Northeast Pincher Creek Part 2 Area Structure Plan

Bylaw No. 1635-23 May 2023

Stantec

TOWN OF PINCHER CREEK
IN THE PROVINCE OF ALBERTA

BYLAW NO. 1635-23

BEING a bylaw of the Town of Pincher Creek in the Province of Alberta, to adopt Bylaw No. 1635, Northeast Pincher Creek Part 2 Area Structure Plan, being a bylaw to amend the 1989 Northeast Pincher Creek Area Structure Plan Bylaw No. 1427 applicable for the lands generally described as:

Portions of the SW 26-6-30-W4M including:

- LOT 1, BLOCK 8, PLAN 0613747
- LOTS 6, 7, 8, 9, 10, 11, 12, 13, 14 & 15, BLOCK 7, PLAN 0613747
- LOT 15, BLOCK 5, PLAN 0613747
- LOT 1, BLOCK 6, PLAN 0512720
- LOTS 24 & 25, BLOCK 4, PLAN 0611417
- LOTS 12, 16 & 17, BLOCK 4, PLAN 0512718
- LOT 2, BLOCK 5, PLAN 0512718

Portion of the SE 26-6-30-W4M including:

- BLOCK 1, PLAN 2060JK

AND WHEREAS the Plan Area encompasses an area of 47.6 Ha (117.7 acres) and includes lands within Bylaw No. 1427 and additional adjacent lands, with the said lands as illustrated on the map in Schedule "A" attached hereto.

AND WHEREAS THE PURPOSE of Northeast Pincher Creek Part 2 Area Structure Plan (ASP) is to provide for the future land use, subdivision layout and design, road networks, servicing guide and engineering support information applicable to the land to allow for orderly and efficient development of the said lands as described in the ASP document, attached as Schedule "B" hereto.

AND WHEREAS the municipality must prepare a corresponding bylaw and provide for its consideration at a public hearing.

NOW THEREFORE, under the authority and subject to the provisions of the Municipal Government Act, Revised Statutes of Alberta 2000, Chapter M-26, as amended, the Council of the Town of Pincher Creek in the Province of Alberta duly assembled does hereby enact the following:

1. That the Northeast Pincher Creek Part 2 Area Structure Plan attached hereto as Schedule "B" be adopted by Bylaw No. 1635 for the subject lands as described.

2. That the 1989 Northeast Pincher Creek Area Structure Plan Bylaw No. 1427 be amended to include the updates and amendments as described in Bylaw No. 1635

3. Final formatting and consolidation shall take place following the passage of the bylaw.

4. This bylaw comes into effect upon third and final reading hereof.

READ a **first** time this 23rd day of January, 2023.

Mayor – *Don Anderberg*

Intern Chief Administrative Officer – *Angie Lucas*

READ a **second** time this 24th day of April, 2023.

Mayor – *Don Anderberg*

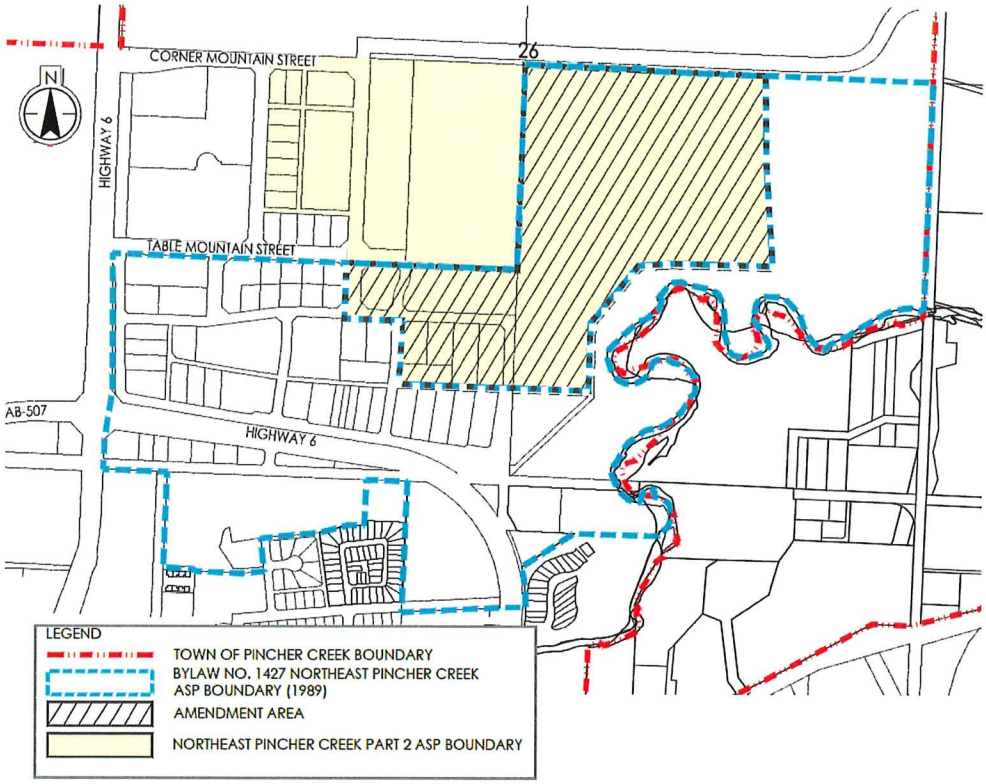
Chief Administrative Officer – *Angie Lucas*

READ a **third** time and finally PASSED this 8th day of May, 2023.

Mayor – *Don Anderberg*

Chief Administrative Officer – *Angie Lucas*

Schedule "A"



Schedule "B" - Northeast Pincher Creek Part 2 Area Structure Plan (ASP document)

Northeast Pincher Creek Part 2

Area Structure Plan

July 2022

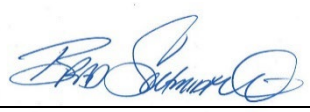
Prepared for:

Town of Pincher Creek

Prepared by:

Stantec Consulting Ltd.

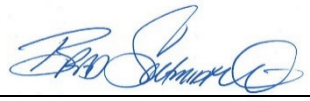
This document titled Northeast Pincher Creek Part 2 Area Structure Plan was prepared by Stantec Consulting Ltd. (“Stantec”) for the account of Town of Pincher Creek (the “Client”). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec’s professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

Prepared by  (signature)

Brad Schmidtke

Reviewed by  (signature)

Nathan Arthur

Approved by  (signature)

Brad Schmidtke

Table of Contents

APPENDICES

1.0 INTRODUCTION

The purpose of the Northeast Pincher Creek Part 2 Area Structure Plan (ASP) (herein referred to as the 'Plan'), is to establish the framework for a refined industrial park concept, coupled with community recreation opportunities within the lands described as located in portions of the SW & SE ¼ Section 26 - Township 6 – Range 30 W4M (herein referred to as the 'Plan Area'), illustrated in **Figure 1.1 Location Plan**. Areas of the Plan are also included in the previously completed *Northeast Pincher Creek Area Structure Plan (1989, Bylaw No.1427)*. This Plan, as presented, supersedes previous direction provided within the Northeast Pincher Creek ASP (Bylaw No. 1427) and provides guidance for future design and development in the industrial, highway commercial and recreational sector. This Plan, however, does not provide additional information for development of lands south of Highway 6.

Development policies, objectives, guidelines, and standards (in keeping with the municipality's current strategic vision and development direction) of the community will be identified in this Plan as the basis for future subdivision, detailed design, and construction-related decisions within the Plan Area. The intent of this Plan is to help facilitate efficient and financially responsible growth in the northeast sector of Pincher Creek.

Recreational and open space uses will be provided for in the community, in alignment with previous direction and goals established by the Northeast Pincher Creek ASP (Bylaw No. 1427), updated through this Plan. A key goal of the Plan is to provide development flexibility during rapidly changing market conditions. To this end, the Plan defines large block parcels, roads, and critical infrastructure corridors. Final Land Use and subdivision of smaller parcels will occur as required, based on demand.

1.1 PLAN INTERPRETATION

1.1.1 Relationship to the Northeast Pincher Creek ASP (Bylaw No. 1427)

The Plan is meant to be read independently of the existing Northeast Pincher Creek ASP (Bylaw No. 1427). Should any conflicts arise, the policies of this document (affecting all areas identified within the Plan Area, illustrated on **Figure 1.1 Location Plan**) supersede those noted within the Northeast Pincher Creek ASP (Bylaw No. 1427).

1.1.2 Map Interpretation

Unless otherwise specified in this Plan, the boundaries or locations of any symbols or areas shown on a map are approximate only, not absolute, and will be interpreted as such. They are not intended to define exact locations except where they coincide with clearly recognizable physical features or fixed boundaries such as property lines or road or utility rights-of-way. The precise location of these boundaries, for the purpose of evaluating development proposals, will be determined by the Approving Authority at the time of application. No measurements or distances of areas should be taken from the maps included in this Plan.

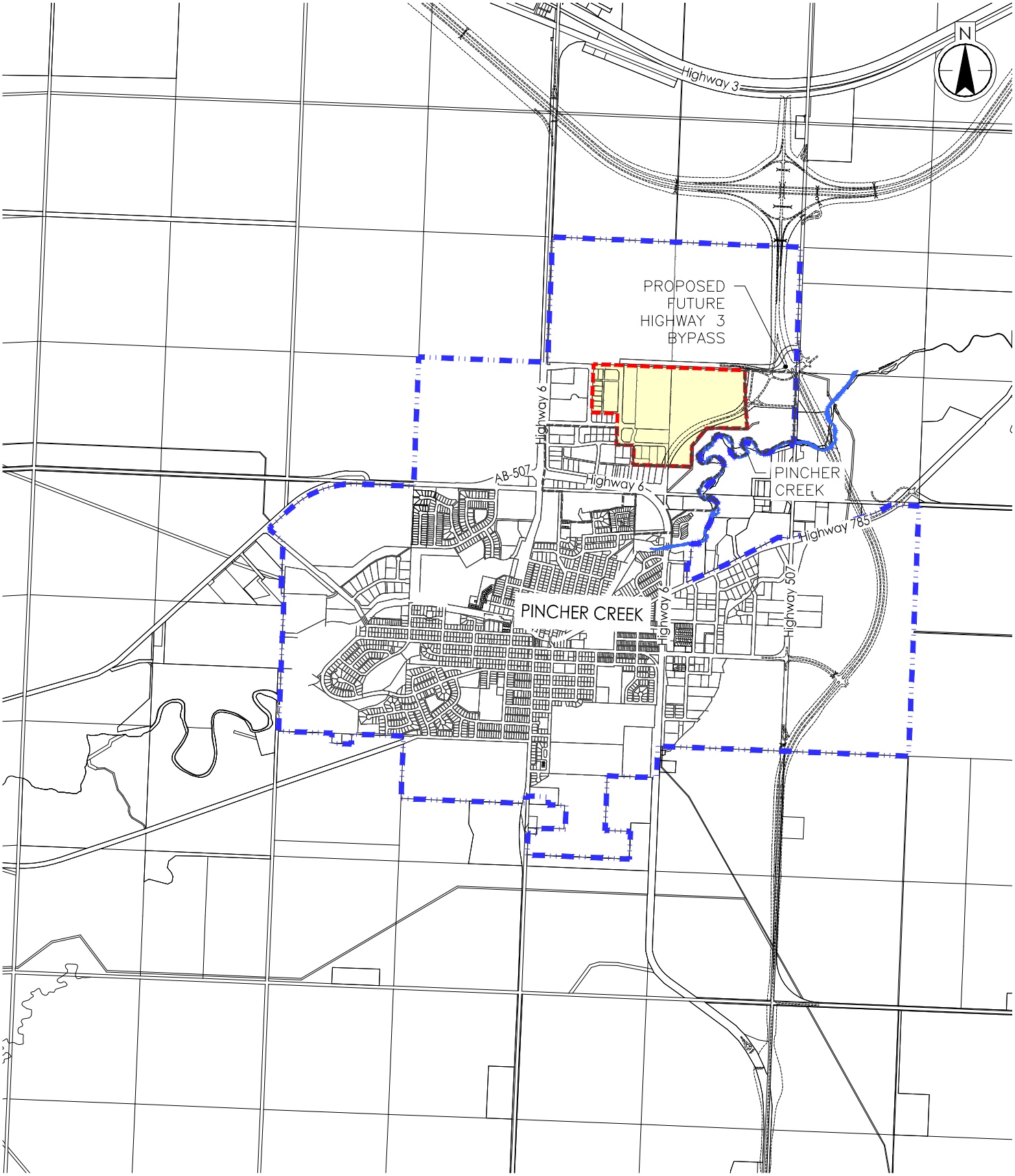


FIGURE 1.1 | NE PINCHER CREEK ASP

Location Plan

TOWN OF PINCHER CREEK BOUNDARY

NE PINCHER CREEK PART 2 ASP BOUNDARY

BYLAW NO. 1427
NE PINCHER CREEK ASP BOUNDARY (1989)

Stantec

116549010
September 1, 2021

PREPARED FOR: Town of Pincher Creek

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1.1.3 Policy Interpretation

The policies of the Plan apply to those lands described as the Plan Area (portions of the SW & SE ¼ Section 26 -Township 6 – Range 30 W4M), illustrated in **Figure 1.1 Location Plan**. Policies in this Plan are meant to guide future subdivision, detailed design, and construction stages.

Policies that use the words “shall,” “will,” or “must,” apply to all situations, without exception, usually in relation to a statement of action, legislative direction, or situations where a desired result is required.

The word “should,” is explicitly used to further clarify the directional nature of a policy section. Policies that use “should” are to be applied in all situations, unless it can be clearly demonstrated to the satisfaction of the Town that the policy is not reasonable, practical, or feasible in a given situation. Proposed alternatives will comply with applicable policies and guidelines to the satisfaction of the Town.

Policies that use the word “may” are used to define a permissible outcome, subject to developer interest and/or municipality preference to a specific situation. These policies are intended to clarify what potential outcomes could occur, rather than prescribe a specific outcome for the Plan.

Statutory vs. Non-Statutory Plans

Statutory plans are developed by a municipality for the purposes of identifying future plans for development within municipal boundaries and the immediately surrounding area. Statutory plans must be consistent with one another and with any regional plans adopted for the area under the Alberta Land Stewardship Act (ALSA). A statutory plan must obtain three readings of the associated Bylaw and conduct a public hearing before it is adopted by Council. Once adopted, there is a lawful obligation on the part of both the municipality and the residents to adhere to the plan. The following documents and plans below are examples of statutory plans in Alberta:

- Municipal Development Plan (MDP)
- Intermunicipal Development Plans (IDPs)
- **Area Structure Plans (ASPs)**
- Area Redevelopment Plans (ARPs)

A non-statutory plan is one passed by Council resolution, which can be done in the form of a Bylaw. They are often developed to help encourage a certain direction for development or growth in a particular area but do not require three readings of the Bylaw and public hearing to enact. Examples of non-statutory plans and documents include:

- Outline Plans/Conceptual Schemes/Concept Plans
- Intermunicipal Collaboration Frameworks (ICFs)
- Transportation Master Plans (TMPs), Parks and Recreation Master Plans, among other guiding plans

This Plan (the Northeast Pincher Creek Part 2 ASP) is a statutory plan.

1.1.4 Appendix Interpretation

The appendices do not form part of the statutory portion of the ASP. The intent of the appendices is to provide additional information and, in some cases, assist with illustrating policies of the ASP.

2.0 EXISTING CONDITIONS

2.1 SITE LOCATION

The Plan Area is located within the Town of Pincher Creek, encompassing an area of 47.6 Ha (117.7 acres). The development area is bounded to the south by Table Mountain Street and McEachern Street and to the west by Chief Mountain Avenue, undeveloped land north of the Plan boundary, and an existing wetland and current Town boundary to the east. Refer to **Figure 1.1 Location Plan**.

As of time of Plan preparation, the Town of Pincher Creek is the registered landowner of all lands within the Plan Area, legally described as:

- Plan 2060JK, Block 1, Title Number 131M128
- Plan 061 1417, Block 4, Lot 24, Title Number 061 162 006
- Plan 051 2720, Block 6, Lot 1, Title Number 181 074 833
- Plan 051 2718, Block 4, Lot 12, Title Number 051 278 951 +5
- Plan 051 2718, Block 4, Lot 16, Title Number 051 278 951 +9
- Plan 051 2718, Block 4, Lot 17, Title Number 051 278 951 +10
- Plan 051 2718, Block 5, Lot 2, Title Number 051 278 951 +18
- Plan 061 1417, Block 4, Lot 25, Title Number 061 162 006 +1
- Plan 061 3747, Block 5, Lot 15, Title Number 061 427 678 +12
- Plan 061 3747, Block 7, Lot 6, Title Number 061 427 678 +18
- Plan 061 3747, Block 7, Lot 7, Title Number 061 427 678 +19
- Plan 061 3747, Block 7, Lot 8, Title Number 061 427 678 +20
- Plan 061 3747, Block 7, Lot 9, Title Number 061 427 678 +21
- Plan 061 3747, Block 7, Lot 10, Title Number 061 427 678 +22
- Plan 061 3747, Block 7, Lot 11, Title Number 061 427 678 +23
- Plan 061 3747, Block 7, Lot 12, Title Number 061 427 678 +24
- Plan 061 3747, Block 7, Lot 13, Title Number 061 427 678 +25
- Plan 061 3747, Block 7, Lot 14, Title Number 061 427 678 +26
- Plan 061 3747, Block 7, Lot 15, Title Number 061 427 678 +27
- Plan 061 3747, Block 8, Lot 1, Title Number 061 427 678 +28

Refer to **Figure 2.2 Land Ownership**.

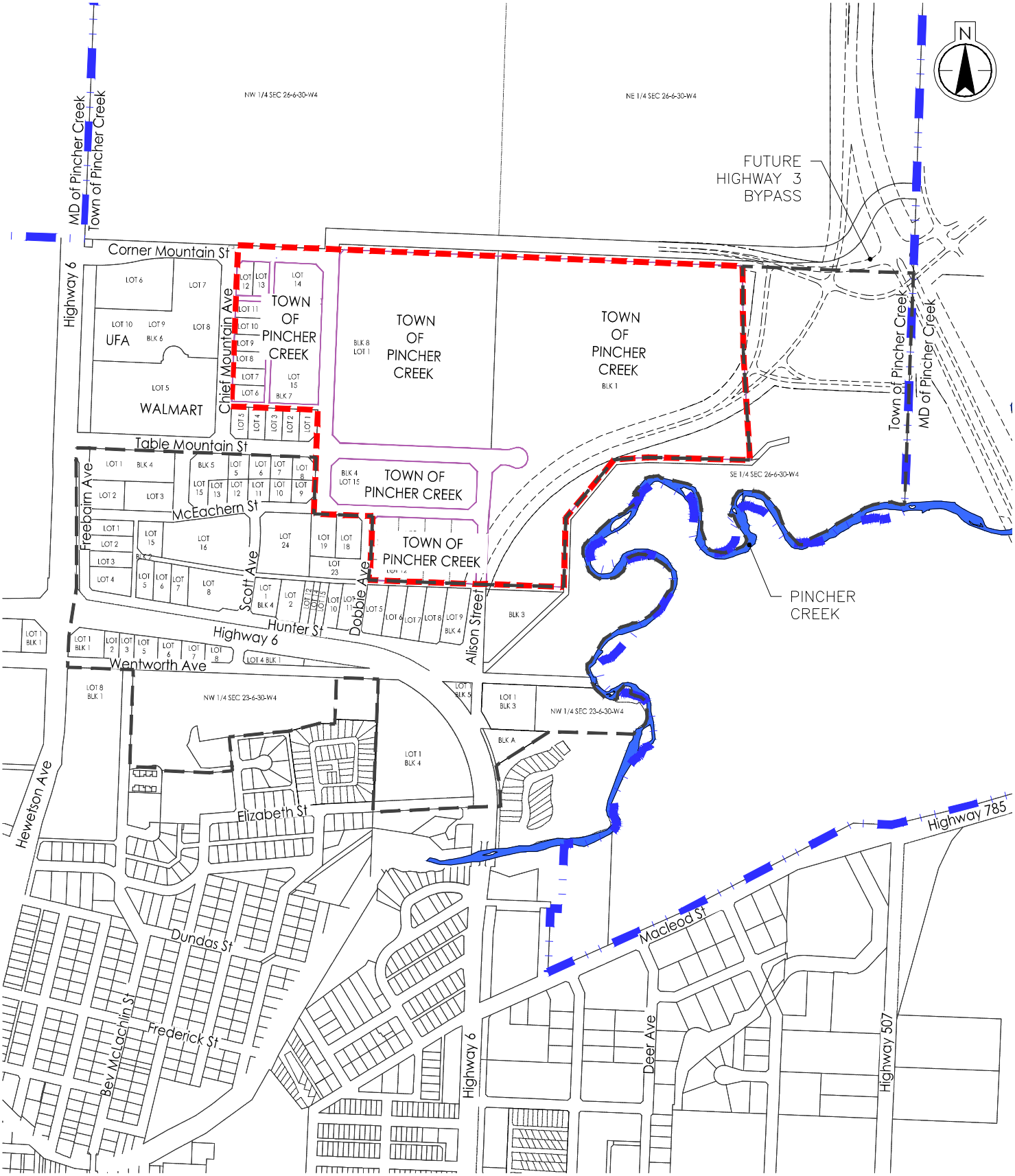

FIGURE 2.2 | NE PINCHER CREEK ASP

Land Ownership

TOWN OF PINCHER CREEK BOUNDARY

NE PINCHER CREEK PART 2 ASP BOUNDARY

BYLAW NO. 1427
NE PINCHER CREEK ASP BOUNDARY (1989)

Stantec

116549010
September 1, 2021

PREPARED FOR: Town of Pincher Creek

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2.2 EXISTING LAND USE

Existing Land Use districts within the Plan Area include:

- Transitional / Urban Reserve (TUR),
- General Industrial and Warehousing (I1), and
- Light Industrial (I2).

Historically, the Plan Area has been used as cultivated farmland. Lands on the eastern half of the Plan Area have been utilized as municipal sewage lagoons and a stockpile containing discarded soil material, asphalt, concrete, PVC scrap wood, and metals, among other materials. All previously disturbed areas have been reclaimed and are identified in the attached *FINAL – Phase 1 Environmental Site Assessment (2020, Stantec Consulting Ltd.)* report (refer to **Appendix B – Environmental Site Assessment**).

2.3 OPPORTUNITIES AND CONSTRAINTS

The Plan Area is partially developed and subdivided with various types of support infrastructure, outlined in this section, and illustrated in **Figure 2.3 Opportunities and Constraints**.

2.3.1 Existing Water Distribution System

The Town of Pincher Creek's existing water distribution system surrounds or is adjacent to the Plan Area. Extensions to the water system can be made from Corner Mountain Street to the north, as well as Table Mountain Street and McEachern Street to the south.

2.3.2 Existing Sanitary Sewer System

There is an existing sewage Lift Station #2 on the north side of the Corner Mountain Street and Chief Mountain Avenue intersection that currently services the existing lots on Chief Mountain Avenue. Information provided from the Town's Public Works Department indicates that this lift station is only sized for industrial lots fronting Chief Mountain Street. The existing gravity main along Table Mountain Street has limited servicing reach to the north due to site topography but can be utilized by adjacent parcels. This trunkline drains to the main Town Lift Station #1 located on the eastern margins of the plan.

2.3.3 Existing Site Drainage

Existing drainage onsite flows to the northeast constructed Wetlands as identified in the *Master Drainage Plan for North East Pincher Creek (April 2006, Martin Geomatic Consultants Ltd.).* Onsite systems are a combination of pipes, culverts, and open drainage ditches providing drainage continuity through the Plan Area. For further information on existing site drainage conditions, refer to **Section 9.3 Stormwater Management**.

2.3.4 Fortis Overhead Power

There is both a single-phase overhead power that runs around the entirety of the Plan Area, as well as the main three-phase distribution overhead power line that runs north-south through the middle of the Plan Area. The three-phase line is one of the main feeds into Pincher Creek directly from the substation on Range Road 301 and could not sustain a full outage at the time of development. There is a possibility that overhead lines can be relocated or buried and covered by underground right of ways at the time of detailed roadway design and subdivision.

2.3.5 Altagas & Altagas Pipelines

The existing Altagas and Altagas Pipelines have sufficient capacity for servicing this site at the time of Plan preparation; however, should intensification occur, or development plans change in the future, the available capacity will need to be evaluated at time of development. There is an existing service line that runs north-south through the center of the Plan Area. Altagas has confirmed that this line can be capped and tied into the Town gas distribution system at the time of subdivision and is not a constraint to development. There is a high-pressure line that runs across the north side of the Plan Area, tying into the regulating station that is adjacent to Highway 6 and Corner Mountain Street.

2.3.6 Telecommunications

Telus has existing infrastructure surrounding the Plan Area with a mix of underground infrastructure and aerial cable. Major facility upgrades for servicing the Plan Area are not anticipated to be required as of time of Plan preparation.

2.3.7 MD of Pincher Creek

Drainage impacts need to be considered during future designs and construction for the existing residential area of Lowland Heights, which is within the MD of Pincher Creek.

2.3.8 Local Road Network

The current local road network is laid out in a modified north-south, east-west grid pattern, adjusting for the alignment of Highway 6 further south of the Plan Area. Opportunities exist to improve the functionality of the internal roadway network along the eastern portion of the Plan Area through extension of Table Mountain Street to Allison Street and removing the curvilinear portion of Dobbie Avenue north of McEachern Street (refer to **Figure 2.3**).

2.3.9 Highway 3 Bypass

Alberta Transportation's preliminary design of the ***Highway 3 Bypass*** is identified in **Figure 2.1 and Figure 2.3** and shows the Highway re-alignment in relation to the ASP Boundary. The design and construction time of this bypass is unknown as of time of Plan preparation. The current alignment identifies a future encroachment into two existing parcels along Allison Street (Plan 0611417 Block 4 Lot 25 and Plan 0113201 Block 4 Lot 9). Future acquisition and subdivision will be required to accommodate this alignment. **Please refer to Appendix E – Alberta Transportation Correspondence**.

2.3.10 Confined Feeding Operations (CFOs)

The required Minimum Distance Separation (MDS) from confined feeding operations (CFOs) to development is based on guidelines that are laid out by the Natural Resource Conservation Board. MDS setbacks are based on the Category of Livestock (i.e. Beef, Dairy, Swine), the type of livestock (cows/finishers, feeders, feeder calf), and the number of animals on site. Data for the setback was based on information from the *Intermunicipal Development Plan for the Town of Pincher Creek and the MD of Pincher Creek (2010)*. This setback does not impact the Plan Area.

2.3.11 Former Stockpile

The southeast corner of the Plan Area contains a former stockpile that has been capped. Based on guidelines from Alberta Environment and Parks (AEP) the minimum setback of 300m for residential, hospitals and food establishments must be maintained unless the municipality applies for a reduced setback waiver. Based on the location of the stockpile, the setback will not impact developable land occupied by industrial/commercial land uses.

2.3.12 Former Sewage Lagoon

The location of four former sewage lagoons in use from approximately 1975-1985 are located east of the ¼ section line running north-south through the middle of the Plan Area. This land has since been reclaimed. Refer to **Appendix B – Environmental Site Assessment** for more information.

2.3.13 Floodway and Floodway Fringe

The Pincher Creek (watercourse) lies to the south and east of the Plan Area. The floodway and floodway fringe do not enter the Plan Area. Floodway and floodway fringe data was provided by the Oldman River Regional Services Commission.

2.3.14 Biophysical Assessment

A desktop evaluation of the biophysical environment focusing on wetlands is provided in **Appendix C – Biophysical Assessment.**

NW 1/4 SEC 26-6-30-W4

NE 1/4 SEC 26-6-30-W4

OFFSITE CONTRIBUTING OVERLAND FLOW

OFFSITE CONTRIBUTING OVERLAND FLOW

MD of Pincher Creek

Town of Pincher Creek

FORTIS THREE PHASE OVERHEAD LINES DIRECT FROM SUB STATION

ALTAGAS LOW PRESSURE GAS

ALTAGAS PIPELINES HIGH PRESSURE GAS

FEED LOT SETBACK

FUTURE HIGHWAY 3 BYPASS

300m STOCKPILE SETBACK

WATER EXTENSION

EXISTING SANITARY LIFT STATION #2

Corner Mountain St

Highway 6

LOT 6

LOT 7

LOT 10

LOT 9

LOT 8

BLK 6

LOT 5

LOT 12

LOT 13

DRAINAGE LOT 14

LOT 11

LOT 10

LOT 9

LOT 8

LOT 7

LOT 6

BLK 7

LOT 15

Chief Mountain Ave

EPHEMERAL WATERBODY

DRAINAGE

ARTIFICIAL POND

EXISTING CONSTRUCTED WETLAND

FORMER SEWER LAGOON AREA

BLK 8 LOT 1

BLK 6 LOT 1

STORM GRAVITY LINE OUTLET

TEMPORARY MARSH

ALTAGAS SERVICE LINE TO BE REROUTED

ARTIFICIAL DRAINAGE

BLK 1

WATER EXTENSION

ARTIFICIAL DRAINAGE

GRAVITY SANITARY SEWER BOUNDARY

LOT 5

LOT 4

LOT 3

LOT 2

LOT 1

FORMER STOCKPILE

Town of Pincher Creek

MD of Pincher Creek

Table Mountain St

LOT 1

BLK 4

BLK 5

LOT 5

LOT 6

LOT 7

LOT 8

LOT 15

LOT 13

LOT 12

LOT 11

LOT 10

LOT 9

LOT 2

LOT 3

BLK 4 LOT 15

SANITARY SEWER GRAVITY LINE

BLK 5 LOT 2

TEMPORARY MARSH

EXISTING SANITARY LIFT STATION #1

SE 1/4 SEC 26-6-30-W4

McEachern St

Freebairn Ave

LOT 1

LOT 2

LOT 3

LOT 4

LOT 15

LOT 16

BLK 2

WATER EXTENSION

LOT 24

LOT 19

LOT 18

LOT 23

LOT 17

LOT 16

BLK 4

LOT 24

LOT 25

LOT 12

EPHEMERAL WATERBODY

LOT 5

LOT 6

LOT 7

LOT 8

Scott Ave

LOT 1 BLK 4

LOT 2

LOT 12

LOT 14

LOT 15

LOT 10

LOT 11

Dobbie Ave

LOT 5

POTENTIAL LOOPING WATER

LOT 6

LOT 7

LOT 8

LOT 9

BLK 4

Alison Street

BLK 3

LOWLANDS HEIGHTS

GAS

AB-507

LOT 2

LOT 1 BLK 1

Hunter St

Highway 6

Wentworth Ave

LOT 1 BLK 1

LOT 2

LOT 3

LOT 5

LOT 6

LOT 7

LOT 8

LOT 4 BLK 1

LOT 8 BLK 1

NW 1/4 SEC 23-6-30-W4

LOT 1 BLK 4

LOT 1 BLK 5

LOT 1 BLK 3

NW 1/4 SEC 23-6-30-W4

FIGURE 2.3 | NE PINCHER CREEK ASP

Opportunities and Constraints

PREPARED FOR: Town of Pincher Creek

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FLOODWAY BOUNDARY

FLOODWAY FRINGE BOUNDARY

FORMER SEWER LAGOON AREA

TOWN OF PINCHER CREEK BOUNDARY

NE PINCHER CREEK PART 2 ASP BOUNDARY

BYLAW NO. 1427

NE PINCHER CREEK ASP BOUNDARY (1989)

PROPOSED HIGHWAY 3 BYPASS

EXISTING WATER MAIN

EXISTING STORM MAIN - GRAVITY

EXISTING SANITARY - FORCEMAIN

EXISTING SANITARY MAIN - GRAVITY

EXISTING HIGH PRESSURE NATURAL GAS

EXISTING LOW PRESSURE NATURAL GAS

EXISTING TELLECOMMUNICATIONS

EXISTING THREE PHASE OVERHEAD POWER

EXISTING SINGLE PHASE OVERHEAD POWER

Stantec

116549010
September 1, 2021

3.0 PLANNING AND POLICY CONTEXT

The Plan has been prepared in accordance with Section 633 of the MGA which requires that an ASP contain the following:

- Sequence of development proposed for the area,
- The land uses proposed for an area, either generally or with respect to specific parts of the area,
- The general location of major transportation routes and public utilities, and
- May contain other matters as the Town of Pincher Creek Council considers necessary, including Town of Pincher Creek Council's Strategic Objectives and Vision and matters related to reserves, among others.

Planning and policy context items are identified below along with key elements of Plan compliance with higher order plans, where applicable.

3.1 SOUTH SASKATCHEWAN REGIONAL PLAN

The South Saskatchewan Regional Plan (SSRP) came into effect in September 2014. It sets out a directive for managing the land and natural resources of the lands within the South Saskatchewan River Basin, the Milk River Basin and the Alberta portion of the Cypress Hills. The SSRP sets the stage for growth in the South Saskatchewan Region, identifying strategic directions over a 10-year period (2014-2024). The SSRP establishes a long-term vision for the region, aligns policies at the regional levels to balance Alberta's economic, environmental, and social goals, describes strategies, actions, and approaches to achieve desired outcomes and objectives, and provides guidance to local decision-makers regarding land use management in the region.

3.2 TOWN OF PINCHER CREEK MD OF PINCHER CREEK NO. 9 IDP

The *Town of Pincher Creek MD of Pincher Creek IDP (2010)* was adopted in September 2010 under Bylaw No. 2010-11 (Town) and Bylaw No. 1200-10 (MD). The IDP serves to guide further regional development direction between neighboring communities and provide a framework for ongoing regional investments and intermunicipal collaboration. The Plan is in keeping with the vision and direction of the IDP in many respects, including, but not limited to:

- Establishing land use patterns compatible with development and land use policies of the MD of Pincher Creek,
- Establishes a framework for development that is part of an orderly urban expansion, minimizing disruption to the agricultural community,
- Further advancement of a safe and efficient roadway network; and
- Outlines parameters for servicing lands in an appropriate location and in accordance with appropriate municipal standards.

3.3 TOWN OF PINCHER CREEK MDP

The Town of Pincher Creek MDP was adopted in October 2013 under bylaw No. 1518-13. The MDP serves to guide future growth and development within Pincher Creek towards a desired future, envisioning what the community will look like over a 5 to 20+ year horizon. The MDP establishes a framework to coordinate policies, programs, and investments of the Town, as well as serve as a foundation on which actions and decisions of Council, Town Administration, and other decision-making bodies are based. The MDP describes “what” and “how” other plans, documents, and ASPs (such as the Northeast Pincher Creek Part 2 ASP) are made, providing high-level objectives and goals for each type of plan.

The Plan is meant to be read in conjunction with the MDP, integrating and reflecting its overarching policies through land use decisions, based on the desired outcomes and principal objectives of the MDP. These outcomes are reflected in the land use and associated policies contained within this Plan.

3.4 TOWN OF PINCHER CREEK STRATEGIC PLAN

The Town of Pincher Creek’s 2018 Strategic Plan establishes the municipal priorities through to 2022 and provides Council high-level direction. Note, the 2018 Strategic Plan Mission:

Working in the best interest of the community through thoughtful, responsive and accountable public service.

The Plan specifically addresses a number of Town Strategic Plan objectives, including, but not limited to:

- Further contributing to the ongoing efforts of the Northeast Development Plan,
- Attracting new businesses through new industrial development land opportunities,
- Further defining the land area to provide new sports fields, and
- Supporting additional employment lands to serve future population increase.

The Plan will attract new business to the community by providing the framework for the development and implementation of new industry which in turn will provide jobs and potentially new residents to the community.

The Plan will also attract new events to the community through the establishment of a large open space area that could include numerous facilities like sports fields and a new recreational center in keeping with the *Town of Pincher Creeks Recreation Master Plan’s* Guiding Principles.

The Plan outlines key development considerations and options for ultimate utility installations through the Plan Area for stormwater management that will outline efficient growth approaches for industrial lands and future development west of Highway 6.

4.0 SUPPORTING DOCUMENTATION

The following is a summary of key items from the supplementary reports appended to the Plan.

4.1 ENVIRONMENTAL SITE ASSESSMENT

Stantec has prepared a consolidated Phase I Environmental Site Assessment (ESA) to support the Plan. The *FINAL – Phase 1 Environmental Site Assessment (2020, Stantec Consulting Ltd.)* report is included in **Appendix B – Environmental Site Assessment** for reference. Key items requiring consideration at the time of subdivision and construction include the following:

- *Former Sewage Lagoon Areas*-soil, groundwater and soil vapour reviews are recommended prior to development in these areas. The placement of buildings and structures in these areas is not recommended without further environmental and geotechnical investigations.
- *Low Lying Areas* - Should low lying areas be re-developed as identified within the Plan Area, care should be taken to remove all organic materials prior to reclamation.
- *Waste Material Stockpile* – An informal waste material stockpile area has been identified east of Chief Mountain Avenue. Further evaluation of this material including methods of safe disposal are recommended prior to development.

The level of detail required for future evaluations and recommendations will be subject to the final intended land use and occupancy of the site area.

4.2 BIOPHYSICAL REVIEW

Stantec has prepared a desktop environmental review of biophysical elements for the Plan. This review is included in **Appendix C – Biophysical Review** for reference. Key items requiring consideration at the time of subdivision and construction include, but are not limited to the following:

- *Waterbody and Vegetation Surveys* (seasonally constrained June through September).
- *Wildlife Habitat Reconnaissance* (seasonally constrained May through September).
- *Water Act Approvals* including field surveys of ephemeral waterbodies, wetlands, and drainages in advance of construction and prior to any removal or replacement.

Field evaluations and reporting of waterbodies will likely include compensation to the Province of Alberta.

4.3 ADDITIONAL STUDIES

Additional studies that should be completed prior to subdivision and development include an Historical Resource Assessment (HRA) and Geotechnical assessment. From a historical resource perspective, it is anticipated as unlikely that historical elements remain onsite given agricultural and former land uses identified in **Section 2.0 Existing Conditions**. Site specific geotechnical work is recommended at the time of development and subdivision to confirm all project requirements; the existing conditions inventory provides guidance on these future efforts within the plan boundary.

5.0 PUBLIC ENGAGEMENT

5.1 OPEN HOUSE

A virtual open house showcasing land use, infrastructure and community connectivity was hosted on April 8, 2021, from 7:00 PM to 8:00 PM. Following the open house, presentation material was made available to the community through the Town website as well as a recording of virtual event. The slide deck as presented is attached as **Appendix D – Open House** along with formal comments received during online forum.

The following summary of community comments gathered and noted about the plan content from the virtual event is included for reference.

1. Concern expressed about future recreational facilities and amenities that might conflict with existing facilities in the downtown core. The town should not create competition to downtown core and negatively impact it.
2. Pleased to see trail linkages and integration of open space to the wetland areas and opportunity for open space development. Permitted uses seem appropriate given what is already happening in the area.
3. Concern expressed if enough land was being dedicated to industrial uses.
4. Concern expressed about community connectivity and access across Highway 6; this needs to be considered for future design and evaluated to create safe transportation corridors for all users.
5. Pleased to see flexibility in the final size dedication of Open Space and Industrial Land as market conditions will change over time.
6. Pleased with detail of municipal infrastructure in the plan and how it will attract and prepare our community for future investment.

6.0 LAND USE CONCEPT AND STATISTICS

The Plan is comprised of the following proposed general land use classifications, outlined in **Table 1 Land Use Statistics** below (refer to **Figure 6.1 Land Use Concept**):

Table 1 Land Use Statistics

Land Use Category	Area		% of Plan Area
	ha	ac	
Industrial/Commercial (I2, I3, C2)	9.01 ha	22.26 ac	19.0%
Parks and Open Space (POS)	25.83 ha	63.83 ac	54.2%
Roads	4.99 ha	12.33 ac	10.4%
Stormwater Facility	7.82 ha	19.32 ac	16.4%
Total Plan Area	**47.65 ha**	**117.74 ac**	**100.0%**

The proposed land use concept is intended to provide direction to future subdivision and investment; it is not intended to prescribe the final divisions of land parcels, roads and utility right of ways. Depending on changing market conditions and need, the Town of Pincher Creek may consider the adjustment of land distributions within the Plan Area at its discretion. This plan provides flexibility using either I2, I3 or C2 to adapt to future land uses and maximize opportunities for employment land development that integrates with the current built for and future recreational plans. Given the business and recreational uses within the Plan Area, residential or I1 zonings are not considered appropriate.

Final land use districts will be confirmed prior to subdivision and detailed design. A portion of lands are currently zoned I1 and I2.

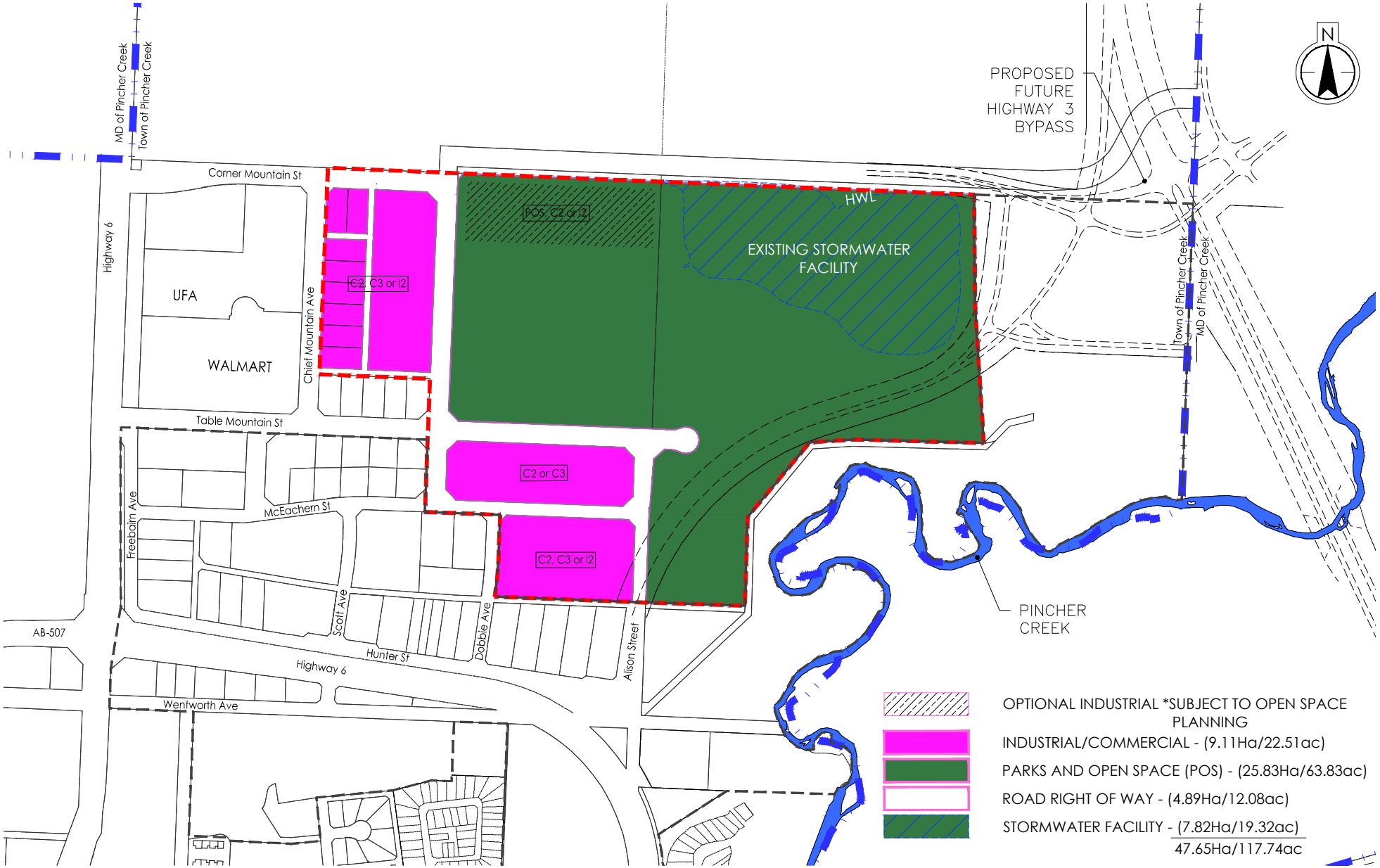

FIGURE 6.1 | NE PINCHER CREEK ASP

Land Use Concept

TOWN OF PINCHER CREEK BOUNDARY
NE PINCHER CREEK PART 2 ASP BOUNDARY (47.65Ha/117.74ac)
BYLAW NO. 1427 NE PINCHER CREEK ASP BOUNDARY (1989)
PROPOSED PROPERTY LINES
C2, C3 or I2
ZONING OPTIONS

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September 1, 2021

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7.0 LAND USE

This section outlines policies for areas identified in **Figure 6.1 Land Use Concept**. The proposed land use districts shown in the Land Use Concept are conceptual and subject to refinement prior to subdivision and detailed design. The proposed land use districts represent the intended outcomes and options for future development types and may not reflect final outcomes following future subdivision and detailed design exercises.

Policies

The following policies apply to the entirety of the Plan Area.

1. Display of vehicles, machinery or equipment may be permitted under I2 or I3 districts if such display does not interfere with the front or side yards.
2. Primary entrances to buildings should be visible from the street and accentuated through building articulation, and both hard and soft landscaping.
3. Public amenity spaces for employees should be visible and adjacent to the street to encourage activity on the street. These spaces should provide shelter and seating.
4. Light Industrial (I2) and Business Park (I3) areas shall conform to quality architectural, landscaping and site development guidelines including landscaping, screening, parking and access, garbage containment, outside storage, signage, lighting, and appearance guidelines.

For details on permitted and discretionary uses along with other site development conditions, refer to the Town of Pincher Creek Land Use Bylaw No. 1547.

7.1 INDUSTRIAL (I)

The intent of Industrial parcels is to provide opportunity for appropriate land uses that support non-residential development. Industrial zoning under the I1, I2 and I3 districts as identified in the Town of Pincher Creek Land Use Bylaw No. 1547. The intent of these districts is as follows:

7.1.1 General Industrial and Warehousing (I1)

The intent of the ***General Industrial and Warehousing (I1)*** land use district is to:

(a) accommodate a wide range of predominantly light industrial and warehousing uses;
(b) accommodate selected commercial uses; and
(c) accommodate where possible other industrial uses which may:
- be considered noxious or hazardous since they involve operations, processes or substances which require safety or other precautions;
- require special precautions and/or siting to minimize land use conflicts;
- require exceptionally large lots; or
- require careful consideration because they require services beyond those which are readily available.

Policies

1. I1 land use districts shall not be permitted in the Plan Area.

7.1.2 Light Industrial (I2)

The intent of ***Light Industrial (I2)*** is to allow light industrial and other comparable development in those areas of the Town that are considered to be most suitable while prohibiting noxious uses.

Policies

1. Light Industrial should be located in those areas illustrated in **Figure 6.1 Land Use Concept**.

2. Light Industrial should include uses such as equipment or vehicle sales and servicing, light manufacturing, contractor, utility, and public service uses. Subordinate office uses may be present as long as they do not interfere with the primary use.

3. Outdoor storage shall be permitted within the Light Industrial area; however, applicants must demonstrate effective screening to minimize the visual impact at the development permit stage.

7.1.3 Business Park (I3)

The intent of ***Business Park (I3)*** land use district is to accommodate a variety of compatible commercial, light industrial, recreational, public, and institutional uses in the business park, promoting a harmonious business environment.

Policies

1. Business Park should be located in those areas illustrated in the Land Use Concept.
2. Business Park should include a range of restaurants, contractors, drive-in and offices. Secondary uses which enable the primary intent of business and integrate with adjacent land uses which promote a harmonious business environment can be supported.
3. Outdoor storage shall be permitted within the areas of **Figure 6.1 Land Use Concept** identified as I3; however, applicants must demonstrate effective screening to minimize the visual impact at the development permit stage.

7.2 HIGHWAY / DRIVE-IN COMMERCIAL (C2)

The intent of ***Highway / Drive-in Commercial (C2)*** is to manage the development of commercial uses which require high visibility and ready access to designated highways for the benefit of motoring public and provide convenient highway proximate locations for commercial uses.

Policies

1. Highway / Drive-In Commercial should be located in those areas illustrated in **Figure 6.1 Land Use Concept**.
2. Highway / Drive-In Commercial should include a range of commercial uses that serve automotive access.
3. Landscaping of developments within C2 districts shall be provided on all street frontages.
4. Drive-throughs, if proposed at development permit stage, shall be integrated into the building design and shall not be a component of the building frontage (i.e., drive-throughs shall not be located in the front of buildings).
5. Loading and waste and recycling facilities should be designed to avoid negative visual impact to the adjacent road and POS districts.

7.3 PARKS AND OPEN SPACE (POS)

The proposed ***Parks and Open Space (POS)*** district is currently located on Transitional Urban Reserve (TUR). Due to existing site conditions in certain areas of this land and location in proximity to prominent local roadways, public open space development is proposed as a way to provide valuable public open space in a highly accessible area, near major commercial and industrial opportunities. In addition, the open space as identified allows for future highway bypass development with minimal impact to municipal infrastructure removals and interruptions to future programming opportunities for the open space area.

The intent of the POS district is to identify public parks and recreation areas and facilitate their development; identify lands designated as Environmental Reserve (ER) or Municipal Reserve (MR) under the MGA and provide a means whereby buffer strips and public open space may be readily identified.

Policies

1. The POS areas should be located as illustrated in **Figure 6.1 Land Use Concept**.
2. POS districts within the Plan Area should not be less than 4.00 ha (9.88 ac) or exceed 25.83 ha (63.83 ac) in order to provide adequate open space programming, as well as maintain lands for future commercial/industrial development opportunities.
3. POS may include commercial uses and/or private recreational buildings which serve a community recreational purpose.
4. The general layout of pathways and facility siting should follow the recommendations outlined in **Figure 7.1 Parks and Open Space**.
5. Main entrances to buildings should be visible from the street and accentuated through building articulation, and both hard and soft landscaping.
6. Opportunities for viewing and seating along the boundary of Pincher Creek should be considered during detailed design.

FIGURE 7.1 | NE PINCHER CREEK ASP

Parks and Open Space

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- TOWN OF PINCHER CREEK BOUNDARY
- NE PINCHER CREEK PART 2 ASP BOUNDARY (47.65Ha/117.74ac)
- BYLAW NO. 1427 NE PINCHER CREEK ASP BOUNDARY (1989)
- PROPOSED PROPERTY LINES
- EXISTING PATHWAY SYSTEM
- FUTURE PATHWAY SYSTEM
- FUTURE ROADWAY

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8.0 TRANSPORTATION

8.1 TRANSPORTATION NETWORK

The proposed roadway network layout is a continuation of the existing roadways and integrates the new area into the existing development to facilitate an effective transition. Existing and future conditions were considered in the development of the network, including the future Highway 3 bypass on the east side of the Plan Area. Generally, the Plan Area is provided with existing access from all directions. No additional access requirements are anticipated and no additional connections to the existing highway network (Highway 6 and future Highway 3 bypass) are proposed. While construction of the highway bypass is anticipated to occur over the long-term (which could be as long as 15+ years), the future highway right-of-way is required to be protected in the short-term. For this reason, the roadway network has been designed with this future connection in mind.

Internal roadways within the Plan Area are not intended to intersect with the Highway 3 bypass right-of-way. This is to ensure that proposed circulation within the Plan Area will not be affected at time of highway bypass construction and limit interruptions to the Highway 3 bypass intersecting with Highway 6. Allison Street, south of McEachern Street, will require future modification (or closure) to account for the future Highway 3 bypass connection with Highway 6.

The conceptual roadway and pathway network are outlined in **Figure 8.1 Transportation Network**.

Policies

1. Roadways within the Plan Area should generally follow the roadway network outlined in **Figure 8.1 Transportation Network**.

2. Right-of-way shall be protected for the future Highway 3 bypass as part of all future subdivision, land use, and development permit applications.

3. Future pathway connections should generally align with those illustrated in **Figure 8.1 Transportation Network**.

4. The area identified as the future Highway 3 bypass (to Highway 6) shall not be developed with permanent structures, buildings, or recreational infrastructure, that will necessitate them having to be removed when the bypass right-of-way is purchased by AT for highway road construction.

5. The existing Lot 25, Block 4, Plan 0611417, will be impacted by the future Highway 3 bypass and cannot be developed in the SE portion required for the highway right-of-way. Access to the remnant lot area shall only be provided to the north from McEachern St.

6. If the lane in the plan labelled Area “H” (East-half of Block 7, Plan 0613747) is deemed unnecessary and a consolidation of all the existing titles to land in Area “H” occurs in order to form one amalgamated block, then a formal road (lane) closure process will be required to be undertaken by the Town (see area “H” on **Figure 10.1**).

8.1.1 Transportation Opportunities

There is a skew in the road where the existing Corner Mountain Street will be extended to intersect with the existing 90-degree curve to the east. There is potential for a roundabout at this location to improve sightlines and keep traffic flowing safely. Completion of design-work related to future intersection upgrades at Corner Mountain Street will require future land acquisitions. Interim intersection improvements should also be considered during staged development of the intersection.

Policies

1. Intersection treatments/upgrades (including a potential roundabout solution) for the existing Corner Mountain Street intersection shall be explored at subdivision or detailed design stage to address/compensate for the skewed intersection alignment.

8.1.2 Roadway Cross-Sections

All existing roadways within the Plan Area are developed to a rural classification with an approximate 10 m wide asphalt surface, typically represented by the cross-section shown in **Figure 8.2 Existing Rural Road**.

All roads in the Plan Area will be constructed to an urban cross-section with curb and gutter. This conversion (from the previously developed rural cross-sections) to an urban cross-section will allow the public to integrate into the Plan Area through a greater variety of transportation modes, making use of the sidewalks to access the recreational areas from nearby businesses and beyond. Asphalt width would be set to a minimum of 12 m, allowing truck traffic to pass with passenger vehicles parked on each side of the road. The proposed cross-section is identified in **Figure 8.3 Typical Urban Standard**.

Policies

1. Roadways within the Plan Area should be developed to an urban standard cross-section (see **Figure 8.3 Typical Urban Standard** cross-section).

