

Appendix 13.15-A-A Non-farm Application

Provincial Agricultural Land Commission - Applicant Submission

Application ID: 61977

Application Status: In Progress

Applicant: Douglas Kerr

Agent: Telkwa Coal Ltd

Local Government: Bulkley-Nechako Regional District

Local Government Date of Receipt: This application has not been submitted to local government yet.

ALC Date of Receipt: This application has not been submitted to ALC yet.

Proposal Type: Non-Farm Use

Proposal: The Tenas Project covers 1,094.86 ha, with 51.35 ha in the ALR. This is approximately 5% of the total project area.

Component/ Size (ha)

Rail Infrastructure including Stockpiles/19.18

Tenas Access Corridor/32.17

Coal stockpile/3.32

Total/51.35

The Bypass Road, approximately 10.61km long and 25m wide, does not fully fall within the ALR boundaries and that the Coal stockpile is found within the calculated size of the Rail Infrastructure.

Telkwa Coal Ltd. (TCL) is proposing to develop the Tenas Project (the Project), a surface, metallurgical coal mine 25 kilometres (km) south of Smithers and 7 km southwest of the village of Telkwa in northwestern BC. TCL is submitting a Non-Farm Use Application (NFU) to the Agricultural Land Commission (ALC) to seek permission to utilize land within the Agricultural Land Reserve (ALR) for non-agricultural purposes.

The Project is undergoing a regulatory review through the BC Environment Assessment Act, in addition to the BC Mines Act and BC Environmental Management Act, based on a production rate of 775,000 to 825,000 metric tonnes of processed coal per annum over a 25-year mine life. TCL revised the proposed production rate and mine life to incorporate community feedback, optimize operating levels and importantly, ensure the operation is sustainable for the longer term. We are committed to meeting regulatory requirements and to operating in a safe and environmentally responsible manner. TCL is currently in the pre-application stage of the BC Environmental Assessment process.

In 2016, the initial mine plan used purpose-built b-train trucks to transport the processed coal from the Minesite to the Rail Infrastructure on publicly accessible roads. The covered b-train trucks would drive along Telkwa Coalmine road for approximately 13km, after which the trucks would turn right onto Lawson road and continue to drive approximately 6km to the Rail Infrastructure. Please refer to Figure to see an overview of the local roadways in relation to the Project location that were planned to be used.

This method of using existing roads was planned to occur during the first three years of mine operations, after which a Bypass Road would be built to avoid using publicly accessible roads for the processed coal haul.

The local community had concerns regarding public safety, as well as potential increased noise, dust, and traffic interactions due to transportation of coal along Telkwa Coalmine road and Lawson road through the village of Telkwa. As a result of this direct community feedback, TCL will be building the Bypass Road which is a component of the Tenas Access Corridor prior to operations commencing to avoid using publicly accessible roads. As a part of the revised mine plan, the Rail Infrastructure, including the 2.5km rail loop, Rail Infrastructure fueling station, and Coal stockpiles, as well as sections of the Bypass Road are all within the ALR polygon ID 3479850. Please see Figure 1.

TCL is applying for a NFU because we recognize the importance of maintaining access to agricultural land in BC. TCL has no interest in applying to exclude land from the ALR permanently, as we would like to limit potential effects to agriculture in the region due to the Project. The NFU application allows TCL

Applicant: Douglas Kerr

to transport coal, having taken community feedback into consideration, while maintaining a wholesome parcel of land within the ALR. As a part of the legislation that TCL is required to operate under, the Bypass Road and Rail Infrastructure will have a reclamation and closure plan. Please review the attached document Non-Farm Use Application to the ALC, prepared by Environmental Dynamics Inc (EDI) which further outlines mitigation measures for soil conservation and provides a general reclamation plan to support agricultural use. There is a purchase agreement in place between TCL and the private landowners to sell the property that the Rail Infrastructure will be built on, which will be executed in 2021.

Agent Information

Agent: Telkwa Coal Ltd

Mailing Address:

1410-409 Granville Street
Vancouver, BC
V6C 1T2
Canada

Primary Phone: (604) 220-5703

Email: dfarmer@allegiancecoal.com.au

Parcel Information

Parcel(s) Under Application

- Ownership Type:** Fee Simple
Parcel Identifier: 010-652-043
Legal Description: DL 222 R5C EXC BKS A & B
Parcel Area: 64.2 ha
Civic Address: Smithers Rural (754) - 01033.130
Date of Purchase: 04/22/2003
Farm Classification: Yes
Owners
 - Name:** Douglas Kerr
Address:
Box 4174
Smithers, BC
V0J 2N0
Canada
Phone: (250) 847-0779
Email: dkerr@telus.net

-
- Ownership Type:** Fee Simple
Parcel Identifier: 010-652-787
Legal Description: BK B DL 222 R5C
Parcel Area: 64.6 ha
Civic Address: Smithers Rural (754) - 01033.125
Date of Purchase: 04/22/2003
Farm Classification: Yes
Owners
 - Name:** Daniel Kerr
Address:
Box 629
Houston, BC
V0J 1Z0

Applicant: Douglas Kerr

Canada
Phone: (250) 846-9257
Email: danielbrucekerr@outlook.com

3. **Ownership Type:** Fee Simple
Parcel Identifier: 028-406-869
Legal Description: Block A District A District Lot 223 Range 5 Coast District
Parcel Area: 21 ha
Civic Address: Smithers Rural (754) - 01033.150
Date of Purchase: 12/09/2010
Farm Classification: Yes
Owners

1. **Name:** Bruce Kerr
Address:
Post Office Box 33
Telkwa, BC
V0J 2X0
Canada
Phone: (250) 846-5667
Email: kerrfarm@telus.net
 2. **Name:** Marie Kerr
Address:
Post Office Box 33
Telkwa, BC
V0J 2X0
Canada
Phone: (250) 846-5667
Email: kerrfarm@telus.net
-

4. **Ownership Type:** Fee Simple
Parcel Identifier: 013-496-751
Legal Description: SW 1/4 OF DL 402 R5C
Parcel Area: 64.4 ha
Civic Address: Smithers Rural (754) - 01136.000
Date of Purchase: 07/13/1998
Farm Classification: Yes
Owners

1. **Name:** Colleen Helps
Address:
PO Box 95
Telkwa, BC
V0J 2X0
Canada
Phone: (250) 846-5354
Email: colleenghelps@gmail.com
-

5. **Ownership Type:** Fee Simple
Parcel Identifier: 013-581-180
Legal Description: L A (SEE DF18988) DL 1143 R5C PL 1056 EXC PL 9828
Parcel Area: 65.2 ha
Civic Address: 14544 Lawson Road, Telkwa V0J 2X3
Date of Purchase: 10/14/1993
Farm Classification: Yes
Owners

1. **Name:** Donald MacDonald
Address:

Applicant: Douglas Kerr

14544 Lawson Road
Telkwa, BC
V0J 2X3
Canada
Phone: (250) 846-5622
Email: macdonalddw@live.com

2. **Name:** Wendy MacDonald

Address:
14544 Lawson Road
Telkwa, BC
V0J 2X3
Canada
Phone: (250) 846-5622
Email: macdonalddw@live.com

Ownership or Interest in Other Lands Within This Community

1. **Ownership Type:** Crown Lands

Parcel Identifier:

Owner with Parcel Interest: Colleen Helps

Parcel Area: 517.8 ha

Land Use Type: Agricultural/Farm

Interest Type: Registered Lease

Current Use of Parcels Under Application

1. Quantify and describe in detail all agriculture that currently takes place on the parcel(s).

The Project overlaps five private parcels of land ranging in size from 0.21 km² to 1.3 km².

Parcels 1 and 2 are used for growing hay crops and as pasture for fifteen horses.

Parcel 3 is used as pasture for approximately fifteen horses. A small personal greenhouse is owned by the residents of Parcel 3.

