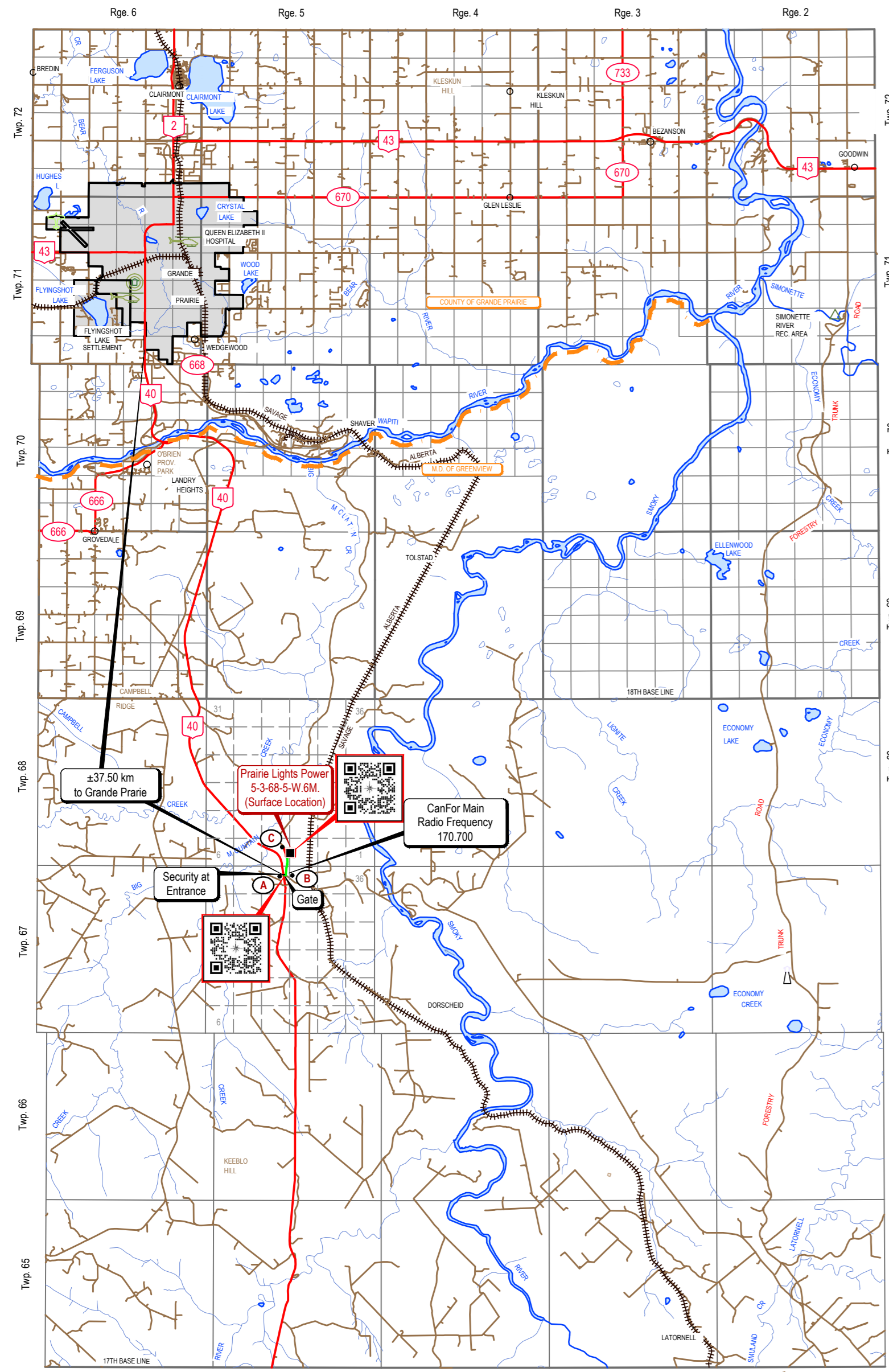


Appendix A - Survey Plan



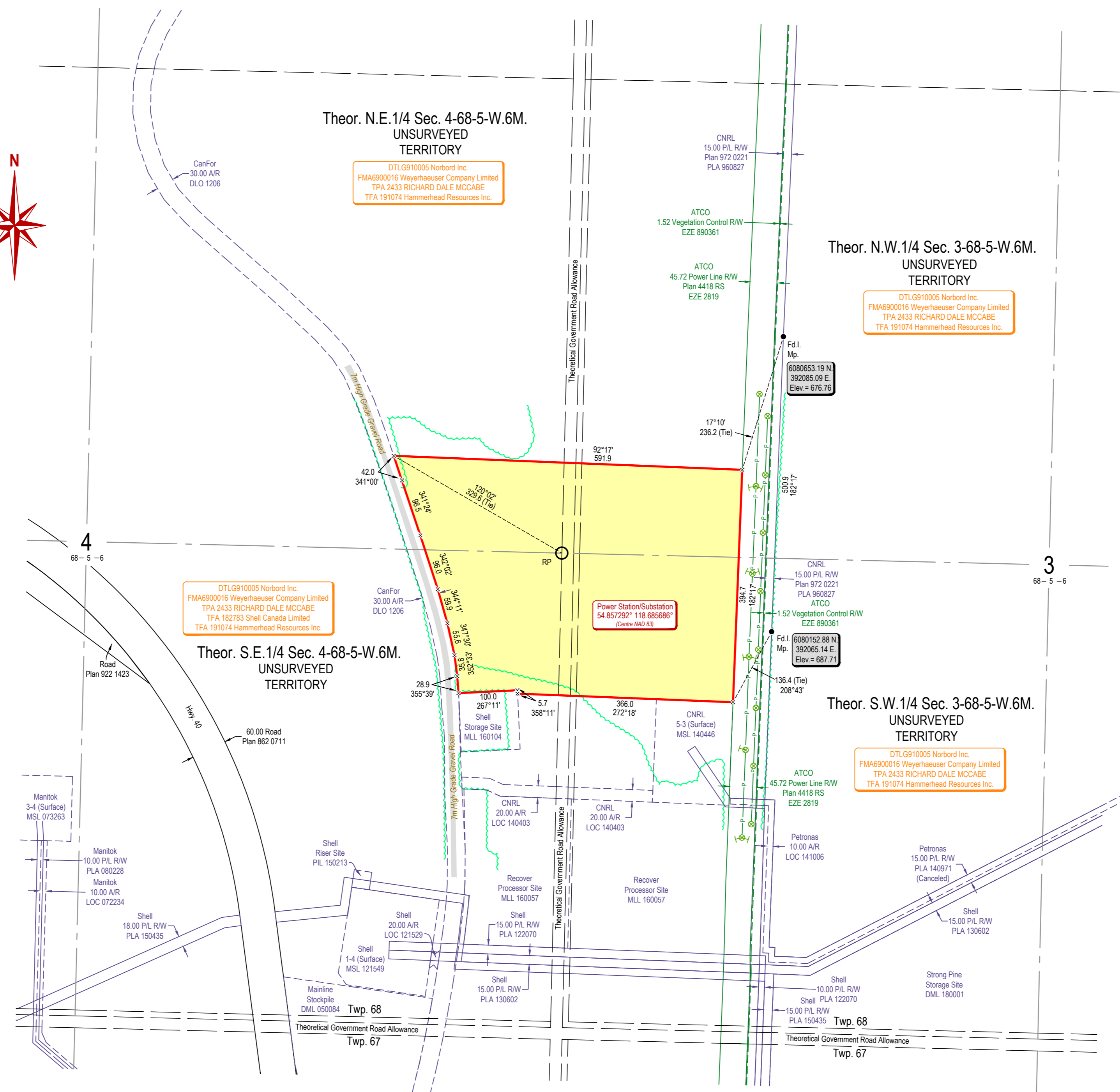
ACCESS ROUTE MAP

LEGEND
 Proposed location shown thus: ■
 Access Route shown thus: —
 County Boundary shown thus: —

Road Usage (PLSR current as of 02/12/19)
 A to B CanFor - DLO 1774 (High Grade Gravel Road) CanFor Road - Class I
 B to C CanFor - DLO 1206 (High Grade Gravel Road) - Class II

0.1 km
 1.1 km
 1.2 km

QR CODES
 IF YOU SEE A QR CODE ON THIS PLAN USE YOUR QR CODE READER ON YOUR MOBILE DEVICE TO SCAN AND SEE THE POINT OF INTEREST IN YOUR GOOGLE MAPS® OR APPLE MAPS® (INTERNET SERVICE REQUIRED)



Theor. N.E. 1/4 Sec. 4-68-5-W.6M.
 UNSURVEYED TERRITORY

DTL G910005 Norbord Inc.
 FMA6900016 Weyerhaeuser Company Limited
 TPA 2433 RICHARD DALE MCCABE
 TFA 191074 Hammerhead Resources Inc.

