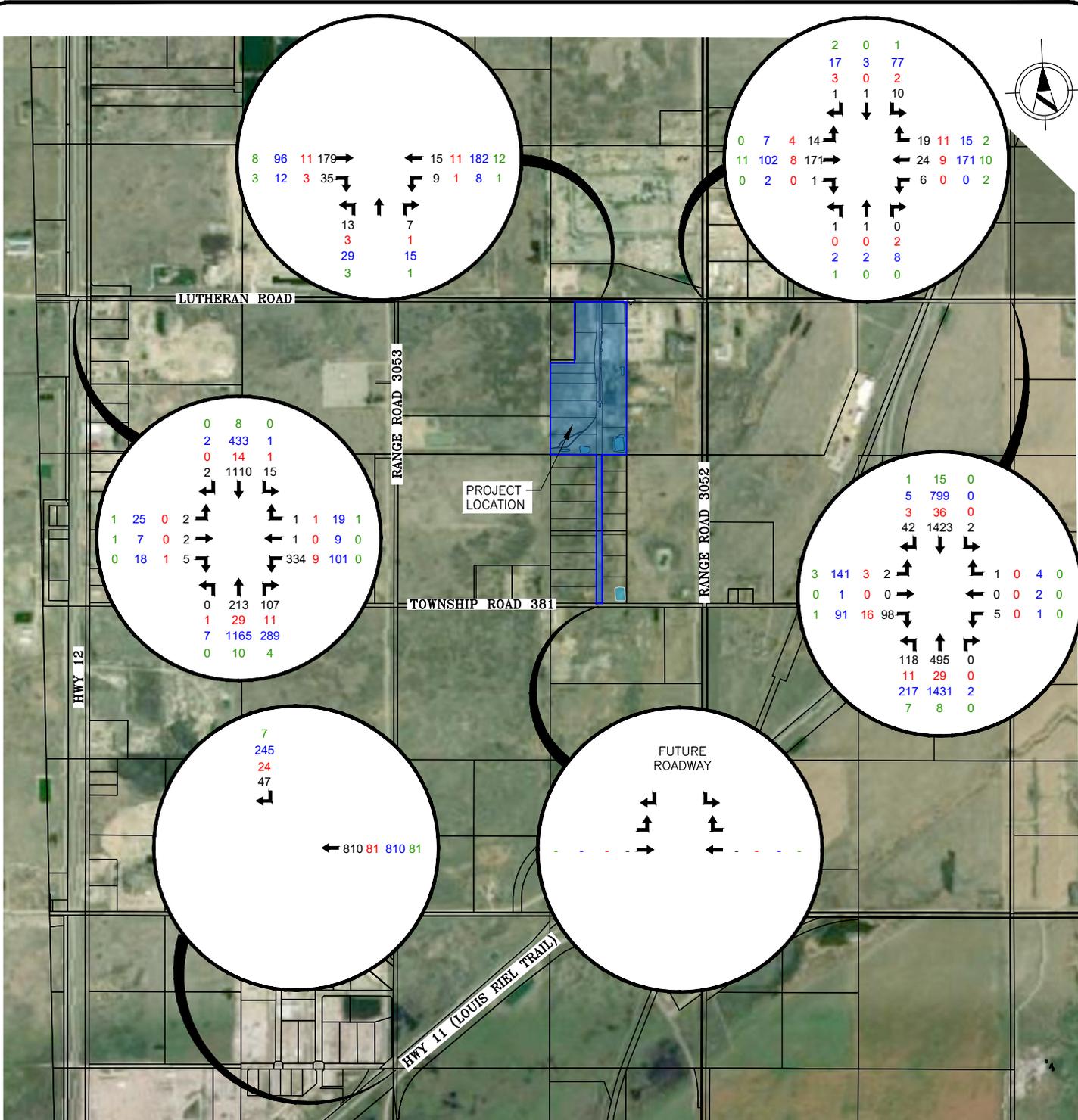
At the site access, existing through movements were interpolated through existing data at the adjacent intersections and the estimated values entering and exiting site during the AM and PM peak hours.

As peak hour data was not available or collected at the southbound lanes of Highway No. 11 at the Rock Ridge Road On-Ramp, these existing movements were estimated through use of MoH provided data at the control section/km of this roadway. The 15-year growth factor of 1.55 was used to establish the two-year growth rate (1.073) at this section/km of the roadway, given the need to project 2022 data to 2024 (2

years). The 2022 AADT and TADT were converted to design hour volumes (applied to both AM and PM peak hour) by applying the K-factor of 0.12. The design hour volumes were then converted to 2024 design hour volumes through applying the 2-year growth factor of 1.073.

TMC data collected manually, via the MioVision Camera, estimated at the existing Shercom access through information provided from the Client, and at Highway 11 at the Rock Ridge on-ramp through Ministry provided data can be seen in **Figure 3**.

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FUTURE ROADWAY IMPROVEMENTS & OTHER DEVELOPMENTS

Five partnering municipalities in Saskatchewan—Corman Park, Martensville, Saskatoon, Warman, and the Town of Osler—have developed the North Concept Plan (NCP). This long-term planning document outlines a comprehensive land use, transportation, and servicing strategy for 6,920 hectares of land within the Rural Municipality of Corman Park No. 344, along Saskatoon's northern boundary and the southern boundaries of Martensville and Warman. The Plan Area is designated to become part of the Saskatoon North Partnership for Growth (P4G) Planning District, aligning with the P4G Planning District Official Community Plan Bylaw (P4G DOCP).

The NCP area is divided into four distinct Planning Cells (Cells 1-4), delineated by major transportation routes. The proposed Shercom development is located within Cell 3, where a significant portion of the land is earmarked for Urban Light Industrial use. A regional fire training facility is also planned for 40 acres in the SW¼ Sec.10 Twp.38 Rge.5 W3M, near the proposed Shercom Industries development and all existing roadways surrounding this proposed development are planned for upgrades to an Arterial standard.

Since the future land use concepts and infrastructure improvements envisioned in the NCP are long-term plans, and the proposed Shercom development is expected to be fully built within five years, no future development or roadway improvements within or immediately adjacent to the study area are considered in this Traffic Impact Assessment (TIA).

FUTURE BACKGROUND TRAFFIC

The expansion of the future lots within the study site is not entirely known at this time. It's been assumed that all lots within the proposed development will be established within 5 years (2029).

The 2024 data collected by C&W were projected to the 2029 horizon through use of MoH provided 15-year growth rates. The 15-year growth rates were converted to 5-year growth rates through interpolation. A 5-year growth rate of 1.1833 was applied to all Highway No. 11 movements while the 5-year growth rate of 1.15 was applied to all Highway No. 12 movements. Any other movements within the study area but outside of the Highway No. 11 and Highway No. 12 had a 2% annual growth rate (1.1 5-year growth rate) applied. The 2029 projected future background traffic can be seen in **Figure 4**.

PROPOSED DEVELOPMENT

The primary parcel for subdivision is currently zoned as D-Light Industrial 1 District (DM1). The site is currently being used for Shercom’s existing industrial operations for tire recycling and manufacturing. This zoning will be maintained in the proposed subdivision as the business is expected to remain throughout this process.

Parcels #145389268 (LSD 7- 10-38-05-W3 Ext 174) and Parcel #145389246 (LSD 2- 10-38-05-3 Ext 173) are currently zoned as D-Agricultural District 2 (DAG2). These parcels consist of undeveloped land which is not currently used for agriculture except for occasionally being utilized as marginal pastureland.

The proposed subdivision statistics are summarized in Table 1. Note that this table includes the existing neighboring parcel whose boundaries will be adjusted as part of this subdivision.

Table 1: Subdivision Statistics

Land Use	Area	Comment
DM-1 Proposed Industrial Parcels	23.49 ha (58.05 ac)	Includes ten industrial lots including nine parcels ranging from 1.21-2.41 ha and one 7.74-ha parcel for Shercom Industries’ existing business.
Existing Residential 1 (DAR1) Parcel: Parcel #145176206 (Blk/Par A-Plan 101648167 Ext 207)	4.04 ha (9.99 ac)	Existing parcel with adjusted boundaries. Parcel not included for sale as part of this development.
Municipal Right-of-Way	4.77 ha (11.79 ac)	Includes roadway within subdivision and extension south to TWP Rd. 381.
Stormwater Utility Parcel	2.11 ha (5.21 ac)	Parcel to manage stormwater from proposed development.
Total:	28.01 ha (69.22 ac)	

Development Phasing

The proposed subdivision outlined in this CDR will be developed in a single phase which will include all site grading, stormwater facility construction, and installation of underground utilities (water, gas, power,

telecommunications). As part of this phase, the northern half of the proposed roadway (contained with current parcel #161788618 (Blk/Par B-Plan 101900641 Ext 0) will be paved as per RM standards. The southern portion of this roadway will function as a secondary access and will be constructed to a gravel structure for the preliminary phase of construction.

There is a potential for future industrial development phases to continue to the south in parcels #145389268 (LSD 7- 10-38-05-W3 Ext 174) and #145389246 (LSD 2- 10-38-05-3 Ext 173). If or when this development occurs, an additional CDR would be prepared which would include upgrading of the proposed roadway to a paved standard.

Plan of Proposed Subdivision

Refer to **Appendix A** for the dimensioned Plan of Proposed Subdivision.

TRIP GENERATION

Since a site plan for the proposed subdivided industrial area is limited to lot area, it was estimated that all of the newly subdivided lots would have a 25% building footprint coverage. This coverage area equates to the estimated gross floor area (GFA) used when considering the Institute of Transportation Engineers (ITE) Trip Generation rates and units for estimating trip generation from a given land use. The total lot areas and GFA for each of the proposed lots to be subdivided are shown in **Table 2**.

Lot Numbers		Area (Acre)	Area (sq. ft)	Area (1,000 sq. ft)
Lot	1	4.65	202,554	203
Lot	2	4.47	194,713	195
Lot	3	3.16	137,650	138
Lot	4	3.21	139,828	140
Lot	5	5.36	233,482	233
Lot	6	5.36	233,482	233
Lot	7	5.36	233,482	233
Lot	8	6.37	277,477	277
Lot	9	3.56	155,074	155
Total Area for Light Industrial Development			1,807,740.00	1,808
GFA assumed 20% of Total Area			361,548.00	362

Trip generation rates for the proposed expansions were derived from the 11th edition of the ITE Trip Generation Manual (ITE Manual).

The ITE standards trip generation rates applied for the planned expansion are shown in **Table 3**.

Table 3: Trip Generation for Anticipated Light Industrial Lots

ITE Trip Generation Standards											
Land Use Type	ITE Code	Unit	AM Peak Hour			PM Peak Hour			Daily Trips		
			Rate	In %	Out %	Rate	In %	Out %	Rate	In %	Out %
General Light Industrial	110	1000 Sq. Ft. GFA	0.74	88	12	0.65	14	86	4.87	50	50
Trip Generation Estimates from the Proposed Site											
Land Use Type	Size (Sq. ft)	1000 Sq. ft	AM Peak Hour			PM Peak Hour			Daily Trips		
			In	Out	Total	In	Out	Total	In	Out	Total
General Light Industrial	361,548	362	235	32	268	33	202	235	880	880	1761

From the assumptions made for site coverage, it is estimated that during the AM peak period 235 vehicles will be traveling to the sites while 32 will be departing from the sites, during the PM peak period 33 vehicles will be travelling to the sites while 202 will be departing from the sites, and throughout a day 880 total vehicles would both start and end at the sites.

TRIP DISTRIBUTION & ASSIGNMENT

The site-generated trips were assigned to the study intersections based on the assessment of how a vehicle would enter or exit the site. The direction from which the traffic will approach and depart the project site depends upon several factors such as size of development, type of development, type of visitors/customers and surrounding population.

Based on engineering judgement and review of the existing turning movement counts, the trips generated to/from the proposed development were distributed as follows:

- For incoming trips, it is assumed that:
 - o 50% of the trips would originate from the south and utilize the intersection of Highway No. 12 & Township Rd. 382,
 - o 25% of the trips would originate from the south and utilize the intersection of Highway No. 11 & Township Rd. 382,
 - o 15% of the trips would originate from the northeast and utilize the intersection of Highway No. 11 & Township Rd. 382, and
 - o 10% of the trips would originate from the north and utilize the intersection of Highway No. 12 & Township Rd. 382.

This equates to 60% entering the site from the west along Township Rd. 382 and 40% entering the site from the east along Township Rd. 382.

- For outgoing trips, it is assumed that:
 - o 35% of the trips would be going to the south via the Rock Ridge Rd & Highway No. 11 on-ramp.
 - o 20% of the trips would be going to the south via the intersection of Highway No. 12 & Township Rd. 382,



- 20% of the trips would be going to the south via the intersection of Highway No. 11 & Township Rd. 382,
- 15% of the trips would be going to the northeast via the intersection of Highway No. 11 & Township Rd. 382, and
- 10% of the trips would be going to the north via the intersection of Highway no. 12 & Township Rd. 382.

This equates to 30% of trips exiting the site to the west along Township Rd. 382, 35% of trips exiting the site to the east along Township Rd. 382, and 35% of trips exiting the site along the gravel road to the south following Township Road 381 and then utilizing Rock Ridge Rd.

The same trip distribution was applied to both the AM and PM peak hours. Based on the percentage of trucks estimated for the existing Shercom access on Lutheran Road, it was estimated that 15% of trips to and from the new light industrial lots would be heavy trucks, while the remaining 85% of trips to and from the development are anticipated be passenger cars.

The trip distribution and assigned trips are shown in **Figure 5**.

TOTAL TRAFFIC RESULTS

The total forecast volumes at the study intersections were obtained by combining the background traffic growth with the additional new vehicle trips resulting from the proposed site. The total trips that are expected with the proposed light industrial developments were added to the 2029 future background traffic at the study intersections. This total 2029 traffic is illustrated in **Figure 6**.

TRAFFIC OPERATIONS

Intersection Analysis Methodology

Existing and total traffic forecasts operations were assessed using Synchro 12.0 (industry-standard traffic micro-simulation software).

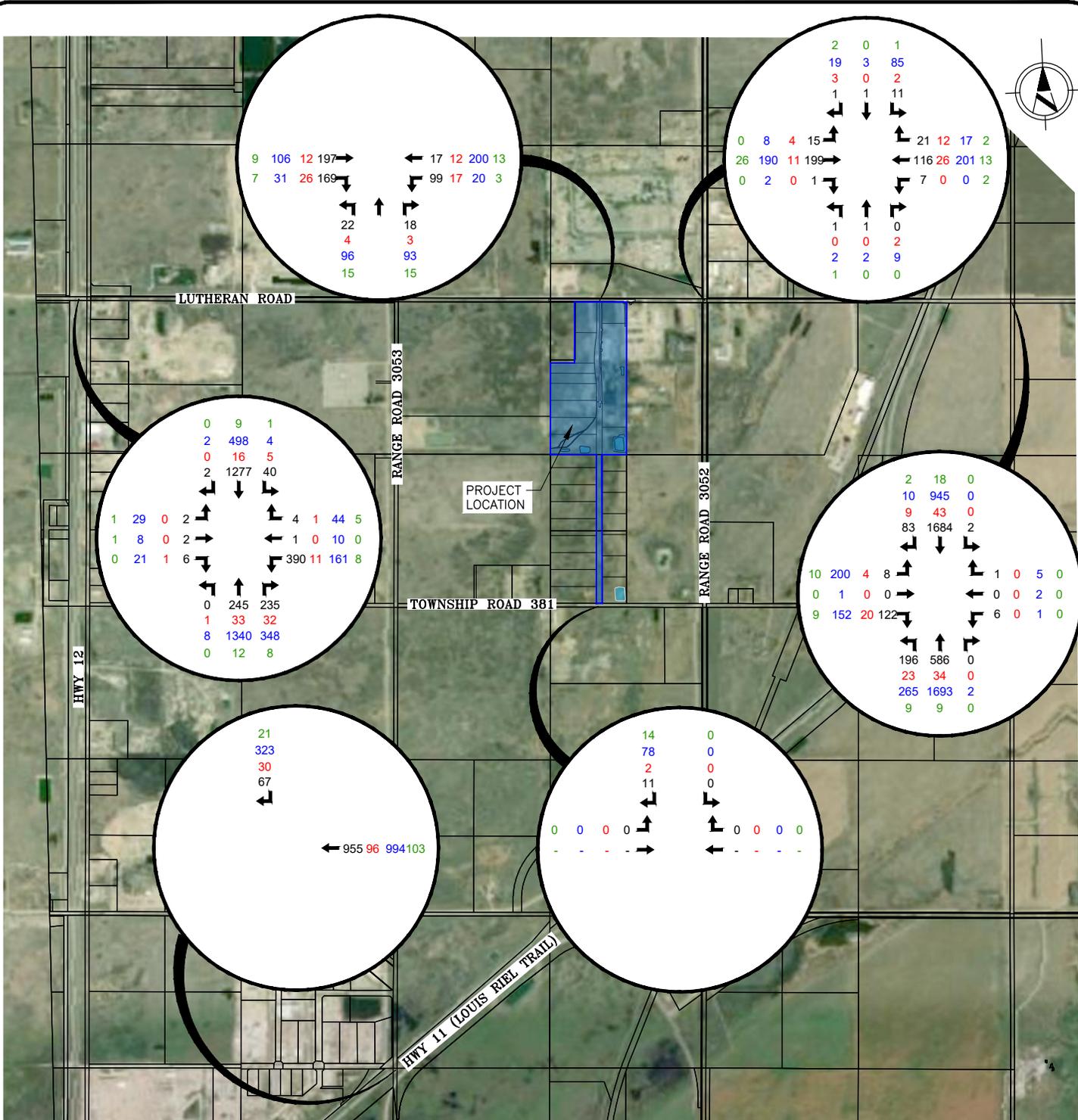
The level of service (LOS) analysis assesses the effectiveness of a transportation system alphabetically from A to F, with LOS A equating to the lowest user delay and LOS F to high user delay. LOS F is typically assumed to represent failure of a movement or intersection. LOS D or better is desirable for planning purposes. LOS E may be acceptable for left-turn movements to provide better service to opposing through movements. The LOS criteria are provided in **Table 4**.

Table 4 – LOS Criteria for Signalized and Un-Signalized Intersections

Level of Service	Average Total Delay (seconds) (Un-Signalized Intersection)	Average Total Delay (seconds) (Signalized Intersection)
A	10.0 or less	10.0 or less
B	10.1 to 15.0	10.1 to 20.0
C	15.1 to 25.0	20.1 to 35.0
D	25.1 to 35.0	35.1 to 55.0
E	35.1 to 50.0	55.1 to 80.0
F	Greater than 50.0	Greater than 80.0

Other measures, such as average vehicle delay and volume-to-capacity (v/c) ratio assist with the assessment. The v/c ratio represents the amount of congestion and available capacity at an intersection and for each individual movement at an intersection and is generally indicative of an intersection's flexibility and ability to accommodate fluctuations in traffic flow. Volume-to-capacity (v/c) has a theoretical maximum of 1.00 and a value of 0.85 is generally accepted as the maximum desirable for design of intersection improvements in urban settings.

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LEGEND:

- 20 AM LIGHTS
- 20 AM TRUCKS
- 20 PM LIGHTS
- 20 PM TRUCKS
- NO COUNTS/ESTIMATES COMPLETED

PRELIMINARY
NOT FOR CONSTRUCTION

DATE	REVISION

SCALE VERIFICATION
WHEN DRAWING IS PLOTTED FULL SIZE
THIS LINE IS 30mm IN LENGTH.

SCALE	NTS	DESIGNED	BW
DRAWN	DL	CHECKED	
DATE	23/10/30	SHEET	1 of 1
DRAWING NUMBER	FIGURE 6		

OWNER/CLIENT
101063662
SASKATCHEWAN LTD.

LOCATION
RM OF CORMAN PARK, SK

PROJECT
SHERCOM CDR
TRAFFIC IMPACT ASSESSMENT

SHEET TITLE
FUTURE BACKGROUND 2029
TRAFFIC VOLUMES

Performance of Study Intersections

The intersection capacity and LOS analysis were conducted at the study intersections for existing (2024), future background traffic (2029) and future total traffic forecast horizon utilizing Synchro 11.0 software. The intersections were examined with existing and proposed control type and lane configurations. The detailed Synchro outputs for AM and PM peak hour analysis are provided in **Appendix B**.

2024 Existing Conditions

The 2024 existing traffic capacity results for the peak design hours are summarized in **Table 5**.

Table 5 – 2024 Existing Condition Analysis Results

		AM Peak Hour	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	INT
Highway No. 12 & Lutheran Road															
2024	Existing	LOS	C	C	C	F	F	F	C	A	A	A	A	A	C
		Delay (s)	17.9	17.9	17.9	80.0	80.0	80.0	20.6	0.0	0.0	8.2	0.0	0.0	15.1
		v/c	0.04	0.04	0.04	1.00	1.00	1.00	0.00	0.08	0.08	0.01	0.48	0.24	1.0
		95th% Queue (m)	0.9	0.9	0.9	94.8	94.8	94.8	0.1	0.0	0.0	0.4	0.0	0.0	-
Range Rd 3052 & Lutheran Road															
2024	Existing	LOS	A	A	A	A	A	A	A	A	A	A	A	A	A
		Delay (s)	8.5	8.5	8.5	7.8	7.8	7.8	8.2	8.2	8.2	8.2	8.2	8.2	8.3
		v/c	0.25	0.25	0.25	0.08	0.08	0.08	0.01	0.01	0.01	0.03	0.03	0.03	0.25
		95th% Queue (m)	-	-	-	-	-	-	-	-	-	-	-	-	-
Site Access & Lutheran Road															
2024	Existing	LOS	-	A	A	A	A	-	B	-	B	-	-	-	A
		Delay (s)	-	0.0	0.0	0.1	2.3	-	10.3	-	10.3	-	-	-	1.1
		v/c	-	0.15	0.15	0.01	0.01	-	0.04	-	0.04	-	-	-	0.15
		95th% Queue (m)	-	0.0	0.0	0.2	0.2	-	0.9	-	0.9	-	-	-	-
Highway No. 11 & Lutheran Road															
2024	Existing	LOS	D	D	D	F	F	F	C	A	A	A	A	A	A
		Delay (s)	33.3	33.3	33.3	207.3	207.3	207.3	21.2	0.0	0.0	0.1	0.0	0.0	4.2
		v/c	0.52	0.52	0.52	0.49	0.49	0.49	0.39	0.22	0.11	0.01	0.62	0.03	0.62
		95th% Queue (m)	22.1	22.1	22.1	12.8	12.8	12.8	14.2	0.0	0.0	0.1	0.0	0.0	-
		PM Peak Hour	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	INT
Highway No. 12 & Lutheran Road															
2024	Existing	LOS	C	C	C	F	F	F	A	A	A	C	A	A	A
		Delay (s)	19.4	19.4	19.4	70.0	70.0	70.0	8.4	0.0	0.0	16.0	0.0	0.0	4.9
		v/c	0.19	0.19	0.19	0.77	0.77	0.77	0.01	0.39	0.19	0.02	0.19	0.10	0.77
		95th% Queue (m)	5.4	5.4	5.4	40.9	40.9	40.9	0.2	0.0	0.0	0.4	0.0	0.0	-
Range Rd 3052 & Lutheran Road															

2024	Existing	LOS	A	A	A	A	A	A	A	A	A	A	A	A	A
		Delay (s)	8.6	8.6	8.6	9.1	9.1	9.1	7.9	7.9	7.9	8.7	8.7	8.7	8.8
		v/c	0.17	0.17	0.17	0.27	0.27	0.27	0.03	0.03	0.03	0.15	0.15	0.15	0.27
		95th% Queue (m)	-	-	-	-	-	-	-	-	-	-	-	-	-
Site Access & Lutheran Road															
2024	Existing	LOS	-	A	A	A	A	-	B	-	B	-	-	-	A
		Delay (s)	-	0.0	0.0	0.1	0.4	-	10.6	-	10.6	-	-	-	1.6
		v/c	-	0.8	0.08	0.01	0.01	-	0.07	-	0.07	-	-	-	0.08
		95th% Queue (m)	-	0.0	0.0	0.2	0.2	-	1.9	-	1.9	-	-	-	-
Highway No. 11 & Lutheran Road															
2024	Existing	LOS	F	F	F	F	F	F	B	A	A	A	A	A	E
		Delay (s)	445.2	445.2	445.2	75.9	75.9	75.9	12.1	0.0	0.0	0.2	0.1	0.0	40.1
		v/c	1.81	1.81	1.81	0.23	0.23	0.23	0.32	0.61	0.31	0.01	0.35	0.00	1.81
		95th% Queue (m)	157.5	157.5	157.5	6.4	6.4	6.4	11.3	0.0	0.0	0.3	0.3	0.0	-

Highway 12 & Lutheran Road Intersection

At 2024 existing traffic conditions, Highway 12 & Lutheran Road intersection operates at LOS C overall during the AM peak hour and LOS A overall during PM peak hour based on Synchro analysis. The free-flow northbound and southbound movements operate at LOS A during both the AM and PM peak hours. The eastbound movements operate at LOS C and westbound movements operate at LOS F during both peak hours. The average delay for westbound movements is 80.0 seconds and 95th percentile queue length is 94.8 m during AM peak hour which has potential to block Service Road east of Highway 12.