Parcel 4 is used to graze approximately twenty horses and eighty cows that reside on Parcel 4.

Parcel 5 is used to graze two horses that reside on the farm of Parcel 5 as well as cattle from a neighboring farmer. A small personal greenhouse is owned by the residents of Parcel 5.

Refer to Table 1 below for an overview of agricultural activities:

Table 1: Agricultural Activity

Parcel Number Activity Type % of Parcel

Parcel 1 Crop 33.3%

Pasture 66.6%

Parcel 2 Crop 25%

Pasture 75%

Parcel 3 Pasture 100%

Parcel 4 Grazing 100%

Parcel 5 Pasture 96%

Applicant: Douglas Kerr

2. Quantify and describe in detail all agricultural improvements made to the parcel(s).

Parcel 1 has 1.97 ha of water sumps and 2.25 ha of natural drainage channels used to irrigate crops on this parcel.

Parcel 2 has a piezometer on the property. Parcel 3 has 3.5 ha of limited clearing that has occurred around the property. Please refer to Figure 2.

All parcels have fencing around their perimeters as shown on Figure 2. Please refer to Table 2 for the specific lengths:

Table 2: Fencing Length by Parcel

Parcel Number Fencing Length (km)

Parcel 1 3.2

Parcel 2 4.8

Parcel 3 2.7

Parcel 4 1.6

Parcel 5 4.0

3. Quantify and describe all non-agricultural uses that currently take place on the parcel(s).

The only parcel with non-agricultural use occurring on the land is Parcel 5. Parcel 5 has a house and access road that covers approximately 0.02km². Parcel numbers 1 through 4 do not have non-agricultural uses within them.

Adjacent Land Uses

North

Land Use Type: Other

Specify Activity: Please see PDF Attachment to the Application for more information

East

Land Use Type: Other

Specify Activity: Please see PDF Attachment to the Application for more information

South

Land Use Type: Other

Specify Activity: Please see PDF Attachment to the Application for more information

West

Land Use Type: Other

Specify Activity: Please see PDF Attachment to the Application for more information

Proposal

1. How many hectares are proposed for non-farm use?

51.4 ha

2. What is the purpose of the proposal?

The Tenas Project covers 1,094.86 ha, with 51.35 ha in the ALR. This is approximately 5% of the total project area.

Applicant: Douglas Kerr

Component/ Size (ha)
Rail Infrastructure including Stockpiles/19.18
Tenas Access Corridor/32.17
Coal stockpile/3.32
Total/51.35

The Bypass Road, approximately 10.61km long and 25m wide, does not fully fall within the ALR boundaries and that the Coal stockpile is found within the calculated size of the Rail Infrastructure. Telkwa Coal Ltd. (TCL) is proposing to develop the Tenas Project (the Project), a surface, metallurgical coal mine 25 kilometres (km) south of Smithers and 7 km southwest of the village of Telkwa in northwestern BC. TCL is submitting a Non-Farm Use Application (NFU) to the Agricultural Land Commission (ALC) to seek permission to utilize land within the Agricultural Land Reserve (ALR) for non-agricultural purposes.

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The local community had concerns regarding public safety, as well as potential increased noise, dust, and traffic interactions due to transportation of coal along Telkwa Coalmine road and Lawson road through the village of Telkwa. As a result of this direct community feedback, TCL will be building the Bypass Road which is a component of the Tenas Access Corridor prior to operations commencing to avoid using publicly accessible roads. As a part of the revised mine plan, the Rail Infrastructure, including the 2.5km rail loop, Rail Infrastructure fueling station, and Coal stockpiles, as well as sections of the Bypass Road are all within the ALR polygon ID 3479850. Please see Figure 1.

TCL is applying for a NFU because we recognize the importance of maintaining access to agricultural land in BC. TCL has no interest in applying to exclude land from the ALR permanently, as we would like to limit potential effects to agriculture in the region due to the Project. The NFU application allows TCL to transport coal, having taken community feedback into consideration, while maintaining a wholesome parcel of land within the ALR. As a part of the legislation that TCL is required to operate under, the Bypass Road and Rail Infrastructure will have a reclamation and closure plan.

Please review the attached document Non-Farm Use Application to the ALC, prepared by Environmental Dynamics Inc (EDI) which further outlines mitigation measures for soil conservation and provides a general reclamation plan to support agricultural use.

There is a purchase agreement in place between TCL and the private landowners to sell the property that the Rail Infrastructure will be built on, which will be executed in 2021.

3. Could this proposal be accommodated on lands outside of the ALR? Please justify why the proposal cannot be carried out on lands outside the ALR.

The Rail Infrastructure and part of the Bypass Road fall within ALR polygon ID 3479850, which has a total area of 901 km². Due to the large size of the polygon, much of the land surrounding the Minesite is part of the ALR. The Rail Infrastructure and the main CN rail line needed to transport the coal for export in Prince Rupert, are all found within the ALR. There is no alternative corridor that could be built from the Minesite to the Rail Infrastructure that would avoid the ALR, unless publicly accessible roads, such as the Telkwa Coalmine road and Lawson road, were used. See Figure 1.

As discussed earlier in the Application, TCL received community feedback that encouraged TCL to create a direct and private route to the Rail Infrastructure to avoid publicly accessible roads. The community

feels very strongly that the Bypass Road is an essential component of the Project and needs to be built at the outset of construction. Therefore, it is TCLs opinion that it would not be possible to reroute the Bypass Road to an area outside of the ALR by using existing roads due to public opinion on the Project and the location of the CN rail line.

4. Does the proposal support agriculture in the short or long term? Please explain.

The Project overlaps with 51.35 ha of ALR designated land. However, less than 20 ha of this total area coincides with current agricultural land use, as part of the road goes through forested Crown land. Overall, the NFU application applies to 0.02% of the ALR polygon ID 3479850. Therefore, the potential impacts of the Project on agricultural production, operations and infrastructure within ALR polygon ID 3479850 are both minimal and discrete.

The table below shows the change in available area for each parcel of land that can be used for agriculture once the Bypass Road and Rail Infrastructure are built.

Parcel # Total # of km2 # of km2 available for Agriculture % Change due to the Project

Parcel 1 0.64 0.63 1.5%

Parcel 2 1.3 1.29 0.8%

Parcel 3 0.21 0.21 0%

Parcel 4 0.64 0.64 0%

Parcel 5 0.62 0.15 75.8%

In the short term, the proposal will temporarily limit agriculture in the Project area. The building of the Bypass Road and Rail Infrastructure will prevent a relatively small amount of agricultural land from temporarily being used. TCL took current land use activities and landowner preferences into consideration, to avoid and/or minimize potential effects to existing agricultural use. These mitigation measures include building cattle crossings to allow livestock to cross the Bypass Road at given periods of time, which will help maintain agricultural use of land along the Bypass Road. TCL will build fencing along the Bypass Road which allows wildlife movement but prevents livestock from accessing the Bypass Road to mitigate potential livestock mortality due to the Project. Parcel 5, the location of the Rail Infrastructure, has a fence which will be maintained to allow wildlife movement and prevent livestock from moving into the Rail Infrastructure area. TCL is open to discussions with adjacent landowners allow grazing of the area.

In the long term, this proposal will support agriculture as the Bypass Road and Rail Infrastructure will be remediated to support agricultural activities. TCL has outlined several soil conservation measures and reclamation recommendations in the Non-Farm Use Application to the Agricultural Land Commission prepared by EDI.

The Project will not prevent the remainder of the agricultural land in the area from being used before, during and after mine operation and construction. Overall, TCL does not anticipate major effects to the agricultural land next to the Bypass Road. Please refer to Non-Farm Use Application to the Agricultural Land Commission prepared by EDI for more information

5. Do you need to import any fill to construct or conduct the proposed Non-farm use?

Yes

Proposal dimensions

Total fill placement area (0.01 ha is 100 m²) 10 ha

Maximum depth of material to be placed as fill 1.2 m

Volume of material to be placed as fill 35000 m³

Estimated duration of the project. 25 Years

Describe the type and amount of fill proposed to be placed.