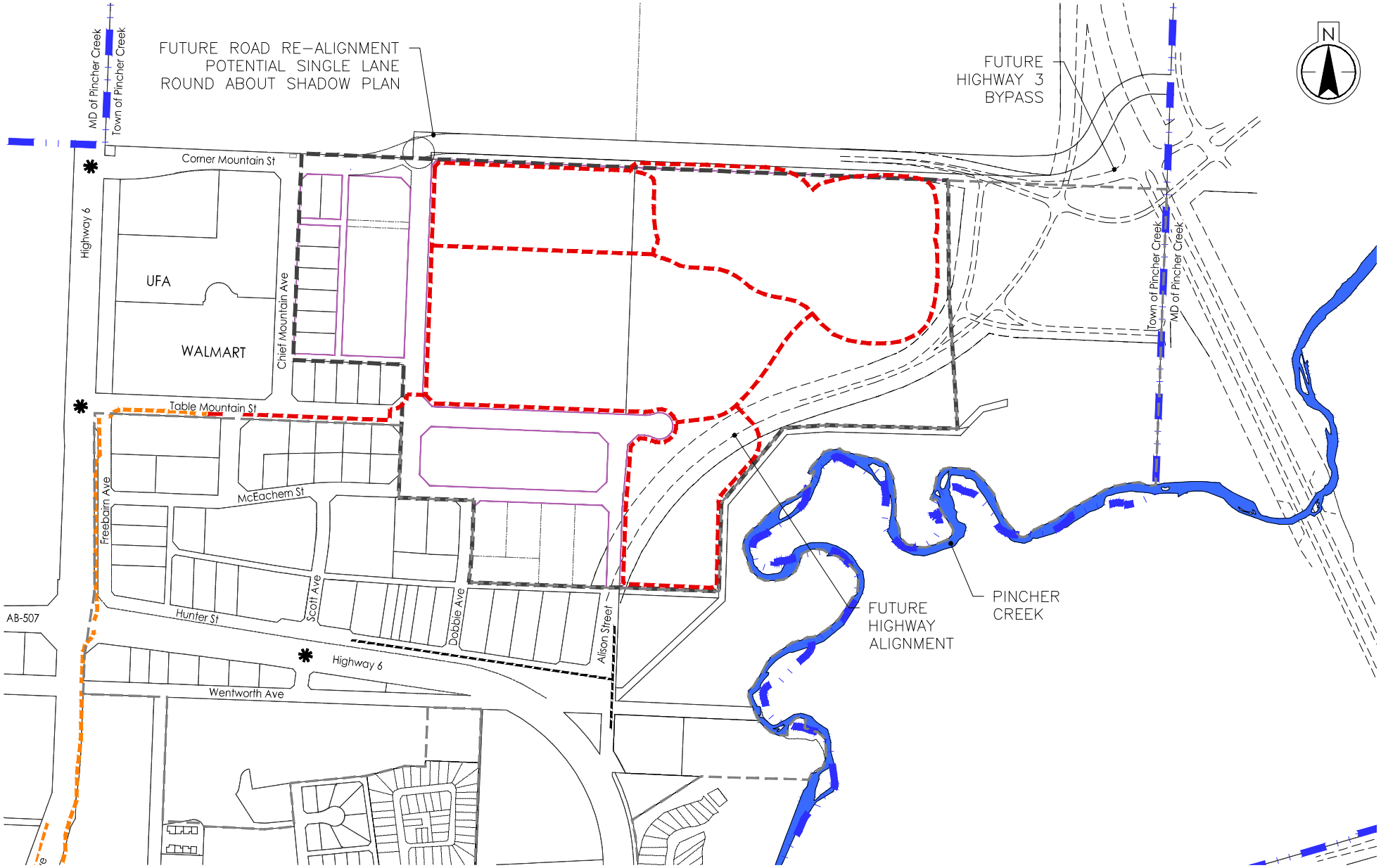

FIGURE 8.1 | NE PINCHER CREEK ASP

Transportation Network

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TOWN OF PINCHER CREEK BOUNDARY
NE PINCHER CREEK PART 2 ASP BOUNDARY
BYLAW NO. 1427 NE PINCHER CREEK ASP BOUNDARY (1989)
EXISTING PATHWAY SYSTEM
FUTURE PATHWAY SYSTEM
LOCAL SERVICE ROAD
HIGHWAY INTERSECTION

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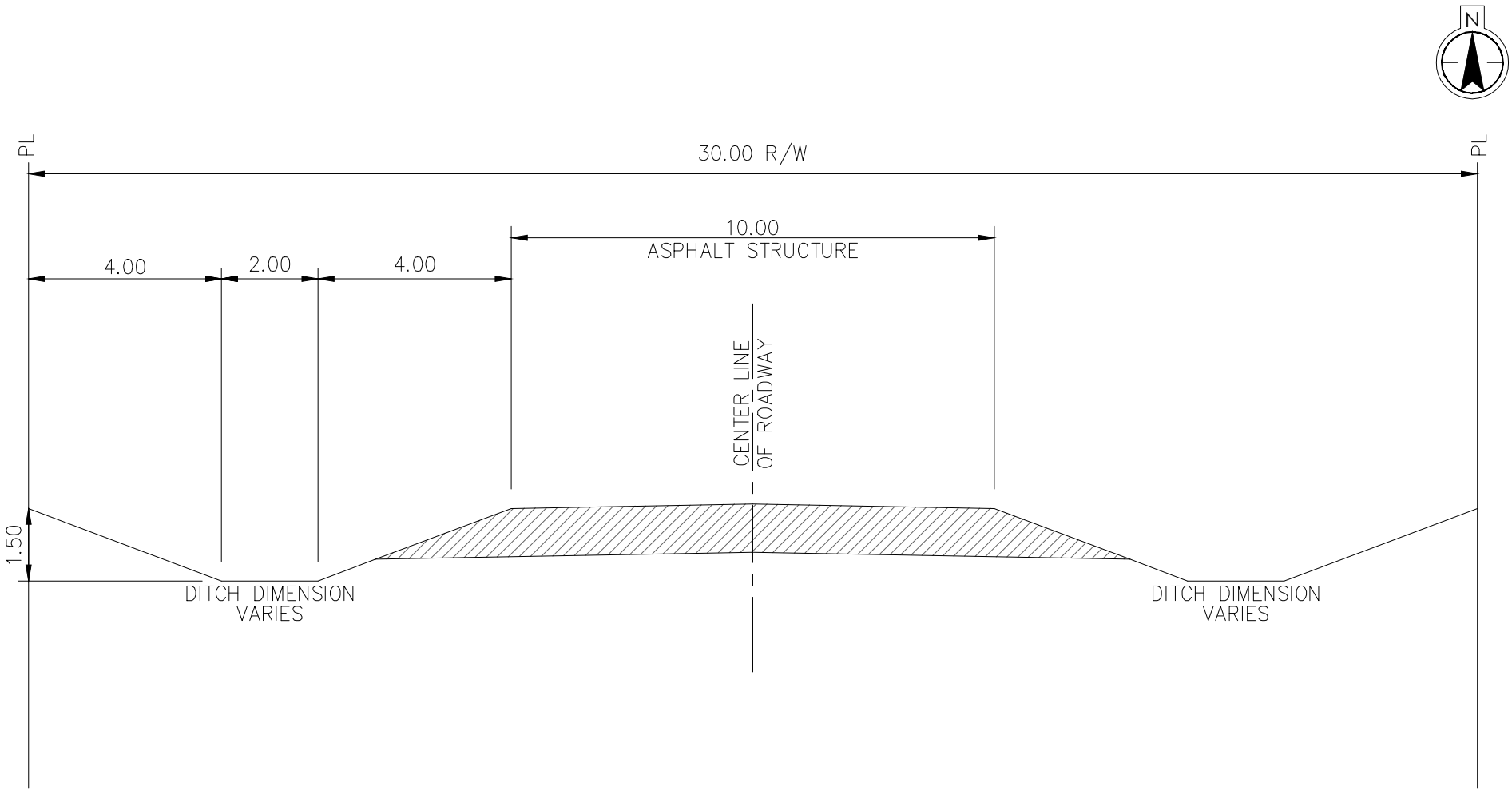

FIGURE 8.2 | NE PINCHER CREEK ASP

Existing Rural Road

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PREPARED FOR: Town of Pincher Creek

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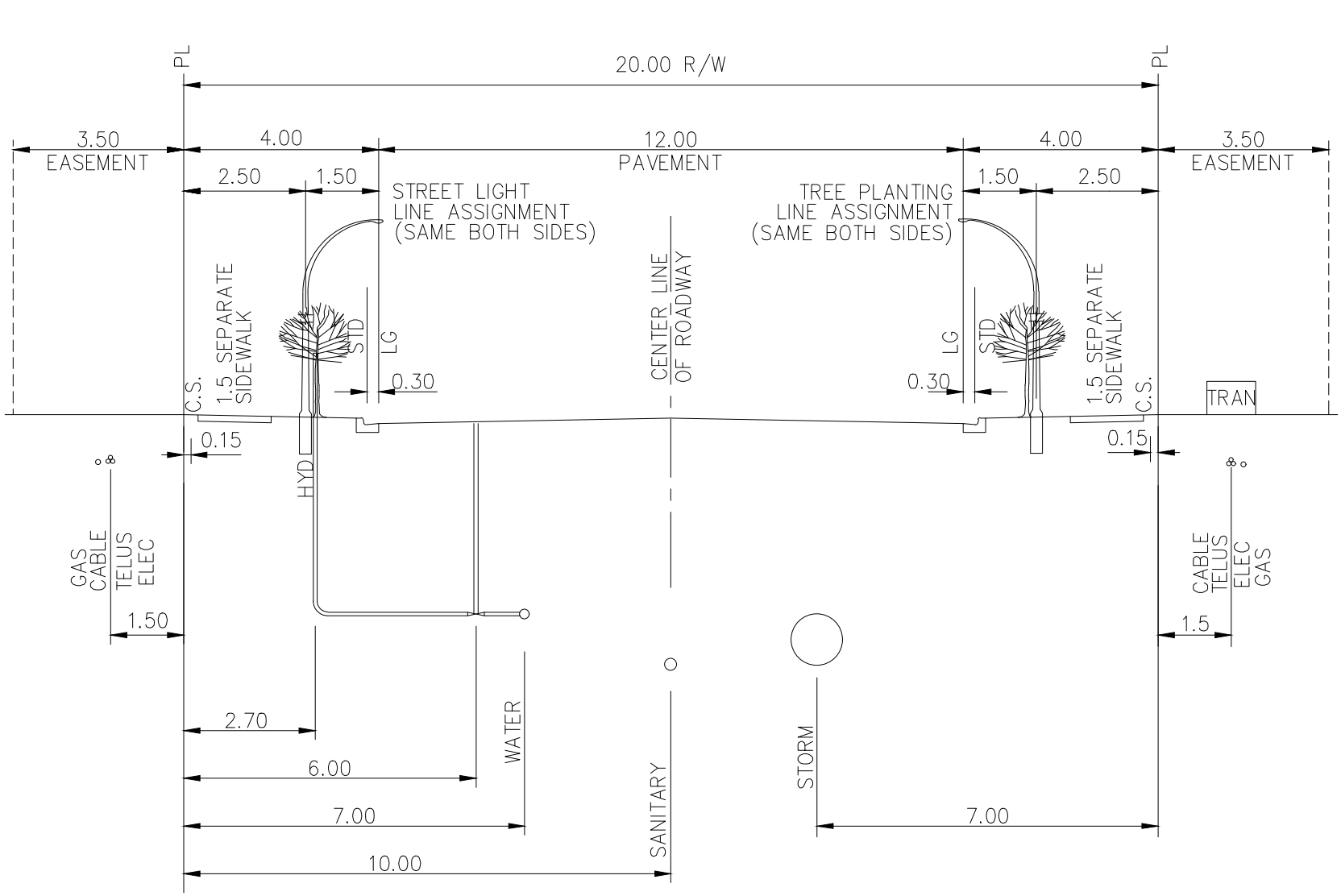

FIGURE 8.3 | NE PINCHER CREEK ASP

Typical Urban Standard

Cross-Section

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9.0 SERVICING

The following section outlines the conceptual servicing systems along with flow and demand estimations. All information shall be reviewed and confirmed at detailed design.

9.1 SANITARY SEWER

As identified in Section 2.3, the plan area is partially serviced by a combination of gravity and pressurized systems. **Figure 9.1 Sanitary Sewer System** highlights existing and proposed sewage collection systems. Our evaluation of future sewage flows within the plan area has been derived utilizing *Alberta Government, Part 4 Wastewater System Guidelines for Design, Operating and Monitoring (March 2013)*.

- Dry Weather Flow 30 m³ / ha / day
- Wet Weather Flows 7.5 m³ / ha / day
- Infiltration 2.25 m³ / ha / day
- Peaking Factor 6.659 (Q Average^-0.168)

Based on the above, the total estimated sewage from the Plan Area to receiving systems for conveyance and treatment is outlined in **Table 2 Conveyance and Treatment Capacity** below.

Table 2 Conveyance and Treatment Capacity

Land Use	Land Area	Cumulative Area	Peak Flow	Peak Volume
Commercial Industrial (Upstream)	19 (47 ac)	19 ha (47 ac)	17 L/s	1,492 m^3
Industrial/Recreation (Plan Area)	10 (25 ac)	29 ha (72 ac)	25 L/s	2,141 m^3

The *Town of Pincher Creek's Infrastructure Master Plan (IMP) Update* (October 2010, AECOM) indicates that capacity exists in the Table Mountain Street gravity sewer line for peak flows identified above. The Ø250 sewer is identified to have a capacity of 56 L/s, and the Ø300 sewer is identified to have a capacity of 68 L/s. Full buildout of lands upstream of, and including the Plan Area, can be accommodated in the existing Table Mountain Gravity Sewer through a combination of gravity sewer and lift station infrastructure improvements as identified.

However, should a future northeast sewer servicing trunk be extended from the east along the north boundary of the Plan Area, peak sewage flows to Table Mountain Street Sewer will be reduced. For further information on the staging of sewer, refer to **Section 9.0 Implementation and Subdivision**.

Policies

1. All sewage discharged to public systems shall meet the requirements of the Town of Pincher Creek Utility Bylaw and as such, developments may be required to complete on-site treatment of sewage prior to release.

2. Reuse of water on-site should be encouraged over wastewater release to municipal sewage systems where practical.

3. Residual capacities of sewer systems should be re-evaluated by the municipality at every development stage to ensure the efficient utilization of downstream infrastructure.

4. The completion of parcel development utilizing existing sewer infrastructure should be prioritized over parcels requiring offsite infrastructure improvements.

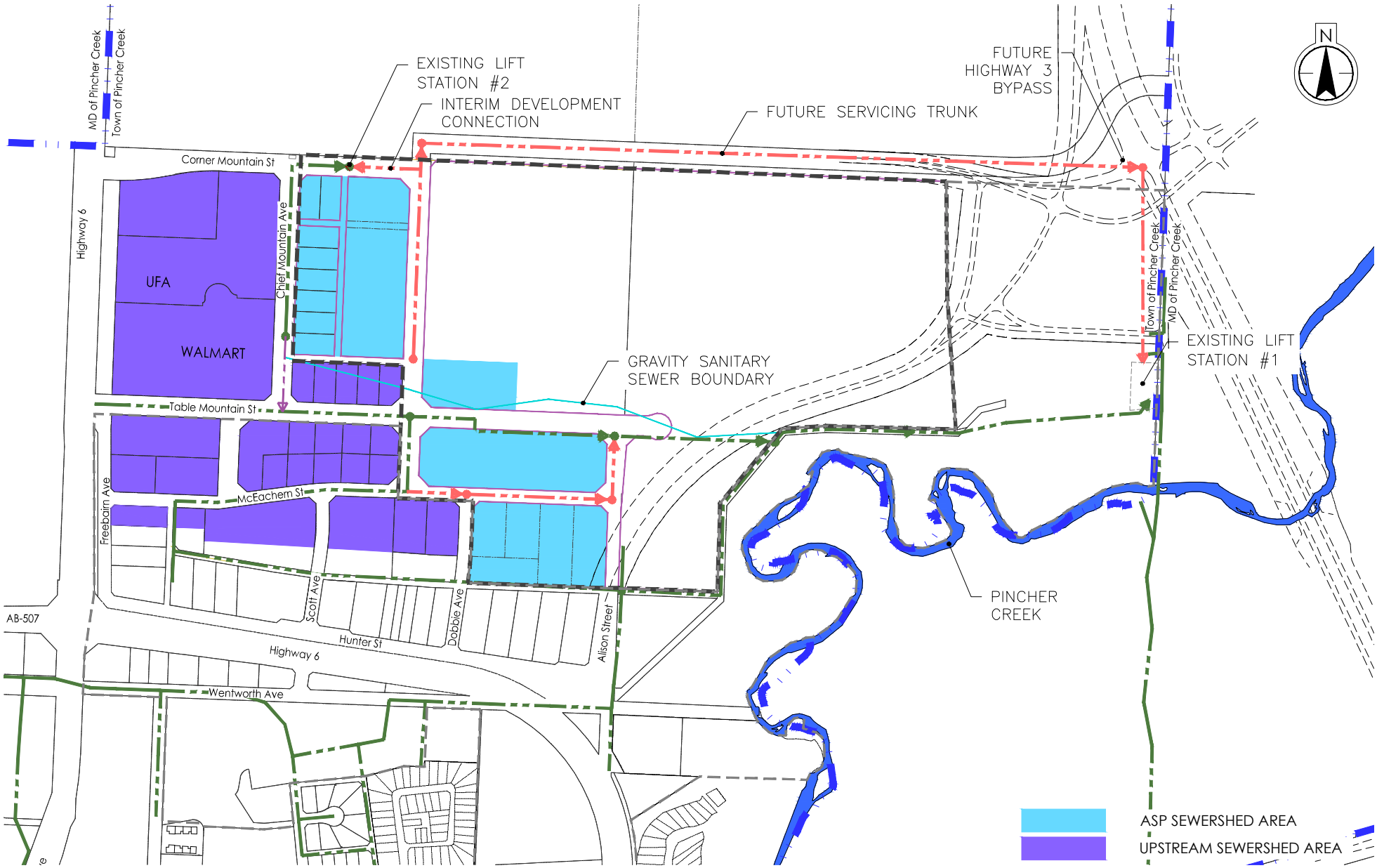

FIGURE 9.1 | NE PINCHER CREEK ASP

Sanitary Sewer System

Concept Plan

PREPARED FOR: Town of Pincher Creek

TOWN OF PINCHER CREEK BOUNDARY
NE PINCHER CREEK PART 2 ASP BOUNDARY
BYLAW NO. 1427 NE PINCHER CREEK ASP BOUNDARY (1989)
PROPOSED GRAVITY SEWER
EXISTING FORCEMAIN
EXISTING GRAVITY SEWER

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September 1, 2021

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9.2 WATER DISTRIBUTION

The Plan is currently serviced with potable water distribution systems that terminate at the margins of the Plan Area. These existing installations allow for the looping of water systems during phased implementation of development. The creation of dead-end water systems during industrial site development should be avoided to provide for system redundancy and adequate fire flows. As per the Town of Pincher Creek IMP, a minimum Ø250mm water mains should be installed throughout the Plan Area. However, Ø300mm water main should be extended along Corner Mountain Street as it will potentially connect to future development north of the Plan Area. It should be noted that existing and proposed water distribution systems do not meet the demands of high-water consumption industries like food processing.

Fire hydrant spacing within industrial lands is currently required at 100 m intervals, measured along the roadway centerline. However, this spacing could be adjusted to suit onsite parcel development requirements if confirmed during the installation of municipal systems.

Refer to **Figure 9.2 Water Distribution System** for conceptual water servicing network.

Policies

1. Dead end waterline systems should be avoided where practical to allow for adequate system redundancies and improve fire flows to development areas.

2. Minimum Ø250mm water mains should be installed throughout the Plan Area.

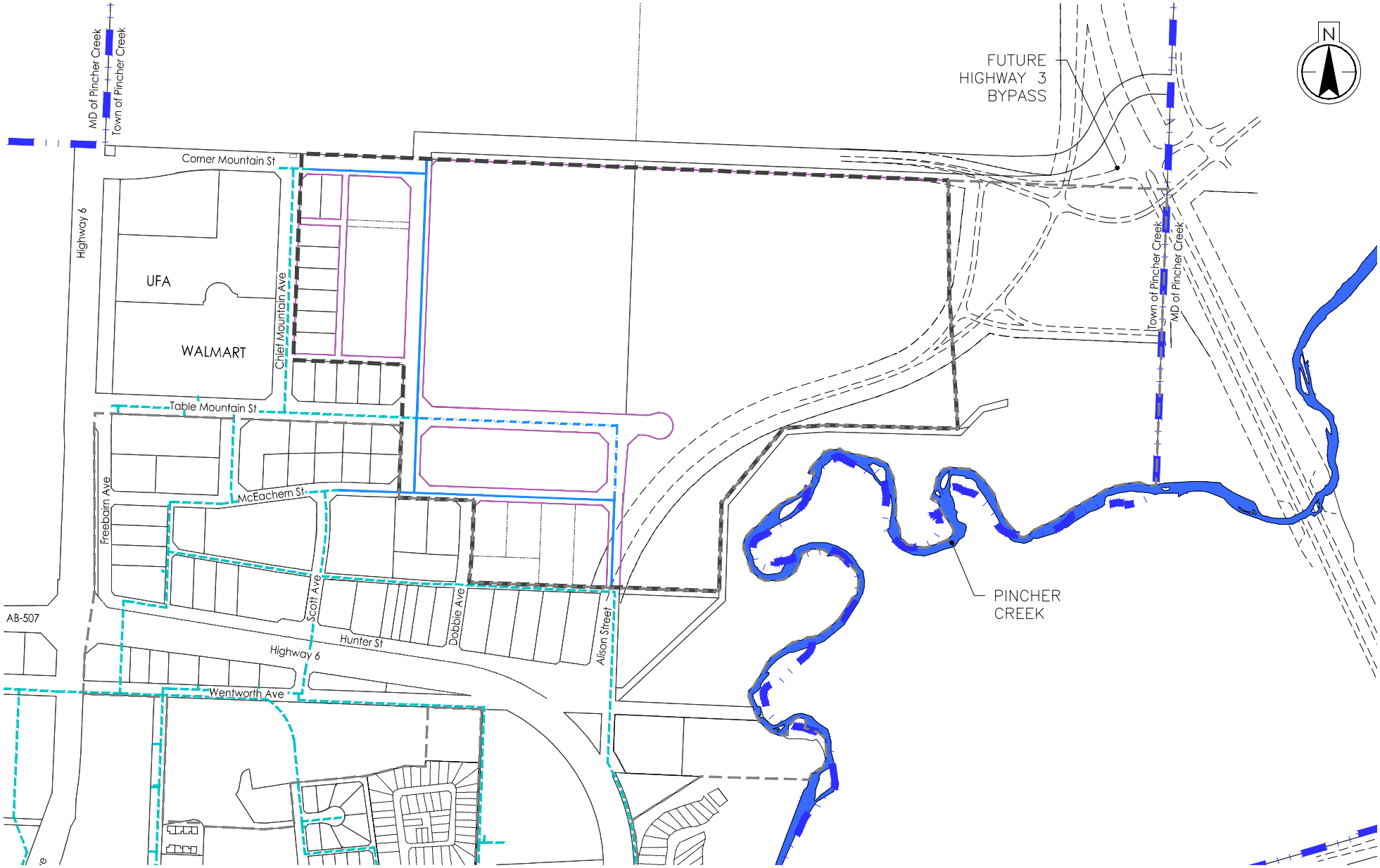

FIGURE 9.2 | NE PINCHER CREEK ASP

Water Distribution System

Concept Plan

PREPARED FOR: Town of Pincher Creek

- TOWN OF PINCHER CREEK BOUNDARY
- NE PINCHER CREEK PART 2 ASP BOUNDARY
- BYLAW NO. 1427 NE PINCHER CREEK ASP BOUNDARY (1989)
- EXISTING WATER
- PROPOSED WATER
- OPTIONAL WATER LOOP

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September 1, 2021

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9.3 STORMWATER MANAGEMENT

The stormwater management servicing concept for the Plan is proposed as a standard urban dual-drainage system comprised of a:

- Minor storm sewer system (Pipes and Catch basins), and
- Major storm system (Surface Drainage along Road R/W to Ponds).

This dual-drainage system allows the Town to move to an urbanized road cross-section with curbs, gutters, and sidewalks, and away from the rural cross-sections (ditches/swales) currently in use. The interface of these two systems will need to be carefully investigated at detailed design.

The critical infrastructure component for future regional development (inclusive of the Plan Area) is the creation of a trunk line from the existing storm water management facility in the northeast area of the Plan Area, installed along Corner Mountain Street to Highway 6. This line shall be sized to account for upstream flows as identified in the *Master Drainage Plan for North East Pincher Creek* (2006, Martin Geomatic Consultants Ltd.) Refer to **Figure 9.3.2 Stormwater Management-Watershed Context**.

Hydrologic models using ***PCSWMM Version 7.3*** have been developed for the Plan Area to provide preliminary sizing requirements of drainage systems based on existing ground conditions and grades. The models estimate pre- and post-development conditions stormwater runoff across the Plan Area and offsite areas that contribute stormwater runoff to the existing constructed wetland in the northeast corner of the Plan boundary.

Rainfall events are simulated using a theoretical design storm using the Chicago Distribution to evaluate stormwater management system behavior as identified in the *Master Drainage Plan for North East Pincher Creek* (2006, Martin Geomatic Consultants Ltd.). The 1:5 year, 24-hour Chicago design event was used to determine runoff rates from the Plan Area to calculate the flows discharged to the minor systems. The total rainfall resulting from the 1:5 year, 24-hour rainfall event is 43.4 mm. The 1:100 year, 24-hour Chicago design event was used to confirm requirements of the major drainage system, including storage facilities. Total rainfall resulting from the 1:100 year, 24-hour rainfall event is 106.9 mm. Graphs A and B present the rainfall hyetographs for 1:5-year and 1:100-year 24-hour design storms.

For the purpose of this evaluation, developed conditions for all lands except for lands north of the Plan Area are assumed.

Graph A: Design Storm Rainfall Hyetograph for a 1:5-Year 24-Hour Design Storm and **Graph B: Design Storm Rainfall Hyetograph** for a 1:100-Year 24-Hour Design Storm illustrate these 1:5 and 1:100-year scenarios.

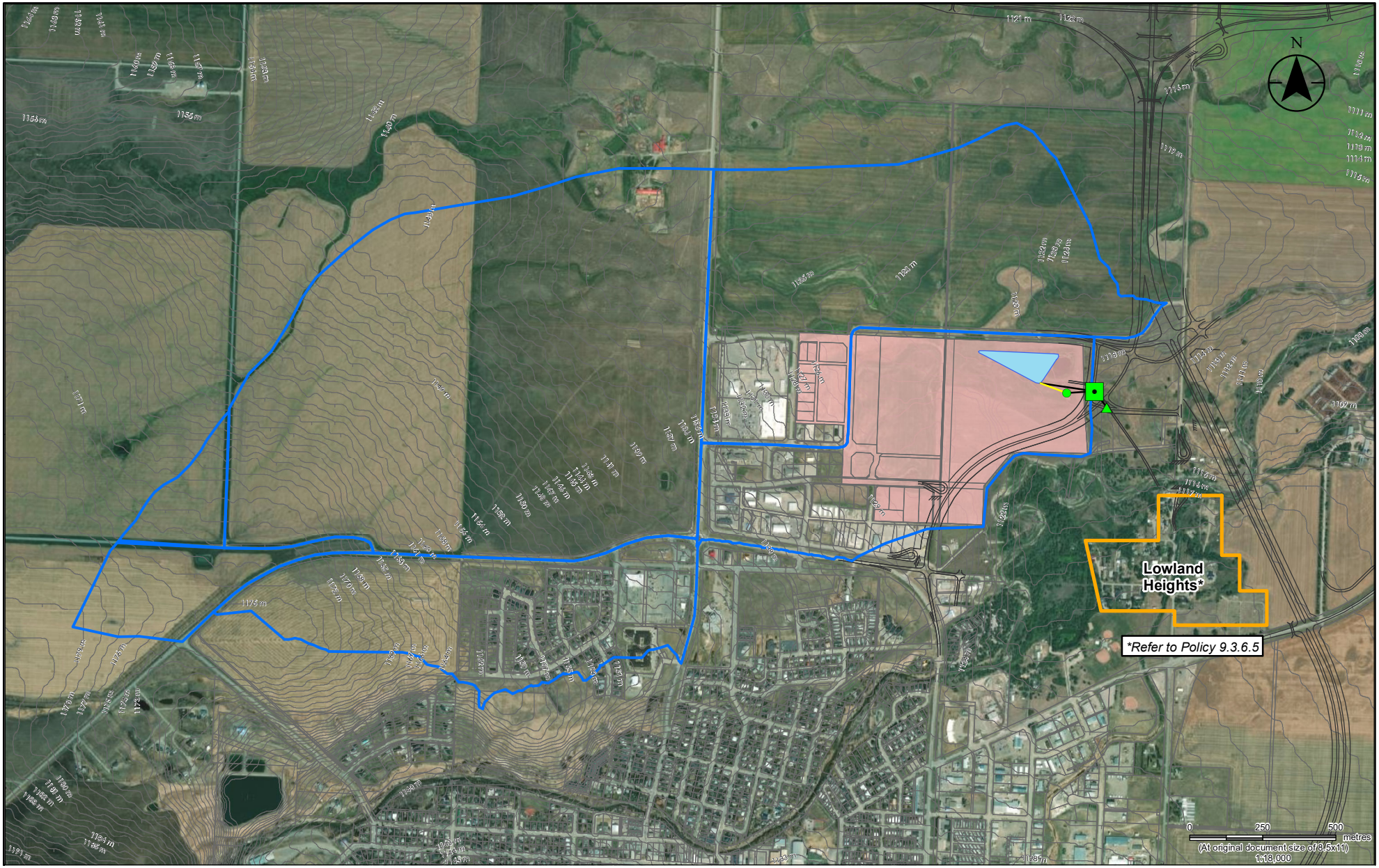

FIGURE: 9.3.2 | PINCHER CREEK NE ASP

Stormwater Management Existing Site Conditions

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Legend

- Outfall
- Existing SWMF
- Existing Manhole
- Orifice
- Existing Pipe
- Future/Proposed HWY 3 Bypass
- Property Line
- Contour - 1m
- Wetland
- Existing Drainage Catchment
- ASP Boundary
- Lowland Heights

Notes
1. Coordinate System: NAD 1983 UTM Zone 12N
2. Background: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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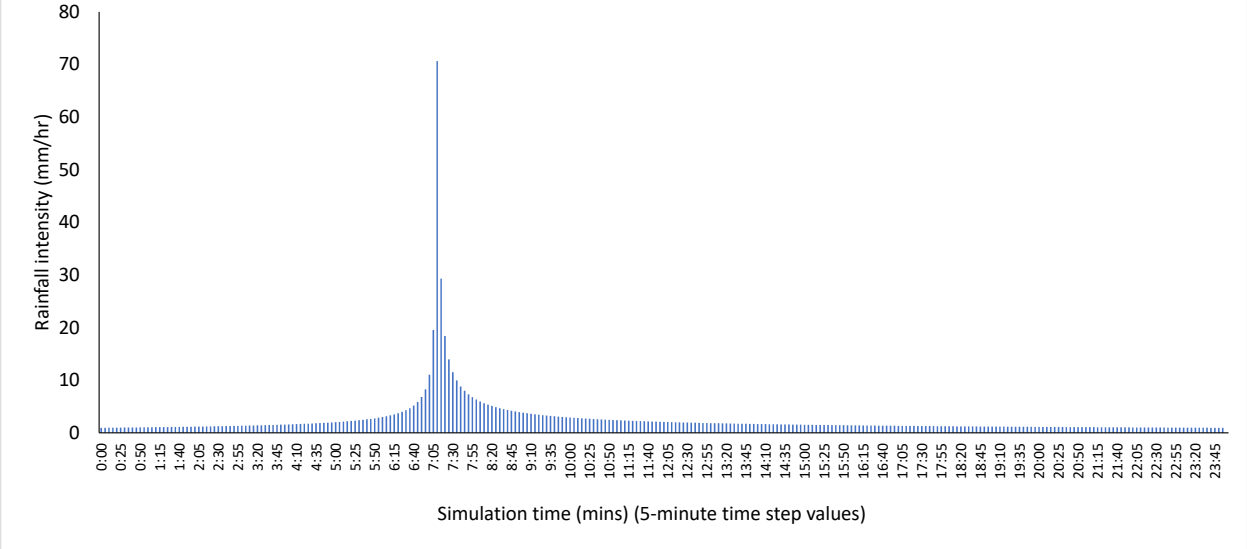
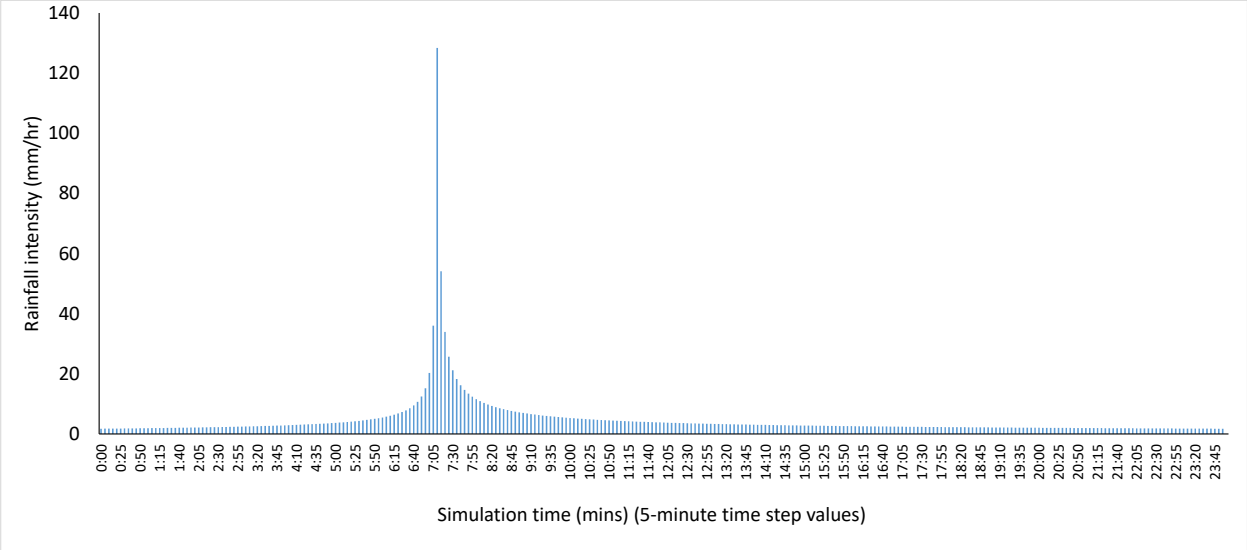
July 25, 2022

Graph A: Design Storm Rainfall Hyetograph for a 1:5-Year 24-Hour Design Storm



Graph B: Design Storm Rainfall Hyetograph for a 1:100-Year 24-Hour Design Storm



9.3.1 Watershed Context

Figure 9.3.2 Stormwater Management-Watershed Context illustrates the Plan boundary in relation to the overall watershed. Catchment boundaries were derived from the existing ground conditions Digital Elevation Model (DEM). Drainage area includes lands south of Highway 507 (S4_1, S4_2, S4_3), west of Highway 6 (S1, S2, S3_1, S3_2), north of the Plan Area (S5), the Plan Area, and the constructed wetland.

The Plan Area was divided into a series of sub-catchments based on topography. Soil within the Plan Area is expected to have the infiltration characteristics of clay, and infiltration is accounted for by utilizing the Green-Ampt infiltration method, using values provided in the *Master Drainage Plan for North East Pincher Creek* (April 2006, Martin Geomatic Consultants Ltd.). Soil and surface characteristics parameters are presented in **Table 3 Model Design Parameters – Soil and Surface Characteristics** below.

Table 3 Model Design Parameters – Soil and Surface Characteristics

Design Parameter	Value
Soil Suction Head	320.4 mm
Hydraulic Conductivity	0.254 mm/hr
Depression Storage - Impervious Surfaces	1.6 mm
Depression Storage - Pervious Surfaces	5.0 mm
Initial Soil Moisture Deficit (Fraction)	0.113
Manning's n value - Impervious Surfaces	0.015
Manning's n value - Pervious Surfaces	0.15

9.3.2 Existing Conditions – Stormwater

The existing condition includes development areas south of Highway 507 and east of Highway 6. Other areas are mainly undeveloped. All areas are ultimately discharged to the constructed wetland, which is a hybrid facility that includes a forebay, an upper basin, and a lower basin. This facility will control runoff from the upstream catchment and provide treatment for runoff. The runoff eventually drains to the outlet channel and into Pincher Creek. Pre-development condition characteristics are shown in **Table 4 Pre-Development Conditions Subcatchment Characteristics** below and illustrated in **Figure 9.3.2 Stormwater Management-Existing Site Conditions**.

Table 4 Pre-Development Conditions Subcatchment Characteristics

Subcatchment ID	Area		Flow Width	Slope %	Imperv. %
	ha	ac			
S1	17.3 ha	42.7 ac	417 m	2.1 %	5.6 %
S2	8.5 ha	21.0 ac	229 m	2.3 %	3.9 %
S3	180.9 ha	447.0 ac	926 m	3.1 %	0.9 %
S4	56.2 ha	138.9 ac	954 m	3.3 %	32.8 %
S5	100.0 ha	247.1 ac	1085 m	1.9 %	12.1 %
S6	65.4 ha	161.6 ac	472 m	2.3 %	35.0 %

9.3.3 Proposed Infrastructure

A conceptual servicing strategy is identified on **Figure 9.3.3 Stormwater Management-Proposed Infrastructure** that consists of a standard dual drainage system. Where possible, restrictions from catchment areas west of Highway 6 and south of Highway 507 were identified and modeled at 9.2 L/s/ha. The maximum discharge rate from these developed areas (S1, S2, S3_1, S4_1, S4_2, S4_3) to the Plan Area at the intersection of Highway 6 and Corner Mountain Street is 2.35 m^3/s in a 1:100-year storm event. Furthermore, the maximum discharges to the outlet channel were estimated at 5.65 m^3/s and 4.06 m^3/s in the pre- and post-development conditions.

Post-development sub-catchment characteristics are shown **Table 5 Post-Development Conditions Subcatchment Characteristics** below.

Table 5 Post-Development Conditions Subcatchment Characteristics

Subcatchment ID	Area		Width (m)	Slope (%)	Imperv. (%)
	ha	ac			
110	6.2 ha	15.3 ac	200 m	2.4 %	70.0 %
120-1	3.2 ha	7.9 ac	500 m	2.6 %	70.0 %
120-2	8.1 ha	20.0 ac	500 m	2.5 %	70.0 %
120-3	2.1 ha	5.2 ac	340 m	2.7 %	70.0 %
200-1	2.0 ha	4.94 ac	360 m	3.1 %	70.0 %
200-2	5.0 ha	12.4 ac	576 m	1.5 %	70.0 %
210	2.4 ha	5.9 ac	90 m	3.0 %	70.0 %
215	1.0 ha	2.5 ac	300 m	3.3 %	70.0 %
220	7.5 ha	18.5 ac	240 m	3.2 %	70.0 %
230	4.7 ha	11.6 ac	230 m	3.0 %	70.0 %
300	1.0 ha	2.5 ac	40 m	2.9 %	70.0 %
310	4.4 ha	10.9 ac	200 m	1.4 %	70.0 %
320	2.8 ha	6.9 ac	160 m	1.8 %	70.0 %
330	4.1 ha	10.1 ac	150 m	2.6 %	70.0 %
S1	17.3 ha	42.7 ac	417 m	2.1 %	50.0 %
S2	8.5 ha	21.0 ac	229 m	2.3 %	50.0 %
S3_1	102.8 ha	254.0 ac	660 m	3.4 %	50.0 %
S3_2	78.1 ha	193.0 ac	500 m	2.6 %	0.2 %
S4_1	22.9 ha	56.6 ac	350 m	3.5 %	50.0 %
S4_2	13.8 ha	34.1 ac	290 m	3.5 %	50.0 %
S4_3	19.6 ha	48.4 ac	500 m	2.9 %	50.0 %
S5	80.0 ha	197.7 ac	1300 m	1.8 %	2.0 %
Wetland	27.9 ha	68.9 ac	400 m	1.9 %	38.0 %

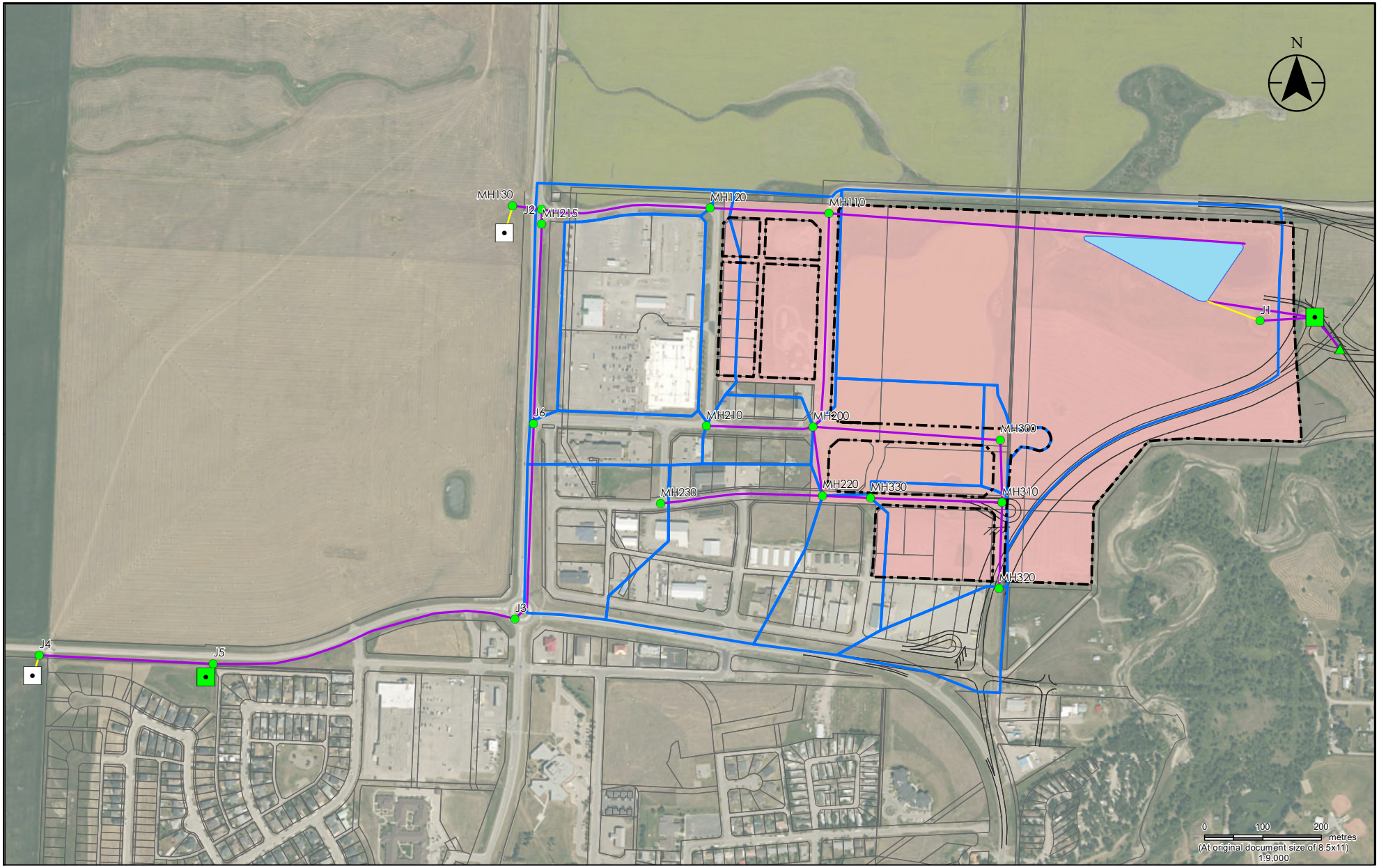


FIGURE: 9.3.3 | NE PINCHER CREEK ASP

Stormwater Management Proposed Infrastructure

PREPARED FOR: TOWN OF PINCHER CREEK

\\Cd1207-f05\shared_projects\116549010\gis\map_mxd\Fig_933_NE_ASP_Prop.mxd
8/26/2021 3:29:59 PM By: ehewko

Legend

- Outfall
- Existing SWMF
- Future SWMF
- Proposed Manhole
- SWMF Outlets
- Proposed Stormwater Pipe
- Proposed Road
- Future/Proposed HWY 3 Bypass
- Property Line
- ASP Boundary
- Proposed Drainage Catchment
- Wetland

Stantec

116549010
August 26, 2021

Notes
1. Coordinate System: NAD 1983 UTM Zone 12N
2. Background: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

9.3.4 Minor Storm System

Preliminary pipe sizing, in the table below, is provided based on existing topography and grades and subject to further refinement at detailed design and subdivision. Downstream pipe sizing has been modelled based upon a restricted release rate of 40L/s/Ha from future private parcels. In addition, existing restrictions as implemented by the Walmart Development west of our plan have been considered in the pipe sizing provided in **Table 6 Minor Stormwater System Sizing Information** below.

Table 6 Minor Stormwater System Sizing Information

Pipe ID	Size	Length	Slope %	Roughness	Contributing Area		Max. Flow
					ha	ac	
MIN110-wetland	1350 mm	712.8 m	1.4 %	0.011	239.3 ha	591.3 ac	4.68 m³/s
MIN120-110	900 mm	203.1 m	2.0 %	0.011	199.2 ha	492.2 ac	1.71 m³/s
MIN130-120_1	525 mm	49.5 m	1.0 %	0.011	128.6 ha	317.8 ac	0.47 m³/s
MIN130-120_2	675 mm	261.0 m	1.7 %	0.011	185.8 ha	459.1 ac	0.94 m³/s
MIN200-110	1050 mm	370.1 m	0.9 %	0.011	33.9 ha	83.8 ac	2.58 m³/s
MIN210-200	375 mm	182.7 m	2.5 %	0.011	2.4 ha	2.4 ac	0.18 m³/s
MIN215-J2	600 mm	16.3 m	3.1 %	0.011	57.2 ha	141.3 ac	0.92 m³/s
MIN220-200	900 mm	118.8 m	0.4 %	0.011	16.4 ha	16.4 ac	1.13 m³/s
MIN230-220	450 mm	277.8 m	2.9 %	0.011	4.7 ha	11.6 ac	0.39 m³/s
MIN300-200	900 mm	320.9 m	0.2 %	0.011	12.2 ha	30.1 ac	0.68 m³/s
MIN310-300	675 mm	107.2 m	0.5 %	0.011	11.3 ha	27.9 ac	0.61 m³/s
MIN320-310	525 mm	146.7 m	0.3 %	0.011	2.8 ha	6.9 ac	0.23 m³/s

9.3.5 Major Storm System

Roadway cross-sections will require further evaluation during detailed drainage designs to confirm accommodation of emergency overland flows from both public and private parcels. Roadway right-of-way widths are anticipated to be adequate for these purposes based on the potential for defining and routing sub-catchments that can spill into the wetland facility in multiple locations during detailed design.

Private parcels shall be serviced with a restricted release rate of 40 L/s/ha and will be required to detain stormwater onsite during the 1:100year rainfall event. It is estimated that private parcels will be required to store approximately 300m³/Ha subject to future site statistics and levels of impervious area. This equates to roughly 30mm of storage depth over 1Ha. Development permits for these future parcels shall require a stormwater management plan that confirms onsite storage and drainage effects on downstream minor and major systems.

9.3.6 Constructed Wetland Utilization

Based on the above restrictions, the existing wetland will be operating at 96% of ultimate capacity. This is based upon an ultimate active storage volume of 125,000 m³ and our modelled volume from all upstream catchments of 120,000 m³.

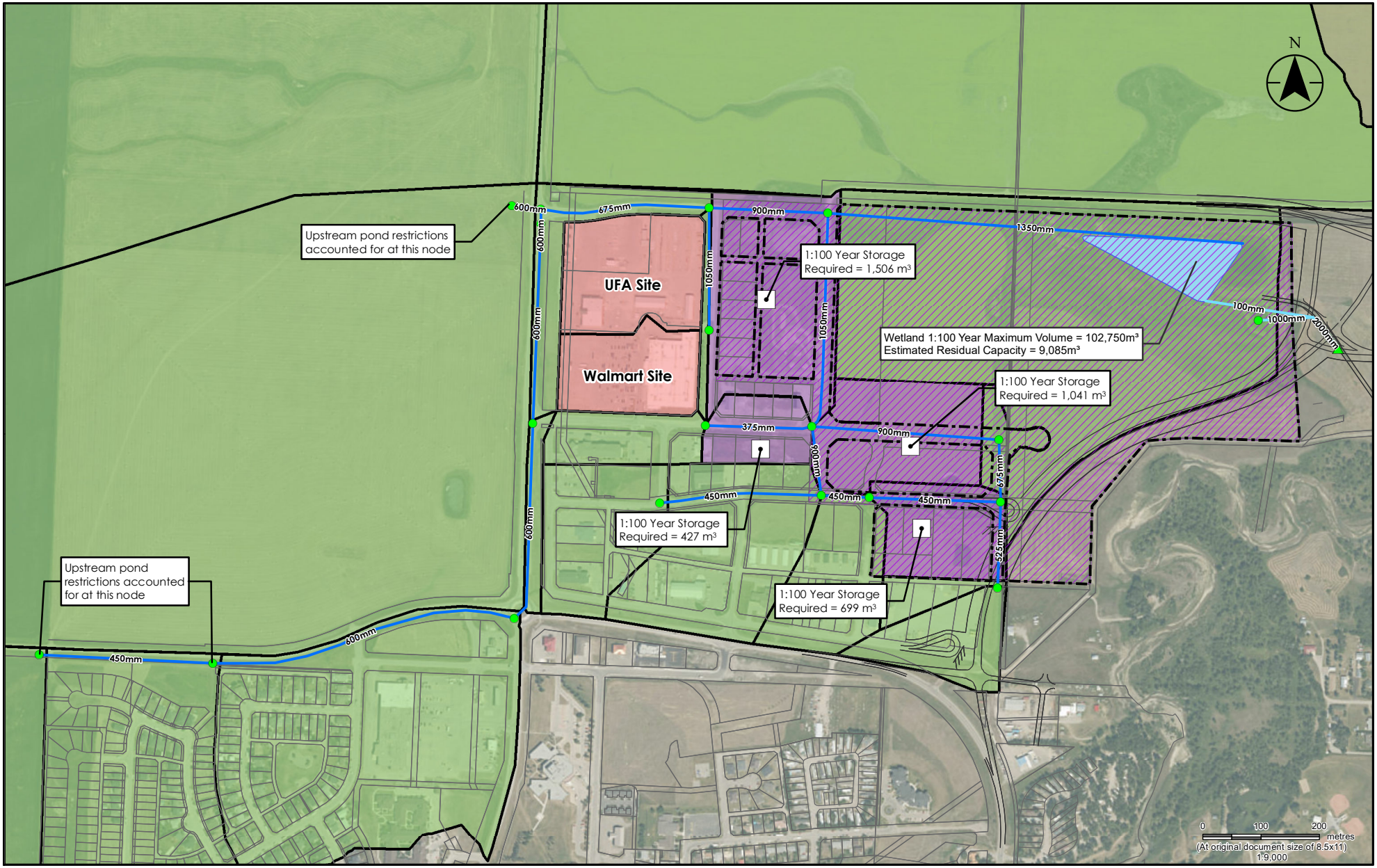


FIGURE: 9.3.4 | NE PINCHER CREEK ASP

Stormwater Management Proposed Infrastructure

PREPARED FOR: TOWN OF PINCHER CREEK

\\Cd1207-f05\shared_projects\116549010\gis\map_mxd\Fig_934_NE_ASP_Restrictions.mxd
8/26/2021 3:29:39 PM By: ehewko

Legend

- Outfall
- Conceptual Manhole
- Conceptual Storm Sewer
- Existing Storm Sewer
- Proposed Road
- Future/Proposed HWY 3 Bypass
- Property Line
- Future SWMF
- ASP Boundary
- Proposed Drainage Catchment
- Wetland

Unit Area Release Rate

- Restrictions based on design
- 9.2L/s/ha
- 40L/s/ha

Notes

1. Coordinate System: NAD 1983 UTM Zone 12N
2. Background: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Stantec

116549010
August 26, 2021

Policies

1. Private parcel developments shall be restricted to a release rate of 40 L/s/ha and will be required to detain stormwater onsite during the 1:100year rainfall event.
2. All stormwater run-off directed to public systems shall meet the requirements of the Town of Pincher Creek Utility Bylaw.
3. Industrial uses that could affect the quality if stormwater run-off shall be evaluated at the development permit stage and may require environmental review and treatment before discharge to public systems.
4. Stormwater conveyance systems in public roadways shall be dual drainage systems with a minor pipe system and major overland conveyance system. Ditch systems (Rural cross-section) should be avoided where it is practical to do so.
5. Drainage impacts shall be considered in conjunction with the MD of Pincher Creek during future site designs and construction for those parcels located within the affected catchment areas shared with the existing residential area of Lowland Heights, located within the MD of Pincher Creek.

9.4 ELECTRICAL, NATURAL GAS, AND TELECOMMUNICAITONS

Electrical, Natural Gas and Telecommunications systems are located at the boundaries of the plan area and their extension and servicing will be confirmed at the time of subdivision and detailed design. Current existing installations of Fortis and Altagas as identified in **Section 2.0 Existing Conditions** will need to be accommodated or relocated based on final development. During detailed design and permitting stages, load requirements will have to be provided to Altagas for infrastructure sizing.

Communications with all parties at the time of plan development indicate that sufficient capacities exist for land uses proposed.

Policies

1. Decisions to relocate or accommodate existing Fortis and Altagas infrastructure shall be addressed at subdivision and/or detailed design stage.

10.0 PLAN IMPLEMENTATION

Future development requirements for the Plan Area are anticipated to consist of the following, but not limited to:

- Parcel specific geotechnical and environmental field investigations including wetland compensation strategies,
- Review of Town of Pincher Creek Municipal Master Servicing and Drainage Plans,
- Land use designations selecting the appropriate district(s) among those identified in **Section 7.0**,
- Subdivision, detailed design of infrastructure, and regulatory approvals,
- Development permits for individual/site-specific developments within the Plan Area, and
- Building permits.

The policies within the ASP will be monitored over time in relation to development and monitoring of the MDP and other applicable overarching statutory and non-statutory plans. Where determined necessary, these policies will be updated through the Plan Amendment process, either generally, or in response to a specific issue.

To ensure the ASP is a living document that reflects new policies adopted by Council over time, it should be reviewed and updated periodically from the time it is initially adopted until such time as the Development Authority determines The Plan Area is fully built out.

Policies

1. Where applicable, geotechnical investigations shall be required for parcels at the discretion of the Development Authority (to be determined by the Development Authority prior to subdivision or development permit approval, whichever applies).

2. Where applicable, further environmental investigations (i.e., Biophysical Impact Assessment) shall be required for select parcels at the discretion of the Development Authority (to be determined by the Development Authority prior to subdivision or development permit approval, whichever applies).

3. The Plan should be reviewed and updated every 10 years from the time of initial adoption, until such time as the Plan is recognized to achieve full buildout by the Development Authority.

4. The Town (land developers) shall be responsible for the provision of Roads and Main Utilities during or prior to subdivision stage (whichever applies) and does not include shallow utility servicing extensions to individual lots/parcels.

5. Design and construction of shallow utility servicing to individual lots (including connection(s) to the Main) shall be the responsibility of the land purchaser or builder/developer of the individual parcel at their expense.

6. The Town will submit a Historical Resource (HR) application to the province for the adopted ASP to obtain clearance or determine if a Historical Resource Assessment needs to be completed prior to subdivision or development.

7. The Town will redesignate all current “General Industrial & Warehousing (I1) land to (I2). Individual lot purchasers and developers shall be responsible for the application and costs associated with changing the designation to C2 or I3 land use district if so desired to accommodate their proposal and intended use.

8. If the commissioned wetland analysis confirms the presence of wetlands in the development area of the ASP, the Town’s preference will be to compensate through a land removal and relocation process to relocate the wetlands to the north stormwater facility area a constructed wetland replacement. All provincial Water Act applications and approvals required to facilitate this process shall be undertaken by the municipality prior to the sale or development of any impacted lands.

9. Prior to the sale of land in Area “H” where the ESA identified a waste material stockpile of various materials (see Appendix A, Environmental Site Assessment Site Plans, **Figure 4.0**) the Town shall remove the debris and remediate the soil conditions to an acceptable standard based on the intended future industrial/commercial use. If the land is proposed for short-term accommodation (e.g., hotel/motel) or a business involving food preparation, the municipality may decide to conduct a further environmental assessment of the soil to ensure no hydrocarbons or other toxic materials are present in consideration of provincial guidelines.