Theor. N.W. 1/4 Sec. 3-68-5-W.6M.
 UNSURVEYED TERRITORY

DTL G910005 Norbord Inc.
 FMA6900016 Weyerhaeuser Company Limited
 TPA 2433 RICHARD DALE MCCABE
 TFA 191074 Hammerhead Resources Inc.

Theor. S.E. 1/4 Sec. 4-68-5-W.6M.
 UNSURVEYED TERRITORY

DTL G910005 Norbord Inc.
 FMA6900016 Weyerhaeuser Company Limited
 TPA 2433 RICHARD DALE MCCABE
 TFA 182783 Shell Canada Limited
 TFA 191074 Hammerhead Resources Inc.

Theor. S.W. 1/4 Sec. 3-68-5-W.6M.
 UNSURVEYED TERRITORY

DTL G910005 Norbord Inc.
 FMA6900016 Weyerhaeuser Company Limited
 TPA 2433 RICHARD DALE MCCABE
 TFA 191074 Hammerhead Resources Inc.

Power Station/Substation
 54.857292° 118.685686°
 (Centre NAD 83)

WETLANDS SHAPE FILES NOT PROVIDED

CROWN AREA USAGE

DISPOSITION	WITHOUT EXISTING DISPOSITIONS	WITHIN EXISTING DISPOSITIONS	TOTAL
POWER STATION/SUBSTATION	20.581 ha	50.85 Ac.	0.00 ha
			0.00 Ac.
			20.581 ha
			50.85 Ac.

NOTES
 DISTANCES ARE IN METRES AND DECIMALS THEREOF
 BEARINGS ARE UTM NAD83(CRS) ZONE 11; DERIVED FROM PUBLISHED AT 4.1 COORDINATES.
 REFERENCE POINT COORDINATE IS 6 080 286.24 N. 391 709.36 E.
 COMBINED SCALE FACTOR IS 0.999640
 ENC FILE # 2019006162
 TO THE BEST OF OUR KNOWLEDGE:
 NEAREST KNOWN RESIDENCE IS ±11.30km N.W. (N.E. 1-69-6-6)
 NEAREST KNOWN SURFACE DEVELOPMENT IS ±3.41km S.E. (GAS PLANT, N.W. 26-67-5-6)
 NEAREST URBAN CENTRE IS ±21.90km N.W. (HAMLET OF GROVEDALE)
 LAND SEARCH CURRENT AS OF 02/12/19
 AREA DOES NOT REQUIRE HISTORIC RESOURCES APPLICATION

LEGEND

BURIED PIPE	—	EPHEMERAL DRAW	—
O/H POWER LINE	—	EXISTING TEMPORARY AREA	—
BURIED TELUS	—	PHASE-3 HYDROGRAPHY	—
BURIED CABLE	—	RIVER/CREEK	—
BUSH LINE	—	SLOPE LINE	—
FENCE LINE	—	VEGETATION CHANGE	—
		TOPO (OTHER)	—

NON-MONUMENTED GNSS POSITION: x
 POWER POLE: ●
 CROSSINGS SHOWN THUS: ⊗
 REFERENCE POINT: RP
 PORTIONS REFERRED TO SHOWN THUS: —
 TEMPORARY AREAS SHOWN THUS: —

E EAST
 Fd. FOUND
 I. STATUTORY IRON POST
 M. MOUND OR MERIDIAN
 Mp. MARKER POST
 N. NORTH
 N.E. NORTHEAST
 N.W. NORTHWEST
 PL. PIPELINE
 Rge. RANGE
 R/W. RIGHT-OF-WAY
 S. SOUTH
 S.E. SOUTHEAST
 S.W. SOUTHWEST
 Sec. SECTION
 Twp. TOWNSHIP
 Theor. THEORETIC
 W. WEST

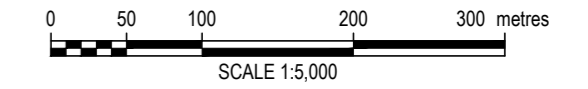
FINAL REVISION SUMMARY

REVISED CLIENT NAME	(04/22/19) RJN/CAA
ORIGINAL ISSUE	(03/25/19) NNT/KF

PRAIRIE LIGHTS POWER GP INC.

SKETCH PLAN SHOWING
ELECTRICAL - POWER STATION/SUBSTATION
 WITHIN THEORETIC
 W. 1/2 SEC. 3, E. 1/2 SEC. 4 TWP. 68, RGE. 5, W.6M.
 AND THROUGH ADJOINING
 THEORETICAL GOVERNMENT ROAD ALLOWANCE(S)

MUNICIPAL DISTRICT OF GREENVIEW NO. 16, ALBERTA



DISCLAIMER
 THIS PLAN REPRESENTS THE BEST INFORMATION AVAILABLE AT THE TIME OF SURVEY. COMPASS GEOMATICS LTD. AND ITS EMPLOYEES TAKE NO RESPONSIBILITY FOR THE LOCATION OF ANY UNDERGROUND PIPES, CONDUITS, OR FACILITIES. WHETHER SHOWN ON OR OMITTED FROM THIS PLAN. AN ADDITIONAL SEARCH FOR SPECIFIC BURIED FACILITIES USING ALL RESOURCES MUST BE PERFORMED JUST PRIOR TO CONSTRUCTION.
 ALBERTA FIRST CALL 1-800-242-3447

COMPASS
 Geomatics Ltd.
 11-4608 62nd Street
 Red Deer, Alberta T4N 6T3
 Office (403) 356-0111 Fax (403) 356-0114
 www.compassgeomatics.ca

ALBERTA LAND SURVEYORS ASSOCIATION
 PERMIT NUMBER
P266
 Compass Geomatics Ltd.

Appendix B - LAT Report

Landscape Analysis Tool (LAT) Report

Miscellaneous Lease

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LAT Number:	0000056860	LAT Date:	2019-03-26	12:19:05
Project Name:	Prairie Lights Power GP Inc.			
Project Description:	Power Station / Substation			
Disposition Type:	DML	Miscellaneous Lease		
Purpose Type:	EDRA	Electrical		
Activity Type:	EDRA02DMLP	Power Station / Substation		

Responsibility of Applicants:

It is the applicant's responsibility to conduct a full review of the generated LAT Report, ensuring that you are aware and have a full understanding of the identified standards and conditions, and any additional limitations that may also be imposed by an approved higher level plan, reservation or notation or any other law or Order of the Province or the Government of Canada that may impact the placement, construction or operation of the proposed disposition, purpose and activity.

The applicant must assess if the proposed disposition, purpose and activity can meet the applicable standards, conditions and any limitations which will subsequently determine if the application can be submitted to the regulatory body. Applicants should complete a thorough review of regulatory and application processes including supporting procedural documents and the generated LAT Reports prior to making this determination.

Where the applicant chooses not to meet, or is not able to meet, one or more Approval Standards or higher level plans within the generated LAT Report as submitted as part of the application, or any affected reservations as identified within the land status report, the applicant is required to complete the appropriate mitigation as part of their supplement submission that addresses individually each of the items not being met.

The information provided within the LAT Tool is a spatial representation of features provided to the applicant for activity and land use planning. The accuracy of these layers varies depending on the resource value being represented. The regulatory body insists that site visits, wildlife surveys and groundtruthing efforts are completed to ensure that you, the applicant can meet the procedures detailed within the *Pre-Application Requirements for Formal Dispositions*, the identified approval standards, operating conditions and *Best Management Practices* as represented within the *Master Schedule of Standards and Conditions*.

Proximity to Watercourse/Waterbodies:

Applicants will ensure that standards or conditions for Watercourse/Waterbody features as identified within the generated LAT Report are followed. It is the responsibility of the applicant to ensure the identified setbacks and buffers are properly established through a pre-site assessment and maintained.