Fill from achieving grade on site - approximately 7,000 m³

Topsoil salvage to all works - approximately 17,000 m³

*Clean rock from approved CN quarry - approximately 11,000 m3
Processed coal from Project - approximately 35,000 m3*

Briefly describe the origin and quality of fill.

Fill from achieving grade is from the area of the loop and quality is acceptable given it is existing material present.

Topsoil is from the site and has been described as fair to poor based on soil surveys due to quantity of coarse fragments.

Clean rock will be sourced from the Kulum Quarry offsite as it is an approved CN quarry for these materials. Rock will be clean rock and has been used extensively in the region.

Processed coal from site will be temporarily placed for storage until shipped offsite. Coal is primarily an inert mineral.

All Processed coal will be removed in reclamation and some of the clean rock will also be removed for re use by CN. The topsoil salvaged will be used for reclamation purposes.

Applicant Attachments

- Agent Agreement - Telkwa Coal Ltd
- Proposal Sketch - 61977
- Other correspondence or file information - Map
- Other correspondence or file information - Map
- Site Photo - Rail Infrastructure
- Site Photo - Rail Infrastructure
- Professional Report - Soil Report
- Other correspondence or file information - Adjacent Use
- Other correspondence or file information - Other Parcels of Interest
- Certificate of Title - 010-652-043
- Certificate of Title - 010-652-787
- Certificate of Title - 028-406-869
- Certificate of Title - 013-496-751
- Certificate of Title - 013-581-180

ALC Attachments

None.

Decisions

None.

AGENT AUTHORIZATION LETTER

I (we) Daniel Kerr
Printed/typed name(s) of landowner(s)

hereby appoint Telkwa Coal Limited (Daniel J Farmer) to
Printed/typed name of agent

make application to the Agricultural Land Commission as agent on my/our behalf with respect to
the following parcel (s): *Insert legal description for each parcel under application*

Block B District Lot 222 Range 5 Coast District (Daniel Kerr);

I Daniel J Farmer understand that as
Printed/typed name of agent

agent, I am required to ensure that all landowners are provided with information being submitted to and received from the Agricultural Land Commission. Furthermore, if the company is successful with its Non-Farm application to temporarily remove portions of the above land parcel from the Agricultural Land Reserve (ALR), that the company will be responsible for applying to reintegrate the removed lands back into the ALR at the end of reclamation.

Signature(s) of landowner(s):

 Daniel Kerr Oct/14/20
Signature Printed Name Date

Signature Printed Name Date

AGENT AUTHORIZATION LETTER

I (we) Marie and Bruce Kerr
Printed/typed name(s) of landowner(s)

hereby appoint Telkwa Coal Limited (Daniel J Farmer) to
Printed/typed name of agent

make application to the Agricultural Land Commission as agent on my/our behalf with respect to
the following parcel (s): *Insert legal description for each parcel under application*

Block A District Lot 223 Range 5 Coast District (Bruce and Marie Kerr)

I Daniel J Farmer understand that as
Printed/typed name of agent

agent, I am required to ensure that all landowners are provided with information being submitted to and received from the Agricultural Land Commission. Furthermore, if the company is successful with its Non-Farm application to temporarily remove portions of the above land parcel from the Agricultural Land Reserve (ALR), that the company will be responsible for applying to reintegrate the removed lands back into the ALR at the end of reclamation.

Signature(s) of landowner(s):

<u>Bruce Kerr</u>	<u>Bruce Kerr</u>	<u>Oct. 9 2020</u>
Signature	Printed Name	Date

<u>Marie Kerr</u>	<u>Marie Kerr</u>	<u>Oct. 9 2020</u>
Signature	Printed Name	Date

AGENT AUTHORIZATION LETTER

I (we) Douglas Kerr
Printed/typed name(s) of landowner(s)

hereby appoint Telkwa Coal Limited (Daniel J Farmer) to
Printed/typed name of agent

make application to the Agricultural Land Commission as agent on my/our behalf with respect to
the following parcel (s): *Insert legal description for each parcel under application*

District Lot 222 Range 5 Coast Except Blocks A and B (Douglas Kerr);

I Daniel J Farmer understand that as
Printed/typed name of agent

agent, I am required to ensure that all landowners are provided with information being submitted to and received from the Agricultural Land Commission. Furthermore, if the company is successful with its Non-Farm application to temporarily remove portions of the above land parcel from the Agricultural Land Reserve (ALR), that the company will be responsible for applying to reintegrate the removed lands back into the ALR at the end of reclamation.

Signature(s) of landowner(s):

	<u>Douglas Kerr</u>	<u>Oct 9/2000</u>
Signature	Printed Name	Date

_____	_____	_____
Signature	Printed Name	Date

AGENT AUTHORIZATION LETTER

I (we) Colleen Helps

Printed/typed name(s) of landowner(s)

hereby appoint Telkwa Coal Limited (Daniel J Farmer) to

Printed/typed name of agent

make application to the Agricultural Land Commission as agent on my/our behalf with respect to the following parcel (s): *Insert legal description for each parcel under application*

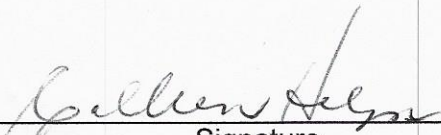
Southwest ¼ of District Lot 402 Range 5 Coast District (Colleen Helps)

I Daniel J Farmer understand that as

Printed/typed name of agent

agent, I am required to ensure that all landowners are provided with information being submitted to and received from the Agricultural Land Commission. Furthermore, if the company is successful with its Non-Farm application to temporarily remove portions of the above land parcel from the Agricultural Land Reserve (ALR), that the company will be responsible for applying to reintegrate the removed lands back into the ALR at the end of reclamation.

Signature(s) of landowner(s):


Signature

COLLEEN HELPS Nov 3, 2020
Printed Name Date

Signature Printed Name Date

AGENT AUTHORIZATION LETTER

I (we) Wendy and Donald MacDonald

Printed/typed name(s) of landowner(s)

hereby appoint Telkwa Coal Limited (Daniel J Farmer)

Printed/typed name of agent

to

make application to the Agricultural Land Commission as agent on my/our behalf with respect to the following parcel (s): *Insert legal description for each parcel under application*

Lot A (See DF18988) District Lot 1143 Range 5 Coast District Plan 1056 Except Plan 9828 (Wendy and Donald MacDonald)

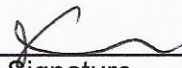
I Daniel J Farmer

understand that as

Printed/typed name of agent

agent, I am required to ensure that all landowners are provided with information being submitted to and received from the Agricultural Land Commission. If the company is successful in this application, the actual reclassification of land will not occur until the sale process of the land is completed and Telkwa Coal Limited becomes the registered owner.