Range Rd 3052 & Lutheran Road Intersection

The Range Rd 3052 & Lutheran Road intersection operates well during both peak hours in 2024 existing traffic conditions. The overall intersections and all individual movements operate at LOS A during both the AM and PM peak hours. The maximum delay is 9.1 seconds for westbound movements during PM peak hour.

Site Access & Lutheran Road Intersection

At 2024 existing traffic conditions, the intersection of Site Access & Lutheran Road operates well during both peak hours. The overall intersection operates at LOS A during both peak hours. The eastbound and westbound free-flow movements operate at LOS A and northbound stop-controlled movements operate at LOS B during both the AM and PM peak hours. Delays, volume over capacity (v/c) ratios and queuing are not a concern.

Highway 11 & Lutheran Road Intersection

At 2024 existing traffic conditions, Highway 11 & Lutheran Road intersection operates at LOS A overall during the AM peak hour and LOS E overall during PM peak hour. The northbound left movement operates at LOS C during AM peak hour and LOS B during PM peak hour. The northbound through-right movements and all southbound movements operate at LOS A during both peak hours. The eastbound movements operate at LOS D during AM peak hour and LOS F during PM peak hour and the westbound movements operate at LOS F during both peak hours. The average delay for eastbound movements is 445.2 seconds and 95th percentile queue length is 157.5 m during PM peak hour.

2029 Future Background Traffic Conditions

The 2029 future background traffic capacity results for the peak design hours are summarized in **Table 6**.

Table 6 – 2029 Future Background Condition Analysis Results

		AM Peak Hour		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	INT
Highway No. 12 & Lutheran Road																
2029	Future Background	LOS	C	C	C	F	F	F	B	A	A	A	A	A	A	E
		Delay (s)	24.4	24.4	24.4	227.3	227.3	227.3	12.6	0.0	0.0	8.4	0.0	0.0	42.8	
		v/c	0.09	0.09	0.09	1.39	1.39	1.39	0.01	0.09	0.09	0.02	0.55	0.28	1.39	
		95th% Queue (m)	2.3	2.3	2.3	181.5	181.5	181.5	0.3	0.0	0.0	0.5	0.0	0.0	-	
Range Rd 3052 & Lutheran Road																
2029	Future Background	LOS	A	A	A	A	A	A	A	A	A	A	A	A	A	A
		Delay (s)	8.8	8.8	8.8	8.0	8.0	8.0	7.9	7.9	7.9	8.2	8.2	8.2	8.6	
		v/c	0.28	0.28	0.28	0.10	0.10	0.10	0.02	0.02	0.02	0.03	0.03	0.03	0.28	
		95th% Queue (m)	-	-	-	-	-	-	-	-	-	-	-	-	-	
Site Access & Lutheran Road																
2029	Future Background	LOS	-	A	A	A	A	-	B	-	B	-	-	-	-	A
		Delay (s)	-	0.0	0.0	0.1	2.1	-	10.5	-	10.5	-	-	-	1.1	
		v/c	-	0.16	0.16	0.01	0.01	-	0.04	-	0.04	-	-	-	0.16	
		95th% Queue (m)	-	0.0	0.0	0.2	0.2	-	0.9	-	0.9	-	-	-	-	
Highway No. 11 & Lutheran Road																
2029	Future Background	LOS	E	E	E	F	F	F	E	A	A	A	A	A	A	B
		Delay (s)	83.2	83.2	83.2	1403	1403	1403	36.5	0.0	0.0	0.1	0.0	0.0	14.6	
		v/c	0.85	0.85	0.85	2.12	2.12	2.12	0.61	0.26	0.14	0.01	0.74	0.03	2.12	
		95th% Queue (m)	49.5	49.5	49.5	25.2	25.2	25.2	29.1	0.0	0.0	0.1	0.0	0.0	-	
		PM Peak Hour		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	INT
Highway No. 12 & Lutheran Road																
		LOS	C	C	C	F	F	F	A	A	A	C	A	A	A	B

2029	Future Background	Delay (s)	24.0	24.0	24.0	183.6	183.6	183.6	8.6	0.0	0.0	19.0	0.0	0.0	12.0
		v/c	0.26	0.26	0.26	1.15	1.15	1.15	0.01	0.43	0.22	0.02	0.22	0.11	1.15
		95th% Queue (m)	8.0	8.0	8.0	73.7	73.7	73.7	0.2	0.0	0.0	0.5	0.0	0.0	-
Range Rd 3052 & Lutheran Road															
2029	Future Background	LOS	A	A	A	A	A	A	A	A	A	A	A	A	A
		Delay (s)	8.8	8.8	8.8	9.4	9.4	9.4	8.0	8.0	8.0	8.9	8.9	8.9	9.1
		v/c	0.19	0.19	0.19	0.30	0.30	0.30	0.03	0.03	0.03	0.17	0.17	0.17	0.30
		95th% Queue (m)	-	-	-	-	-	-	-	-	-	-	-	-	-
Site Access & Lutheran Road															
2029	Future Background	LOS	-	A	A	A	A	-	B	-	B	-	-	-	A
		Delay (s)	-	0.0	0.0	0.1	0.4	-	10.8	-	10.8	-	-	-	1.5
		v/c	-	0.8	0.08	0.01	0.01	-	0.08	-	0.08	-	-	-	0.08
		95th% Queue (m)	-	0.0	0.0	0.2	0.2	-	2.0	-	2.0	-	-	-	-
Highway No. 11 & Lutheran Road															
2029	Future Background	LOS	F	F	F	F	F	F	B	A	A	A	A	A	F
		Delay (s)	Err	Err	Err	903	903	903	14.9	0.0	0.0	0.3	0.2	0.0	881.1
		v/c	3.91	3.91	3.91	1.40	1.40	1.40	0.44	0.73	0.37	0.02	0.41	0.00	3.91
		95th% Queue (m)	Err	Err	Err	21.3	21.3	21.3	18.2	0.0	0.0	0.4	0.4	0.0	-

Highway 12 & Lutheran Road Intersection

By 2029, under future background traffic conditions, the intersection of Highway 12 & Lutheran Road is projected to operate at an overall LOS E during the AM peak hour and LOS B during the PM peak hour, according to Synchro analysis.

- Northbound Left Turn: Expected to operate at LOS B during the AM peak hour and LOS A during the PM peak hour.
- Southbound Left Turn: Expected to operate at LOS A during the AM peak hour and LOS C during the PM peak hour.
- Northbound and Southbound Through-Right Movements: Expected to operate at LOS A during both peak hours.
- Eastbound Movements: Anticipated to operate at LOS C during both peak hours.
- Westbound Movements: Expected to operate at LOS F during both peak hours, with 227.3 seconds delay during the AM peak hour. The volume-to-capacity (v/c) ratio is expected to be 1.39 and 95th percentile queue length is anticipated to be 187.5 m which has potential to block the Service Road east of Highway 12.

Range Rd 3052 & Lutheran Road Intersection

The Range Rd 3052 & Lutheran Road intersection is expected to operate well during both peak hours in 2029 future background traffic conditions. The overall intersections and all individual movements are anticipated to operate at LOS A during both the AM and PM peak hours. The maximum delay is expected to be 9.4 seconds for westbound movements during PM peak hour.

Site Access & Lutheran Road Intersection

At 2029 future background traffic conditions, the intersection of Site Access & Lutheran Road is anticipated to operate well during both peak hours. The overall intersection is expected to operate at LOS A during both peak hours. The eastbound and westbound free-flow movements would operate at LOS A and northbound stop-controlled movements are expected to operate at LOS B during both the AM and PM peak hours. Delays, volume over capacity (v/c) ratios and queuing are not a concern.

Highway 11 & Lutheran Road Intersection

By 2029, under future background traffic conditions, the intersection of Highway 11 & Lutheran Road is projected to operate at an overall LOS B during the AM peak hour and LOS F during the PM peak hour, according to Synchro analysis.

- Northbound Left Turn: Expected to operate at LOS E during the AM peak hour and LOS B during the PM peak hour.
- Northbound Through-Right Movements: Expected to operate at LOS A during both peak hours.
- All Southbound Movements: Anticipated to operate at LOS A during both peak hour.
- Eastbound Movements: Anticipated to operate at LOS E during the AM peak hour and LOS F during the PM peak hour.
- Westbound Movements: Expected to operate at LOS F during both peak hours, with delays so significant that Synchro generates an error message (typically indicating delays over 1000 seconds). The volume-to-capacity (v/c) ratio for the westbound movement is expected to be 3.91.

These projections highlight significant congestion issues, particularly for the eastbound and westbound movements during both peak hours.

2029 Total Traffic Conditions

The 2029 total traffic capacity results for the peak design hours are summarized in **Table 7**.

Table 7 – 2029 Total Traffic Condition Analysis Results

AM Peak Hour		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	INT	
Highway No. 12 & Lutheran Road															
2029 Future Total	LOS	D	D	D	F	F	F	B	A	A	A	A	A	F	
	Delay (s)	26.4	26.4	26.4	312.4	312.4	312.4	12.6	0.0	0.0	9.1	0.0	0.0	55.7	



		v/c	0.10	0.10	0.10	1.59	1.59	1.59	0.01	0.09	0.17	0.05	0.55	0.29	1.59
		95th% Queue (m)	2.5	2.5	2.5	214.6	214.6	214.6	0.3	0.0	0.0	1.3	0.0	0.0	-
Range Rd 3052 & Lutheran Road															
2029	Future Total	LOS	A	A	A	A	A	A	A	A	A	A	A	A	A
		Delay (s)	9.2	9.2	9.2	9.0	9.0	9.0	8.2	8.2	8.2	8.6	8.6	8.6	9.1
		v/c	0.30	0.30	0.30	0.25	0.25	0.25	0.02	0.02	0.02	0.04	0.04	0.04	0.30
		95th% Queue (m)	-	-	-	-	-	-	-	-	-	-	-	-	-
Site Access & Lutheran Road															
2029	Future Total	LOS	-	A	A	A	A	-	B	-	B	-	-	-	A
		Delay (s)	-	0.0	0.0	1.1	7.3	-	13.5	-	13.5	-	-	-	2.8
		v/c	-	0.26	0.26	0.12	0.12	-	0.11	-	0.11	-	-	-	0.26
		95th% Queue (m)	-	0.0	0.0	3.2	3.2	-	2.9	-	2.9	-	-	-	-
Highway No. 11 & Lutheran Road															
2029	Future Total	LOS	F	F	F	F	F	F	F	A	A	A	A	A	F
		Delay (s)	470.8	470.8	470.8	Err	Err	Err	81.1	0.0	0.0	0.1	0.0	0.0	87.3
		v/c	1.79	1.79	1.79	11.22	11.22	11.22	0.93	0.26	0.13	0.00	0.74	0.06	11.22
		95th% Queue (m)	111.1	111.1	111.1	Err	Err	Err	66.9	0.0	0.0	0.1	0.1	0.0	-
PM Peak Hour			EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	INT
Highway No. 12 & Lutheran Road															
2029	Future Total	LOS	D	D	D	F	F	F	A	A	A	C	A	A	E
		Delay (s)	25.7	25.7	25.7	393.6	393.6	393.6	8.6	0.0	0.0	19.3	0.0	0.0	36.3
		v/c	0.28	0.28	0.28	1.69	1.69	1.69	0.01	0.43	0.23	0.02	0.22	0.11	1.69
		95th% Queue (m)	8.7	8.7	8.7	143.2	143.2	143.2	0.2	0.0	0.0	0.5	0.0	0.0	-
Range Rd 3052 & Lutheran Road															
2029	Future Total	LOS	A	A	A	A	A	A	A	A	A	A	A	A	A
		Delay (s)	7.6	7.6	7.6	7.0	7.0	7.0	7.1	7.1	7.1	7.8	7.8	7.8	7.6
		v/c	0.03	0.03	0.03	0.30	0.30	0.30	0.02	0.02	0.02	0.14	0.14	0.14	0.14
		95th% Queue (m)	-	-	-	-	-	-	-	-	-	-	-	-	-
Site Access & Lutheran Road															
2029	Future Total	LOS	-	A	A	A	A	-	B	-	B	-	-	-	A
		Delay (s)	-	0.0	0.0	0.2	0.9	-	13.2	-	13.2	-	-	-	5.1
		v/c	-	0.10	0.10	0.02	0.02	-	0.35	-	0.35	-	-	-	0.35
		95th% Queue (m)	-	0.0	0.0	0.5	0.5	-	12.8	-	12.8	-	-	-	-
Highway No. 11 & Lutheran Road															
2029	Future Total	LOS	F	F	F	F	F	F	C	A	A	A	A	A	F
		Delay (s)	Err	Err	Err	Err	Err	Err	15.2	0.0	0.0	0.3	0.2	0.0	1163
		v/c	5.32	5.32	5.32	4.78	4.78	4.78	0.46	0.73	0.37	0.02	0.41	0.01	5.32
		95th% Queue (m)	Err	Err	Err	Err	Err	Err	19.4	0.0	0.0	0.4	0.4	0.0	-

Highway 12 & Lutheran Road Intersection

By 2029, the intersection of Highway 12 & Lutheran Road is projected to experience a slight deterioration in traffic conditions, compared to the 2029 background traffic conditions. During the AM peak hour, the overall LOS is expected to decline from LOS E to LOS F. In the PM peak hour, it is anticipated to drop from LOS B to LOS E. Additionally, eastbound movements are forecasted to worsen from LOS C to LOS D during both peak hours, compared to the 2029 background traffic conditions, according to Synchro analysis.

Range Rd 3052 & Lutheran Road Intersection

By 2029, the intersection of Range Rd 3052 & Lutheran Road is expected to maintain the level of service performance during both peak hours under total traffic conditions. The overall intersection and all individual movements are anticipated to continue operating at LOS A throughout both peak periods, even after accounting for the additional project trips. The maximum delay is projected to be 9.2 seconds for eastbound movements during the AM peak hour.

Site Access & Lutheran Road Intersection

Under 2029 total traffic conditions, the intersection of Site Access & Lutheran Road is anticipated to perform well during both peak hours. The overall intersection is expected to maintain a LOS A throughout both periods. Eastbound and westbound movements are projected to remain at LOS A, while northbound movements are expected to continue operating at LOS B during both the AM and PM peak hours, even with the addition of project trips.

Highway 11 & Lutheran Road Intersection

By 2029, the intersection of Highway 11 & Lutheran Road is projected to experience a decline in traffic conditions compared to the 2029 background traffic projections. During the AM peak hour, the overall LOS is expected to drop from LOS B to LOS F. Eastbound movements are forecasted to deteriorate from LOS E to LOS F, and the northbound left turn is also projected to worsen from LOS E to LOS F.

Summary of Intersection Analysis

Under existing traffic conditions in 2024, the intersections of Range Rd 3052 and Site Access along Lutheran Road are performing well within acceptable delays and levels of service. However, at the intersection of Highway 12 & Lutheran Road, the westbound movements are operating at LOS F. Similarly, at the intersection of Highway 11 & Lutheran Road, both eastbound and westbound movements are also operating at LOS F.

By 2029, under future background conditions, the intersections of Range Rd 3052 and Site Access along Lutheran Road are expected to continue operating well within acceptable conditions. However, the intersections of Highway 11 and Highway 12 along Lutheran Road are projected to experience significant congestion, with failing movements even without the addition of project trips. Specifically, the westbound movements at the Highway 12 & Lutheran Road intersection are anticipated to operate at LOS F, and both eastbound and westbound movements at the Highway 11 & Lutheran Road intersection are expected to remain at LOS F. These projections highlight substantial congestion issues, particularly for the eastbound and westbound movements during both peak hours.

Given that the Highway 11 and Highway 12 intersections are expected to face congestion issues under 2029 background conditions, any increase in traffic volume would further deteriorate their performance. The proposed development is expected to add 262 two-way trips during the AM peak hour and 235 two-way trips during the PM peak hour.

By 2029, with the addition of project trips, the intersection of Highway 12 & Lutheran Road is projected to decline from LOS E to LOS F overall. Similarly, the intersection of Highway 11 & Lutheran Road is expected to deteriorate from LOS B to LOS F overall. However, the intersections of Range Rd 3052 and Site Access along Lutheran Road are expected to continue operating well with the addition of project trips.

Mitigation of Highway 11 and Highway 12 Intersections

The main reason for traffic congestion and operational failures at the intersections of Highway 11 and Highway 12 is the high traffic volumes and the high operating speed (110 km/h) on these highways. These highways serve as major north-south traffic corridors and are essential for providing connectivity to several municipalities in Saskatchewan.

High traffic volumes result in vehicles consistently flowing at high speeds, making it challenging for drivers attempting eastbound and westbound movements at these intersections. Specifically, vehicles trying to turn onto the highways or cross them often cannot find sufficient gaps in the traffic flow to do so safely. This difficulty not only causes significant delays but also heightens the risk of collisions, leading to critical safety and congestion issues.

To address these problems, the most appropriate solution is to upgrade the intersections of Highway 11 and Highway 12 to grade-separated interchanges. Grade-separated interchanges allow for the separation of traffic flows at different levels, which can significantly reduce the likelihood of congestion and collisions. By enabling continuous traffic flow on the highways and providing elevated lanes for crossing or turning traffic, these interchanges improve safety and efficiency.

The NCP has outlined a comprehensive plan to enhance traffic management on these highways. According to the NCP, the construction of the Saskatoon Freeway will result in the removal of most existing accesses to Highways 11 and 12. Access will be restructured to rely primarily on a system of interchanges. This restructuring aims to streamline traffic flow and reduce congestion points.

Specifically, the NCP envisions the construction of an interchange at the intersection of Highway 12 and Lutheran Road. This interchange would facilitate smoother and safer transitions between the highway and Lutheran Road. Additionally, the NCP proposes a staggered intersection at Highway 12 and Lutheran Road, achieved by separating the east and west legs of Township Road 382. This design aims to minimize conflict points and further enhance the safety and efficiency of the intersection.

LANE WARRANT ANALYSIS

Intersection turning lane warrants were assessed to improve potential traffic safety at the study intersections. The warrants were conducted for full build-out conditions for both scenarios where applicable using the passenger car equivalent corrected peak hourly volumes projected to the 10th year after the proposed full-buildout date (2029).

Turning Lane Warrants

The Ministry's System Improvement Warrants provide the Standard Plans used to analyse right-turn lanes (Plan No. 20614) and left-turn lanes (Plan No. 20610).

Right-Turn Lane Warrant

As an exclusive right turn lane is provided for the southbound direction on Highway 11 and for the northbound direction on Highway 12 in the direction of the proposed development, a right-turn lane warrant analysis was not required to be conducted for potential safety improvements.

Left-Turn Lane Warrant

As an exclusive left turn lane is provided for the northbound direction on Highway 11 and for the southbound direction on Highway 12, in the direction of the proposed development, a left-turn lane warrant analysis was not required to be conducted for potential safety improvements.

ILLUMINATION WARRANT ANALYSIS

Intersection illumination warrant was conducted to assess the illumination requirements at the study intersections. The warrants were conducted at subsequent design horizons using the PCE adjusted total forecast design hour volumes and the existing intersection configuration. The following was assessed:

Intersection Delineation Lighting consists of the installation of high-pressure sodium (HPS) luminaire(s) over the intersecting roadway or median connector of divided highways for the purpose of illuminating vehicles entering or crossing the through highway route.

Intersection Area Lighting is the illumination of the intersection area and the adjacent through and auxiliary lanes of the through highway to a specified lighting criterion.

Intersection Delineation Lighting

Intersection Delineation Lighting is provided at Highway 11 & Lutheran Road intersection with light pole located at the median and Intersection Area Lighting is provided at Highway 12 & Lutheran Road intersection. The warrant analysis for Intersection Delineation Lighting was not conducted at these intersections.

Intersection Area Lighting

As the Intersection Area Lighting is provided at Highway 12 & Lutheran Road intersection, the warrant analysis for Intersection Area Lighting was conducted only for Highway 11 & Lutheran Road intersection to determine if this intersection requires an area lighting.

MoH provided the AADT, TADT, K factor, and growth factor for Highway 11 for the year 2022. These volumes were projected to 2024, using a yearly growth rate of 7%, and converted to passenger car equivalents. The AADT for Lutheran Road was determined using a K factor of 0.12, based on the average peak hour volumes of the AM and PM peak periods, and converted to passenger car equivalents. **Table 8** illustrates the illumination warrant for Intersection Area Lighting at the Highway 11 and Lutheran Road intersection.

Table 8 – Intersection Area Lighting Warrant Analysis

Intersection	Horizon	Traffic Volume Warrant	Raised Channelization / Median Curbing Warrant	Traffic Accident Rate Warrant
Highway No. 11 & Lutheran Road	Existing	Yes	No	Unknown

Based on the warrant analysis, the intersection at Highway 11 & Lutheran meets the Area Lighting warrant criteria in 2024 existing conditions. The warrant analysis is attached in **Appendix C**.

CONCLUSION & RECOMMENDATIONS

The purpose of the Traffic Impact Assessment was to ensure that the existing and proposed study intersections would operate at a satisfactory Level of Service for existing and future traffic conditions at the full build-out of the project.

Based on the 2024 existing conditions analysis, the intersections of Range Rd 3052 and Site Access along Lutheran Road are performing well within acceptable delays and levels of service. However, at the intersection of Highway 12 & Lutheran Road, the westbound movements are operating at LOS F. Similarly,

at the intersection of Highway 11 & Lutheran Road, both eastbound and westbound movements are also operating at LOS F.

By 2029, under future background conditions, the intersections of Range Rd 3052 and Site Access along Lutheran Road are expected to continue operating well within acceptable conditions. However, the intersections of Highway 11 and Highway 12 along Lutheran Road are projected to experience significant congestion, with failing movements even without the addition of project trips. Specifically, the westbound movements at the Highway 12 & Lutheran Road intersection are anticipated to operate at LOS F, and both eastbound and westbound movements at the Highway 11 & Lutheran Road intersection are expected to remain at LOS F. These projections highlight substantial congestion issues, particularly for the eastbound and westbound movements during both peak hours.

Given that the Highway 11 and Highway 12 intersections are expected to face congestion issues under 2029 background conditions, any increase in traffic volume would further deteriorate their performance. The proposed development is expected to add 262 two-way trips during the AM peak hour and 235 two-way trips during the PM peak hour.

By 2029, with the addition of project trips, the intersection of Highway 12 & Lutheran Road is projected to decline from LOS E to LOS F overall. Similarly, the intersection of Highway 11 & Lutheran Road is expected to deteriorate from LOS B to LOS F overall. However, the intersections of Range Rd 3052 and Site Access along Lutheran Road are expected to continue operating well with the addition of project trips.

High traffic volumes result in vehicles consistently flowing at high speeds, making it challenging for drivers attempting eastbound and westbound movements at these intersections. Specifically, vehicles trying to turn onto the highways or cross them often cannot find sufficient gaps in the traffic flow to do so safely. This difficulty not only causes significant delays but also heightens the risk of collisions, leading to critical safety and congestion issues.

To address these problems, the most appropriate solution is to upgrade the intersections of Highway 11 and Highway 12 to grade-separated interchanges. Grade-separated interchanges allow for the separation of traffic flows at different levels, which can significantly reduce the likelihood of congestion and collisions. By enabling continuous traffic flow on the highways and providing elevated lanes for crossing or turning traffic, these interchanges improve safety and efficiency.

An illumination warrant analysis was also conducted at Highway 11 and Highway 12 intersections to determine if Intersection Area Lighting is warranted at these intersections. Based on the warrant analysis, the intersection at Highway 11 & Lutheran meets the Area Lighting warrant criteria in 2024 existing conditions.



**CATTERALL
& WRIGHT**
CONSULTING ENGINEERS

CLOSURE

We trust that we have provided sufficient information for your consideration and would be pleased to discuss any aspect of this report and invite all reasonable comments from the interested parties.

Sincerely,
Catterall & Wright

Per: *S. Nadeem*

Nadeem Hyder P. Eng.,

Senior Transportation Engineer

Comprehensive Development Review

Client: 101063662 Saskatchewan Ltd.

Shercom Industries Ltd.