NOTE: Be aware that the submission of a LAT Report as part of an application submission does not imply approval of the activity. The standards and conditions identified within the LAT Report may be subject to change based on regulatory review.

Landscape Analysis Tool (LAT) Report

Miscellaneous Lease

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Base Features

Green/White Area	Green Area
Municipality	M.D. of Greenview No. 16
FMA	Weyerhaeuser Company Limited (Grande Prairie)
FMU	G16
Provincial Grazing Reserve	
Rocky Mountain Forest Reserve	
PLUZ Areas	

Provincial Sanctuaries

Wildlife Corridors	
Restricted Area	
Game Bird	Zone 2
Seasonal	

Landscape Analysis Tool (LAT) Report

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Higher Level Plans

Integrated Resource Plan (Local)	
Integrated Resource Plan (Subregional)	
Access Management Plan	
Landscape Management Plan	

Landscape Analysis Tool (LAT) Report

Miscellaneous Lease

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Additional Application Requirements

Wildlife Survey		DND Area	
-----------------	--	----------	--

Historical Resources

HRV Rating	Category

Historic Resources Application Required: No

While no specific historic resource concerns have been identified within the proposed activity area, Section 31 of the *Historical Resources Act* states that "a person who discovers a historic resource in the course of making an excavation for a purpose other than for the purpose of seeking historic resources shall forthwith notify the Minister of the discovery." Should a historic resource be encountered with the construction or operation of this disposition, information on who to contact can be found on the Ministry of Culture and Tourism's website in; Standard Requirements under the Historical Resources Act: Reporting the Discovery of Historic Resources.

Landscape Analysis Tool (LAT) Report

Miscellaneous Lease

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Sensitive Features

Wildlife and Other Sensitive Species

	Intersected		Intersected
Burrowing Owl Range		Ord's Kangaroo Rat Key Habitat Area	
Caribou Range		Other Sensitive and Endangered Species	
Colonial Nesting Birds		Piping Plover Waterbodies	
Endangered and Threatened Plants Ranges		Sensitive Amphibian Ranges	
Federal Aquatic Critical Habitat		Sensitive Raptor Range	
Greater Short-horned Lizard Habitat		Sensitive Snake Species Range	
Greater Short-horned Lizard Range		Sharp-tailed Grouse Leks and Buffer	
Greater Sage Grouse Range		Sharp-tailed Grouse Survey	
Greater Sage Grouse Leks and Buffer		Special Access Area	
Grizzly Bear Zone		Swift Fox Range	
Key Wildlife and Biodiversity Areas		Trumpeter Swan Buffer	
Mountain Goat and Sheep Areas		Trumpeter Swan Waterbodies/Watercourse	
Ord's Kangaroo Rat Range			

Federal Orders:

	Intersected
Greater Sage Grouse	

Grassland and Natural Regions:

	Intersected		Intersected
Central Parkland		Mixed Grass Sub-region layer	
Central Parkland and Northern Fescue		Montane	
Chinook Grasslands		Northern Fescue	
Dry Mixed Grass		Peace River Parkland	
Foothills Fescue		Permafrost	
Foothills Parkland Grasslands		Rough Fescue PNT	
Grassland and Parkland Natural Region		Subalpine or Alpine	

Landscape Analysis Tool (LAT) Report

Miscellaneous Lease

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Alberta Township System (ATS) Land List

Quarter	Section	Township	Range	Meridian	Road Allow.	Sensitive Features Identified
SW	3	68	5	6	RW	Green / White Area
NE	4	68	5	6		Green / White Area
SE	4	68	5	6		Green / White Area
NW	3	68	5	6		Green / White Area
SW	3	68	5	6		Green / White Area
NW	3	68	5	6	RW	Green / White Area

Landscape Analysis Tool (LAT) Report




Miscellaneous Lease

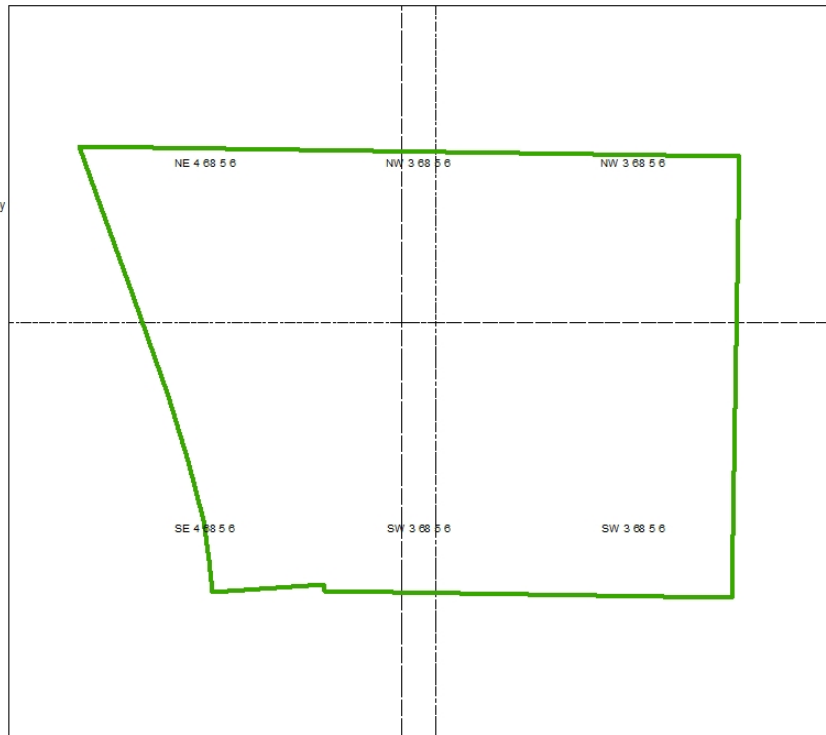
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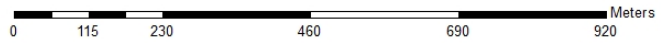


Legend

-  Power
-  Alberta Township System (ATS) Boundary
-  Water



1:6,466



Landscape Analysis Tool (LAT) Report

Miscellaneous Lease

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Land Management		
Report ID	Approval	Condition
1	1032-AS	Incidental Activities* as referenced on the associated supplement that fall within the sizing parameters, as defined within the PLAR Approvals and Authorizations Administrative Procedure's as amended, identified at the time of application are subject to the conditions of the associated Disposition and available for use for a term of four years from date of Disposition approval.
2	1035-AS	Where an Integrated Resource Plan or a Reservation/Protective Notation identifies a greater set back, the greater set back will prevail.
3	1036-AS	The Disposition Holder must not submit additional applications for access dispositions if access under disposition already exists.
4	1037-AS	Where a Higher Level Plan* exists, the Disposition Holder must follow any direction provided within that plan.
5	1039-AS	With the exception of pipelines, for activities that fall within any Protective Notation (PNT) lands with a purpose code 400 Series encompassing a section of land (259 hectares) or less, located in the Provincial White Area* (i.e., Provincial settled lands), the Disposition Holder must construct all activities within lands developed as range improvement. Where no range improvement exists, activities must occur within 100 metres of the PNT perimeter (i.e., outside boundary).
6	1046	The Disposition Holder must repair or replace any identified improvements (e.g., fences, water control structures, and signage) that were damaged as a result of industry activities on the land to pre-existing condition within 30 days of entry or immediately if occupied by livestock.
7	1047	The Disposition Holder must maintain all activities for proper drainage of surface water.
8	1049	For activities that occur on Canadian Forces Bases, the Disposition Holder must coordinate all activities through Energy Industry Control at (780) 842-5850 for activity on Canadian Forces Base/Area Support Unit, Wainwright, and (780) 573-7206 for activity on Canadian Forces Base/Area Support Unit, Cold Lake.
9	1051	The Disposition Holder must comply with all requirements and direction as defined within the Pre-Application Requirements for Formal Dispositions as amended from time to time.
10	1053-AS	The Disposition Holder must not locate activities within 45 meters from the top of any coulees* with the exception of activities such as; access, pipelines and linear easements crossing those features.
11	1058	The Disposition Holder must remove all garbage and waste material from this site to the satisfaction of the Regulatory Body, in its sole discretion.
12	1062	The Disposition Holder must not enter the boundaries of any research or sample plot.