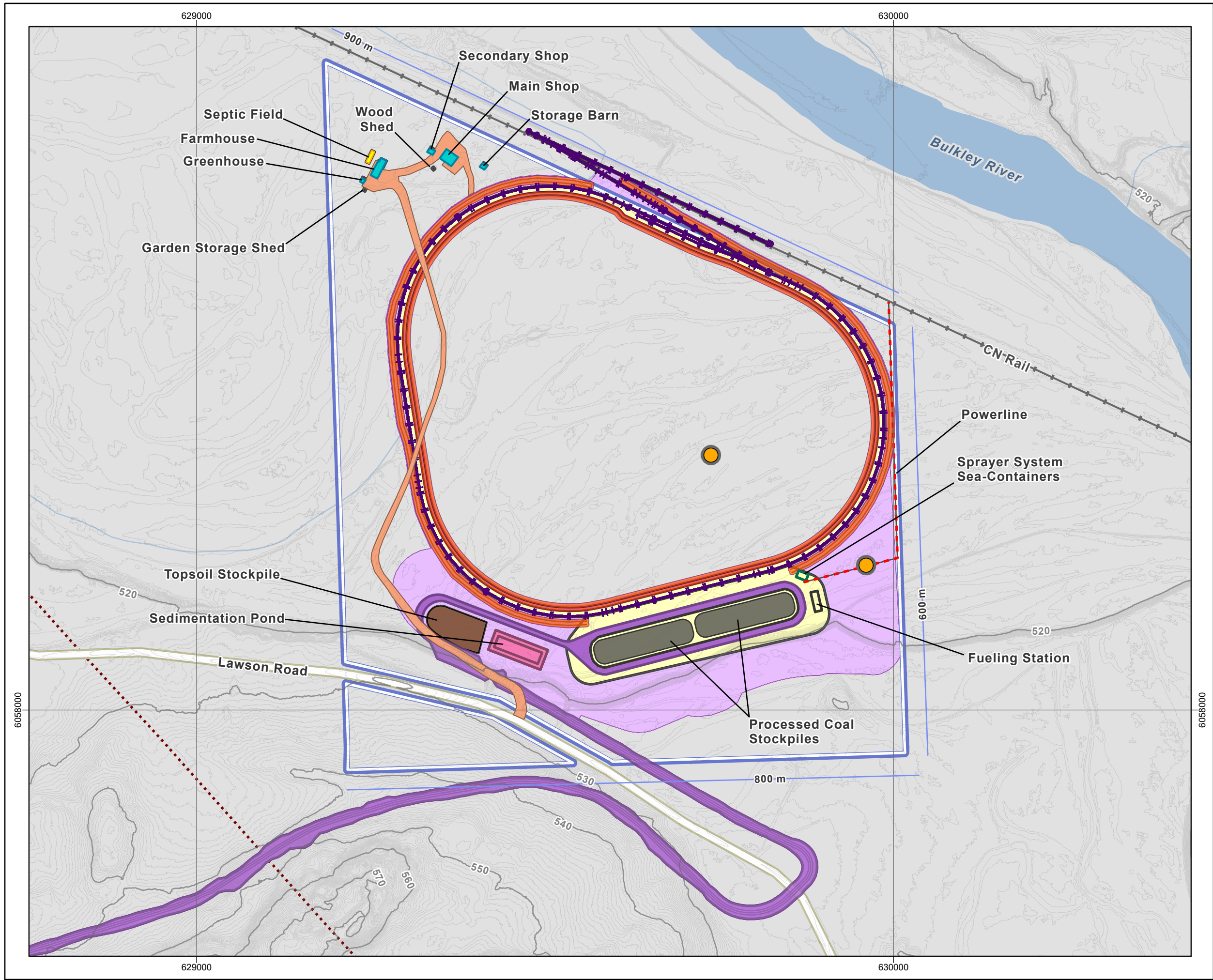
Signature(s) of landowner(s):


Signature

DONALD MAC DONALD SEPT 18 2020
Printed Name Date

W Mac Donald
Signature

W. MACDONALD Sept 18 2020
Printed Name Date



Map 1



TELKWA COAL
LIMITED

Regional District of
Bulkley Nechako
Rezoning Application
Rail Infrastructure
PID: 013581180

- Property
- Rail Infrastructure Footprint
- Coal Loading and Storage
- Rail Loop
- Existing Building
- Existing Driveway
- Well Location
- Tenas Access Corridor
- Proposed Roads
- 138 kV Transmission Line
- Road
- Creek
- Contour (0.5 m)

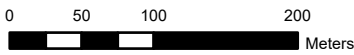
Notes:
1. All mapped features are approximate and should be used for discussion purposes only.
2. This map is not intended to be a "stand-alone" document, but a visual aid of the information contained within the referenced Report. It is intended to be used in conjunction with the scope of services and limitations described therein.

Sources:
Mine Features: Telkwa Coal, 2020
Basedata: Government of British Columbia
Basemap: SRTM 90m Digital Elevation Database