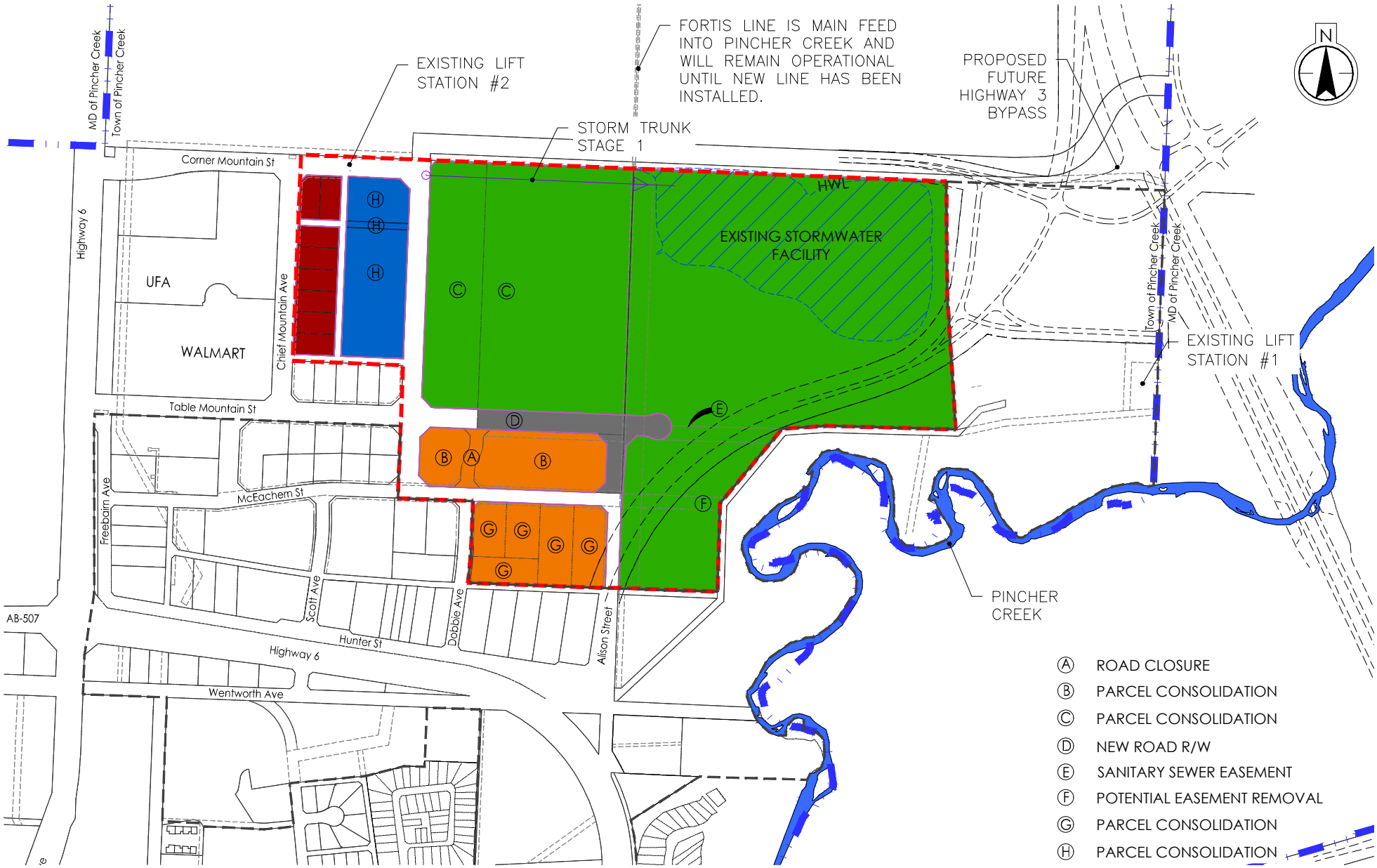


FIGURE 10.1| NE PINCHER CREEK ASP

Phasing & Subdivision

Recommendations

PREPARED FOR: Town of Pincher Creek

U:\116549010\drawings\figures\116549010_Figure 10.1_Phasing And Subdivision.dwg
2021/09/01 2:23 PM By: Bourgoin, Sheri

TOWN OF PINCHER CREEK BOUNDARY
NE PINCHER CREEK PART 2 ASP BOUNDARY
BYLAW NO. 1427 NE PINCHER CREEK ASP BOUNDARY (1989)

PHASE 1
PHASE 2
PHASE 3

PARK SPACE/FUTURE AMENITIES PHASING DEPENDANT ON FUNDING OPPORTUNITIES
NEW ROAD ROW

Stantec

116549010
September 1, 2021

11.0 DEVELOPMENT PHASING

Staging and subdivision (including consolidation, where deemed appropriate) will be completed to facilitate a sequencing of development that will be effective, efficient, and affordable. Refer to **Figure 10.1 Staging and Subdivision** for the anticipated staging and subdivision sequencing for the Plan Area.

Critical to the urbanization of transportation corridors (sidewalk, curb and gutter) within the Plan Area will be the installation of a storm trunk along the north boundary of the Plan Area to the existing regional stormwater management facility, incorporated from the pond to Chief Mountain Avenue as part of Phase 1.

11.1 PHASE 1 DEVELOPMENT

Areas identified in Phase 1 are to be serviced through an extension of existing sanitary sewage collection and water distribution systems. Stormwater system improvements identified above will be required. Ties to existing rural road cross-sections (swales/ditches) west of Phase 1 will require site specific evaluations at detailed design to ensure drainage continuity from lands upstream of the plan area. Altagas realignment and integration into new infrastructure will be required on the eastern margin of the Phase 1 development zone and protection/relocation of their high-pressure gas line will be required during the installation of future infrastructure on the projection of Corner Mountain Street.

Policies

1. Site-specific evaluations for municipal infrastructure extensions and improvements shall be conducted by the developer, in conjunction with the Town, for developments in Stage 1.

11.2 PHASE 2 DEVELOPMENT

Areas identified in Phase 2 can be conveniently serviced by nearby water distribution systems. With respect to sanitary servicing, two options are available:

- Interim gravity connection to existing Lift Station #2 (review of system capacity and potential for upgrades will be required at the time of detailed design), and
- Completion of a northeast sewer trunk line from Lift Station #1 as identified in the Town of Pincher Creek's Infrastructure Master Plan.

Stormwater system improvements identified above will be required. Creation of a realigned right-of-way for Corner Mountain Street is to be considered, including a potential roundabout intersection as identified in **Section 8.1.1 Transportation** Opportunities. Adjustments to the transportation system will require additional land acquisition from the north.

Policies

1. A review of sanitary servicing capacity and requirements for upgrades shall be conducted by the developer, in conjunction with Town Administration, during detailed design stage for all proposed developments located in Stage 2.

2. The proposed Phase 3 fronting Mountain View Ave (see area “H” on **Figure 10.1**), should not proceed until Phase 2 is 2/3 complete or the planned budget and detailed servicing plans for the ASP are revised with Council’s approval, to commence to an earlier time frame.

11.3 SUBDIVISION

Consolidation of existing parcels owned by the Town within the Plan Area may be considered, excluding those parcels serviced along Chief Mountain Avenue. Consolidation of smaller lots to form larger parcels provides the municipality with flexibility as it reacts to changing market conditions and investment opportunities from third parties. Subdivision and servicing of smaller parcels should occur during the development permit stage as pre-servicing and subdivision efforts could result in complications with larger-scale development proposals, or installation of infrastructure that is not required in the future.

Opportunities for parcel consolidation identified in **Figure 10.1 Phasing & Subdivision** must also consider implications regarding road and lane closures. Proposals for consolidation which result in closure of that portion of Dobbie Avenue north of McEachern Street (identified as “A” on **Figure 10.1**), or that portion of the laneway west of Mountain View Avenue (see area “H” on **Figure 10.1**) shall require a bylaw road (lane) closure application to accompany the proposed subdivision.

Policies

1. The Town should explore parcel consolidations for those parcels identified as “Parcel Consolidation” on **Figure 10.1 Phasing & Subdivision** prior to subdivision or detailed design stage (whichever applies).

2. The Town should explore road closures and new right-of-way corridors, specifically label “A” as identified on **Figure 10.1 Phasing & Subdivision**, prior to subdivision or detailed design stage (whichever applies).

3. The Town should explore potential easement removals and new easement registrations as identified on **Figure 10.1 Phasing & Subdivision** prior to subdivision or detailed design stage (whichever applies).

4. If the portion of road (Dobbie Ave - see area “A” on **Figure 10.1**) between Area “B” parcels of the plan is deemed unnecessary as the ASP proposes and a consolidation of the existing adjacent titles of land in Area “B” occurs in order to form one amalgamated block, then a formal road closure bylaw process will be required to be undertaken by the Town (see **Figure 10.1**).

12.0 AFTERWARD

The Northeast Pincher Creek ASP Part 2 has been developed as a refinement to the previously completed Bylaw 1427 Northeast Pincher Creek ASP (1989, Bylaw No. 1427). The information identified within this Plan has been included based on review of the following municipal reference documents:

- *Master Drainage Plan for North East Pincher Creek* (April 2006, Martin Geomatic Consultants Ltd.)
- *The Town of Pincher Creek and MD of Pincher Creeks Intermunicipal Development Plan (IDP) Bylaw No. 2010-11 (Town) and Bylaw No. 1200-10 (MD)*
- Pincher Creek's Municipal Development Plan (MDP) was adopted in October 2013 under bylaw No. 1518-13.
- Pincher Creek Regional Recreation Master Plan 2021
- Pincher Creek Infrastructure Master Plan (October 2010)

APPENDIX A

TITLES

LAND TITLE CERTIFICATE

S

LINC	SHORT LEGAL	TITLE NUMBER
0017 720 202	2060JK;1	131M128 .

LEGAL DESCRIPTION
PLAN 2060JK
BLOCK 1
EXCEPTING THEREOUT ALL MINES AND MINERALS
AREA: 22.7 HECTARES (56.07 ACRES) MORE OR LESS

ESTATE: FEE SIMPLE
ATS REFERENCE: 4;30;6;26;SE

MUNICIPALITY: TOWN OF PINCHER CREEK

REGISTERED OWNER(S)

REGISTRATION	DATE(DMY)	DOCUMENT TYPE	VALUE	CONSIDERATION
131M128 .	09/07/1963		$21,026	

OWNERS

THE TOWN OF PINCHER CREEK.
OF PINCHER CREEK
ALBERTA

ENCUMBRANCES, LIENS & INTERESTS

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
4194IC .	01/11/1960	CAVEAT CAVEATOR - THE MUNICIPAL DISTRICT OF PINCHER CREEK NO. 9.
071 112 862	07/03/2007	EASEMENT OVER AND FOR BENEFIT OF: SEE INSTRUMENT AS TO PLAN; SEE INSTRUMENT
111 145 187	10/06/2011	UTILITY RIGHT OF WAY GRANTEE - THE TOWN OF PINCHER CREEK. AS TO PORTION OR PLAN:1111937

(CONTINUED)

TOTAL INSTRUMENTS: 003

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN ACCURATE REPRODUCTION OF THE CERTIFICATE OF TITLE REPRESENTED HEREIN THIS 24 DAY OF FEBRUARY, 2020 AT 11:20 A.M.

ORDER NUMBER: 38876353

CUSTOMER FILE NUMBER: 116549010

END OF CERTIFICATE

LAND TITLE CERTIFICATE

S

LINC	SHORT LEGAL	TITLE NUMBER
0031 674 989	0611417;4;24	061 162 006

LEGAL DESCRIPTION
PLAN 0611417
BLOCK 4
LOT 24
EXCEPTING THEREOUT ALL MINES AND MINERALS
AREA: 0.628 HECTARES (1.55 ACRES) MORE OR LESS

ESTATE: FEE SIMPLE
ATS REFERENCE: 4;30;6;26;SW

MUNICIPALITY: TOWN OF PINCHER CREEK

REFERENCE NUMBER: 051 278 951 +8
051 278 951 +6

REGISTERED OWNER(S)

REGISTRATION	DATE(DMY)	DOCUMENT TYPE	VALUE	CONSIDERATION
061 162 006	27/04/2006	SUBDIVISION PLAN		

OWNERS

THE TOWN OF PINCHER CREEK.
OF BOX 159 PINCHER CREEK
ALBERTA

ENCUMBRANCES, LIENS & INTERESTS

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
821 167 935	30/09/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
821 199 416	23/11/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
061 419 559	10/10/2006	CAVEAT RE : DEVELOPMENT AGREEMENT PURSUANT TO MUNICIPAL GOVERNMENT ACT

(CONTINUED)

REGISTRATION
NUMBER DATE (D/M/Y) PARTICULARS

CAVEATOR - THE TOWN OF PINCHER CREEK.
P.O BOX 159, PINCHER CREEK
ALBERTA T0K1W0
AGENT - DOUGLAS J EVANS

TOTAL INSTRUMENTS: 003

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN ACCURATE REPRODUCTION OF THE CERTIFICATE OF TITLE REPRESENTED HEREIN THIS 24 DAY OF FEBRUARY, 2020 AT 11:20 A.M.

ORDER NUMBER: 38876353

CUSTOMER FILE NUMBER: 116549010

END OF CERTIFICATE

LAND TITLE CERTIFICATE

S

LINC	SHORT LEGAL	TITLE NUMBER
0031 186 745	0512720;6;1	181 074 833

LEGAL DESCRIPTION
PLAN 0512720
BLOCK 6
LOT 1
EXCEPTING THEREOUT ALL MINES AND MINERALS
AREA: 8.9 HECTARES (21.99 ACRES) MORE OR LESS

ESTATE: FEE SIMPLE
ATS REFERENCE: 4;30;6;26;SW

MUNICIPALITY: TOWN OF PINCHER CREEK

REFERENCE NUMBER: 071 550 030

REGISTERED OWNER(S)

REGISTRATION	DATE(DMY)	DOCUMENT TYPE	VALUE	CONSIDERATION
181 074 833	13/04/2018	TRANSFER OF LAND	$195,000	$195,000

OWNERS

THE TOWN OF PINCHER CREEK.
OF P.O BOX 159, PINCHER CREEK
ALBERTA T0K 1W0

ENCUMBRANCES, LIENS & INTERESTS

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
3731EJ .	27/11/1932	UTILITY RIGHT OF WAY GRANTEE - FORTISALBERTA INC. 320-17 AVE SW CALGARY ALBERTA T2S2V1 AS TO PORTION OR PLAN:RW319 "DATA UPDATED BY TRANSFER OF UTILITY RIGHT OF WAY 1333 FR" (DATA UPDATED BY: TRANSFER OF UTILITY RIGHT

(CONTINUED)

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
		OF WAY 001290267)
		(DATA UPDATED BY: CHANGE OF NAME 041479680)
821 167 935	30/09/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
821 199 416	23/11/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.

TOTAL INSTRUMENTS: 003

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN ACCURATE REPRODUCTION OF THE CERTIFICATE OF TITLE REPRESENTED HEREIN THIS 24 DAY OF FEBRUARY, 2020 AT 11:19 A.M.

ORDER NUMBER: 38876353

CUSTOMER FILE NUMBER: 116549010

END OF CERTIFICATE

LAND TITLE CERTIFICATE

S

LINC	SHORT LEGAL	TITLE NUMBER
0031 186 604	0512718;4;12	051 278 951 +5

LEGAL DESCRIPTION
PLAN 0512718
BLOCK 4
LOT 12
EXCEPTING THEREOUT ALL MINES AND MINERALS

ESTATE: FEE SIMPLE
ATS REFERENCE: 4;30;6;26;SW

MUNICIPALITY: TOWN OF PINCHER CREEK

REFERENCE NUMBER: 011 346 242 +9

REGISTERED OWNER(S)

REGISTRATION	DATE(DMY)	DOCUMENT TYPE	VALUE	CONSIDERATION
051 278 951	04/08/2005	SUBDIVISION PLAN		

OWNERS

THE TOWN OF PINCHER CREEK.
OF BOX 159 PINCHER CREEK
ALBERTA

ENCUMBRANCES, LIENS & INTERESTS

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
821 167 935	30/09/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
821 199 416	23/11/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.

TOTAL INSTRUMENTS: 002

(CONTINUED)

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN ACCURATE REPRODUCTION OF THE CERTIFICATE OF TITLE REPRESENTED HEREIN THIS 24 DAY OF FEBRUARY, 2020 AT 11:19 A.M.

ORDER NUMBER: 38876353

CUSTOMER FILE NUMBER: 116549010

END OF CERTIFICATE

LAND TITLE CERTIFICATE

S

LINC	SHORT LEGAL	TITLE NUMBER
0031 186 646	0512718;4;16	051 278 951 +9

LEGAL DESCRIPTION
PLAN 0512718
BLOCK 4
LOT 16
EXCEPTING THEREOUT ALL MINES AND MINERALS

ESTATE: FEE SIMPLE
ATS REFERENCE: 4;30;6;26;SW

MUNICIPALITY: TOWN OF PINCHER CREEK

REFERENCE NUMBER: 011 346 242 +9

REGISTERED OWNER(S)

REGISTRATION	DATE(DMY)	DOCUMENT TYPE	VALUE	CONSIDERATION
051 278 951	04/08/2005	SUBDIVISION PLAN		

OWNERS

THE TOWN OF PINCHER CREEK.
OF BOX 159 PINCHER CREEK
ALBERTA

ENCUMBRANCES, LIENS & INTERESTS

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
821 167 935	30/09/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
821 199 416	23/11/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.

TOTAL INSTRUMENTS: 002

(CONTINUED)

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN ACCURATE REPRODUCTION OF THE CERTIFICATE OF TITLE REPRESENTED HEREIN THIS 24 DAY OF FEBRUARY, 2020 AT 11:19 A.M.

ORDER NUMBER: 38876353

CUSTOMER FILE NUMBER: 116549010

END OF CERTIFICATE

LAND TITLE CERTIFICATE

S

LINC	SHORT LEGAL	TITLE NUMBER
0031 186 654	0512718;4;17	051 278 951 +10

LEGAL DESCRIPTION
PLAN 0512718
BLOCK 4
LOT 17
EXCEPTING THEREOUT ALL MINES AND MINERALS

ESTATE: FEE SIMPLE
ATS REFERENCE: 4;30;6;26;SW

MUNICIPALITY: TOWN OF PINCHER CREEK

REFERENCE NUMBER: 011 346 242 +9

REGISTERED OWNER(S)

REGISTRATION	DATE(DMY)	DOCUMENT TYPE	VALUE	CONSIDERATION
051 278 951	04/08/2005	SUBDIVISION PLAN		

OWNERS

THE TOWN OF PINCHER CREEK.
OF BOX 159 PINCHER CREEK
ALBERTA

ENCUMBRANCES, LIENS & INTERESTS

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
821 167 935	30/09/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
821 199 416	23/11/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.

TOTAL INSTRUMENTS: 002

(CONTINUED)

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN ACCURATE REPRODUCTION OF THE CERTIFICATE OF TITLE REPRESENTED HEREIN THIS 24 DAY OF FEBRUARY, 2020 AT 11:19 A.M.

ORDER NUMBER: 38876353

CUSTOMER FILE NUMBER: 116549010

END OF CERTIFICATE

LAND TITLE CERTIFICATE

S

LINC	SHORT LEGAL	TITLE NUMBER
0031 186 737	0512718;5;2	051 278 951 +18

LEGAL DESCRIPTION
PLAN 0512718
BLOCK 5
LOT 2
EXCEPTING THEREOUT ALL MINES AND MINERALS
AREA: 1.92 HECTARES (4.74 ACRES) MORE OR LESS

ESTATE: FEE SIMPLE
ATS REFERENCE: 4;30;6;26;SW

MUNICIPALITY: TOWN OF PINCHER CREEK

REFERENCE NUMBER: 011 346 242 +9

REGISTERED OWNER(S)

REGISTRATION	DATE(DMY)	DOCUMENT TYPE	VALUE	CONSIDERATION
051 278 951	04/08/2005	SUBDIVISION PLAN		

OWNERS

THE TOWN OF PINCHER CREEK.
OF BOX 159 PINCHER CREEK
ALBERTA

ENCUMBRANCES, LIENS & INTERESTS

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
3731EJ .	27/11/1932	UTILITY RIGHT OF WAY GRANTEE - FORTISALBERTA INC. 320-17 AVE SW CALGARY ALBERTA T2S2V1 AS TO PORTION OR PLAN:RW319 "DATA UPDATED BY TRANSFER OF UTILITY RIGHT OF WAY 1333 FR" (DATA UPDATED BY: TRANSFER OF UTILITY RIGHT

(CONTINUED)

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
		OF WAY 001290267)
		(DATA UPDATED BY: CHANGE OF NAME 041479680)
821 167 935	30/09/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
821 199 416	23/11/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
061 112 054	17/03/2006	CAVEAT RE : DEVELOPMENT AGREEMENT PURSUANT TO MUNICIPAL GOVERNMENT ACT CAVEATOR - THE TOWN OF PINCHER CREEK. P.O BOX 159, PINCHER CREEK ALBERTA T0K1W0 AGENT - DOUGLAS J EVANS
061 427 680	16/10/2006	UTILITY RIGHT OF WAY GRANTEE - THE TOWN OF PINCHER CREEK. BOX 159 PINCHER CREEK ALBERTA AS TO PORTION OR PLAN:0613748
061 514 555	12/12/2006	UTILITY RIGHT OF WAY GRANTEE - THE TOWN OF PINCHER CREEK. AS TO PORTION OR PLAN:0613748
061 514 556	12/12/2006	UTILITY RIGHT OF WAY GRANTEE - THE TOWN OF PINCHER CREEK. AS TO PORTION OR PLAN:0512719

TOTAL INSTRUMENTS: 007

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN ACCURATE REPRODUCTION OF THE CERTIFICATE OF TITLE REPRESENTED HEREIN THIS 24 DAY OF FEBRUARY, 2020 AT 11:19 A.M.

ORDER NUMBER: 38876353

CUSTOMER FILE NUMBER: 116549010

END OF CERTIFICATE

(CONTINUED)

THIS ELECTRONICALLY TRANSMITTED LAND TITLES PRODUCT IS INTENDED FOR THE SOLE USE OF THE ORIGINAL PURCHASER, AND NONE OTHER, SUBJECT TO WHAT IS SET OUT IN THE PARAGRAPH BELOW.

THE ABOVE PROVISIONS DO NOT PROHIBIT THE ORIGINAL PURCHASER FROM INCLUDING THIS UNMODIFIED PRODUCT IN ANY REPORT, OPINION, APPRAISAL OR OTHER ADVICE PREPARED BY THE ORIGINAL PURCHASER AS PART OF THE ORIGINAL PURCHASER APPLYING PROFESSIONAL, CONSULTING OR TECHNICAL EXPERTISE FOR THE BENEFIT OF CLIENT(S).

LAND TITLE CERTIFICATE

S

LINC	SHORT LEGAL	TITLE NUMBER
0031 674 997	0611417;4;25	061 162 006 +1

LEGAL DESCRIPTION
PLAN 0611417
BLOCK 4
LOT 25
EXCEPTING THEREOUT ALL MINES AND MINERALS
AREA: 0.622 HECTARES (1.54 ACRES) MORE OR LESS

ESTATE: FEE SIMPLE
ATS REFERENCE: 4;30;6;26;SW

MUNICIPALITY: TOWN OF PINCHER CREEK

REFERENCE NUMBER: 051 278 951 +7
051 278 951 +6

REGISTERED OWNER(S)

REGISTRATION	DATE(DMY)	DOCUMENT TYPE	VALUE	CONSIDERATION
061 162 006	27/04/2006	SUBDIVISION PLAN		

OWNERS

THE TOWN OF PINCHER CREEK.
OF BOX 159 PINCHER CREEK
ALBERTA

ENCUMBRANCES, LIENS & INTERESTS

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
821 167 935	30/09/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
821 199 416	23/11/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
061 419 558	10/10/2006	CAVEAT RE : DEVELOPMENT AGREEMENT PURSUANT TO MUNICIPAL GOVERNMENT ACT

(CONTINUED)

REGISTRATION
NUMBER DATE (D/M/Y) PARTICULARS

CAVEATOR - THE TOWN OF PINCHER CREEK.
P.O BOX 159, PINCHER CREEK
ALBERTA T0K1W0
AGENT - DOUGLAS J EVANS

TOTAL INSTRUMENTS: 003

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN ACCURATE REPRODUCTION OF THE CERTIFICATE OF TITLE REPRESENTED HEREIN THIS 24 DAY OF FEBRUARY, 2020 AT 11:19 A.M.

ORDER NUMBER: 38876353

CUSTOMER FILE NUMBER: 116549010

END OF CERTIFICATE

LAND TITLE CERTIFICATE

S

LINC	SHORT LEGAL	TITLE NUMBER
0031 973 886	0613747;5;15	061 427 678 +12

LEGAL DESCRIPTION
PLAN 0613747
BLOCK 5
LOT 15
EXCEPTING THEREOUT ALL MINES AND MINERALS
AREA: 0.579 HECTARES (1.43 ACRES) MORE OR LESS

ESTATE: FEE SIMPLE
ATS REFERENCE: 4;30;6;26;SW

MUNICIPALITY: TOWN OF PINCHER CREEK

REFERENCE NUMBER: 051 278 951 +17

REGISTERED OWNER(S)

REGISTRATION	DATE(DMY)	DOCUMENT TYPE	VALUE	CONSIDERATION
061 427 678	16/10/2006	SUBDIVISION PLAN		

OWNERS

THE TOWN OF PINCHER CREEK.
OF BOX 159 PINCHER CREEK
ALBERTA

ENCUMBRANCES, LIENS & INTERESTS

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
821 167 935	30/09/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
821 199 416	23/11/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
061 514 556	12/12/2006	UTILITY RIGHT OF WAY GRANTEE - THE TOWN OF PINCHER CREEK. AS TO PORTION OR PLAN:0512719

(CONTINUED)

TOTAL INSTRUMENTS: 003

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN ACCURATE REPRODUCTION OF THE CERTIFICATE OF TITLE REPRESENTED HEREIN THIS 24 DAY OF FEBRUARY, 2020 AT 11:19 A.M.

ORDER NUMBER: 38876353

CUSTOMER FILE NUMBER: 116549010

END OF CERTIFICATE

LAND TITLE CERTIFICATE

S

LINC	SHORT LEGAL	TITLE NUMBER
0031 973 944	0613747;7;6	061 427 678 +18

LEGAL DESCRIPTION
PLAN 0613747
BLOCK 7
LOT 6
EXCEPTING THEREOUT ALL MINES AND MINERALS

ESTATE: FEE SIMPLE
ATS REFERENCE: 4;30;6;26;SW

MUNICIPALITY: TOWN OF PINCHER CREEK

REFERENCE NUMBER: 061 110 839 +2

REGISTERED OWNER(S)

REGISTRATION	DATE(DMY)	DOCUMENT TYPE	VALUE	CONSIDERATION
061 427 678	16/10/2006	SUBDIVISION PLAN		

OWNERS

THE TOWN OF PINCHER CREEK.
OF P.O BOX 159, PINCHER CREEK
ALBERTA T0K 1W0

ENCUMBRANCES, LIENS & INTERESTS

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
821 167 935	30/09/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
821 199 416	23/11/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
061 377 695	13/09/2006	CAVEAT RE : DEVELOPMENT AGREEMENT PURSUANT TO MUNICIPAL GOVERNMENT ACT CAVEATOR - THE TOWN OF PINCHER CREEK. P.O BOX 159, PINCHER CREEK

(CONTINUED)

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
		ALBERTA T0K1W0 AGENT - DOUGLAS J EVANS
061 427 680	16/10/2006	UTILITY RIGHT OF WAY GRANTEE - THE TOWN OF PINCHER CREEK. BOX 159 PINCHER CREEK ALBERTA AS TO PORTION OR PLAN:0613748
061 427 681	16/10/2006	UTILITY RIGHT OF WAY GRANTEE - ALTAGAS UTILITIES INC. 5509-45TH ST LEDUC ALBERTA T9E6T6 AS TO PORTION OR PLAN:0613748
061 514 555	12/12/2006	UTILITY RIGHT OF WAY GRANTEE - THE TOWN OF PINCHER CREEK. AS TO PORTION OR PLAN:0613748

TOTAL INSTRUMENTS: 006

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN ACCURATE REPRODUCTION OF THE CERTIFICATE OF TITLE REPRESENTED HEREIN THIS 24 DAY OF FEBRUARY, 2020 AT 11:19 A.M.

ORDER NUMBER: 38876353

CUSTOMER FILE NUMBER: 116549010

END OF CERTIFICATE

LAND TITLE CERTIFICATE

S

LINC	SHORT LEGAL	TITLE NUMBER
0031 973 952	0613747;7;7	061 427 678 +19

LEGAL DESCRIPTION
PLAN 0613747
BLOCK 7
LOT 7
EXCEPTING THEREOUT ALL MINES AND MINERALS

ESTATE: FEE SIMPLE
ATS REFERENCE: 4;30;6;26;SW

MUNICIPALITY: TOWN OF PINCHER CREEK

REFERENCE NUMBER: 061 110 839 +2

REGISTERED OWNER(S)

REGISTRATION	DATE(DMY)	DOCUMENT TYPE	VALUE	CONSIDERATION
061 427 678	16/10/2006	SUBDIVISION PLAN		

OWNERS

THE TOWN OF PINCHER CREEK.
OF P.O BOX 159, PINCHER CREEK
ALBERTA T0K 1W0

ENCUMBRANCES, LIENS & INTERESTS

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
821 167 935	30/09/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
821 199 416	23/11/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
061 377 695	13/09/2006	CAVEAT RE : DEVELOPMENT AGREEMENT PURSUANT TO MUNICIPAL GOVERNMENT ACT CAVEATOR - THE TOWN OF PINCHER CREEK. P.O BOX 159, PINCHER CREEK

(CONTINUED)

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
		ALBERTA T0K1W0 AGENT - DOUGLAS J EVANS
061 427 680	16/10/2006	UTILITY RIGHT OF WAY GRANTEE - THE TOWN OF PINCHER CREEK. BOX 159 PINCHER CREEK ALBERTA AS TO PORTION OR PLAN:0613748
061 427 681	16/10/2006	UTILITY RIGHT OF WAY GRANTEE - ALTAGAS UTILITIES INC. 5509-45TH ST LEDUC ALBERTA T9E6T6 AS TO PORTION OR PLAN:0613748
061 514 555	12/12/2006	UTILITY RIGHT OF WAY GRANTEE - THE TOWN OF PINCHER CREEK. AS TO PORTION OR PLAN:0613748

TOTAL INSTRUMENTS: 006

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN ACCURATE REPRODUCTION OF THE CERTIFICATE OF TITLE REPRESENTED HEREIN THIS 24 DAY OF FEBRUARY, 2020 AT 11:19 A.M.

ORDER NUMBER: 38876353

CUSTOMER FILE NUMBER: 116549010

END OF CERTIFICATE

LAND TITLE CERTIFICATE

S

LINC	SHORT LEGAL	TITLE NUMBER
0031 973 969	0613747;7;8	061 427 678 +20

LEGAL DESCRIPTION
PLAN 0613747
BLOCK 7
LOT 8
EXCEPTING THEREOUT ALL MINES AND MINERALS

ESTATE: FEE SIMPLE
ATS REFERENCE: 4;30;6;26;SW

MUNICIPALITY: TOWN OF PINCHER CREEK

REFERENCE NUMBER: 061 110 839 +2

REGISTERED OWNER(S)

REGISTRATION	DATE(DMY)	DOCUMENT TYPE	VALUE	CONSIDERATION
061 427 678	16/10/2006	SUBDIVISION PLAN		

OWNERS

THE TOWN OF PINCHER CREEK.
OF P.O BOX 159, PINCHER CREEK
ALBERTA T0K 1W0

ENCUMBRANCES, LIENS & INTERESTS

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
821 167 935	30/09/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
821 199 416	23/11/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
061 377 695	13/09/2006	CAVEAT RE : DEVELOPMENT AGREEMENT PURSUANT TO MUNICIPAL GOVERNMENT ACT CAVEATOR - THE TOWN OF PINCHER CREEK. P.O BOX 159, PINCHER CREEK

(CONTINUED)

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
		ALBERTA T0K1W0 AGENT - DOUGLAS J EVANS
061 427 680	16/10/2006	UTILITY RIGHT OF WAY GRANTEE - THE TOWN OF PINCHER CREEK. BOX 159 PINCHER CREEK ALBERTA AS TO PORTION OR PLAN:0613748
061 427 681	16/10/2006	UTILITY RIGHT OF WAY GRANTEE - ALTAGAS UTILITIES INC. 5509-45TH ST LEDUC ALBERTA T9E6T6 AS TO PORTION OR PLAN:0613748
061 514 555	12/12/2006	UTILITY RIGHT OF WAY GRANTEE - THE TOWN OF PINCHER CREEK. AS TO PORTION OR PLAN:0613748

TOTAL INSTRUMENTS: 006

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN ACCURATE REPRODUCTION OF THE CERTIFICATE OF TITLE REPRESENTED HEREIN THIS 24 DAY OF FEBRUARY, 2020 AT 11:19 A.M.

ORDER NUMBER: 38876353

CUSTOMER FILE NUMBER: 116549010

END OF CERTIFICATE

LAND TITLE CERTIFICATE

S

LINC	SHORT LEGAL	TITLE NUMBER
0031 973 977	0613747;7;9	061 427 678 +21

LEGAL DESCRIPTION
PLAN 0613747
BLOCK 7
LOT 9
EXCEPTING THEREOUT ALL MINES AND MINERALS

ESTATE: FEE SIMPLE
ATS REFERENCE: 4;30;6;26;SW

MUNICIPALITY: TOWN OF PINCHER CREEK

REFERENCE NUMBER: 061 110 839 +2

REGISTERED OWNER(S)

REGISTRATION	DATE(DMY)	DOCUMENT TYPE	VALUE	CONSIDERATION
061 427 678	16/10/2006	SUBDIVISION PLAN		

OWNERS

THE TOWN OF PINCHER CREEK.
OF P.O BOX 159, PINCHER CREEK
ALBERTA T0K 1W0

ENCUMBRANCES, LIENS & INTERESTS

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
821 167 935	30/09/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
821 199 416	23/11/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
061 377 695	13/09/2006	CAVEAT RE : DEVELOPMENT AGREEMENT PURSUANT TO MUNICIPAL GOVERNMENT ACT CAVEATOR - THE TOWN OF PINCHER CREEK. P.O BOX 159, PINCHER CREEK

(CONTINUED)

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
		ALBERTA T0K1W0 AGENT - DOUGLAS J EVANS
061 427 680	16/10/2006	UTILITY RIGHT OF WAY GRANTEE - THE TOWN OF PINCHER CREEK. BOX 159 PINCHER CREEK ALBERTA AS TO PORTION OR PLAN:0613748
061 427 681	16/10/2006	UTILITY RIGHT OF WAY GRANTEE - ALTAGAS UTILITIES INC. 5509-45TH ST LEDUC ALBERTA T9E6T6 AS TO PORTION OR PLAN:0613748
061 514 555	12/12/2006	UTILITY RIGHT OF WAY GRANTEE - THE TOWN OF PINCHER CREEK. AS TO PORTION OR PLAN:0613748

TOTAL INSTRUMENTS: 006

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN ACCURATE REPRODUCTION OF THE CERTIFICATE OF TITLE REPRESENTED HEREIN THIS 24 DAY OF FEBRUARY, 2020 AT 11:19 A.M.

ORDER NUMBER: 38876353

CUSTOMER FILE NUMBER: 116549010

END OF CERTIFICATE

LAND TITLE CERTIFICATE

S

LINC	SHORT LEGAL	TITLE NUMBER
0031 973 985	0613747;7;10	061 427 678 +22

LEGAL DESCRIPTION
PLAN 0613747
BLOCK 7
LOT 10
EXCEPTING THEREOUT ALL MINES AND MINERALS

ESTATE: FEE SIMPLE
ATS REFERENCE: 4;30;6;26;SW

MUNICIPALITY: TOWN OF PINCHER CREEK

REFERENCE NUMBER: 061 110 839 +2

REGISTERED OWNER(S)

REGISTRATION	DATE(DMY)	DOCUMENT TYPE	VALUE	CONSIDERATION
061 427 678	16/10/2006	SUBDIVISION PLAN		

OWNERS

THE TOWN OF PINCHER CREEK.
OF P.O BOX 159, PINCHER CREEK
ALBERTA T0K 1W0

ENCUMBRANCES, LIENS & INTERESTS

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
821 167 935	30/09/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
821 199 416	23/11/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
061 377 695	13/09/2006	CAVEAT RE : DEVELOPMENT AGREEMENT PURSUANT TO MUNICIPAL GOVERNMENT ACT CAVEATOR - THE TOWN OF PINCHER CREEK. P.O BOX 159, PINCHER CREEK

(CONTINUED)

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
		ALBERTA T0K1W0 AGENT - DOUGLAS J EVANS
061 427 680	16/10/2006	UTILITY RIGHT OF WAY GRANTEE - THE TOWN OF PINCHER CREEK. BOX 159 PINCHER CREEK ALBERTA AS TO PORTION OR PLAN:0613748
061 427 681	16/10/2006	UTILITY RIGHT OF WAY GRANTEE - ALTAGAS UTILITIES INC. 5509-45TH ST LEDUC ALBERTA T9E6T6 AS TO PORTION OR PLAN:0613748
061 514 555	12/12/2006	UTILITY RIGHT OF WAY GRANTEE - THE TOWN OF PINCHER CREEK. AS TO PORTION OR PLAN:0613748

TOTAL INSTRUMENTS: 006

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN ACCURATE REPRODUCTION OF THE CERTIFICATE OF TITLE REPRESENTED HEREIN THIS 24 DAY OF FEBRUARY, 2020 AT 11:19 A.M.

ORDER NUMBER: 38876353

CUSTOMER FILE NUMBER: 116549010

END OF CERTIFICATE

LAND TITLE CERTIFICATE

S

LINC	SHORT LEGAL	TITLE NUMBER
0031 973 993	0613747;7;11	061 427 678 +23

LEGAL DESCRIPTION
PLAN 0613747
BLOCK 7
LOT 11
EXCEPTING THEREOUT ALL MINES AND MINERALS

ESTATE: FEE SIMPLE
ATS REFERENCE: 4;30;6;26;SW

MUNICIPALITY: TOWN OF PINCHER CREEK

REFERENCE NUMBER: 061 110 839 +2

REGISTERED OWNER(S)

REGISTRATION	DATE(DMY)	DOCUMENT TYPE	VALUE	CONSIDERATION
061 427 678	16/10/2006	SUBDIVISION PLAN		

OWNERS

THE TOWN OF PINCHER CREEK.
OF P.O BOX 159, PINCHER CREEK
ALBERTA T0K 1W0

ENCUMBRANCES, LIENS & INTERESTS

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
821 167 935	30/09/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
821 199 416	23/11/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
061 377 695	13/09/2006	CAVEAT RE : DEVELOPMENT AGREEMENT PURSUANT TO MUNICIPAL GOVERNMENT ACT CAVEATOR - THE TOWN OF PINCHER CREEK. P.O BOX 159, PINCHER CREEK

(CONTINUED)

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
		ALBERTA T0K1W0 AGENT - DOUGLAS J EVANS
061 427 680	16/10/2006	UTILITY RIGHT OF WAY GRANTEE - THE TOWN OF PINCHER CREEK. BOX 159 PINCHER CREEK ALBERTA AS TO PORTION OR PLAN:0613748
061 427 681	16/10/2006	UTILITY RIGHT OF WAY GRANTEE - ALTAGAS UTILITIES INC. 5509-45TH ST LEDUC ALBERTA T9E6T6 AS TO PORTION OR PLAN:0613748
061 514 555	12/12/2006	UTILITY RIGHT OF WAY GRANTEE - THE TOWN OF PINCHER CREEK. AS TO PORTION OR PLAN:0613748

TOTAL INSTRUMENTS: 006

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN ACCURATE REPRODUCTION OF THE CERTIFICATE OF TITLE REPRESENTED HEREIN THIS 24 DAY OF FEBRUARY, 2020 AT 11:19 A.M.

ORDER NUMBER: 38876353

CUSTOMER FILE NUMBER: 116549010

END OF CERTIFICATE

LAND TITLE CERTIFICATE

S

LINC	SHORT LEGAL	TITLE NUMBER
0031 974 009	0613747;7;12	061 427 678 +24

LEGAL DESCRIPTION
PLAN 0613747
BLOCK 7
LOT 12
EXCEPTING THEREOUT ALL MINES AND MINERALS

ESTATE: FEE SIMPLE
ATS REFERENCE: 4;30;6;26;SW

MUNICIPALITY: TOWN OF PINCHER CREEK

REFERENCE NUMBER: 061 110 839 +2

REGISTERED OWNER(S)

REGISTRATION	DATE(DMY)	DOCUMENT TYPE	VALUE	CONSIDERATION
061 427 678	16/10/2006	SUBDIVISION PLAN		

OWNERS

THE TOWN OF PINCHER CREEK.
OF P.O BOX 159, PINCHER CREEK
ALBERTA T0K 1W0

ENCUMBRANCES, LIENS & INTERESTS

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
821 167 935	30/09/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
821 199 416	23/11/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
061 377 695	13/09/2006	CAVEAT RE : DEVELOPMENT AGREEMENT PURSUANT TO MUNICIPAL GOVERNMENT ACT CAVEATOR - THE TOWN OF PINCHER CREEK. P.O BOX 159, PINCHER CREEK

(CONTINUED)

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
		ALBERTA T0K1W0 AGENT - DOUGLAS J EVANS
061 427 680	16/10/2006	UTILITY RIGHT OF WAY GRANTEE - THE TOWN OF PINCHER CREEK. BOX 159 PINCHER CREEK ALBERTA AS TO PORTION OR PLAN:0613748
061 427 681	16/10/2006	UTILITY RIGHT OF WAY GRANTEE - ALTAGAS UTILITIES INC. 5509-45TH ST LEDUC ALBERTA T9E6T6 AS TO PORTION OR PLAN:0613748
061 514 555	12/12/2006	UTILITY RIGHT OF WAY GRANTEE - THE TOWN OF PINCHER CREEK. AS TO PORTION OR PLAN:0613748

TOTAL INSTRUMENTS: 006

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN ACCURATE REPRODUCTION OF THE CERTIFICATE OF TITLE REPRESENTED HEREIN THIS 24 DAY OF FEBRUARY, 2020 AT 11:19 A.M.

ORDER NUMBER: 38876353

CUSTOMER FILE NUMBER: 116549010

END OF CERTIFICATE

LAND TITLE CERTIFICATE

S

LINC	SHORT LEGAL	TITLE NUMBER
0031 974 017	0613747;7;13	061 427 678 +25

LEGAL DESCRIPTION
PLAN 0613747
BLOCK 7
LOT 13
EXCEPTING THEREOUT ALL MINES AND MINERALS

ESTATE: FEE SIMPLE
ATS REFERENCE: 4;30;6;26;SW

MUNICIPALITY: TOWN OF PINCHER CREEK

REFERENCE NUMBER: 061 110 839 +2

REGISTERED OWNER(S)

REGISTRATION	DATE(DMY)	DOCUMENT TYPE	VALUE	CONSIDERATION
061 427 678	16/10/2006	SUBDIVISION PLAN		

OWNERS

THE TOWN OF PINCHER CREEK.
OF P.O BOX 159, PINCHER CREEK
ALBERTA T0K 1W0

ENCUMBRANCES, LIENS & INTERESTS

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
821 167 935	30/09/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
821 199 416	23/11/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
061 377 695	13/09/2006	CAVEAT RE : DEVELOPMENT AGREEMENT PURSUANT TO MUNICIPAL GOVERNMENT ACT CAVEATOR - THE TOWN OF PINCHER CREEK. P.O BOX 159, PINCHER CREEK

(CONTINUED)

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
		ALBERTA T0K1W0 AGENT - DOUGLAS J EVANS
061 427 680	16/10/2006	UTILITY RIGHT OF WAY GRANTEE - THE TOWN OF PINCHER CREEK. BOX 159 PINCHER CREEK ALBERTA AS TO PORTION OR PLAN:0613748
061 427 681	16/10/2006	UTILITY RIGHT OF WAY GRANTEE - ALTAGAS UTILITIES INC. 5509-45TH ST LEDUC ALBERTA T9E6T6 AS TO PORTION OR PLAN:0613748
061 514 555	12/12/2006	UTILITY RIGHT OF WAY GRANTEE - THE TOWN OF PINCHER CREEK. AS TO PORTION OR PLAN:0613748

TOTAL INSTRUMENTS: 006

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN ACCURATE REPRODUCTION OF THE CERTIFICATE OF TITLE REPRESENTED HEREIN THIS 24 DAY OF FEBRUARY, 2020 AT 11:19 A.M.

ORDER NUMBER: 38876353

CUSTOMER FILE NUMBER: 116549010

END OF CERTIFICATE

LAND TITLE CERTIFICATE

S

LINC	SHORT LEGAL	TITLE NUMBER
0031 974 025	0613747;7;14	061 427 678 +26

LEGAL DESCRIPTION
PLAN 0613747
BLOCK 7
LOT 14
EXCEPTING THEREOUT ALL MINES AND MINERALS
AREA: 0.612 HECTARES (1.51 ACRES) MORE OR LESS

ESTATE: FEE SIMPLE
ATS REFERENCE: 4;30;6;26;SW

MUNICIPALITY: TOWN OF PINCHER CREEK

REFERENCE NUMBER: 061 110 839 +2

REGISTERED OWNER(S)

REGISTRATION	DATE(DMY)	DOCUMENT TYPE	VALUE	CONSIDERATION
061 427 678	16/10/2006	SUBDIVISION PLAN		

OWNERS

THE TOWN OF PINCHER CREEK.
OF P.O BOX 159, PINCHER CREEK
ALBERTA T0K 1W0

ENCUMBRANCES, LIENS & INTERESTS

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
821 167 935	30/09/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
821 199 416	23/11/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
061 377 695	13/09/2006	CAVEAT RE : DEVELOPMENT AGREEMENT PURSUANT TO MUNICIPAL GOVERNMENT ACT CAVEATOR - THE TOWN OF PINCHER CREEK.

(CONTINUED)

REGISTRATION
NUMBER DATE (D/M/Y) PARTICULARS

P.O BOX 159, PINCHER CREEK
ALBERTA T0K1W0
AGENT - DOUGLAS J EVANS

TOTAL INSTRUMENTS: 003

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN ACCURATE REPRODUCTION OF THE CERTIFICATE OF TITLE REPRESENTED HEREIN THIS 24 DAY OF FEBRUARY, 2020 AT 11:19 A.M.

ORDER NUMBER: 38876353

CUSTOMER FILE NUMBER: 116549010

END OF CERTIFICATE

LAND TITLE CERTIFICATE

S

LINC	SHORT LEGAL	TITLE NUMBER
0031 974 033	0613747;7;15	061 427 678 +27

LEGAL DESCRIPTION
PLAN 0613747
BLOCK 7
LOT 15
EXCEPTING THEREOUT ALL MINES AND MINERALS
AREA: 1.825 HECTARES (4.51 ACRES) MORE OR LESS

ESTATE: FEE SIMPLE
ATS REFERENCE: 4;30;6;26;SW

MUNICIPALITY: TOWN OF PINCHER CREEK

REFERENCE NUMBER: 061 110 839 +2

REGISTERED OWNER(S)

REGISTRATION	DATE(DMY)	DOCUMENT TYPE	VALUE	CONSIDERATION
061 427 678	16/10/2006	SUBDIVISION PLAN		

OWNERS

THE TOWN OF PINCHER CREEK.
OF P.O BOX 159, PINCHER CREEK
ALBERTA T0K 1W0

ENCUMBRANCES, LIENS & INTERESTS

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
821 167 935	30/09/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
821 199 416	23/11/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
061 377 695	13/09/2006	CAVEAT RE : DEVELOPMENT AGREEMENT PURSUANT TO MUNICIPAL GOVERNMENT ACT CAVEATOR - THE TOWN OF PINCHER CREEK.

(CONTINUED)

REGISTRATION
NUMBER DATE (D/M/Y) PARTICULARS

P.O BOX 159, PINCHER CREEK
ALBERTA T0K1W0
AGENT - DOUGLAS J EVANS

TOTAL INSTRUMENTS: 003

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN ACCURATE REPRODUCTION OF THE CERTIFICATE OF TITLE REPRESENTED HEREIN THIS 24 DAY OF FEBRUARY, 2020 AT 11:20 A.M.

ORDER NUMBER: 38876353

CUSTOMER FILE NUMBER: 116549010

END OF CERTIFICATE

LAND TITLE CERTIFICATE

S

LINC	SHORT LEGAL	TITLE NUMBER
0031 974 041	0613747;8;1	061 427 678 +28

LEGAL DESCRIPTION
PLAN 0613747
BLOCK 8
LOT 1
EXCEPTING THEREOUT ALL MINES AND MINERALS
AREA: 3.139 HECTARES (7.76 ACRES) MORE OR LESS

ESTATE: FEE SIMPLE
ATS REFERENCE: 4;30;6;26;SW

MUNICIPALITY: TOWN OF PINCHER CREEK

REFERENCE NUMBER: 061 110 839 +2

REGISTERED OWNER(S)

REGISTRATION	DATE(DMY)	DOCUMENT TYPE	VALUE	CONSIDERATION
061 427 678	16/10/2006	SUBDIVISION PLAN		

OWNERS

THE TOWN OF PINCHER CREEK.
OF P.O BOX 159, PINCHER CREEK
ALBERTA T0K 1W0

ENCUMBRANCES, LIENS & INTERESTS

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
821 167 935	30/09/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
821 199 416	23/11/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
061 377 695	13/09/2006	CAVEAT RE : DEVELOPMENT AGREEMENT PURSUANT TO MUNICIPAL GOVERNMENT ACT CAVEATOR - THE TOWN OF PINCHER CREEK.

(CONTINUED)

REGISTRATION
NUMBER DATE (D/M/Y) PARTICULARS

P.O BOX 159, PINCHER CREEK
ALBERTA T0K1W0
AGENT - DOUGLAS J EVANS

TOTAL INSTRUMENTS: 003

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN ACCURATE REPRODUCTION OF THE CERTIFICATE OF TITLE REPRESENTED HEREIN THIS 24 DAY OF FEBRUARY, 2020 AT 11:19 A.M.

ORDER NUMBER: 38876353

CUSTOMER FILE NUMBER: 116549010

END OF CERTIFICATE

APPENDIX B

ENVIRONMENTAL SITE ASSESSMENT

FINAL -
Phase I Environmental Site Assessment

NE Industrial Parcel of Land
SE 1/4 26-006-30 W4M and SW 1/4 26-006-30 W4M,
Pincher Creek, AB

Prepared for:
Town of Pincher Creek

Prepared by:
Stantec Consulting Ltd.
200, 325-25 Street SE
Calgary, AB T2A 7H8

Job No.: 116549010

July 13, 2020

Table of Contents

Appendices

Executive Summary

Executive Summary

Site Description and Current Operations

Stantec Consulting Ltd. (Stantec) conducted a Phase I Environmental Site Assessment (Phase I ESA) of the NE Industrial parcel of land (herein referred to as the "Site"). The Site is legally described as portions of the Southeast and Southwest Quarters of Section 26, Township 006, Range 30, West of the Fourth Meridian (SE 1/4 26-006-30 W4M and SW 1/4 26-006-30 W4M), in Pincher Creek, Alberta. The Phase I ESA was conducted for the Town of Pincher Creek in support of a proposed industrial development with its western and southwestern portions considered for potential residential development. The purpose of the Phase I ESA was to assess if evidence of potential or actual environmental contamination exists in connection with the Site, as a result of current or past activities on the Site or neighbouring properties.

At the time of the Phase I ESA, the Site was mostly covered with tall dense grass.

Records Review

Based on the historical information gathered during the Phase I ESA, the Site has been undeveloped since at least the 1950s. A review of the available information indicated that the Site previously had four sewage lagoons located in the southeastern portion, which were backfilled prior to 1991.

Site Visit/Interviews

At the time of the site visit, a constructed wetland was located on the northeast portion of the Site and some low-lying areas containing vegetation (i.e., cattail) indicated the presence of seasonal wetlands on the north and southwest portions of the Site.

Stockpiles containing discarded soil material and debris such as asphalt, concrete, PVC pipe, scrap wood, scrap metal, etc. were observed in the western portion of the Site. A UFA service station was observed approximately 120 m west of the Site with six above-ground storage tanks (ASTs).

Several ASTs were observed to be located on the Triple T (Oilfield Services) property, located southwest of the Site, during the site visit. No information regarding this industrial property was available from the records review. A telephone interview with the Town of Pincher Creek Emergency Services indicated that these ASTs are not used to handle any product (e.g., storage, distribution etc.).

A total of five areas of potential environmental concern (APECs) were identified during this Phase I ESA.

Conclusions

The Phase I ESA has revealed evidence of potential environmental concerns associated with the Site. The potential environmental concerns and associated recommendations are as follows:

- The former sewage lagoons and presence of fill material located in the southeastern portion of the Site are considered to represent a potential environmental concern to the Site (APEC 1). A Phase II ESA is recommended to assess the soil, groundwater and soil vapour quality beneath the Site in the area of these former lagoons.
- Low-lying areas observed in the north-central and southwestern portions of the Site contained vegetation (e.g., cattail) and were suspected to indicate the presence of potential seasonal wetlands (APEC 2 and APEC 3). As such, assessment for the risk of methane gas generation should be conducted in these areas due to the potential presence of organic material. It should be noted that methane gas is a product of the decay of organic matter, commonly found in marshes (swamp gas) and landfill sites. Any subsurface assessment or redevelopment activities should consider the potential presence of organic material which may represent a source of methane gas generation and hence represent a potential health concern (explosive methane gas) if located beneath future building foot prints which may require mitigative measures.
- Stockpiles were located on the west portion of the Site at the time of the site visit (APEC 4). These stockpiles consisted of discarded soil material, asphalt, concrete, PVC pipe, scrap wood, scrap metals, etc. These stockpiles should be removed and disposed of appropriately. If staining or unusual odours are

Conclusions (continued)

encountered in this area, further assessment by an environmental consultant would be required at that time.

- The Site has a constructed wetland on the northeast portion (APEC 5) and potential seasonal wetlands along the northern and southwestern portions of the Site. As such, a wetland assessment should be conducted prior to any future development in these areas.
- The Triple T property, located southwest of the Site, housed several ASTs. According to the Town of Pincher Creek Emergency Services, these ASTs are not used for any product handling (e.g., storage, distribution) on this property. As such, the Triple T property is not considered to represent an environmental concern to the Site at this time.
- The UFA service station is located approximately 120 m west of the Site and is currently equipped with six ASTs (no USTs currently present at the UFA service station as per the available records). As such, based on the distance, the UFA service station is not considered to represent an environmental concern to the Site at this time. The other properties (e.g., Walmart, wind farm office, etc.) that are located within 100 m to the west are also not considered to represent environmental concerns to the Site at this time.

The statements made in this Executive Summary are subject to the same limitations included in the Closure (Section 7.0) and are to be read in conjunction with the remainder of this report.

Phase I Environmental Site Assessment

1.0 General Information

Client Information:
Town of Pincher Creek
Alexa Levair, CET, B.Tech.
962 St. John Avenue
Pincher Creek, AB T0K1W0

Project Information:
NE Industrial ASP Phase I ESA, Town of Pincher Creek
116549010

Site Information:
NE Industrial Parcel of Land
SE 1/4 26-006-30 W4M and SW 1/4 26-006-30 W4M
Pincher Creek, AB

Consultant Information:
Stantec Consulting Ltd.
200, 325-25 Street SE
Calgary, AB T2A 7H8

Phone: (403) 451-4416 **Fax:** (403) 716-8001
E-mail Address: ripon.banik@stantec.com
Site Visit Date: 06/10/2020
Report Date: 07/13/2020
Site Assessor: Jon Lautermilch
Report Preparer: Ripon Banik
Senior Reviewer: Amin N. Kassam, B.Sc.

Site Assessor: *On Behalf Of Jon Lautermilch - Environmental Technologist*
Lincoln Weller, B.Sc., P.Geo.
Environmental Geologist

Report Preparer:
Ripon Banik
Environmental Engineer

Senior Reviewer:
Amin N. Kassam, B.Sc.
Principal/Practice Leader,
Environmental Services

The environmental site assessment and preparation of this report were completed in general accordance with the objectives, requirements or standards of the CSA Phase I Environmental Site Assessment Standard Z768-01 (R2016).