Landscape Analysis Tool (LAT) Report

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13	1063	<p>When proposed activities cross designated or recreation trail(s)* or when operations encroach on those trail(s)*, the Disposition Holder must ensure that:</p> <ul style="list-style-type: none"> • Activities crossing trails* are constructed in a manner that will not remove snow from the trail(s)*, produce ruts in the trail(s)*, or otherwise adversely affect travel. • No mechanical equipment is permitted to travel along the trail(s)*, unless approved in writing by the Regulatory Body. • Warning signs are posted along trail(s)* during construction and reclamation activities advising trail* users of the upcoming crossing location. • Any recording devices or equipment laid along the trail(s)* are placed off of the travel portion so that the geophones do not interfere with travel.
14	1064	<p>The Disposition Holder must install a Texas gate where the access road enters the grazing disposition where operations occur throughout the grazing season to a minimum width of 2.25 metres and installed over a pit that is a minimum of 76 centimeters deep and maintained and free of dirt.</p>
15	1071	<p>Where a Wildfire Prevention Plan or FireSmart Plan is reviewed and approved by the Wildfire Management Branch, the Disposition Holder must ensure any proposed clearing on public land has been authorized by the Regulatory Body.</p>

Vegetation

Report ID	Approval	Condition
16	1200	The Disposition Holder must manage all weeds as per the Weed Control Act.
17	1204	The Disposition Holder must ensure the chemical application for the purpose of vegetation control occurs in accordance with the Pesticide Regulation and Environmental Code of Practice for Pesticides.
18	1205	The Disposition Holder must salvage all merchantable timber and haul to the location of end use unless a request for waiver is approved under the Forests Act.
19	1206	The Disposition Holder must salvage merchantable timber according to the utilization standards for the overlapping timber disposition(s) (i.e., FMA, CTL, DTL) or, where no overlapping timber disposition exists, as per the approved forest management plan.
20	1207	The Disposition Holder must slash, limb and buck flat to the ground all woody debris* and leaning trees created by the activity to a length that must not exceed 2.4 metres.
21	1208	On forested lands, the Disposition Holder must dispose of excess coarse woody debris* remaining after rollback* or stockpiling for interim reclamation* and final reclamation*.
22	1209	The Disposition Holder must dispose of coarse woody debris* within FireSmart Community Zones* by burning unless a Debris Management Plan has been approved under the Forest and Prairie Protection Act.
23	1211	The Disposition Holder must not allow timber storage piles or windrows to encroach into standing timber.

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Soil		
Report ID	Approval	Condition
24	1256	The Disposition Holder must not conduct any activities during adverse ground conditions*.
25	1257	The Disposition Holder must conduct all activity to prevent and control erosion* and sedimentation on or adjacent* to the Lands.
26	1258	The Disposition Holder must install and maintain erosion control* measures.
27	1259-AS	The Disposition Holder must not transport from the Lands topsoil* or subsoil* unless authorized in writing by the Regulatory Body.
28	1260	Where activities have occurred on the Lands that do not involve minimal disturbance* construction, the Disposition Holder must salvage topsoil* for land reclamation as follows: a. Salvage all topsoil* from: i. Mineral soils ii. Shallow organic soils* iii. Reclaimed soils b. Where the depth of the topsoil* is less than 15 cm, the topsoil* and part of the subsoil* to a total depth of 15 centimetres must be salvaged, unless the upper subsoil* is considered chemically unsuitable*.
29	1263	All reclamation material* must be considered suitable as defined in the May 2001 Salt Contamination Assessment Guidelines and meet the February 2016 Alberta Tier 1 Soil and Groundwater Remediation Guidelines, as amended or replaced from time to time.
30	1265	The Disposition Holder must store reclamation material* in accordance with all of the following: a. reclamation material* must not be placed beneath the ground surface or buried in any way; b. coarse woody debris* stored for greater than 12 months must be stored with the topsoil*; and c. topsoil* and subsoil* must be stored separately.
31	1267	The Disposition Holder must not mix wood chips with any reclamation material*.
32	1268	The Disposition Holder must not apply wood chips to the lands at a depth greater than five (5) centimeters.
33	1269	The Disposition Holder must manage wood chips in accordance with the directive ID 2009-01 Management of Wood Chips on Public Land as amended from time to time.
34	1270	The Disposition Holder must not store piles or windrows of reclamation material* that encroach into standing timber.
35	1271	The Disposition Holder must not use soil sterilants for any activities on the Lands.

Landscape Analysis Tool (LAT) Report

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Watercourse / Waterbody		
Report ID	Approval	Condition
36	1301-AS	The Disposition Holder must not interrupt natural drainage (including ephemeral and fens*), block water flow or alter the water table.
37	1303-AS	The Disposition Holder must construct activities outside the appropriate watercourse* setbacks, except for vehicle or pipeline crossings: a) Intermittent watercourses* and springs must have a setback of at least 45 metres from the top of the break. b) Small Permanent watercourses* must have a setback of at least 45 metres from the top of the break. c) Large Permanent watercourses* must have a setback of at least 100 metres from the top of the break.
38	1304-AS	The Disposition Holder must maintain the following waterbody* setbacks from the disposition edge for all site activities, or paralleling linear dispositions, or pipeline bore site: a) A minimum setback of 45 metres of undisturbed vegetation must be maintained from non-permanent seasonal wetlands*. b) A minimum setback of 100 metres from the bed and shore* of semi-permanent and permanent ponds, wetlands*, shallow open water ponds and lakes.
39	1310	The Disposition Holder must not deposit or place debris*, soil or other deleterious materials* into or through any watercourse* and/or waterbody*, or on the ice of any watercourse* and/or waterbody*.
40	1315	The Disposition Holder must acquire an authorization for access (off-disposition) for water withdrawal activities.
41	1317	Where surface disturbance* will occur and a risk of surface erosion* exists, the Disposition Holder must install and maintain sediment* control structures to dissipate the flow of water and capture sediment* prior to it entering a watercourse* or waterbody*.
42	1325	The Disposition Holder must not remove or use water from dugouts, surface ponds, springs, or water wells within the grazing disposition unless an authorization is issued from the Environment and Parks (GoA) agrologist.
43	1327	All licences, authorizations and approvals issued under the Alberta Environmental Protection and Enhancement Act, Water Act or Public Lands Act should not be taken to mean the Disposition Holder has complied with federal legislation. The Disposition Holder should contact Habitat Management, Fisheries and Oceans in relation to the application of federal laws relating to the Fisheries Act (Canada). Fisheries Protection Program, Fisheries and Oceans Canada 867 Lakeshore Road, Burlington, Ontario, L7R 4A6 Telephone: 1-855-852-8320 Email: Fisheriesprotection@dfo-mpo.gc.ca Web address: www.dfo-mpo.gc.ca The Disposition Holder should also contact the Navigation Protection Program, Canadian Coast Guard, 4253-97 Street, Edmonton, Alberta, T6E 5Y7, phone: (780) 495-4220, relating to the Navigation Protection Act.

Landscape Analysis Tool (LAT) Report

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Reclamation		
Report ID	Approval	Condition
44	1351	For progressive reclamation* on forested lands*, the Disposition Holder must replace all reclamation materials* that have been salvaged in accordance with all of the following: a. all salvaged subsoil* must be replaced, then all salvaged topsoil*; and b. reclamation materials* must be replaced over the entire progressive reclamation area*; unless otherwise approved in writing by the Regulatory Body.
45	1353	The Disposition Holder must complete temporary reclamation* on the Lands within 1 growing season of construction phase* for all topsoil* and subsoil* stockpiles required for final reclamation*.
46	1354	The Disposition Holder must prior to seeding herbaceous seed in forested* or peatlands* submit a Request for Seeding in writing to the Regulatory Body that contains all of the following: a. rationale for conducting seeding of herbaceous species*; b. a description of the proposed site for seeding including information with respect to the following: i. Whether the Lands are subject to high erosion* ii. Whether the Lands are prone to invasion from agronomic or weed species c. a proposed seed mix composition for re-vegetation of the Lands in accordance with the Native Plant Revegetation Guidelines for Alberta, 2001 as amended or replaced from time to time or a rationale for alternate species; d. provide a seed certificate in accordance with the Seed Act for the seed mixed to be used for re-vegetation*; and e. any other information requested by the Regulatory Body.
47	1355	The Disposition Holder must only conduct seeding in accordance with the written request for seeding as approved by the Regulatory Body.
48	1356	The Disposition Holder must when seeding cultivated lands*, use agronomic or forage seed that meets or exceeds Certified #1 as outlined in the Seeds Act and Seeds Regulations. Seed mixes are to be free of species listed in the Weed Control Act. A seed certificate must be provided to the Regulatory Body within 30 days upon request.
49	1357	The Disposition Holder must re-vegetate the Lands with trees or shrubs within the Green Area* that meet the requirements of the December 2016 Alberta Forest Genetic Resource Management and Conservation Standards document, as amended or replaced from time to time.
50	1359	The Disposition Holder must not have slash and rollback* accumulations within five (5) meters of the perimeter of the disposition boundary, greater than the percent ground cover on the surrounding undisturbed forest floor.
51	1361	The Disposition Holder must complete progressive reclamation* on forested lands* for all associated and incidental disturbances to the Disposition.