Page Size: 11" x 17" NAD 1983 UTM Zone 9N

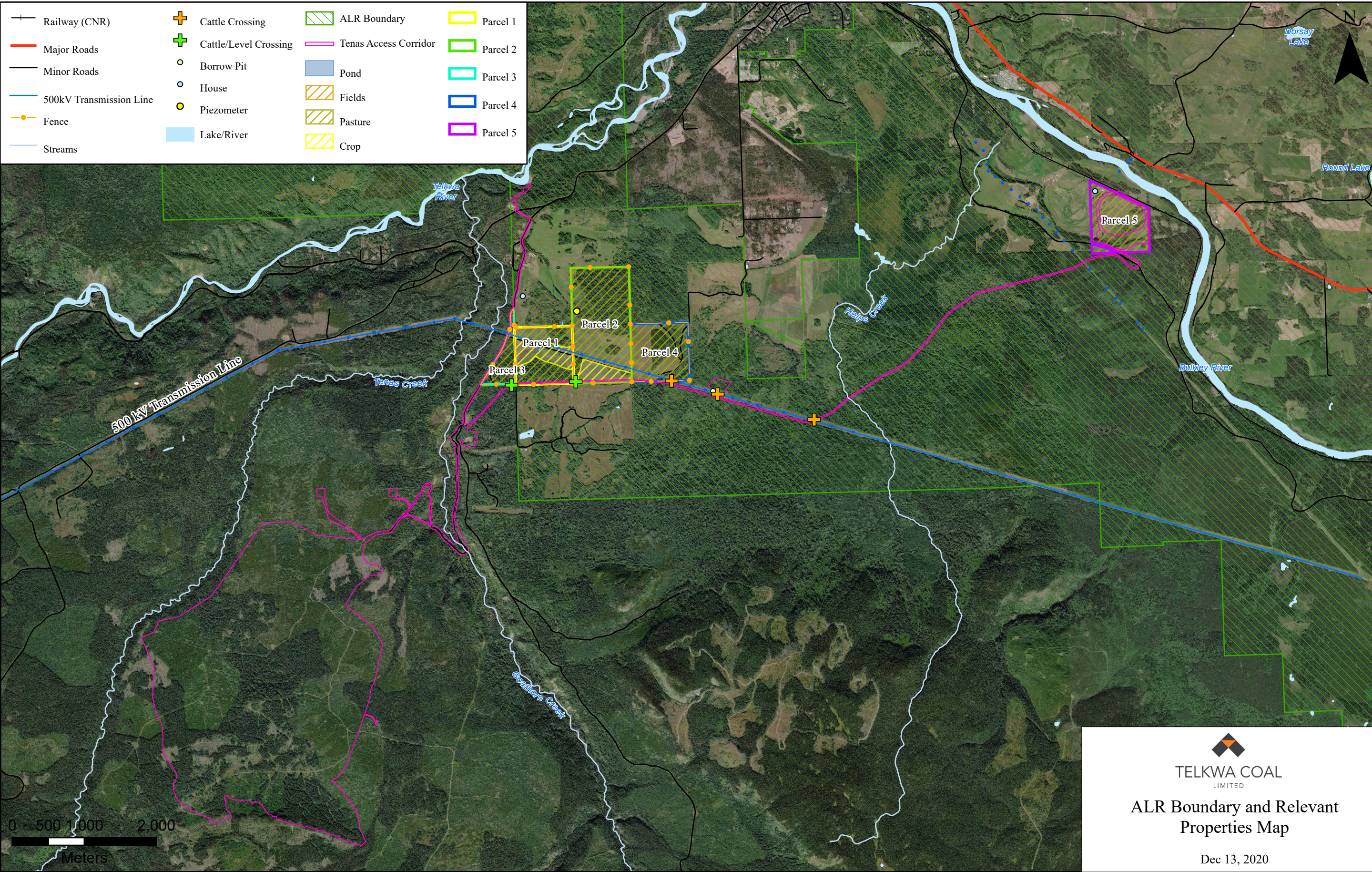
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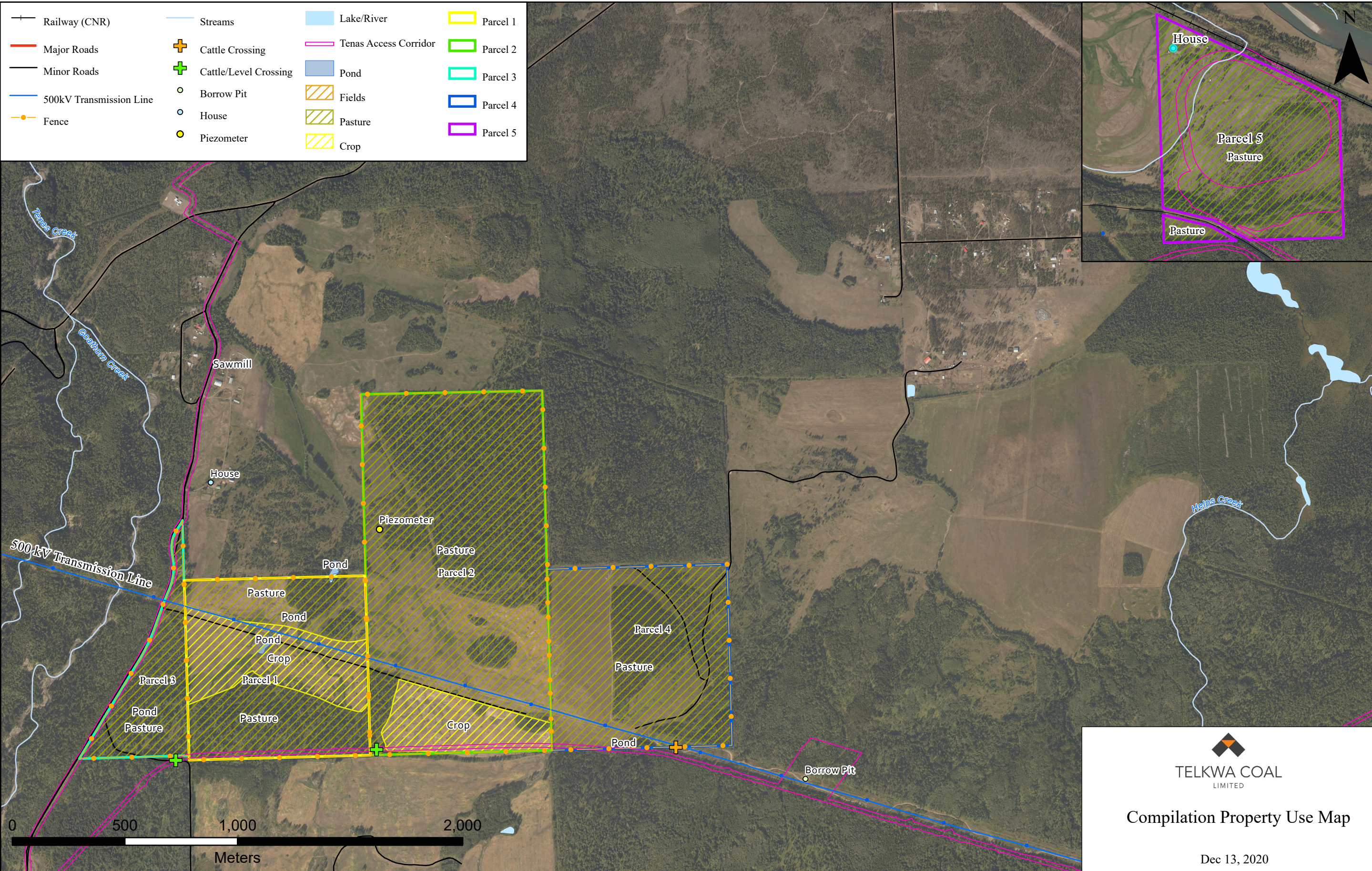
Last Updated: Nov 16, 2020



20200921_ZoningMapB_08
Created by: NB











NON-FARM USE APPLICATION TO THE AGRICULTURAL LAND COMMISSION

Tenas Project
Telkwa Coal Ltd

Prepared For

Telkwa Coal Ltd

(A Subsidiary of Allegiance Coal Ltd)

1415 Hankin Avenue

Telkwa, BC, V0J 2X0

Prepared By

EDI Environmental Dynamics Inc.

301 George Street

Prince George, BC, V2L 1R4

EDI Contact

Ryan Buck | Environmental Specialist

EDI Project

18P0421

FINAL_REV.3.1.1

December 2020



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1 BACKGROUND & OVERVIEW

Project Description and Setting

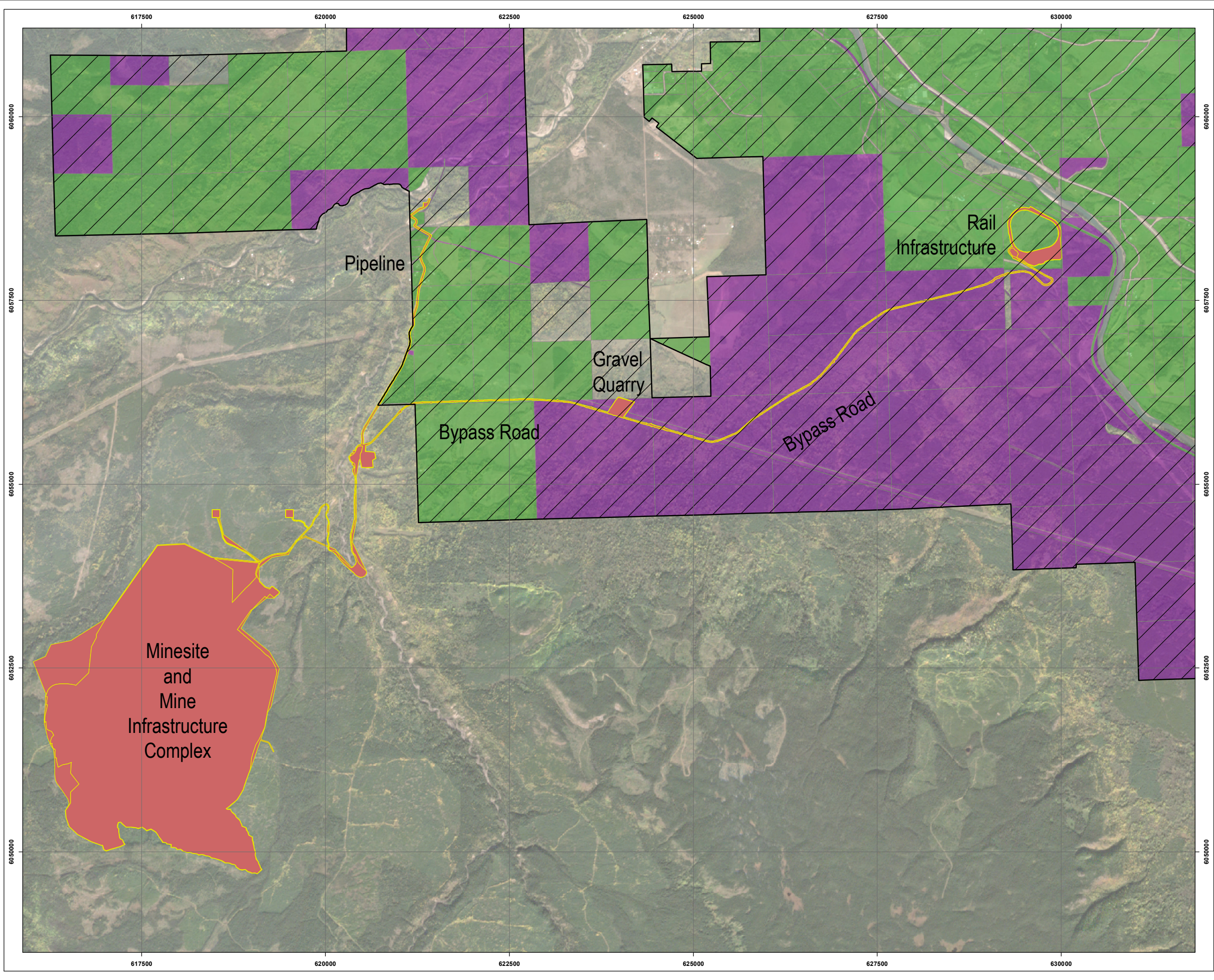
Telkwa Coal Limited (TCL) is proposing the development of the Tenas Metallurgical Coal Project (hereafter referred to as the Tenas Project): an open-pit coal mine with an anticipated 25-year mine life located near the village of Telkwa in the Bulkley-Nechako District of British Columbia (BC). A comprehensive description of the Tenas Project (TCL 2018) providing an overview of the Project setting and infrastructure, development phases, regulatory context, and consultation approaches was submitted to the BC Environmental Assessment Office and the Canadian Environmental Assessment Agency in November 2018. As shown on Map 1, the Project is located on a combination of provincial Crown Land and Private Land¹. The entire Project area (1094.86 ha) is situated within the Skeena Stikine Natural Resource District of the Skeena Natural Resource Region. Forest resources therein are administered by the BC Ministry of Forests, Lands and Natural Resource Operations and Rural Development (MFLNRORD). The northeastern portion of the Project (51.35 ha, representing ~5 % of the total Project area) is situated within the BC Agricultural Land Reserve (ALR). Non-agricultural (i.e., non-farm) land uses therein are regulated by the Agricultural Land Commission (ALC) under the *Agricultural Land Commission Act*. Project features in the ALR comprise part of the Tenas Access Corridor (Bypass Road), the Rail Infrastructure (tying-in to the existing CN Rail line), part of the Water Discharge Infrastructure (referring to an overland pipeline along an existing road corridor), and a Gravel Quarry.