2.0 Introduction

2.1 Objectives

Stantec Consulting Ltd. (Stantec) conducted a Phase I Environmental Site Assessment (ESA) of the NE Industrial parcel of land located in Pincher Creek, Alberta (herein referred to as the "Site"). The Site is legally described as portions of the Southeast and Southwest Quarters of Section 26, Township 006, Range 30, West of the Fourth Meridian (SE 1/4 26-006-30 W4M and SW 1/4 26-006-30 W4M), in Pincher Creek, Alberta. The Phase I ESA was conducted for the Town of Pincher Creek in support of a proposed industrial development with its western and southwestern portions considered for potential residential development. The purpose of the Phase I ESA was to assess if evidence of potential or actual environmental contamination exists in connection with the Site, as a result of current or past activities on the Site or neighbouring properties.

A Site Location Plan, a Site Plan and a Surrounding Land Use Plan are included as Figure 1.0, Figure 2.0, and Figure 3.0, respectively, in **Appendix A.** Selected photographs of the Site are included in **Appendix B**.

2.2 Scope of Work

The Phase I ESA carried out by Stantec was conducted in general accordance with Town of Pincher Creek Service Order 2020-CAP-02 (Change Order #1) dated May 27, 2020 and the Canadian Standards Association's (CSA) *Phase I Environmental Site Assessment Standard Z768-01 (R2016).* The Phase I ESA consisted of the following:

- records review including, but not limited to, aerial photographs, fire insurance plans, geological and topographic maps
- provincial government regulatory search
- review of available environmental databases and records
- review of previous environmental reports and existing title searches, if made available
- a site visit
- evaluation of information and preparation of the report provided herein

A Phase I ESA does not include sampling or testing of air, soil, groundwater, surface water or building materials. For this Phase I ESA, no enhancements to the CSA standard were made.

This assessment did not include a review or audit of operational environmental compliance issues, or of any environmental management systems, which may exist for the Site.

Given that the Site is vacant and not developed with any buildings or structures, the assessment for the presence of hazardous building materials was based on the absence of buildings on the Site. A Phase I ESA does not constitute a Hazardous Materials Survey or Designated Substance Survey. Additionally, no sampling was completed for microbial contamination or moisture damage of building materials.

The professional qualifications of the project team are provided in **Appendix C**.

The site visit was conducted by Mr. Jonathan Lautermilch of Stantec on June 10, 2020. The Site and readily visible and publicly accessible portions of adjoining and neighbouring properties were observed for the presence of potential sources of environmental contamination. Stantec was unaccompanied and no interviews were conducted during the site visit. The Site was covered with tall dense grass at the time of the site visit, which impeded close visual inspection of the ground surface.

2.3 Regulatory Framework

In Alberta, the management and investigation of contaminated sites is regulated under the Environmental Protection and Enhancement Act (EPEA) and the Water Act. EPEA prohibits the release of substances in an amount that can cause or may cause significant adverse effect. When a release occurs, the release must be reported and remedial measures must be implemented. The EPEA authorizes the Director to issue Remediation Certificates when contaminated land has been remediated. The remediation Certificate protects the responsible party from future environmental protection orders related to the remediated site. The Water Act regulates the management of water supplies and water quality, including groundwater.

2.0 Introduction (continued)

2.3 Regulatory Framework (continued)

In 2019, Alberta Environment and Parks (AEP) finalized and released new remediation guidelines (Alberta Tier 1, Soil and Groundwater Remediation Guidelines). These guidelines allow three management options: Tier 1, Tier 2 and Exposure Control. Remediation of a site under Tier 1 involves the use of generic guidelines. A Tier 2 approach allows for the consideration of site-specific conditions through the modification of generic (Tier 1) guidelines. Exposure Control management involves risk management through exposure barriers or administrative controls based on site-specific risk assessment. Unconditional regulatory closure is available for sites managed to Tier 1 and Tier 2 objectives (AEP 2019a and AEP 2019b). Stantec understands that starting on January 1, 2019, AEP will provide a letter of compliance when Tier 2 objectives have been met. The AEP letter of compliance is not expected to protect the responsible party from future environmental protection orders as provided by the Remediation Certificate when sites meet Tier 1 objectives.

A Phase I ESA involves a review of any site buildings for the potential presence of hazardous materials related to building components and materials. Specific federal or provincial regulations, guidelines, or codes of practice exist for these individual hazardous materials. Where required, this documentation was utilized to determine appropriate conclusions and appropriate recommendations.

3.0 Records Review

3.1 Information Sources

The applicable search distance for the records review included the Site, properties immediately adjacent to the Site and other neighbouring properties where activities considered to be potential sources of environmental contamination were apparent. The search radius for neighbouring properties was limited to within 100 m of the Site, except for surface water bodies (300 m) and the Water Well Information database (500 m). Information sources obtained and reviewed as part of the records review are listed below.

SOURCE	INFORMATION/CONTACT
Aerial Photographs	Alberta Environment and Parks (AEP): 1951 (AS-182) 1961 (AS-813) 1972 (AS-1178) 1983 (AS-2869) 1991 (AS-4097) Google Earth Pro: 2012-2019
Fire Insurance Plans	No Fire Insurance Plans (FIPs) were available for the Site.
City Directories	None available for the Site.
Previous Environmental Reports	EBA Engineering Consultants Ltd. (EBA), 2005. Phase I Environmental Site Assessment, SE 1/4 26-06-30 W4M, Lot 0, Block 1, Plan 2060JK, Pincher Creek, Alberta. Prepared for the Town of Pincher Creek, File No 0404-4400924 Reclaimit Ltd., 2009. Final Inspection Report for SE 26-006-030 W4M. Prepared for the Town of Pincher Creek
Company Records	None provided.
Geological and Geotechnical Reports	Alberta Geological Survey, 2013. Surficial Geology of Alberta. Scale 1:1000000 Alberta Research, 1974. Hydrogeological Map, Lethbridge-Fernie, Alberta. NTS 82G-H
Regulatory Infractions	AEP Freedom of Information and Protection of Privacy (FOIP) office, Edmonton, Alberta (780) 427-4429 https://foip.aep.alberta.ca Environmental Law Centre (ELC) Enforcement, http://www.elc.ab.ca
Reportable Spill Occurrences	AEP FOIP office, Edmonton, Alberta, (780) 427-4429 ELC Enforcement, http://www.elc.ab.ca Abacus Datagraphics: Alberta Energy Regulator (AER) pipeline and oil well database, http://www.abacusdatagraphics.com Environmental Risk Information Services (ERIS),

3.0 Records Review (continued)

3.1 Information Sources (continued)

SOURCE	INFORMATION/CONTACT
Reportable Spill Occurrences	Standard Report, http://www.eris.ca
Contaminated Sites	AEP FOIP office, Edmonton, Alberta (780) 427-4429 AEP, Environmental Site Assessment Repository (ESAR) http://www.esar.alberta.ca/esarmain.aspx
Hazardous Waste Generator Registration	AEP, ESAR http://www.esar.alberta.ca/esarmain.aspx
Landfill Records	Environmental Risk Information Services (ERIS), Standard Report, http://www.eris.ca
Underground & Aboveground Storage Tanks	ERIS, Standard Report, http://www.eris.ca
Other Available Information	Abacus Datagraphics: AEP pipeline and oil well database, http://abadata.abacusdatagraphics.com/index.asp AEP Approvals Viewer https://avw.alberta.ca/ApprovalViewer.aspx Government of Alberta Spin II database, http://alta.registries.gov.ca/spinii/logon.aspx AEP, 2019a. "Alberta Tier 1 Soil and Groundwater Remediation Guidelines". Edmonton, Alberta AEP, 2019b. "Alberta Tier 2 Soil and Groundwater Remediation Guidelines". Edmonton, Alberta
Water Well Records	AEP Water Well Information Database, http://groundwater.alberta.ca/WaterWells/d/

3.2 Previous Reports

In 2005, EBA Engineering Consultants Ltd. (EBA) conducted a Phase I ESA of the eastern portion (SE 1/4 26-006-30 W4M) of the Site. EBA reported that four sewage retention ponds (lagoons) were formerly located within this portion of the Site and identified them as areas of potential environmental concern (APEC). No off-site areas were identified as a potential APECs during the EBA 2005 Phase I ESA.

In 2009, Reclaimit reported that the property identified as SE 1/4 26-006-30 W4M was impacted by deposition of impacted soil wind blown from a reclaimed berm located at the edge of a storm water handling system west of the Site. Concentration of selenium in the impact zone was reported to exceed the referenced Alberta Environment guidelines (2007 Alberta Tier 1 Soil and Groundwater Remediation Guidelines). It was considered that the wind events did not create a severe reduction in grazing management potential of the impacted areas and the land capability was considered similar to its surrounding lands.

3.0 Records Review (continued)

3.3 Regulatory Information

Available environmental databases and records were searched to determine if the Site, adjacent or neighbouring properties were listed. The databases and search results are presented below. The federal, provincial and municipal departments which provide regulatory information for the Site are listed in **Appendix D**.

Regulatory Information:

Abacus Datagraphics (Abadata): A search of the Abacus Datagraphics Database identified one pipeline associated with the Site. No additional pipelines, oil and gas wells, spills/complaints or oil and gas facilities were located within 100 m of the Site. Details pertaining to the pipeline record is listed below:

License # 2026-5
Company: AltaGas Utilities Inc.
Substance: Natural Gas (NG)
Status: Operating (O)
Location: Along the northern portion of the Site, running east-west

AEP Regulatory Approvals Center: Information obtained from the Regulatory Approvals Centre Internet Search Service (Authorizations/Approval Viewer) did not indicate any active or inactive approvals associated with the Site.

AEP Freedom of Information and Protection of Privacy (FOIP) office: The AEP FOIP office did not identify any routinely available records pertaining to the Site.

AEP Environmental Site Assessment Repository (ESAR): A search of the AEP ESAR database identified one record for the Site.

A bank stability report of the sewage lagoon was completed in 1990 and reported the stratigraphy to be predominantly clay. Due to poor legibility, no other information could be reviewed from this report.

AEP Water Well Information Database: The AEP Water Wells database search did not identify any water wells associated with the Site. However, the database identified seven water wells within 500 m of the Site and each of them were listed for domestic use except one which was listed for unknown use. One of the wells with well ID #121697 was drilled in 1960 and was drilled to a depth of 3.65 metres below grade (mbg). The drilling dates for the remaining wells were not provided, however, their drill depths varied between 3.65 and 12.80 mbg.

Environmental Law Centre (ELC): The ELC (enforcement history) did not indicate any enforcement actions issued by AEP related to operations or issues at the Site.

ERIS: An ERIS database report was commissioned for the Site and surrounding properties located within a 100 m radius of the Site. The ERIS report identified one record pertaining to the Site. Several other records were identified for surrounding properties within 100 m of the Site.

Records pertaining to the Site are as follows:

- Pincher Creek Sewage Lagoon Bank Stability, Pincher Creek SE 26-6-30 W4M, AB.

Records pertaining to surrounding properties located within 100 m of the Site are as follows:

- Alberta Water Well Information Database (WWIS) for a total of seven records (Well ID # 121695, 121696, 121697, 121698, 121699, 121700 and 154057)
- Conglomerate and Waste Management Facilities (PITS) for a total of two records for the Municipal District of Pincher Creek No. 9, AB
- Wastewater Operations (WSTE) for one record for the Town of Pincher Creek, Pincher Creek, AB
- Identification and Verification of Active and Inactive Land Disposal Sites (LDS) for one record
- Petroleum Tank Management Association of Alberta (PTMAA) Fuel Storage Tanks (FST) for one record for the United Farmers of Alberta (UFA), located at 1050 Corner Mountain Street, Pincher Creek, AB, T0K 1W0

3.0 Records Review (continued)

3.3 Regulatory Information (continued)

Fire Insurance Plans (FIPs): There were no FIPs available for the Site or surrounding properties located within 100 m of the Site.

Government of Alberta Spin II Database: A land title search identified that The Town of Pincher Creek has owned the Site or a portion of it since at least 1963. A review of the land titles indicated that utility right of ways were granted to The Town of Pincher Creek and/or ICG Utilities.

3.4 Physical Setting

3.4.1 Surficial Geology

Based on an available surficial geology map, the native surficial soils at the Site likely consist of glaciofluvial and glaciolacustrine deposits of sand, silt and clay. The characteristic permeability of these soils is moderate to high. A site-specific determination would be required in order to obtain detailed soil profile and permeability information.

A sewage lagoon bank stability report indicated that the surficial soils consist of mostly clay within the former sewage lagoon area located in the southeast portion of the Site.

3.4.2 Surface Water Drainage

The surfaces of the Site consist of undeveloped grassed areas. Stormwater on-site is anticipated to collect in low-lying areas or drain by infiltration and/or overland flow.

3.4.3 Topography and Regional Drainage

The Site appeared to be slightly undulating with a slope towards the east. The Site was grass covered at the time of the site visit. Based on an available topographic map and the observed site topography, regional surface drainage (anticipated shallow groundwater flow direction) is likely southeast towards Pincher Creek located at approximately 50 m from the Site. It should be noted that the direction of the shallow groundwater flow in limited areas can also be influenced by the presence of underground utility corridors and is not necessarily a reflection of regional or local groundwater flow or a replica of the Site or area topography.

3.4.4 Bedrock Geology

Based on an available bedrock geology map, bedrock in the area of the Site likely consists of sandstone or shale of Willow Creek Formation.

4.0 Site Description

4.1 Property Information

The Site is currently owned by the Town of Pincher Creek and consists of an undeveloped grassed parcel of land. The western portion of the Site is zoned as General Industrial and Warehousing (I1) and the east portion is zoned as Transitional Urban Reserve (TUR) as per the Town of Pincher Creek ByLaw 1547.

Current Site Owner:	Town of Pincher Creek
Legal Description:	SE 1/4 26-006-30 W4M and SW 1/4 26-006-30 W4M
Property Area:	108 acres (approximately)
Utility Providers:	
Water:	Serviced by Town of Pincher Creek
Storm and Sanitary Sewers:	Serviced by Town of Pincher Creek
Electricity:	Not serviced
Natural Gas:	Not serviced

4.2 On-Site Buildings and Structures

No buildings or structures were observed on-site at the time of the site visit. A small shack housing the sewage lift station was observed on the northwestern portion of the Site, the assessment of which was not included in this Phase I ESA.

4.3 Historical Land Use

Historical land use for the Site was determined through historical records listed in Section 3.0. The areas of potential environmental concern (APECs) are depicted on Figure 4.0, in **Appendix A**. A summary of the historical information is presented below.

Period/Date:	Land Use:
1950s	The Site and surrounding properties appeared undeveloped.
1960s	The Site appeared undeveloped. Minor agricultural development appeared south of Highway 6.
1970s	The Site appeared mostly undeveloped with four lagoons constructed in the southeastern portion. The surrounding properties appeared to be similar to 1961.
1980s	Two lagoons appeared to have been backfilled. The remainder of the Site and surroundings appeared to be similar to 1972. The Site and surrounding appeared to be contoured. Additional residential development appeared to have taken place 200 m south of the Site.
Early 1990s	The remaining two lagoons appeared to have been backfilled. A wet area appeared to be present within the footprint of the former lagoons. The presence of the former lagoons represents an area of potential environmental concern (APEC 1) to the Site.
Late 1990s	The Site appeared to be similar to 1991. A wet area was present west of the footprint of the former lagoons. Industrial type development appeared to have taken place immediately southwest of the Site.
2000s	No significant changes were observed on the Site or surrounding properties immediately adjacent to the Site since 1997.
2010s	A constructed wetland was visible to the northeast of the Site. Land clearing and additional developments were visible along the western and southwestern site boundaries and adjacent properties.

5.0 Site Visit Findings

5.1 Current Site Operations

At the time of the site visit, the Site consisted of an undeveloped grassed parcel of land. Locations of selected photographs of the Site are included as Figure 5.0, in **Appendix A**.

5.2 Waste Generation and Storage

5.2.1 Solid and Liquid Wastes

No wastewater discharges, and no domestic waste generation or storage was identified on the Site at the time of the site visit.

5.2.2 Drains, Sumps, Septic Systems and Oil Water Separators

No sumps, septic systems, interceptors, or separators were identified on the Site at the time of the site visit.

5.2.3 Air Discharges and Odours

No sources of air emissions suspected to result in residual contamination were identified on the Site. A sewage like odour was documented in the northwest portion of the Site during the site visit. The source of the odour was likely associated with the presence of a sewage lift station located in the northwest corner of the Site.

5.3 Fuel and Chemical Storage

5.3.1 Underground Storage Tanks (USTs)

No chemical or fuel storage USTs were identified on the Site at the time of the site visit. Further, no vent or fill pipes indicating the potential presence of an abandoned or decommissioned UST were observed.

5.3.2 Aboveground Storage Tanks (ASTs)

No chemical or fuel storage ASTs were identified on the Site at the time of the site visit. An UFA service station was identified within 100 m west of the Site and currently has six aboveground storage tanks (ASTs). The Triple T (Oilfield Services) was identified on the property located southwest of the Site and was observed to house several ASTs. These neighbouring properties (i.e., UFA service station and Triple T) are discussed further in Section 5.8 of this report.

5.3.3 Other Storage Containers

No chemical storage was observed on the Site at the time of the site visit.

5.4 Building Systems/Equipment

5.4.1 Heating and Cooling Systems

No heating or cooling systems were on the Site as the Site is undeveloped at the time of the site visit.

5.4.2 Hydraulic Equipment

No hydraulic equipment was observed on the Site as the Site was undeveloped at the time of the site visit.

5.0 Site Visit Findings (continued)

5.5 Exterior Site Observations

5.5.1 Surface Features

Low-lying areas were observed in the north-central and southwestern portions of the Site containing vegetation (e.g., cattail) that is suspected to indicate presence of potential seasonal wetlands and are considered to represent an area of potential environmental concern (APEC 2, and APEC3, respectively). A stream (tributary of Pincher Creek) was also observed to flow in the northern portion of the Site. Stockpiles (debris) consisting of discarded soil material, asphalt, concrete, PVC pipe, scrap wood, scrap metal, etc. were observed west of the Site and are considered to represent an area of potential environmental concern (APEC 4). The source of the stockpiled materials is currently unknown. No surface staining was observed in the area of the stockpiles and debris at the time of the site visit. A sewage lift station was observed in the northwestern portion of the Site. Infrastructure such as manholes and fire hydrants related to Town of Pincher Creek storm sewers and water services were observed on the Site. A constructed wetland was observed in the northeast portion of the Site and is considered to represent an area of potential environmental concern (APEC 5).

5.5.2 Fill Materials

No evidence of imported fill was observed at the Site with the exception of the western portion, where stockpiles from an unknown source were observed. Fill material should be expected in the areas of the former lagoons which were backfilled prior to 1991 (APEC 1).

5.5.3 Wells

At the time of the site visit, no abandoned or existing wells (water, oil, gas or disposal) were identified on the Site. However, the Site was grass covered at the time of the site visit.

5.6 Hazardous Building Materials

5.6.1 Asbestos-Containing Materials (ACMs)

The common use of friable (crumbles easily by hand pressure) ACMs in construction generally ceased voluntarily in the mid to late 1970s. Non-friable asbestos-containing products continued to be manufactured, imported and used in Canada until asbestos products were formally banned in December 2018. Asbestos was used in thousands of building products and the common uses of friable ACMs included boiler and pipe insulation, and spray-on fireproofing. Asbestos was also used in many manufactured products such as floor tiles, ceiling tiles, transite cement products and various other construction materials. Vermiculite used as insulation may be contaminated with asbestos fibres.

As the Site was undeveloped, no suspected ACMs were identified on the Site during the site visit.

5.6.2 Polychlorinated Biphenyls (PCBs)

From the 1930s to the 1970s, PCBs were widely used as coolants and lubricants for electrical equipment, including transformers and capacitors, and in a number of industrial materials, including sealing and caulking compounds, inks and paint additives. The use of PCBs was prohibited in heat transfer and electrical equipment installed after September 1, 1977, and in transformers and capacitors installed after July 1, 1980. Regulations now require that PCB containing equipment be taken out of service prior to regulated deadlines.

As the Site was undeveloped, no buildings or associated electrical equipment with the potential to contain PCBs was identified on the Site at the time of the site visit.

5.0 Site Visit Findings (continued)

5.6 Hazardous Building Materials (continued)

5.6.3 Lead-Based Materials

In 1976, the lead content in interior paint was limited to 0.5% by weight under the federal Hazardous Products Act. Lead based water supply pipes were used greater than 50 years ago. Between 1930 and 1986, most buildings used copper pipe with lead-solder joints. Other lead-based products include wall shielding (x-ray rooms).

As the Site was undeveloped, no lead-based building materials were identified on the Site at the time of the site visit.

5.6.4 Urea Formaldehyde Foam Insulation (UFFI)

UFFI was used as an insulation product for existing houses between the mid-1970s and its ban in Canada in 1980. It was not commonly used for commercial or industrial buildings.

As the Site was undeveloped, no UFFI was identified on the Site at the time of the site visit.

5.6.5 Ozone-Depleting Substances (ODSs)

Refrigeration and air conditioning equipment in place before 1998 may contain refrigerants containing ODSs. Non-ODS refrigerants have been developed and are available to replace these materials in newer equipment.

As the Site was undeveloped, no building equipment containing ODSs was identified on the Site at the time of the site visit.

5.7 Special Attention Items

5.7.1 Radon Gas

Radon is a radioactive gas associated with uranium rich black shale and/or granite bedrock. Radon emits alpha particles and produces several solid radioactive products called radon daughters. Harmful levels of radon and radon daughters can accumulate in confined air spaces, such as basements and crawl spaces.

There is insufficient existing data available to make an accurate assessment of the potential for radon gas issues at this Site. Given the underlying geology, it is anticipated that radon gas issues would not be significant at this location; however, such conditions would have to be determined by the completion of a study which is beyond the scope of work of this project.

5.7.2 Microbial Contamination (Mould) and Indoor Air Quality

The growth of mould in indoor environments is typically due to a moisture problem related to building envelope or mechanical systems deficiencies or design, and can produce adverse health effects. There is no practical way to eliminate all mould and mould spores in the indoor environment. The way to control mould is to control moisture.

No visual evidence of suspected indoor mould growth was observed on the Site at the time of the site visit, as no buildings or structures were present.

5.0 Site Visit Findings (continued)

5.7 Special Attention Items (continued)

5.7.3 Electromagnetic Frequencies (EMFs)

Electrical currents induce electromagnetic fields. No scientific data supports definitive answers to questions about the existence or non-existence of health risks related to electromagnetic fields.

Power lines were noted running along the west and north sides of the Site, however, no high-voltage transmission lines or electrical substations, which could generate significant electromagnetic fields, were identified on or adjacent to the Site at the time of the site visit.

5.7.4 Noise and Vibration

The effects of noise and vibration on human health vary according to the susceptibility of the individual exposed, the nature of the noise/vibration and whether exposure occurs in the working environment or in the home.

No major or persistent sources of noise and vibration were identified on the Site at the time of the site visit.

5.8 Neighbouring Property Information

The current activities on neighbouring properties observed at the time of the site visit and a summary of historical information gathered through the records review are presented in the following section. The surrounding land uses observed during the site visit are also depicted on Figure 3.0, in **Appendix A**.

North:
At the time of the site visit, the property located north of the Site consisted of cultivated land. This property has been undeveloped since at least the 1950s.

East:
The Site was bounded by undeveloped agricultural land, farmstead and a creek to the east. The farmstead has been located at approximately 300 m east of the Site since at least the 1950s.

South:
The Site was bounded by industrial properties (i.e., Triple T Oilfield Services, self storage etc.) to the south. These industrial properties were developed in the 1980s. Prior to this time, these properties were generally occupied by undeveloped land. Several ASTs were observed to be located on the Triple T (Oilfield Services) property, located southwest of the Site, during the site visit. No information regarding these industrial properties was available from the records review. During a telephone interview, Mr. Pat Neumann (Deputy Chief of Emergency Services, Town of Pincher Creek) indicated that according to the Emergency Services records, the ASTs housed on the Triple T property are empty and are not used for any product handling (e.g. storage, distribution etc.).

West:
The Site was bounded by commercial/industrial properties (e.g., wind farm office, UFA service station, Walmart etc.) to the west. The UFA service station has operated since at least the 2010s. The UFA service station is located approximately 120 m west of the Site and is currently equipped with six ASTs that dispense gasoline and diesel fuel through several pump islands. No other information regarding the UFA service station was available from the records review.

5.9 Client-Specific Items

No specific client requests were made with respect to this Phase I ESA.

6.0 Conclusions

The Phase I ESA has revealed evidence of potential environmental concerns associated with the Site and neighbouring properties. The potential environmental concerns and associated recommendations are as follows:

- The former sewage lagoons and presence of fill material located in the southeastern portion of the Site are considered to represent a potential environmental concern to the Site (APEC 1). A Phase II ESA is recommended to assess the soil, groundwater and soil vapour quality beneath the Site in the area of these former lagoons.
- Low-lying areas observed in the north-central and southwestern portions of the Site contained vegetation (e.g., cattail) and were suspected to indicate the presence of potential seasonal wetlands (APEC 2 and APEC 3). As such, assessment for the risk of methane gas generation should be conducted in these areas due to the potential presence of organic material. It should be noted that methane gas is a product of the decay of organic matter, commonly found in marshes (swamp gas) and landfill sites. Any subsurface assessment or redevelopment activities should consider the potential presence of organic material which may represent a source of methane gas generation and hence represent a potential health concern (explosive methane gas) if located beneath future building foot prints which may require mitigative measures.
- Stockpiles were located on the west portion of the Site at the time of the site visit (APEC 4). These stockpiles consisted of discarded soil material, asphalt, concrete, PVC pipe, scrap wood, scrap metals, etc. These stockpiles should be removed and disposed of appropriately. If staining or unusual odours are encountered in this area, further assessment by an environmental consultant would be required at that time.
- The Site has a constructed wetland on the northeast portion (APEC 5) and potential seasonal wetlands along the northern and southwestern portions of the Site. As such, a wetland assessment should be conducted prior to any future development in these areas.
- The Triple T property, located southwest of the Site, housed several ASTs. According to the Town of Pincher Creek Emergency Services, these ASTs are not used for any product handling (e.g., storage, distribution) on this property. As such, the Triple T property is not considered to represent an environmental concern to the Site at this time.
- The UFA service station is located approximately 120 m west of the Site and is currently equipped with six ASTs (no USTs currently present at the UFA service station as per the available records). As such, based on the distance, the UFA service station is not considered to represent an environmental concern to the Site at this time. The other properties (e.g., Walmart, wind farm office, etc.) that are located within 100 m to the west are also not considered to represent environmental concerns to the Site at this time.

7.0 Closure

This report documents work that was performed in accordance with generally accepted professional standards at the time and location in which the services were provided. No other representations, warranties or guarantees are made concerning the accuracy or completeness of the data or conclusions contained within this report, including no assurance that this work has uncovered all potential liabilities associated with the identified property.

This report provides an evaluation of selected environmental conditions associated with the identified portion of the property that was assessed at the time the work was conducted and is based on information obtained by and/or provided to Stantec at that time. There are no assurances regarding the accuracy and completeness of this information. All information received from the client or third parties in the preparation of this report has been assumed by Stantec to be correct. Stantec assumes no responsibility for any deficiency or inaccuracy in information received from others.

The opinions in this report can only be relied upon as they relate to the condition of the portion of the identified property that was assessed at the time the work was conducted. Activities at the property subsequent to Stantec's assessment may have significantly altered the property's condition. Stantec cannot comment on other areas of the property that were not assessed.

Conclusions made within this report consist of Stantec's professional opinion as of the time of the writing of this report, and are based solely on the scope of work described in the report, the limited data available and the results of the work. They are not a certification of the property's environmental condition. This report should not be construed as legal advice.

This report has been prepared for the exclusive use of the client identified herein and any use by any third party is prohibited. Stantec assumes no responsibility for losses, damages, liabilities or claims, howsoever arising, from third party use of this report.

This report is limited by the following:

- *Stantec was unaccompanied and no interviews were conducted during the site visit.*
- *The Assessment of the small shack housing the sewage lift station on-site was not included in this Phase I ESA.*

The locations of any utilities, buildings and structures, and property boundaries illustrated in or described within this report, if any, including pole lines, conduits, water mains, sewers and other surface or sub-surface utilities and structures are not guaranteed. Before starting work, the exact location of all such utilities and structures should be confirmed and Stantec assumes no liability for damage to them.

The conclusions are based on the site conditions encountered by Stantec at the time the work was performed at the specific testing and/or sampling locations, and conditions may vary among sampling locations. Factors such as areas of potential concern identified in previous studies, site conditions (e.g., utilities) and cost may have constrained the sampling locations used in this assessment. In addition, analysis has been carried out for only a limited number of chemical parameters, and it should not be inferred that other chemical species are not present. Due to the nature of the investigation and the limited data available, Stantec does not warrant against undiscovered environmental liabilities nor that the sampling results are indicative of the condition of the entire Site. As the purpose of this report is to identify site conditions which may pose an environmental risk; the identification of non-environmental risks to structures or people on the Site is beyond the scope of this assessment.

This report has been prepared for Town of Pincher Creek. Town of Pincher Creek shall at all times be entitled to fully use and rely on this report, including all attachments, drawings, and schedules, for the specific purpose for which the report was prepared, in each case notwithstanding any provision, disclaimer, or waiver in the report that reliance is not permitted.

Should additional information become available which differs significantly from our understanding of conditions presented in this report, Stantec specifically disclaims any responsibility to update the conclusions in this report.

7.0 Closure (continued)

The site visit was completed by Jonathan Lautermilch on June 10, 2020. This report was prepared by Ripon Banik and reviewed by Amin Kassam.

Appendix A
(ENVIRONMENTAL SITE ASSESSMENT)

Site Plans

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Base Data - AltaLIS, Canvec, Government of AB and BC.
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Disclaimer: This map is for illustrative purposes to support this Stantec project; questions can be directed to the issuing agency.

Date: 7/2/2020

Stantec

200 - 325 25TH ST. SE CALGARY, AB T2A 7H8
STANTEC DOES NOT CERTIFY THE ACCURACY OF THE DATA.
THIS MAP IS FOR REFERENCE ONLY AND SHOULD NOT BE USED FOR CONSTRUCTION.

Client/Project **Town of Pincher Creek**
Phase I Environmental Site Assessment
NE Industrial Parcel of Land
SE 1/4 26-006-30 W4M and SW 1/4 26-006-30 W4M
Pincher Creek, Alberta

Figure No. **1.0**

Title **Site Location Plan**

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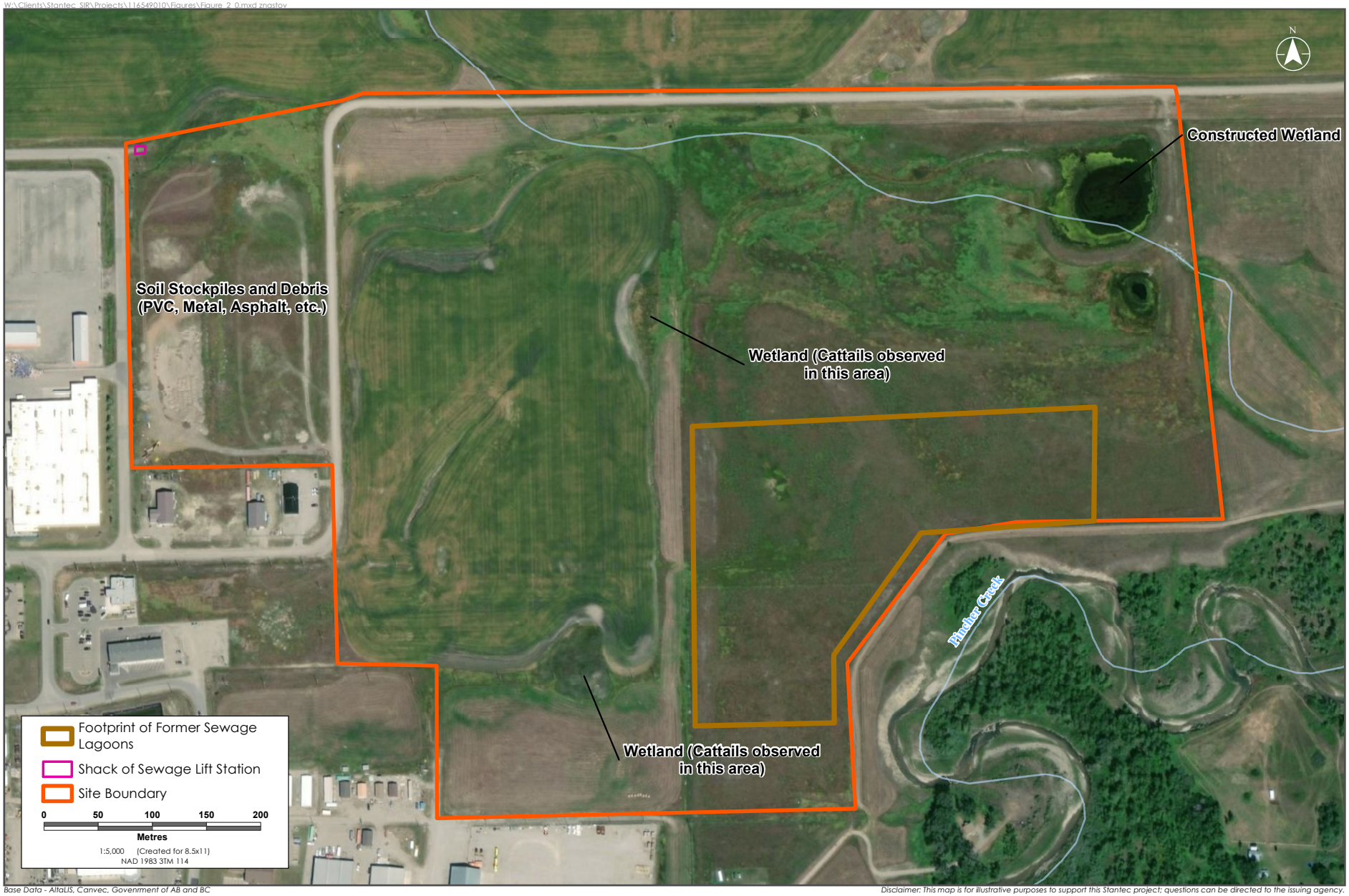

Base Data - AltaLIS, Canvec, Govenrment of AB and BC

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Date: 7/13/2020

Stantec

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Client/Project	**Town of Pincher Creek** **Phase I Environmental Site Assessment** **NE Industrial Parcel of Land** **SE 1/4 26-006-30 W4M and SW 1/4 26-006-30 W4M** **Pincher Creek, Alberta**
Figure No.	**2.0**
Title	**Site Plan**

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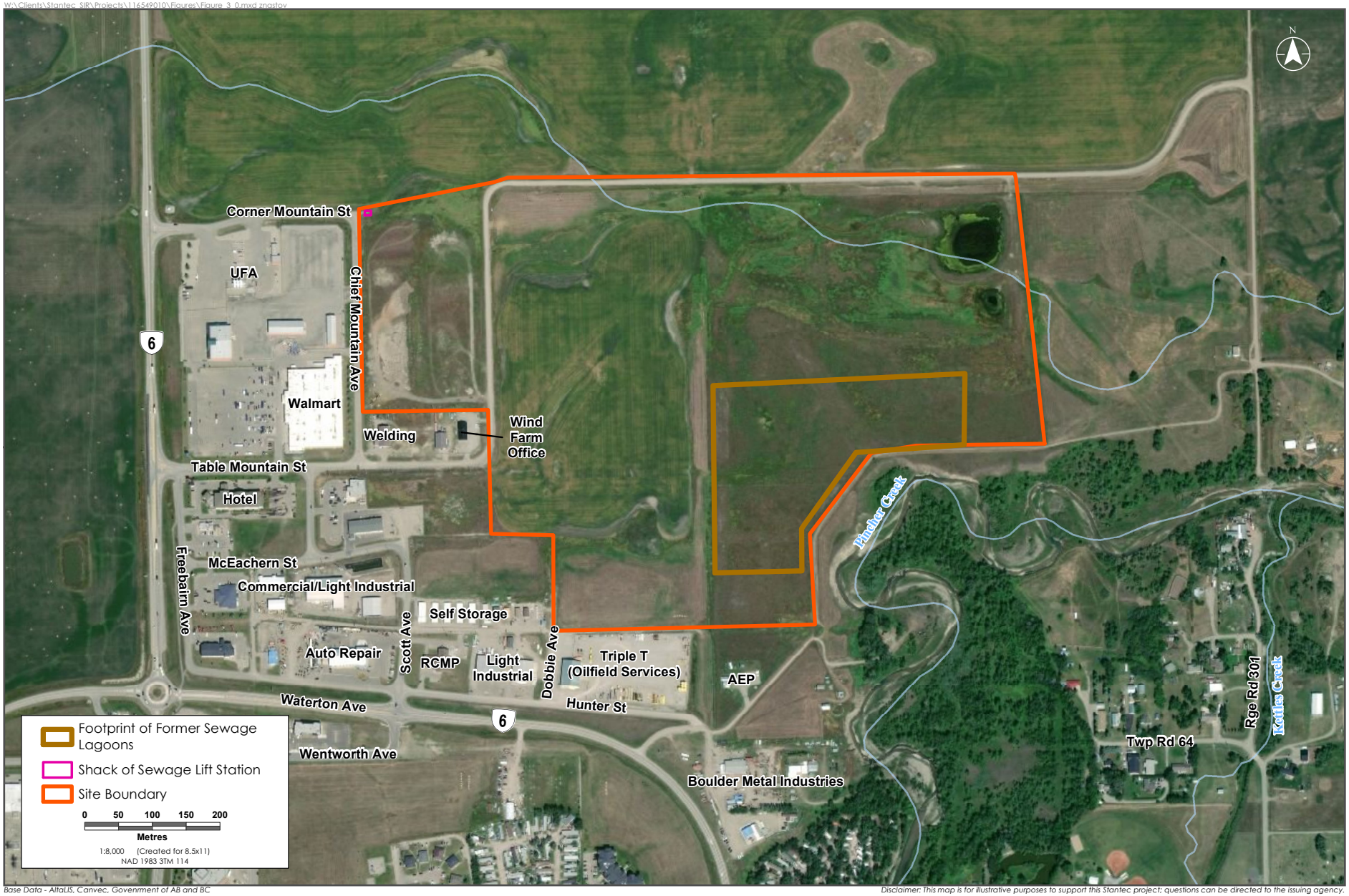

Base Data - AltaLIS, Canvec, Government of AB and BC

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Client/Project	**Town of Pincher Creek** **Phase I Environmental Site Assessment** **NE Industrial Parcel of Land** **SE 1/4 26-006-30 W4M and SW 1/4 26-006-30 W4M** **Pincher Creek, Alberta**
Figure No.	**3.0**
Title	**Surrounding Land Use Plan**

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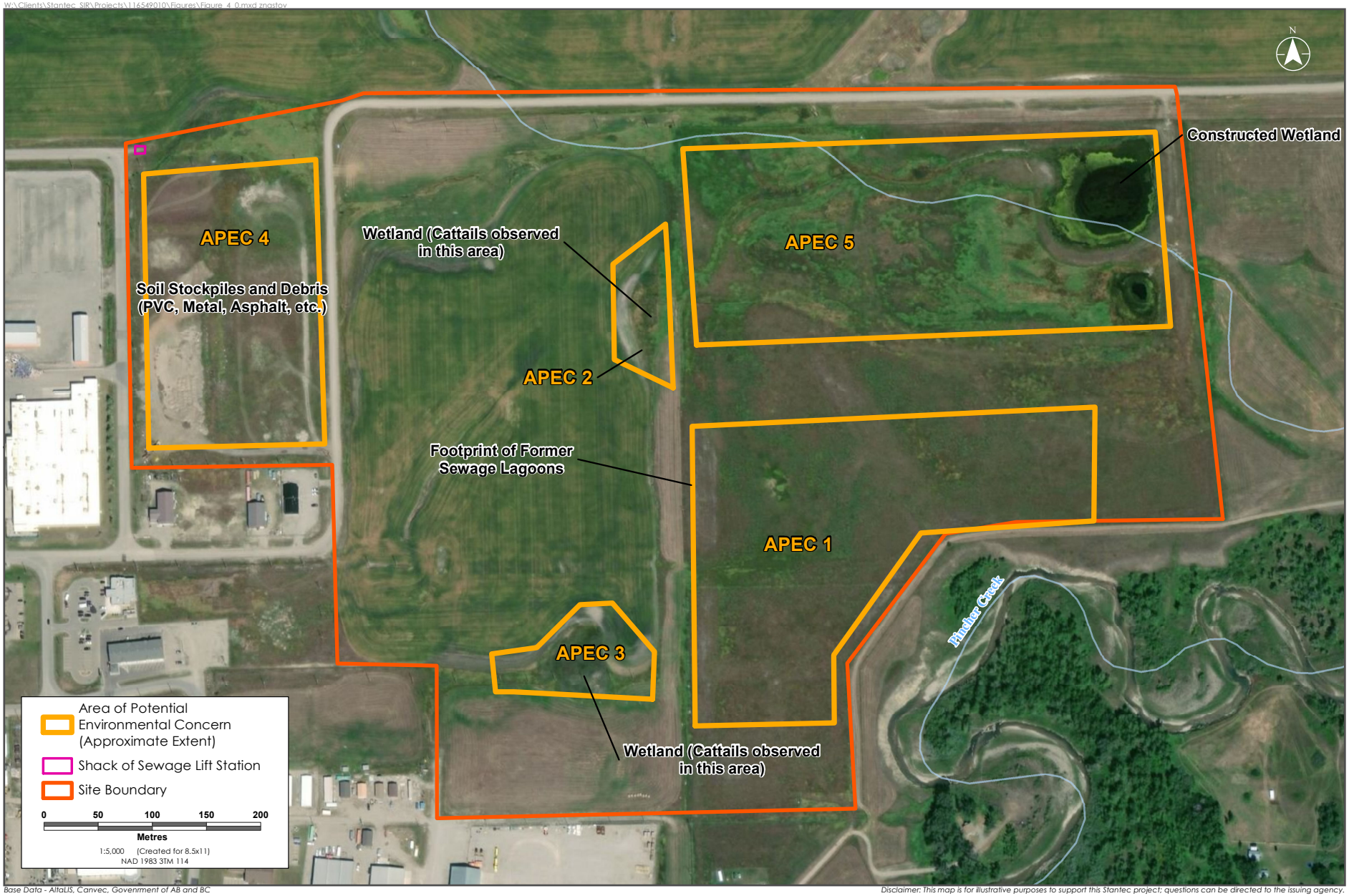

Base Data - AltaLIS, Canvec, Government of AB and BC

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Client/Project	**Town of Pincher Creek** **Phase I Environmental Site Assessment** **NE Industrial Parcel of Land** **SE 1/4 26-006-30 W4M and SW 1/4 26-006-30 W4M** **Pincher Creek, Alberta**
Figure No.	**4.0**
Title	**Approximate Extent of Areas of Potential Environmental Concern**

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Base Data - AltaLIS, Canvec, Govenrment of AB and BC

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Date: 7/13/2020

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Client/Project	**Town of Pincher Creek** **Phase I Environmental Site Assessment** **NE Industrial Parcel of Land** **SE 1/4 26-006-30 W4M and SW 1/4 26-006-30 W4M** **Pincher Creek, Alberta**
Figure No.	**5.0**
Title	**Photo Locations**

Appendix B
(ENVIRONMENTAL SITE ASSESSMENT)
Photographs

Stantec

Photographic Log

Client:	**Town of Pincher Creek**	**Project:**	**Phase I Environmental Site Assessment**
Site Name:	**NE Industrial Parcel of Land**	**Site Location:**	**SE 1/4 26-006-30 W4M and SW 1/4 26-006-30 W4M**

Photograph ID: 1	
Photo Location: Location 1	
Direction: West	
Survey Date: 6/10/2020	
Comments: View of Town utility (stormwater and sewer) infrastructure	

Photograph ID: 2	
Photo Location: Location 2	
Direction: East	
Survey Date: 6/10/2020	
Comments: View of the Site looking towards the East	

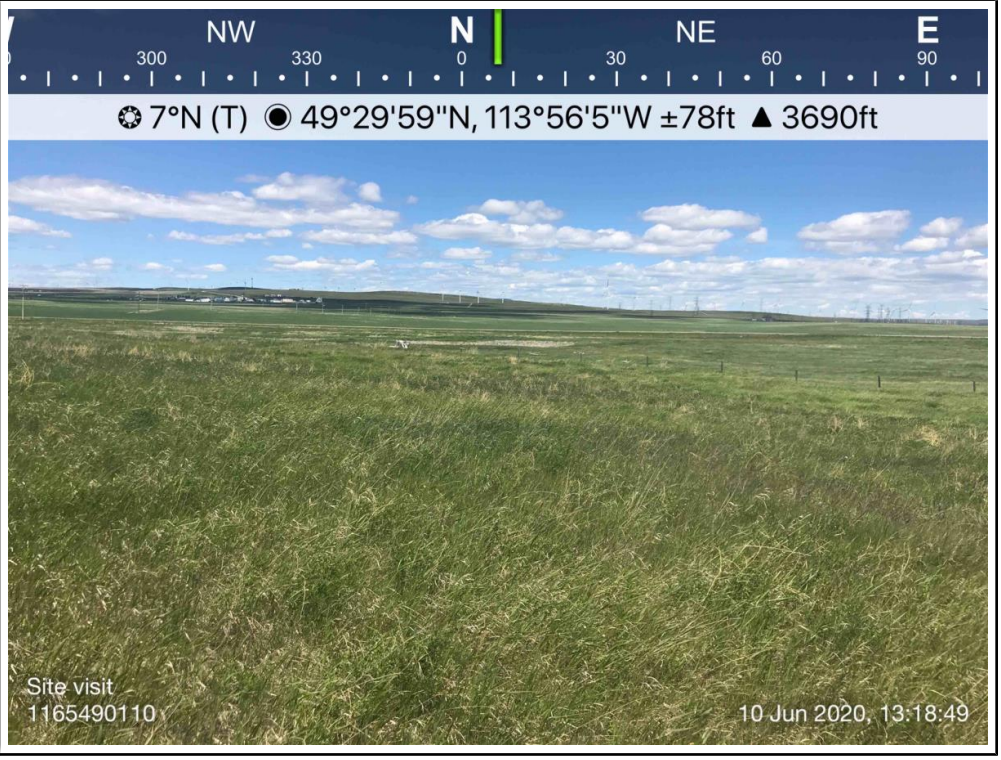
Client:	**Town of Pincher Creek**	**Project:**	**Phase I Environmental Site Assessment**
Site Name:	**NE Industrial Parcel of Land**	**Site Location:**	**SE 1/4 26-006-30 W4M and SW 1/4 26-006-30 W4M**

Photograph ID: 3 **Photo Location:** Location 3 **Direction:** South **Survey Date:** 6/10/2020 **Comments:** View of the Site looking towards the South	
Photograph ID: 4 **Photo Location:** Location 4 **Direction:** North **Survey Date:** 6/10/2020 **Comments:** View of marker for gas utility	

Client:	**Town of Pincher Creek**	**Project:**	**Phase I Environmental Site Assessment**
Site Name:	**NE Industrial Parcel of Land**	**Site Location:**	**SE 1/4 26-006-30 W4M and SW 1/4 26-006-30 W4M**

Photograph ID: 5 **Photo Location:** Location 5 **Direction:** West **Survey Date:** 6/10/2020 **Comments:** View of cattail indicating potential presence of wetland (APEC 3)	
Photograph ID: 6 **Photo Location:** Location 6 **Direction:** West **Survey Date:** 6/10/2020 **Comments:** View of stream located in the northern portion of the Site	

Client:	**Town of Pincher Creek**	**Project:**	**Phase I Environmental Site Assessment**
Site Name:	**NE Industrial Parcel of Land**	**Site Location:**	**SE 1/4 26-006-30 W4M and SW 1/4 26-006-30 W4M**

Photograph ID: 7 **Photo Location:** Location 7 **Direction:** Southwest **Survey Date:** 6/10/2020 **Comments:** View looking towards the on-site constructed wetland (APEC 5)	
Photograph ID: 8 **Photo Location:** Location 8 **Direction:** North **Survey Date:** 6/10/2020 **Comments:** View of the Site looking towards the north	

Client:	**Town of Pincher Creek**	**Project:**	**Phase I Environmental Site Assessment**
Site Name:	**NE Industrial Parcel of Land**	**Site Location:**	**SE 1/4 26-006-30 W4M and SW 1/4 26-006-30 W4M**

Photograph ID: 9 **Photo Location:** Location 9 **Direction:** East **Survey Date:** 6/10/2020 **Comments:** View of the stockpiles and debris located on the west portion of the Site (APEC 4)	
Photograph ID: 10 **Photo Location:** Location 10 **Direction:** North **Survey Date:** 6/10/2020 **Comments:** View of the lift station located in the northwestern portion of the Site	

Appendix C
(ENVIRONMENTAL SITE ASSESSMENT)
Assessor Qualifications

Jonathan Lautermilch DipEVT

Environmental Technologist

Jonathan is an environmental technologist with experience in environmental site assessment for oil and gas, commercial, insurance and municipal government clients in Alberta, British Columbia, and Northwest Territories. Jonathan's project experience includes Phase I, II and III Environmental Site Assessments (ESA), groundwater monitoring and sampling, remedial excavations, and spill response. His responsibilities on these projects include logging and sampling soil during borehole drilling, surface and groundwater sampling, reporting, contractor supervision and field coordination.

Jonathan's experience also includes supporting operational and technical project managers with all aspects of project delivery including field coordination, planning and reporting. In addition, he is also experienced in applying Alberta's regulatory framework to EPEA renewal, amendment and new facility applications for oil and gas and power generation facilities in Alberta.

EDUCATION

Diploma – Environmental Technology, Southern Alberta Institute of Technology (SAIT), Calgary, Alberta, 2014

PROJECT EXPERIENCE

ENVIRONMENTAL SITE ASSESSMENTS PHASE I, II, III

City of Calgary Green Line North Phase I ESA | Calgary, Alberta | 2016-2017 | Environmental Technologist

Conducted the review of business directory records, fire insurance plans and historic environmental reports to assist in the assessment of environmental risk along the proposed rail alignment in the City of Calgary. Other tasks included data management and reporting.

Commercial Phase II ESA | Calgary, Alberta | 2017-2018 | Environmental Technologist

Completed an environmental delineation drilling program involving advancing 66 boreholes, including 12 monitoring wells and four deep monitoring wells for DUA exclusion. Responsible for drilling supervision, logging and sampling soils, surveying the wells and purging and sampling groundwater.

Phase III ESA, Former Shooting Range | Medicine Hat, Alberta | 2017-Present | Environmental Technologist

Completed an environmental delineation drilling program involving advancing 20 boreholes at the site of a former shooting range. Responsible for drilling supervision, logging and sampling soils. Other tasks included locating, purging and sampling historical groundwater monitoring wells.

City of Calgary Green Line North Phase II ESA | Calgary, Alberta | 2016-Present | Environmental Technologist

Participated in the Phase II ESA sampling soils recovered during the geotechnical drilling program along the Green Line North LRTs planned alignment within the City of Calgary.

INSURANCE

20,000 L Diesel Transportation Release | Near Enterprise, Northwest Territories | 2017 | Environmental Technologist

Completed a remedial excavation of a 20,000 litre diesel release along a remote highway near Enterprise, NWT. Responsible for soil sample collection, field screening, directing excavation activities, waste manifest tracking and providing updates to the regulator during site visits.

DEHEX Transportation Release | Near Prince George, British Columbia | 2016 | Environmental Technologist

Assisted with monitoring well decommissioning along a remote highway near Slim Creek Provincial Park. Responsibilities included, contractor supervision and management.

OIL & GAS DOWNSTREAM, RETAIL

Annual Groundwater Monitoring | Various Locations, Alberta | 2016-Present | Environmental Technologist

Completed groundwater monitoring and sample collection (purge or no purge, bailer or low flow methods) at multiple downstream sites. Projects often involve surveying and/or well repairs.

OIL & GAS UPSTREAM, CONVENTIONAL

Northwest Territories Wellsite and Sump Reclamation and Remediation Monitoring Program | Inuvialuit Settlement Region, NWT | 2017-2018 | Environmental Technologist

Completed soil and surface water sampling program at various wellsite and drilling sumps located on the McKenzie River Delta in the NWT. Responsibilities included soil and surface water sampling, equipment logistics and reporting.

Regulatory Compliance: Alberta Energy Regulator (AER)
Environmental Protection and Enhancement Act (EPEA)
Water Quality Monitoring and Sampling Programs |
Alberta | 2018 - 2019 | Environmental Technologist

Completed bi-annual groundwater monitoring and sampling at five active or decommissioned sour gas processing facilities in Southern Alberta.

Lincoln Weller B.Sc., P.Geo.

Project Manager/Environmental Geologist

Lincoln is a graduate of Acadia University, Nova Scotia, and has had over 14 years of environmental and geotechnical experience. This includes conducting and coordinating Environmental Site Assessments (ESAs) including remedial excavations, borehole and monitoring well installation, soil and groundwater monitoring and sampling; baseline soil and groundwater assessments; Environmental Impact Assessments (EIAs); regulatory approval applications and amendments; physical and contaminate hydrogeology projects; and the preparation of a wide variety of technical reports. As a Project Manager for groundwater monitoring and sampling programs, operational soil monitoring programs, Phase II ESAs, brownfield redevelopment projects, and a variety of desktop study projects, Lincoln is responsible for delivery of the projects. Lincoln schedules and co-ordinates field staff, prepares health and safety plans, develops work instructions, and provides technical guidance to junior field staff. Lincoln has also conducted a variety of Phase I ESA investigations, in adherence to the Canadian Standards Association Standard Z768. He has experience assessing potential contamination related to fuel/chemical storage and handling, waste management, manufacture processes, building sciences, control of air emissions, and geology/hydrogeology. He has performed a wide variety of geotechnical materials testing and inspection services during construction. Lincoln has also conducted laboratory testing conducted in conformance with current and applicable American Society for Testing and Materials (ASTM) methods and procedures.

EDUCATION

Bachelor of Science, Acadia University, Wolfville,
Nova Scotia, 2005

MEMBERSHIPS

Professional Geoscientist #109103, Association of
Professional Engineers and Geoscientists of Alberta

COMPETENCIES

Project Manager
Peer Reviewer
Site Visits
Field Sampling
Technical Report Writer

** denotes projects completed with other firms*

Ripon Banik M.A.Sc., P.Eng.

Environmental Engineer

Ripon is a professional engineer with fifteen years of experience in the environmental science and engineering. Over the last twelve years, he has been focusing on site assessment and remediation primarily in western Canada. His practical experience includes intrusive assessments including groundwater and soil remediation and risk management planning of oil/gas facilities and environmental monitoring and risk management for construction projects including commercial/residential developments. Ripon's role in projects to date varied from planning, client liaison, budgeting, scheduling, contracting, interpretation of investigation results, waste management and report preparation. Prior to joining environmental consulting, Ripon had considerable time studying micro-pollutant's (e.g., mercury) environmental behavior and circulations in different environmental mediums (e.g., air, soil, vegetation) and their relationship to various meteorological variables and global warming.

EDUCATION

Environmental Engineering, University of Windsor, Masters of Applied Sciences, Ontario, 2004

Chemical Engineering, Bangladesh University of Engineering and Technology, Bachelor of Science, Dhaka, 2002

REGISTRATIONS

Professional Engineer #118716, Association of Professional Engineers and Geoscientists of Alberta

PROJECT EXPERIENCE

BROWNFIELD DEVELOPMENT

Confidential, Third Party Review, Land Transfer | 2014-2018

Third party confirmation of environmental expenses in a land transfer between Party A and Party B involving the construction and maintenance of a groundwater remediation system.

COMMUNITY INSTITUTIONAL

Qualico Communities and Brookfield Residential, Residential development Environmental Assessment | Multiple Sites, Alberta | 2014-2015 | Project Manager

Acted as project manager for the environmental assessments for various communities in Calgary. Both soil and groundwater assessment were conducted to delineate and remediate the site and for baseline purposes.