Landscape Analysis Tool (LAT) Report

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52	1362	The following activities are excluded from progressive reclamation* requirement on forested lands*: a) Lands that have received authorization for clay pad construction; and b) Lands with a 4:1 or steeper slopes where a cut and fill has been constructed to level the ground surface.
53	1363	For final reclamation*, the Disposition Holder must complete all of the following: a) contour the disturbed land to the pre-disturbance landform or to the landform approved by the Regulatory body; b) replace all stockpiled subsoil*, then replace all stockpiled topsoil*; c) spread all coarse woody debris* on forested lands*; and d) reclamation materials* must be replaced over the entire area from which they were removed unless otherwise approved in writing by the Regulatory Body.
54	1364	The Disposition Holder must reclaim the Lands to the pre-disturbance land use* type (forested*, grassland*, cultivated*, mineral wetland* and peatlands*) unless otherwise authorized in writing by the Regulatory Body.

Wildlife

Report ID	Approval	Condition
55	1500	The Disposition Holder must conduct a complete and immediate Wildlife Sweep* of the Lands (plus 100 metre buffer*) subject to the disposition prior to any activity.
56	1501	The Disposition Holder must submit results from a Wildlife Sweep* to the Fisheries and Wildlife Management Information System (FWMIS) and notify the issuing Regulatory Body in writing upon request that the Wildlife Sweep* was completed.
57	1502-AS	The Disposition Holder must incorporate a buffer* zone of a minimum width of 100m undisturbed vegetation, where an established buffer* does not already exist (e.g. Species at Risk) for any and all key habitat features including, but not limited to leks*, nests, dens and houses identified in the Wildlife Sweep*.
58	1503	When Wildlife Surveys* are required, the Disposition Holder must submit results from the Wildlife Survey* to the Fisheries and Wildlife Management Information System (FWMIS).
59	1509	The Disposition Holder must incorporate buffers*, setbacks and activity timing restrictions for any and all key habitat features including, but not limited to leks*, nests, dens and houses identified in the wildlife survey*.

Landscape Analysis Tool (LAT) Report

Miscellaneous Lease

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60	1510	<p>The Disposition Holder is responsible for compliance with federal laws and should contact Environment and Climate Change Canada in relation to the application of federal laws relating to the Migratory Birds Convention Act and the Species at Risk Act.</p> <p>Canadian Wildlife Service Prairie Region Environment and Climate Change Canada Eastgate Offices 9250 – 49th Street Edmonton, Alberta T6B 1K5 Telephone: 1-855-245-0331 (toll free) Email: ec.leprpn-sarapnr.ec@canada.ca Web address: sararegistry.gc.ca</p>
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Appendix C - Consultation Program

PRAIRIE LIGHTS POWER GP INC.
Prairie Lights Power Project

Participant Involvement Program (PIP) Report

Prepared for:
Tina Bakarich
Prairie Lights Power GP Inc.

Prepared by:
Samantha Brown – Manager, Power
Scott Land & Lease Ltd.
Suite 900, 202 – 6th Avenue SW
Calgary, AB T2P 2R9
www.scottland.ca
Phone: 403-261-6583
E-mail: sbrown@scottland.ca

June 26, 2019

Participant Involvement Program Overview

This section describes the Participant Involvement Program (PIP) undertaken by Prairie Lights Power GP Inc. (Prairie Power) for the Prairie Lights Power Project (Project). The goal of the PIP was to equip all potentially affected stakeholders with any necessary information and understanding regarding the project to enable them to provide their questions, concerns, and suggestions through personal consultations and other engagement methods. Scott Land & Lease Ltd. (Scott Land) was directed to carry out the PIP on behalf of Prairie Power.

Consultation and notification included landowners, occupants, residents, agencies, and industrial interest holders whom may potentially be impacted by the proposed Project.

Beginning in March 2019, Prairie Power initiated a PIP for the Project in accordance with AUC Rule 007 - Appendix A1 (Participant Involvement Program Guidelines). Prairie Power will continue the PIP over the coming months with new stakeholders who buy, lease, rent, or occupy properties within a minimum of 2,000m from proposed facilities and with other stakeholders seeking additional information. Discussions with stakeholders will continue throughout application review, pre-construction, construction, and operation activities, should the AUC approve the project.

Prairie Power is confident that the PIP has succeeded in ensuring that stakeholders:

- have been properly and adequately notified about the Project
- have been given the opportunity to ask questions and raise issues and concerns about the Project and have had those questions, issues and concerns addressed

Consultation with Landowners, Occupants and Residents

The landowner, occupant and resident notification and consultation portion of the PIP included the following steps:

- Land title searches
- Public Land Standing Report searches (Crown Land)
- Phone calls to determine occupants or residents
- Project Specific Information Package (PSIP) distribution via regular mail
- One-on-one Stakeholder Consultation

Development of Stakeholder List

In March 2019, Scott Land conducted a land title and public land standing report search to create a project specific mailing list. The lands within 2,000m of the project boundary are owned by the Government of Alberta, with the exception of the railway. The mailing list included occupants, residents, leaseholders, landowners and interest holders within 2,000m of the project boundary for notification. Landowners, residents, and occupants within 800m of the Project were identified for personal consultation. A map showing the preliminary project boundary, consultation radius and notification radius is provided in **Appendix 1**. The complete mailing list including corresponding legal locations are provided in **Appendix 2**. A map showing that there are no residences within 2,000m of the project boundary and a map showing the landownership within 2,000m of the project boundary are located in **Appendix 3**.

One-on-One Consultation Procedures

Prairie Power conducted consultations by phone and email as requested by stakeholders. No stakeholders requested in-person meetings for further discussion. During the PIP, Prairie Power completed consultation forms for each consultation. Any follow-up questions were recorded by Prairie Power personnel and forwarded to the applicable contact for response. Various efforts were made to consult with Richard McCabe via telephone. No response was received from Richard McCabe and an exhaust letter was sent via registered mail on May 16, 2019. Delivery of the package was confirmed via signature on May 23, 2019. A copy of the exhaust letter is provided in **Appendix 4**. Prairie Power has completed all follow-up actions and has no outstanding commitments. Third party consents were obtained from any forestry stakeholders, as required.

Returned Mail

No returned mail was received for landowners, occupants or residents during the PIP.

Participant Involvement Program Materials and Activities

Prairie Lights Power GP Inc. – March 2019

The March 2019 Project Specific Information Package (PSIP), provided in **Appendix 5**, included the following:

- Project newsletter containing Prairie Power company and contact information, Scott Land contact information, project location, description, information on other required assessments and permits, consultation information and project schedule
- Visual simulations of the proposed power plant
- Project area map
- The AUC's *Public Involvement in a Proposed Utility Development* brochure

Specific Concerns Expressed During Consultation

No questions or concerns were raised by landowners, occupants, or residents.

Indigenous Engagement

Prairie Power submitted a pre-consultation request to the Aboriginal Consultation Office (ACO) for a miscellaneous lease (DML) on crown land. It was determined that Level 1-Streamlined consultation was required, which allows notified First Nations up to 15 Government of Alberta working days to respond to the project notification. If any First Nations respond to the notification, consultation should be complete within 15 working days of response to notification. If the 15-day notification period has expired and the First Nation has not responded to the project notification within that time, Prairie Power, after providing First Nations with 5 working days to review the consultation record, may ask the ACO to review the consultation record for adequacy. The following three Indigenous groups were identified for consultation:

- Gift Lake Metis Settlement
- Horse Lake First Nation
- Sucker Creek First Nation

The Proponent sent information packages to the three identified Indigenous groups. No responses of objection to the Project were received as a result of consultation. Prairie Power submitted their records of consultation to the ACO and received an Adequacy Assessment deeming consultation complete on April 18, 2019. A copy of the Adequacy Assessment provided in **Appendix 6**. A buffer was not described in the record of consultation, and therefore the adequacy only applies to the footprint of the DML and does not extend to the buffer. The indigenous groups are included on the mailing list.