Compilation of Non-Farm Application Requirements

EDI Environmental Dynamics Inc. (EDI) was retained to compile the Non-Farm Use Application for the Tenas Project. This report provides an inventory of land resources for Project features within the ALR (e.g., land use, predominant vegetation and soils, and agricultural capability/suitability), summarizes potential impacts to agricultural production associated with the Project, and identifies measures to mitigate these potential impacts. Planning of the Tenas Project is supported by multiple Project-specific baseline inventories, effects assessments and management plans covering a variety of subject-matter areas². EDI have summarized (herein) baseline information pertaining to vegetation, terrain and soils collected by Ardea Biological Consulting (Ardea) from 2017 to 2019. The reader should consult the Project-specific Vegetation (Ardea 2020a) and Terrain and Soils (Ardea 2020b) baseline reports for comprehensive accounting of these terrestrial resources. Where necessary, this information has been supplemented with provincial spatial inventories (e.g., historical land inventories and soil surveys) to meet the *Criteria for Agricultural Capability Assessment* (ALC 2017). Recommendations for soil conservation and land reclamation have then been developed to conserve the agricultural capability of affected lands and achieve equivalent land capability at the end of the mining tenure. These recommendations are intended to align with and/or supplement all applicable Project-specific environmental management plans and programs, such as the Surface Erosion and Sediment Control Plan, the Vegetation Management Plan and the Reclamation and Closure Plan.

¹ Referring to freehold land parcels owned by TCL and nine coal licences held by TCL and Bulkley Valley Collieries Ltd.

² Documents and management plans to be made available to the ALC upon request.



Tenas Project

Project Overview

ALR Boundaries and Land Ownership

Legend

ALR Boundary

Project Footprint

Land Ownership

Crown

Private

Inset Map

Notes

1. All mapped features are approximate and should be used for discussion purposes only.

2. This map is not intended to be a "stand-alone" document, but a visual aid of the information contained within the referenced Report. It is intended to be used in conjunction with the scope of services and limitations described therein.

3. Current Disturbance Data Extent is a 4km buffer around the greatest extent of the Wildlife RSAs and the Telkwa Herd Caribou Core/Matrix Habitat. This is the extent of the spatial data used in the current anthropogenic disturbance layer.

Sources

- Data: British Columbia Government Data Catalogue

- Inset map: National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.

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Meters

NAD 1983 UTM Zone 9N

Page Size: 11" x 17"

Production Date: Jun 15, 2020

Map 1

ALLEGIANCE COAL

LIMITED

EDI

ENVIRONMENTAL DESIGN INC.



2 ASSESSMENT OF TERRESTRIAL RESOURCES

2.1 FIELD SURVEY

From 2017 to 2019, Ardea conducted field surveys to characterize terrestrial ecosystems (i.e., predominant vegetation and land use) and soil resources (i.e., parent material and soil texture, rooting depth, coarse fragment content) for the entire Project area and nearby/adjacent environment (Ardea 2020a,b). These studies were conducted following provincial and federal standards outlined in the *Canadian System of Soil Classification* (SCWG 1998) and the *Field Manual for Describing Terrestrial Ecosystems* (BC-MOFR and BC-MOE 2010). Survey intensity was guided by provincial standards for mapping scale and resolution (RIC 1995) and supported by interpretation of ortho-imagery, LiDAR imagery and topographical and hydrological linework using ESRI Systems ArcInfo GIS (ArcView 9.3.1). During field surveys, agricultural land capability ratings and limitations (based on terrain and soil attributes) were assigned following provincial and federal guidelines outlined in the *Land Capability Classification for Agriculture in British Columbia* (Kenk and Coltic 1983) and the *Canadian Land Inventory Soil Capability Classification for Agriculture* (Canada MOE 1972).

A total of 780 terrestrial survey plots were distributed across the entire Project study area (1094.86 ha) comprising 30 % detailed site assessments and 70 % visual site assessments. A total of 244 terrestrial survey plots were completed within or adjacent to the Project area located within the ALR (51.35 ha) and comprised of vegetation ground inspections and shallow soil inspection plots; of these, 26 comprehensive soil inspection plots were completed. At the discretion of the field assessment team, a Survey Intensity Level 1 was targeted (i.e., referring to a minimum of 1 inspection site per 20 ha) for Project features and sample locations were field-fit to capture the predominant terrain and landscape attributes.

Field data were collected based on methods outlined in the *Land Management Handbook #25 — Field Manual for Describing Terrestrial Ecosystems* (BC-MOE and BC-MOF 1998); all field data were logged and geo-referenced using VPro Digital Forms. Field data cards for detailed soil assessment plots (field data cards #1-26) and sample point UTM coordinates (both vegetation ground inspections & shallow soil inspections, and detailed soil inspections) are presented in Appendix A; Terms and Definitions are presented in Appendix B; overview pictures captured during field survey are presented in Appendix C.

Note: For brevity, field data cards for visual ground inspections and shallow soil inspections used for the delineation and classification of terrestrial ecosystems and soil mapping units are not included herein.



2.2 SITE ASSESSMENT OVERVIEW

Land Use and Terrain

The Project area is located within the Bulkley Mountain range of the Hazelton Mountains Region as well as the Nechako Plateau of the Interior Plateau Region (Banner et al. 1993). Glacial till is the dominant parent material and landform elements are characterized by hummocks and ridges on surface plateaus and floodplains and terraces along rivers and creeks. The Project area is primarily located on undeveloped forested land. Areas have undergone previous disturbance associated with various discrete land use activities including road development and commercial forestry (i.e., cutblocks and access roads) and a lesser amount of agricultural land use (i.e., pasture/hayland or rangeland and cultivated cropland) and rural residential development.