RETAIL

PBA Land Development Groundwater Monitoring | Calgary, Alberta | 2013-2015 | Project Manager

Acting as project manager for several groundwater monitoring and sampling program at various sites in Calgary. These sites are monitored on a regular basis and are required for due diligence purposes for third party financing.

Safeway Canada Environmental Site Assessments Phase I, II, III* | Calgary, Alberta | 2013-2014 | Project Coordinator

Coordinated field activities including drilling and groundwater monitoring for PHC parameters and chlorinated solvents at a Safeway outlet in Calgary, Alberta. Offsite drilling was conducted to delineate impacts. The site is located within a busy residential community in Calgary and traffic appeared to be a major issue during the field program. A revised schedule was developed to address this issue including working during specific hours (e.g., early morning, weekend etc.).

HAZARDOUS WASTE

City of Calgary Environmental Assessment | Multiple Sites, Alberta | 2014-present | Project Coordinator

Acting as project coordinator for several receiving sites in Calgary to stockpile sediments generated from storm water detention ponds located in various communities in Calgary. Geotechnical and environmental assessments of the stockpiled sediments were conducted to determine suitability of re-using the sediments for side grading, capping of landfill, daily cover etc. A limited soil and groundwater assessment is also conducted post removal of the stockpiled sediment and prior to return the lease to the site owner.

** denotes projects completed with other firms*

WASTEWATER

City of Calgary, Bonnybrook Wastewater Treatment Plant (BBWWTP) | Calgary, Alberta | 2014-present | Task Manager

Acted as project manager for environmental assessment work for the proposed Plant D expansion project of the BBWWTP. Environmental assessments were conducted to determine impacts of potential contaminant of concern in soil and groundwater. Methane assessment in the soil vapour was also conducted to determine if any methane inhalation risk was present at the Site. Based on the findings, a soil and groundwater environmental management plan was prepared to assist with the Plant D expansion construction.

OIL AND GAS DOWNSTREAM

UFA Environmental Site Assessments Phase I, II, III | Multiple Sites, Alberta | 2014-present | Project Manager

Acting as project manager for the UFA Groundwater Monitoring Program for multiple years, several Phase II Environmental Site Assessments (ESA) including domestic use aquifer (DUA) assessment and facility upgrade/remedial excavations that included contaminated soil transportation to applicable landfills. Coring of bedrock using HQ was conducted to assess confining bedrock and to determine if exclusion of DUA pathway would be feasible. Most of them included multiple stakeholders (monitoring and/or drilling on offsite areas including municipal and residential properties) to delineate PHC impacts. Hydraulic conductivity testing was conducted at select locations to characterize hydrogeological properties at these sites.

Imperial Oil Environmental Site Assessments Phase I, II, III* | Multiple Sites, Alberta and Saskatchewan | 2008-2012 | Field Tech/Field Supervisor/ Project Manager

Conducted several phase II ESAs at sites in Alberta and Saskatchewan to delineate for PHC and inorganic (fertilizer) parameters. The general responsibilities for these projects involved historical file review, preparing cost estimates, coordinate sub-contractors, participating health and safety meetings, providing project progress to the client, selecting soil samples for laboratory analyses, selecting locations for hydraulic conductivity tests, data analysis, preparing groundwater contour drawing and environmental reports.

Imperial Oil Environmental Monitoring* | Multiples Sites, Alberta and Saskatchewan | 2008-2012 | Field Tech/Field Supervisor/ Project Manager

These projects were conducted to field verify the presence of domestic/municipal/other water wells within a pre-defined distance from the site to assist with risk evaluation of groundwater based (aquatic) pathways. Not all water wells (especially in a rural community) are recorded by publicly available database. Therefore, these studies added great value in determining current status of recorded well and/or determining if wells, not recorded, were present that would influence the aquatic pathway evaluation.

Husky Oil Environmental Site Assessments Phase I, II, III | Multiple Sites, Alberta | 2013-2014 | Project Coordinator/Field Supervisor

Coordinated several Phase II ESAs on active service station and cardlocks to delineate lateral and vertical delineation of PHC parameters in soil and groundwater. Nested pair of monitoring wells including DUA assessment wells was also installed. Due to coarse-grained lithology, hammer rig was used at select sites to advance boreholes. Professional traffic control services were also used for drilling on offsite areas with heavy traffic.

Shell Environmental Site Assessments Phase I, II, III | Multiple Sites, Alberta | 2012-2015 | Project Manager

Acted as project manager for several phase II Environmental Site Assessments (ESA) that included assessment of soil, groundwater and soil vapour. These ESAs were designed from a risk-based perspective to determine environmental risk at the Site and to determine the requirements for further work to achieve an end goal (e.g., site closure, conditional site closure etc.).

OIL & GAS UPSTREAM, CONVENTIONAL

Cenovus Energy Environmental Site Assessments Phase I, II and III* | Multiple Sites, Alberta and Saskatchewan | 2011-2012 | Field Supervisor/ Project Coordinator

Supervised the drilling of various lease sites and well centre assessments for petroleum hydrocarbons and inorganics to delineate drill waste disposal areas and to define the surrounding background conditions following Alberta Environment's compliance options for drill waste disposal areas. Groundwater monitoring wells were installed to examine the groundwater conditions beneath the site, which was later monitored and sampled. Prepared reports for the delineation drillings and cut and cap activities. The health and safety aspects of these projects were of particular importance as these sites were located in a Department of National Defence (DND) controlled area, were remote in nature and could only be accessed by ice roads (winter) or helicopters (summer)

AUTOMOTIVE

Ford Canada Environmental Site Assessments Phase I, II, III* | Cochrane, Alberta | 2011 | Field Supervisor

Supervised drilling and remedial excavation at a car dealership in Calgary. Due to poor installation of concrete slabs on the drainage trench, fluids used within the shop were leaking into subsurface and impacted the area in the vicinity of the trench. Boreholes were drilled to delineate the extent of impact and an excavation was later performed to remediate the impacted area. Excavated materials were transported to landfill following proper documentation (waste manifest) as approved by the client following appropriate TDG regulations

** denotes projects completed with other firms*

Ford Canada Environmental Assessment and Environmental Site Remediation* | Calgary, Alberta | 2011 | Field Supervisor

Supervised drilling and remedial excavation at a car dealership in Calgary. Due to poor installation of concrete slabs on the drainage trench, fluids used within the shop were leaking into subsurface backfill (coarse-grained) and impacted the area in the vicinity of the trench. Boreholes were drilled to delineate the extent of impact and an excavation was later performed to remediate the impacted area. Excavated materials were transported to landfill facility as approved by the client following appropriate TDG regulations.

RESEARCH / LABORATORIES

Environment Canada and University of Ottawa Air Quality and Environmental Assessment* | Multiple Sites, Quebec | 2005-2008 | Research Assistant

Conducted literature reviews, collected water, vegetation, dry and wet deposition samples to quantify mercury concentrations in each of these medium. Employed flux chamber and micrometeorological methods to define mercury exchange processes in local and regional scales. Sample collections were distributed to cover a deciduous (maple forest) environment and areas within the immediate downstream and upstream to achieve an extensive mass balance. Similar projects were executed in a Canadian sub-arctic environment to investigate the change in vegetation (coniferous vs. deciduous) and its impact on regional mercury cycles.

PUBLICATIONS

Banik, R., P. Constant, M. Pilote and L. Poissant. Measurements of Total Gaseous Mercury Concentration and Flux in the Tundra. *ArcticNet Annual Conference Proceedings, Kuujjuarapik, Quebec*, 2006.

Banik, R., X. Xu, P. Henshaw, A. Basu and L. Poissant. Surface Exchange of Atmospheric Mercury in Southern Canada During Colder Seasons. *RMZ-Materials and Geoenvironment*, 2004.

Banik, R., X. Xu, P. Henshaw and L. Poissant. The Effects of Soil Temperature and Radiation on Air-soil Exchange of Mercury in a Controlled Environment. *The 8th International Conference on Hg as a Global Pollutant*, 2006.

Amin Kassam B.Sc.

Discipline Leader - Environmental Services

Amin has conducted over 1,500 Phase I and Phase II ESAs of undeveloped, industrial, commercial and residential lands in Alberta, British Columbia, Saskatchewan and Manitoba for acquisition, financing, disposition, environmental compliance and due diligence. He has also completed Phase II field work, proposals and reports for commercial, residential and undeveloped properties in western Canada.

As a senior project manager with over 20 years of experience, Amin provides technical and management input into environmental due-diligence, commercial and oil & gas projects. His responsibilities include budgeting, scheduling, planning, interpretation of field investigation results, contract management, report preparation and client liaison.

EDUCATION

B.Sc., Biological Sciences, University of Alberta, Calgary, Alberta, 1996

CERTIFICATIONS & TRAINING

Certificate, Environmental Technology, Water, Air, Soil Pollution Studies, Mount Royal College, Calgary, Alberta, 1998

Executive Development Program, Queen's School of Business, Kingston, Ontario, 2011

PROJECT EXPERIENCE

RESIDENTIAL DEVELOPMENT

Phase I Environmental Site Assessment | Calgary, Alberta | Site Assessor, Report Writer

Phase I Environmental Site Assessment, proposed re-development of 46 ha of vacant land, roadways, light-rail transit infrastructure and commercial, industrial and residential developments. Purpose of the project was to report potential environmental liabilities associated with current and historical land uses and provide recommendations for further assessment, if necessary. Project deliverables included GIS database and maps. Responsible for historical research for the entire study area, site visits, data collection and report writing.

POST-SECONDARY EDUCATION

University of Calgary West Campus Lands, Environmental Site Assessments Phase I, II, III | Calgary, Alberta | Senior Project Manager and Senior Reviewer

Phase I Environmental Site Assessment of over 113 hectares (280 acres) of land within the University of Calgary's West Campus Lands. The Phase I ESA was completed for due-diligence purposes to secure mortgage financing and to support an Outlined Plan for the City of Calgary. The purpose of the project was to assess if evidence of potential or actual environmental contamination existed in connection with the Study Area, as a result of current or past activities on the Study Area or neighbouring properties. Responsible for project management, client liaison, site visit, and peer review. The Phase I ESA report was delivered to the Client on time. The Phase II and III ESAs are on-going.

FINANCIAL, INSURANCE, & REAL ESTATE

Phase I and II Environmental Site Assessments | Alberta and Saskatchewan | Senior Reviewer and Project Manager

Managed Phase I ESAs of properties in Fort McMurray, Alberta and Prince Albert, Saskatchewan for the purpose of corporate acquisition. Identified potential environmental liabilities with radioactive uranium contaminated soil at a former uranium transportation facility in Fort McMurray, Alberta and developed a proposal for initial subsurface soil and groundwater investigation to quantify these liabilities (Phase II ESA). Identified potential environmental liabilities with creosote-contaminated soil at a former wood treatment facility in Prince Albert, Saskatchewan and developed a proposal for subsurface soil and groundwater investigation to quantify these liabilities (Phase II ESA). Conducted an extensive review of previous environmental reports prepared for these two properties on behalf of the client.

MANUFACTURING - PULP & PAPER / WOOD PRODUCTS

Ainsworth Lumber OSB Plant, Phase I and II Environmental Site Assessments and Air Quality Assessment | Grande Prairie, Alberta | Project Manager

On-going management of the Phase I and II ESAs and the Air Quality Assessment of Ainsworth Lumber OSB Plant for corporate due diligence and application for approvals from Alberta Environment.

RESTAURANTS

Phase I Environmental Site Assessment | Calgary, Alberta | Project Manager, Site Assessor, Report Writer, Senior Reviewer

Phase I Environmental Site Assessment of 15 fast food establishments in Southern Alberta (portion of a 120-site portfolio across Canada) for pre-disposition due diligence purposes. Purpose of the project was to report potential environmental liabilities associated with current and historical land uses and provide recommendations for further assessment. Responsible for project management, historical research, site visits, data collection and report writing.

OIL & GAS UPSTREAM, CONVENTIONAL

Phase I and II Environmental Site Assessments | Alberta | Data Analysis, Document Review, and Report Writer

Projects included Upstream Oil & Gas Phase I ESAs at various oil and gas leases, well sites and gas plants across Alberta for the purpose of asset due diligence. Potential environmental liabilities identified associated with both management practices and material concerns.

TRANSMISSION & DISTRIBUTION, TRANSMISSION LINES

AltaLink Heartland Transmission Project | Alberta | Project Manager and Senior Reviewer

Responsible for ensuring the successful completion of a large-scale Phase I ESA of AltaLink's Heartland Transmission Project. The Phase I ESA included an extensive and comprehensive review of available current and historical information. Systematically compiled and organized the current and historical records according to each parcel of land so that the information could be clearly documented in the report.

RENEWABLE ENERGY, WIND

Phase I ESA Blackspring Ridge | Vulcan County, Alberta | 2011 | Project Manager and Senior Reviewer

In 2011, conducted a Phase I ESA on Canada's largest wind energy project. The project consisted of assessing 89 sections of land in general accordance to the CSA Phase I ESA Standard Z768-01 (R2012). Responsible for making important project management decisions, meeting with the Client and providing feedback and updates to the Client contact throughout the project. The report was delivered to the Client on time and on budget.

TRANSPORTATION & INFRASTRUCTURE

Phase I and II Environmental Site Assessments, University of Calgary Research Park | Calgary, Alberta | Senior Resource and Quality Reviewer

Conducted a Phase I ESA, Phase II ESA and Hazardous Building Materials Assessment of the University of Calgary Research Park property in Calgary, Alberta. The assessments were completed for pre-acquisition due-diligence purposes.

Phase II Environmental Site Assessment | Calgary, Alberta | Technical Advisor and Quality Reviewer

Completed a Phase II ESA along a 4.5 km roadway located within Calgary, Alberta. The objective of the program was to assess the soil and groundwater conditions for potential impacts as a result of historical and current activities occurring on properties located adjacent to the roadway. The Phase II ESA consisted of advancing 27 boreholes, with nine being completed as groundwater monitoring wells. Issues of environmental concern included dry cleaners, gasoline service stations and auto repair garages. Responsibilities included identification of potential environmental liabilities associated with adjacent and on-site land uses that would impact road works and providing solutions during the planning, design and construction phases.

Phase I Environmental Site Assessment | Calgary, Alberta | Technical Advisor and Quality Reviewer

Completed a Modified Phase I ESA for 51 properties located along a 4.5 km roadway located within Calgary, Alberta. The purpose of the assessment for due diligence was to identify potential environmental liabilities associated with historical land use, operations, or management practices. The Phase I ESA consisted of a site visit, historical information gathering and completion of a report providing an overview of the 4.5 km roadway in addition to summary reports for the 51 properties.

Phase I Environmental Site Assessment | Calgary, Alberta | Site Assessor, Report Writer

Phase I Environmental Site Assessment, proposed re-development of 46 ha of vacant land, roadways, light-rail transit infrastructure and commercial, industrial and residential developments. Purpose of the project was to report potential environmental liabilities associated with current and historical land uses and provide recommendations for further assessment, if necessary. Project deliverables included GIS database and maps. Responsible for historical research for the entire study area, site visits, data collection and report writing.

Phase I and II Environmental Site Assessments, Various Transportation Projects in Calgary, Alberta | Data Analysis, Document Review, and Technical Advisor, Senior Quality and Independent Reviewer

Projects have included the Bowfort Road Interchange, McKnight Boulevard Road Improvements, 17 Avenue SW Road Works, 15 and 16 Avenue SW Triple Bottom Line Study, Peigan Trail Transportation Corridor Extension, Southwest Ring Road connections, Southwest Transitway Project, 17 Avenue SE Transitway Project, Green Line North LRT Corridor Functional Planning, Environmental Discipline Lead for Southwest Calgary Ring Road P3 pursuit team. Roles and responsibilities have consisted of identifying potential environmental liabilities associated with adjacent and on-site land uses that would impact road works and providing solutions to the transportation team as required during the planning, design and construction phases.

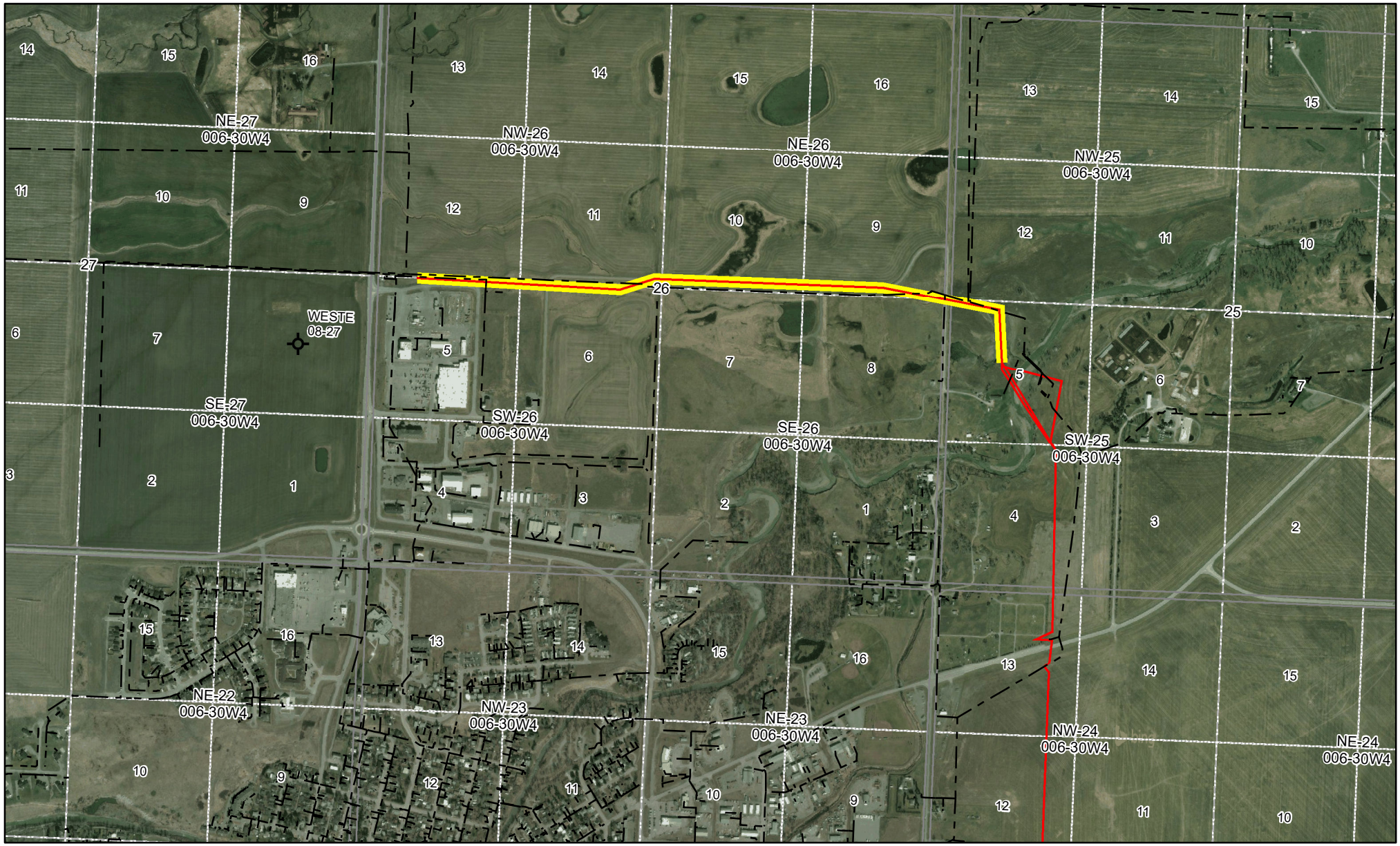
GOVERNMENT

Canada Post Phase I and II Environmental Site Assessments | Calgary, Alberta | Project Manager, Overall Project Coordinator and Senior Reviewer for the Environmental Component

Conducted a Phase I and II ESA of an existing Canada Post Depot located in a commercial district within Calgary, Alberta. Stantec also conducted a Property Condition Assessment (PCA), a Geotechnical Assessment, Hazardous Materials Assessment, and a Physical Planning Assessment concurrently with this Phase I and II ESA for pre-acquisition due-diligence purposes.

Appendix D
(ENVIRONMENTAL SITE ASSESSMENT)
Supporting Documentation

116549010_abadata-map



Wednesday, June 10, 2020

1:14,806

0 175 350 700 m

AbaData

AbaData AER Pipeline Report

AER LIC/LINE #	COMPANY NAME	LICENSE DATE	FROM LOCATION	TO LOCATION	LGTH (kms)	STS	SUB	H2S (mol/ kmol)	OD (mm)	WT (mm)	MAT	TYPE	GRD	MOP (kpa)	JNT	INTL COAT	STRESS LEVEL (%)	ENV
2026 - 5	ALTAGAS UTILITIES INC.	AUG 16 1995	5-25-6-30W4 PL	5-26-6-30W4 RS	1.91	O	NG	0	60.3	2.2	A	6063	T1A	3100	H	U	59	

FIELD

Hegland, Ryan

From: keely.white@gov.ab.ca
Sent: Thursday, June 11, 2020 7:54 AM
To: Hegland, Ryan
Subject: [0630-RD-20] RD No Records

Environment & Parks and Agriculture & Forestry
FOIP Office
10th Floor, 9Triple8 Jasper,
9888 Jasper Avenue NW
Edmonton, Alberta, T5J 5C6
Telephone: 780-427-4429
www.alberta.ca

June 11, 2020

Mr. Ryan Hegland
Stantec Consulting Ltd.
200 - 325 25 Street SE
Calgary, Alberta

Your File #: 116549010.410
Order Number: RD-2020-7081

Dear Mr. Hegland:

Re: Routine Disclosure Request RD-2020-7081 for Information Routinely Available Under the Environmental Protection and Enhancement (EPEA) Legislation.

Our office received your request on June 10, 2020 for the following subject records:

Location: S Sec 26 Twp 6 Rge 30 W 4 M, Pincher Creek
Name(s):
Time Frame: Historical to Jun 10, 2020
Records:

Alberta Environment and Parks has conducted a search of department records based on the search parameters you provided to this office and has not identified any routinely available records relating to the subject of your request. As a result of our findings, your Routine Disclosure request has been closed.

If you have any further questions or concerns, please write or call me at **780-415-0835**.

Yours truly,

Keely White
Administrative Assistant

ENVIRONMENTAL LAW CENTRE
#410, 10115 - 100A Street, Edmonton, AB T5J 2W2
Phone: (780) 424-5099 Fax: (780) 424-5133
Internet: www.elc.ab.ca E-Mail: elc@elc.ab.ca

June 10, 2020 Our File: 130701

Mr. Ryan Hegland
Stantec Consulting Ltd.
#200, 325-25 St. SE
Calgary, AB T3A 7H8

Dear Mr. Hegland:

RE: Search Requested - The Town of Pincher Creek

In response to your request of June 10, 2020, we have searched the Environmental Enforcement Historical Search Service database for an exact match with respect to the above request, and can advise that as of today's date, there have been NO enforcement actions issued by Alberta Environment and Parks (AEP) pursuant to the Alberta "Environmental Protection and Enhancement Act" ("EPEA") and its predecessor legislation, the "Hazardous Chemicals Act", "Agricultural Chemicals Act", "Clean Water Act" and "Clean Air Act" to 1971, and/or pursuant to the "Water Act" from 1999 onwards. However, we enclose a report which may be related to the subject of your search.

This search is limited to the following enforcement actions under EPEA and its predecessor legislation: Tickets, Prosecutions, Administrative Penalties, Warnings, Enforcement Orders, Enforcement Orders Concerning Waste, Environmental Protection Orders, Emergency Environmental Protection Orders, Emission Control Orders, Chemical Control Orders, Water Quality Control Orders and Stop Orders. This search is limited to the following enforcement actions under the Water Act: Prosecutions, Administrative Penalties, Water Management Orders, Warnings and Enforcement Orders. It does not include Clean Up Orders issued under the Litter Act or Environmental Protection Orders respecting unsightly property issued under EPEA; this information may be available from the local municipality.

Enforcement actions are entered in the database following: (1) the decision date, for prosecutions; (2) the date an administrative penalty was paid or due (30 days after issuance), whichever is sooner; and (3) the date the document was issued for all other enforcement actions.

These search results are based on information provided by AEP. AEP advises that they try to provide the best information possible. However, AEP advises that it cannot guarantee that the information provided is complete or accurate and that any person relying on these search results does so at their own risk. More information may be gained by referring to original enforcement documents. Alberta Energy Regulator (AER) enforcement actions are not included (see the AER Public Compliance dashboard database).

Copies of orders are available from the Environmental Law Centre. Any other enforcement information may be available directly from Alberta Environment.

Yours sincerely,

Cindy Dewing
Enforcement Search Service
Encl.

ENVIRONMENTAL LAW CENTRE
#410, 10115 - 100A Street, Edmonton, AB T5J 2W2
Phone: (780) 424-5099 Fax: (780) 424-5133
Internet: www.elc.ab.ca E-Mail: elc@elc.ab.ca

Environmental Enforcement Historical Search Service

Accountable Party	Action	Decision Date/ Penalty	Municipality/s Legal Description/s	Act/s & Section/s	Comments/Disposition
Pincher Creek, Town of	Warning Letter	01-Oct-2013	Pincher Creek 23-6-30-W4	WA 36(1)	The Town conducted an unauthorized activity, erosion protection works at the Memorial Campground that were commenced and completed on August 30, 2011 without approval.
Pincher Creek, Town of	Warning Letter	05-Mar-2019	Pincher Creek SE-22-6-30-W4	AEPEA(R) 110(1) WA 205/98; 4(3)	Warning letter issued for the construction of a water line beneath Pincher Creek and the associated frac-out of drilling mud between August 22nd and September 1st, 2016.

Report Printed:	*Search Requested:*	*Acts:*					
June 10, 2020 1:18 PM	The Town of Pincher Creek	ACA:	Agriculture Chemicals Act	CAA:	Clean Air Act	HCA:	Hazardous Chemicals Act
		AEPEA:	Environmental Protection Enhancement Act(S.A.1992)	CC:	Criminal Code (Canada)	LA:	Litter Act
		AEPEA(R)	Environmental Protection & Enhancement Act(R.S.A.2000)	CWA:	Clean Water Act	TDGCA:	Transportation of Dangerous Goods Control Act
		BCA:	Beverage Container Act	DEA:	Dept. of Environment Act		
Page 1 of 1				FFA:	Fisheries Act (Canada)	WA:	Water Act

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Environmental Enforcement Historical Search Service

STATEMENT

Statement #: 130701
Date: June 10, 2020
Reference #: 189635

Mr. Ryan Hegland
Stantec Consulting Ltd.
#200, 325-25 St. SE
Calgary, AB T3A 7H8

Search Requested - The Town of Pincher Creek

Item	Unit Price	Qty	Total Cost
Search	$75.00	1	$75.00
GST Reg. #: R11890 0679 RT0001		Total	$75.00
		No GST	$0.00
		Payment	$75.00
		Amount Owing	**$0.00**

Thank you!

Cindy Dewing
Enforcement Search Service
Environmental Law Centre (Alberta) Society

ENVIRONMENTAL RISK INFORMATION SERVICES

DATABASE REPORT

Project Property:	*Pincher Phase I ESA* *116549010* *Pincher Creek AB*
Project No:	*116549010*
Report Type:	*Quote - Custom-Build Your Own Report*
Order No:	*20200605061*
Requested by:	*Stantec Consulting Ltd.*
Date Completed:	*June 10, 2020*

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

Table of Contents

Executive Summary

Property Information:

Project Property:	*Pincher Phase I ESA* *116549010 Pincher Creek AB*
Project No:	*116549010*

Order Information:

Order No:	*20200605061*
Date Requested:	*June 5, 2020*
Requested by:	*Stantec Consulting Ltd.*
Report Type:	*Quote - Custom-Build Your Own Report*

Historical/Products:

Insurance Products	*Fire Insurance Maps/Inspection Reports/Site Plans*

Executive Summary: Report Summary

Database	Name	Searched	Project Property	Boundary to 0.10km	Total
AERW	Well Licenses	Y	0	0	0
AGR	Agriculture and Fisheries - Certificates of Approval	Y	0	0	0
AOGW	Alberta Oil and Gas Wells	Y	0	0	0
AUWR	Automobile Wrecking & Supplies	Y	0	0	0
CAWD	Waste Management Facilities - Certificates of Approval	Y	0	0	0
CBL	Commercial Activity Risk	Y	0	0	0
CDRY	Dry Cleaning Facilities	Y	0	0	0
CFO	Confined Feeding Operations	Y	0	0	0
CHEM	Chemical Processing Operations - Certificates of Approval	Y	0	0	0
CNG	Compressed Natural Gas Stations	Y	0	0	0
COMPOST	Compost Facilities	Y	0	0	0
CONV	Compliance and Convictions	Y	0	0	0
CTNK	Fuel Sales and Storage	Y	0	0	0
EAS	Enforcement Action Summary	Y	0	0	0
EEM	Environmental Effects Monitoring	Y	0	0	0
EHS	ERIS Historical Searches	Y	0	0	0
EIIS	Environmental Issues Inventory System	Y	0	0	0
EPST	Alberta Environment & Parks Storage Tanks	Y	0	0	0
EPWN	Environment Protection & Enhancement Act and Water Act Public Notices	Y	0	0	0
ESAR	Environmental Site Assessment Repository	Y	1	0	1
FAC	Facility List	Y	0	0	0
FCON	Federal Convictions	Y	0	0	0
FCS	Contaminated Sites on Federal Land	Y	0	0	0
FIS	AER Incidents & Spills	Y	0	0	0
FOOD	Food Processing Operations - Certificates of Approval	Y	0	0	0
FRST	Federal Identification Registry for Storage Tank Systems (FIRSTS)	Y	0	0	0
FST	PTMAA Fuel Storage Tanks	Y	0	1	1
GEN	Waste Generators Summary	Y	0	0	0
GHG	Greenhouse Gas Emissions from Large Facilities	Y	0	0	0
GPP	Gas Processing Plants	Y	0	0	0
HELP	Alberta Environment's H.E.L.P. (Help End Landfill Pollution) Program Database	Y	0	0	0
HORW	Horizontal Wells	Y	0	0	0
IAFT	Indian & Northern Affairs Fuel Tanks	Y	0	0	0
LANDFILLS	Landfill Registrations	Y	0	0	0
LDS	Identification and Verification of Active and Inactive Land Disposal Sites	Y	0	1	1

Database	Name	Searched	Project Property	Boundary to 0.10km	Total
LDSI	Land Disposal Sites on Indian Reserves	Y	0	0	0
LUM	Lumber Related Operations - Certificates of Approval	Y	0	0	0
MINE	Canadian Mine Locations	Y	0	0	0
MMB	Metals, Minerals and Building Materials Operations - Certificates of Approval	Y	0	0	0
MNR	Mineral Occurrences	Y	0	0	0
NATE	National Analysis of Trends in Emergencies System (NATES)	Y	0	0	0
NCST	PTMAA Non-Compliant Storage Tanks	Y	0	0	0
NDFT	National Defense & Canadian Forces Fuel Tanks	Y	0	0	0
NDSP	National Defense & Canadian Forces Spills	Y	0	0	0
NDWD	National Defence & Canadian Forces Waste Disposal Sites	Y	0	0	0
NEBI	National Energy Board Pipeline Incidents	Y	0	0	0
NEBP	National Energy Board Wells	Y	0	0	0
NEES	National Environmental Emergencies System (NEES)	Y	0	0	0
NPCB	National PCB Inventory	Y	0	0	0
NPRI	National Pollutant Release Inventory	Y	0	0	0
OAM	Operating and Abandoned Mines	Y	0	0	0
OGF	Oil and Gas Facilities - ST102 & ST50	Y	0	0	0
OGWW	Oil and Gas Wells	Y	0	0	0
ORP	Alberta Orphan Wells	Y	0	0	0
PAP	Canadian Pulp and Paper	Y	0	0	0
PCFT	Parks Canada Fuel Storage Tanks	Y	0	0	0
PCG	Petrochemical, Coal and Gas Operations - Certificates of Approval	Y	0	0	0
PES	Pesticide Register	Y	0	0	0
PITS	Conglomerate and Waste Management Facilities	Y	0	2	2
PSP	Alberta Private Sewage Disposal Permits	Y	0	0	0
PTAP	PTMAA Approved (Open) Permits	Y	0	0	0
REC	Hazardous Waste Receivers Summary	Y	0	0	0
RST	Retail Fuel Storage Tanks	Y	0	0	0
SCT	Scott's Manufacturing Directory	Y	0	0	0
SPEC	Special Operation Classifications - Certificates of Approval	Y	0	0	0
WDS	Inventory of Waste Disposal Sites	Y	0	0	0
WSTE	Wastewater Operations	Y	0	1	1
WWIS	Alberta Water Well Information Database	Y	0	7	7
	Total:		1	12	13

Executive Summary: Site Report Summary - Project Property

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev diff (m)	Page Number
1	ESAR	Pincher Creek Sewage Lagoon Bank Stability	Pincher Creek SE 26-6-30 W4M AB	E/0.0	-5.25	15

Executive Summary: Site Report Summary - Surrounding Properties

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev Diff (m)	Page Number
2	WWIS		AB **Well ID:** 121695	ESE/30.3	-5.70	15
2	WWIS		AB **Well ID:** 121696	ESE/30.3	-5.70	23
2	WWIS		AB **Well ID:** 121697	ESE/30.3	-5.70	27
2	WWIS		AB **Well ID:** 121698	ESE/30.3	-5.70	32
2	WWIS		AB **Well ID:** 121699	ESE/30.3	-5.70	37
2	WWIS		AB **Well ID:** 121700	ESE/30.3	-5.70	42
2	WWIS		AB **Well ID:** 154057	ESE/30.3	-5.70	47
3	PITS		Municipal District of Pincher Creek No. 9 AB	ESE/61.0	-6.63	55
3	PITS		Municipal District of Pincher Creek No. 9 AB	ESE/61.0	-6.63	55
3	WSTE	Town of Pincher Creek	Pincher Creek AB	ESE/61.0	-6.63	55
3	LDS		AB	ESE/61.0	-6.63	55
4	FST	UNITED FARMERS OF ALBERTA-PINCHER CREEK	1050-CORNER MOUNTAIN STREET PINCHER CREEK T0K 1W0 AB	W/97.8	3.65	55

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev Diff (m)	Page Number
			AB			

Executive Summary: Summary By Data Source

ESAR - Environmental Site Assessment Repository

A search of the ESAR database, dated 1960-Jan 2020 has found that there are 1 ESAR site(s) within approximately 0.10 kilometers of the project property.

Site	Address	Distance (m)	Map Key
Pincher Creek Sewage Lagoon Bank Stability	Pincher Creek SE 26-6-30 W4M AB	0.0	1

FST - PTMAA Fuel Storage Tanks

A search of the FST database, dated 1985-Mar 2020 has found that there are 1 FST site(s) within approximately 0.10 kilometers of the project property.

Site	Address	Distance (m)	Map Key
UNITED FARMERS OF ALBERTA-PINCHER CREEK	1050-CORNER MOUNTAIN STREET PINCHER CREEK T0K 1W0 AB AB	97.8	4

LDS - Identification and Verification of Active and Inactive Land Disposal Sites

A search of the LDS database, dated Oct 1982* has found that there are 1 LDS site(s) within approximately 0.10 kilometers of the project property.

Site	Address	Distance (m)	Map Key
	AB	61.0	3

PITS - Conglomerate and Waste Management Facilities

A search of the PITS database, dated 1993-2012 has found that there are 2 PITS site(s) within approximately 0.10 kilometers of the project property.

Site	Address	Distance (m)	Map Key
	Municipal District of Pincher Creek No. 9 AB	61.0	3

Site	Address	Distance (m)	Map Key
	Municipal District of Pincher Creek No. 9 AB	61.0	3

WSTE - Wastewater Operations

A search of the WSTE database, dated 1993-2012 has found that there are 1 WSTE site(s) within approximately 0.10 kilometers of the project property.

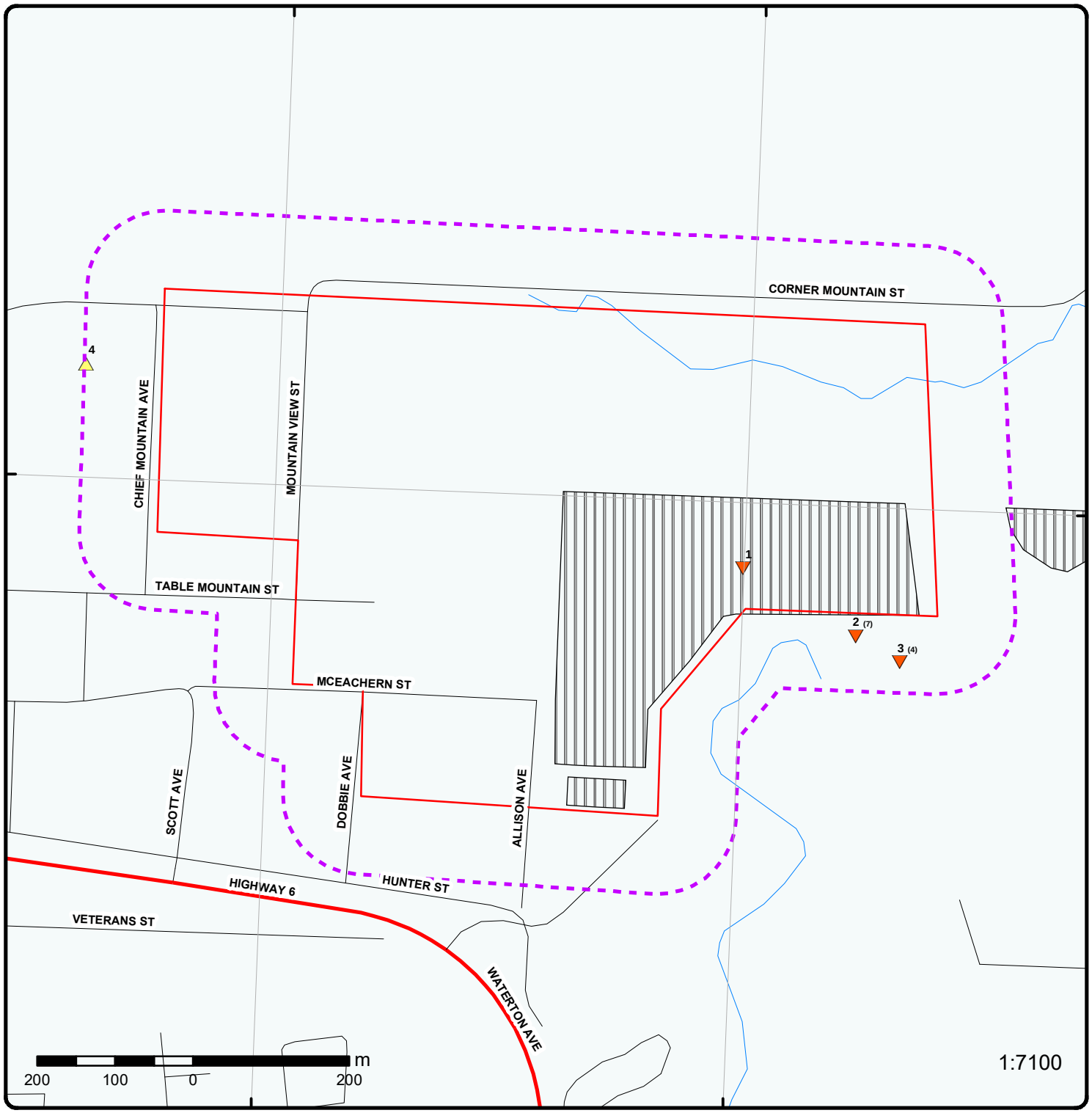
Site	Address	Distance (m)	Map Key
Town of Pincher Creek	Pincher Creek AB	61.0	3

WWIS - Alberta Water Well Information Database

A search of the WWIS database, dated 1880-Apr 30, 2020 has found that there are 7 WWIS site(s) within approximately 0.10 kilometers of the project property.

Site	Address	Distance (m)	Map Key
	AB ***Well ID:*** 154057	30.3	2
	AB ***Well ID:*** 121695	30.3	2
	AB ***Well ID:*** 121696	30.3	2
	AB ***Well ID:*** 121698	30.3	2
	AB ***Well ID:*** 121697	30.3	2
	AB	30.3	2

Site	Address	Distance (m)	Map Key
	Well ID: 121700		
	AB	30.3	2
	Well ID: 121699		



Map : 0.1 Kilometer Radius

Order Number: 20200605061

Address: 116549010, Pincher Creek, AB

ENVIRONMENTAL RISK INFORMATION SERVICES

- Project Property
- Buffer Outline
- Eris Sites with Higher Elevation
- Eris Sites with Same Elevation
- Eris Sites with Lower Elevation
- Eris Sites with Unknown Elevation
- Expressway
- Principal Highway
- Secondary Highway
- Major Road
- Local road
- Trail
- Proposed Road
- Ferry Route/Ice Road
- Industrial and Resource - Regions
- Main Line
- Sidetrack
- Transit Line
- Abandoned Line
- National Park
- Provincial or Territorial Park
- Other Park
- Golf Course or Driving Range
- Park or Sports Field
- Other Recreation Area

Source: © 2015 DMTI Spatial Inc.

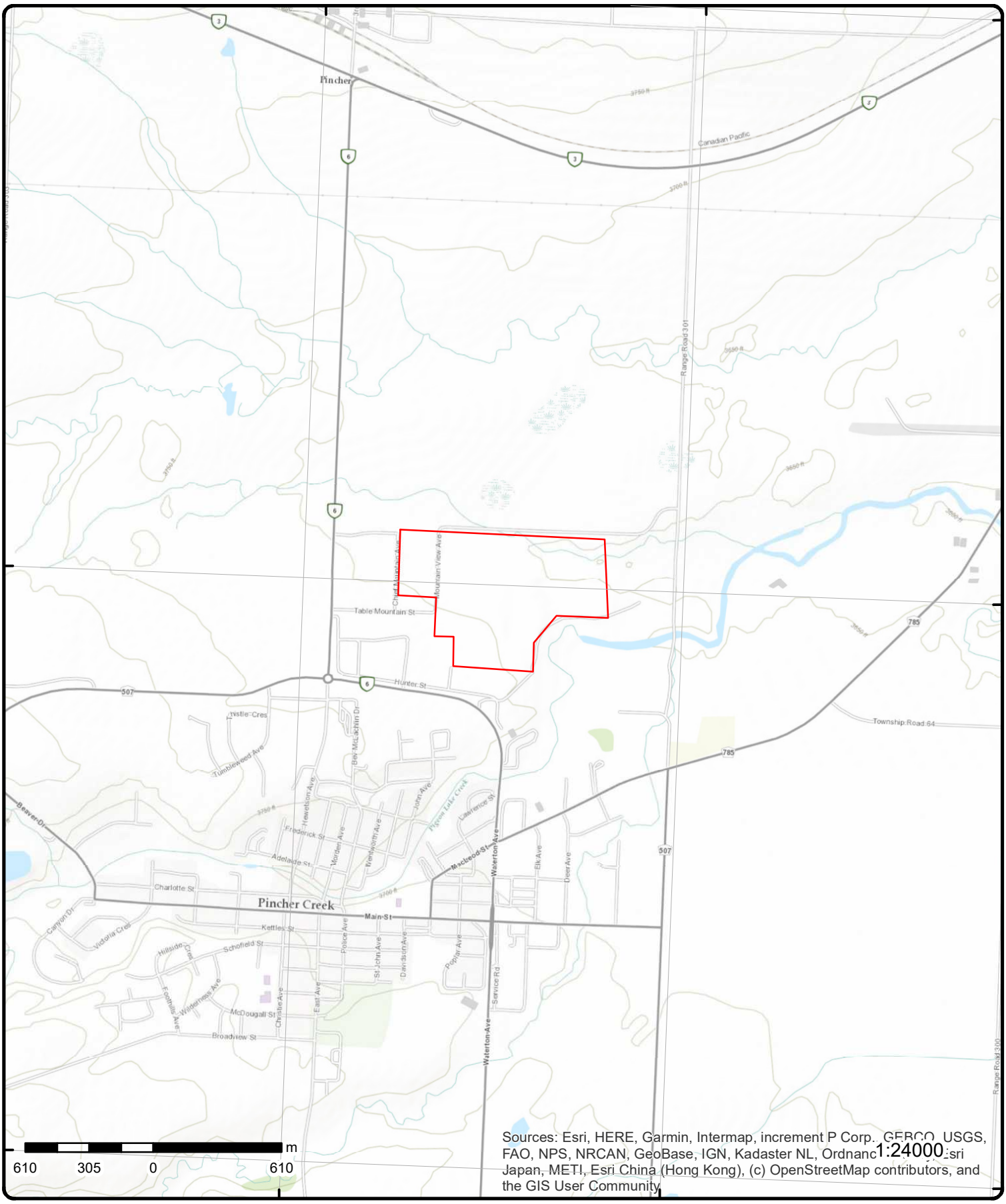
Aerial **Year: 2019**

Address: 116549010, Pincher Creek, AB

Source: ESRI World Imagery

Order Number: 20200605061

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



Topographic Map

Address: 116549010, AB

Source: ESRI World Topographic Map

Order Number: 20200605061

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

Detail Report

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
1	1 of 1	E/0.0	1,121.3 / -5.25	Pincher Creek Sewage Lagoon Bank Stability Pincher Creek SE 26-6-30 W4M AB	ESAR

ESA ID: 1345321
ESRD File: SCD01483
File Classification: SCD
Name: Pincher Creek Sewage Lagoon Bank Stability
10tm Point Coordinate: 77210,5481309
LLD: 2060JK;1
LINC: 0017720202
Map Link: http://www.esar.alberta.ca/esarmap.aspx?esaid=1345321
ESAR Link: http://www.esar.alberta.ca/esarmain.aspx?esaid=SCD01483

Document Detail

Doc Desc: CORRESPONDENCE_2
Doc Date: 8/10/1990

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
2	1 of 7	ESE/30.3	1,120.9 / -5.70	AB	WWIS

Well ID: 121695
Driller ID: 11110
Licence No:
GIC Well ID: 121695
GOA Well Tag No:
Elevation (ft):
Depth (ft):
Date Completed:
Proposed Use:
Lot:
Block:
Plan:
Type of Work:
Flowing Well:
Date Started:
Water Req Per Day:
Gas Present:
Oil Present:
Flow Rate:
Drilling Company:
Owner Mailing Address:
Driller Mailing Address:

Elevation Source: Not Obtained
Method of Drilling:
GPS Obtained: Phone
Boundary From:
Distance North:
Distance South:
Distance East:
Distance West:
Additional Desc:
Validated?: Yes
Submitted?: Yes
Location Locked?: Yes
Longitude: -113.931221
Latitude: 49.498508
LSD: SE
Section: 26
Township: 6
Range: 30
Meridian: 4
DLS Coordinates: SE-26-6-30-4

Chemical Analysis

Chem Analysis ID: 2005069
Well Report ID: 121695
Sample No: 1526
Sample Date: 2/6/1975 0:00:00
Analysis Date: 2/19/1975 0:00:00
Laboratory: AE
Water Level: 12

Aquifer:
Remarks:

Analysis Items

Chemical Analysis ID: 2005069
Element Name: Sodium
Element Symbol: NA
Decimal Places: 4
Value: 49.9997

Analysis Items

Chemical Analysis ID: 2005069
Element Name: Nitrite
Element Symbol: NO2
Decimal Places: 4
Value: -0.0994

Analysis Items

Chemical Analysis ID: 2005069
Element Name: Iron
Element Symbol: FE
Decimal Places: 4
Value: 0.1

Analysis Items

Chemical Analysis ID: 2005069
Element Name: Nitrate plus Nitrite
Element Symbol: NO2_NO3_N
Decimal Places: 4
Value: -0.0994

Analysis Items

Chemical Analysis ID: 2005069
Element Name: Hydroxide
Element Symbol: OH
Decimal Places: 4
Value: 0

Analysis Items

Chemical Analysis ID: 2005069
Element Name: Sulphate
Element Symbol: SO4
Decimal Places: 4
Value: 193.28023

Analysis Items

Chemical Analysis ID: 2005069
Element Name: Total Dissolved Solids
Element Symbol: TDS
Decimal Places: 0
Value: 653

Analysis Items

Chemical Analysis ID: 2005069
Element Name: Ion Balance
Element Symbol: IONBAL
Decimal Places: 4
Value: 0.95

Analysis Items

Chemical Analysis ID: 2005069
Element Name: Fluoride
Element Symbol: F
Decimal Places: 4
Value: 0.19

Analysis Items

Chemical Analysis ID: 2005069
Element Name: Magnesium
Element Symbol: MG
Decimal Places: 4
Value: 49.040064

Analysis Items

Chemical Analysis ID: 2005069
Element Name: Total Phosphorus
Element Symbol: TP
Decimal Places: 4
Value: 0

Analysis Items

Chemical Analysis ID: 2005069
Element Name: total Kjeldahl nitrogen
Element Symbol: TKN
Decimal Places: 4
Value: 0

Analysis Items

Chemical Analysis ID: 2005069
Element Name: Bicarbonate
Element Symbol: HCO3
Decimal Places: 4
Value: 477.046345

Analysis Items

Chemical Analysis ID: 2005069
Element Name: Electrical Conductivity
Element Symbol: EC
Decimal Places: 0
Value: 1080

Analysis Items

Chemical Analysis ID: 2005069
Element Name: Total Alkalinity

Element Symbol: TA
Decimal Places: 4
Value: 391

Analysis Items

Chemical Analysis ID: 2005069
Element Name: Total Hardness
Element Symbol: TH
Decimal Places: 4
Value: 465

Analysis Items

Chemical Analysis ID: 2005069
Element Name: Calcium
Element Symbol: CA
Decimal Places: 4
Value: 105.999576

Analysis Items

Chemical Analysis ID: 2005069
Element Name: Potassium
Element Symbol: K
Decimal Places: 4
Value: 4.196

Analysis Items

Chemical Analysis ID: 2005069
Element Name: pH
Element Symbol: PH
Decimal Places: 2
Value: 7.7

Analysis Items

Chemical Analysis ID: 2005069
Element Name: Chloride
Element Symbol: CL
Decimal Places: 4
Value: 12.01675

Chemical Analysis

Chem Analysis ID: 2004833
Well Report ID: 121695
Sample No: 9544-W
Sample Date: 7/19/1985 0:00:00
Analysis Date: 9/24/1985 0:00:00
Laboratory: VG
Water Level:
Aquifer:
Remarks: SAMPLED FROM TAP

Analysis Items

Chemical Analysis ID: 2004833
Element Name: Iron

Element Symbol: FE
Decimal Places: 4
Value: -0.02

Analysis Items

Chemical Analysis ID: 2004833
Element Name: total Kjeldahl nitrogen
Element Symbol: TKN
Decimal Places: 4
Value: 0

Analysis Items

Chemical Analysis ID: 2004833
Element Name: Hydroxide
Element Symbol: OH
Decimal Places: 4
Value: 0

Analysis Items

Chemical Analysis ID: 2004833
Element Name: pH
Element Symbol: PH
Decimal Places: 2
Value: 8

Analysis Items

Chemical Analysis ID: 2004833
Element Name: Electrical Conductivity
Element Symbol: EC
Decimal Places: 0
Value: 983

Analysis Items

Chemical Analysis ID: 2004833
Element Name: Total Phosphorus
Element Symbol: TP
Decimal Places: 4
Value: 0

Analysis Items

Chemical Analysis ID: 2004833
Element Name: Nitrate plus Nitrite
Element Symbol: NO2_NO3_N
Decimal Places: 4
Value: 2.548

Analysis Items

Chemical Analysis ID: 2004833
Element Name: Ion Balance
Element Symbol: IONBAL
Decimal Places: 4
Value: 1

Analysis Items

Chemical Analysis ID: 2004833
Element Name: Sodium
Element Symbol: NA
Decimal Places: 4
Value: 38.0006

Analysis Items

Chemical Analysis ID: 2004833
Element Name: Fluoride
Element Symbol: F
Decimal Places: 4
Value: 0.17

Analysis Items

Chemical Analysis ID: 2004833
Element Name: Sulphate
Element Symbol: SO4
Decimal Places: 4
Value: 104.15093

Analysis Items

Chemical Analysis ID: 2004833
Element Name: Chloride
Element Symbol: CL
Decimal Places: 4
Value: 12.01675

Analysis Items

Chemical Analysis ID: 2004833
Element Name: Total Alkalinity
Element Symbol: TA
Decimal Places: 4
Value: 422

Analysis Items

Chemical Analysis ID: 2004833
Element Name: Total Dissolved Solids
Element Symbol: TDS
Decimal Places: 0
Value: 580

Analysis Items

Chemical Analysis ID: 2004833
Element Name: Silica
Element Symbol: SIO2
Decimal Places: 4
Value: 7.8

Analysis Items

Chemical Analysis ID: 2004833

Element Name: Potassium
Element Symbol: K
Decimal Places: 4
Value: 4.196

Analysis Items

Chemical Analysis ID: 2004833
Element Name: Nitrite
Element Symbol: NO2
Decimal Places: 4
Value: 0.2002

Analysis Items

Chemical Analysis ID: 2004833
Element Name: Bicarbonate
Element Symbol: HCO3
Decimal Places: 4
Value: 515.053337

Analysis Items

Chemical Analysis ID: 2004833
Element Name: Total Hardness
Element Symbol: TH
Decimal Places: 4
Value: 466

Analysis Items

Chemical Analysis ID: 2004833
Element Name: Calcium
Element Symbol: CA
Decimal Places: 4
Value: 110.999556

Analysis Items

Chemical Analysis ID: 2004833
Element Name: Magnesium
Element Symbol: MG
Decimal Places: 4
Value: 46.03776

Well Reports

Well Report ID: 121695
Well Owner ID: 10537151
Driller ID: 2533726
Drill Company ID: 11110
Drill Instance ID: 8337868
Drill Comp Well ID:
Existing Well ID:
Date Received: 2/14/1975 0:00:00
Type of Work: Chemistry
Plug Date:
Plug Material Type:
Plug Mat Amount:
Plugged Units:
Well Use: Domestic

Annular Seal Mat:
Annular Seal from: 0
Annular Seal to: 0
Annular Seal Amt:
Annular Seal Units:
Drilling Method: Hand Dug
Drilling Start Dt:
Drilling End Dt:
Pack Type:
Pack Grain Size:
Pack Amount:
Pack Units:
Loc Verify Method: Phone
Dist Casing Ground:

Other Well Use:		***Artesian Flow?:***	No
Total Depth Drill:	14	***Artesian Flow Rate:***	
Finish Well Depth:		***Gas Depth:***	
Casing Material:		***Encounter Gas?:***	No
Casing OD:	0	***Flow Ctrl Install?:***	No
Casing Thickness:	0	***Recommended Rate:***	0
Casing Bottom:	0	***Recom Intake Depth:***	0
Liner Material:		***Pump Installed?:***	No
Liner OD:	0	***Pump Install Depth:***	
Liner Thickness:	0	***Pump Model:***	
Liner Top:	0	***Pump Horsepower:***	
Liner Bottom:	0	***Well Disinfected?:***	No
Perforation by:		***Other Log:***	
Screen Material:		***Divert Water Src:***	
Screen Size OD:	0	***Divert Water Amt:***	
Screen Attachment:		***Diversion Dt/Time:***	
Screen Top Fitting:		***Is Submitted?:***	Yes
Screen Bot Fitting:		***Is Validated?:***	Yes

Encounter Saline Water?:	No
Saline Water Depth:	
Potability Sample Taken?:	No
Potable Sample Sent to AENV?:	No
Approval Holder Sign Date:	
Drilling Report Given to Owner:	No
Model Output Rating:	
Remedial Action:	
Flow Control Description:	
Pump Type Installed:	
Created by:	
Submitted by:	
Additional Comments:	

Well Owners

Well Owner ID:	10537151
Owner Name:	KEENAN, DALE
PO Box:	
Address:	PINCHER CREEK
City:	
Postal Code:	
Province:	
Country:	