Consultation with Government Agencies

The same PSIP that was sent to landowners, occupants and residents was sent to the municipality, Municipal District of Greenview No. 16. In March 2019, Scott Land spoke with the Municipal District of Greenview No. 16 to obtain information on what was required to obtain approval. The MD advised they require a title, site plan and development permit application to be filled out and that it would be best to have the Letter of Authority for the DML before submission of the application documents. A development permit application will be submitted later this year once the DML is in place.

Mailing addresses for all agencies notified during the PIP are included in **Appendix 7**.

Consultation with Industry and Oil and Gas Stakeholders

This section describes Prairie Power PIP for the project, as it relates to the notification and consultation undertaken with industry stakeholders (such as oil and gas companies and utility owners) that are potentially affected by the project. Industry stakeholders within 800m were identified for personal consultation and within 2,000m were identified for notification.

Industry stakeholders were provided the same project-specific materials as landowners, residents, and occupants through mail and/or email. No questions or concerns were brought forth. Mailing addresses for all industrial interest holders that were notified during the PIP are included in **Appendix 8**. A map showing the location of nearby industrial interest holders is included as **Appendix 9**.

Returned Mail

Mail was returned for Strong Pine Energy Services Inc. on April 3, 2019. On April 10, 2019 a new address was obtained for Strong Pine Energy Services Inc. and a notification package was mailed to the correct address on April 11, 2019.

Ongoing Engagement

Prairie Power is committed to keeping consultation with landowners, municipalities, Indigenous groups and all affected stakeholders ongoing. Prairie Power's objective is to provide notification and engage in consultation with affected stakeholders regarding the progress of the Project during all stages of development.

Prairie Power will continue to maintain the relationships it has built with its stakeholders as the Project moves forward, and should the Project be approved, Prairie Power will continue to engage with stakeholders through construction and operation of the Project, as they believe this will result in a better Project and long-term involvement in the region.

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Appendix 1: Consultation/Notification Radius Map

Prairie Lights Power Project



0 500 1,000 1,500 Metres



-  Project Site
-  800m Consultation Radius
-  2000m Notification Radius

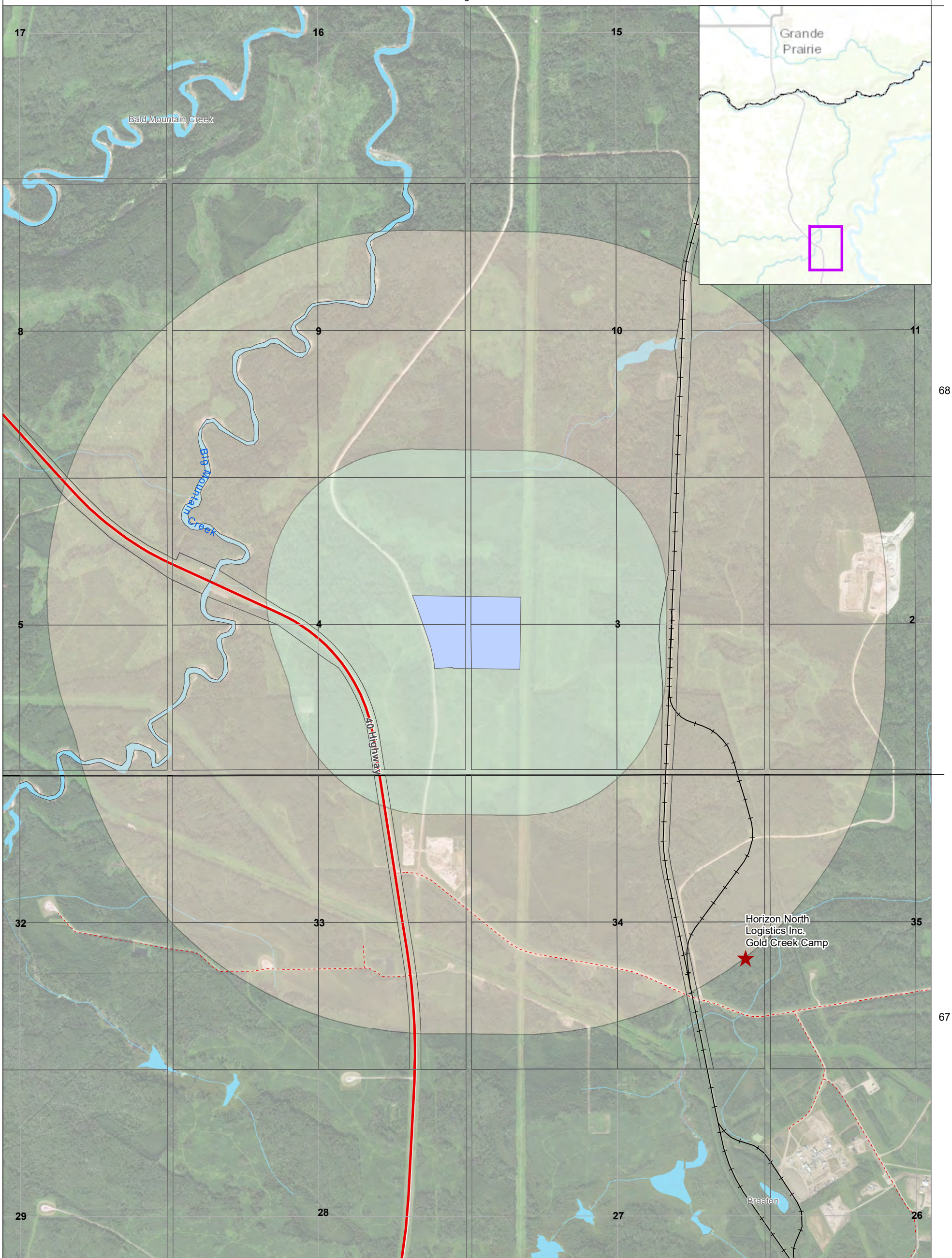
Prepared for: Prairie Lights Power GP Inc.
 Prepared by: Scott Land & Lease Ltd.
 Date: April 9, 2019
 Version: 1.2



Appendix 2: Landowner/Occupant/Resident Mailing List





Due to privacy concerns, the name and personal contact information has been removed from this document as per direction from regulatory agencies.

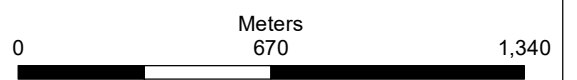
Appendix 3: Residence Map & Land Ownership Map



Prairie Lights Power Project Residences



-  Project Area
-  Residences
-  800m Consultation Radius
-  2000m Notification Radius