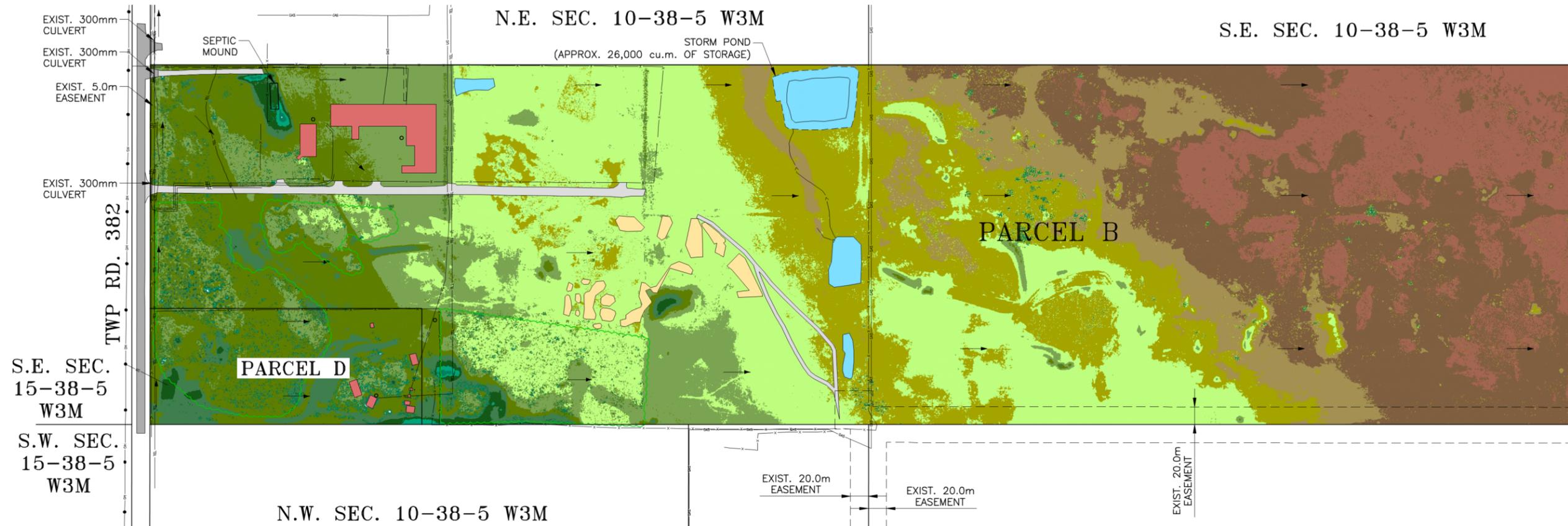
Appendix E Drainage and Servicing Drawings



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LEGEND:

- ← OVERLAND DRAINAGE DIRECTION
- POWER PEDESTAL
- POWER POLE
- SANITARY MANHOLE
- CULVERT
- BUSHES
- FENCE
- DRAINAGE DITCH
- UNDERGROUND POWER LINE
- PHONE LINE
- GAS LINE
- OVERHEAD POWER LINE
- - - EASEMENT
- - - LEGAL LINE WORK TO BE ADJUSTED / REMOVED
- TIRE PILES
- BUILDINGS
- PONDS / SLOUGHS
- ASPHALT ROAD
- GRAVEL ROAD / PATH

NO.	ELEVATION RANGE	COLOUR
1	501.00 TO 502.00	Dark Red
2	502.00 TO 503.00	Red
3	503.00 TO 504.00	Brown
4	504.00 TO 505.00	Olive Green
5	505.00 TO 506.00	Yellow-Green
6	506.00 TO 507.00	Light Green
7	507.00 TO 508.00	Green
8	508.00 TO 509.00	Dark Green
9	509.00 TO 510.00	Teal
10	510.00 TO 511.00	Dark Teal
11	511.00 TO 512.00	Blue-Green
12	512.00 TO 513.00	Blue

S.W. SEC. 10-38-5 W3M

NOTES:

-NOT ALL UTILITIES MAY BE SHOWN. ALL UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR TO CONFIRM LOCATIONS & ELEVATIONS OF ALL UTILITIES PRIOR TO ANY CONSTRUCTION
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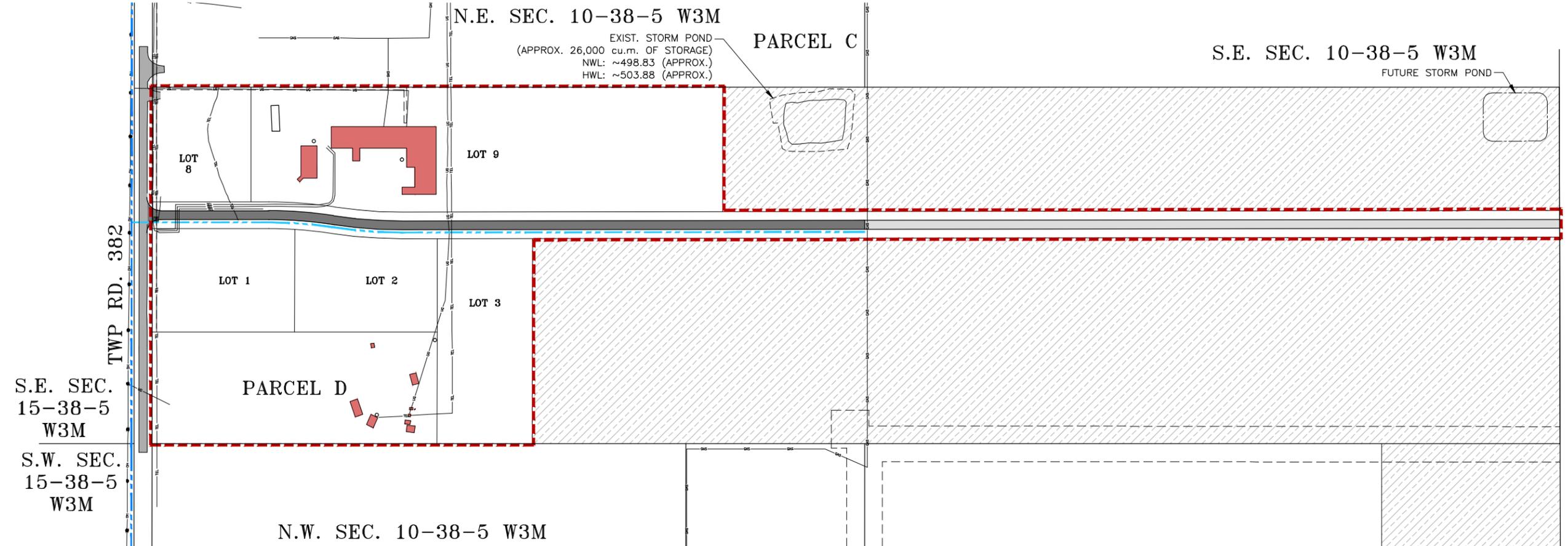
LOCATION
N.E. SEC 10-38-5 W3M

PROJECT
SHERCOM CDR

SHEET TITLE
EXISTING DRAINAGE & SITE CONDITIONS

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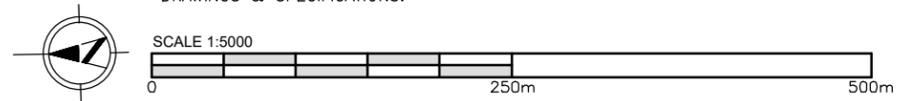
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- LEGEND:**
- ▣ EXIST. POWER PEDESTAL
 - EXIST. POWER POLE
 - EXIST. SANITARY MANHOLE
 - EXIST. UNDERGROUND POWER LINE
 - EXIST. PHONE LINE
 - EXIST. GAS LINE
 - EXIST. OVERHEAD POWER LINE
 - - - EASEMENT
 - - - - - DEVELOPMENT BOUNDARY
 - — — EXIST. INTERVALLEY WATER MAIN
 - — — ASSUMED SASKWATER SERVICING ROUTE
 - EXIST. BUILDINGS
 - EXIST. ASPHALT
 - DESIGN GRAVEL ROAD
 - DESIGN ASPHALT ROAD
 - ▨ FUTURE DEVELOPMENT AREA

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CATTERALL & WRIGHT
CONSULTING ENGINEERS

1231 - 8th STREET EAST
SASKATOON, SK S7H 0S5

TEL: (306) 343-7280 | www.cwce.ca

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101063662
SASKATCHEWAN LTD.

LOCATION
N.E. SEC 10-38-5 W3M

PROJECT
SHERCOM CDR

SHEET TITLE
CONCEPTUAL SERVICING PLAN

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DRAWN RJB	CHECKED DAC / DGS
DATE 24/05/10	SHEET 3 of 3
DRAWING NUMBER 885-00103	

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Comprehensive Development Review

Client: 101063662 Saskatchewan Ltd.

Shercom Industries Ltd.

Appendix F Wastewater Correspondence



April 19, 2024

Eric Balon

Catterall & Wright

Location: RM of Corman Park

Parcel NW 10-10-38-5-W3 owned by Shercom Industries Inc.

Good morning Eric,

McGill's Industrial Services is a licenced sewage/waste water disposal company that can accommodate you septic pumping needs. We are approved by the city of saskatoon waste water treatment plant.

We also have approval at English river first nations waste water treatment plant, they are coming online within a month. Just finishing their lagoon expansion.

McGills industrial services contact information,

Luke McGill/ Joey McGill

McGill's Industrial Services Inc.

105 Melville St. Saskatoon. SK. S7J5A5

T: 306.664.2220

www.mcgills.ca

Thank you for giving us the opportunity on this project.

Comprehensive Development Review

Client: 101063662 Saskatchewan Ltd.

Shercom Industries Ltd.

Appendix G Geotechnical Reports



ECO ENGINEERING LTD.

Saskatoon, SK
EMAIL lhaji@eco-eng.ca
CELL 306.280.0514

October 17, 2022

Attention: Shane Olson, President
Shercom Industries
Comp #9, Site 404, RR#4 Saskatoon, SK S7K 3J7
Phone: (306)550-7995
Email: shane@shercomindustries.com

ECO File: 52B

RE: Geotechnical Investigation Report for Shercom Industries

Dear Mr. Olson,

Please find attached a draft copy of the Geotechnical Report for your Sub-division. Please review and let us know if you have any comments.

Thank you for your interest in our services and we look forward to working with you and your team in future projects.

Yours truly,

A handwritten signature in black ink, appearing to read "L. Haji", is positioned above the typed name.

Lotfollah Haji, M.Eng., P.Eng.
General Manager



ECO ENGINEERING LTD.

LOOKING AFTER OUR CLIENTS AND THE ENVIRONMENT

Geotechnical Investigation Report

PREPARED BY ECO ENGINEERING LTD.

October 17, 2022

Geotechnical Investigation Report

PREPARED FOR: SHERCOM INDUSTRIES
PREPARED BY: ECO ENGINEERING LTD.
OCTOBER 17, 2022
FILE: 52B

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ECO ENGINEERING LTD.

ECO ENGINEERING LTD.

(306)280.0514 | 302 Marcotte Crescent, Saskatoon, SK S7K 7P5

Executive Summary

Shercom Industries (Shercom) is a major manufacturer of recycled tire product and is located at NE-10-38-5-W3M in the Rural Municipality (RM) of Corman Park No. 344 (Corman Park), Saskatchewan. Shercom was established in 1993 with the goal of recycling used tires into value-added products for residential and commercial applications. At present, Shercom facilities occupy the eastern half of the Property. Shercom plans to sub-divide the western half into an industrial development. To do this, Shercom need to apply to the RM of Corman Park and change the zoning status of the western half of the Property. Among other requirements, the application requires the geotechnical assessment of the western half of the Site.

As such, Shercom has retained ECO ENGINEERING LTD. (ECO) out of Saskatoon to conduct a geotechnical assessment of the Property. To conduct the assessment, ECO reviewed pertinent reports and data made available to it by Shercom and developed a scope of work, methodology, drilling and sampling, analysis of the field and lab data and prepared this geotechnical report.

The project scope of work included:

- surveying the surface topography to assess the geometry of the Site;
- assessing the regional and local geology and hydrogeology for the area;
- locating the existing utilities, pipelines, or easements;
- evaluating the site suitability of the proposed area to design and develop the subdivision; and
- pond Modification.

The scope of the geotechnical investigations and fieldwork included the following:

- stake drilling locations;
- locate underground utilities and assess Site access for drilling equipment;
- drill six (6) boreholes to sufficient depths to characterize the relative density and consistency of the soil, and to collect soil samples for laboratory analysis;
- conduct SPT at 0.75 m depth intervals all the way to the bottom of the boreholes;
- install two (2) monitoring wells to further characterize the groundwater flow within the western portion of the Site;
- submit soil samples for laboratory analysis (soil index parameters, geotechnical properties); and
- prepare a geotechnical report.

The overall objective of the project was to collect data regarding the subsurface geology and hydrogeology and engineering properties of the subsurface units and provide data for developing an industrial subdivision. Based on the scope of work and the project objectives, ECO developed a methodology to plan and execute the fieldwork, analyse the field and laboratory data, assess the Site for its geotechnical properties and provide recommendations for industrial development. Based on our assessment from a geotechnical perspective, the western half of the property is acceptable for commercial and industrial development in which buildings will be founded by conventional shallow footings placed on an

undisturbed, stiff silty clay bearing surface which is generally available at 1.5 m below the existing ground surface, provided that the following work has been observed and a geotechnical as-built report issued by a geotechnical consultant:

- Observation of all bearing surfaces prior to the placement of concrete.
- Sampling and testing of the concrete and fill materials used.
- Periodic observation of the condition of unsupported excavation side slopes in excess of 3 m in height, if applicable.
- Observation of all subgrades prior to backfilling.
- Field density tests to determine the level of compaction achieved.
- Sampling and testing of the bituminous concrete including mix design reviews.

Glossary of Terms

BH	Borehole
° C	Celsius
CCME	Canadian Council of Ministers
ECO	ECO ENGINEERING LTD.
Ft	Feet
H	Horizontal
KPa	Kilo Pascal
m	meter
Mm	Millimeter
masl	Metres Above Sea Level
MW	Monitoring Well
OBC	Ontario Building Code 2012
PMEL	P. Machibroda Engineering Ltd.
MPG	Minimum Performance Graded
O.D.	Outside Diameter
PVC	Polyvinyl Chloride
RM	Rural Municipality
SCWG	Soil Classification Working Group
Shercom	Shercom Industries
SK	Saskatchewan
SLS	Serviceability Limit States
SPT	Standard Penetration Test
SPMDD	Standard Proctor Maximum Dry Density
V	Vertical

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1 Introduction

1.1 BACKGROUND

Shercom Industries (Shercom), a major manufacturer of recycled tire products is located at NE-10-38-5-W3M in the Rural Municipality (RM) of Corman Park No. 344 (Corman Park), Saskatchewan. Shercom was established in 1993 with the goal of recycling used tires into value-added products for residential and commercial applications. At present, Shercom recycles over 50 million pounds of used tires per year and is at forefront of recycling technology through innovative tools, technologies, and processes. Shercom is dedicated to finding new and better ways to reclaim, recycle and reuse scrap tires as the base for innovative and eco-friendly products. Shercom's efforts keep millions of pounds of material out of landfills each year, directly contributing to the protection of the environment, well-being of local communities, and the long-term health of our planet. **Figure A** presents two applications of products made from recycled tires.



Figure A. Landscaping Using Tire Shred

At present, Shercom facilities occupy the eastern half of the Property. Shercom plans to sub-divide the western half for industrial development. To do this, Shercom must apply to the RM of Corman Park and change the zoning status of the Property. The application requires the geotechnical assessment of the Site among other requirements. As such, Shercom has retained the ECO ENGINEERING LTD. (ECO) out of Saskatoon to conduct a geotechnical assessment of the western half of the Property. To conduct the assessment, ECO reviewed pertinent reports and data made available to it by Shercom and developed a scope work, methodology, drilling and sampling and the analysis of the lab results and prepared this geotechnical report for the project.

This document presents the details of the geotechnical assessment of the property.

1.2 SCOPE OF WORK

The project scope of work included:

- surveying the surface topography to assess the geometry of the Site;
- assessing the regional and local geology and hydrogeology for the area;
- locating the existing utilities, pipelines, or easements;
- evaluating the site suitability of the proposed area to design and develop the subdivision; and
- pond Modification.

The scope of the geotechnical investigations and fieldwork included the following:

- stake drilling locations;
- locate underground utilities and assess Site access for drilling equipment;
- drill six (6) boreholes to sufficient depths to characterize the relative density and consistency of the soil, and to collect soil samples for laboratory analysis;
- conduct SPT at 0.75 m depth intervals all the way to the bottom of the boreholes;
- install two (2) monitoring wells to further characterize the groundwater flow within the western portion of the Site;
- submit soil samples for laboratory analysis (soil index parameters, geotechnical properties); and
- prepare a geotechnical report.

Site survey and fieldworks for collection of geotechnical information on-site was carried out in Spring 2022. Collected data is summarized and interpreted in this report.

1.3 OBJECTIVE

The overall objective of the geotechnical investigation is to collect data regarding the subsurface geology and hydrogeology and engineering properties of the subsurface units and provide data for developing an industrial subdivision at the Site.

The specific objectives of the geotechnical investigation are to:

- Characterize the local geology and hydrogeology on-site.
- Collect data on the engineering properties of the sub-surface soil (i.e., SPT).
- Determine the thickness of various formations that may affect the bearing capacity of the soil.
- Determine the type of foundations required.
- Determine the strength of soil within the depth drilled.

1.4 REGULATORY REQUIREMENTS

Shercom plans to develop the western half of its property to an industrial development. To do this, Shercom must apply to the RM of Corman Park and request a change in the zoning status of the Site. The application requires a geotechnical assessment of the Property among other requirements.

2 Site Description

2.1 SURFACE CONDITIONS

The Site is located in the moist mixed grassland ecoregion which is closely correlated with semiarid moisture conditions and Dark Brown Chernozemic soils and comprises the northern extension of open grasslands in the Interior Plains of Canada. The mean annual temperature is approximately 2.5°C. The mean summer temperature is 15.5°C and the mean winter temperature is -11°C. The mean annual precipitation ranges 350-400 mm. Native vegetation is relegated to nonarable pasturelands, dominated by spear grass and wheat grass, and a variety of deciduous shrubs including buckbrush, chokecherry, and wolf willow. In general, the Site is situated on a glaciolacustrine plain which is composed of upper Cretaceous sediments and covered almost entirely by hummocky to kettled glacial till and level to very gently undulating, sandy to clayey lacustrine deposits.¹

2.2 TOPOGRAPHY

Surface grade across most of the Site is classified as little to gentle slopes according to the landform classification system after the Soil Classification Working Group (SCWG 1998). The north-western and central portions of the Site are low-lying poorly drained areas and presumably are surface water drainages on-site. In addition, a seasonal, ephemeral drainage channel, running southeast to southwest corners of the Site. The surface elevation on-site ranged from about 504 to 510 m above sea level (masl). Regional surface topography is presented in **Figure 3**.

2.3 REGIONAL GEOLOGY

The regional geology consists of glaciolacustrine sand, silt, and clay deposits. These deposits have been divided into the Empress, Sutherland, and Saskatoon Groups in the Warman region. The Saskatoon Group has been divided into the Floral and Battleford Formations as well as the Surficial Stratified Drift (SSD). Where the glacial deposits cannot be separated into the units above, they are classified as undifferentiated drift (Christiansen 1978).

The Empress Group is composed of about 128 m of gravel and sand with interbeds of glacial till, silt, and clay lying between bedrock and till. In the Warman Region, only glacial sediments were encountered in the Empress Group (Christiansen 1978). This Group forms the major groundwater aquifers in the area such as Tyner Valley Aquifer (Meneley, 1970).

The Sutherland Group is composed of about 140 m of glacial till and minor amounts of stratified sediments. Top of the Sutherland Group is represented by a unique olive grey color with yellowish brown

¹ Obtained from University of Saskatchewan Virtual Herbarium:
https://biolwww.usask.ca/rareplants_sk/root/htm/en/enthusiast/4_ecoreg.php

staining and can be observed at the regions that top weathered zone is not removed by erosion. The Saskatoon Group in the Warman Region is locally subdivided into the Floral and Battleford Formations and Surficial Stratified Drift. The Floral Formation in Warman Region is composed of till, sand, and gravel. The upper part of the till of the Floral Formation is weathered and identified with a yellowish to brown color with iron oxide through the well-developed joint surfaces. The Battleford Formation is mainly composed of a soft till and Surficial Stratified Drift is composed of deltaic and lacustrine sand, silt and clay which become finer textured with depth (Christiansen 1978).

2.4 LOCAL GEOLOGY AND HYDROGEOLOGY

The local geology of the Site consists of a thin layer of topsoil underlain by variable deposits of sand, silty clay, and gravel extending up to 2 m below the ground surface. These deposits are underlain by olive grey color glacial till that extends up to 15 m below the ground.

Nineteen (19) boreholes were drilled by P. Machibroda Engineering Ltd. (PMEL 2016) on the eastern portion of the Site and six (6) of these boreholes were converted to the monitoring wells for groundwater monitoring purposes. A copy of the work carried out by PMEL 2016 is presented in **Appendix E**.

On April 7 and 8, 2022, ECO ENGINEERING LTD. (ECO) conducted a geotechnical investigation on the western portion of the Site, including drilling six (6) boreholes, soil sampling, and SPT analysis. Two (2) boreholes were then converted to piezometers for hydrogeological analysis. The local geology and hydro-stratigraphic unit are consistent throughout the area. Geotechnical properties of the subsurface units in the western portion of the subject property are presented in **Appendix B**.

According to the water level data gathered from the recently established monitoring wells, the local groundwater flow direction in the glacial till and clay unit is towards the southeast of the subject property which is also confirmed by the groundwater investigation conducted by P. Machibroda Engineering Ltd. In 2020.

3 Investigative Methodology

3.1 HEALTH AND SAFETY PROTOCOL

Prior to conducting the on-site work, pre-job health and safety meetings were conducted by ECO staff with site personnel. This included a review of the scope of work, identification of chemical and physical hazards, overhead and buried utilities, equipment safety, and required personal protective equipment. Permission to enter all properties was obtained prior to conducting all work on-site. Utility locates were performed prior to conducting any ground disturbance activities. ECO has developed an internal health and safety program based on Saskatchewan's Occupational Health and Safety Regulations, 1996 and provides training to all staff prior to fieldwork assignments.

3.2 PLANNING AND RATIONALE

Nineteen (19) boreholes ranging from 3 m to 15 m deep, were drilled in 2016 to characterize the eastern half of the property (PMEL 2016). Six (6) of these boreholes were converted to the monitoring wells for groundwater monitoring purposes. To characterize the western half of the property, ECO reviewed PMEL 2016 report and supplemented that study by identifying borehole locations and depth (10 m) to best characterize the western half of the property. The six (6) borehole locations were strategically placed to enable the collection of soil samples for geological and geotechnical characterization of the western half of the property.

In total, 6 boreholes were advanced to a depth of approximately 10 m below the ground to characterize the stratigraphy and soil properties within the proposed subdivision. A rationale for individual drill locations is provided in **Table A**.

Table A. Rationale for Drilling Locations

Proposed Area	Borehole No.	Rational
Southwest	BH-1	Characterize the southwest corner.
Southeast	BH-2	Characterize the southeast to 10 m depth. Previous boreholes were (3 m to 4.5 m) too shallow to locate a pond.
Central Areas	BH-3 BH-4 BH-5	Characterize the central portion of the western half.
Northwest	BH-6	Characterize the northwest portion which is close to a march area.

3.2.1 Targeted Geotechnical Investigation

To conduct a thorough investigation on subsurface geology, hydrogeology and engineering properties of the subsurface units, a Targeted Geotechnical Investigation was implemented based on the findings of previous studies, and the objectives of the Project. The investigation included drilling, logging the boreholes, soil sample collection, SPT data collection, surveying borehole locations, and converting two (2) of the six (6) boreholes into groundwater monitoring wells for future groundwater monitoring.

3.2.2 Drilling

Following a review of the findings from the studies conducted on the eastern portions of the Site (geotechnical, environmental, and groundwater reports), new borehole drill locations were strategically placed within the western portion of the Site in upgradient, central portion and downgradient of the eastern half to determine the groundwater flow direction. Two boreholes were converted to monitoring wells for groundwater monitoring purposes. The data collected from boreholes and monitoring wells are used to characterize the geology, soil type and its engineering properties, as well as groundwater depth and flow direction.

Well drilling methods that are commonly used and acceptable in Saskatchewan include hollow and solid stem auger, sonic drilling, direct push, air rotary, cable tool, and Becker hammer. The geological conditions and the availability of equipment usually dictate the drilling method selection. As such, boreholes were drilled using a truck-mounted direct push to collect undisturbed soil samples. In addition, one sample was collected at BH5 by a hydraulically pushing thin wall tube (Shelby) where the N-value of the SPT was less than 10. Drilling services were provided by Mobile Augers Research Ltd. out of Saskatoon, SK. Drilling was completed using a track-mounted drill rig. **Figure B** shows the operation of a direct push drill rig and **Figure C** shows the operation of the same rig while conducting a SPT.



Figure B. Direct-push Drilling Technique



Figure C. Split spoon sampling and conducting N-Values at BH5.