Drillers

Driller ID:	2533726
Last Name:	DRILLER
Middle Initial:	NA
First Name:	UNKNOWN
Journeyman No:	1
Is Active?:	Yes

Drilling Companies

Starting Well ID:	1973500
Ending Well ID:	1973599
Last Well ID Used:	1973599
Company Name:	UNKNOWN DRILLER
Street Address:	UNKNOWN
City:	UNKNOWN
Province:	AB
Country:	CA
Postal Code:	

E-Mail: gwinfo@gov.ab.ca
Is Active?: No

Geophysical Logs

Geophysical Log ID: 5904000
Log Type: Gamma
Log Taken?: No
Sent to AENV?: No

Geophysical Logs

Geophysical Log ID: 5500925
Log Type: Electric
Log Taken?: No
Sent to AENV?: No

Boreholes

Borehole ID: 602454
Diameter: 0
From: 0
To: 14

Pump Tests

Pump Test ID: 10256304
Test Date: 2/6/1975 0:00:00
Start Time: 1/12/1900 0:00:00
Taken from Top of Casing: No
Static Water Level: 12
End Water Level:
Water Removal Type:
Water Removal Rate:
Removal Depth from: 0
Reason for Short Test:

---

2 | ***2 of 7*** | ***ESE/30.3*** | ***1,120.9 / -5.70*** | ***AB*** | ***WWIS***

Well ID: 121696
Driller ID: 11110
Licence No:
GIC Well ID: 121696
GOA Well Tag No:
Elevation (ft): 3664
Depth (ft):
Date Completed:
Proposed Use:
Lot:
Block:
Plan:
Type of Work:
Flowing Well:
Date Started:
Water Req Per Day:
Gas Present:
Oil Present:
Flow Rate:
Drilling Company:
Owner Mailing Address:
Driller Mailing Address:

Elevation Source: Estimated
Method of Drilling:
GPS Obtained: Not Verified
Boundary From:
Distance North:
Distance South:
Distance East:
Distance West:
Additional Desc:
Validated?: Yes
Submitted?: Yes
Location Locked?: Yes
Longitude: -113.931221
Latitude: 49.498508
LSD: SE
Section: 26
Township: 6
Range: 30
Meridian: 4
DLS Coordinates: SE-26-6-30-4

Chemical Analysis

Chem Analysis ID:	2005068
Well Report ID:	121696
Sample No:	6813257
Sample Date:	10/21/1968 0:00:00
Analysis Date:	11/1/1968 0:00:00
Laboratory:	UA
Water Level:	6
Aquifer:	
Remarks:	IGNITION LOSS=112

Analysis Items

Chemical Analysis ID:	2005068
Element Name:	Iron
Element Symbol:	FE
Decimal Places:	4
Value:	0.1

Analysis Items

Chemical Analysis ID:	2005068
Element Name:	Sulphate
Element Symbol:	SO4
Decimal Places:	4
Value:	379.55229

Analysis Items

Chemical Analysis ID:	2005068
Element Name:	Total Alkalinity
Element Symbol:	TA
Decimal Places:	4
Value:	409

Analysis Items

Chemical Analysis ID:	2005068
Element Name:	total Kjeldahl nitrogen
Element Symbol:	TKN
Decimal Places:	4
Value:	0

Analysis Items

Chemical Analysis ID:	2005068
Element Name:	Hydroxide
Element Symbol:	OH
Decimal Places:	4
Value:	0

Analysis Items

Chemical Analysis ID:	2005068
Element Name:	Total Hardness
Element Symbol:	TH
Decimal Places:	4
Value:	638

Analysis Items

Chemical Analysis ID: 2005068
Element Name: Total Dissolved Solids
Element Symbol: TDS
Decimal Places: 0
Value: 940

Analysis Items

Chemical Analysis ID: 2005068
Element Name: Total Phosphorus
Element Symbol: TP
Decimal Places: 4
Value: 0

Analysis Items

Chemical Analysis ID: 2005068
Element Name: Chloride
Element Symbol: CL
Decimal Places: 4
Value: 24.0335

Analysis Items

Chemical Analysis ID: 2005068
Element Name: Nitrate
Element Symbol: NO3
Decimal Places: 4
Value: 7.595

Well Reports

Well Report ID: 121696
Well Owner ID: 10537152
Driller ID: 2533726
Drill Company ID: 11110
Drill Instance ID: 8337868
Drill Comp Well ID:
Existing Well ID:
Date Received: 10/28/1968 0:00:00
Type of Work: Chemistry
Plug Date:
Plug Material Type:
Plug Mat Amount:
Plugged Units:
Well Use: Domestic
Other Well Use:
Total Depth Drill: 42
Finish Well Depth:
Casing Material:
Casing OD: 0
Casing Thickness: 0
Casing Bottom: 0
Liner Material:
Liner OD: 0
Liner Thickness: 0
Liner Top: 0
Liner Bottom: 0
Perforation by:

Annular Seal Mat:
Annular Seal from: 0
Annular Seal to: 0
Annular Seal Amt:
Annular Seal Units:
Drilling Method: Unknown
Drilling Start Dt:
Drilling End Dt:
Pack Type:
Pack Grain Size:
Pack Amount:
Pack Units:
Loc Verify Method: Not Verified
Dist Casing Ground:
Artesian Flow?: No
Artesian Flow Rate:
Gas Depth:
Encounter Gas?: No
Flow Ctrl Install?: No
Recommended Rate: 0
Recom Intake Depth: 0
Pump Installed?: No
Pump Install Depth:
Pump Model:
Pump Horsepower:
Well Disinfected?: No
Other Log:

Screen Material:		***Divert Water Src:***	
Screen Size OD:	0	***Divert Water Amt:***	
Screen Attachment:		***Diversion Dt/Time:***	
Screen Top Fitting:		***Is Submitted?:***	Yes
Screen Bot Fitting:		***Is Validated?:***	Yes
Encounter Saline Water?:	No		
Saline Water Depth:			
Potability Sample Taken?:	No		
Potable Sample Sent to AENV?:	No		
Approval Holder Sign Date:			
Drilling Report Given to Owner:	No		
Model Output Rating:			
Remedial Action:			
Flow Control Description:			
Pump Type Installed:			
Created by:			
Submitted by:			
Additional Comments:			

Well Owners

Well Owner ID:	10537152
Owner Name:	GAMBLE, BEATRICE M.
PO Box:	181
Address:	PINCHER CREEK
City:	
Postal Code:	
Province:	
Country:	

Drillers

Driller ID:	2533726
Last Name:	DRILLER
Middle Initial:	NA
First Name:	UNKNOWN
Journeyman No:	1
Is Active?:	Yes

Drilling Companies

Starting Well ID:	1973500
Ending Well ID:	1973599
Last Well ID Used:	1973599
Company Name:	UNKNOWN DRILLER
Street Address:	UNKNOWN
City:	UNKNOWN
Province:	AB
Country:	CA
Postal Code:	
E-Mail:	gwinfo@gov.ab.ca
Is Active?:	No

Geophysical Logs

Geophysical Log ID:	5904001
Log Type:	Gamma
Log Taken?:	No
Sent to AENV?:	No

Geophysical Logs

Geophysical Log ID:	5500926
Log Type:	Electric
Log Taken?:	No
Sent to AENV?:	No

Boreholes

Borehole ID:	602455
Diameter:	0
From:	0
To:	42

Pump Tests

Pump Test ID:	10256305
Test Date:	10/21/1968 0:00:00
Start Time:	1/12/1900 0:00:00
Taken from Top of Casing:	No
Static Water Level:	6
End Water Level:	
Water Removal Type:	
Water Removal Rate:	
Removal Depth from:	0
Reason for Short Test:	

---

2 ***3 of 7*** ***ESE/30.3*** ***1,120.9 / -5.70*** ***AB*** ***WWIS***

Well ID:	121697	***Elevation Source:***	Estimated
Driller ID:	11110	***Method of Drilling:***	
Licence No:		***GPS Obtained:***	Map
GIC Well ID:	121697	***Boundary From:***	
GOA Well Tag No:		***Distance North:***	
Elevation (ft):	3700	***Distance South:***	
Depth (ft):		***Distance East:***	
Date Completed:		***Distance West:***	
Proposed Use:		***Additional Desc:***	
Lot:		***Validated?:***	Yes
Block:		***Submitted?:***	Yes
Plan:		***Location Locked?:***	Yes
Type of Work:		***Longitude:***	-113.931221
Flowing Well:		***Latitude:***	49.498508
Date Started:		***LSD:***	SE
Water Req Per Day:		***Section:***	26
Gas Present:		***Township:***	6
Oil Present:		***Range:***	30
Flow Rate:		***Meridian:***	4
Drilling Company:		***DLS Coordinates:***	SE-26-6-30-4
Owner Mailing Address:			
Driller Mailing Address:			

Chemical Analysis

Chem Analysis ID:	2004834
Well Report ID:	121697
Sample No:	561-W
Sample Date:	1/16/1980 0:00:00
Analysis Date:	1/24/1980 0:00:00
Laboratory:	AE
Water Level:	
Aquifer:	
Remarks:	

Analysis Items

Chemical Analysis ID: 2004834
Element Name: Total Hardness
Element Symbol: TH
Decimal Places: 4
Value: 519

Analysis Items

Chemical Analysis ID: 2004834
Element Name: Total Dissolved Solids
Element Symbol: TDS
Decimal Places: 0
Value: 701

Analysis Items

Chemical Analysis ID: 2004834
Element Name: Sodium
Element Symbol: NA
Decimal Places: 4
Value: 58.9996

Analysis Items

Chemical Analysis ID: 2004834
Element Name: Ion Balance
Element Symbol: IONBAL
Decimal Places: 4
Value: 1

Analysis Items

Chemical Analysis ID: 2004834
Element Name: pH
Element Symbol: PH
Decimal Places: 2
Value: 8

Analysis Items

Chemical Analysis ID: 2004834
Element Name: Nitrite
Element Symbol: NO2
Decimal Places: 4
Value: -0.0504

Analysis Items

Chemical Analysis ID: 2004834
Element Name: Hydroxide
Element Symbol: OH
Decimal Places: 4
Value: 0

Analysis Items

Chemical Analysis ID: 2004834
Element Name: Fluoride
Element Symbol: F
Decimal Places: 4
Value: 0.22

Analysis Items

Chemical Analysis ID: 2004834
Element Name: Chloride
Element Symbol: CL
Decimal Places: 4
Value: 18.0269

Analysis Items

Chemical Analysis ID: 2004834
Element Name: Iron
Element Symbol: FE
Decimal Places: 4
Value: 0.19

Analysis Items

Chemical Analysis ID: 2004834
Element Name: Electrical Conductivity
Element Symbol: EC
Decimal Places: 0
Value: 1121

Analysis Items

Chemical Analysis ID: 2004834
Element Name: Calcium
Element Symbol: CA
Decimal Places: 4
Value: 111.999552

Analysis Items

Chemical Analysis ID: 2004834
Element Name: Total Phosphorus
Element Symbol: TP
Decimal Places: 4
Value: 0

Analysis Items

Chemical Analysis ID: 2004834
Element Name: Nitrate plus Nitrite
Element Symbol: NO2_NO3_N
Decimal Places: 4
Value: -0.0504

Analysis Items

Chemical Analysis ID: 2004834
Element Name: total Kjeldahl nitrogen
Element Symbol: TKN
Decimal Places: 4

Value: 0

Analysis Items

Chemical Analysis ID: 2004834
Element Name: Potassium
Element Symbol: K
Decimal Places: 4
Value: 5.932

Analysis Items

Chemical Analysis ID: 2004834
Element Name: Sulphate
Element Symbol: SO4
Decimal Places: 4
Value: 187.27254

Analysis Items

Chemical Analysis ID: 2004834
Element Name: Bicarbonate
Element Symbol: HCO3
Decimal Places: 4
Value: 531.054355

Analysis Items

Chemical Analysis ID: 2004834
Element Name: Magnesium
Element Symbol: MG
Decimal Places: 4
Value: 58.048192

Analysis Items

Chemical Analysis ID: 2004834
Element Name: Silica
Element Symbol: SIO2
Decimal Places: 4
Value: 59

Analysis Items

Chemical Analysis ID: 2004834
Element Name: Total Alkalinity
Element Symbol: TA
Decimal Places: 4
Value: 436

Well Reports

Well Report ID: 121697
Well Owner ID: 10537153
Driller ID: 2533726
Drill Company ID: 11110
Drill Instance ID: 8337868
Drill Comp Well ID:
Existing Well ID:
Date Received: 1/21/1980 0:00:00
Annular Seal Mat:
Annular Seal from: 0
Annular Seal to: 0
Annular Seal Amt:
Annular Seal Units:
Drilling Method: Unknown
Drilling Start Dt:
Drilling End Dt: 1/1/1960 0:00:00

Type of Work:	Chemistry	***Pack Type:***	
Plug Date:		***Pack Grain Size:***	
Plug Material Type:		***Pack Amount:***	
Plug Mat Amount:		***Pack Units:***	
Plugged Units:		***Loc Verify Method:***	Map
Well Use:	Domestic	***Dist Casing Ground:***	
Other Well Use:		***Artesian Flow?:***	No
Total Depth Drill:	12	***Artesian Flow Rate:***	
Finish Well Depth:		***Gas Depth:***	
Casing Material:		***Encounter Gas?:***	No
Casing OD:	0	***Flow Ctrl Install?:***	No
Casing Thickness:	0	***Recommended Rate:***	
Casing Bottom:	0	***Recom Intake Depth:***	
Liner Material:		***Pump Installed?:***	No
Liner OD:	0	***Pump Install Depth:***	
Liner Thickness:	0	***Pump Model:***	
Liner Top:	0	***Pump Horsepower:***	
Liner Bottom:	0	***Well Disinfected?:***	No
Perforation by:		***Other Log:***	
Screen Material:		***Divert Water Src:***	
Screen Size OD:	0	***Divert Water Amt:***	
Screen Attachment:		***Diversion Dt/Time:***	
Screen Top Fitting:		***Is Submitted?:***	Yes
Screen Bot Fitting:		***Is Validated?:***	Yes

Encounter Saline Water?:	No
Saline Water Depth:	
Potability Sample Taken?:	No
Potable Sample Sent to AENV?:	No
Approval Holder Sign Date:	
Drilling Report Given to Owner:	No
Model Output Rating:	
Remedial Action:	
Flow Control Description:	
Pump Type Installed:	
Created by:	
Submitted by:	
Additional Comments:	

Well Owners

Well Owner ID:	10537153
Owner Name:	BRATZ, ROY
PO Box:	
Address:	PINCHER CREEK
City:	
Postal Code:	
Province:	
Country:	

Drillers

Driller ID:	2533726
Last Name:	DRILLER
Middle Initial:	NA
First Name:	UNKNOWN
Journeyman No:	1
Is Active?:	Yes

Drilling Companies

Starting Well ID:	1973500
Ending Well ID:	1973599
Last Well ID Used:	1973599

Company Name:	UNKNOWN DRILLER
Street Address:	UNKNOWN
City:	UNKNOWN
Province:	AB
Country:	CA
Postal Code:	
E-Mail:	gwinfo@gov.ab.ca
Is Active?:	No

Geophysical Logs

Geophysical Log ID:	5904002
Log Type:	Gamma
Log Taken?:	No
Sent to AENV?:	No

Geophysical Logs

Geophysical Log ID:	5500927
Log Type:	Electric
Log Taken?:	No
Sent to AENV?:	No

Boreholes

Borehole ID:	602456
Diameter:	0
From:	0
To:	12

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2 ***4 of 7*** ***ESE/30.3*** ***1,120.9 / -5.70*** ***AB*** ***WWIS***

Well ID:	121698	**Elevation Source:**	Not Obtained
Driller ID:	11110	**Method of Drilling:**	
Licence No:		**GPS Obtained:**	Not Verified
GIC Well ID:	121698	**Boundary From:**	
GOA Well Tag No:		**Distance North:**	
Elevation (ft):		**Distance South:**	
Depth (ft):		**Distance East:**	
Date Completed:		**Distance West:**	
Proposed Use:		**Additional Desc:**	
Lot:		**Validated?:**	Yes
Block:		**Submitted?:**	Yes
Plan:		**Location Locked?:**	Yes
Type of Work:		**Longitude:**	-113.931221
Flowing Well:		**Latitude:**	49.498508
Date Started:		**LSD:**	SE
Water Req Per Day:		**Section:**	26
Gas Present:		**Township:**	6
Oil Present:		**Range:**	30
Flow Rate:		**Meridian:**	4
Drilling Company:		**DLS Coordinates:**	SE-26-6-30-4
Owner Mailing Address:			
Driller Mailing Address:			

Chemical Analysis

Chem Analysis ID:	2005067
Well Report ID:	121698
Sample No:	4798-W
Sample Date:	4/26/1983 0:00:00

Analysis Date: 5/6/1983 0:00:00
Laboratory: VG
Water Level:
Aquifer:
Remarks: SAMPLED FROM WELL

Analysis Items

Chemical Analysis ID: 2005067
Element Name: Sulphate
Element Symbol: SO4
Decimal Places: 4
Value: 240.35089

Analysis Items

Chemical Analysis ID: 2005067
Element Name: Potassium
Element Symbol: K
Decimal Places: 4
Value: 3.068

Analysis Items

Chemical Analysis ID: 2005067
Element Name: Hydroxide
Element Symbol: OH
Decimal Places: 4
Value: 0

Analysis Items

Chemical Analysis ID: 2005067
Element Name: Total Phosphorus
Element Symbol: TP
Decimal Places: 4
Value: 0

Analysis Items

Chemical Analysis ID: 2005067
Element Name: total Kjeldahl nitrogen
Element Symbol: TKN
Decimal Places: 4
Value: 0

Analysis Items

Chemical Analysis ID: 2005067
Element Name: Calcium
Element Symbol: CA
Decimal Places: 4
Value: 126.999492

Analysis Items

Chemical Analysis ID: 2005067
Element Name: pH
Element Symbol: PH
Decimal Places: 2

Value: 7.8

Analysis Items

Chemical Analysis ID: 2005067
Element Name: Fluoride
Element Symbol: F
Decimal Places: 4
Value: 0.21

Analysis Items

Chemical Analysis ID: 2005067
Element Name: Silica
Element Symbol: SIO2
Decimal Places: 4
Value: 7.4

Analysis Items

Chemical Analysis ID: 2005067
Element Name: Total Alkalinity
Element Symbol: TA
Decimal Places: 4
Value: 403

Analysis Items

Chemical Analysis ID: 2005067
Element Name: Nitrate plus Nitrite
Element Symbol: NO2_NO3_N
Decimal Places: 4
Value: 0.2492

Analysis Items

Chemical Analysis ID: 2005067
Element Name: Ion Balance
Element Symbol: IONBAL
Decimal Places: 4
Value: 1

Analysis Items

Chemical Analysis ID: 2005067
Element Name: Nitrite
Element Symbol: NO2
Decimal Places: 4
Value: -0.0504

Analysis Items

Chemical Analysis ID: 2005067
Element Name: Bicarbonate
Element Symbol: HCO3
Decimal Places: 4
Value: 491.045709

Analysis Items

Chemical Analysis ID: 2005067
Element Name: Magnesium
Element Symbol: MG
Decimal Places: 4
Value: 66.054336

Analysis Items

Chemical Analysis ID: 2005067
Element Name: Chloride
Element Symbol: CL
Decimal Places: 4
Value: 24.0335

Analysis Items

Chemical Analysis ID: 2005067
Element Name: Total Hardness
Element Symbol: TH
Decimal Places: 4
Value: 588

Analysis Items

Chemical Analysis ID: 2005067
Element Name: Iron
Element Symbol: FE
Decimal Places: 4
Value: 0.11

Analysis Items

Chemical Analysis ID: 2005067
Element Name: Total Dissolved Solids
Element Symbol: TDS
Decimal Places: 0
Value: 746

Analysis Items

Chemical Analysis ID: 2005067
Element Name: Sodium
Element Symbol: NA
Decimal Places: 4
Value: 43.0008

Analysis Items

Chemical Analysis ID: 2005067
Element Name: Electrical Conductivity
Element Symbol: EC
Decimal Places: 0
Value: 1153

Well Reports

Well Report ID: 121698
Well Owner ID: 10537154
Driller ID: 2533726
Annular Seal Mat:
Annular Seal from: 0
Annular Seal to: 0

Drill Company ID:	11110	***Annular Seal Amt:***	
Drill Instance ID:	8337868	***Annular Seal Units:***	
Drill Comp Well ID:		***Drilling Method:***	Unknown
Existing Well ID:		***Drilling Start Dt:***	
Date Received:	5/2/1983 0:00:00	***Drilling End Dt:***	
Type of Work:	Chemistry	***Pack Type:***	
Plug Date:		***Pack Grain Size:***	
Plug Material Type:		***Pack Amount:***	
Plug Mat Amount:		***Pack Units:***	
Plugged Units:		***Loc Verify Method:***	Not Verified
Well Use:	Domestic	***Dist Casing Ground:***	
Other Well Use:		***Artesian Flow?:***	No
Total Depth Drill:	20	***Artesian Flow Rate:***	
Finish Well Depth:		***Gas Depth:***	
Casing Material:		***Encounter Gas?:***	No
Casing OD:	0	***Flow Ctrl Install?:***	No
Casing Thickness:	0	***Recommended Rate:***	
Casing Bottom:	0	***Recom Intake Depth:***	
Liner Material:		***Pump Installed?:***	No
Liner OD:	0	***Pump Install Depth:***	
Liner Thickness:	0	***Pump Model:***	
Liner Top:	0	***Pump Horsepower:***	
Liner Bottom:	0	***Well Disinfected?:***	No
Perforation by:		***Other Log:***	
Screen Material:		***Divert Water Src:***	
Screen Size OD:	0	***Divert Water Amt:***	
Screen Attachment:		***Diversion Dt/Time:***	
Screen Top Fitting:		***Is Submitted?:***	Yes
Screen Bot Fitting:		***Is Validated?:***	Yes

Encounter Saline Water?:	No
Saline Water Depth:	
Potability Sample Taken?:	No
Potable Sample Sent to AENV?:	No
Approval Holder Sign Date:	
Drilling Report Given to Owner:	No
Model Output Rating:	
Remedial Action:	
Flow Control Description:	
Pump Type Installed:	
Created by:	
Submitted by:	
Additional Comments:	

Well Owners

Well Owner ID:	10537154
Owner Name:	CRAWFORD, BOB
PO Box:	
Address:	GEN DEL, PINCHER CREEK
City:	
Postal Code:	
Province:	
Country:	

Drillers

Driller ID:	2533726
Last Name:	DRILLER
Middle Initial:	NA
First Name:	UNKNOWN
Journeyman No:	1
Is Active?:	Yes

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB

Drilling Companies

Starting Well ID:	1973500
Ending Well ID:	1973599
Last Well ID Used:	1973599
Company Name:	UNKNOWN DRILLER
Street Address:	UNKNOWN
City:	UNKNOWN
Province:	AB
Country:	CA
Postal Code:	
E-Mail:	gwinfo@gov.ab.ca
Is Active?:	No

Geophysical Logs

Geophysical Log ID:	5904003
Log Type:	Gamma
Log Taken?:	No
Sent to AENV?:	No

Geophysical Logs

Geophysical Log ID:	5500928
Log Type:	Electric
Log Taken?:	No
Sent to AENV?:	No

Boreholes

Borehole ID:	602457
Diameter:	0
From:	0
To:	20

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2 ***5 of 7*** ***ESE/30.3*** ***1,120.9 / -5.70*** ***AB*** ***WWIS***

Well ID:	121699	***Elevation Source:***	Not Obtained
Driller ID:	11110	***Method of Drilling:***	
Licence No:		***GPS Obtained:***	Phone
GIC Well ID:	121699	***Boundary From:***	
GOA Well Tag No:		***Distance North:***	
Elevation (ft):		***Distance South:***	
Depth (ft):		***Distance East:***	
Date Completed:		***Distance West:***	
Proposed Use:		***Additional Desc:***	
Lot:		***Validated?:***	Yes
Block:		***Submitted?:***	Yes
Plan:		***Location Locked?:***	Yes
Type of Work:		***Longitude:***	-113.931221
Flowing Well:		***Latitude:***	49.498508
Date Started:		***LSD:***	SE
Water Req Per Day:		***Section:***	26
Gas Present:		***Township:***	6
Oil Present:		***Range:***	30
Flow Rate:		***Meridian:***	4
Drilling Company:		***DLS Coordinates:***	SE-26-6-30-4
Owner Mailing Address:			
Driller Mailing Address:			

Chemical Analysis

Chem Analysis ID: 2005071
Well Report ID: 121699
Sample No: 3835-W
Sample Date: 4/3/1985 0:00:00
Analysis Date: 5/6/1985 0:00:00
Laboratory: VG
Water Level:
Aquifer:
Remarks: SAMPLED FROM TAP

Analysis Items

Chemical Analysis ID: 2005071
Element Name: Iron
Element Symbol: FE
Decimal Places: 4
Value: -0.02

Analysis Items

Chemical Analysis ID: 2005071
Element Name: Fluoride
Element Symbol: F
Decimal Places: 4
Value: 0.13

Analysis Items

Chemical Analysis ID: 2005071
Element Name: Ion Balance
Element Symbol: IONBAL
Decimal Places: 4
Value: 0.98

Analysis Items

Chemical Analysis ID: 2005071
Element Name: Calcium
Element Symbol: CA
Decimal Places: 4
Value: 70.999716

Analysis Items

Chemical Analysis ID: 2005071
Element Name: Bicarbonate
Element Symbol: HCO3
Decimal Places: 4
Value: 288.030515

Analysis Items

Chemical Analysis ID: 2005071
Element Name: Total Hardness
Element Symbol: TH
Decimal Places: 4
Value: 292

Analysis Items

Chemical Analysis ID: 2005071
Element Name: Total Phosphorus
Element Symbol: TP
Decimal Places: 4
Value: 0

Analysis Items

Chemical Analysis ID: 2005071
Element Name: total Kjeldahl nitrogen
Element Symbol: TKN
Decimal Places: 4
Value: 0

Analysis Items

Chemical Analysis ID: 2005071
Element Name: pH
Element Symbol: PH
Decimal Places: 2
Value: 7.8

Analysis Items

Chemical Analysis ID: 2005071
Element Name: Total Dissolved Solids
Element Symbol: TDS
Decimal Places: 0
Value: 369

Analysis Items

Chemical Analysis ID: 2005071
Element Name: Potassium
Element Symbol: K
Decimal Places: 4
Value: 2.252

Analysis Items

Chemical Analysis ID: 2005071
Element Name: Sodium
Element Symbol: NA
Decimal Places: 4
Value: 21.9995

Analysis Items

Chemical Analysis ID: 2005071
Element Name: Electrical Conductivity
Element Symbol: EC
Decimal Places: 0
Value: 634

Analysis Items

Chemical Analysis ID: 2005071
Element Name: Nitrate plus Nitrite
Element Symbol: NO2_NO3_N

Decimal Places: 4
Value: -0.0504

Analysis Items

Chemical Analysis ID: 2005071
Element Name: Silica
Element Symbol: SIO2
Decimal Places: 4
Value: 5.2

Analysis Items

Chemical Analysis ID: 2005071
Element Name: Nitrite
Element Symbol: NO2
Decimal Places: 4
Value: -0.0504

Analysis Items

Chemical Analysis ID: 2005071
Element Name: Sulphate
Element Symbol: SO4
Decimal Places: 4
Value: 88.12882

Analysis Items

Chemical Analysis ID: 2005071
Element Name: Magnesium
Element Symbol: MG
Decimal Places: 4
Value: 28.02272

Analysis Items

Chemical Analysis ID: 2005071
Element Name: Chloride
Element Symbol: CL
Decimal Places: 4
Value: 16.02115

Analysis Items

Chemical Analysis ID: 2005071
Element Name: Hydroxide
Element Symbol: OH
Decimal Places: 4
Value: 0

Analysis Items

Chemical Analysis ID: 2005071
Element Name: Total Alkalinity
Element Symbol: TA
Decimal Places: 4
Value: 237

Well Reports

Well Report ID:	121699	***Annular Seal Mat:***	
Well Owner ID:	10537155	***Annular Seal from:***	0
Driller ID:	2533726	***Annular Seal to:***	0
Drill Company ID:	11110	***Annular Seal Amt:***	
Drill Instance ID:	8337868	***Annular Seal Units:***	
Drill Comp Well ID:		***Drilling Method:***	Unknown
Existing Well ID:		***Drilling Start Dt:***	
Date Received:	5/9/1985 0:00:00	***Drilling End Dt:***	
Type of Work:	Chemistry	***Pack Type:***	
Plug Date:		***Pack Grain Size:***	
Plug Material Type:		***Pack Amount:***	
Plug Mat Amount:		***Pack Units:***	
Plugged Units:		***Loc Verify Method:***	Phone
Well Use:	Domestic	***Dist Casing Ground:***	
Other Well Use:		***Artesian Flow?:***	No
Total Depth Drill:	16	***Artesian Flow Rate:***	
Finish Well Depth:		***Gas Depth:***	
Casing Material:		***Encounter Gas?:***	No
Casing OD:	0	***Flow Ctrl Install?:***	No
Casing Thickness:	0	***Recommended Rate:***	
Casing Bottom:	0	***Recom Intake Depth:***	
Liner Material:		***Pump Installed?:***	No
Liner OD:	0	***Pump Install Depth:***	
Liner Thickness:	0	***Pump Model:***	
Liner Top:	0	***Pump Horsepower:***	
Liner Bottom:	0	***Well Disinfected?:***	No
Perforation by:		***Other Log:***	
Screen Material:		***Divert Water Src:***	
Screen Size OD:	0	***Divert Water Amt:***	
Screen Attachment:		***Diversion Dt/Time:***	
Screen Top Fitting:		***Is Submitted?:***	Yes
Screen Bot Fitting:		***Is Validated?:***	Yes

Encounter Saline Water?:	No
Saline Water Depth:	
Potability Sample Taken?:	No
Potable Sample Sent to AENV?:	No
Approval Holder Sign Date:	
Drilling Report Given to Owner:	No
Model Output Rating:	
Remedial Action:	
Flow Control Description:	
Pump Type Installed:	
Created by:	
Submitted by:	
Additional Comments:	

Well Owners

Well Owner ID:	10537155
Owner Name:	OGLE, GARY
PO Box:	2124
Address:	PINCHER CREEK
City:	
Postal Code:	T0K 1W0
Province:	
Country:	

Drillers

Driller ID:	2533726
Last Name:	DRILLER
Middle Initial:	NA

First Name:	UNKNOWN
Journeyman No:	1
Is Active?:	Yes

Drilling Companies

Starting Well ID:	1973500
Ending Well ID:	1973599
Last Well ID Used:	1973599
Company Name:	UNKNOWN DRILLER
Street Address:	UNKNOWN
City:	UNKNOWN
Province:	AB
Country:	CA
Postal Code:	
E-Mail:	gwinfo@gov.ab.ca
Is Active?:	No

Geophysical Logs

Geophysical Log ID:	5904004
Log Type:	Gamma
Log Taken?:	No
Sent to AENV?:	No

Geophysical Logs

Geophysical Log ID:	5500929
Log Type:	Electric
Log Taken?:	No
Sent to AENV?:	No

Boreholes

Borehole ID:	602458
Diameter:	0
From:	0
To:	16

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2 ***6 of 7*** ***ESE/30.3*** ***1,120.9 / -5.70*** ***AB*** ***WWIS***

Well ID:	121700	***Elevation Source:***	Not Obtained
Driller ID:	11110	***Method of Drilling:***	
Licence No:		***GPS Obtained:***	Phone
GIC Well ID:	121700	***Boundary From:***	
GOA Well Tag No:		***Distance North:***	
Elevation (ft):		***Distance South:***	
Depth (ft):		***Distance East:***	
Date Completed:		***Distance West:***	
Proposed Use:		***Additional Desc:***	
Lot:		***Validated?:***	Yes
Block:		***Submitted?:***	Yes
Plan:		***Location Locked?:***	Yes
Type of Work:		***Longitude:***	-113.931221
Flowing Well:		***Latitude:***	49.498508
Date Started:		***LSD:***	SE
Water Req Per Day:		***Section:***	26
Gas Present:		***Township:***	6
Oil Present:		***Range:***	30
Flow Rate:		***Meridian:***	4
Drilling Company:		***DLS Coordinates:***	SE-26-6-30-4

Owner Mailing Address:
Driller Mailing Address:

Chemical Analysis

Chem Analysis ID: 2111852
Well Report ID: 121700
Sample No: 12654
Sample Date: 11/17/1987 0:00:00
Analysis Date: 12/8/1987 0:00:00
Laboratory: AE
Water Level:
Aquifer: WELL
Remarks: CATIONS 11.46 ANIONS 12.25

Analysis Items

Chemical Analysis ID: 2111852
Element Name: pH
Element Symbol: PH
Decimal Places: 2
Value: 8.1

Analysis Items

Chemical Analysis ID: 2111852
Element Name: Total Hardness
Element Symbol: TH
Decimal Places: 4
Value: 515

Analysis Items

Chemical Analysis ID: 2111852
Element Name: Fluoride
Element Symbol: F
Decimal Places: 4
Value: 0.25

Analysis Items

Chemical Analysis ID: 2111852
Element Name: Nitrite
Element Symbol: NO2
Decimal Places: 4
Value: -0.005

Analysis Items

Chemical Analysis ID: 2111852
Element Name: Chloride
Element Symbol: CL
Decimal Places: 4
Value: 25

Analysis Items

Chemical Analysis ID: 2111852
Element Name: Bicarbonate
Element Symbol: HCO3

Decimal Places: 4
Value: 614

Analysis Items

Chemical Analysis ID: 2111852
Element Name: Potassium
Element Symbol: K
Decimal Places: 4
Value: 3.2

Analysis Items

Chemical Analysis ID: 2111852
Element Name: Iron
Element Symbol: FE
Decimal Places: 4
Value: 0.33

Analysis Items

Chemical Analysis ID: 2111852
Element Name: Electrical Conductivity
Element Symbol: EC
Decimal Places: 0
Value: 595

Analysis Items

Chemical Analysis ID: 2111852
Element Name: Ion Balance
Element Symbol: IONBAL
Decimal Places: 4
Value: 0.94

Analysis Items

Chemical Analysis ID: 2111852
Element Name: Magnesium
Element Symbol: MG
Decimal Places: 4
Value: 53

Analysis Items

Chemical Analysis ID: 2111852
Element Name: Total Dissolved Solids
Element Symbol: TDS
Decimal Places: 0
Value: 598

Analysis Items

Chemical Analysis ID: 2111852
Element Name: Calcium
Element Symbol: CA
Decimal Places: 4
Value: 119

Analysis Items

Chemical Analysis ID: 2111852
Element Name: Total Alkalinity
Element Symbol: TA
Decimal Places: 4
Value: 504

Analysis Items

Chemical Analysis ID: 2111852
Element Name: Silica
Element Symbol: SIO2
Decimal Places: 4
Value: 11.5

Analysis Items

Chemical Analysis ID: 2111852
Element Name: Nitrate plus Nitrite
Element Symbol: NO2_NO3_N
Decimal Places: 4
Value: -0.02

Analysis Items

Chemical Analysis ID: 2111852
Element Name: Sulphate
Element Symbol: SO4
Decimal Places: 4
Value: 70

Analysis Items

Chemical Analysis ID: 2111852
Element Name: Sodium
Element Symbol: NA
Decimal Places: 4
Value: 25

Well Reports

Well Report ID: 121700
Well Owner ID: 10537156
Driller ID: 2533726
Drill Company ID: 11110
Drill Instance ID: 8337868
Drill Comp Well ID:
Existing Well ID:
Date Received: 12/15/1987 0:00:00
Type of Work: Chemistry
Plug Date:
Plug Material Type:
Plug Mat Amount:
Plugged Units:
Well Use: Domestic
Other Well Use:
Total Depth Drill: 12
Finish Well Depth:
Casing Material:
Casing OD: 0
Casing Thickness: 0

Annular Seal Mat:
Annular Seal from: 0
Annular Seal to: 0
Annular Seal Amt:
Annular Seal Units:
Drilling Method: Unknown
Drilling Start Dt:
Drilling End Dt:
Pack Type:
Pack Grain Size:
Pack Amount:
Pack Units:
Loc Verify Method: Phone
Dist Casing Ground:
Artesian Flow?: No
Artesian Flow Rate:
Gas Depth:
Encounter Gas?: No
Flow Ctrl Install?: No
Recommended Rate:

Casing Bottom:	0	***Recom Intake Depth:***	
Liner Material:		***Pump Installed?:***	No
Liner OD:	0	***Pump Install Depth:***	
Liner Thickness:	0	***Pump Model:***	
Liner Top:	0	***Pump Horsepower:***	
Liner Bottom:	0	***Well Disinfected?:***	No
Perforation by:		***Other Log:***	
Screen Material:		***Divert Water Src:***	
Screen Size OD:	0	***Divert Water Amt:***	
Screen Attachment:		***Diversion Dt/Time:***	
Screen Top Fitting:		***Is Submitted?:***	Yes
Screen Bot Fitting:		***Is Validated?:***	Yes

Encounter Saline Water?: No
Saline Water Depth:
Potability Sample Taken?: No
Potable Sample Sent to AENV?: No
Approval Holder Sign Date:
Drilling Report Given to Owner: No
Model Output Rating:
Remedial Action:
Flow Control Description:
Pump Type Installed:
Created by:
Submitted by:
Additional Comments: SEE VG CHEMISTRY SAMPLE #8712654

Well Owners

Well Owner ID: 10537156
Owner Name: CRAWFORD, ROBERT
PO Box: 701
Address: PINCHER CREEK
City:
Postal Code: T0K 1W0
Province:
Country:

Drillers

Driller ID: 2533726
Last Name: DRILLER
Middle Initial: NA
First Name: UNKNOWN
Journeyman No: 1
Is Active?: Yes

Drilling Companies

Starting Well ID: 1973500
Ending Well ID: 1973599
Last Well ID Used: 1973599
Company Name: UNKNOWN DRILLER
Street Address: UNKNOWN
City: UNKNOWN
Province: AB
Country: CA
Postal Code:
E-Mail: gwinfo@gov.ab.ca
Is Active?: No

Geophysical Logs

Geophysical Log ID:	5500930
Log Type:	Electric
Log Taken?:	No
Sent to AENV?:	No

Geophysical Logs

Geophysical Log ID:	5904005
Log Type:	Gamma
Log Taken?:	No
Sent to AENV?:	No

Boreholes

Borehole ID:	602459
Diameter:	0
From:	0
To:	12

---

2 | ***7 of 7*** | ***ESE/30.3*** | ***1,120.9 / -5.70*** | ***AB*** | ***WWIS***

Well ID:	154057	**Elevation Source:**	Not Obtained
Driller ID:	11110	**Method of Drilling:**	
Licence No:		**GPS Obtained:**	Map
GIC Well ID:	154057	**Boundary From:**	
GOA Well Tag No:		**Distance North:**	
Elevation (ft):		**Distance South:**	
Depth (ft):		**Distance East:**	
Date Completed:		**Distance West:**	
Proposed Use:		**Additional Desc:**	
Lot:		**Validated?:**	Yes
Block:		**Submitted?:**	Yes
Plan:		**Location Locked?:**	Yes
Type of Work:		**Longitude:**	-113.931221
Flowing Well:		**Latitude:**	49.498508
Date Started:		**LSD:**	SE
Water Req Per Day:		**Section:**	26
Gas Present:		**Township:**	6
Oil Present:		**Range:**	30
Flow Rate:		**Meridian:**	4
Drilling Company:		**DLS Coordinates:**	SE-26-6-30-4
Owner Mailing Address:			
Driller Mailing Address:			

Chemical Analysis

Chem Analysis ID:	2005070
Well Report ID:	154057
Sample No:	2262-W
Sample Date:	3/6/1978 0:00:00
Analysis Date:	3/22/1978 0:00:00
Laboratory:	AE
Water Level:	8
Aquifer:	
Remarks:	SAMPLED FROM TAP

Analysis Items

Chemical Analysis ID:	2005070
Element Name:	Fluoride
Element Symbol:	F

Decimal Places: 4
Value: 0.17

Analysis Items

Chemical Analysis ID: 2005070
Element Name: Total Phosphorus
Element Symbol: TP
Decimal Places: 4
Value: 0

Analysis Items

Chemical Analysis ID: 2005070
Element Name: Calcium
Element Symbol: CA
Decimal Places: 4
Value: 66.999732

Analysis Items

Chemical Analysis ID: 2005070
Element Name: Hydroxide
Element Symbol: OH
Decimal Places: 4
Value: 0

Analysis Items

Chemical Analysis ID: 2005070
Element Name: total Kjeldahl nitrogen
Element Symbol: TKN
Decimal Places: 4
Value: 0

Analysis Items

Chemical Analysis ID: 2005070
Element Name: Silica
Element Symbol: SIO2
Decimal Places: 4
Value: 7.1

Analysis Items

Chemical Analysis ID: 2005070
Element Name: Iron
Element Symbol: FE
Decimal Places: 4
Value: 0.06

Analysis Items

Chemical Analysis ID: 2005070
Element Name: Electrical Conductivity
Element Symbol: EC
Decimal Places: 0
Value: 706

Analysis Items

Chemical Analysis ID: 2005070
Element Name: Sulphate
Element Symbol: SO4
Decimal Places: 4
Value: 76.10863

Analysis Items

Chemical Analysis ID: 2005070
Element Name: Nitrate plus Nitrite
Element Symbol: NO2_NO3_N
Decimal Places: 4
Value: 1.2992

Analysis Items

Chemical Analysis ID: 2005070
Element Name: Magnesium
Element Symbol: MG
Decimal Places: 4
Value: 38.031616

Analysis Items

Chemical Analysis ID: 2005070
Element Name: Total Dissolved Solids
Element Symbol: TDS
Decimal Places: 0
Value: 474

Analysis Items

Chemical Analysis ID: 2005070
Element Name: Potassium
Element Symbol: K
Decimal Places: 4
Value: 3.172

Analysis Items

Chemical Analysis ID: 2005070
Element Name: Nitrite
Element Symbol: NO2
Decimal Places: 4
Value: -0.0994

Analysis Items

Chemical Analysis ID: 2005070
Element Name: Chloride
Element Symbol: CL
Decimal Places: 4
Value: 71.0994

Analysis Items

Chemical Analysis ID: 2005070
Element Name: Sodium

Element Symbol: NA
Decimal Places: 4
Value: 30.9994

Analysis Items

Chemical Analysis ID: 2005070
Element Name: Bicarbonate
Element Symbol: HCO3
Decimal Places: 4
Value: 369.036427

Analysis Items

Chemical Analysis ID: 2005070
Element Name: pH
Element Symbol: PH
Decimal Places: 2
Value: 8.3

Analysis Items

Chemical Analysis ID: 2005070
Element Name: Total Hardness
Element Symbol: TH
Decimal Places: 4
Value: 324

Analysis Items

Chemical Analysis ID: 2005070
Element Name: Ion Balance
Element Symbol: IONBAL
Decimal Places: 4
Value: 0.81

Analysis Items

Chemical Analysis ID: 2005070
Element Name: Total Alkalinity
Element Symbol: TA
Decimal Places: 4
Value: 302

Chemical Analysis

Chem Analysis ID: 2111851
Well Report ID: 154057
Sample No: 8907385
Sample Date: 6/19/1989 0:00:00
Analysis Date: 7/26/1989 0:00:00
Laboratory: AE
Water Level:
Aquifer: WELL
Remarks: CATIONS 7.39 ANIONS 7.53

Analysis Items

Chemical Analysis ID: 2111851
Element Name: Calcium

Element Symbol: CA
Decimal Places: 4
Value: 69

Analysis Items

Chemical Analysis ID: 2111851
Element Name: Potassium
Element Symbol: K
Decimal Places: 4
Value: 2.7

Analysis Items

Chemical Analysis ID: 2111851
Element Name: Magnesium
Element Symbol: MG
Decimal Places: 4
Value: 35

Analysis Items

Chemical Analysis ID: 2111851
Element Name: Total Dissolved Solids
Element Symbol: TDS
Decimal Places: 0
Value: 381

Analysis Items

Chemical Analysis ID: 2111851
Element Name: Fluoride
Element Symbol: F
Decimal Places: 4
Value: 0.2

Analysis Items

Chemical Analysis ID: 2111851
Element Name: Iron
Element Symbol: FE
Decimal Places: 4
Value: 0.03

Analysis Items

Chemical Analysis ID: 2111851
Element Name: Chloride
Element Symbol: CL
Decimal Places: 4
Value: 7.2

Analysis Items

Chemical Analysis ID: 2111851
Element Name: Bicarbonate
Element Symbol: HCO3
Decimal Places: 4
Value: 362

Analysis Items

Chemical Analysis ID: 2111851
Element Name: Ion Balance
Element Symbol: IONBAL
Decimal Places: 4
Value: 0.98

Analysis Items

Chemical Analysis ID: 2111851
Element Name: Nitrate plus Nitrite
Element Symbol: NO2_NO3_N
Decimal Places: 4
Value: 0.07

Analysis Items

Chemical Analysis ID: 2111851
Element Name: Electrical Conductivity
Element Symbol: EC
Decimal Places: 0
Value: 677

Analysis Items

Chemical Analysis ID: 2111851
Element Name: Nitrite
Element Symbol: NO2
Decimal Places: 4
Value: 0.002

Analysis Items

Chemical Analysis ID: 2111851
Element Name: pH
Element Symbol: PH
Decimal Places: 2
Value: 7.93

Analysis Items

Chemical Analysis ID: 2111851
Element Name: Silica
Element Symbol: SIO2
Decimal Places: 4
Value: 7.2

Analysis Items

Chemical Analysis ID: 2111851
Element Name: Total Alkalinity
Element Symbol: TA
Decimal Places: 4
Value: 297

Analysis Items

Chemical Analysis ID: 2111851

Element Name: Total Hardness
Element Symbol: TH
Decimal Places: 4
Value: 316

Analysis Items

Chemical Analysis ID: 2111851
Element Name: Sodium
Element Symbol: NA
Decimal Places: 4
Value: 23

Analysis Items

Chemical Analysis ID: 2111851
Element Name: Sulphate
Element Symbol: SO4
Decimal Places: 4
Value: 66

Well Reports

Well Report ID: 154057
Well Owner ID: 10404824
Driller ID: 2533726
Drill Company ID: 11110
Drill Instance ID: 8337868
Drill Comp Well ID:
Existing Well ID:
Date Received: 8/1/1989 0:00:00
Type of Work: Chemistry
Plug Date:
Plug Material Type:
Plug Mat Amount:
Plugged Units:
Well Use: Unknown
Other Well Use:
Total Depth Drill: 20
Finish Well Depth:
Casing Material:
Casing OD: 0
Casing Thickness: 0
Casing Bottom: 0
Liner Material:
Liner OD: 0
Liner Thickness: 0
Liner Top: 0
Liner Bottom: 0
Perforation by:
Screen Material:
Screen Size OD: 0
Screen Attachment:
Screen Top Fitting:
Screen Bot Fitting:
Encounter Saline Water?: No
Saline Water Depth:
Potability Sample Taken?: No
Potable Sample Sent to AENV?: No
Approval Holder Sign Date:
Drilling Report Given to Owner: No
Model Output Rating:
Remedial Action:

Annular Seal Mat:
Annular Seal from: 0
Annular Seal to: 0
Annular Seal Amt:
Annular Seal Units:
Drilling Method: Not Applicable
Drilling Start Dt:
Drilling End Dt:
Pack Type:
Pack Grain Size:
Pack Amount: 0
Pack Units:
Loc Verify Method: Map
Dist Casing Ground:
Artesian Flow?: No
Artesian Flow Rate:
Gas Depth:
Encounter Gas?: No
Flow Ctrl Install?: No
Recommended Rate:
Recom Intake Depth:
Pump Installed?: No
Pump Install Depth:
Pump Model:
Pump Horsepower:
Well Disinfected?: No
Other Log:
Divert Water Src:
Divert Water Amt:
Diversion Dt/Time:
Is Submitted?: Yes
Is Validated?: Yes

Flow Control Description:
Pump Type Installed:
Created by:
Submitted by:
Additional Comments:

Well Owners

Well Owner ID: 10404824
Owner Name: MEIDINGER, LLOYD
PO Box: 151
Address: PINCHER CREEK
City:
Postal Code: T0K 1W0
Province:
Country:

Drillers

Driller ID: 2533726
Last Name: DRILLER
Middle Initial: NA
First Name: UNKNOWN
Journeyman No: 1
Is Active?: Yes

Drilling Companies

Starting Well ID: 1973500
Ending Well ID: 1973599
Last Well ID Used: 1973599
Company Name: UNKNOWN DRILLER
Street Address: UNKNOWN
City: UNKNOWN
Province: AB
Country: CA
Postal Code:
E-Mail: gwinfo@gov.ab.ca
Is Active?: No

Geophysical Logs

Geophysical Log ID: 5500931
Log Type: Electric
Log Taken?: No
Sent to AENV?: No

Geophysical Logs

Geophysical Log ID: 5904006
Log Type: Gamma
Log Taken?: No
Sent to AENV?: No

Boreholes

Borehole ID: 602460
Diameter: 0
From: 0
To: 20

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
3	1 of 4	ESE/61.0	1,119.9 / -6.63	Municipal District of Pincher Creek No. 9 AB	PITS

Certificate NO:
Status: Abandoned
Status Date: 23-Feb-95
Effective Date:
Expiry Date:
Facility Name: SORGE PIT
Description:
Operator:
Mailing Address:

Approval Type:
DLS: SE 26-6-30-4
Lot:
Block:
Plan:

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
3	2 of 4	ESE/61.0	1,119.9 / -6.63	Municipal District of Pincher Creek No. 9 AB	PITS

Certificate NO:
Status: Abandoned
Status Date: 23-Feb-95
Effective Date:
Expiry Date:
Facility Name: DICKIE PIT
Description:
Operator:
Mailing Address:

Approval Type:
DLS: SE 26-6-30-4
Lot:
Block:
Plan:

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
3	3 of 4	ESE/61.0	1,119.9 / -6.63	Town of Pincher Creek Pincher Creek AB	WSTE

Certificate NO: 874-02-01
Status: Operating
Status Date: 1-Sep-93
Effective Date: 10-Aug-06
Expiry Date:
Facility Name: Pincher Creek Wastewater System
Description: Storm Drainage System
Operator: Town of Pincher Creek
Mailing Address: BOX 159, Pincher Creek, AB T0K 1W0

Approval Type: Amendment
DLS: SE-26-6-30-4
Lot:
Block:
Plan:

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
3	4 of 4	ESE/61.0	1,119.9 / -6.63	AB	LDS

Site NO: MD9/040
Status: Inactive
Priority Rank: 2
Point Score: n/a
Current Use:
Problems:

Health Unit: Chinook
Size (Acre): 2
County: Municipal District #9 - Pincher Creek
Owner:
Name: Pincher Creek
Location: SE 26-06-30W4

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
4	1 of 1	W/97.8	1,130.2 / 3.65	UNITED FARMERS OF ALBERTA-PINCHER CREEK 1050-CORNER MOUNTAIN STREET PINCHER CREEK T0K 1W0 AB AB	FST

Site No: 7879
Tank No:

Dt Form Rcvd:
Date Removed:

No of Tanks:			***Removal Reason:***
Tank Type:			***Located 200m:***
Tank Status:			***Located 500m:***
Site Status:	Active		***DLS Coord:***
Date Last Used:			***Lot:***
UST/AST:			***Block:***
Contents:			***Plan:***
Other Contents:			***Municipality:***
Capacity:			***Postal:***
Other Capacity:			***Facility 1:***
UST Secondary:			***Facility 2:***
AST Secondary:			***Facility 3:***
Overfill Prevention:			***Facility 4:***

LLD: SW 1/4 Of Sec. 26 TWP 6 Rge 30 West of Mer 4 Lot 3 Block 6 Plan 0610849

Spill Containment:

Tank Status by Site Name: Active Tanks

Active Tank Sites

UST/AST: 0 / 6

Unplottable Summary

Total: 0 Unplottable sites

DB	Company Name/Site Name	Address	City	Postal

Unplottable Report

No unplottable records were found that may be relevant for the search criteria.

Appendix: Database Descriptions

Environmental Risk Information Services (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update. ***Note:*** *Databases denoted with " * " indicates that the database will no longer be updated. See the individual database description for more information.*

Well Licenses: Provincial AERW

Locations of Well Licenses made available by the Alberta Energy Regulator (AER) as ST37. Includes Active, Suspended, Abandoned, Drilled and Cased Oil, Gas, Crude Bitumen well licenses, as well as Observation, Injection, Disposal, and Undefined well licences.

Government Publication Date: Jul 31, 2019

Agriculture and Fisheries - Certificates of Approval: Provincial AGR

This database contains approvals for processes pertaining to drying of alfalfa/forage/peat, feedlots, fish farms and feed/seed mills. Please note that, as per the source of this database, some of the geographic information may pertain to a head office or mailing address and not necessarily the site of operations to which the certificate applies. Some geographic coordinates have been provided in ATS (Alberta Township Survey system) format but do not contain offsets that are necessary to pinpoint a specific location. Therefore, locations will be accurate to the quarter section only.

Government Publication Date: 1993-2012

Alberta Oil and Gas Wells: Provincial AOGW

The Alberta Energy Utilities Board - now the Alberta Energy Regulator (AER) - maintained a database of oil and gas wells drilled in the province of Alberta. The database contains information on well name, licensee name, license number, location, status, total well depth and date of final drilling. Please note that this database will not be updated, information on wells drilled after September 2003 can be found in the Oil and Gas Wells (OGW) database under the 'Private Source Database' section.

Government Publication Date: 1883-Sept 2003*

Automobile Wrecking & Supplies: Private AUWR

This database provides an inventory of known locations that are involved in the scrap metal, automobile wrecking/recycling, and automobile parts & supplies industry. Information is provided on the company name, location and business type.

Government Publication Date: 1999-Jan 31, 2020

Waste Management Facilities - Certificates of Approval: Provincial CAWD

This database contains approvals for processes pertaining to waste management facilities (hazardous waste manifesting, waste disposal/incineration/open burning/processing/storage/treatment). Please note that, as per the source of this database, some of the geographic information may pertain to a head office or mailing address and not necessarily the site of operations to which the certificate applies. Some geographic coordinates have been provided in ATS (Alberta Township Survey system) format but do not contain offsets that are necessary to pinpoint a specific location. Therefore, locations will be accurate to the quarter section only.

Government Publication Date: 1993 - Jan 2020

Commercial Activity Risk: Provincial CBL

List of locations with Business Licences for the follow commercial activities: apartment building with 4 or more stories, auto-body shop, fabric cleaning, manufacturing, motor vehicle dealerships and service/repair, and salvage yard/auto wrecking. Data made available by the City of Calgary.

Government Publication Date: Feb 29, 2020

Dry Cleaning Facilities: Federal CDRY

List of dry cleaning facilities made available by Environment and Climate Change Canada. Environment and Climate Change Canada's Tetrachloroethylene (Use in Dry Cleaning and Reporting Requirements) Regulations (SOR/2003-79) are intended to reduce releases of tetrachloroethylene to the environment from dry cleaning facilities.

Government Publication Date: Jan 2004-Dec 2017

Confined Feeding Operations: Provincial CFO

In 1991, the Natural Resources Conservation Board (NRCB) was created to review applications for approval of major natural resource development projects in Alberta. In January 2002, the NRCB was given the responsibility to regulate the Confined Feeding Operation industry. The Agricultural Operation Practices Act defines a confined feeding operation to be: "an activity on land that is fenced or enclosed or within buildings where livestock are confined for the purpose of growing, sustaining, finishing or breeding by means other than grazing, but does not include seasonal feeding and bedding sites." Under the AOPA regulations, all new or expanding confined feeding operations (CFOs) or manure storage facilities are required to make an application for Approval, Registration or Authorization to the NRCB before construction or expansion commences. Geographic coordinates were provided in DLS (Dominion Land Survey) format but do not contain offsets that are necessary to pinpoint a specific location. Therefore, locations will be accurate to the Quarter section only.