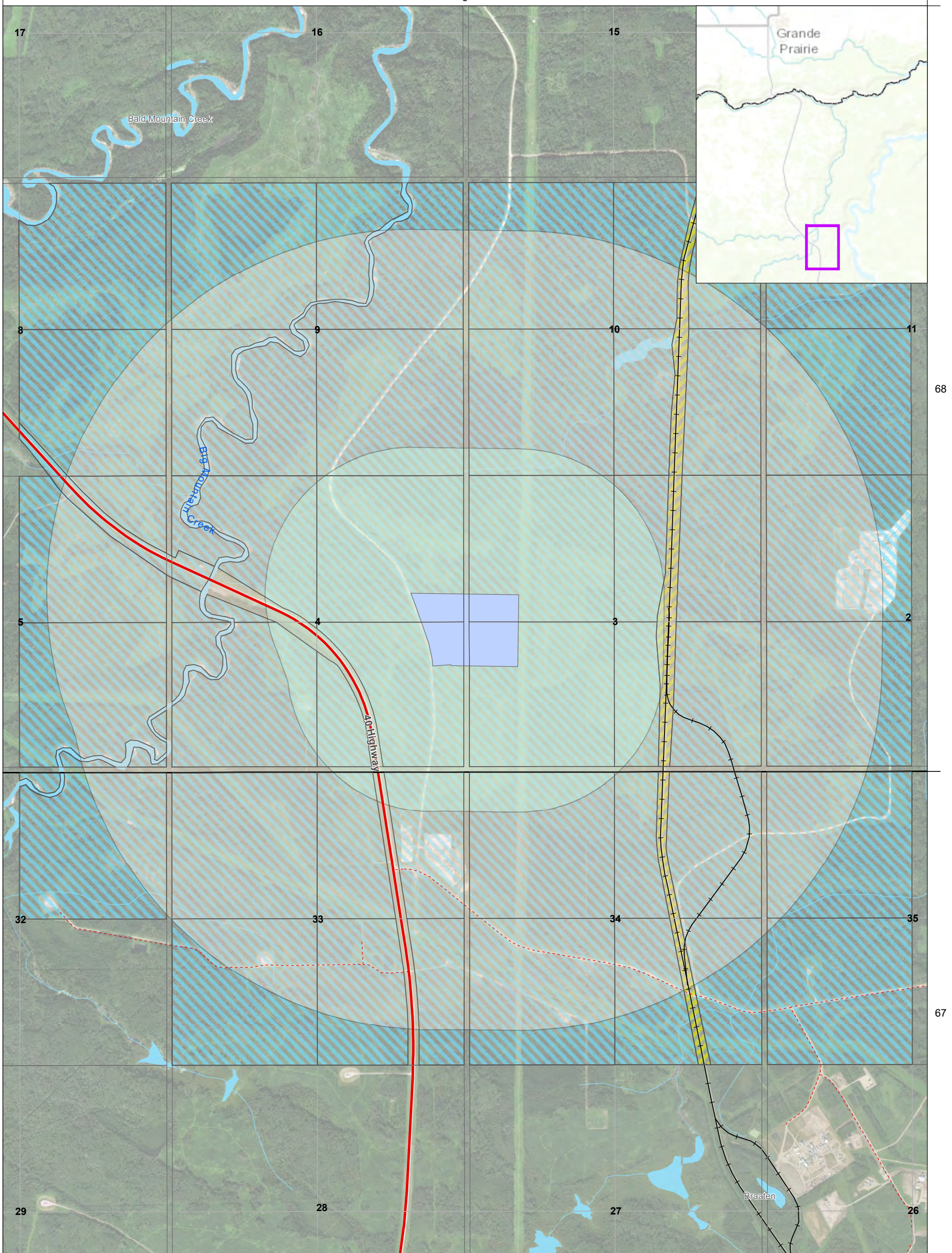
Scale: 1:20,000
Coordinate System: NAD 1983 3TM 120

Author: Dave Taylor
Contact: (403) 261-6529
Version: 1.0



HMR-0003

Sources: © OpenStreetMap contributors, AeroGRID, and the GIS User Community, AltaLIS, CNES/Airbus DS, DataBC, DeLorme, DigitalGlobe, Earthstar Geographics, Esri, Esri China (Hong Kong), Esri Japan, FAO, GEBCO, GeoBase, GeoEye, GeoGratis, HERE, IGN, increment P Corp., Intermap, Kadaster NL, MapmyIndia, METI, NPS, NRCAN, Ordnance Survey, swisstopo, USDA, USGS





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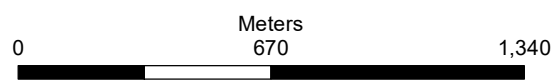
Prairie Lights Power Project

Landowners



-  Project Area
-  800m Consultation Radius
-  2000m Notification Radius

- Land Ownership**
-  CANADIAN NATIONAL RAILWAY COMPANY
 -  HER MAJESTY THE QUEEN IN RIGHT OF ALBERTA



Scale: 1:20,000
Coordinate System: NAD 1983 3TM 120

Author: Dave Taylor
Contact: (403) 261-6529
Version: 1.0



HMR-0003

Appendix 4: Exhaust Letter



You are receiving this letter because you are a stakeholder and/or own property near the proposed Prairie Lights Power Project. To ensure you have received the most recent project information, our March 2019 project specific information package is enclosed for your review.

The Prairie Lights Power Project:

- is a proposed 360 megawatt (MW) natural gas-fired power generation station and associated substation, it is centered on the E ½ 4-68-5 W6M, approximately 35 km south of Grande Prairie, Alberta
- will use clean and efficient combined cycle turbine technology that will be fueled by natural gas, the plant will generate electricity from a 'one-on-one' configuration consisting of one combustion turbine generator (CTG), one heat recovery steam generator (HRSG) and one steam turbine generator (STG)
- has an estimated total footprint of approximately 20.581 hectares

We plan to file an application for this project with the Alberta Utilities Commission (AUC) in Summer 2019. The AUC is a quasijudicial independent agency established by the Government of Alberta, responsible for ensuring that the delivery of Alberta's utility service takes place in a manner that is fair, responsible and in the public interest. They regulate investor owned natural gas, electric and water utilities, and certain municipally owned electric utilities to protect social, economic and environmental interests of Alberta where competitive market forces do not. The commission can approve the application, approve the application with conditions or deny the application. The AUC requires us to provide your name and contact information to them so they can send you information regarding application review process.

As an essential part of the application process, Scott Land & Lease Ltd. has been consulting with potentially affected stakeholders to discuss the project on behalf of Prairie Lights Power GP Inc. We have made attempts to contact you to discuss the project, but have been unable to reach you to complete a consultation to gather your input.

It is important for us to ensure that you, as a stakeholder, are aware of this project and how you may be affected. If you have any questions or concerns about this project, please contact the undersigned at 403-261-6583 or at sbrown@scottland.ca. We remain open to consulting with you, and would appreciate any input you may have on this project. Please note that if we do not hear from you we will not be making further efforts to contact you.

Sincerely,

SCOTT LAND & LEASE LTD.

Samantha Brown
Manager, Power
(403) 261-6583

/enclosures

WWW.SCOTTLAND.CA

SUITE 900, BOW VALLEY SQUARE I, 202 6TH AVE. SW, CALGARY, ALBERTA, CANADA T2P 2R9
TELEPHONE: (403) 261-1000 FAX: (403) 263-5263 E-MAIL: CALGARY@SCOTTLAND.CA

OFFICES IN CALGARY, EDMONTON, GRANDE PRAIRIE, LLOYDMINSTER, REGINA, & FORT ST. JOHN

Appendix 5: Project Specific Information
Package

PRAIRIE LIGHTS POWER GP INC.

PRAIRIE LIGHTS POWER PROJECT | MARCH 2019



PROJECT SPECIFIC INFORMATION PACKAGE

Prairie Lights Power GP Inc. (Prairie Lights) is proposing to build and operate a 360 megawatt (MW) natural gas-fired power generation station and its associated substation, called the Prairie Lights Power Project approximately 35km south of Grande Prairie, Alberta.

This project will be constructed and operated in accordance with good operating practice as well as Alberta Environment and Parks (AEP), Alberta Energy Regulator (AER) and Alberta Utilities Commission (AUC) regulations.

Facility Description: The Prairie Lights Power Project will use clean and efficient combined cycle turbine technology that will be fueled by natural gas. The plant will generate electricity from a “one-on-one” configuration consisting of one combustion turbine generator (CTG), one heat recovery steam generator (HRSG) and one steam turbine generator (STG). The steam turbine will be a condensing type using an air-cooled condenser rather than a water-cooled surface condenser. The air-cooled condenser mitigates the need for either large reliable water source with availability year-round or large storage pond.

Natural gas will be supplied from a new dedicated pipeline from the TCPL Gold Creek compressor station located 2.5 km southeast of the plant site. An option to this is a branch off the exiting ATCO Grande Prairie Mainline.

PROJECT LOCATION

The proposed project site is located approximately 35km south of the City of Grande Prairie, Alberta, as shown in the map to the right. The Prairie Lights Power Project will require construction of a pad – approximately 600m x 400m in size. The total surveyed area of the plant site will be 20.581 hectares.

PROJECT BENEFITS

The Prairie Lights Power Project will offer a number of benefits including:

- A clean, reliable, cost-effective source of new electricity supply
- Helping reduce greenhouse gas emissions by reducing transmission line losses from the Alberta grid;
- Enhancing local and regional reliability of power supply
- Provide significant employment during construction and 30 – 40 new facility operating and maintenance jobs once operating
- Generate tax revenue for the municipality



PROJECT ASSESSMENTS

Preliminary findings indicate that the Project effects are limited and no negative environmental effects that cannot be mitigated during construction, operation and reclamation should be expected. All assessments will be submitted to the AUC and AEP for approval, while the Canadian Environmental Assessment Agency will provide additional environmental direction.