3.2.3 Soil Sampling

The soil sampling at Shercom Industries was conducted to investigate the local geology and hydrogeology of the Site as well as the geotechnical properties of the soil (i.e., water content, Atterberg limits, grain size distribution, and undrained shear strength) at six (6) locations in the western portion of the Site that had not been studied before. As such, Standard Penetration Test (SPT) was conducted to determine the geotechnical and engineering properties of the subsurface soils. The test involved driving a standard thick-walled sample tube into the ground at every 2.5 ft (0.76 m) by blows from a slide hammer with standard weight and falling distance. SPT at all locations was conducted up to 30 ft (9.6 m) below the ground surface. The split spoon sampler was driven 150 mm into the ground and number of blows needed for the tube to penetrate each 150 mm (6 in) up to a depth of 450 mm (18 in) was recorded. The sum of the blow numbers required for the second and third 150 mm (6-inch) of penetration was reported as SPT blow count values which are commonly termed as N-value or standard penetration resistance. The N-values indicate the relative density of the subsurface soil and is used to estimate the approximate shear strength properties of the soils in empirical geotechnical correlation. Gravel and cemented soils have high blow counts while clay and soft soils will have low blow counts. **Appendix B** presents the SPT results.

Split-spoon samples were collected on April 7 to 8, 2022. The outer 1-5 mm of soil from each sample was trimmed and the lithology of the samples were recorded. Samples for laboratory analysis were placed in soil bags and kept in insulated coolers containing ice. Sample collection and handling protocols utilized by

ECO were in accordance with federally prescribed best practices (CCME 2016). This technique will give the most relevant information in determining the soil suitability for designing purposes.

In addition to the SPT testing, one Shelby Tube was also collected during the geotechnical investigations at BH5 (**Figure C**). Shelby Tubes sampling provides undisturbed samples required for certain tests such as peak shear, consolidation, swell potential, permeability, and density tests.

A Shelby tube is a thin-walled steel tube, usually 76 mm (3 inches) outside diameter (O.D.) by 609 mm (24 inches) long. The beveled cutting edge of the Shelby tube is slightly smaller in diameter than the inside of the tube, which allows the sample to slide easily in the tube with little disturbance. This technique is suitable for sampling cohesive soils. The tube is pushed 24 inches with a smooth, continuous thrust. Difficulty may be encountered in sampling very soft and wet soils that tend to drop out of the sampler. Both upper and lower ends of the Shelby tube were properly sealed immediately upon withdrawal and tube was submitted to the MPE Engineering Ltd. for peak undrained shear strength and one-dimensional consolidation tests. **Appendix C** presents the laboratory results of the collected soil samples by Split Spoon and Shelby Tube.

Once the SPT and soil sampling were completed, four (4) boreholes including BH1, BH3, BH4, BH5 were backfilled with bentonite chips from the bottom up to about 0.5 m below the ground surface and the rest of the holes were filled with parent soil and borehole coordinates (i.e., x, y, z) were recorded.

3.2.4 Groundwater Well Installation

To investigate the hydrogeology and groundwater flow direction of the Site, two monitoring wells (i.e., MW22-2 and MW22-6) were installed in northwest and southeast portion of the western half of the property. The monitoring wells were constructed in accordance with ASTM Standard D5092-04 (ASTM 2010). Once boreholes were drilled, PVC pipes with slotted screens were placed into the boreholes. The annulus surrounding the slotted screens was filled with 10/20 sand and rest of the boreholes were backfilled with bentonite chips up to the ground surface. Protective metal casings were also installed to protect the PVC casings and the space between the PVC and metal casings were filled with Sil 9 Silica sand. Both monitoring wells were equipped with J plugs and padlock for further protection. Once monitoring wells were completed, well coordinates (i.e., X, Y, Z) of each location along with the ground surface and top of the casing elevations (compared to sea level) were collected by Trimble R10 GPS (**Figure D**).



Figure D. Monitoring Well Surveying

3.2.5 Laboratory Analysis

Soil analytical services were provided by MPE Engineering Ltd. All laboratory testing was performed in accordance with established standards using accredited laboratories. Laboratory certificates of analysis are presented in **Appendix C**.

3.2.6 Quality Assurance and Quality Control

Quality assurance program implemented by ECO during geotechnical sampling included comprehensive pre-planning of the drilling event, employing field crews who are highly trained in geotechnical investigations and sampling. Quality control program included wearing clean nitrile gloves to minimize sample handling, and using dedicated and clean sampling equipment, as well as using laboratory-supplied sample containers, and maintaining chain of custody records.

4 Discussions

4.1 GEOTECHNICAL ASSESSMENT

From a geotechnical perspective, the western half of the property is acceptable for commercial development. It is expected that the commercial buildings will be founded by conventional shallow

footings placed on an undisturbed, stiff silty clay bearing surface which is generally available at 1.5 m below the existing ground surface.

The above and other considerations are further discussed in the following sections.

4.2 SITE GRADING AND PREPARATION

4.2.1 *Stripping Depth*

Topsoil and deleterious fill, such as those containing organics, should be stripped from under any buildings, paved areas, pipe bedding and other settlement sensitive structures.

4.2.2 *Fill Placement*

Fill used for grading beneath the building footprint, unless otherwise specified, should consist of clean imported granular fill, such as Saskatchewan Provincial Standard Specifications (3505) for Granular Base Course, or Standard Specifications (3510) for Sand Base Course. The fill should be tested and approved prior to delivery to the site. It should be placed in lifts no greater than 300 mm thick and compacted using suitable compaction equipment for the lift thickness. Fill placed beneath the building area should be compacted to at least 98% of its standard Proctor maximum dry density (SPMDD).

Non-specified existing fill along with site-excavated soil can be used as general landscaping fill and beneath parking areas where settlement of the ground surface is of minor concern. In landscaped areas, these materials should be spread in thin lifts and at least compacted by the tracks of the spreading equipment to minimize voids. If these materials are to be used to build up the subgrade level for areas to be paved, the material should be compacted in thin lifts to a minimum density of 95% of the respective SPMDD. Non-specified existing fill and site-excavated soils are not suitable for use as backfill against foundation walls unless a composite drainage blanket connected to a perimeter drainage system is provided.

4.3 FOUNDATION DESIGN

Based on the results of the geotechnical investigation, commercial development buildings, could be founded on shallow footings bearing on a stiff silty clay.

4.3.1 *Shallow Footings*

Conventional footings placed on an undisturbed, stiff silty clay can be designed using a bearing resistance value at serviceability limit states (SLS) of 100 kPa and a factored bearing resistance value at ultimate limit states (ULS) of 180 kPa.

A geotechnical resistance factor of 0.5 was applied to the reported bearing resistance values at ULS.

An undisturbed soil bearing surface consists of a surface from which all topsoil and deleterious materials, such as loose, frozen, or disturbed soil, whether in situ or not, have been removed, in the dry, prior to the placement of concrete for footings.

Footings designed using the bearing resistance values at SLS given above will be subjected to potential post construction total and differential settlements of 25 mm and 20 mm, respectively.

4.3.2 Lateral Support

The bearing medium under footing-supported structures is required to be provided with adequate lateral support with respect to excavations and different foundation levels. Adequate lateral support is provided to a stiff silty clay above the groundwater table when a plane extending down and out from the bottom edge of the footing at a minimum of 1.5H:1V passes only through in situ soil of the same or higher capacity as the bearing medium soil.

4.4 DESIGN FOR EARTHQUAKES

The proposed site can be taken as seismic site response Class D as defined in the Ontario Building Code 2012 (OBC 2012; Table 4.1.8.4.A) for foundations considered at this site. The soils underlying the site are not susceptible to liquefaction.

4.5 SLAB ON GRADE CONSTRUCTION

With the removal of all topsoil and deleterious materials, within the footprint of the proposed buildings, the native soil or engineered fill surface will be an acceptable subgrade surface on which to commence backfilling for the floor slab. The upper 150 mm of sub-slab fill should consist of a crushed stone in accordance with Saskatchewan Provincial Standard Specifications (3505) for Granular Base Course. All backfill material within the footprint of the proposed buildings should be placed in maximum 300 mm thick loose lifts and compacted to at least 98% of its SPMDD.

Any soft areas should be removed and backfilled with appropriate backfill material. Saskatchewan Provincial Standard Specifications (3510) for Sand Base Course, with a maximum particle size of 50 mm, is recommended for backfilling below the floor slab.

4.6 PAVEMENT DESIGN

Car only parking areas, access lanes and heavy truck parking areas are anticipated at this site. The proposed pavement structures are shown in **Table B. B** and **Table C**.

Table B. Recommended Pavement Structure (Car)

Car Only Parking Areas	
Thickness (mm)	Material Description
50	Wear Course - HL-3 or Superpave 12.5 Asphaltic Concrete
150	BASE – Sask Spec 3505 for Granular Base course Crushed Stone
300	SUBBASE - Sask Spec 3510 for Sand Base course
	SUBGRADE - Either fill, in situ soil, or Sask 3510 Sand Base course material placed over in situ soil/ fill

Table C. Recommended Pavement Structure (Heavy Trucks & Access Lanes)

Access Lanes and Heavy Truck Parking Areas	
Thickness (mm)	Material Description
40	Wear Course - Superpave 12.5 Asphaltic Concrete
50	Binder Course - Superpave 19.0 Asphaltic Concrete
150	BASE – Sask Spec 3505 for Granular Base course Crushed Stone
450	SUBBASE - Sask Spec 3510 for Sand Base course
	SUBGRADE - Either fill, in situ soil, or Sask 3510 Sand Base course material placed over in situ soil/fill

Minimum Performance Graded (PG) 58-34 asphalt cement should be used for this project.

If soft spots develop in the subgrade during compaction or due to construction traffic, the affected areas should be excavated and replaced with Sask Spec 3510 for Sand Base course material. The pavement granular base and subbase should be placed in maximum 300 mm thick lifts and compacted to a minimum of 98% of the material’s SPMDD using suitable vibratory equipment.

4.6.1 Pavement Structure Drainage

Satisfactory performance of the pavement structure is largely dependent on keeping the contact zone between the subgrade material and the base stone in a dry condition. Failure to provide adequate drainage under conditions of heavy wheel loading can result in the fine subgrade soil being pumped into the voids in the stone subbase, thereby reducing the load bearing capacity.

Due to the impervious nature of the subgrade materials consideration should be given to installing subdrains during the pavement construction. These drains should be installed at each catch basin, be at least 3 m long and should extend in four orthogonal directions or longitudinally when placed along a curb. Along local streets, the drains should be placed along the edges of the pavement. The subdrain inverts

should be approximately 300 mm below subgrade level. The subgrade surface should be crowned to promote water flow to the drainage lines.

5 Design and Construction Precautions

5.1 FOUNDATION DRAINAGE AND BACKFILL

It is recommended that a perimeter foundation drainage system be provided for the proposed structures. The system should consist of a 150 mm diameter perforated corrugated plastic pipe, surrounded on all sides by 150 mm of 19 mm clear crushed stone, placed at the footing level around the exterior perimeter of the structures. The pipe should have a positive outlet, such as a gravity connection to the storm sewer.

Backfill against the exterior sides of the foundation walls should consist of free draining, non-frost susceptible granular materials, such as clean sand or Sask Spec 3510 for Sand Base course material. The greater part of the site excavated materials will be frost susceptible and, as such, are not recommended for re-use as backfill against the foundation walls. A drainage geocomposite, such as Miradrain G100N or Delta Drain 6000, connected to the perimeter foundation drainage system is recommended.

5.1.1 Concrete Sidewalks Adjacent to Building

To avoid differential settlements within the proposed sidewalks adjacent to the proposed buildings, it is recommended that the upper 600 mm of backfill placed below the concrete sidewalks adjacent to the building footprint to consist of free draining, non frost susceptible material such as, – Sask Spec 3505 for Granular Base course or Sask Spec 3510 for Sand Base course. The granular material should be placed in maximum 300 mm loose lifts and compacted to 95% of the material's SPMDD using suitable compaction equipment. The subgrade material should be shaped to promote positive drainage towards the building's perimeter drainage pipe.

5.2 PROTECTION OF FOOTINGS AGAINST FROST ACTION

Perimeter footings of heated structures are required to be insulated against the deleterious effect of frost action. A minimum of 1.5 m thick soil cover (or equivalent) should be provided in this regard.

Exterior unheated footings, such as those for isolated exterior piers, are more prone to deleterious movement associated with frost action than the exterior walls of the structure proper and require additional protection, such as soil cover of 2.1 m or a combination of soil cover and foundation insulation.

5.3 EXCAVATION SIDE SLOPES

The side slopes of excavations in the soil and fill overburden materials should either be cut back at acceptable slopes or should be retained by shoring systems from the start of the excavation until the structure is backfilled. It is assumed that sufficient room will be available for the greater part of the excavation to be undertaken by open-cut methods (i.e., unsupported excavations).

The excavation side slopes above the groundwater level extending to a maximum depth of 3 m should be cut back at 1H:1V or flatter. The flatter slope is required for excavation below groundwater level. The subsoil at this site is considered to be mainly a Type 2 and 3 soil according to the Occupational Health and Safety Act and Regulations for Construction Projects.

Excavated soil should not be stockpiled directly at the top of excavations and heavy equipment should be kept away from the excavation sides.

Slopes in excess of 3 m in height should be periodically inspected by the geotechnical consultant in order to detect if the slopes are exhibiting signs of distress.

It is recommended that a trench box be used at all times to protect personnel working in trenches with steep or vertical sides. It is expected that services will be installed by “cut and cover” methods and excavations will not be left open for extended periods of time.

5.4 PIPE BEDDING AND BACKFILL

Bedding and backfill materials should be in accordance with the most recent Material Specifications & Standard Detail Drawings. At least 150 mm of Sask Spec 3505 for Granular Materials should be used for bedding for sewer and water pipes when placed on soil subgrade. The bedding should extend to the spring line of the pipe. Cover material, from the spring line to at least 300 mm above the obvert of the pipe should consist of Sask Spec 3505 for Granular materials (concrete or PSM PVC pipes) or sand (concrete pipe). The bedding and cover materials should be placed in maximum 225 mm thick lifts compacted to a minimum of 95% of the material’s SPMDD.

Generally, it should be possible to re-use the moist, not wet, silty clay above the cover material if the excavation and filling operations are carried out in dry weather conditions. The wet silty clay should be given a sufficient drying period to decrease its moisture content to an acceptable level to make compaction possible prior to being reused.

Where hard surface areas are considered above the trench backfill, the trench backfill material within the frost zone (about 1.8 m below finished grade) should match the soils exposed at the trench walls to minimize differential frost heaving. The trench backfill should be placed in maximum 300 mm thick loose lifts and compacted to a minimum of 95% of the material’s SPMDD.

5.5 GROUNDWATER CONTROL

5.5.1 Groundwater Control for Building Construction

It is anticipated that groundwater infiltration into the excavations should be low to moderate and controllable using open sumps. Pumping from open sumps should be sufficient to control the groundwater influx through the sides of shallow excavations. The contractor should be prepared to direct water away from all bearing surfaces and subgrades, regardless of the source, to prevent disturbance to the founding medium.

5.6 WINTER CONSTRUCTION

Precautions must be taken if winter construction is considered for this project. The subsoil conditions at this site consist of frost susceptible materials. In the presence of water and freezing conditions, ice could form within the soil mass. Heaving and settlement upon thawing could occur.

In the event of construction during sub-zero temperatures, the founding stratum should be protected from freezing temperatures by the use of straw, propane heaters and tarpaulins or other suitable means. In this regard, the base of the excavations should be insulated from sub-zero temperatures immediately upon exposure and until such time as heat is adequately supplied to the building and the footings are protected with sufficient soil cover to prevent freezing at founding level.

Trench excavations and pavement construction are also difficult activities to complete during freezing conditions without introducing frost in the subgrade or in the excavation walls and bottoms. Precautions should be taken if such activities are to be carried out during freezing conditions. Additional information could be provided, if required.

5.7 SULPHATE

The results of analytical testing show that the sulphate content is less than 0.1%. This result is indicative that Type 10 Portland cement (normal cement) would be appropriate for this site.

5.8 LANDSCAPING CONSIDERATIONS

The proposed development is located in an area of medium sensitive silty clay deposits for tree planting. For the proposed development, it is expected that final grade raises will be approximately 1 to 2 m above existing grades. Therefore, it is expected that the combination of the proposed finished grades and the thickness of the underlying weathered clay crust will provide approximately 3 to 4 m thick buffer to the underlying firm silty clay deposit.

Tree planting for this subject development should be limited to low water demand trees. The minimum permissible distance from the foundation will depend on the nature of the tree, the depth of the clay crust and the final grade raise in relation to the permissible grade raise. A minimum permissible distance of 5 m from the foundation wall is recommended for a tree planting.

It is well documented in the literature, and is our experience, that fast-growing trees located near buildings founded on cohesive soils that shrink on drying can result in long-term differential settlements of the structures. Tree varieties that have the most pronounced effect on foundations are seen to consist of poplars, willows, and some maples (i.e., Manitoba Maples) and, as such, they should not be considered in the landscaping design.

6 Recommendations

It is a requirement for the foundation design data provided herein to be applicable that the following material testing and observation program be performed by the geotechnical consultant:

- Observation of all bearing surfaces prior to the placement of concrete.
- Sampling and testing of the concrete and fill materials used.
- Periodic observation of the condition of unsupported excavation side slopes in excess of 3 m in height, if applicable.
- Observation of all subgrades prior to backfilling.
- Field density tests to determine the level of compaction achieved.
- Sampling and testing of the bituminous concrete including mix design reviews.

A report confirming that these works have been conducted in general accordance with our recommendations could be issued upon the completion of a satisfactory inspection program by the geotechnical consultant.

7 Statement of Limitations

The recommendations made in this report are in accordance with our present understanding of the project. We request that we be permitted to review the grading plan once available and our recommendations when the drawings and specifications are complete.

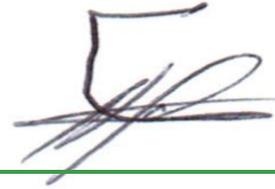
A geotechnical investigation of this nature is a limited sampling of a site. The recommendations are based on information gathered at the specific test locations and can only be extrapolated to an undefined limited area around the test locations. The extent of the limited area depends on the soil, bedrock, and groundwater conditions, as well as the history of the site reflecting natural, construction, and other activities. Should any conditions at the site be encountered which differ from those at the test locations, we request notification immediately in order to permit reassessment of our recommendations.

The present report applies only to the project described in this document. Use of this report for purposes other than those described herein or by person(s) other than Shercom Industries is not authorized without review by ECO ENGINEERING LTD. for the applicability of our recommendations to the altered use of the report.

We, the undersigned, declare that the information contained within this submission is, to the best of our knowledge, complete and accurate, and has been prepared in accordance with the professional and/or regulatory standard for this submission.



Written by:
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Senior Geotechnical Engineer
ECO ENGINEERING LTD.
Saskatoon, SK



Reviewed and approved by:
Lotfollah Haji, M.Eng., P.Eng. (SK)
General Manager
ECO ENGINEERING LTD.
Saskatoon, SK



Association of Professional Engineers & Geoscientists
of Saskatchewan

CERTIFICATE OF AUTHORIZATION
ECO Engineering Ltd.
Number 34335

Permission to Consult held by:

Discipline	Sk. Reg. No.	Signature
Environment	06811	

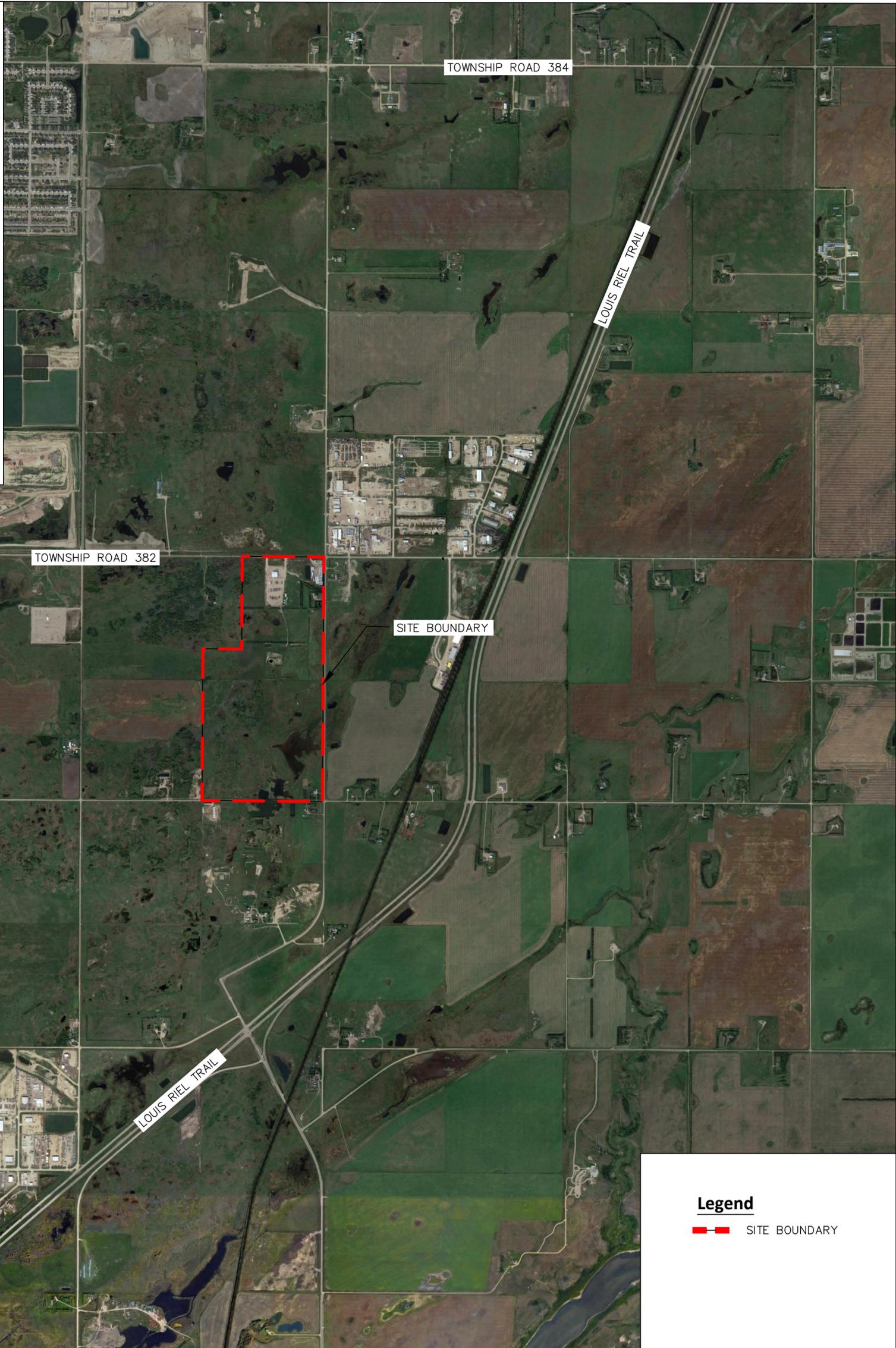
Figures



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Key Map of Saskatchewan
★ Site Location