Government Publication Date: 2002-Apr 2020

Chemical Processing Operations - Certificates of Approval: Provincial CHEM

This database contains approvals for processes pertaining to the manufacturing and use of chemical products and pesticides. Please note that, as per the source of this database, some of the geographic information may pertain to a head office or mailing address and not necessarily the site of operations to which the certificate applies. Some geographic coordinates have been provided in ATS (Alberta Township Survey system) format but do not contain offsets that are necessary to pinpoint a specific location. Therefore, locations will be accurate to the quarter section only.

Government Publication Date: 1993-2012

Compressed Natural Gas Stations: Private CNG

Canada has a network of public access compressed natural gas (CNG) refuelling stations. These stations dispense natural gas in compressed form at 3,000 pounds per square inch (psi), the pressure which is allowed within the current Canadian codes and standards. The majority of natural gas refuelling is located at existing retail gasoline that have a separate refuelling island for natural gas. This list of stations is made available by the Canadian Natural Gas Vehicle Alliance.

Government Publication Date: Dec 2012 - Feb 2020

Compost Facilities: Provincial COMPOST

A list of compost facility registrations made available by Alberta Environment and Parks (AEP). Composting facilities operating under a registration are required to follow the requirements in the Code of Practice for Compost Facilities, which outlines the minimum requirements for the design, construction, operation, and reclamation of compost facilities that accept up to 20,000 tonnes of feedstock per year.

Government Publication Date: Dec 31, 2019

Compliance and Convictions: Provincial CONV

This database summarizes the penalties and convictions handed down by the Alberta courts. This database identifies companies and/or individuals that have been found guilty of environmental offenses under Alberta's Environmental Protection Legislation. Please note that, as per the source of this database, some of the geographic information may pertain to a head office or mailing address and not necessarily the site of operations to which the certificate applies. Unfortunately, from state of the data, the location that the address pertains to cannot be confirmed.

Government Publication Date: 1993-Mar 2020

Fuel Sales and Storage: Provincial CTNK

List of locations with Business Licences for fuel sales and storage. Data made available by the City of Calgary.

Government Publication Date: Feb 29, 2020

Enforcement Action Summary: Provincial EAS

This database maintained by the Alberta Energy Regulator (AER) - formerly the Energy Resources Conservation Board (ERCB) - summarizes high risk enforcement action 1, high risk enforcement action 2 (persistent noncompliance), high risk enforcement action 3 (failure to comply or demonstrated disregard), low risk enforcement action - global REFER and legislative/regulatory enforcement action. Fields will include licensee/company name, non-compliance event, date of enforcement, location, etc.

Government Publication Date: 2007-Feb 2020

Environmental Effects Monitoring: Federal EEM

The Environmental Effects Monitoring program assesses the effects of effluent from industrial or other sources on fish, fish habitat and human usage of fisheries resources. Since 1992, pulp and paper mills have been required to conduct EEM studies under the Pulp and Paper Effluent Regulations. This database provides information on the mill name, geographical location and sub-lethal toxicity data.

Government Publication Date: 1992-2007*

ERIS Historical Searches: Private EHS

ERIS has compiled a database of all environmental risk reports completed since March 1999. Available fields for this database include: site location, date of report, type of report, and search radius. As per all other databases, the ERIS database can be referenced on both the map and "Statistical Profile" page.

Government Publication Date: 1999-Jan 31, 2020

Environmental Issues Inventory System: Federal EIIS

The Environmental Issues Inventory System was developed through the implementation of the Environmental Issues and Remediation Plan. This plan was established to determine the location and severity of contaminated sites on inhabited First Nation reserves, and where necessary, to remediate those that posed a risk to health and safety; and to prevent future environmental problems. The EIIS provides information on the reserve under investigation, inventory number, name of site, environmental issue, site action (Remediation, Site Assessment), and date investigation completed.

Government Publication Date: 1992-2001*

Alberta Environment & Parks Storage Tanks: Provincial EPST

List of storage tanks under the purview of Alberta Environment and Parks.

Government Publication Date: Jul 31, 2016

Environment Protection & Enhancement Act and Water Act Public Notices: Provincial EPWN

A list of Public Notices of Applications, Decisions, and Revisions pertaining to applications made to Alberta Environment and Parks under the Water Act (WA) and Alberta Environment Protection and Enhancement Act (EPEA). Dominion Land Survey (DLS) locations provided by the source are subject to accuracy limitations inherent to the DLS system.

Government Publication Date: Dec 31, 2019

Environmental Site Assessment Repository: Provincial ESAR

Environmental site assessments determine the quality of soil and groundwater of a site, particularly at retail gas stations and other commercial and industrial sites. A site assessment does not necessarily mean a site is, or ever was, contaminated. Alberta's Environmental Site Assessment Repository (ESAR) is an online, searchable database that provides scientific and technical information about assessed and/or reclaimed sites throughout Alberta. Search Alberta's ESAR using meridian, range, township, and section values at http://www.esar.alberta.ca/esarmain.aspx to gain access to reclamation certificates and/or associated files (applications, reports).

Government Publication Date: 1960-Jan 2020

Facility List: Provincial FAC

This database contains a complete list of new, active and suspended facilities in Alberta including batteries, gas plants, meter stations, and other facilities. Information provided includes: facility id, facility name, operator name, sub type description, location, facility l license no, and operational status; now includes EDCT (Energy Development Category Type) type and description. Made available by the Alberta Energy Regulator (AER) - formerly the Energy Resources Conservation Board (ERCB).

Government Publication Date: Up to Mar 31, 2020

Federal Convictions: Federal FCON

Environment Canada maintains a database referred to as the "Environmental Registry" that details prosecutions under the Canadian Environmental Protection Act (CEPA) and the Fisheries Act (FA). Information is provided on the company name, location, charge date, offence and penalty.

Government Publication Date: 1988-Jun 2007*

Contaminated Sites on Federal Land: Federal FCS

The Federal Contaminated Sites Inventory includes information on known federal contaminated sites under the custodianship of departments, agencies and consolidated Crown corporations as well as those that are being or have been investigated to determine whether they have contamination arising from past use that could pose a risk to human health or the environment. The inventory also includes non-federal contaminated sites for which the Government of Canada has accepted some or all financial responsibility. It does not include sites where contamination has been caused by, and which are under the control of, enterprise Crown corporations, private individuals, firms or other levels of government. Includes fire training sites and sites at which Per- and Polyfluoroalkyl Substances (PFAS) are a concern.

Government Publication Date: Jun 2000-Apr 2020

AER Incidents & Spills: Provincial FIS

Received from the Alberta Energy Regulator (AER) - formerly the ERCB (Energy Resources Conservation Board) and EUB (Energy Utilities Board) - this database, which used to be called EISL (Environmental Information System Listing), contains reported environmental incidents beginning in 1975. Descriptions include noise infractions, air quality emissions, oil spills and failures for pipelines, wells, plants, and batteries. Some geographic coordinates have been provided in ATS (Alberta Township Survey system) format but do not contain offsets that are necessary to pinpoint a specific location. Therefore, locations will be accurate to the quarter section only.

Government Publication Date: 1975-Apr 2020

Food Processing Operations - Certificates of Approval: Provincial FOOD

This database contains approvals for processes pertaining to the manufacturing of food products. Please note that, as per the source of this database, some of the geographic information may pertain to a head office or mailing address and not necessarily the site of operations to which the certificate applies. Some geographic coordinates have been provided in ATS (Alberta Township Survey system) format but do not contain offsets that are necessary to pinpoint a specific location. Therefore, locations will be accurate to the quarter section only.

Government Publication Date: 1993-2012

Federal Identification Registry for Storage Tank Systems (FIRSTS): Federal FRST

A list of federally regulated Storage tanks from the Federal Identification Registry for Storage Tank Systems (FIRSTS). FIRSTS is Environment and Climate Change Canada's database of storage tank systems subject to the Storage Tank for Petroleum Products and Allied Petroleum Products Regulations. The main objective of the Regulations is to prevent soil and groundwater contamination from storage tank systems located on federal and aboriginal lands. Storage tank systems that do not have a valid identification number displayed in a readily visible location on or near the storage tank system may be refused product delivery.

Government Publication Date: May 31, 2018

PTMAA Fuel Storage Tanks: Provincial FST

List of active tank sites, sites with tanks temporarily out of service, and sites at which tanks have been removed from the ground. Information in this database was collected according to Alberta Regulation AR 291/95 Storage Tank System Management and to AR 52/98 Fire Code which was formerly the Alberta Fire Code Regulation, 1992 (AR 204/92). This information was received from the Petroleum Tank Management Association of Alberta (PTMAA) which has regulated Storage Tanks since 1994.

Government Publication Date: 1985-Mar 2020

Waste Generators Summary: Provincial GEN

Under Alberta's Waste Control Regulation, Alta. Reg. 192/96, a generator is a person who consigns hazardous waste for storage, transport, treatment or disposal. As of 2007, Alberta Environment no longer provides detailed information on each waste generator, such as approval number, class, and class description.

Government Publication Date: 1993-Aug 2018

Greenhouse Gas Emissions from Large Facilities: Federal GHG

List of greenhouse gas emissions from large facilities made available by Environment Canada. Greenhouse gas emissions in kilotonnes of carbon dioxide equivalents (kt CO2 eq).

Government Publication Date: 2013-Dec 2017

Gas Processing Plants: Provincial GPP

The Alberta Energy Regulator (AER) - formerly the ERCB (Energy Resources Conservation Board) - has an inventory of all Gas Processing Plants in Alberta, with information such as location, names of plant, facility type, operator name, facility license, design capacities, etc.

Government Publication Date: Oct 2016-Oct 31, 2019

Alberta Environment's H.E.L.P. (Help End Landfill Pollution) Program Database: Provincial HELP

The H.E.L.P. Data Tracking and Management Control System was created to provide tracking and management capabilities of industrial landfills in Alberta for the Department of Environment. Detailed information including company name, location, type of landfill, priority, score, status, use and much more is included in this database.

Government Publication Date: June 1988*

Horizontal Wells: Provincial HORW

Defined as drilling directionally at a wellbore inclination angle exceeding 85 degrees, horizontal drilling can help increase resource recovery while minimizing surface impact. Recent improvements in the technology have made it possible to combine horizontal drilling with hydraulic fracturing to help coax oil and natural gas out of tight rock. Today, more than half of western Canada's wells are being drilled horizontally. Data includes: well locations (LE,LS,SE,TWP,RG,M,E), licence numbers, well names, Business Associate (BA) codes, licensee abbreviations, spud dates, final drilling dates, total depth, true vertical depth, and last updated dates. Made available by the Alberta Energy Regulator (AER) - formerly the Energy Resources Conservation Board (ERCB).

Government Publication Date: Mar 2015-Feb 29, 2020

Indian & Northern Affairs Fuel Tanks: Federal IAFT

The Department of Indian & Northern Affairs Canada (INAC) maintains an inventory of aboveground & underground fuel storage tanks located on both federal and crown land. Our inventory provides information on the reserve name, location, facility type, site/facility name, tank type, material & ID number, tank contents & capacity, and date of tank installation.

Government Publication Date: 1950-Aug 2003*

Landfill Registrations: Provincial LANDFILLS

A list of landfill registrations made available by Alberta Environment and Parks (AEP). Landfills operating under a registration are required to follow the requirements in the Code of Practice for Landfills, which outlines the minimum requirements for the construction, operation and reclamation of landfills that accept 10,000 tonnes or less per year of non-hazardous and inert waste.

Government Publication Date: Mar 31, 2020

Identification and Verification of Active and Inactive Land Disposal Sites: Provincial LDS

In late 1981, Environment Canada and Alberta Environment initiated a project to identify and verify land disposal sites in the province of Alberta. A point scoring system was used to classify the sites into potential priority 1, priority 2 or priority 3 groups on the basis of the type of waste received at the sites and the site environment. Sites that, according to available information, may pose a hazard to public health and safety or the environment are classified as potential priority 1 sites.

Government Publication Date: Oct 1982*

Land Disposal Sites on Indian Reserves: Provincial LDSI

In late 1981, Environment Canada and Alberta Environment initiated a project to identify and verify land disposal sites in the province of Alberta. This database specifically identifies land disposal sites on Indian Reserves. Information on each site is limited to: location, band, size and general comments.

Government Publication Date: Oct 1982*

Lumber Related Operations - Certificates of Approval: Provincial LUM

This database contains approvals for processes pertaining to the manufacturing of wood products, pulp and paper including the associated water treatment processes. Please note that, as per the source of this database, some of the geographic information may pertain to a head office or mailing address and not necessarily the site of operations to which the certificate applies. Some geographic coordinates have been provided in ATS (Alberta Township Survey system) format but do not contain offsets that are necessary to pinpoint a specific location. Therefore, locations will be accurate to the quarter section only.

Government Publication Date: 1993-2012

Canadian Mine Locations: Private MINE

This information is collected from the Canadian & American Mines Handbook. The Mines database is a national database that provides over 290 listings on mines (listed as public companies) dealing primarily with precious metals and hard rocks. Listed are mines that are currently in operation, closed, suspended, or are still being developed (advanced projects). Their locations are provided as geographic coordinates (x, y and/or longitude, latitude). As of 2002, data pertaining to Canadian smelters and refineries has been appended to this database.

Government Publication Date: 1998-2009*

Metals, Minerals and Building Materials Operations - Certificates of Approval: Provincial MMB

This database contains approvals for processes pertaining to the manufacturing of building materials, metals, and mineral products. Please note that, as per the source of this database, some of the geographic information may pertain to a head office or mailing address and not necessarily the site of operations to which the certificate applies. Some geographic coordinates have been provided in ATS (Alberta Township Survey system) format but do not contain offsets that are necessary to pinpoint a specific location. Therefore, locations will be accurate to the quarter section only.

Government Publication Date: 1993-2012

Mineral Occurrences: Provincial MNR

The AMDO (Alberta Mineral Deposits and Occurrences) application was created by the Minerals and Coal Geoscience Section of the Alberta Geological Survey as a database for mineral deposits in Alberta in the early 1990s. This is a one time inventory and will not be updated.

Government Publication Date: 1993-2003*

National Analysis of Trends in Emergencies System (NATES): Federal NATE

In 1974 Environment Canada established the National Analysis of Trends in Emergencies System (NATES) database, for the voluntary reporting of significant spill incidents. The data was to be used to assist in directing the work of the emergencies program. NATES ran from 1974 to 1994. Extensive information is available within this database including company names, place where the spill occurred, date of spill, cause, reason and source of spill, damage incurred, and amount, concentration, and volume of materials released.

Government Publication Date: 1974-1994*

PTMAA Non-Compliant Storage Tanks: Provincial NCST

The Alberta Fire Code requires that storage tanks be registered. Tanks may not be registered because they do not meet minimum equipment standards or the owners have not made the annual registration application or paid the necessary registration fees. Some tank owners have installed tanks without a permit. This source contains information on facilities which have tanks that have ceased to be registered or have never been registered. It is maintained and updated by the Petroleum Tank Management Association of Alberta (PTMAA).

Government Publication Date: Sep 2016-Apr 30, 2020

National Defense & Canadian Forces Fuel Tanks: Federal NDFT

The Department of National Defense and the Canadian Forces maintains an inventory of all aboveground & underground fuel storage tanks located on DND lands. Our inventory provides information on the base name, location, tank type & capacity, tank contents, tank class, date of tank installation, date tank last used, and status of tank as of May 2001. This database will no longer be updated due to the new National Security protocols which have prohibited any release of this database.

Government Publication Date: Up to May 2001*

National Defense & Canadian Forces Spills: Federal NDSP

The Department of National Defense and the Canadian Forces maintains an inventory of spills to land and water. All spill sites have been classified under the "Transportation of Dangerous Goods Act - 1992". Our inventory provides information on the facility name, location, spill ID #, spill date, type of spill, as well as the quantity of substance spilled & recovered.

Government Publication Date: Mar 1999-Apr 2018

National Defence & Canadian Forces Waste Disposal Sites: Federal NDWD

The Department of National Defence and the Canadian Forces maintains an inventory of waste disposal sites located on DND lands. Where available, our inventory provides information on the base name, location, type of waste received, area of site, depth of site, year site opened/closed and status.

Government Publication Date: 2001-Apr 2007*

National Energy Board Pipeline Incidents: Federal NEBI

Locations of pipeline incidents from 2008 to present, made available by the Canada Energy Regulator (CER) - previously the National Energy Board (NEB). Includes incidents reported under the Onshore Pipeline Regulations and the Processing Plant Regulations related to pipelines under federal jurisdiction, does not include incident data related to pipelines under provincial or territorial jurisdiction.

Government Publication Date: 2008-Mar 31, 2020

National Energy Board Wells: Federal NEBP

The NEBW database contains information on onshore & offshore oil and gas wells that are outside provincial jurisdiction(s) and are thereby regulated by the National Energy Board. Data is provided regarding the operator, well name, well ID No./UWI, status, classification, well depth, spud and release date.

Government Publication Date: 1920-Feb 2003*

National Environmental Emergencies System (NEES): Federal NEES

In 2000, the Emergencies program implemented NEES, a reporting system for spills of hazardous substances. For the most part, this system only captured data from the Atlantic Provinces, some from Quebec and Ontario and a portion from British Columbia. Data for Alberta, Saskatchewan, Manitoba and the Territories was not captured. However, NEES is also a repository for previous Environment Canada spill datasets. NEES is composed of the historic datasets ' or Trends ' which dates from approximately 1974 to present. NEES Trends is a compilation of historic databases, which were merged and includes data from NATES (National Analysis of Trends in Emergencies System), ARTS (Atlantic Regional Trends System), and NEES. In 2001, the Emergencies Program determined that variations in reporting regimes and requirements between federal and provincial agencies made national spill reporting and trend analysis difficult to achieve. As a consequence, the department has focused efforts on capturing data on spills of substances which fall under its legislative authority only (CEPA and FA). As such, the NEES database will be decommissioned in December 2004.

Government Publication Date: 1974-2003*

National PCB Inventory: Federal NPCB

Environment Canada's National PCB inventory includes information on in-use PCB containing equipment in Canada including federal, provincial and private facilities. Federal out-of-service PCB containing equipment and PCB waste owned by the federal government or by federally regulated industries such as airlines, railway companies, broadcasting companies, telephone and telecommunications companies, pipeline companies, etc. are also listed. Although it is not Environment Canada's mandate to collect data on non-federal PCB waste, the National PCB inventory includes some information on provincial and private PCB waste and storage sites. Some addresses provided may be Head Office addresses and are not necessarily the location of where the waste is being used or stored.

Government Publication Date: 1988-2008*

National Pollutant Release Inventory: Federal NPRI

Environment Canada has defined the National Pollutant Release Inventory ("NPRI") as a federal government initiative designed to collect comprehensive national data regarding releases to air, water, or land, and waste transfers for recycling for more than 300 listed substances.

Government Publication Date: 1993-May 2017

Operating and Abandoned Mines: Provincial OAM

This data is based on the 2001 edition (revised in 2003), published by the Alberta Energy and Utilities Board (EUB) now the Alberta Energy Regulator (AER). It was a one time inventory of Operating and Abandoned Coal Mines in Alberta. In 1905, Alberta began to catalogue coal mines by assigning a unique number to each operation. This database will provide information on location, mine #, mine name, mine company, life span, amount of coal produced, depth, thickness and other important information concerning the mine.

Government Publication Date: 2001, 2003*

Oil and Gas Facilities - ST102 & ST50: Provincial OGF

List of batteries, gas plants, meter stations, and other facilities in the province of Alberta, made available as ST102 (Parts A and B) and ST50 (B) by the Alberta Energy Regulator (AER).

Government Publication Date: Mar 31, 2020

Oil and Gas Wells: Private OGWW

The Nickle's Energy Group (publisher of the Daily Oil Bulletin) collects information on drilling activity including operator and well statistics. The well information database includes name, location, class, status and depth. The main Nickle's database is updated on a daily basis, however, this database is updated on a monthly basis. More information is available at www.nickles.com.

Government Publication Date: 1988-Feb 29, 2020

Alberta Orphan Wells: Provincial ORP

The Orphan Well Association (OWA) maintains lists of properties designated as orphan by the Alberta Energy Regulator (AER). Includes the location, well ID, licensee name and license number of orphan wells, sites, and facilities that have been identified for the purpose of abandonment, suspension, decommission, and reclamation. Legacy wells under long term care and custody are excluded. Please note that the OWA Orphan List also includes properties with production information from the AER. The OWA makes no representation, warranties, or guarantees, expressed or implied, for the fitness of the data with respect to its use.

Government Publication Date: Jan 2007-Dec 31, 2019

Canadian Pulp and Paper: Private PAP

This information is part of the Pulp and Paper Canada Directory. The Directory provides a comprehensive listing of the locations of pulp and paper mills and the products that they produce.

Government Publication Date: 1999, 2002, 2004, 2005, 2009-2014

Parks Canada Fuel Storage Tanks: Federal PCFT

Canadian Heritage maintains an inventory of known fuel storage tanks operated by Parks Canada, in both National Parks and at National Historic Sites. The database details information on site name, location, tank install/removal date, capacity, fuel type, facility type, tank design and owner/operator.

Government Publication Date: 1920-Jan 2005*

Petrochemical, Coal and Gas Operations - Certificates of Approval: Provincial PCG

This database contains approvals for processes pertaining to petroleum, coal, and oil and gas processing. Please note that, as per the source of this database, some of the geographic information may pertain to a head office or mailing address and not necessarily the site of operations to which the certificate applies. Some geographic coordinates have been provided in ATS (Alberta Township Survey system) format but do not contain offsets that are necessary to pinpoint a specific location. Therefore, locations will be accurate to the quarter section only.

Government Publication Date: 1993-2012

Pesticide Register: Provincial PES

This is a list of Registered Pesticide Vendors in Alberta (retail and wholesale). The pesticide vendor list is comprised of vendors who have both audited AWSA pesticide storage facilities as part of their operation, and those vendors that do not have an audited AWSA pesticide storage facilities. Non-audited retail and wholesale vendors may be selling products that are not covered by the AWSA program, or may be utilizing external AWSA pesticide warehouses. Registration numbers and expiry dates are identified for each operation. If a registration number is not present, the operation's vendor registration is in the process of renewal.

Government Publication Date: 1998-Aug 2015

Conglomerate and Waste Management Facilities: Provincial PITS

This database contains approvals for processes pertaining to the use of gravel pits, sand pits, and clay pits. Please note that, as per the source of this database, some of the geographic information may pertain to a head office or mailing address and not necessarily the site of operations to which the certificate applies. Some geographic coordinates have been provided in ATS (Alberta Township Survey system) format but do not contain offsets that are necessary to pinpoint a specific location. Therefore, locations will be accurate to the quarter section only.

Government Publication Date: 1993-2012

Alberta Private Sewage Disposal Permits: Provincial PSP

These permits are private sewage disposal permits that have been issued to owners and contractors. They would include various types of installations including holding tanks, septic tanks, packaged treatment plants, sand filters, fields, mounds, lagoons and open discharges. In 2003 Alberta Municipal Affairs started collecting information and issuing permits using an electronic permitting system. These records include all private sewage disposal permits within the jurisdiction of Alberta Municipal Affairs.

Government Publication Date: 2003-2013

PTMAA Approved (Open) Permits: Provincial PTAP

The Petroleum Tank Management Association of Alberta maintains a list of open permits it has issued within its jurisdiction. Prior to installing, removing, or altering tanks, storage tanks owners must receive approval in the form of a permit from the Authority Having Jurisdiction (in this case, PTMAA).

Government Publication Date: Apr 2016-Apr 30, 2020

Hazardous Waste Receivers Summary: Provincial REC

A waste receiving location is any site or facility to which waste is transferred through a waste carrier. A receiver of regulated waste is required to register the waste receiving facility. This database represents receivers of regulated wastes under Alberta's Waste Control Regulation, Alta. Reg. 192/96. As of 2007, Alberta Environment no longer provides detailed information on each waste receiver, such as approval number, class, and class description.

Government Publication Date: 1993-Aug 2018

Retail Fuel Storage Tanks: Private RST

This database includes an inventory of retail fuel outlet locations (including marinas) that have on their property gasoline, oil, waste oil, natural gas and / or propane storage tanks.

Government Publication Date: 1999-Jan 31, 2020

Scott's Manufacturing Directory: Private SCT

Scott's Directories is a data bank containing information on over 200,000 manufacturers across Canada. Even though Scott's listings are voluntary, it is the most comprehensive database of Canadian manufacturers available. Information concerning a company's address, plant size, and main products are included in this database.

Government Publication Date: 1992-Mar 2011*

Special Operation Classifications - Certificates of Approval: Provincial SPEC

This database contains approvals for processes pertaining to classifications listed as special operations (i.e. locations owned/operated by municipalities, operations that involve the presence of pesticides). Please note that, as per the source of this database, some of the geographic information may pertain to a head office or mailing address and not necessarily the site of operations to which the certificate applies. Some geographic coordinates have been provided in ATS (Alberta Township Survey system) format but do not contain offsets that are necessary to pinpoint a specific location. Therefore, locations will be accurate to the quarter section only.

Government Publication Date: 1993-2012

Inventory of Waste Disposal Sites: Private WDS

This one time inventory is a compilation of information collected from each region and pertains to active, regulated waste disposal sites within the province of Alberta. In the past, waste disposal sites were registered with both regional and health offices. That process was dissolved and regional landfills were developed. There is no central source of this information. Some geographic coordinates have been provided in ATS (Alberta Township Survey system) format but do not contain offsets that are necessary to pinpoint a specific location. Therefore, locations will be accurate to the quarter section only.

Government Publication Date: 1998*

Wastewater Operations: Provincial WSTE

This database contains approvals for processes pertaining to wastewater treatment systems. Please note that, as per the source of this database, some of the geographic information may pertain to a head office or mailing address and not necessarily the site of operations to which the certificate applies. Some geographic coordinates have been provided in ATS (Alberta Township Survey system) format but do not contain offsets that are necessary to pinpoint a specific location. Therefore, locations will be accurate to the quarter section only.

Government Publication Date: 1993-2012

Alberta Water Well Information Database: Provincial WWIS

List of wells in the Alberta Water Well Information Database made available by Alberta Environment and Parks, containing approximately 500,000 records with nearly 5,000 drilling reports added annually. Some geographic coordinates have been provided in ATS (Alberta Township Survey system) format but do not contain offsets that are necessary to pinpoint a specific location; some locations will be accurate to the quarter section only. The Province of Alberta advises that the data may not be fully checked, and disclaims all responsibility for its accuracy. This data was previously collected from the Groundwater Information Center of the Natural Resource Service.

Government Publication Date: 1880-Apr 30, 2020

Definitions

Database Descriptions: This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

Detail Report: This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

Distance: The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries. All values are an approximation.

Direction: The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

Elevation: The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

Executive Summary: This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

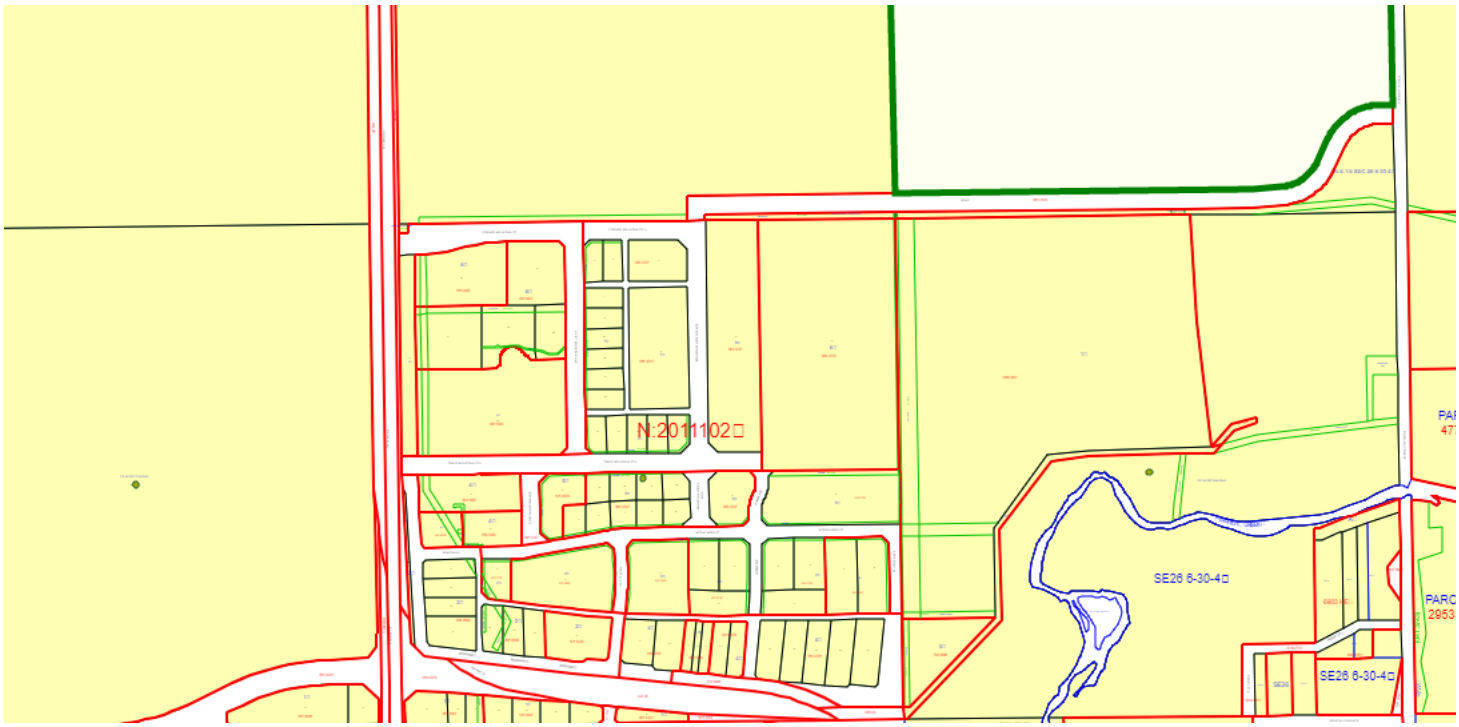
'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

Map Key: The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

Unplottables: These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and are included as reference.


N:2011102□
SE26 6-30-4□
SE26 6-30-4□

LAND TITLE CERTIFICATE

S

LINC	SHORT LEGAL	TITLE NUMBER
0017 720 202	2060JK;1	131M128 .

LEGAL DESCRIPTION
PLAN 2060JK
BLOCK 1
EXCEPTING THEREOUT ALL MINES AND MINERALS
AREA: 22.7 HECTARES (56.07 ACRES) MORE OR LESS

ESTATE: FEE SIMPLE
ATS REFERENCE: 4;30;6;26;SE

MUNICIPALITY: TOWN OF PINCHER CREEK

REGISTERED OWNER(S)

REGISTRATION	DATE(DMY)	DOCUMENT TYPE	VALUE	CONSIDERATION
131M128 .	09/07/1963		$21,026	

OWNERS

THE TOWN OF PINCHER CREEK.
OF PINCHER CREEK
ALBERTA

ENCUMBRANCES, LIENS & INTERESTS

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
4194IC .	01/11/1960	CAVEAT CAVEATOR - THE MUNICIPAL DISTRICT OF PINCHER CREEK NO. 9.
071 112 862	07/03/2007	EASEMENT OVER AND FOR BENEFIT OF: SEE INSTRUMENT AS TO PLAN; SEE INSTRUMENT
111 145 187	10/06/2011	UTILITY RIGHT OF WAY GRANTEE - THE TOWN OF PINCHER CREEK. AS TO PORTION OR PLAN:1111937

(CONTINUED)

TOTAL INSTRUMENTS: 003

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN ACCURATE REPRODUCTION OF THE CERTIFICATE OF TITLE REPRESENTED HEREIN THIS 5 DAY OF JUNE, 2020 AT 08:55 A.M.

ORDER NUMBER: 39443623

CUSTOMER FILE NUMBER:

END OF CERTIFICATE

LAND TITLE CERTIFICATE

S

LINC	SHORT LEGAL	TITLE NUMBER
0031 186 745	0512720;6;1	181 074 833

LEGAL DESCRIPTION
PLAN 0512720
BLOCK 6
LOT 1
EXCEPTING THEREOUT ALL MINES AND MINERALS
AREA: 8.9 HECTARES (21.99 ACRES) MORE OR LESS

ESTATE: FEE SIMPLE
ATS REFERENCE: 4;30;6;26;SW

MUNICIPALITY: TOWN OF PINCHER CREEK

REFERENCE NUMBER: 071 550 030

REGISTERED OWNER(S)

REGISTRATION	DATE(DMY)	DOCUMENT TYPE	VALUE	CONSIDERATION
181 074 833	13/04/2018	TRANSFER OF LAND	$195,000	$195,000

OWNERS

THE TOWN OF PINCHER CREEK.
OF P.O BOX 159, PINCHER CREEK
ALBERTA T0K 1W0

ENCUMBRANCES, LIENS & INTERESTS

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
3731EJ .	27/11/1932	UTILITY RIGHT OF WAY GRANTEE - FORTISALBERTA INC. 320-17 AVE SW CALGARY ALBERTA T2S2V1 AS TO PORTION OR PLAN:RW319 "DATA UPDATED BY TRANSFER OF UTILITY RIGHT OF WAY 1333 FR" (DATA UPDATED BY: TRANSFER OF UTILITY RIGHT

(CONTINUED)

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
		OF WAY 001290267)
		(DATA UPDATED BY: CHANGE OF NAME 041479680)
821 167 935	30/09/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
821 199 416	23/11/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.

TOTAL INSTRUMENTS: 003

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN ACCURATE REPRODUCTION OF THE CERTIFICATE OF TITLE REPRESENTED HEREIN THIS 5 DAY OF JUNE, 2020 AT 08:55 A.M.

ORDER NUMBER: 39443623

CUSTOMER FILE NUMBER:

END OF CERTIFICATE

LAND TITLE CERTIFICATE

S

LINC	SHORT LEGAL	TITLE NUMBER
0031 973 969	0613747;7;8	061 427 678 +20

LEGAL DESCRIPTION
PLAN 0613747
BLOCK 7
LOT 8
EXCEPTING THEREOUT ALL MINES AND MINERALS

ESTATE: FEE SIMPLE
ATS REFERENCE: 4;30;6;26;SW

MUNICIPALITY: TOWN OF PINCHER CREEK

REFERENCE NUMBER: 061 110 839 +2

REGISTERED OWNER(S)

REGISTRATION	DATE(DMY)	DOCUMENT TYPE	VALUE	CONSIDERATION
061 427 678	16/10/2006	SUBDIVISION PLAN		

OWNERS

THE TOWN OF PINCHER CREEK.
OF P.O BOX 159, PINCHER CREEK
ALBERTA T0K 1W0

ENCUMBRANCES, LIENS & INTERESTS

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
821 167 935	30/09/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
821 199 416	23/11/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
061 377 695	13/09/2006	CAVEAT RE : DEVELOPMENT AGREEMENT PURSUANT TO MUNICIPAL GOVERNMENT ACT CAVEATOR - THE TOWN OF PINCHER CREEK. P.O BOX 159, PINCHER CREEK

(CONTINUED)

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
		ALBERTA T0K1W0 AGENT - DOUGLAS J EVANS
061 427 680	16/10/2006	UTILITY RIGHT OF WAY GRANTEE - THE TOWN OF PINCHER CREEK. BOX 159 PINCHER CREEK ALBERTA AS TO PORTION OR PLAN:0613748
061 427 681	16/10/2006	UTILITY RIGHT OF WAY GRANTEE - ALTAGAS UTILITIES INC. 5509-45TH ST LEDUC ALBERTA T9E6T6 AS TO PORTION OR PLAN:0613748
061 514 555	12/12/2006	UTILITY RIGHT OF WAY GRANTEE - THE TOWN OF PINCHER CREEK. AS TO PORTION OR PLAN:0613748

TOTAL INSTRUMENTS: 006

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN ACCURATE REPRODUCTION OF THE CERTIFICATE OF TITLE REPRESENTED HEREIN THIS 5 DAY OF JUNE, 2020 AT 08:55 A.M.

ORDER NUMBER: 39443623

CUSTOMER FILE NUMBER:

END OF CERTIFICATE

LAND TITLE CERTIFICATE

S

LINC	SHORT LEGAL	TITLE NUMBER
0031 974 033	0613747;7;15	061 427 678 +27

LEGAL DESCRIPTION
PLAN 0613747
BLOCK 7
LOT 15
EXCEPTING THEREOUT ALL MINES AND MINERALS
AREA: 1.825 HECTARES (4.51 ACRES) MORE OR LESS

ESTATE: FEE SIMPLE
ATS REFERENCE: 4;30;6;26;SW

MUNICIPALITY: TOWN OF PINCHER CREEK

REFERENCE NUMBER: 061 110 839 +2

REGISTERED OWNER(S)

REGISTRATION	DATE(DMY)	DOCUMENT TYPE	VALUE	CONSIDERATION
061 427 678	16/10/2006	SUBDIVISION PLAN		

OWNERS

THE TOWN OF PINCHER CREEK.
OF P.O BOX 159, PINCHER CREEK
ALBERTA T0K 1W0

ENCUMBRANCES, LIENS & INTERESTS

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
821 167 935	30/09/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
821 199 416	23/11/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
061 377 695	13/09/2006	CAVEAT RE : DEVELOPMENT AGREEMENT PURSUANT TO MUNICIPAL GOVERNMENT ACT CAVEATOR - THE TOWN OF PINCHER CREEK.

(CONTINUED)

REGISTRATION
NUMBER DATE (D/M/Y) PARTICULARS

P.O BOX 159, PINCHER CREEK
ALBERTA T0K1W0
AGENT - DOUGLAS J EVANS

TOTAL INSTRUMENTS: 003

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN ACCURATE REPRODUCTION OF THE CERTIFICATE OF TITLE REPRESENTED HEREIN THIS 5 DAY OF JUNE, 2020 AT 08:55 A.M.

ORDER NUMBER: 39443623

CUSTOMER FILE NUMBER:

END OF CERTIFICATE

LAND TITLE CERTIFICATE

S

LINC	SHORT LEGAL	TITLE NUMBER
0031 974 041	0613747;8;1	061 427 678 +28

LEGAL DESCRIPTION
PLAN 0613747
BLOCK 8
LOT 1
EXCEPTING THEREOUT ALL MINES AND MINERALS
AREA: 3.139 HECTARES (7.76 ACRES) MORE OR LESS

ESTATE: FEE SIMPLE
ATS REFERENCE: 4;30;6;26;SW

MUNICIPALITY: TOWN OF PINCHER CREEK

REFERENCE NUMBER: 061 110 839 +2

REGISTERED OWNER(S)

REGISTRATION	DATE(DMY)	DOCUMENT TYPE	VALUE	CONSIDERATION
061 427 678	16/10/2006	SUBDIVISION PLAN		

OWNERS

THE TOWN OF PINCHER CREEK.
OF P.O BOX 159, PINCHER CREEK
ALBERTA T0K 1W0

ENCUMBRANCES, LIENS & INTERESTS

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
821 167 935	30/09/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
821 199 416	23/11/1982	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
061 377 695	13/09/2006	CAVEAT RE : DEVELOPMENT AGREEMENT PURSUANT TO MUNICIPAL GOVERNMENT ACT CAVEATOR - THE TOWN OF PINCHER CREEK.

(CONTINUED)

REGISTRATION
NUMBER DATE (D/M/Y) PARTICULARS

P.O BOX 159, PINCHER CREEK
ALBERTA T0K1W0
AGENT - DOUGLAS J EVANS

TOTAL INSTRUMENTS: 003

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN ACCURATE REPRODUCTION OF THE CERTIFICATE OF TITLE REPRESENTED HEREIN THIS 5 DAY OF JUNE, 2020 AT 08:55 A.M.

ORDER NUMBER: 39443623

CUSTOMER FILE NUMBER:

END OF CERTIFICATE

Alberta Water Well Information Database Map

Projection
Web Mercator (Auxillary Sphere)
Datum
WGS 84
Date
6/10/2020 11:57:00 AM

Legend
- Groundwater Drilling Report
- Baseline Water Well Report

http://groundwater.alberta.ca/WaterWells/d/

Reconnaissance Report

View in Metric

Export to Excel

Groundwater Wells

Please click the water Well ID to generate the Water Well Drilling Report.

GIC Well ID	LSD	SEC	TWP	RGE	M	DRILLING COMPANY	DATE COMPLETED	DEPTH (ft)	TYPE OF WORK	USE	CHM	LT	PT	WELL OWNER	STATIC LEVEL (ft)	TEST RATE (igpm)	SC_DIA (in)
121695	SE	26	6	30	4	UNKNOWN DRILLER		14.00	Chemistry	Domestic	2			KEENAN, DALE	12.00		0.00
121696	SE	26	6	30	4	UNKNOWN DRILLER		42.00	Chemistry	Domestic	1			GAMBLE, BEATRICE M.	6.00		0.00
121697	SE	26	6	30	4	UNKNOWN DRILLER	1960-01-01	12.00	Chemistry	Domestic	1			BRATZ, ROY			0.00
121698	SE	26	6	30	4	UNKNOWN DRILLER		20.00	Chemistry	Domestic	1			CRAWFORD, BOB			0.00
121699	SE	26	6	30	4	UNKNOWN DRILLER		16.00	Chemistry	Domestic	1			OGLE, GARY			0.00
121700	SE	26	6	30	4	UNKNOWN DRILLER		12.00	Chemistry	Domestic	1			CRAWFORD, ROBERT			0.00
154057	SE	26	6	30	4	UNKNOWN DRILLER		20.00	Chemistry	Unknown	2			MEIDINGER, LLOYD			0.00

Alberta Energy Regulator | Alberta Environment and Parks

Authorization Viewer - Search Results

The Search Used the Following Values:	
Legal Land Location:	S 26-006-30-W4
Act / Document Type:	Water Act, EPEA
Show Inactive Authorizations:	Yes

The resulting Authorizations based on the search criteria will be displayed below. A  will appear next to the Authorization when documentation is available for viewing or downloading. Please click Viewer Help if you encounter problems viewing the Authorization document.

0 Result(s)

Comments regarding the Authorization Viewer page may be directed to the Regulatory Approvals Centre RAC.Environment@gov.ab.ca.

APPENDIX C

BIOPHYSICAL REVIEW

Stantec

To:	Town of Pincher Creek	From:	Stantec Consulting Ltd.
File #:	116549010	Date:	July 7, 2020

Reference: **Pincher Creek Northeast Industrial Area Structure Plan**
Desktop Environmental Review

This Desktop Environmental Review has been prepared to support the planning process for the Pincher Creek Northeast Industrial Area Structure Plan (ASP), located within SW and SE-26-6-30-W4M (the Study Area; **Figure 1.0**).

The Environmental Review includes a desktop inventory and evaluation of potential features within the Study Area including soil characteristics and surficial geology, surface hydrology, existing vegetation communities, species and areas of management concern and general wildlife habitat and usage.

Introduction and Background

The Study Area includes approximately 48 ha within SW and SE-26-6-30-W4M within the Town of Pincher Creek. The lands are located within the northeast portion of the Town, east of Highway 6. An existing access road runs along the southeast boundary of the Study Area and Table Mountain Street is located along the north edge and runs through the west portion of the Study Area.

The Study Area is located within the Foothills Fescue Natural Subregion (Natural Regions Committee 2006). Current and historical land use of the Study Area is mainly agricultural. Portions of the Study Area have been disturbed by historic agricultural activity and development. The Study Area is proposed for industrial development.

Soils, Landform and Terrain

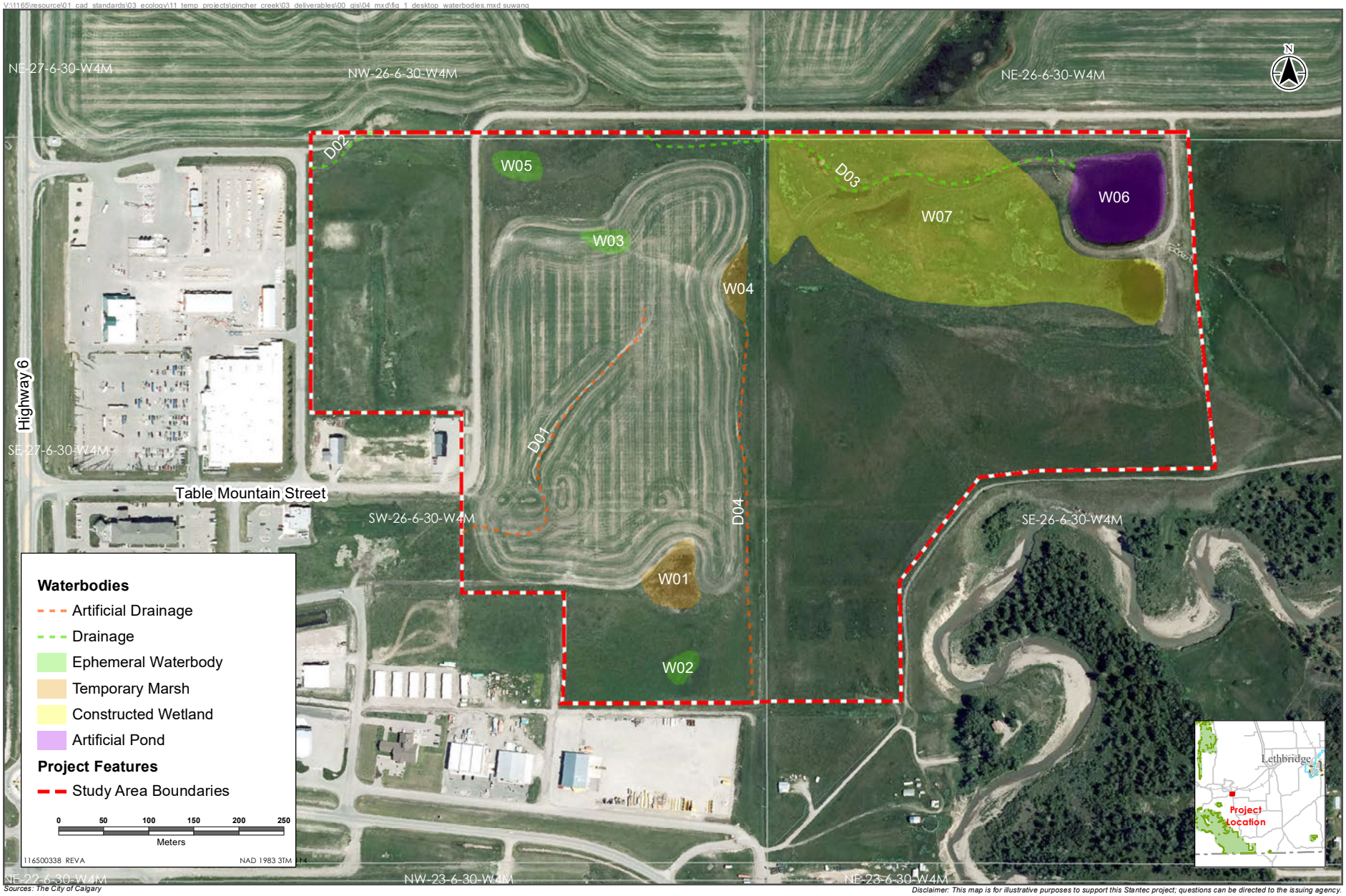
Soils present within Study Area were determined through a desktop review of existing reports and the *Agricultural Region of Alberta Soil Inventory Database* (AGRASID; Alberta Agriculture and Rural Development [AARD] 2020). A search of the AGRASID (AARD 2019) identified the Cowley Soil Unit on undulating and high relief landforms with fine textured clay, silty clay and sandy clay soils with well drainage. Soil Subgroups present within the Study Area include Calcareous and Regosolic Black Chernozems (AARD 2020).

Water Resources

Waterbody features were identified using historical and recent aerial photograph analysis, topographical contours, and available background information. The desktop review used current and historical aerial photographs (**Appendix A; Table 1.0**). Photographs were selected representing both wet and dry years throughout the available record based on precipitation data. Historical aerial photographs aid in the verification of historical land use, the identification of potential wetlands, streams and drainages as well as determining their permanence.

Waterbodies within the Study Area have been classified in accordance with the *Alberta Wetland Classification System* (AWCS; Government of Alberta 2015) for wetlands and the *Pre-Application Requirements for Formal Dispositions* (Government of Alberta 2017b) for drainages and streams.

V:\1165\resource\01_cad_standards\03_ecology\11_temp_projects\pincher_creek\03_deliverables\00_gis\04_mxd\fig_1_desktop_waterbodies.mxd suwang



Sources: The City of Calgary

Disclaimer: This map is for illustrative purposes to support this Stantec project; questions can be directed to the issuing agency.

Desktop Assessment of Waterbodies

Stantec

PINCHER CREEK NE INDUSTRIAL ASP
ENVIRONMENTAL REVIEW

Figure 1.0

Reference: **Pincher Creek Northeast Industrial Area Structure Plan**
Desktop Environmental Review

Table 1.0 – Historical Aerial Photograph Review

Photograph Date	Palmer Drought Severity Index	Growing Season Precipitation	Notes
May 1951	Incipient Wet Spell	-	• Land use appears to be agricultural with cropland on the west side and grazing on the east side. • W01 and W04 are visible in this photograph. • Drainage D03 is visible within this photograph; however, the drainage path appears to be different than current conditions. Artificial drainage D01 is visible in this photograph.
August 1965	Slightly Wet	High	• A portion of artificial drainage D01 is visible in this photograph. Drainage D03 is visible and continues east past the Study Area boundaries. • W03 is visible in this photograph. No other wetlands are visible. • Lagoons or ponds have been constructed on the southeast portion of the Study Area and an access road has been constructed at the southeast boundary.
June 1976	Slightly Wet	Near Normal	• Drainage D03 is visible within the Study Area. No other drainages or wetlands are visible in this photograph. • Construction east of the Study Area boundaries appears to be underway.
June 1985	Incipient Dry Spell	Moderately High	• Drainage D03 is visible in this photograph and appears to be wetter than previous photographs. A portion of artificial drainage D01 is visible in this photograph. • No wetlands are visible. • Construction east of the Study Area boundaries observed in previous photograph appears to be complete.
June 1994	Extremely Wet	Low	• Drainage D03 is visible in this photograph. Artificial drainages D01 and D04 are visible in this photograph. Wetlands W01, W04 and W03 are visible but appears to be dry. • The lagoons or ponds previously observed appear to have been removed.
May 2005	Severe Drought	Wettest	• Drainage D03 is visible in this photograph. Artificial drainages D01 and D04 are visible in this photograph. • Only W04 is visible. The other wetlands appear to have been cultivated. • Removal of the lagoons or ponds appears to be complete. A new access road or trail is visible east of the Study area boundaries.
July 2012	Slightly Wet	Moderately Low	• All drainages are visible in this photograph; however, only D03 appears to contain water. • All wetlands are visible; however, only W01 appears to contain water. • A pond and constructed wetland have been constructed in the northeast portion of the Study Area. A road has been constructed through the west side of the Study Area and at the northern boundary and industrial development has occurred west of the Study Area.
June 2019	Moderate Drought	Moderately Low	• All drainages are visible in this photograph; however, only D03 appears to contain water. • Wetlands W01, W02, W03 and W04 are visible; however, all appear to be dry.

"-" – Dash indicates no precipitation data available.

Wetlands

Two (2) temporary marsh wetlands (W01 and W04) and three (3) ephemeral waterbodies (W02, W03 and W05) were preliminarily identified during desktop review, shown on **Figure 1.0** and summarized in **Table 2.0**. An ephemeral waterbody is a non-wetland feature that exists on the landscape for short periods of time after spring snowmelt or heavy precipitation. Ephemeral waterbodies typically occur on low topographical areas of the landscape and do not have the hydrological characteristics to be classified as a wetland; however, they are considered waterbodies under the *Water Act* (Government of Alberta 2000a).

A constructed wetland (W07) along with the artificial pond (W06) were constructed between 2006 and 2012 in the northeast portion of the Study Area as outlined in the *Master Drainage Plan* (Martin Geomatic Consultants Ltd. and Riparia Ltd. 2006).

Drainages

Two (2) drainages (D02 and D03) and two (2) artificial drainages (D01 and D04) were identified within the Study Area during desktop review (**Figure 1.0**) and are summarized below (**Table 2.0**). Drainages D01 and D02 are artificial drainages in cropland and drainages D02 and D03 are ephemeral to intermittent drainages that are visible in historical aerial photographs and seem to have been modified over time. Ephemeral drainages have no defined channel with water flow only present during and immediately following precipitation events. Intermittent streams have some channel development with water flow primarily during runoff and heavy precipitation. Intermittent streams have a channel up to 0.7 m wide.

Table 2.0 – Waterbody Summary through Desktop Review

Waterbody ID	Waterbody Classification[1]	Legal Location
W01	Temporary Marsh	SW-26-6-30-W4M
W02	Ephemeral Waterbody	SW-26-6-30-W4M
W03	Ephemeral Waterbody	SW-26-6-30-W4M
W04	Temporary Marsh	SW-26-6-30-W4M
W05	Ephemeral Waterbody	SW-26-6-30-W4M
W06	Artificial Pond	SE-26-6-30-W4M
W07	Constructed Wetland	SE-26-6-30-W4M
D01	Artificial Drainage	SW-26-6-30-W4M
D02	Ephemeral to Intermittent Drainage	SW-26-6-30-W4M
D03	Ephemeral to Intermittent Drainage	SE-26-6-30-W4M, SW-26-6-30-W4M
D04	Artificial Drainage	SW-26-6-30-W4M

[1] – Waterbody classifications assessed through desktop review only.

Crown-ownership of Waterbodies

Under the *Public Lands Act* (Government of Alberta 2000b), the Crown has ownership to the beds and shores of permanent, naturally occurring waterbodies in Alberta. The *Public Lands Act* claims title to beds and shores of all permanent and naturally occurring bodies of water and all naturally occurring rivers, streams, watercourses, and lakes. If any waterbodies are considered Crown-owned, approval under the *Public Lands Act* is required for any proposed modifications. This approval is in addition to *Water Act* approval requirements and must be completed before the *Water Act* approval can be issued.

A submission to the Water Boundaries group within Alberta Environment and Parks (AEP) was completed in June 2020 to determine whether waterbodies within the Study Area were claimed by the Crown and require consideration under the *Public Lands Act*. An assessment was completed on June 12, 2020 indicates none of the waterbodies within the Study Area are Crown-owned under the *Public Lands Act* (**Appendix B**).

Vegetation Communities

A desktop review to identify and map vegetation communities and land cover within the Study Area was completed. Land cover identified include modified grassland and roadways.

A search of the Alberta Conservation Information Management System (ACIMS) tracking and watch lists, as well as previous reporting, was conducted in June 2020 to identify known tracked or watched species or ecological communities historically recorded within the Study Area (**Appendix C**; ACIMS 2017). One (1) historical occurrences of a non-sensitive element occurrence, low yellow evening-primrose (*Oenothera flava*), was previously recorded in 1902. Low yellow evening-primrose is not listed as rare within the *Species at Risk Act* (SARA; Government of Canada 2002).

Wildlife and Wildlife Habitat

A desktop review of wildlife information was completed using a 1.5 km radius centered in the Study Area. The review focused on identifying known wildlife species of management concern (SOMC) and sensitive wildlife areas that may require mitigation under the SARA (Government of Canada 2002), *Migratory Birds Convention Act* (MBCA; Government of Canada 1994) and *Alberta Wildlife Act* (AWA; Government of Alberta 2000c).

SOMC are defined as wildlife species that are:

- listed federally as Endangered, Threatened, or Special Concern under Schedule 1 of the SARA Public Registry (Government of Canada 2019a);
- designated federally as Endangered, Threatened, or Special Concern by Committee on the Status of Endangered Wildlife in Canada (COSEWIC; COSEWIC 2019);
- listed in the AWA provincially as Endangered, Threatened, or Special Concern by Alberta Endangered Species Conservation Committee (Government of Alberta 2016), including species legally protected under the AWA (i.e., listed as Endangered or Threatened); and
- designated provincially as At Risk, May be at Risk, or Sensitive according to Government of Alberta General Status of Alberta's Wild Species (Government of Alberta 2017a).