Vegetation and Soil Resources

The entire Project area coincides with a combination of Engelmann Spruce-Subalpine Fir and Sub-Boreal Spruce biogeoclimatic zones (BC-MOF 1991). Based on the field assessment, portions of the Project area located in the ALR occurred on forested land in the Dry Cool subzone of the Sub-Boreal Spruce biogeoclimatic zone (SBSdk). Vegetation assembly (Photos 1-5) was predominantly comprised of trembling aspen (*Populus tremuloides*), lodgepole pine (*Pinus contorta*), hybrid white spruce (*Picea engelmannii* × *glauca*) and occasionally paper birch (*Betula papyrifera*). Black twinberry (*Lonicera involucrata*), Canada buffaloberry/soopolallie (*Shepherdia canadensis*) and thimbleberry (*Rubus parviflorus*) were commonly observed in the understory, among other native species. Meanwhile, two portions of the Project area coincided with agricultural land use. This refers to a 1 km segment (~1.5 ha) of the Bypass Road that is bordered (north and south) by cultivated cropland and pasture/hayland, and a portion (~18 ha) of the Rail Infrastructure that occurs within mixed forested land and pasture/hayland. Vegetation in pasture/hayland was comprised of mixed forage grasses (Photo 6) such as bluegrass (*Poa pratensis*) and bluejoint (*Calamagrostis canadensis*).

As described further in Sections 2.3 and 2.4, predominant soil orders occurring within the Project area include Gleyed Regosols, Orthic Dystric Brunisols, Vertic Gray Luvisols, Brunisolic Gray Luvisols and Orthic Gray Luvisols. Soil profiles (Photos 7-12) were generally comprised of a combination of shallow organic veneers and blankets followed by thin/shallow mineral soils with integrated coarse fragments (e.g., gravel) and bedrock. Skeletal soils that do not show any profile development were prevalent in some locations. Where present, topsoils (A horizon) had sandy loam, silt loam, silty clay loam and loam textures; upper subsoils (B horizon) had predominantly sand, sandy loam, silt loam and clay loam/loamy clay textures.

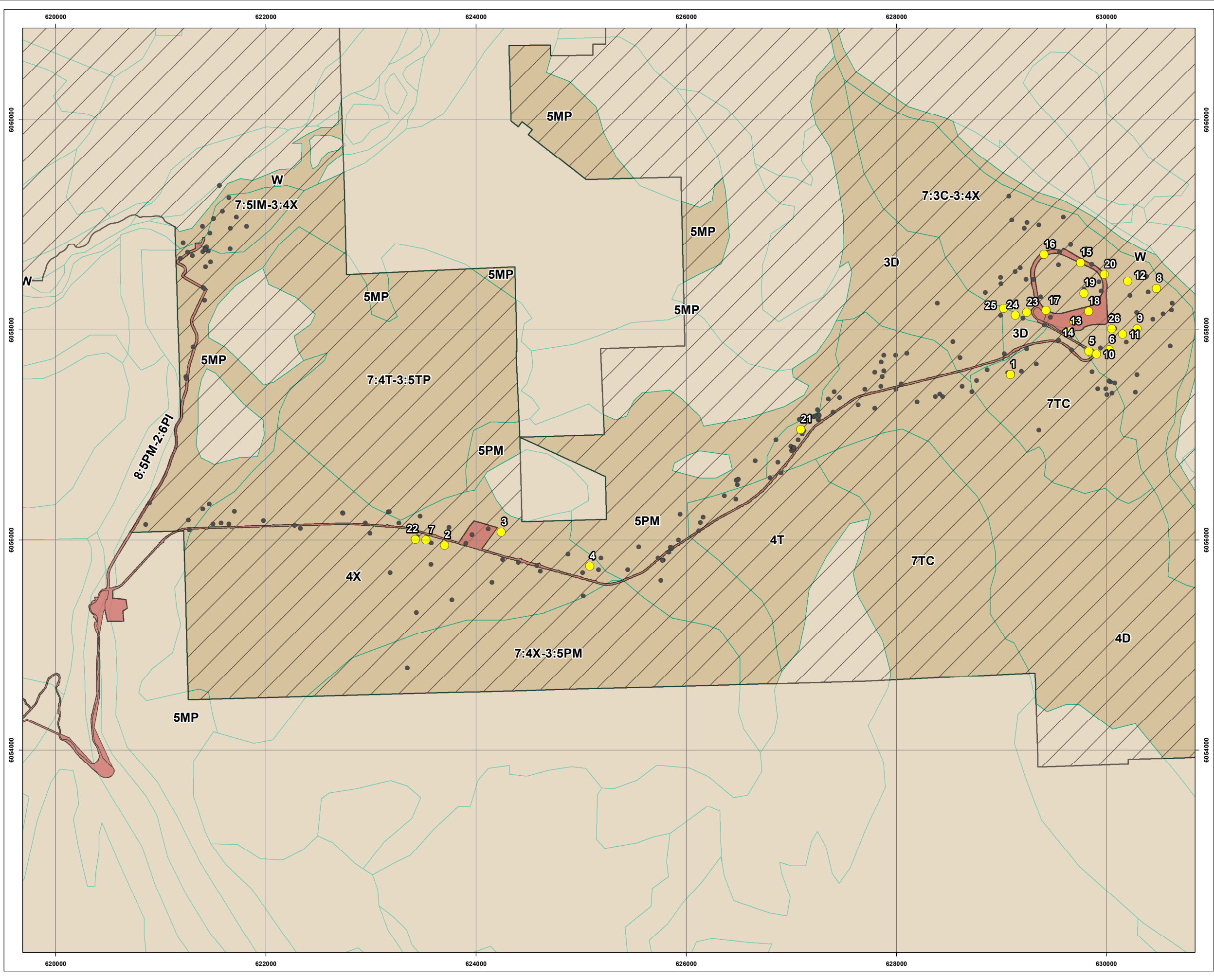


2.3 AGRICULTURAL CAPABILITY UNITS

Portions of the Project area located within the ALR were projected in GIS with spatial inventory data from the *Land Capability Classification for Agriculture in BC* (Ministry of Environment and Ministry of Agriculture and Food 1983). There are seven classes within this system describing agricultural limitations of increasing intensity (i.e., from Class 1 to Class 7) that affect the range of suitable crops and associated management actions. Subclasses indicate additional limitations and hazards within a given land class. Map 2 shows agricultural land capability units occurring within the Project area located within the ALR. Table 1 summarizes corresponding land capability Classes and Subclasses, total Project area and associated land capability descriptors. The total ALR usage by the Project is 51.35 ha: most of this land area (77 %) is comprised of Class 3, Class 3/4 and Class 4 land; a lesser amount of land (18 %) is comprised of Class 4/5 and Class 5 land; the remaining land (5 %) is classified as non-arable.

Table 1. Mapped Agricultural Capability Units and Descriptors.