Legend

--- SITE BOUNDARY

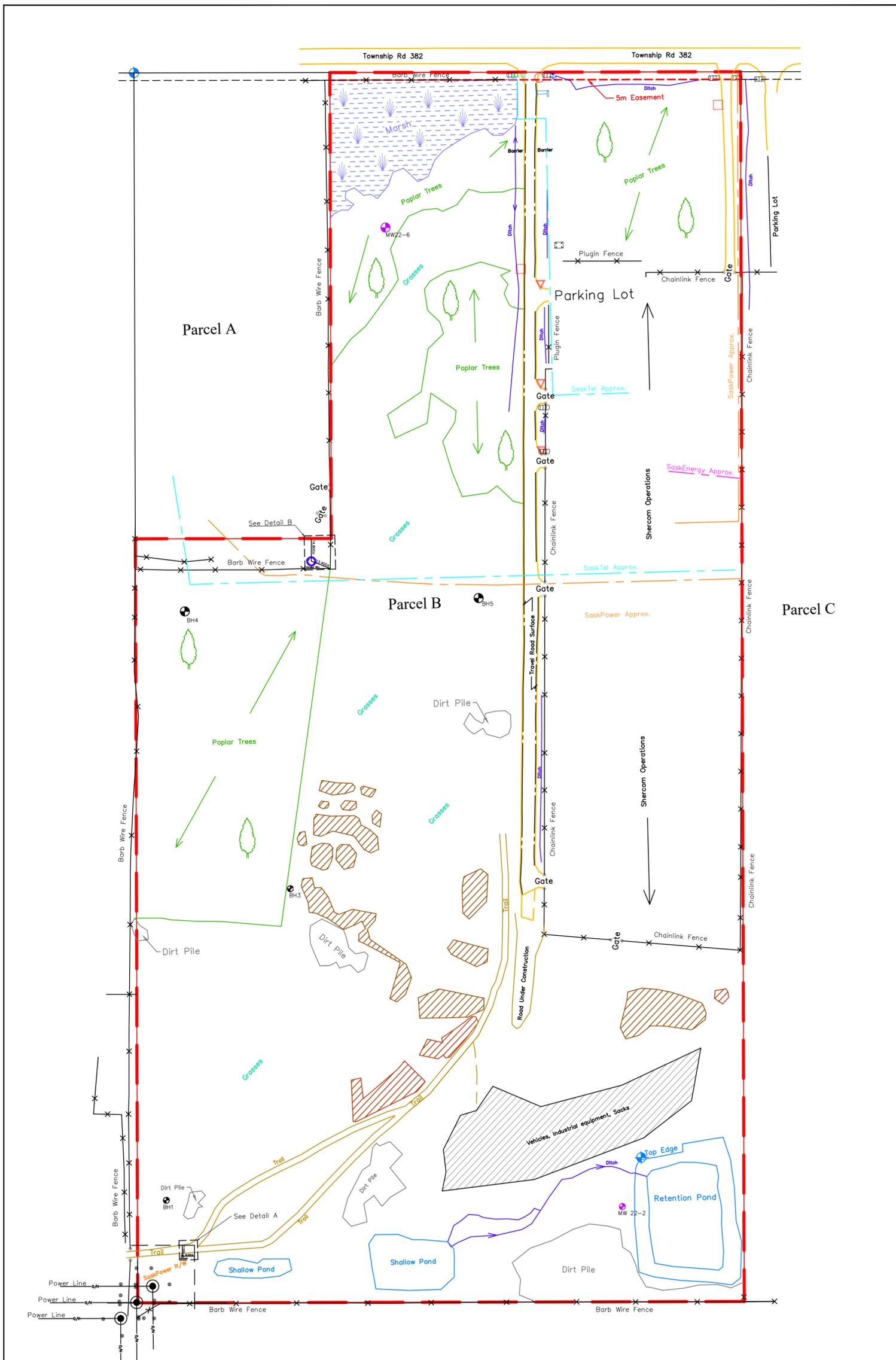
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REV	DESCRIPTION	BY	DATE

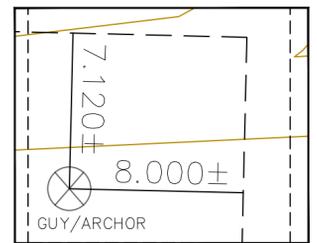
CONSULTANT ECO ENGINEERING LTD.	STAMP Association of Professional Engineers & Geoscientists of Saskatchewan CERTIFICATE OF AUTHORIZATION ECO Engineering Ltd. Number 34335 Permission to Consult held by: Discipline: Environment, Sk. Reg. No.: 06811, Signature: [Signature]	PROJECT NAME SHERCOM INDUSTRIES SUB-DIVISION PLAN (GEOTECHNICAL ASSESSMENT)		PROJECT NO. 52B	SCALE: NTS	SIZE: 17X22
		FIGURE TITLE LOCATION PLAN		CLIENT		FIGURE NO. 1
DRAWN BY: CG	CHECKED BY: LH	APPROVED BY: LH	DATE: June, 2022			



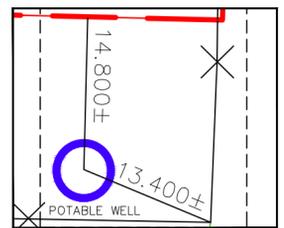


Legend

- SITE BOUNDARY
- TIRE PILE
- SACK PILE
- MUSTER POINT
- TOWNSHIP SIGN
- SHERCOM SIGN
- STOP SIGN
- SPEED SIGN
- YIELD SIGN
- BOREHOLE
- MONITORING WELL
- WATER VALVE
- WELL
- BENCH MARK
- GUY/ANCHOR
- POWER POLE
- CULVERT
- DITCH LINE
- ROAD
- FENCE



**DETAIL A
NTS**



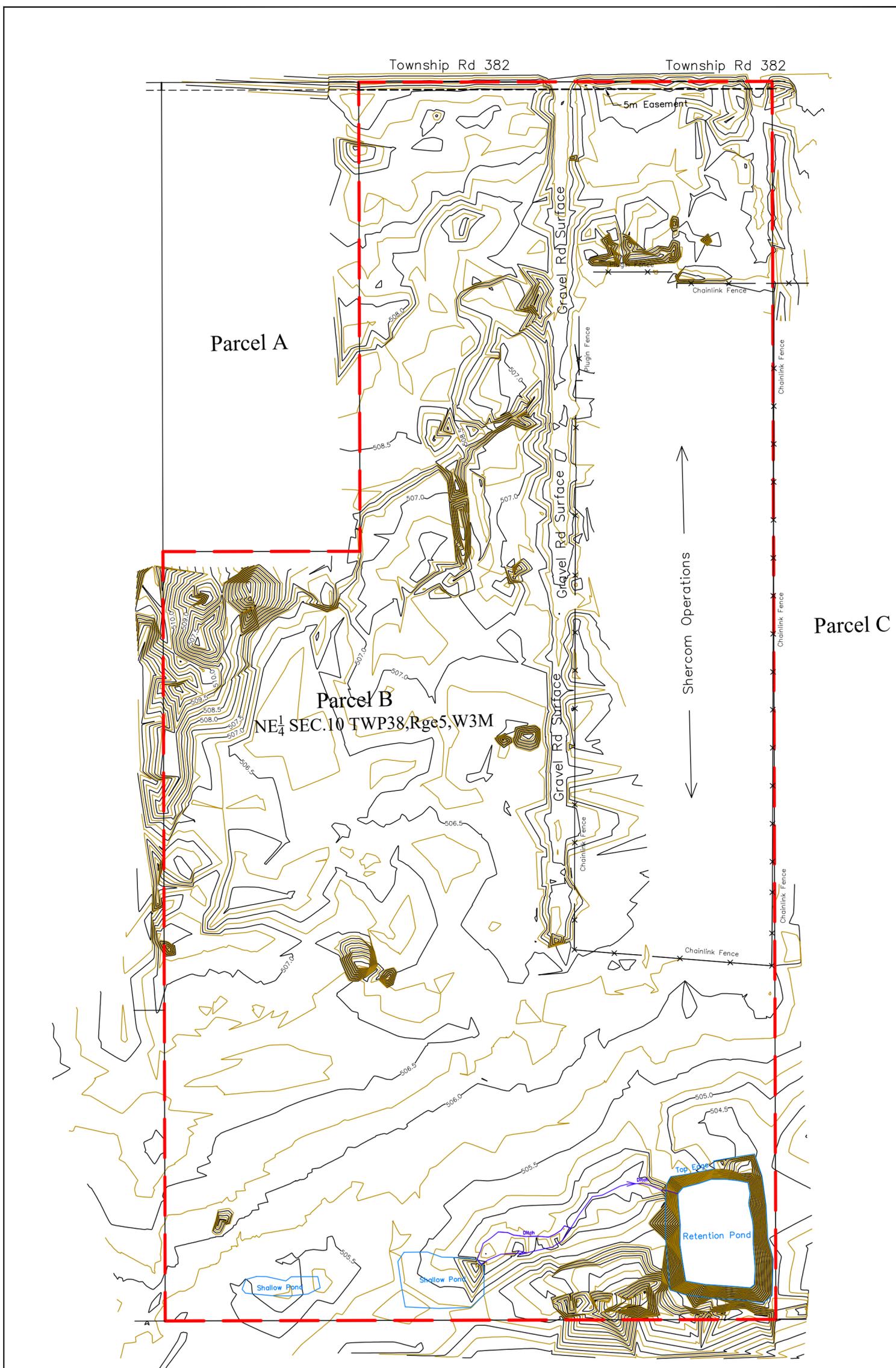
**DETAIL B
NTS**

- Notes:**
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 - 2) SaskTel/SaskPower/Saskenergy lines are approximate.
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1	TITLEBLOCK	CG	05.24.22
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	STAMP Association of Professional Engineers & Geoscientists of Saskatchewan CERTIFICATE OF AUTHORIZATION ECO Engineering Ltd. Number 34335 Permission to Consult held by: Discipline: Environment Sk. Reg. No.: 06811 Signature:	PROJECT NAME SHERCOM INDUSTRIES SUB-DIVISION PLAN (GEOTECHNICAL ASSESSMENT)	PROJECT NO. 52B	SCALE: 1:2000	SIZE: 17X22
	FIGURE TITLE SITE PLAN		CLIENT		
DRAWN BY: CG	CHECKED BY: LH	APPROVED BY: LH	DATE: March 30, 2022		
		FIGURE NO. 2			



Legend

- - - SITE BOUNDARY
- 540 - CONTOUR ELEVATION

Notes:

- 1) Measurements are in metres.
- 2) Major contour interval = 0.5m. Minor contour interval = 0.25m.
- 3) This plan is not to be used for legal or construction purposes. Discussion only.

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ECO Engineering Ltd.
Number 34335

Permission to Consult held by:

Discipline	Sk. Reg. No.	Signature
Environment	06811	

PROJECT NAME **SHERCOM INDUSTRIES
SUB-DIVISION PLAN
(GEOTECHNICAL ASSESSMENT)**

FIGURE TITLE **TOPOGRAPHIC SITE MAP**

DRAWN BY: CG	CHECKED BY: LH	APPROVED BY: LH	DATE: June, 2022
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PROJECT NO. **52B**

SCALE: **1:2000**
SIZE: **17X22**

CLIENT

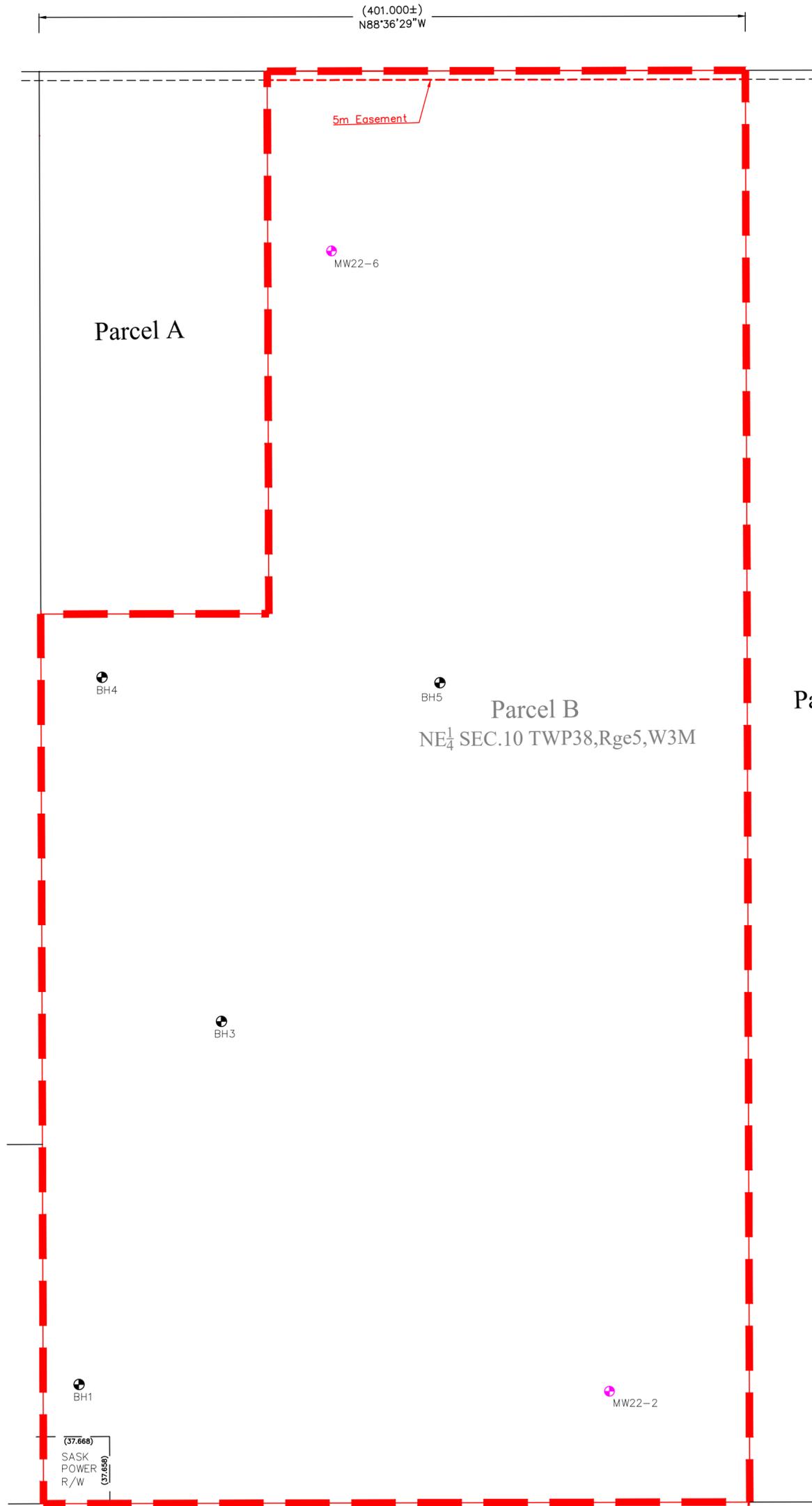
FIGURE NO. **3**



Appendix A – KEY PLAN



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Legend

- - - SITE BOUNDARY
- BOREHOLE
- MONITORING WELL

Notes:
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		FIGURE TITLE KEY PLAN		CLIENT		FIGURE NO.
		DRAWN BY: CG	CHECKED BY: LH	APPROVED BY: LH	DATE: June, 2022	



Appendix B – BOREHOLE LOGS



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Location: 5790489.9 N; 388747.2 E

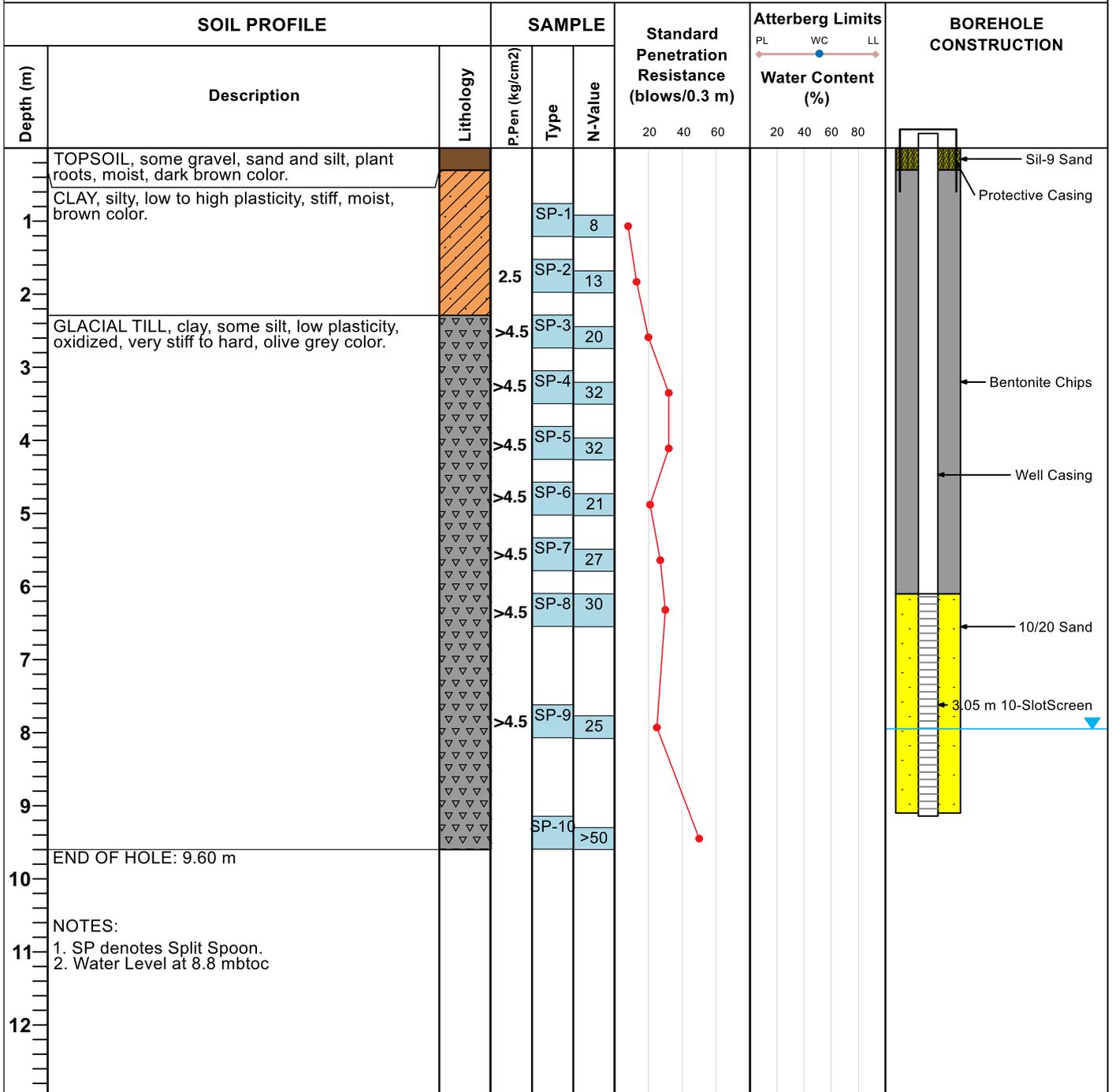
Datum: Geodetic, UTM NAD83

Borehole Log: BH-2 (MW22-2)

Ground Elevation: 505.41 masl

Project No.: 52B

Drill Date: April 08, 2022



Drill Method: Direct Push (1 inch)
Drill Rig: Track-Mounted Drill Rig

Sheet: Page 1 of 1
Logged By: RS
Drafted By: RS
Approved By: LH



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Location: 5790884.2 N; 388466.9 E

Datum: Geodetic, UTM NAD83

Borehole Log: BH-4

Ground Elevation: 507.08 masl

Project No.: 52B

Drill Date: April 07, 2022

SOIL PROFILE			SAMPLE			Standard Penetration Resistance (blows/0.3 m)	Atterberg Limits PL WC LL Water Content (%)	BOREHOLE CONSTRUCTION
Depth (m)	Description	Lithology	P.Pen (kg/cm ²)	Type	N-Value			
0	TOPSOIL, plant roots, moist, dark brown color. CLAY, some gravel, very stiff, dry, brown color.		>4.5	SP-1	17			Soil Cuttings
1								Bentonite Chips
2	GLACIAL TILL, clay, some silt, stiff to hard, low plasticity, dark grey color.		2.5	SP-2	13			
3				SP-3	10			
4			1.25	SP-4	16			
5			2.0	SP-5	31			
6				SP-6	23			
7			4.0	SP-7	26			
8			4.0	SP-8	27			
9			>4.5	SP-9	26			
10	END OF HOLE 9.6 m		>4.5	SP-10	46			
11	NOTES: 1. ST denotes Shelby Tube. 2. Borehole was dry.							
12								

Drill Method: Direct Push (1 inch)
Drill Rig: Track-Mounted Drill Rig

Sheet: Page 1 of 1
Logged By: RS
Drafted By: RS
Approved By: LH



ECO ENGINEERING LTD.

Location: 5790809.3 N; 388662.6 E

Datum: Geodetic, UTM NAD83

Borehole Log: BH-5

Ground Elevation: 506.96 masl

Project No.: 52B

Drill Date: April 07, 2022

Depth (m)	SOIL PROFILE Description	Lithology	SAMPLE			Standard Penetration Resistance (blows/0.3 m)	Atterberg Limits			BOREHOLE CONSTRUCTION
			P.Pen (kg/cm ²)	Type	N-Value		PL	WC	LL	
0	TOPSOIL, plant roots, moist, dark brown color.									
1	CLAY, silty, some gravel, moist, low to high plasticity, firm to hard, cohesive, dark brown color.	[Diagonal Hatching]	0.5	SP-1	5					
2			1.5	SP-2	9					
3			1.0	SP-3	7					
3				TW						
4			3.5	SP-4	40					
5	GLACIAL TILL, clay, some silt, low plasticity, very stiff to hard, dark grey color.	[Downward Triangles]		SP-5	34					
5			4.5	SP-6	30					
6	-wet around 6 m.		4.5	SP-7	37					
8			4.5	SP-8	36					
9			4.5	SP-9	38					
10	END OF HOLE 9.60 m									
11	NOTES: 1. TW denotes Thin Wall Shelby Tube. 2. SP denotes Split Spoon. 3. Borehole was dry.									

Drill Method: Direct Push (1 inch)
Drill Rig: Track-Mounted Drill Rig

Sheet: Page 1 of 1
Logged By: RS
Drafted By: RS
Approved By: LH



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Location: 5791133.0 N; 388603.6 E

Datum: Geodetic, UTM NAD83

Borehole Log: BH-6 (MW22-6)

Ground Elevation: 508.26 masl

Project No.: 52B

Drill Date: April 07, 2022

Depth (m)	SOIL PROFILE Description	Lithology	SAMPLE		Standard Penetration Resistance (blows/0.3 m)	Atterberg Limits			BOREHOLE CONSTRUCTION
			P.Pen (kg/cm ²)	N-Value		PL	WC	LL	
0	TOPSOIL, plant roots, moist, dark brown color.								
1	CLAY, silty, moist, high plasticity, cohesive, firm to very stiff, brown color.		0.5	SP-1 6					Sil-9 Sand Protective Casing
2	-Becomes silty with some sand around 0.6 m, wet, very soft, low to medium plasticity, oxidized, brown color,		0.5	SP-2 20					Bentonite Chips Well Casing
3	SAND, fine-grained, silty, wet, cohesive, brown color.		2.0	SP-3 22					
4	GLACIAL TILL, clayey sand/silt, trace gravel, compact to dense, low plasticity, dark grey color.		0.5	SP-4 24					10/20 Sand 1.52 m 10-SlotScreen
5				SP-5 17					
6				SP-6 26					
7				SP-7 31					
8				SP-8 29					
9				SP-9 33					Bentonite Chips
10	END OF HOLE 9.60 m			SP-10 41					
11	NOTES: 1. SP denotes split spoon. 2. Borehole dry at the bottom.								
12									

Drill Method: Direct Push (1 inch)

Drill Rig: Track-Mounted Drill Rig

Sheet: Page 1 of 1

Logged By: RS

Drafted By: RS

Approved By: LH

SYMBOLS AND TERMS

SOIL DESCRIPTION

Behavioural properties, such as structure and strength, take precedence over particle gradation in describing soils. Terminology describing soil structure are as follows:

Desiccated	-	having visible signs of weathering by oxidation of clay minerals, shrinkage cracks, etc.
Fissured	-	having cracks, and hence a blocky structure.
Varved	-	composed of regular alternating layers of silt and clay.
Stratified	-	composed of alternating layers of different soil types, e.g. silt and sand or silt and clay.
Well-Graded	-	Having wide range in grain sizes and substantial amounts of all intermediate particle sizes (see Grain Size Distribution).
Uniformly-Graded	-	Predominantly of one grain size (see Grain Size Distribution).

The standard terminology to describe the strength of cohesionless soils is the relative density, usually inferred from the results of the Standard Penetration Test (SPT) 'N' value. The SPT N value is the number of blows of a 63.5 kg hammer, falling 760 mm, required to drive a 51 mm O.D. split spoon sampler 300 mm into the soil after an initial penetration of 150 mm.

Relative Density	'N' Value	Relative Density %
Very Loose	<4	<15
Loose	4-10	15-35
Compact	10-30	35-65
Dense	30-50	65-85
Very Dense	>50	>85

The standard terminology to describe the strength of cohesive soils is the consistency, which is based on the undisturbed undrained shear strength as measured by the in situ or laboratory vane tests, penetrometer tests, unconfined compression tests, or occasionally by Standard Penetration Tests.

Consistency	Undrained Shear Strength (kPa)	'N' Value
Very Soft	<12	<2
Soft	12-25	2-4
Firm	25-50	4-8
Stiff	50-100	8-15
Very Stiff	100-200	15-30
Hard	>200	>30

SYMBOLS AND TERMS (continued)

SOIL DESCRIPTION (continued)

Cohesive soils can also be classified according to their “sensitivity”. The sensitivity is the ratio between the undisturbed undrained shear strength and the remoulded undrained shear strength of the soil.

Terminology used for describing soil strata based upon texture, or the proportion of individual particle sizes present is provided on the Textural Soil Classification Chart at the end of this information package.

ROCK DESCRIPTION

The structural description of the bedrock mass is based on the Rock Quality Designation (RQD).

The RQD classification is based on a modified core recovery percentage in which all pieces of sound core over 100 mm long are counted as recovery. The smaller pieces are considered to be a result of closely-spaced discontinuities (resulting from shearing, jointing, faulting, or weathering) in the rock mass and are not counted. RQD is ideally determined from NXL size core. However, it can be used on smaller core sizes, such as BX, if the bulk of the fractures caused by drilling stresses (called “mechanical breaks”) are easily distinguishable from the normal in situ fractures.