A Fish and Wildlife Management Information System (FWMIS) database search was completed in June 2020 (**Appendix C**) and identified four (4) historical SOMC records within approximately 1.5 km of the Study Area

including bald eagle (*Haliaeetus leucocephalus*), golden eagle (*Aquila chrysaetos*), prairie falcon (*Falco mexicanus*) and pronghorn (*Antilocapra americana*) (AEP 2020). The Study Area does not occur within or adjacent to an Environmentally Significant Area (ESA; Fiera Biological Consulting 2014); however, the east boundary of the Study Area does encounter a Key Wildlife Biodiversity Zone (KWBZ) associated with Pincher Creek.

Wildlife habitat potential for the modified grassland areas based on the desktop review is nil to low to grassland bird species. The grassland areas may provide food and cover for small mammals and likely provides low to moderate suitability habitat for breeding amphibians in most years as the waterbodies are often dry. The existing agricultural land use and proximity to industrial development and the Town of Pincher Creek decreases potential habitat for SOMC.

Anticipated Next Steps

As the project moves towards further planning or construction, the following seasonally constrained field surveys are anticipated to be needed to support the provincial and federal regulatory approvals processes (seasonal timing constraints noted in brackets):

- Waterbody and vegetation community surveys (June through September); and
- Wildlife habitat reconnaissance (May through September).

In advance of construction, *Water Act* approval will be required to impact or remove the ephemeral waterbodies, wetlands, and drainages within the Study Area. To be used in a future *Water Act* application, the waterbody field surveys must be no more than 3 years old, so delayed or reassessment may be required depending on development timing and phasing plans.

Additionally, approvals under other Acts such as the *Historical Resources Act* (Government of Alberta 2000d) and *Environmental Protection and Enhancement Act* (EPEA; Government of Alberta 2000e) may also be required. Additional field surveys and approvals may also be required to meet municipal requirements.

Should the development plans include an offsite outfall or other impacts to Pincher Creek, further field surveys and consideration for approvals under the *Public Lands Act*, *Water Act*, *Fisheries Act* (Government of Canada 2019b), and *Canadian Navigable Waters Act* (Government of Canada 2019c) will also be required.

References

Alberta Agriculture and Rural Development. 2020. *Agricultural Region of Alberta Soil Inventory Database.*

Alberta Conservation Information Management System. 2017. Online data accessed June 2020. Alberta Environment and Parks, Edmonton, Alberta.

Alberta Environment and Parks. 2020. Fish and Wildlife Internet Mapping Tool.

Committee on the Status of Endangered Wildlife in Canada. 2019. Canadian Wildlife Species at Risk.

Fiera Biological Consulting. 2014. *Environmentally Significant Areas in Alberta: 2014 Update*. Report prepared for the Government of Alberta, Edmonton, Alberta. Fiera Biological Consulting Report Number 1305. Pp. 51.

Government of Alberta. 2000a. *Water Act*.

Government of Alberta. 2000b. *Public Lands Act*.

Government of Alberta. 2000c. *Alberta Wildlife Act*.

Government of Alberta. 2000d. *Historical Resources Act*

Government of Alberta. 2000e. *Environmental Protection and Enhancement Act*.

Government of Alberta. 2015. *Alberta Wetland Classification System.*

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Government of Alberta. 2017b. *Pre-Application Requirements for Formal Dispositions.*

Government of Canada. 1994. *Migratory Birds Convention Act*.

Government of Canada. 2002. *Species at Risk Act*.

Government of Canada. 2019a. *Species at Risk Public Registry.*

Government of Canada. 2019b. *Fisheries Act*.

Government of Canada. 2019c. *Canadian Navigable Waters Act*.

Martin Geomatic Consultants Ltd. and Riparia Ltd. 2006. *Master Drainage Plan for Northeast Pincher Creek*.

Natural Regions Committee. 2006. *Natural Regions and Subregions of Alberta. Compiled by D.J. Downing and W.W. Pettapiece. Government of Alberta. Pub. No. T/852.*

Appendix A: Historical Aerial Photographs

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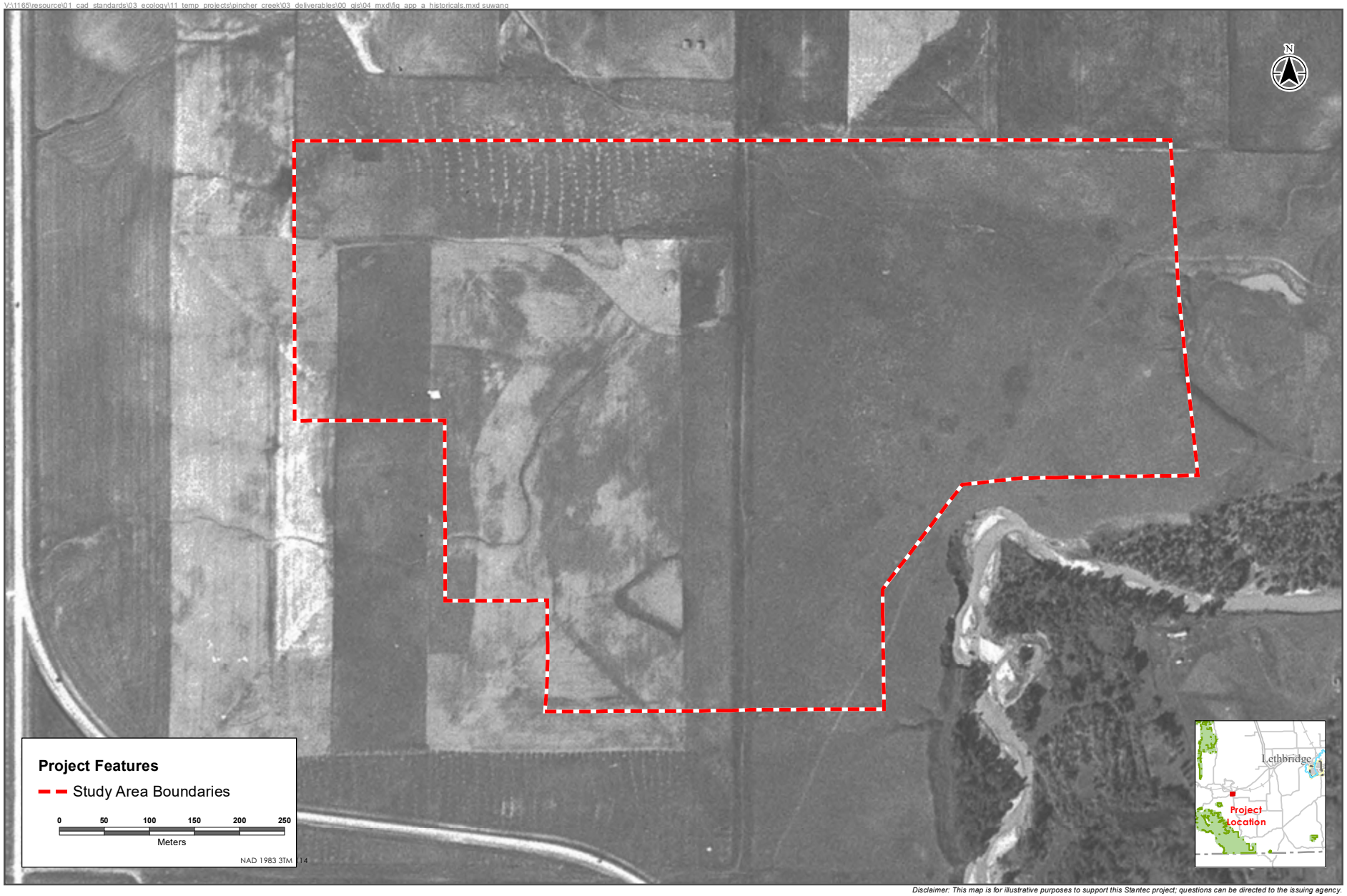

Disclaimer: This map is for illustrative purposes to support this Stantec project; questions can be directed to the issuing agency.

Historical Aerial Photographs
May 1951

Stantec

PINCHER CREEK NE INDUSTRIAL ASP
ENVIRONMENTAL REVIEW

Figure A.1

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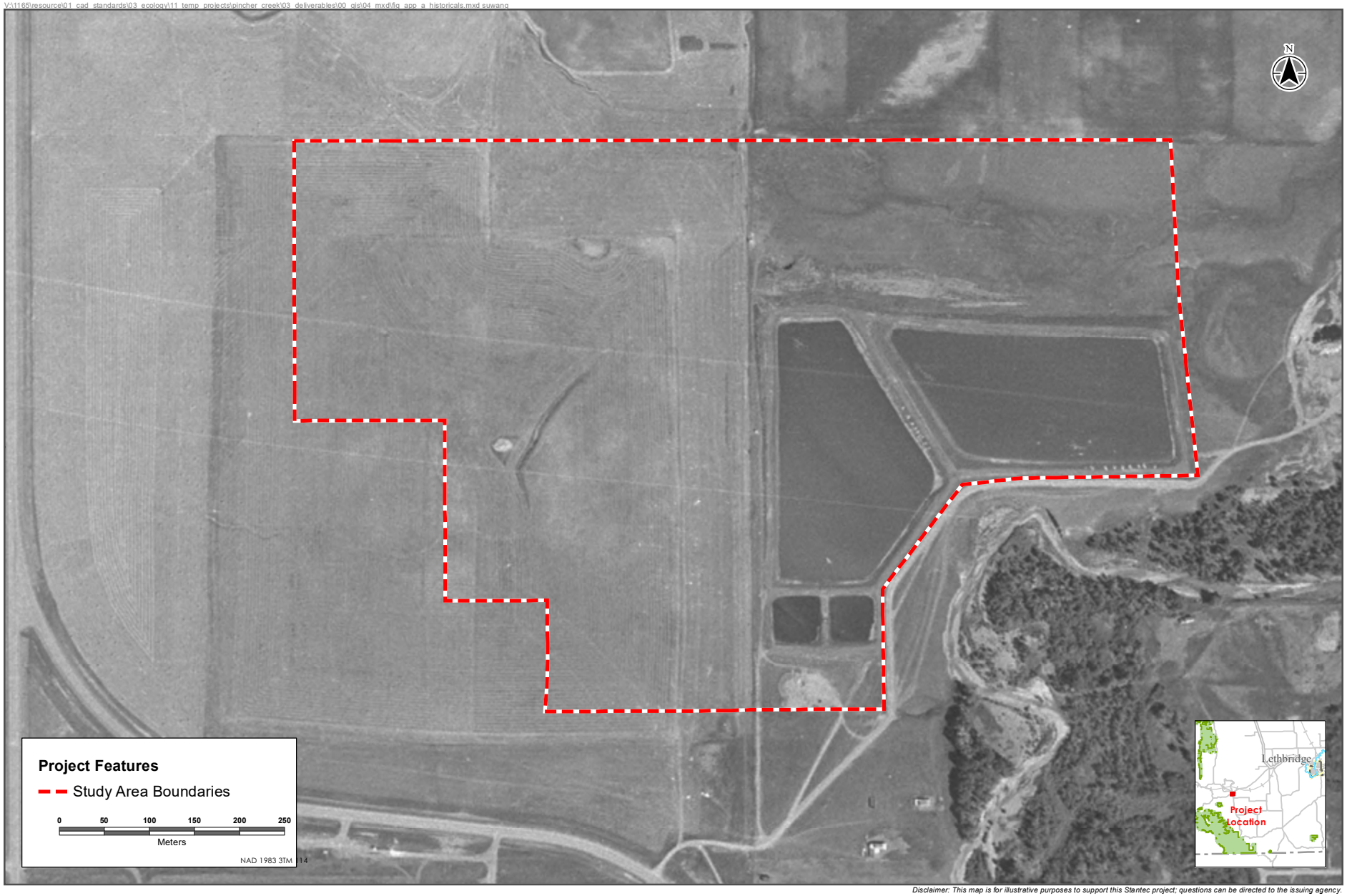

Disclaimer: This map is for illustrative purposes to support this Stantec project; questions can be directed to the issuing agency.

Historical Aerial Photographs
August 1965

Stantec

PINCHER CREEK NE INDUSTRIAL ASP
ENVIRONMENTAL REVIEW

Figure A.2

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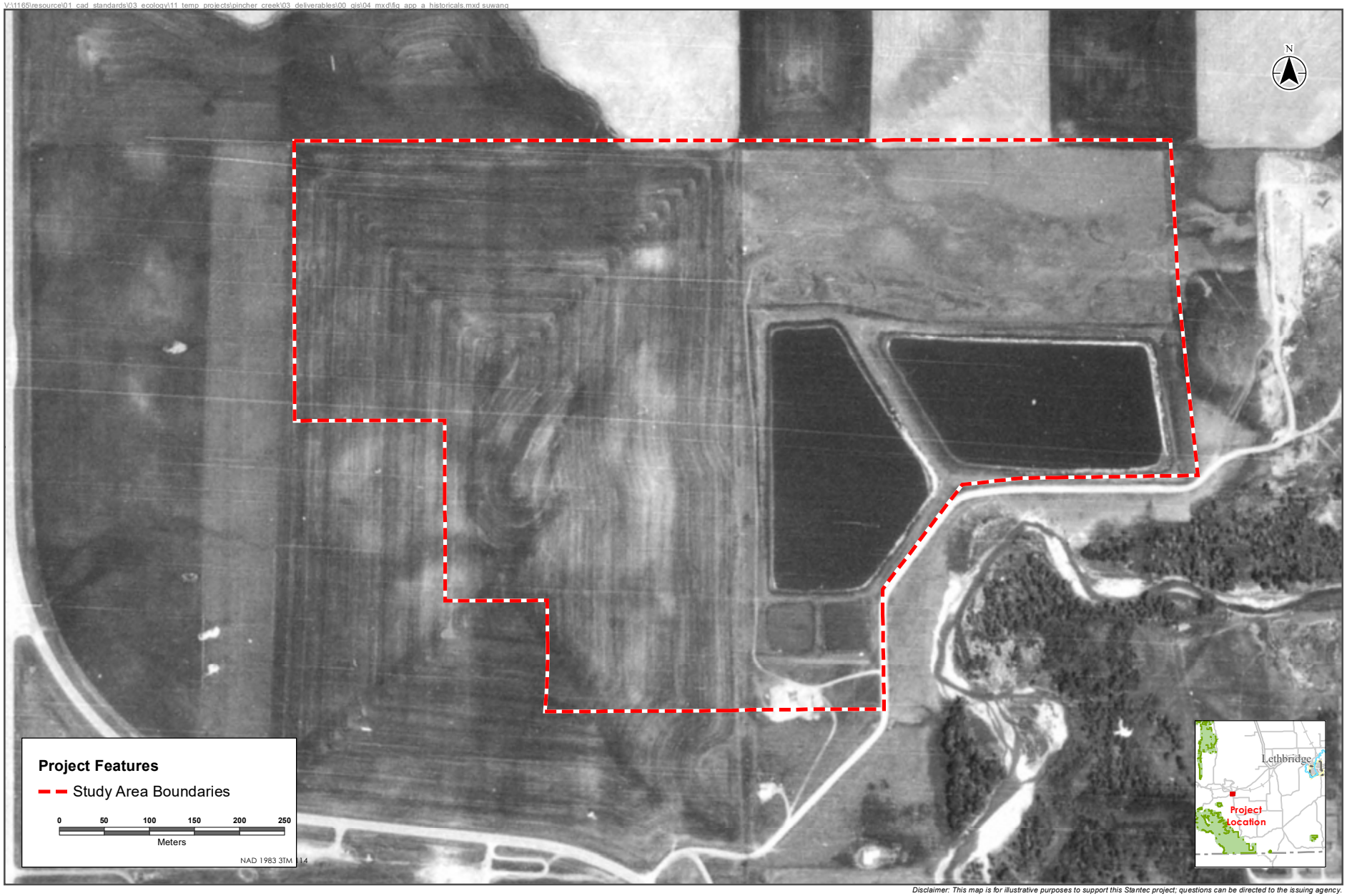

Disclaimer: This map is for illustrative purposes to support this Stantec project; questions can be directed to the issuing agency.

Historical Aerial Photographs
June 1976

Stantec

PINCHER CREEK NE INDUSTRIAL ASP
ENVIRONMENTAL REVIEW

Figure A.3

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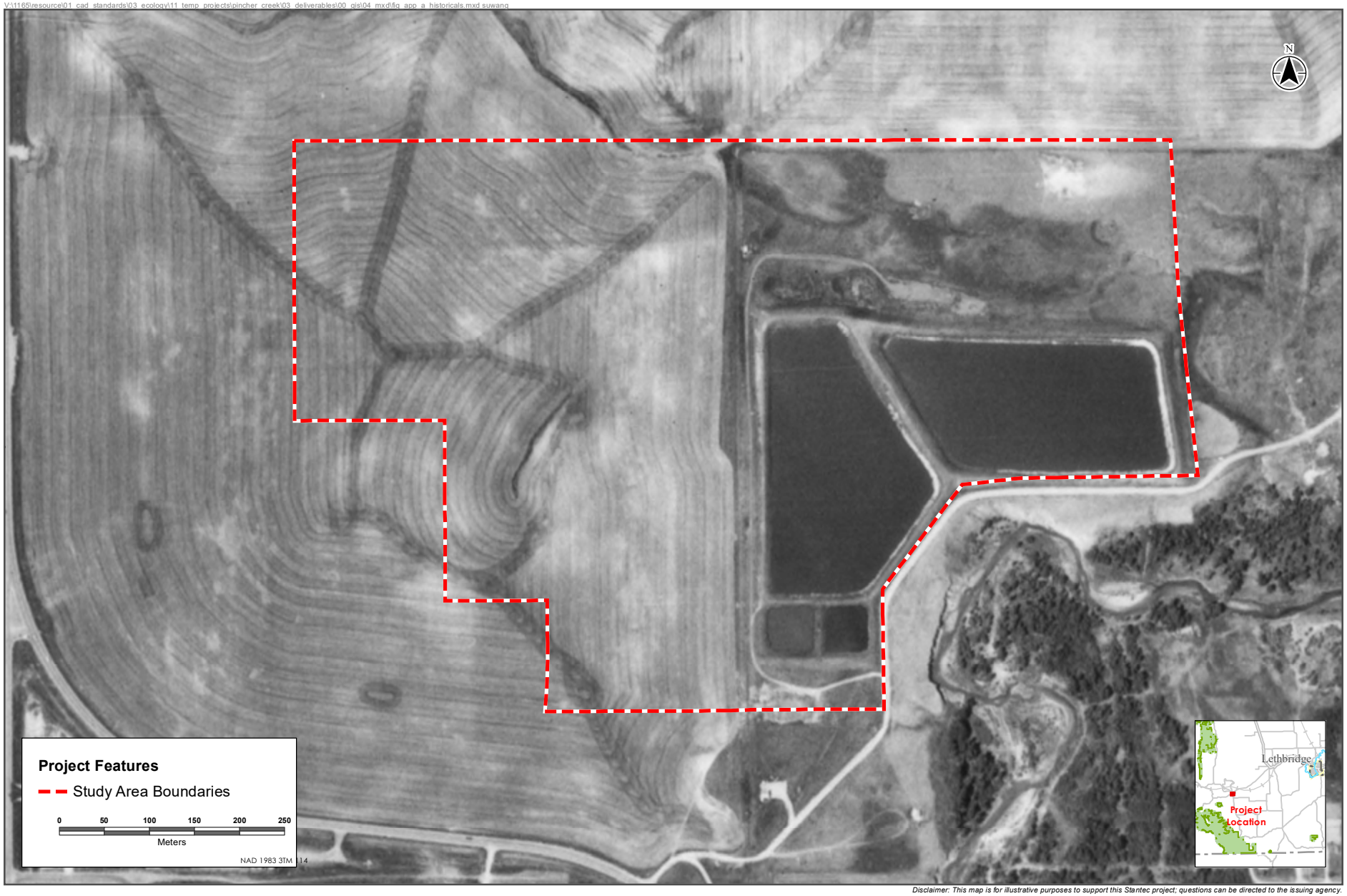

Disclaimer: This map is for illustrative purposes to support this Stantec project; questions can be directed to the issuing agency.

Historical Aerial Photographs
June 1985

Stantec

PINCHER CREEK NE INDUSTRIAL ASP
ENVIRONMENTAL REVIEW

Figure A.4

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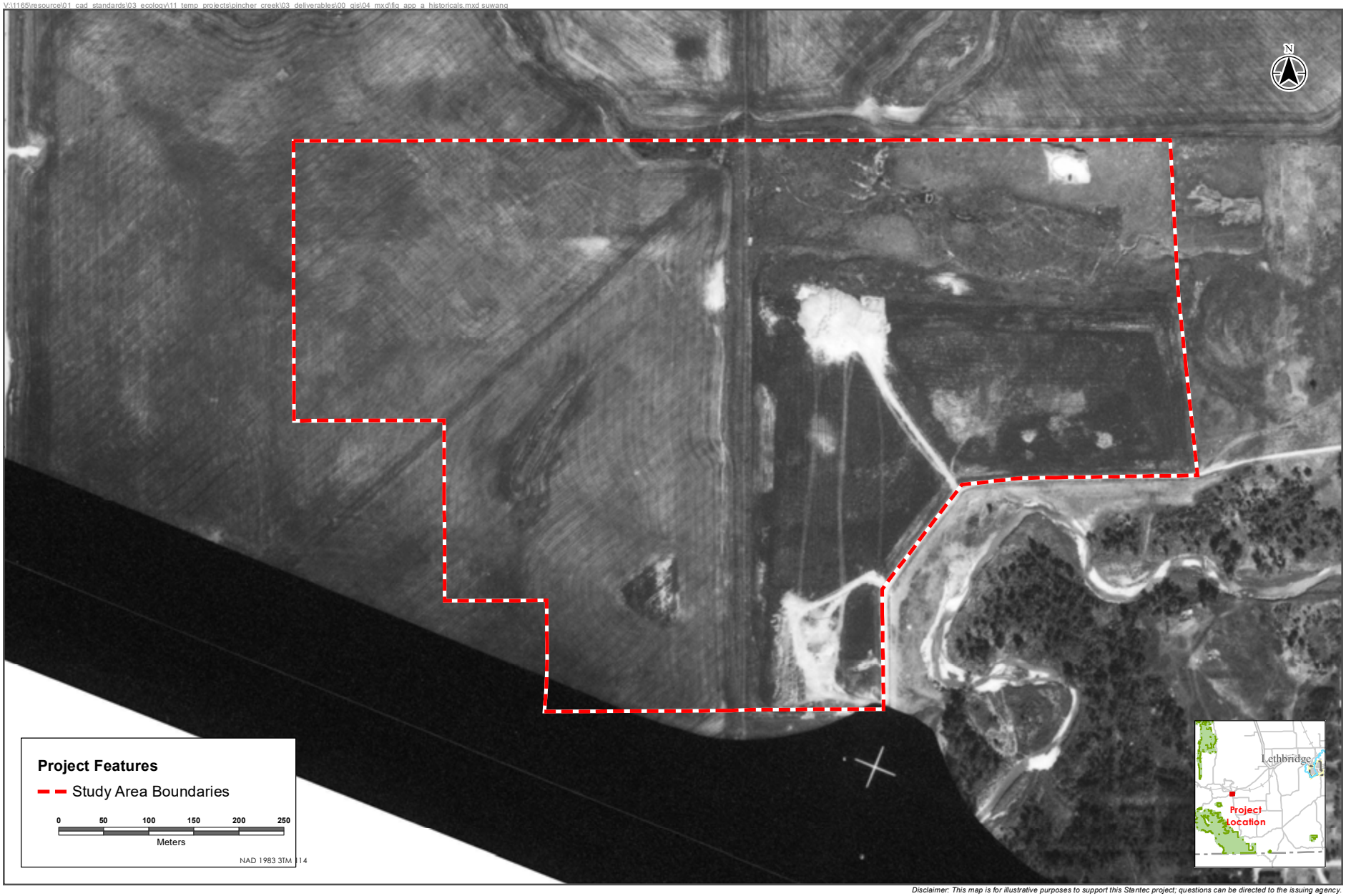

Disclaimer: This map is for illustrative purposes to support this Stantec project; questions can be directed to the issuing agency.

Historical Aerial Photographs
June 1994

Stantec

PINCHER CREEK NE INDUSTRIAL ASP
ENVIRONMENTAL REVIEW

Figure A.5

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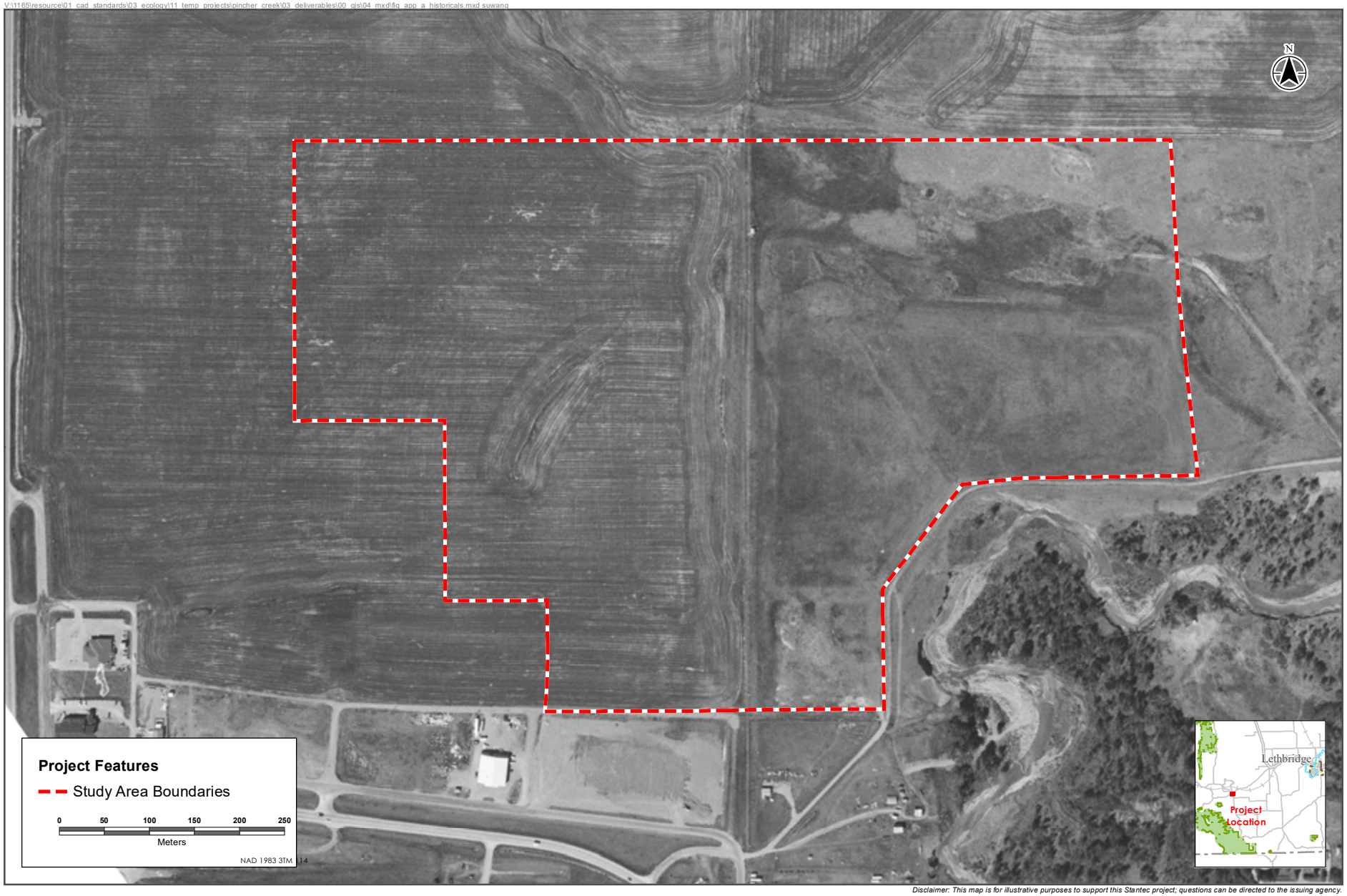

Disclaimer: This map is for illustrative purposes to support this Stantec project; questions can be directed to the issuing agency.

Historical Aerial Photographs
May 2005

Stantec

PINCHER CREEK NE INDUSTRIAL ASP
ENVIRONMENTAL REVIEW

Figure A.6

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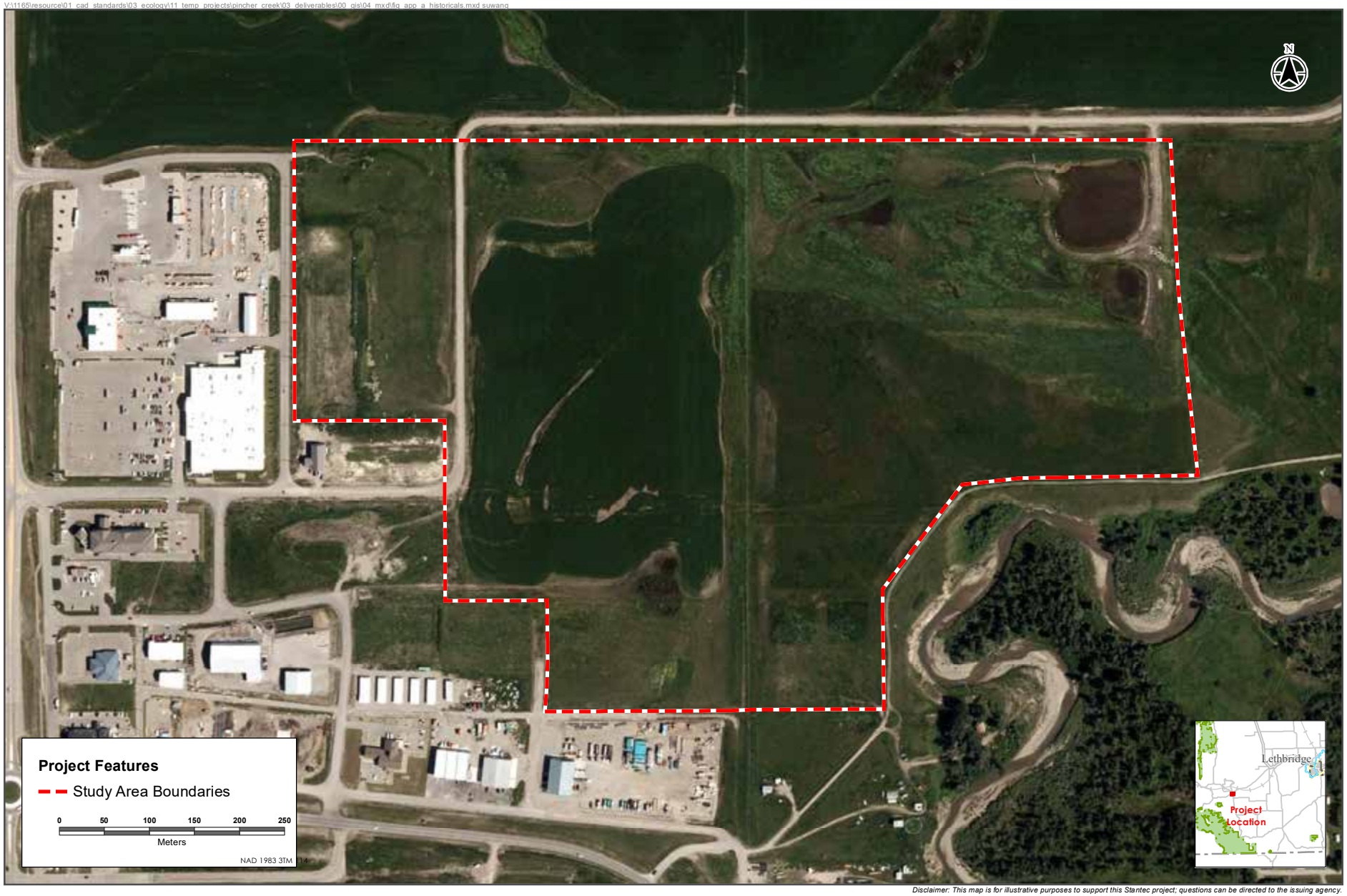

Disclaimer: This map is for illustrative purposes to support this Stantec project; questions can be directed to the issuing agency.

Historical Aerial Photographs
July 2012

Stantec

PINCHER CREEK NE INDUSTRIAL ASP
ENVIRONMENTAL REVIEW

Figure A.7

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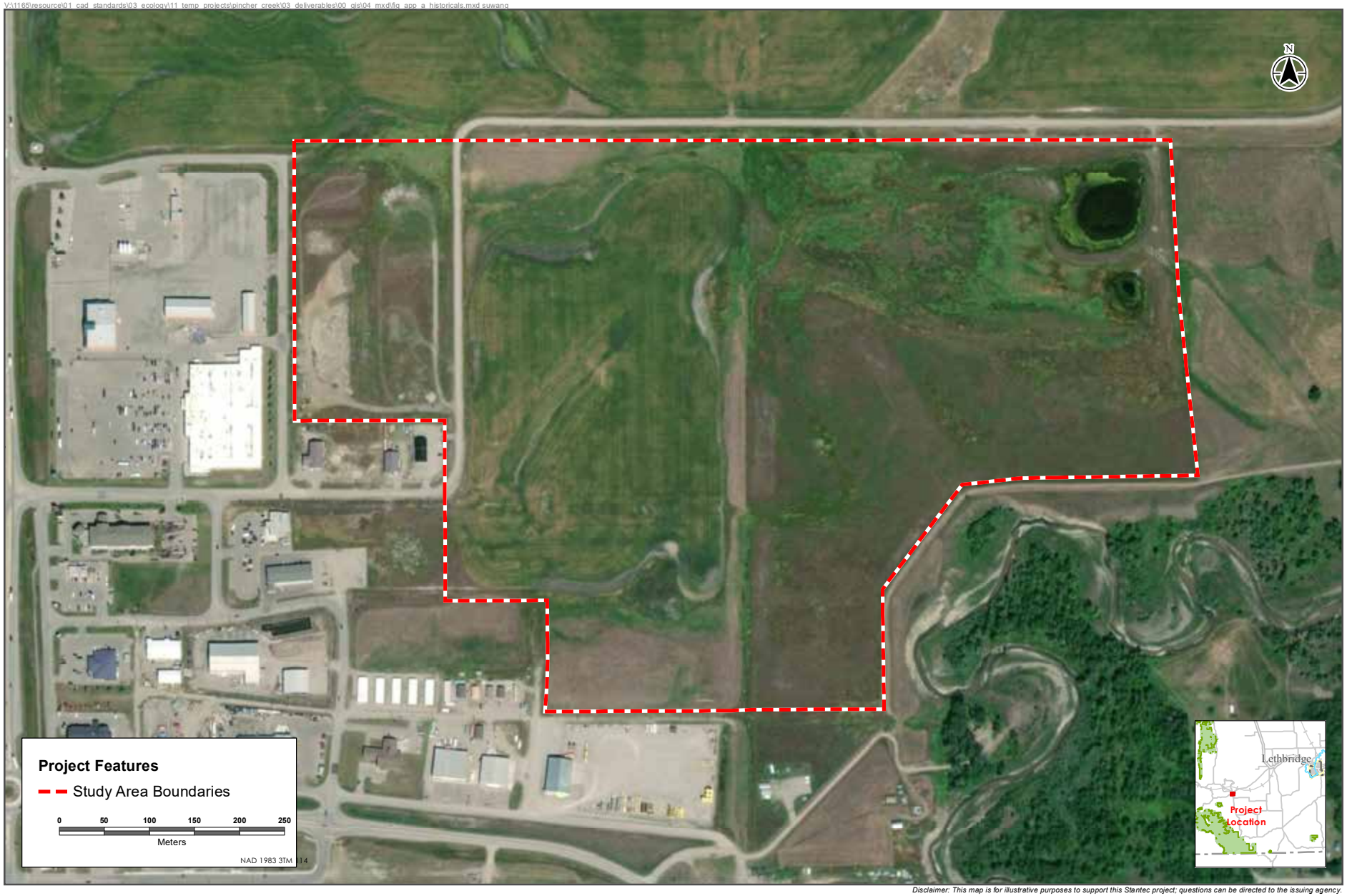


Disclaimer: This map is for illustrative purposes to support this Stantec project; questions can be directed to the issuing agency.

Historical Aerial Photographs
June 2019

Stantec

PINCHER CREEK NE INDUSTRIAL ASP
ENVIRONMENTAL REVIEW

Figure A.8

Appendix B: Crown-ownership Determination

Wang, Sunny

From: AEP Water-Boundaries <Water.Boundaries@gov.ab.ca>
Sent: Friday, June 12, 2020 3:15 PM
To: Wang, Sunny
Subject: RE: Crown-ownership Review SW and SE-26-6-30-W4M

Good afternoon Sunny,

Thank you for your enquiry and the submitted document. Please note that the W ½ Section 26-6-30-4 was originally granted to the Hudson's Bay Company. As such, the Crown in right of Alberta does not have any interest in any existing bed and shore within the aforementioned area. Also, a cursory review of historical imageries of the area does not show the existence of any water feature other than Pincher Creek within the SE ¼ Section 26-6-30-4 that meets the criteria for a Crown ownership claim under Section 3 of the *Public Lands Act*.

However, the assessments made by the Water Boundaries Unit do not provide any permission to alter any naturally occurring water feature. Regardless of the surface ownership, any activity which may affect a naturally occurring wetland will be subject to the regulatory requirements under the *Water Act*. For more information regarding any requirement(s), the local Water Act Approvals authority need to be contacted.

If any additional clarification is required and/or you have any questions or comments regarding to this assessment, please do not hesitate to contact us.

Regards,

Sid

Sid Parseyan, M.Sc.
Senior Waterbody/Boundary Research Analyst
Water Boundaries Unit
Wetlands & Water Boundaries Section
Lands Policy and Programs Branch
Lands Division
2nd Floor, South Petroleum Plaza
9915 – 108 Street, Edmonton, AB T5K 2G8
Phone: (780) 422-0187 | Fax: (780) 422-3120
Email: sid.parseyan@gov.ab.ca

From: Wang, Sunny <Sunny.Wang@stantec.com>
Sent: June-11-20 12:10 PM
To: AEP Water-Boundaries <Water.Boundaries@gov.ab.ca>
Subject: Crown-ownership Review SW and SE-26-6-30-W4M

Good afternoon,

I’m request a Crown-ownership review for the features identified within the attached letter located within the Town of Pincher Creek, SW and SE-26-6-30-W4M.
Please let me know if you have any questions or need further information to help with your review.

Thank you,
Sunny

Sunny Wang B.Sc., P.Biol.
Environmental Planning Consultant, Community Development

Direct: 403 207-7377
Mobile: 403 561-3723
Sunny.Wang@stantec.com

Stantec
200-325 25 Street SE
Calgary AB T2A 7H8

Appendix C: Database Searches

Date: 10/6/2020
Requestor: Consultant
Reason for Request: Element Occurrence Search
SEC: 26 **TWP:** 006 **RGE:** 30 **MER:** 4

Non-sensitive EOs (updated: October 2017)

M_RR_TTT_SS	EO_ID	ECODE	S_RANK	SNAME	SCOMNAME	LAST_OBS_D
4-30-006-26	9469	PDONA0C0E0	S3	Oenothera flava	low yellow evening-primrose	1902-06-25

Next Steps: **See FAQ (https://www.albertaparks.ca/albertaparksca/management-land-use/alberta-conservation-information-management-system-acims/faqs.aspx#2 - Process)**

Sensitive EOs (updated: October 2017)

M-RR-TTT	EO_ID	ECODE	S_RANK	SNAME	SCOMNAME	LAST_OBS_D

No Sensitive EOs Found: Next Steps - **See FAQ (https://www.albertaparks.ca/albertaparksca/management-land-use/alberta-conservation-information-management-system-acims/faqs.aspx#2 - Process)**

Protected Areas (updated: October 2017)

M-RR-TTT-SS	PROTECTED_AREA_NAME	TYPE	IUCN

No Protected Areas Found

Crown Reservations/Notations (updated: October 2017)

M-RR-TTT-SS	NAME	TYPE

No Crown Reservations/Notations Found

Updated: Dec 11, 2019

Fish and Wildlife Internet Mapping Tool (FWIMT)

(source database: Fish and Wildlife Management Information System (FWMIS))

Species Summary Report

Report Date: 10-Jun-2020 15:53

Species present within the current extent

Fish Inventory	Wildlife Inventory	Stocked Inventory
LAKE CHUB	BALD EAGLE	RAINBOW TROUT
LONGNOSE DACE	GOLDEN EAGLE	
LONGNOSE SUCKER	PRAIRIE FALCON	
MOUNTAIN SUCKER	PRONGHORN	
RAINBOW TROUT		
RIVER SHINER		
TROUT-PERCH		
WHITE SUCKER		

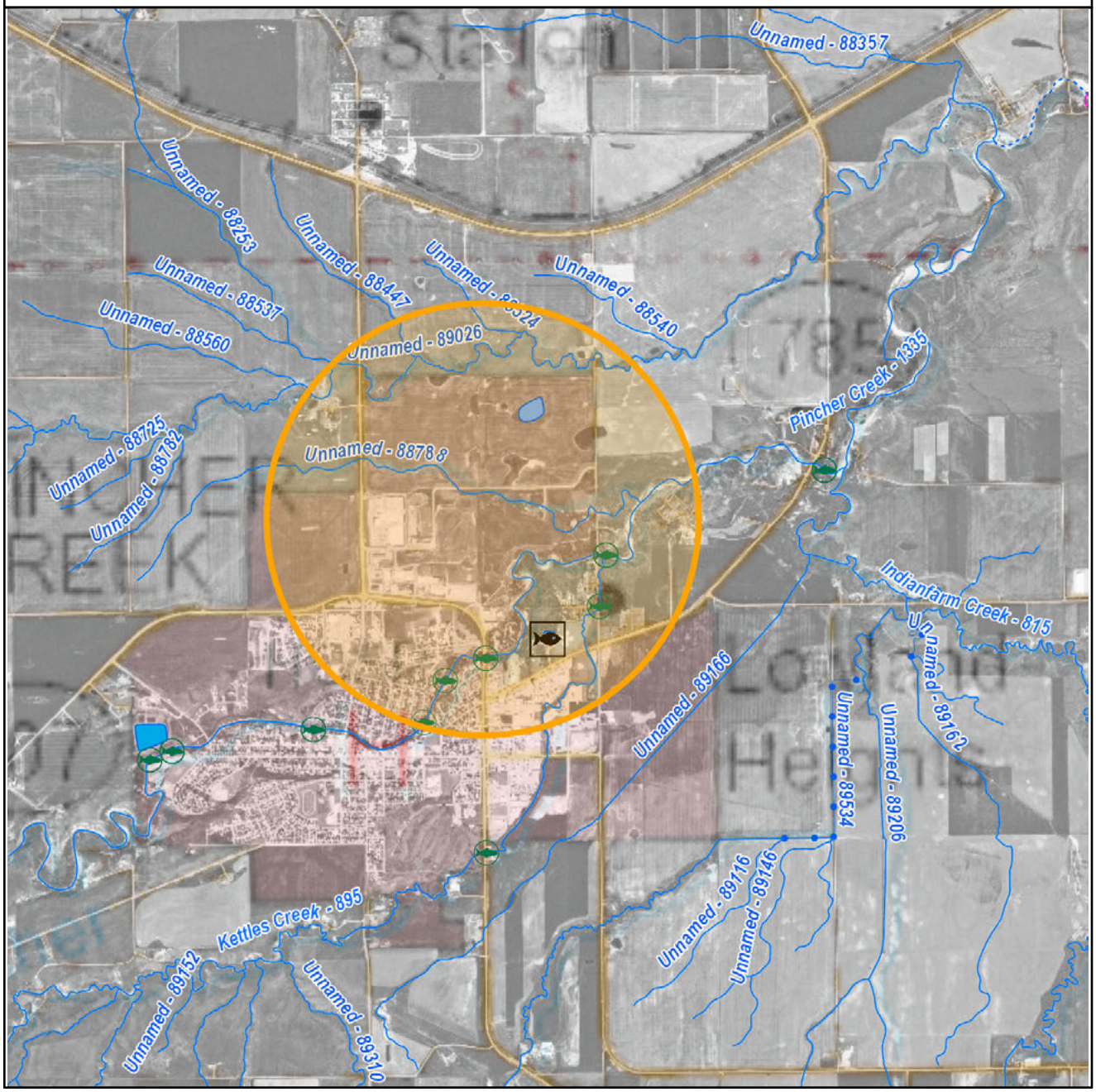
Buffer Extent

Centroid (X,Y)	Projection	Centroid (Qtr Sec Twp Rng Mer)	Radius or Dimensions
576973, 5481433	10-TM AEP Forest	SE 26 6 30 4	1.5 kilometers

Contact Information

For contact information, please visit:
https://www.alberta.ca/fisheries-and-wildlife-management-contacts.aspx

10-Jun-2020 15:53 **Map Results**



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APPENDIX D

OPEN HOUSE

NE Area Structure Plan
Public Open House

Thursday April 8, 2021

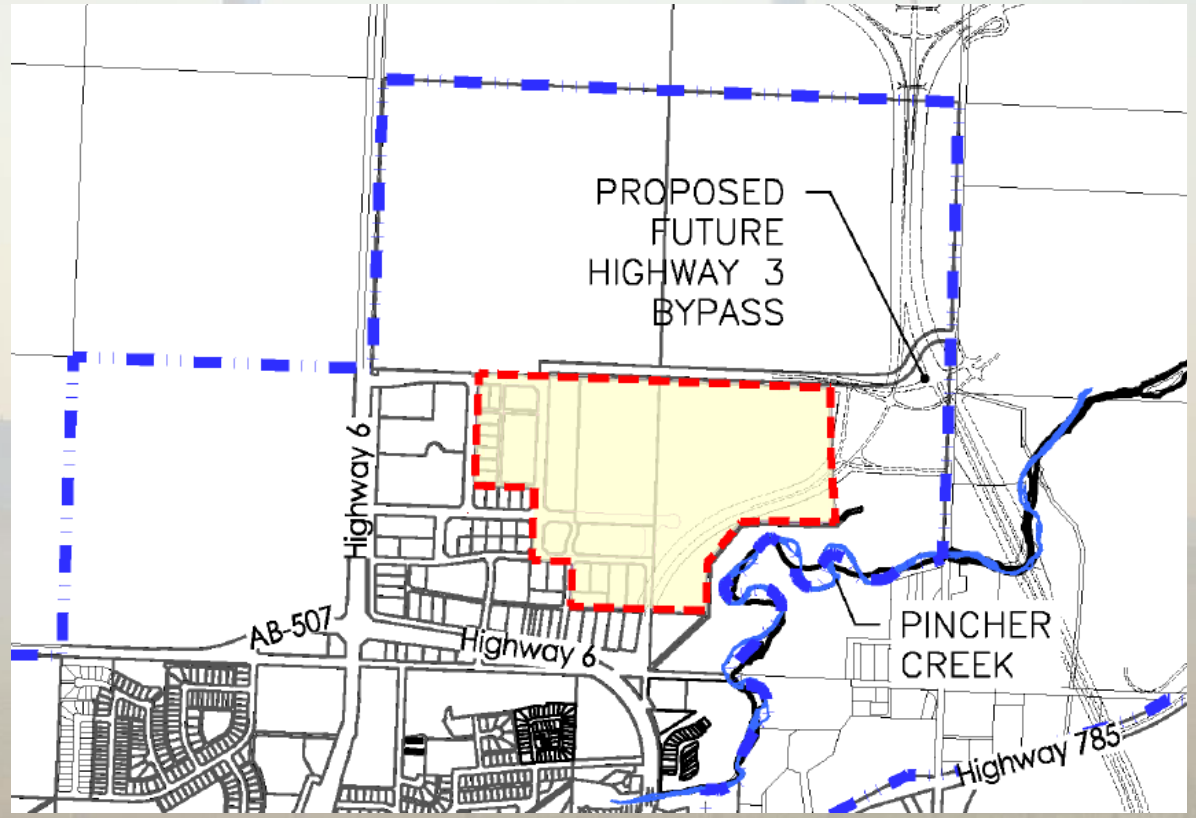
TOWN OF PINCHER CREEK ALBERTA

What is an Area Structure Plan (ASP) & Why Are We Completing one?

- An Area Structure Plan (ASP) is a high-level planning document that outlines future development direction with reference to municipal policies and objectives.
- ASP's are developed with input from the community, municipality, planners and engineers.
- ASP’s identify general land use and densities; servicing strategies; and logical staging of development based on existing and future infrastructure.
- An ASP guides future design and subdivision, but does not define the timing of development, or what will be built.
- An ASP is **proposed** and considered a draft until Council approves the document
- Once approved, an Area Structure Plan provides development certainty to future investment and provides a foundation for detailed design and subdivision.
- Community Engagement is a key component of ASP development

What Area Are We Talking About?

- East of Walmart and North of Highway 6



When Will This Area Be Developed?

- An ASP is just one step in a long process of developing land.
- There is no estimated timeframe on development of the NE area.
- Development will be completed in phases and will depend on:
  - Market Demand
  - Council's Priorities/Budget
  - Council's Strategic Plan/Vision

What Land Uses/Businesses Will Be Permitted?

- The purpose of the NE ASP is to guide the type of land use envisioned for the area, but does not to prescribe specific businesses.
- The intent of this ASP is to set the stage for a diversified tax base and reserve additional land for quality of life amenities for a community.
- The NE ASP outlines 2 main categories for permitted land uses:

➢ Industrial/Commercial

➢ Parks & Open Space

Proposed Land Uses

(Examples of Permitted Uses)

- **Highway/Drive-In Commercial – C2**
  - Auto Body and Paint Shops
  - Automotive Repair and Service
  - Convenience Stores
  - Drive-in Restaurants
  - Retail Stores
  - Vehicle Sales and Rentals

- **Comprehensive/Shopping Mall Commercial – C3**
  - Drive-in Restaurants
  - Financial Institutions
  - Garden Centres
  - Offices
  - Personal Services
  - Retail Stores
  - Service Stations

- **Light Industrial – I2**
  - Construction Trade Shop
  - Contractor
  - Equipment Sales, Rental or Service
  - Light Industrial/Manufacturing
  - Lumber and Building Supply/Material

- **Parks and Open Space – POS**
  - Pathways/Benches
  - Sports Fields (Soccer, Rugby, Baseball Diamonds)
  - Recreation Facilities

** Development within this area will be guided by other plans and Capital Improvement Budgets. Amenities listed above are suggested for consideration.

PINK
Industrial/Commercial

GREEN
Parks & Open Space (POS)

Does This Mean We're Getting a New Recreation Center?

- No, there is no current plan to move the rec centre
- The Area Structure Plan does not prescribe what facilities will be built within the area. It is meant to provide a vision for the area. While a recreation center fits within the permitted uses of the Area Structure Plan, planning for a new facility will require future Council approvals and funding which have not yet been committed to.
- Any new development, or future facility requires a) public input; b) future Council's approval and c) proper budget funding - none have been committed.

Your opportunity for public input on the ASP!

- The Public Open House is a preliminary step prior to seeking Council approval to solicit feedback from the public on the proposed Area Structure Plan.
- This recorded session and slides will be placed on the Town website.
- A form for feedback is also available on the website here

What Happens Next?

- Public comments from this evening and a follow up survey will be compiled and reviewed with Town Council/Administration.
- The Area Structure Plan will be finalized for formal consideration by Council for adoption into a Bylaw.
- A formal public hearing will be scheduled during Bylaw consideration (date to be determined) to allow for further public input in the plan.

How Can I Give My Feedback or Ask Questions?

- We welcome your feedback and are happy to answer questions!
- A digital feedback form is available here

North East Area Structure Plan

Response I	Submission Time	I am a:	Please share your feedback:	Please enter the information indicated below:			
				First Name	**Last Name**	**Home Phone**	**Email Address**
		Town of Pincher Creek Resident					
3	4/16/2021 13:28:2	Yes	I'll ask again... Why is there a push to move the curling rink, away from downtown? The schools are there, within walking distance of restaurants and a convenience store. IMO, if a plan was looked at to incorporate the old pool, the old Sobey's and the existing curling rink into a new facility that could bring more together and thrive. Demo the old pool, and parts of the Sobey's as required. Build a new structure/extend over top of the existing curling rink. Complete the north half of the building as a curling rink, to allow the existing facility to operate as long as possible. Coordinate the move with the club, and once moved demo the old curling rink and finish the project. New hockey arena? Climbing wall? Potential for indoor soccer? Indoor location for summer markets? These are only a few thoughts.. Just my two cents..	Glen	Hoffman		
17	4/19/2021 12:30:4	Yes	Concerned about children having to go way up on the north hill to do their activities - too much traffic - better off in town. Couldn't have picked a windier spot - would you like to play baseball in our winds? Also - what about the infrastructure - infrastructure is already paid for around town and why can't keep in that framework. Hope it didn't cost too much as there isn't alot of information provided. If this is developed into 2040 what are we paying engineers and consultants for at this point in time. Why not let the new council review the document and then pass it. Why the rush. The advertising for this was not good - why not put it on the town marquees or didn't you want people to know!	Cheryl	Handford		
25	4/25/2021 10:18:5	Yes	I would only support industrial use for this land. We need to keep people in the downtown area and promote visitors to come into our downtown. We have many buildings not being used and we do have a lot of good areas for people relax and enjoy. Letâ€™s make what we have better make improvements. We do not need more large name businesses. Letâ€™s keep our town unique and give people a reason to come into our town and support our local business owners. We are not a large enough community to support big stores. What is happening with the old Sobyâ€™s building? The old Bargan store? The area where the King Eddie was? The restaurant attached to the heritage? I definitely do not support sports or recreation up by Walmart I would not want any children trying to get to a game or practice all that way unsupervised they need to be close to our schools. Letâ€™s improve what we have within walking distance of our downtown businesses.	Joanne	Rainford		
33	5/4/2021 15:52:24	Yes	Whatever the development of the area, I would be interested in seeing some goals set for zero net waste and/ or emissions. Lots of research and practical examples here on development of eco- industrial parks to draw from. Strategies for GHG mitigation could be sought through innovation in heating and cooling as well as sourcing renewable power. Waste/ material exchanges between industry and businesses should be sought It is the 21st century. Don't use old models of development. Put Pincher on the map by drawing attention to ECO-smart development and innovation.	Debra	Gardiner		

APPENDIX E

ALBERTA TRANSPORTATION

Alberta Transportation

Construction and Maintenance
Southern Region
Box 314, 909 3 Avenue North
Lethbridge, Alberta T1H 0H5
www.alberta.ca

AT File Reference: RSDP033113
Our Reference: 2100-PINC
Your Reference: 116549010

November 12, 2020

Angela Forsyth
Angela.Forsyth@stantec.com
Transportation Engineer
Stantec
290-220 4th Street, South
Lethbridge, AB T1J 4J7

Dear Ms. Forsyth:

RE: PINCHER CREEK NE AREA STRUCTURE PLAN

Alberta Transportation has received and reviewed the *preliminary concept plan* for the Town of Pincher Creek NE Area Structure Plan identifying proposed land uses, roadway networks and phasing.

Strictly from Alberta Transportation's point of view, we do not have any concerns with the preliminary concept plan however would prefer the area identified of the future highway alignment and highway right-of-way remain as green space to eliminate relocating any buildings and/or sporting facilities in the future.

Thank you for the opportunity to comment.

Yours truly,

Leah Olsen
Digitally signed by Leah Olsen
Date: 2020.11.12 13:08:51 -07'00'

Leah Olsen
Development/Planning Technologist
403-388-3105

LO/

cc: Jerry Lau – e-mailed
Philip Luchka – e-mailed