Class (Decile Ratio)	Subclass	Project Area
3 (100 %)	D	1.62 ha
3 (70 %) / 4 (30 %)	C / X	19.20 ha
4 (100 %)	D	3.84 ha
4 (100 %)	T	1.95 ha
4 (100 %)	X	13.00 ha
4 (70 %) / 5 (30 %)	X / P,M	0.33 ha
4 (30 %) / 5 (70 %)	X / I,M	0.25 ha
5 (100 %)	P,M	8.47 ha
7 (100 %)	T,C	2.65 ha
—	—	(Telkwa River) 0.03 ha
Descriptors		
Class 3	Land Requires Moderately Intensive Management Practices and/or Range of Crops Moderately Restricted	
Class 4	Land Requires Special Management Practices and/or Range of Crops Severely Restricted	
Class 5	Land Capability Restricted to Production of Perennial Forage Crops or Other Specially Adapted Crops	
Class 7	Land Holds No Capability for Agriculture or Sustained Natural Grazing	
Subclass C	Adverse Climate — Thermal Limitations to Plant Growth.	
Subclass D	Undesirable Soil Structure — Soil Properties Restrict and/or Hinder Agricultural Use	
Subclass I	Inundation — Overflow by Streams/Lakes Causes Crop Damage or Restricts Agriculture Use	
Subclass M	Moisture — Low Moisture Holding Capacity Caused by Adverse Inherent Soil Characteristics	
Subclass P	Stoniness — Significant Coarse Fragments Pose Limitations for Agricultural Operations	
Subclass T	Topography — Slope Patterns and Steepness Restrict and/or Hinder Agriculture Use	
Subclass X	Other — Cumulative Minor Adverse Characteristics	



Tenas Project

ALR Precis
Provincial Agricultural Capability Units

Legend

- Detailed Soil Inspection Plots
- Vegetation Ground Inspection and Shallow Soil Inspection Plots
- ALR Boundary
- Agricultural Capability Units
- Project Footprint

Notes

1. All mapped features are approximate and should be used for discussion purposes only.

2. This map is not intended to be a "stand-alone" document, but a visual aid of the information contained within the referenced Report. It is intended to be used in conjunction with the scope of services and limitations described therein.

3. Current Disturbance Data Extent is a 4km buffer around the greatest extent of the Wildlife RSAs and the Telkwa Herd Caribou Core/Matrix Habitat. This is the extent of the spatial data used in the current anthropogenic disturbance layer.

Sources

- Data: British Columbia Government Data Catalogue

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Map 2

ALLEGIANCE COAL LIMITED

EDI ENVIRONMENTAL DYNAMICS INC.

2.4 SOIL SERIES

Portions of the Project area located within the ALR were projected in GIS with soil series spatial inventory data from the *Soil Resources of the Smithers-Hazelton Area* (Runka 1972). Soil series refer to a group of soils with similar profiles developed from similar parent materials under comparable climatic conditions and vegetation. Soil series also describe (to varying extent) agricultural suitability and limitations. Map 3 shows the primary (i.e., first order) soil series units along the Project area located within the ALR; topsoil stripping conditions based on the assessment of comprehensive soil inspection plots (#1-26) are presented therein. Table 2 summarizes the corresponding soil series names and descriptors, landform attributes and total Project area.

Table 2. Mapped Soil Series and Descriptors.

Polygon ID	Primary Series	Surface Expression	Land Area
126781	Alix	Level/Flat to Gently Sloping	4.67 ha
126820, 126828	Babine	Level/Flat to Undulating	3.15 ha
126832, 126837, 126872	Barrett	Undulating to Rolling	15.02 ha
126846	Causqua	Gently to Very Steeply Sloping	0.72 ha
126843, 126863	Crystal	Hummocky Plain, Gently Sloping to Strongly Rolling	12.23 ha
126854, 126878	Deserters	Undulating to Rolling slopes	2.48 ha
126834	Slug	Level/Flat to Steeply Sloping	1.39 ha
126795, 126867	Stellako	Low Relief Floodplain	11.23 ha
126796	Vanderhoof	Level/Flat to Undulating	0.46 ha
Name	Soil Order	Descriptors	
Alix	Orthic Dystric Brunisols	Rapidly Drained; Coarse and/or Shallow Topsoil; Coarse Skeletal Glaciofluvial Parent Material.	
Babine	Vertic Gray Luvisols	Well Drained; Moderately Fine to Fine-Textured Topsoil; Fine-Textured Glacio-Lacustrine and Morainal Till Parent Material.	
Barrett	Orthic Gray Luvisols	Moderately Well Drained; Medium to Fine-Textured Topsoil; Moderately Coarse Morainal Till Parent Material.	
Causqua	Brunisolic Gray Luvisols	Well Drained; Medium-Textured Topsoil; Moderately Fine Morainal Till Parent Material.	
Crystal	Orthic Dystric Brunisols	Well Drained; Medium-Textured Topsoil; Coarse Skeletal Morainal Till Parent Material.	
Deserters	Brunisolic Gray Luvisols	Moderately Well Drained; Medium to Fine-Textured Topsoil; Moderately Coarse Morainal Till Parent Material.	
Slug	Orthic Dystric Brunisols	Well Drained; Medium-Textured Topsoil; Moderately Coarse Fluvial Parent Material.	
Stellako	Gleyed Regosol	Imperfectly Drained; Weakly Developed Topsoil; Moderately Coarse-Textured Fluvial Parent Material.	
Vanderhoof	Orthic Gray Luvisols	Moderately Well Drained; Medium to Fine-Textured Topsoil; Fine Textured Glacio-Lacustrine Parent Material.	

2.5 SOIL MAPPING UNITS

Portions of the Project area located within the ALR were projected in GIS with Soil Mapping Units (SMU's) characterized in the Project-specific *Terrain and Soils Report* (Ardea 2020b). Similar to the concept of soil series, SMU's are groupings of soil with similar characteristics that represent systematic and predictable changes of soil properties across the landscape (MSWG 1981, RIC 1996). Map 4 shows the SMU's along the Project area located within the ALR; topsoil stripping conditions based on the assessment of comprehensive soil inspection plots (#1-26) are presented therein. Table 3 summarizes the corresponding landform attributes, textural characteristics, agricultural ratings (good, fair, poor or unsuitable), and total Project land areas.



Table 3. Soil Mapping Units.

ID	Parent Material	Drainage and Topography	Soil Texture	Rooting Depth	Coarse Fragment	Agricultural Rating	Land Area
1.1	Morainal	Well to Moderate Drainage Level to Moderately Steep Slopes	SiL, L, SiCL	30 cm	10-45 %	Good to Fair	17.98 ha
1.2	Morainal/ Fluvial	Imperfect to Poor Drainage Lower Receiving Slopes	SiL, SiCL, SiC	30 cm	10-45 %	Good	1.40 ha
2	Fluvio-Glacial	Well to Rapid Drainage Level to Gentle Slopes	S, LS	30 cm	20-70 %	Fair to Poor	7.21 ha
3.1	Glacio-Lacustrine/ Fluvio-Glacial	Moderate to Imperfect Drainage Level to Gentle Slopes	SiCL, SiL, Si	25 cm	—	Fair to Poor	6.19 ha
3.2	Glacio-Lacustrine/ Morainal/ Fluvial	Poor Drainage Level to Gentle Slopes & Depressions	Si, SiCL, SiL	25 cm	0-10 %	Fair to Good	0.17 ha
4.1	Fluvial	Well to Moderate Drainage Level to Gentle Slopes	LS, S, SL, SiL	30 cm	0-60 %	Unsuitable	0.54 ha
4.2	Fluvial	Poor Drainage Level Slopes	SiL, SiCL, Si	25 cm	—	Fair to Good	0.62 ha
4.3	Fluvial	Well to Rapid Drainage Level to Gentle Slopes	SL, LS	25 cm	0-40 %	Fair to Poor	15.01 ha
5	Morainal	Well to Rapid Drainage Gentle Upper Slopes and Crests	SiL, FSL, SL	20 cm	30-75 %	Poor	0.88 ha
7	Organic	Poor to Very Poor Drainage Level Slopes and Depressions	Organic	30 cm	—	Unsuitable	0.02 ha
8.1	Colluvium/ Fluvio-Glacial	Rapid to Very Rapid Drainage Moderately Steep to Steep Slopes	SiL, L, SiCL	30 cm	25-80 %	Unsuitable	1.32 ha
8.2	Colluvium	Moderate to Well Drainage Gentle to Moderate Receiving Slopes	SiL, L, SiCL	40 cm	0-50 %	Unsuitable	0.01 ha

L = Loam; SiL = Silt Loam; SiCL = Silty Clay Loam; Si = Silt; SiC = Silty Clay
S = Sand; LS/SL = Loamy Sand/Sandy Loam; FSL = Fine Sandy Loam