RQD %	ROCK QUALITY
90-100	Excellent, intact, very sound
75-90	Good, massive, moderately jointed or sound
50-75	Fair, blocky and seamy, fractured
25-50	Poor, shattered and very seamy or blocky, severely fractured
0-25	Very poor, crushed, very severely fractured

SAMPLE TYPES

SS	-	Split spoon sample (obtained in conjunction with the performing of the Standard Penetration Test (SPT))
TW	-	Thin wall tube or Shelby tube
PS	-	Piston sample
AU	-	Auger sample or bulk sample
WS	-	Wash sample
RC	-	Rock core sample (Core bit size AXT, BXL, etc.). Rock core samples are obtained with the use of standard diamond drilling bits.

SYMBOLS AND TERMS (continued)

GRAIN SIZE DISTRIBUTION

MC%	-	Natural moisture content or water content of sample, %
LL	-	Liquid Limit, % (water content above which soil behaves as a liquid)
PL	-	Plastic limit, % (water content above which soil behaves plastically)
PI	-	Plasticity index, % (difference between LL and PL)
D _{xx}	-	Grain size which xx% of the soil, by weight, is of finer grain sizes These grain size descriptions are not used below 0.075 mm grain size
D ₁₀	-	Grain size at which 10% of the soil is finer (effective grain size)
D ₆₀	-	Grain size at which 60% of the soil is finer
C _c	-	Concavity coefficient = $(D_{30})^2 / (D_{10} \times D_{60})$
C _u	-	Uniformity coefficient = D_{60} / D_{10}

C_c and C_u are used to assess the grading of sands and gravels:

Well-graded gravels have: $1 < C_c < 3$ and $C_u > 4$

Well-graded sands have: $1 < C_c < 3$ and $C_u > 6$

Sands and gravels not meeting the above requirements are poorly-graded or uniformly-graded.

C_c and C_u are not applicable for the description of soils with more than 10% silt and clay (more than 10% finer than 0.075 mm or the #200 sieve)

CONSOLIDATION TEST

p' _o	-	Present effective overburden pressure at sample depth
p' _c	-	Preconsolidation pressure of (maximum past pressure on) sample
C _{cr}	-	Recompression index (in effect at pressures below p' _c)
C _c	-	Compression index (in effect at pressures above p' _c)
OC Ratio		Overconsolidation ratio = p'_c / p'_o
Void Ratio		Initial sample void ratio = volume of voids / volume of solids
W _o	-	Initial water content (at start of consolidation test)

PERMEABILITY TEST

k	-	Coefficient of permeability or hydraulic conductivity is a measure of the ability of water to flow through the sample. The value of k is measured at a specified unit weight for (remoulded) cohesionless soil samples, because its value will vary with the unit weight or density of the sample during the test.
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SYMBOLS AND TERMS (continued)

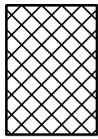
STRATA PLOT



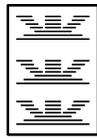
Topsoil



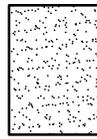
Asphalt



Fill



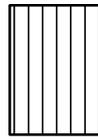
Peat



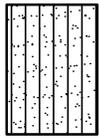
Sand



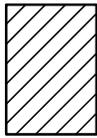
Silty Sand



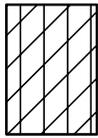
Silt



Sandy Silt



Clay



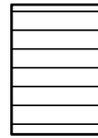
Silty Clay



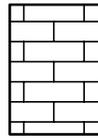
Clayey Silty Sand



Glacial Till



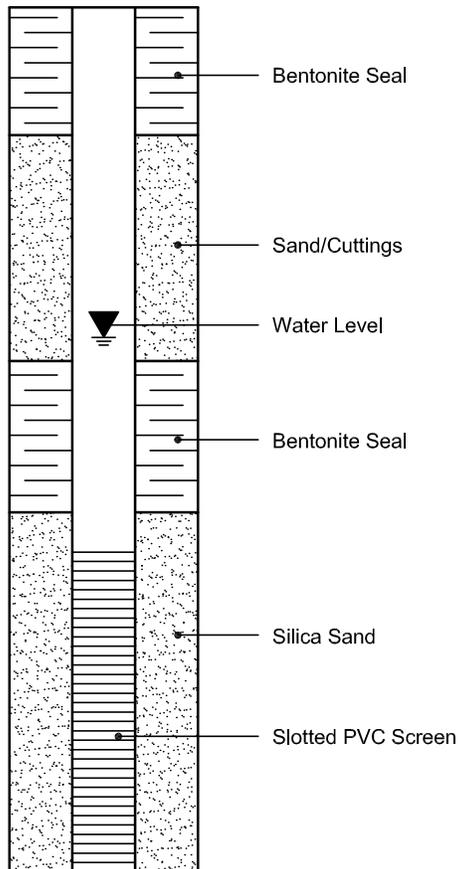
Shale



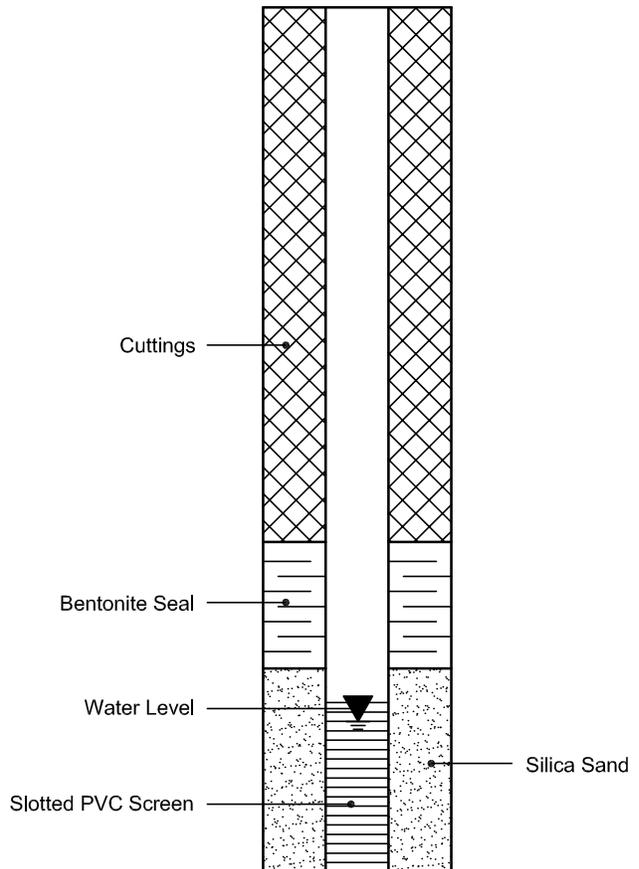
Bedrock

MONITORING WELL AND PIEZOMETER CONSTRUCTION

MONITORING WELL CONSTRUCTION



PIEZOMETER CONSTRUCTION



Unified Soil Classification System

Criteria for assigning soil symbols and descriptions				Soil classification	
				Symbol	Description
Coarse-grained soils, ≥ 50% retained on No. 200 sieve	Gravels, ≥50% coarse fraction retained on No. 4	< 5%* fines	$C_u \geq 4$ and $1 \leq C_c \leq 3$	GW	Well-graded gravel
			Not meeting all requirements for GW	GP	Poorly graded gravel
		> 12%* fines	Fines ML/MH	GM	Silty gravel
			Fines CL/CH	GC	Clayey gravel
	Sands, ≥50% coarse fraction passes No. 4	< 5%* fines	$C_u \geq 6$ and $1 \leq C_c \leq 3$	SW	Well-graded sand
			Not meeting all requirements for SW	SP	Poorly graded sand
		> 12%* fines	Fines ML/MH	SM	Silty sand
			Fines CL/CH	SC	Clayey sand
Fine-grained soils, ≥ 50% passing No. 200 sieve	Silts and clays, $LL < 50$	Inorganic	Above A line†	CL	Inorganic clay of low to med. plasticity
			Below A line†	ML	Low-compressibility silt
		Organic	$\frac{\text{Oven-dried } LL}{\text{Original } LL} < 0.75$	OL	Organic silt or clay
	Silts and clays, $LL \geq 50$	Inorganic	Above A line†	CH	Inorganic clay of high plasticity
			Below A line†	MH	High-compressibility silt
		Organic	$\frac{\text{Oven-dried } LL}{\text{Original } LL} < 0.75$	OH	Organic clay or silt
highly organic soils		Dark, odorous organic matter		Pt	Peat

*5 to 12 percent, use dual symbol.

†Hatched zone, use dual symbol.

**Appendix C – LABORATORY
CERTIFICATES OF ANALYSIS**



ECO ENGINEERING LTD.

SRC Group # 2022-4539

May 05, 2022

MPE Engineering Ltd.

MPE Engineering Ltd.
122, 103 Marquis Court
Saskatoon, SK S7P 0C4
Attn: Brett Tataryn

Sample #: **2022015432**
Date Sampled: **Apr 08, 2022**
Sample Matrix: **SOIL**
Description: **04/08/2022 7190-002-00-BH3-SPT3**

Client PO #: **W55260422**
Date Received: **Apr 26, 2022**

Analyte	Units	Result
Lab Section 2		
Sulfate, water soluble	ug/g	280

Results are reported on a dry basis.

SRC Group # 2022-4539

May 05, 2022

MPE Engineering Ltd.

Analyte Methods

Name	Units	Method
Sulfate, water soluble	ug/g	Chm-620 / Chm-517

ATTERBERG LIMITS

Project: ECO Engineering - Project 52B
Project No.: 7190-002-00
Owner: Eco Engineering
File No.: AL - 01

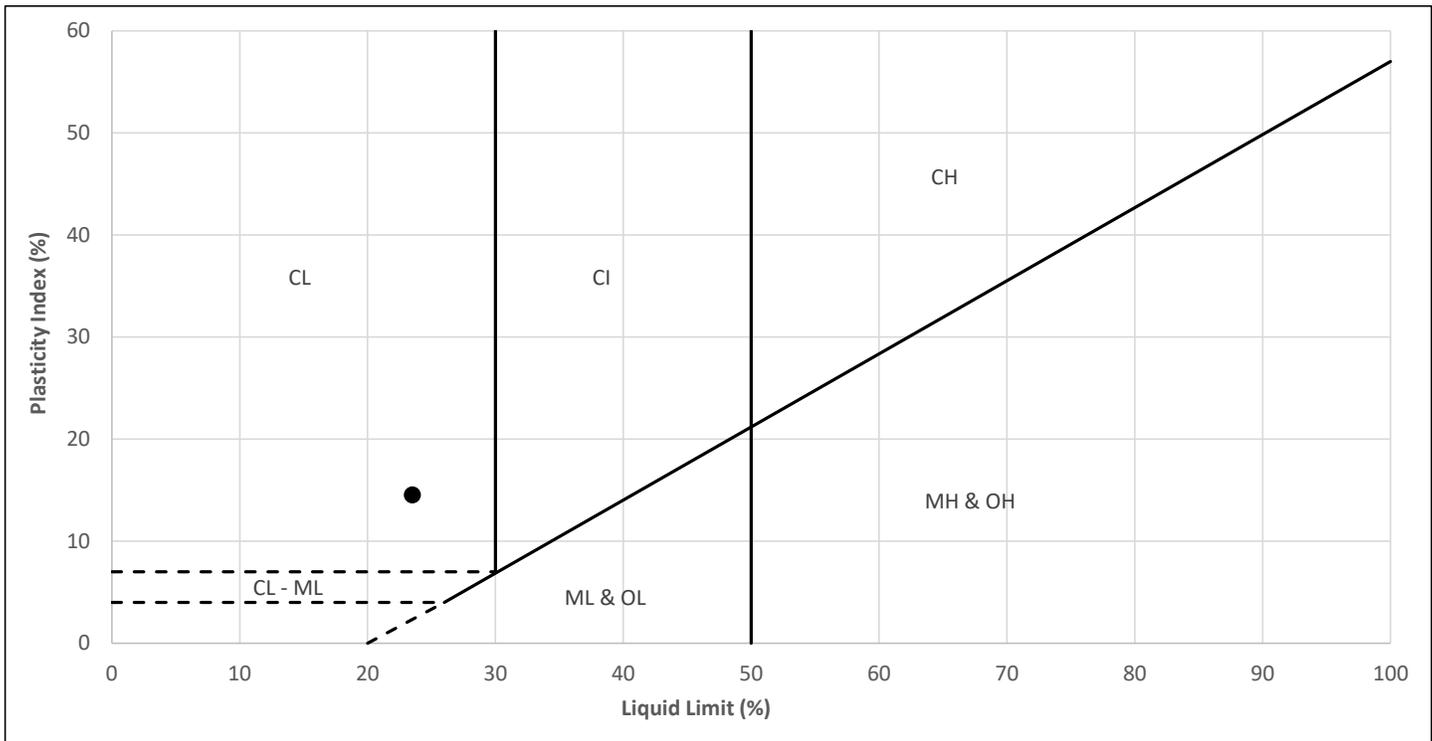
Sample #: 001SPT08
Source: BH1
Sample By: Client
Date: 9-May-22

Tested in accordance with ASTM D4318 (Liquid Limit, Plastic Limit, and Plasticity of Soils)

Sample Description: Inorganic clays of low plasticity, gravelly clays, sandy clays, silty clays, lean clays

Liquid Limit (LL)	23.5
Plastic Limit (PL)	9.0
Plasticity Index (PI)	14.6

Soil Plasticity	Low
Soil Classification	CL



Comments:

Reviewed By: _____

Chris McRae, B.Sc., P.Eng.

ATTERBERG LIMITS

Project: ECO Engineering - Project 52B
Project No.: 7190-002-00
Owner: Eco Engineering
File No.: AL - 02

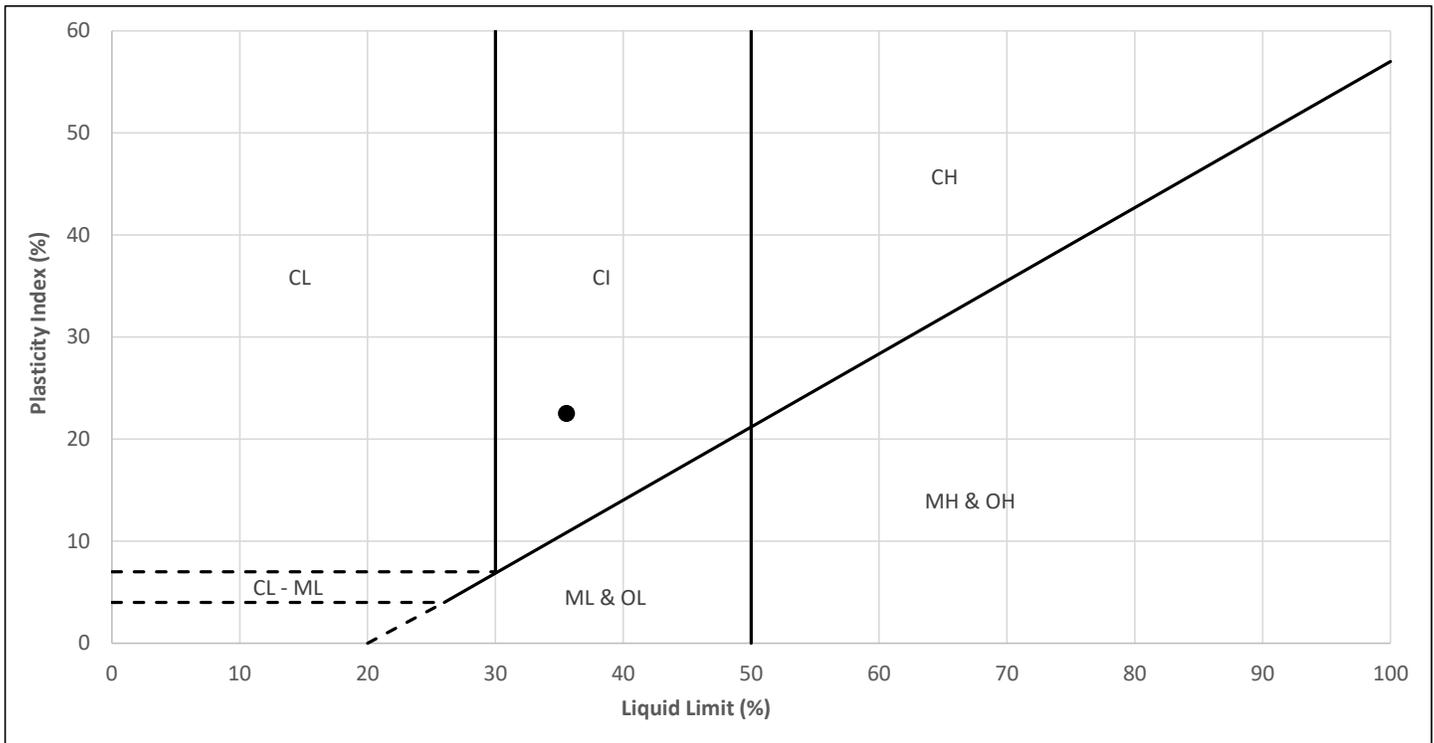
Sample #: 005ST01
Source: BH5
Sample By: Client
Date: 9-May-22

Tested in accordance with ASTM D4318 (Liquid Limit, Plastic Limit, and Plasticity of Soils)

Sample Description: Inorganic clays of medium plasticity, silty clays

Liquid Limit (LL)	35.6
Plastic Limit (PL)	13.0
Plasticity Index (PI)	22.5

Soil Plasticity	Medium
Soil Classification	CI



Comments:

Reviewed By: _____

Chris McRae, B.Sc., P.Eng.

ATTERBERG LIMITS

Project: ECO Engineering - Project 52B
Project No.: 7190-002-00
Owner: Eco Engineering
File No.: AL - 03

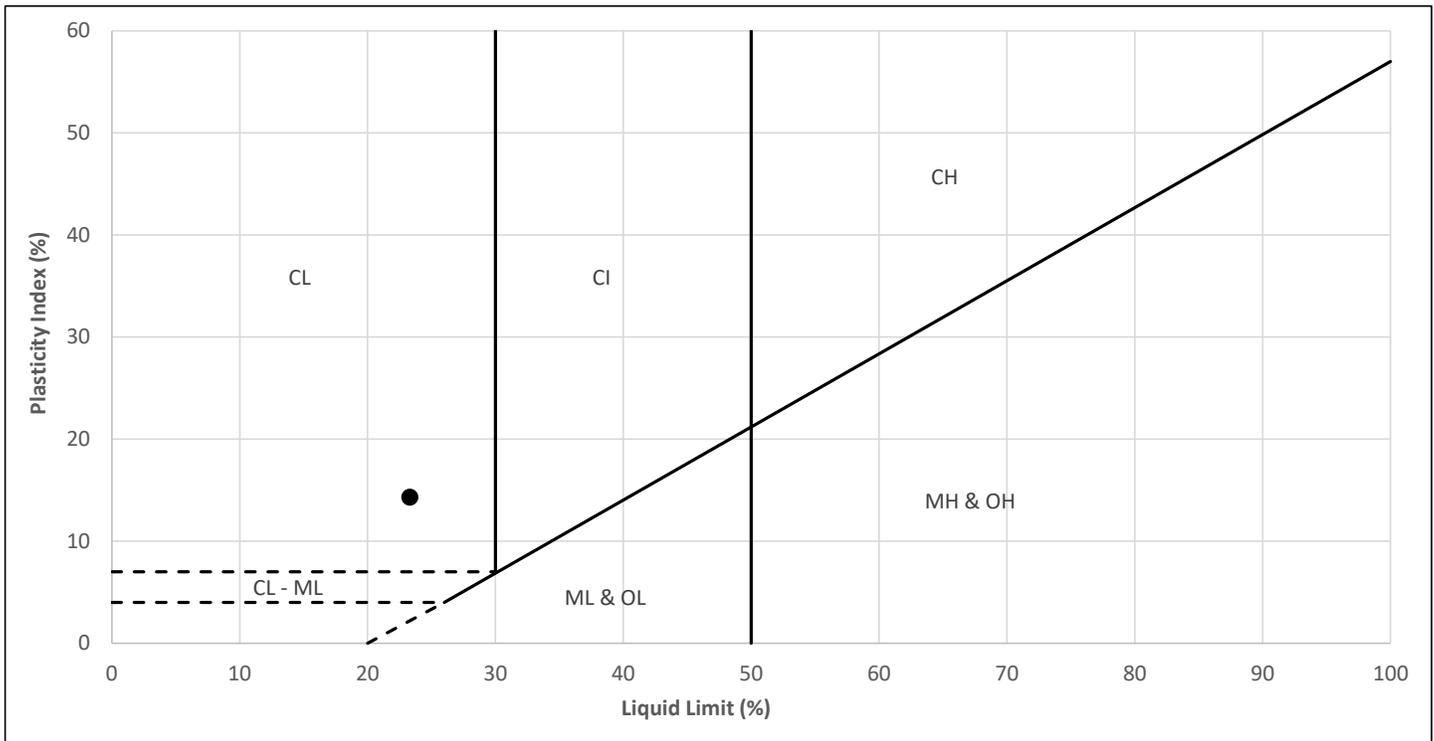
Sample #: 006SPT06
Source: BH6
Sample By: Client
Date: 9-May-22

Tested in accordance with ASTM D4318 (Liquid Limit, Plastic Limit, and Plasticity of Soils)

Sample Description: Inorganic clays of low plasticity, gravelly clays, sandy clays, silty clays, lean clays

Liquid Limit (LL)	23.3
Plastic Limit (PL)	9.0
Plasticity Index (PI)	14.3

Soil Plasticity	Low
Soil Classification	CL



Comments:

Reviewed By: _____

Chris McRae, B.Sc., P.Eng.

ATTERBERG LIMITS

Project: ECO Engineering - Project 52B
Project No.: 7190-002-00
Owner: Eco Engineering
File No.: AL - 04

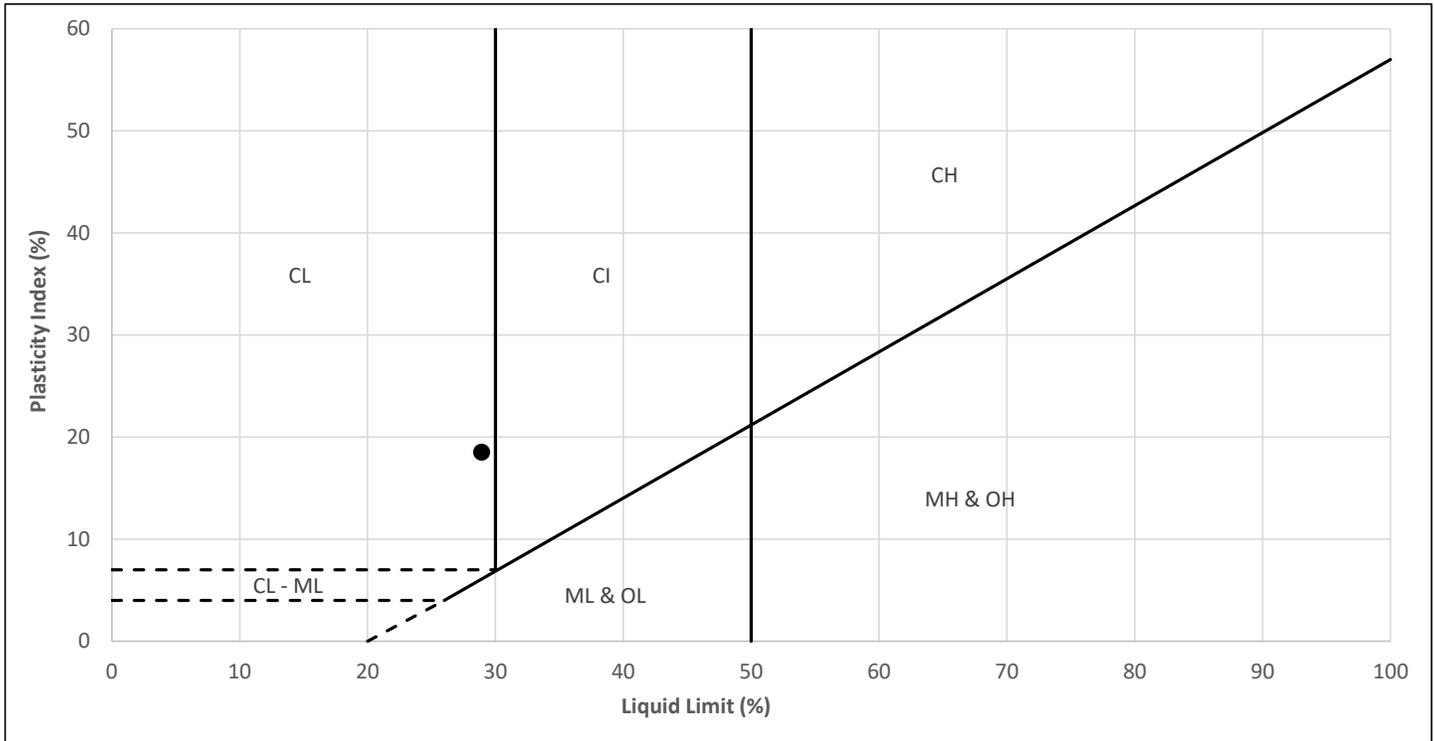
Sample #: 001SPT02
Source: BH1
Sample By: Client
Date: 9-May-22

Tested in accordance with ASTM D4318 (Liquid Limit, Plastic Limit, and Plasticity of Soils)

Sample Description: Inorganic clays of low plasticity, gravelly clays, sandy clays, silty clays, lean clays

Liquid Limit (LL)	28.9
Plastic Limit (PL)	10.4
Plasticity Index (PI)	18.5

Soil Plasticity	Low
Soil Classification	CL



Comments:

Reviewed By: _____

Chris McRae, B.Sc., P.Eng.

ATTERBERG LIMITS

Project: ECO Engineering - Project 52B
Project No.: 7190-002-00
Owner: ECO Engineering
File No.: AL - 05

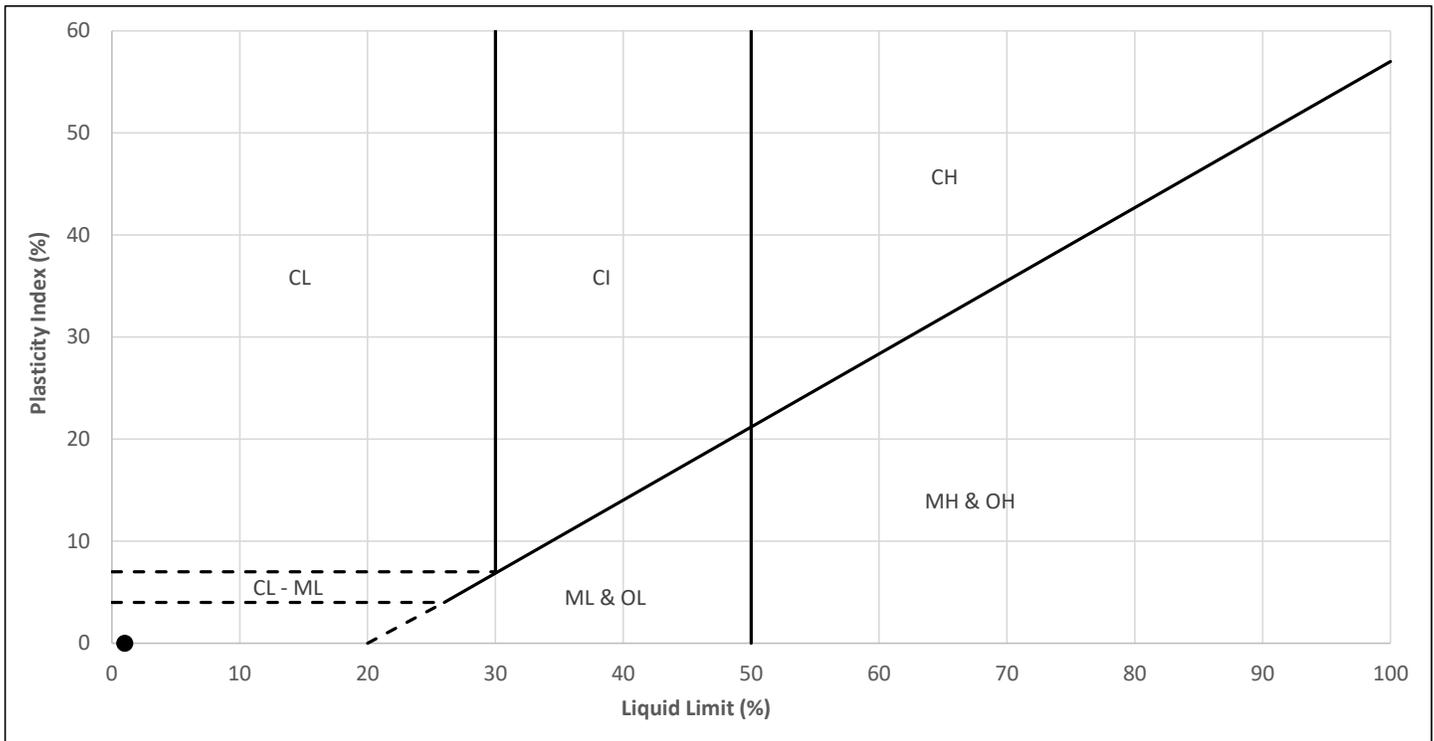
Sample #: 000SPT05
Source: BH6
Sample By: Client
Date: 9-May-22

Tested in accordance with ASTM D4318 (Liquid Limit, Plastic Limit, and Plasticity of Soils)

Sample Description: Non-Plastic

Liquid Limit (LL)	-
Plastic Limit (PL)	-
Plasticity Index (PI)	-

Soil Plasticity	Non-Plastic
Soil Classification	-



Comments:

Reviewed By: _____

Chris McRae, B.Sc., P.Eng.



SHEAR VANE TEST REPORT

Project: ECO Engineering - Project 52B
Project No.: 7190-002-00
Owner: ECO Engineering
File No.: LSV-01

Vane Manufacturer: HUMBOLDT
Vane model no. H-4212MH
Tested By: AA
Date: 3-May-22

Tested in accordance with a modified version of ASTM D 4648 -00 (Standard Test Method for Laboratory Miniature Vane Shear Test for Saturated Fine-Grained Clayey Soil)

Sample ID	Source	Depth (ft)	Soil Type	Moisture Content(%)	Size of Vane		Estimated Peak Undrained Shear Strength(kPa)
					Diameter (mm)	Height (mm)	
005ST01	BH005	9-10.5	CH	25.5	25.44	5.04	23

Comments: Sample tested within the shelly tube on three cut duplicate samples. Pocket penetration value obtained was 1.(100kPa)

Reviewed By: 
 Chris McRae, B.Sc., P.Eng.



One Dimensional Consolidation Test Report

Project: Eco Engineering Project 52B
Project No.: 7190-002-00
Owner: Eco Engineering
File No.: ODC-01

Sample ID: 005ST01
Source: BH005
Sampled By: Client
Date Sampled: -

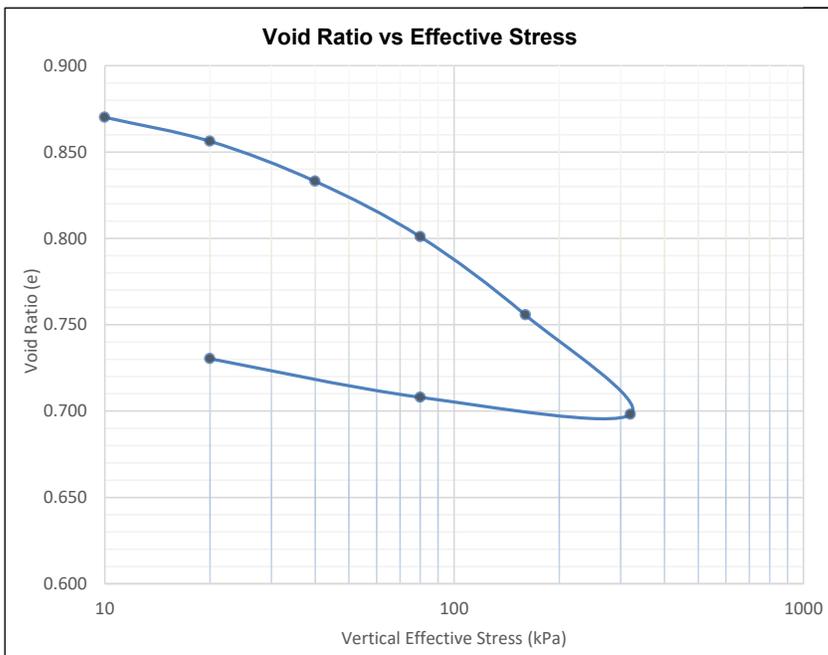
Tested in accordance with ASTM D 2435-03 (One Dimensional Consolidation Properties of Soils Using Incremental Loading).

Equipment ID: HM-353	Test Date: 03-May-22	Soil Structure: Undisturbed
Device Type: Gilson Load Frame	Tested By: AA/BT	Sample Depth: 9.0ft - 10.5ft
Sample Type: Clay	Test Method: B	Consolidation Test #: 005ST01
Soil Description: CI Inorganic clays of medium plasticity, silty clays		

Sample Parameters	Initial	Final
Moisture Content (%)	26.41	30.75
Weight (g)	119.20	123.30
Thickness (mm)	20.59	19.49
Area (m ²)	0.0031670	0.0031670
Dry Density (kg/m ³)	1446	1528
Wet Density (kg/m ³)	1828	1998
Void Ratio (e)	0.88	0.78
Deg. Of Saturation (%)	81.62	100.00
Specific Gravity* (g/cm ³)	2.718	

*Assumed Value

Load Increment (kPa)	Deformation (mm)	Duration (hrs)
10.0	-0.108	4
20.0	-0.150	16
40.0	-0.260	24
80.0	-0.358	24
160.0	-0.528	24
320.0	-0.652	24
80.0	0.174	24
20.0	0.266	24



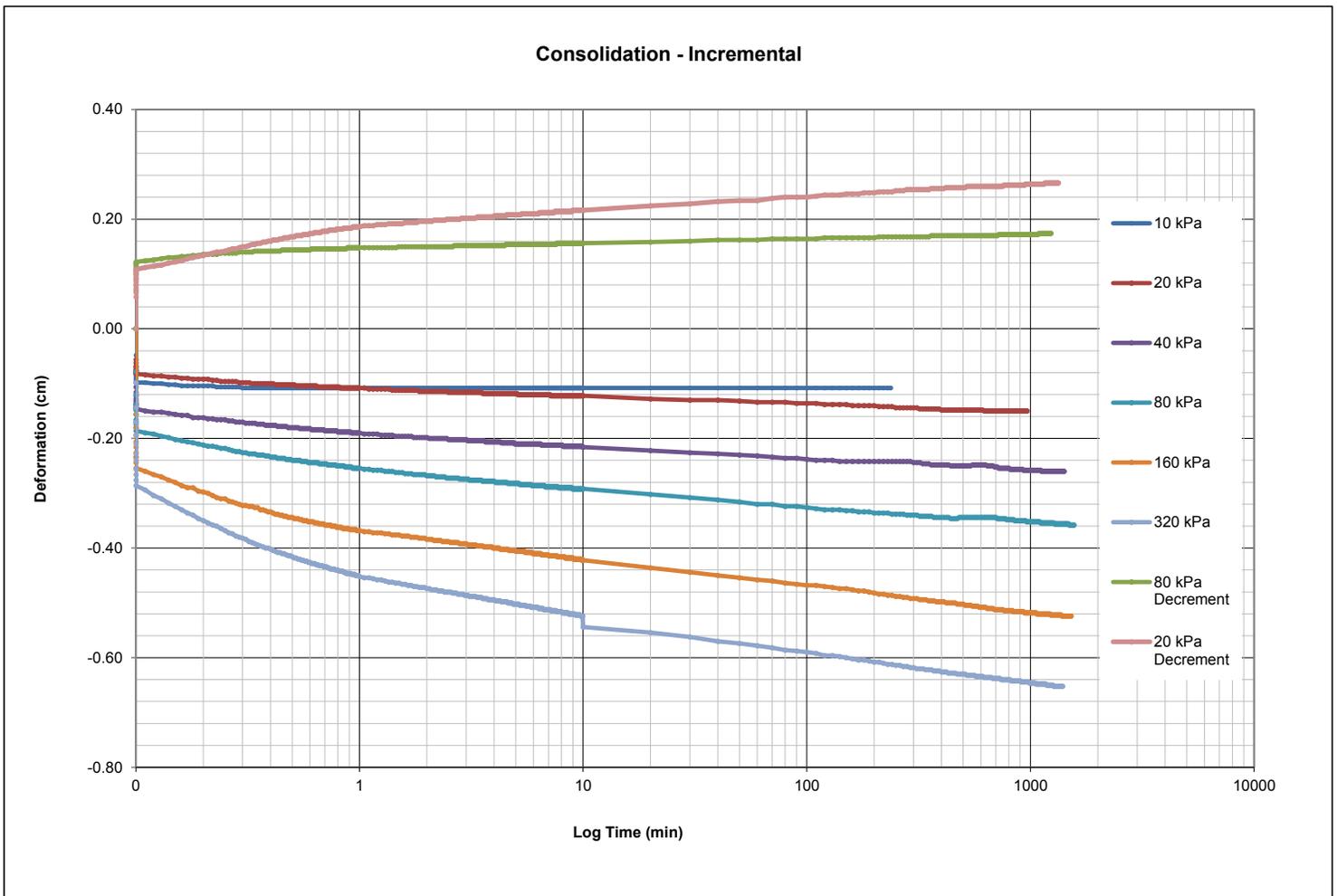
Preconsolidation Pressure (kPa) : 50
 Consolidation Index : 0.16
 Expansion Index : 0.03

One Dimensional Consolidation Test Report

Project: Eco Engineering Project 52B
Project No.: 7190-002-00
Owner: Eco Engineering
File No.: ODC-01

Sample ID: 005ST01
Source: BH005
Sampled By: Client
Date Sampled: -

Tested in accordance with ASTM D 2435-03 (One Dimensional Consolidation Properties of Soils Using Incremental Loading).



Load Increment (kPa)	Void Ratio (e_{50})	Coefficient of Consolidation (cm^2/s)
20.0	0.859	3.68E-03
40.0	0.838	8.87E-03
80.0	0.808	8.59E-03
160.0	0.766	8.78E-03
320.0	0.712	1.15E-02

Comments:

- Sample inundated with tap water during consolidation.

Checked By: 

Chris McRae B.Sc, P.Eng.

SIEVE ANALYSIS REPORT

Project: Eco Engineering Project 52B
Project No.: 7190-002-00
Owner: Eco Engineering
File No.: SA-01

Sample No.: 001SPT02
Source: BH1
Sample By: Client
Date Sampled: 8/4/2022

Tested in accordance with ASTM C117, C136, C702, D5821 (Size Analysis of Aggregates)

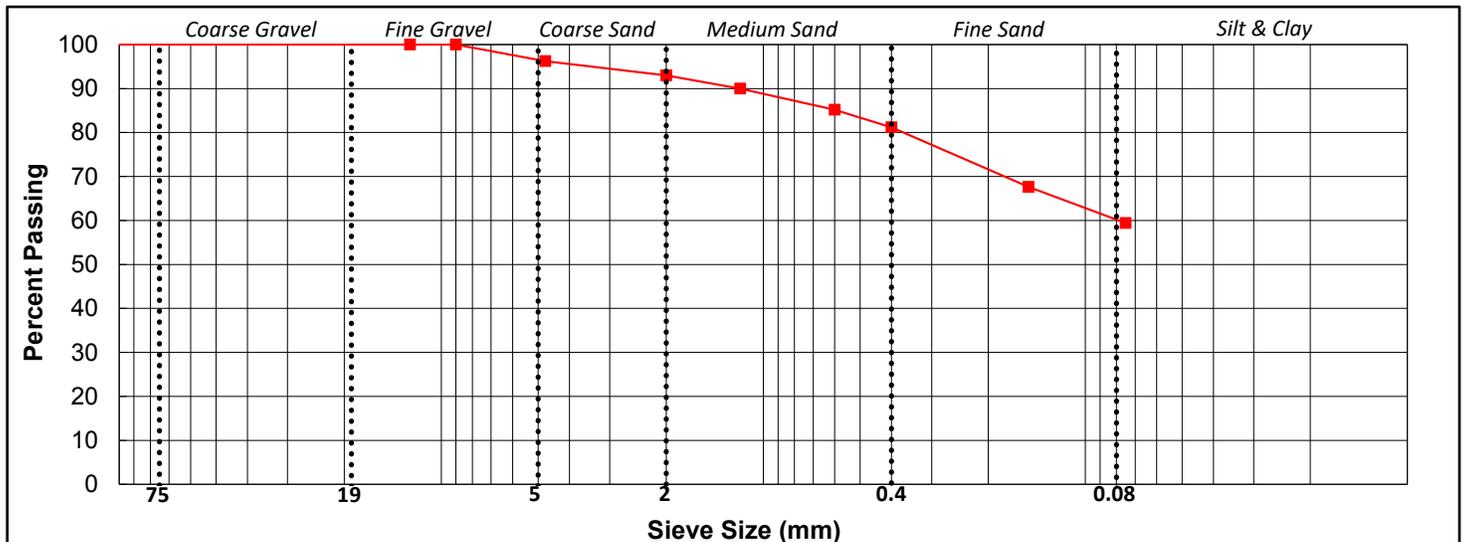
Aggregate Specification: Natural Soil (No Specification)

SIEVE SIZE (mm)	PERCENT PASSING	Gradation Limits	
	100		
	100		
	100		
	100		
	100		
	100		
12.500	100		
9.000	100		
4.750	96		
2.000	93		
1.180	90		
0.600	85		
0.400	81		
0.150	68		
0.075	59		

Additional Tests:

Natural Moisture Content:	19%
Fracture Count:	N/A
Plasticity Index:	N/A
Lightweight Particles:	N/A

Comments:



Tested By: AA

Reviewed By: 
 Chris McRae B.Sc., P.Eng.

Reporting of these results constitutes a testing service only. Engineering interpretation or evaluation of the results is provided only on written request.

SIEVE ANALYSIS REPORT

Project: Eco Engineering Project 52B
Project No.: 7190-002-00
Owner: Eco Engineering
File No.: SA-02

Sample No.: 006SPT05
Source: BH6
Sample By: Client
Date Sampled: 07/04/2022

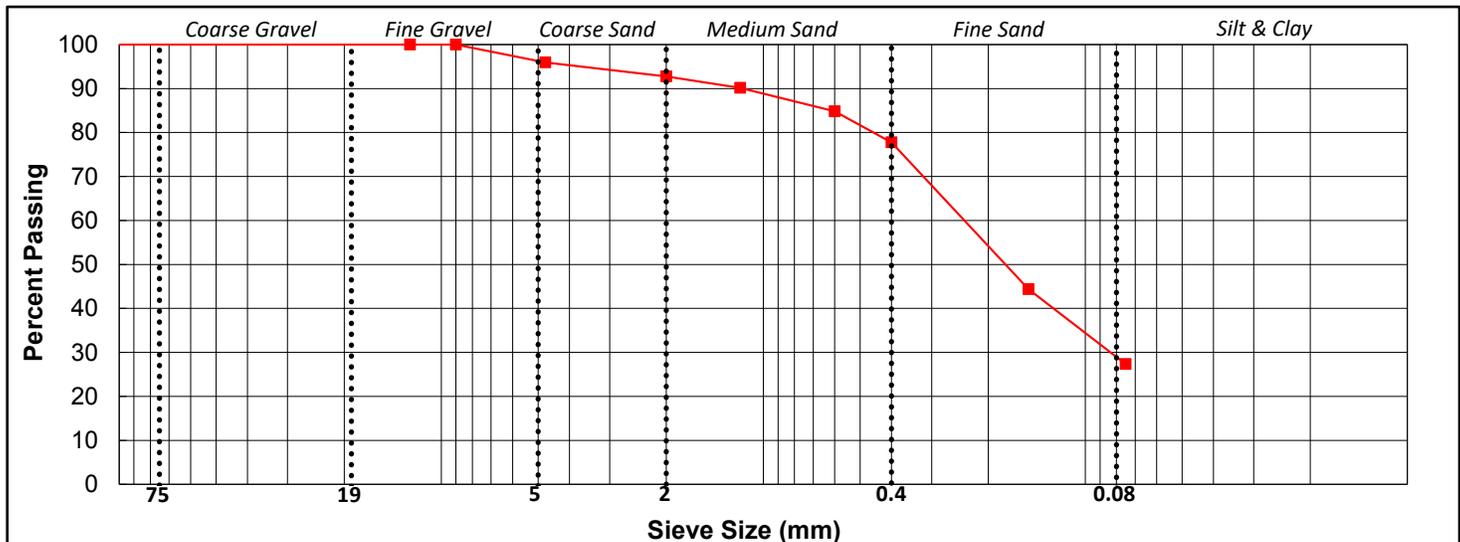
Tested in accordance with ASTM C117, C136, C702, D5821 (Size Analysis of Aggregates)

Aggregate Specification: Natural Soil (No Specification)

SIEVE SIZE (mm)	PERCENT PASSING	Gradation Limits	
	100		
	100		
	100		
	100		
	100		
	100		
12.500	100		
9.000	100		
4.750	96		
2.000	93		
1.180	90		
0.600	85		
0.400	78		
0.150	44		
0.075	27		

Additional Tests:	
Natural Moisture Content:	16%
Fracture Count:	N/A
Plasticity Index:	N/A
Lightweight Particles:	N/A

Comments:



Tested By: AA

Reviewed By: 
 Chris McRae B.Sc., P.Eng.

Reporting of these results constitutes a testing service only. Engineering interpretation or evaluation of the results is provided only on written request.

SIEVE ANALYSIS REPORT

Project: Eco Engineering Project 52B
Project No.: 7190-002-00
Owner: Eco Engineering
File No.: SA-03

Sample No.: 001SPT08
Source: BH1
Sample By: Client
Date Sampled: 8/4/2022

Tested in accordance with ASTM C117, C136, C702, D5821 (Size Analysis of Aggregates)

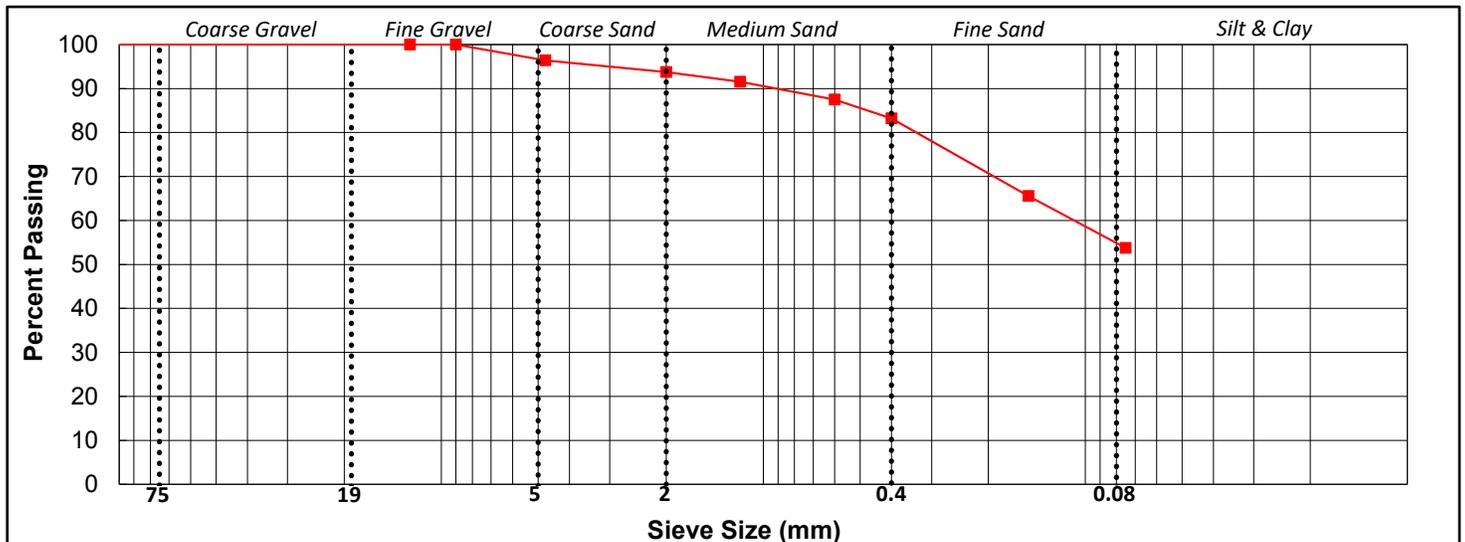
Aggregate Specification: Natural Soil (No Specification)

SIEVE SIZE (mm)	PERCENT PASSING	Gradation Limits	
	100		
	100		
	100		
	100		
	100		
	100		
12.500	100		
9.000	100		
4.750	96		
2.000	94		
1.180	92		
0.600	87		
0.400	83		
0.150	66		
0.075	54		

Additional Tests:

Natural Moisture Content:	10%
Fracture Count:	N/A
Plasticity Index:	N/A
Lightweight Particles:	N/A

Comments:



Tested By: AA

Reviewed By: 
 Chris McRae B.Sc., P.Eng.

Reporting of these results constitutes a testing service only. Engineering interpretation or evaluation of the results is provided only on written request.

SIEVE ANALYSIS REPORT

Project: Eco Engineering Project 52B
Project No.: 7190-002-00
Owner: Eco Engineering
File No.: SA-04

Sample No.: 006SPT10
Source: BH6
Sample By: Client
Date Sampled: 8/4/2022

Tested in accordance with ASTM C117, C136, C702, D5821 (Size Analysis of Aggregates)

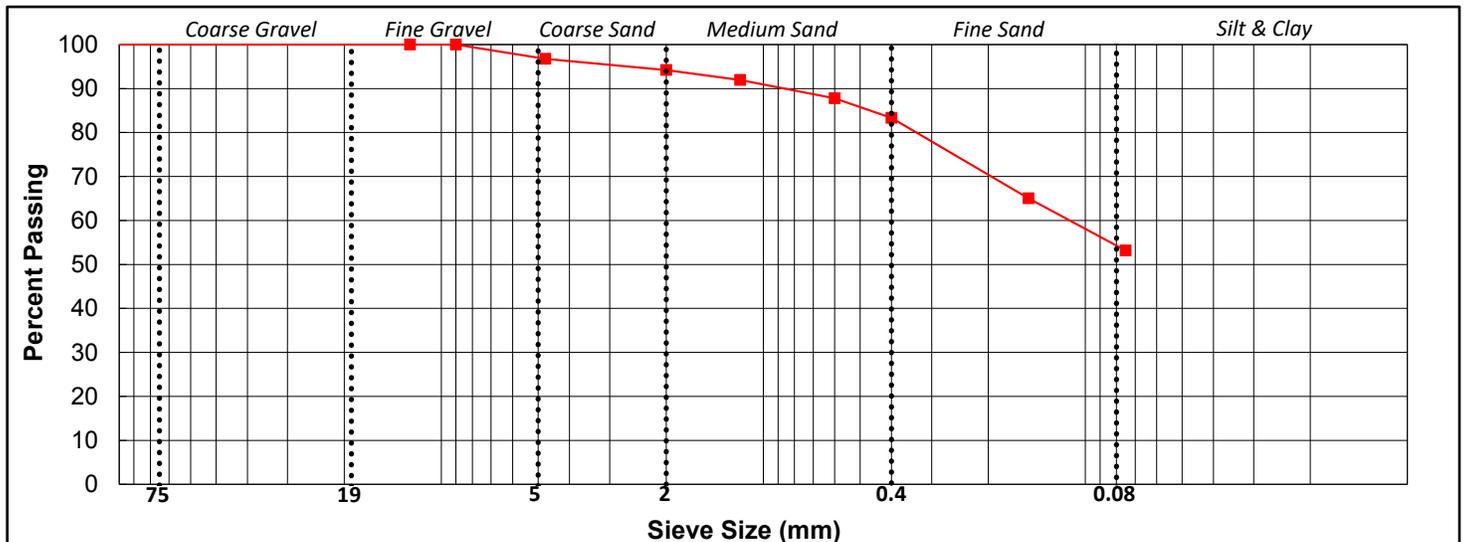
Aggregate Specification: Natural Soil (No Specification)

SIEVE SIZE (mm)	PERCENT PASSING	Gradation Limits	
	100		
	100		
	100		
	100		
	100		
	100		
12.500	100		
9.000	100		
4.750	97		
2.000	94		
1.180	92		
0.600	88		
0.400	83		
0.150	65		
0.075	53		

Additional Tests:

Natural Moisture Content:	10%
Fracture Count:	N/A
Plasticity Index:	N/A
Lightweight Particles:	N/A

Comments:



Tested By: AA

Reviewed By: 
 Chris McRae B.Sc., P.Eng.

Reporting of these results constitutes a testing service only. Engineering interpretation or evaluation of the results is provided only on written request.

Appendix D – SITE PHOTOGRAPHS



ECO ENGINEERING LTD.



Photo 1. Silty clay at BH6.



Photo 2. Fine-grained silty sand at BH6.



Photo 3. Monitoring well installed at BH6.



Photo 4. Split spoon test at BH5.



Photo 5. Silty clay at BH5.



Photo 6. Backfilling the BH5 with bentonite chips.



Photo 7. Surveying the drilling location at BH1 using Trimble R10.



Photo 8. Backfilling the boreholes with bentonite chips from the bottom up to 0.5 m below the ground surface. The rest of the boreholes were filled with parent soil.



Photo 9. Dark grey glacial till at BH3.



Photo 10. Oxidized glacial till at BH2.



Photo 11. PVC casing installation at BH2/MW22-2.



Photo 12. Surveying the monitoring well at MW22-2 with Trimble R10.



Photo 13. Pond located at the southeast portion of the investigated area. Approximate depth to the water level was 6-7 m below the edge of the pond.



Photo 14. Topsoil with plant roots underlain by clay at BH1.

Appendix E – PREVIOUS GEOTECHNICAL INVESTIGATIONS



ECO ENGINEERING LTD.

Comprehensive Development Review

Client: 101063662 Saskatchewan Ltd.

Shercom Industries Ltd.

Appendix H Shallow Utilities Correspondence



Cost Estimate

WR# 361439

November 21, 2023

c/o Shane Olson
101063662 Saskatchewan Ltd
Comp 9 Site 404 RR4
Saskatoon, SK, S7K 3J7

Delivered by email to: shane@shercomindustries.com

Dear Shane:

SaskEnergy has completed the conceptual design to provide natural gas service to Rural Subdivision at NE-10-38-05-W3. It is understood that the following costs are conceptual in nature and are not an offer of service by SaskEnergy.

Service Plan

This design will provide an average maximum load of 10 m³/hr at 1.75 kPa delivery pressure per lot – Mains Only, no Services included (the “Service Plan”). Construction includes the installation of:

- 825 meters of 60.3mm P.E. pipe
- 2 Boring charges for 2 Future Services

Your Contribution

Under SaskEnergy’s *Terms & Conditions of Service Schedule*, an applicant or customer who authorizes construction for a new installation (“you” or the “Customer”) will be responsible for all SaskEnergy construction costs and service fees associated with that new service unless otherwise agreed to by SaskEnergy in a Written Service Agreement.

Your total customer contribution for the above Service Plan is estimated between **\$ 63,500.00 - \$110,000.00** , which has been calculated as follows:

	Summer	Winter
Total project cost:	\$ 60,931.37	\$ 101,724.96
Your contribution:	\$ 60,931.37	\$ 101,724.96
GST:	\$ <u>3,046.57</u>	\$ <u>5,086.25</u>
Your Total Contribution:	\$ 63,977.94	\$ 106,811.21

For accounts without an established credit history, a security deposit based on anticipated annual consumption may be required.

General Servicing Conditions

All Services are subject to SaskEnergy's *Terms & Conditions of Service Schedule*, which is available online at saskenergy.com. All capitalized terms in this letter shall have the meaning given to them in SaskEnergy's *Terms & Conditions of Service Schedule*, unless otherwise defined herein.

This estimate of cost is for informational purposes only and is based on construction in Summer Conditions/Winter Conditions. It is not an offer or a quote, and may change if the cost or scope of the project changes. It is our opinion as to what the cost *may* be.

This estimate is based on the information provided and available, and on the following assumptions:

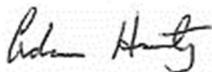
- Customer has survey pins in place and clearly visible prior to construction of SaskEnergy's facilities.
- Customer has facility installation route at final grade, clear of obstructions, and ready for service.
- SaskEnergy is able to obtain all required easements and approvals from third parties.
- Native material can (in SaskEnergy's opinion) be used for backfill of all excavations.

Project Requirements

In order to proceed with a final design, please contact us when your plans and building site location are finalized. SaskEnergy will arrange to meet with you to finalize our route selection and to provide a customer offer. Construction can take two months or more from the time we receive your acceptance of the final offer pending route selection.

If you have any questions or require additional information, please contact me at the number listed below.

Sincerely,



Adam Harty
Customer Connect Technician
SaskEnergy
40 Palliser Way | Yorkton, SK S3N 4C5
c. 306.510.5359 | f. 306.786.2379
customerconnect6@saskenergy.com | saskenergy.com

The foregoing is intended to provide an ESTIMATE ONLY. Labour and material costs are subject to change. This estimate assumes the information provided by you is correct, that there are no further developments or information which would cause us to vary our preliminary opinion, and nothing out of the ordinary is encountered in the course of completing this project. It assumes summer/winter construction conditions, that native backfill can be used and that all requisite consents and approvals can be obtained.

Dan Surkan

From: Howard Angus <HOANGUS@saskpower.com>
Sent: October 30, 2024 10:36 AM
To: Dan Surkan
Subject: 303202775 BUDG GS NE1038053 CORMAN PARK

Follow Up Flag: Follow up
Flag Status: Flagged

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

As per our conversation, your budgetary quote for a 14400/25000 volt 3 phase overhead line to be built along the proposed road in the NE10-38-05W3 is approximately \$60000.00 + GST.

Please note that this price can change should the design change due to feeder capacity and system analysis, site conditions, environmental concerns, customer changes, issues with third party approvals, etc.

If after final design is complete, SaskPower finds that it can build your service for a lower price, your quote will be adjusted accordingly.

Please call me back at the number below if you decide to move forward with this service.

Please note that SaskPower is currently quoting a minimum of 12 weeks lead time for service from the time of verbal quote acceptance.

Please note that your job will remain on hold until I hear back from you.

Feel free to call me if you have any questions or require any additional information.

Thanks,
Howard
306-659-6070

This email including attachments is confidential and proprietary. If you are not the intended recipient, any redistribution or copying of this message is prohibited. If you have received this email in error, please notify us by return email, and delete this email.

Comprehensive Development Review

Client: 101063662 Saskatchewan Ltd.

Shercom Industries Ltd.

Appendix I Public Consultation Form and Feedback Received

101063662 Saskatchewan LTD.
305230 Township Rd
Comp 9 Site 404 RR4
Saskatoon, SK S7K 3J7

Proposed Subdivision Public consultation

10163662 Saskatchewan Ltd. is completing a Comprehensive Development Review (CDR) to apply to rezone **Parcel #161788618, W ½ NE-10-38-5-W3** from contract commercial to Rural Commercial/Industrial within the RM of Corman Park. The proposed development will further subdivide the 70 acre site into 10 rural commercial/industrial lots. Plan of proposed subdivision attached. The subject site is the current location of Shercom Industries.

The purpose of this letter is to inform the public and the surrounding landowners of this intended proposal to the RM. If you have received this letter and own land within 1.6 km of this proposed development, you are invited to provide your comments and feedback. The attached form has been provided and can be emailed, faxed or mailed to the identified addresses at the bottom of the form.

Prior to approval, a Comprehensive Development Review (CDR) must be completed by the Developer. The CDR ensures compliance with all provincial and municipal guidelines. It is a report that also addresses land use, servicing, drainage, environmental impacts, etc. This invitation provides the community initial opportunity to provide feedback prior to the proposal being submitted. The public will have a second opportunity to provide additional feedback once the proposal has been submitted to Community Planning and the RM.

As mentioned, the proposal is to subdivide the current 70 acre parcel of land into 10 individual lots zoned rural commercial/industrial. The proposed subdivision and zoning falls within the P4G Network Study Area Map (2021).

In addition to the comment sheet attached, the developers will be hosting an open house for all interested parties to attend. The open house will provide further opportunity for you to ask questions or comment in person.

Open House Invitation:

Thursday, January 4th, 2023

Time: 7:00 – 8:30 PM

Location: Shercom Industries Board room

305230 Township Rd, (just west of the landfill)

Please complete the attached comment form and return it to:

All comments submitted by the deadline will be considered and included in the CDR presented to the RM and Community planning by the developer. A comment form has been included for you to complete. The deadline for comments is **Tuesday, January 2, 2024.**

Parcel # 161788618

Deadline for comments: Tuesday, January 11, 2024

Comments on Proposed Contract Zoning use: (by the landowners)

we encourage growth in
the RM.

Have no concerns Have concerns Please contact me Yes No

Name(s): Anthony Nienhuis

Phone: _____ Cell: 306-226-1598 email: nienhuis@sasktel.net

Signature(s):  Legal Land Description: various

Fax: 306-933-0600
Email: shane@shercomindustries.com

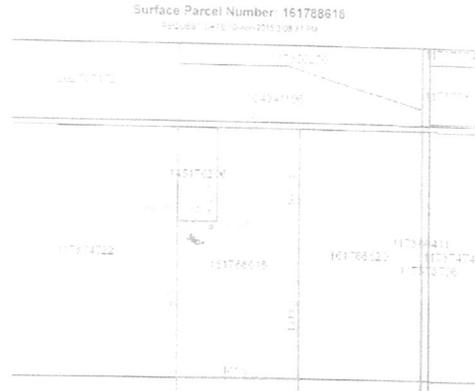
Mail to:
101063662 Saskatchewan Ltd.
Comp 9, Site 404, RR4
Saskatoon, SK S7K 3J&

PLAN SHOWING

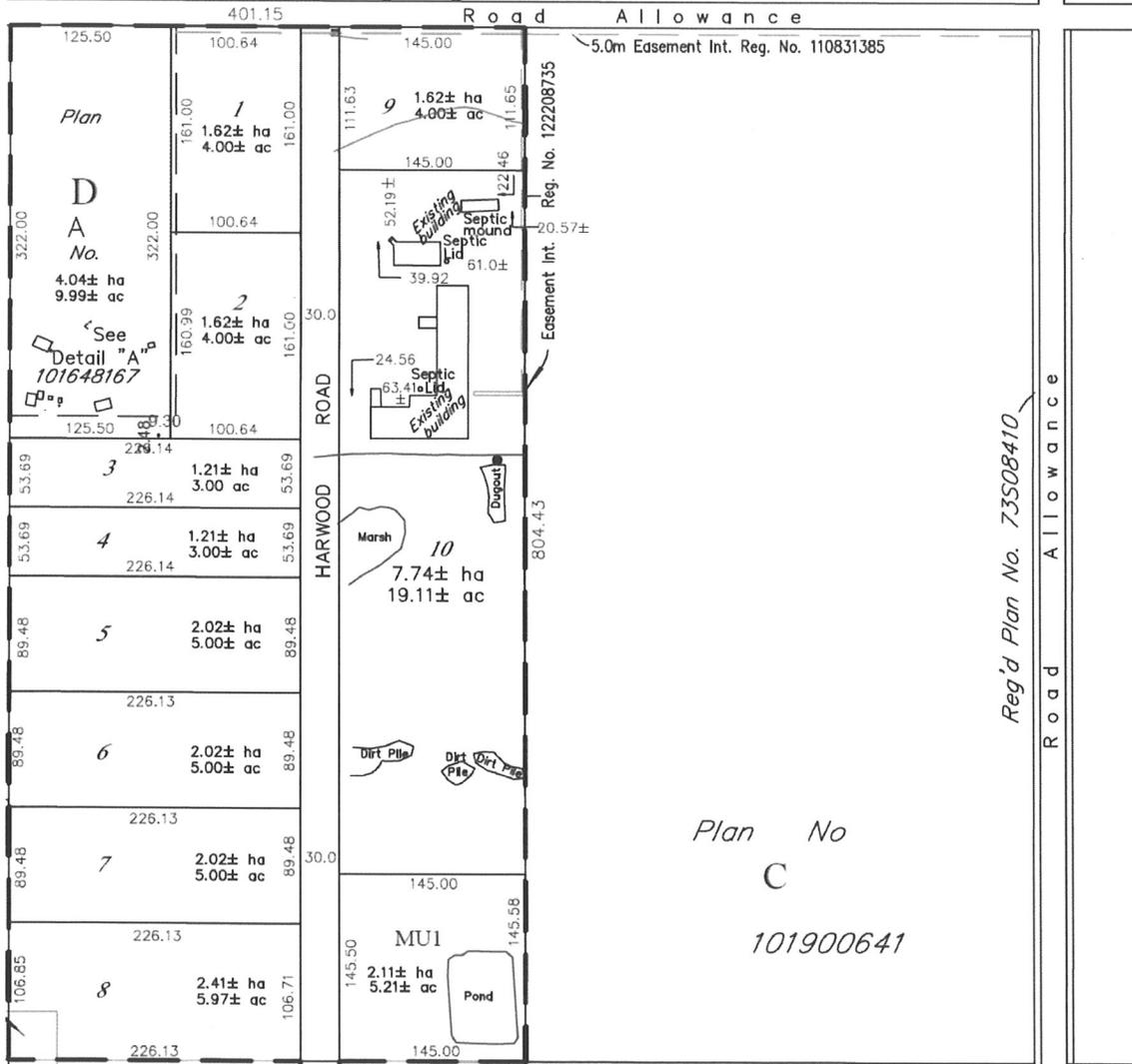
PLAN OF PROPOSED SUBDIVISION
 OF PARCEL A, PLAN NO. 101648167 & PARCEL B, PLAN NO. 101900641
NE1/4 SEC 10, TWP 38, RGE 5, W3 Mer & LSD 7 & LSD 2
SE 1/4 SEC 10, TWP 38, RGE 5, W3 Mer
 IN THE
R.M. OF CORMAN PARK No. 344
SASKATCHEWAN
2023
 SCALE = 1: 5000

NOTES

MEASUREMENTS ARE IN METRES AND DECIMALS THEREOF
 SOME MEASUREMENTS ARE APPROXIMATE AND MAY
 DIFFER FROM THE FINAL PLAN OF SURVEY BY AS MUCH
 AS 5 METRES
 PORTION TO BE APPROVED IS OUTLINED WITH A SOLID
 DASHED LINE AND CONTAINS 34.63± ha (85.57± ac) WHICH INCLUDES 4.77± ha (11.76± ac) FOR STREET



S.E. 1/4 Sec 15-38-5-3



Comprehensive Development Review

Client: 101063662 Saskatchewan Ltd.

Shercom Industries Ltd.

Appendix J: Summary of Property Servicing Worksheet

Summary of Property Servicing



Development Name: Shercom Industrial Park Development
Developer Name: _____
Legal Land Location: #161788618 (Blk/Par B-Plan 101900641 Ext 0), NE-10-38-5-W3
Shercom Industries Ltd.

The purpose of these worksheets is twofold. Firstly, the worksheets are intended to provide the Municipality with a summary of the various services which are being constructed included any technical specifications. The second reason for these worksheets is to aid the developer in itemizing the various costs of servicing the development for the purpose of calculating the amount of financial security to be provided to the Municipality.

Summary of Property Servicing Worksheet 1: Roadways

To be submitted by an applicant for the purposes of summarizing the design standards for a development and calculation of financial security. **Complete a separate worksheet for each type of roadway being constructed or upgraded for the development.**

1. Type of roadway:

- Residential internal subdivision road
- Municipal road – main farm access
- Primary haul road
- Industrial/Commercial internal subdivision road

2. Specifications:

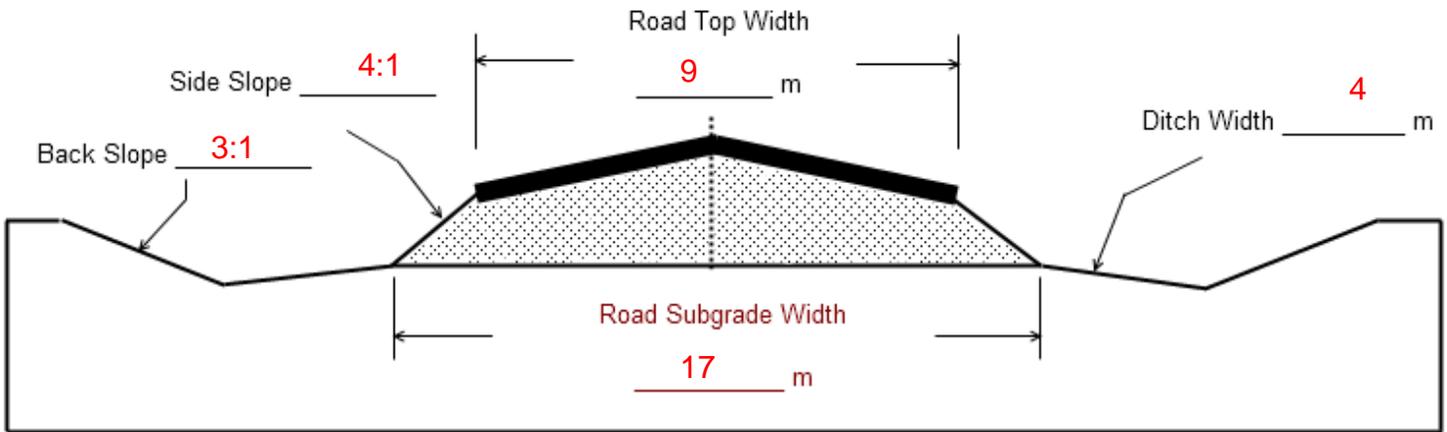
- a. length of road to be constructed or upgraded: 1,600 metres
- b. right of way width 30 metres
- c. road sub-grade width: 17 metres
- d. road top width: 9 metres
- e. back slope : 3:1
- f. side slope: 4:1
- g. ditch width: 4 metres
- h. method of erosion control: _____
- i. anticipated design speed 60 km/hr
- j. estimated road lifespan: 25 years
- k. culvert locations (attach site plan) and sizes:

number: <u>3</u>	type: <u>CSP</u>	size: <u>500</u> mm
number: _____	type: _____	size: _____ mm
number: _____	type: _____	size: _____ mm
number: _____	type: _____	size: _____ mm
number: _____	type: _____	size: _____ mm

Comments: Culverts proposed at each township access and internally to direct drainage to proposed retention pond.

- l. road surfacing:
 - Gravel
 - Chip seal
 - Asphalt
 - Other

surface thickness: _____ m³/km



3. **Cost estimates:** Provide cost estimate for each component of construction attaching quotes and contracts where necessary to verify estimates.

a. land acquisition	\$ _____
b. Design and engineering	<u>\$275,000</u>
c. preliminary earthwork & sub grade construction	<u>\$352,000</u>
d. road construction	<u>\$944,000</u>
e. surfacing	<u>\$405,000</u>
f. culverts	<u>\$26,000</u>
g. signage	<u>\$2,500</u>
h. line painting, curbing etc...	<u>\$2,500</u>
i. re-vegetation and erosion controls	<u>\$104,000</u>
TOTAL ESTIMATED COST	\$ <u>2,111,000</u>

For Office Use Only:

Date of receipt of preliminary construction plans: _____/_____/_____ (d/m/y)

Date of approval of preliminary construction plans: _____/_____/_____ (d/m/y)

Date of receipt of as-built drawings: _____/_____/_____ (d/m/y)

Date of final inspection: _____/_____/_____ (d/m/y)

Summary of Property Servicing Worksheet 2: Water Supply Lines

To be submitted by an applicant for the purposes of summarizing the design standards for a development and calculation of financial security. **Complete a separate worksheet for each type of waterline being constructed or upgraded for the development.**

4. Type of waterline:

- Potable
 Non potable
 Fire suppression

To be confirmed with Intervalley.

5. Specifications:

- a. length of water supply line constructed: 1,600 metres
- b. water supply line diameter: _____ mm
- c. depth of line: _____ metres
- d. water supply line material : _____
- e. # fire hydrants: _____
- f. # curb stops: _____ metres
- g. minimum water supply line depth: _____ metres

6. Cost estimates: Provide cost estimate for each component of construction attaching quotes and contracts where necessary to verify estimates.

- a. land acquisition and /or easements \$ _____
- b. Design and engineering _____
- c. materials & labour _____
- d. trenching and or drilling _____
- e. installation \$80,000
- f. backfill and re-vegetation _____
- g. hydrants and pump stations _____
- TOTAL ESTIMATED COST** \$ \$80,000

For Office Use Only:

Date of receipt of preliminary construction plans: _____/_____/_____ (d/m/y)
 Date of approval of preliminary construction plans: _____/_____/_____ (d/m/y)
 Date of receipt of as-built drawings: _____/_____/_____ (d/m/y)
 Date of final inspection: _____/_____/_____ (d/m/y)

Summary of Property Servicing Worksheet 4: Drainage Works

To be submitted by an applicant for the purposes of summarizing the design standards for a development and calculation of financial security.

10. Drainage Works: Provide a cost estimate for the construction of drainage works for the development attaching quotes and contracts where necessary to verify estimates.

- a. Design and Engineering \$ _____
- b. Site grading and excavation \$500,000
- c. Culverts and drainage channels/swales Included in Road Construction
- d. Re-vegetation Included in Road Construction
- e. Pump _____
- f. Other control structures
 - i. _____
 - ii. _____
 - iii. _____

TOTAL ESTIMATED COST DRAINAGE WORKS \$ \$500,000

11. Storm Pond Design Specifications:

- a. Pond Type: Wet pond Dry Pond
- b. Pond depth: 5.05 (active storage) m
- c. Water holding capacity 26,000 m³

Summary of Estimated Costs

Roadways:	\$	<u>\$2,111,000</u>
Waterlines:		<u>\$80,000</u>
Shallow Utilities:		<u>\$170,000</u>
Drainage Works/Lot Preparation:		<u>\$500,000</u>
Other:		<u> </u>
 Total Estimated Costs:		<u><u>\$2,861,000</u></u>