Air - The project will meet the Alberta Air Emission Standard for Air Quality and the Alberta Ambient Air Quality Objectives and Guidelines, as required.



Noise – A detailed noise impact assessment is being undertaken to ensure the Prairie Lights Power Project adheres to AUC Rule 012: *Noise Control* during both the construction and operation phases.



Field Assessment - An environmental field assessment has been completed, which found that all setbacks as required by the AEP are being adhered to.



PROPOSED PROJECT SCHEDULE

The project will require regulatory approval from Alberta Environment and Parks (AEP) and the Alberta Utilities Commission (AUC), as well as a development permit from the Municipal District of Greenview No. 16. Below is the anticipated project schedule, timing may be adjusted to reflect final plans.

Public Consultation	Ongoing
CEAA Project Description Submission	April 2019
Development Permit Application	June 2019
Apply to Alberta Utilities Commission (AUC)	June 2019
Development Permit Application	June 2019
Anticipated AUC Approval	March 2020
Construction Commencement	Third Quarter 2020
Commercial Operation Date	November 2022





NEED FOR THE PROJECT

The Province of Alberta has set a renewable energy target of 30% of all electricity requirements from renewable energy by 2030. While several renewable energy projects are underway to meet this target, other sources of reliable electricity are needed to support the Province's future energy requirements. Natural gas is one of the most affordable, reliable energy resources and Alberta has an abundance of it. Combined cycle power plants have been identified as a viable option to help reduce emissions and provide consumers a low-carbon, reliable electricity option.



Associated Infrastructure

The Project will require electricity and natural gas from nearby sources.

-  Electricity will be supplied by interconnecting with the existing Big Mountain 845S substation. This interconnection is part of a separate project scope.
-  Natural gas will be supplied through a new supply pipeline tied into an existing natural gas transportation network which is located near the site.



Consultation Process

With the assistance of Scott Land & Lease Ltd., Prairie Lights is undertaking a Participant Involvement Program (PIP), as part of the AUC Rule 007 approval process. The process is intended to inform and engage landowners, occupants, residents and other potentially impacted stakeholders near the proposed power plant. The PIP includes this mailed notice to stakeholders within 2km of the project and personal communications with stakeholders within 800 metres of the project. Stakeholders with questions or concerns are encouraged to contact us for discussion. Please see the enclosed document prepared by the AUC, called “Public Involvement in a Proposed Utility Development”, for further information on the PIP. Should you have any questions, please contact us:

Samantha Brown
Manager, Power
Scott Land & Lease Ltd.
(403) 261-6583
sbrown@scotland.ca

OR

Tina Bakarich
Manager, Surface Land &
Stakeholder Relations
Prairie Lights Power GP Inc.
(403)930-0579
tbakarich@prairielights.ca

To learn more about the AUC application and review process, please contact:

Alberta Utilities Commission (AUC)

780-427-4903

(Toll-Free by dialing 310-0000 before the number)

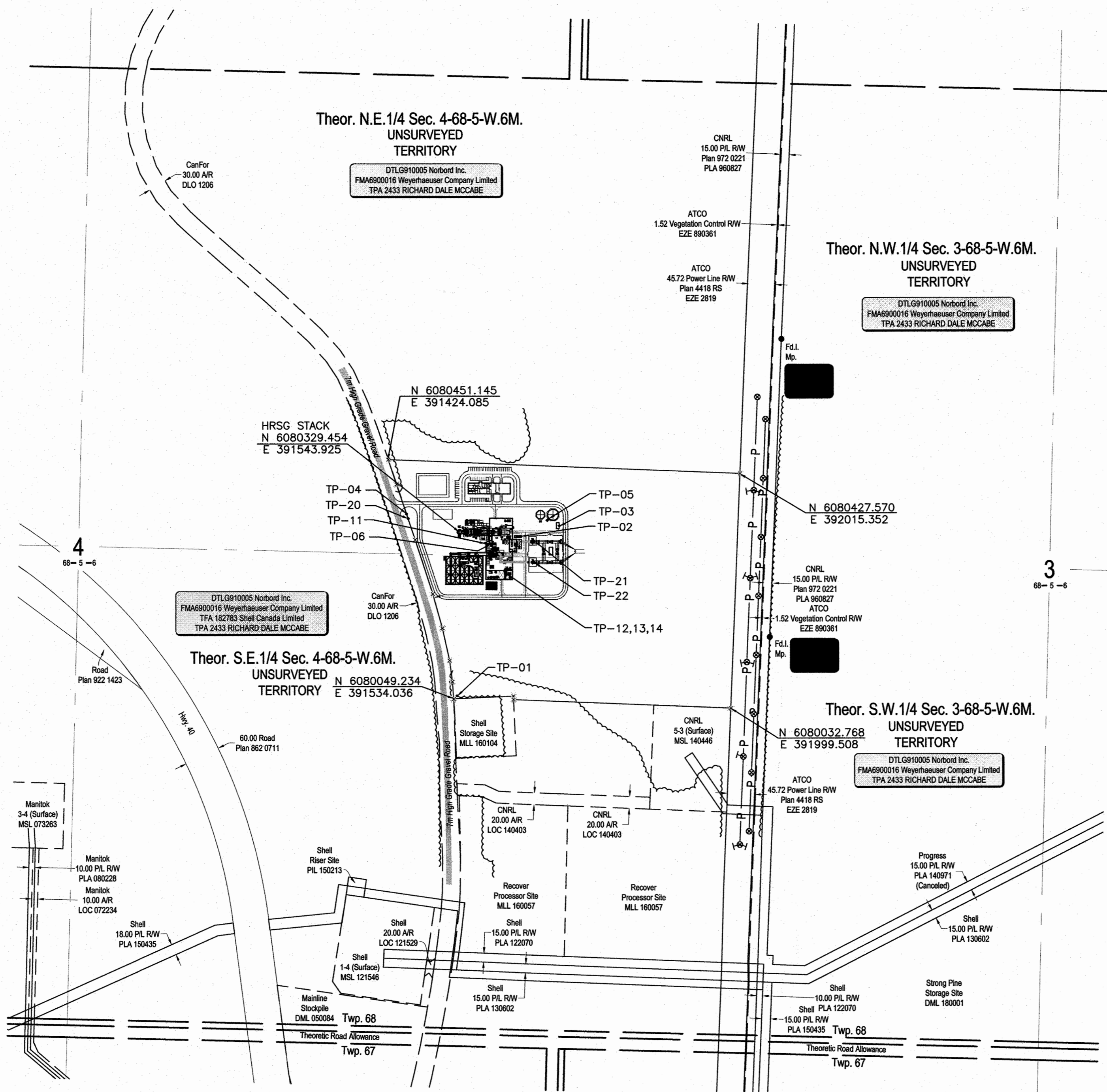
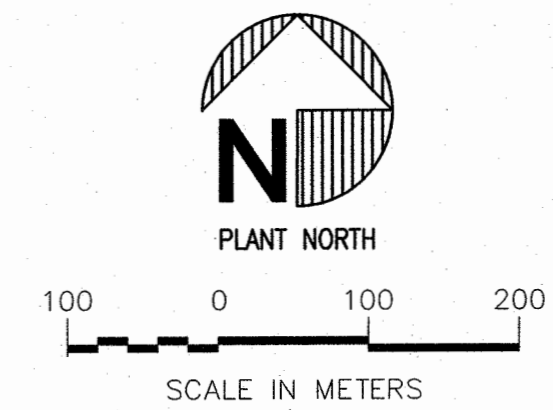
E-mail: consumer-relations@auc.ab.ca

Privacy Commitment

Prairie Lights is committed to protecting your privacy. Collected personal information will be protected under the provincial Personal Information Protection Act (PIPA). As part of the regulatory process for new generation projects, Prairie Lights may be required to provide your personal information to Alberta Utilities Commission (AUC).

TIE-IN (TERMINATION) POINT NAME LOCATION

- TP-01-FUEL GAS (NATURAL GAS) STUB-UP AT SE CORNER OF SITE
- TP-02-FUEL OIL (DIESEL) FILL NOZZLE ON STANDBY DIESEL GENERATOR TANK
- TP-03-FUEL OIL (DIESEL) FILL NOZZLE ON FIREWATER DIESEL ENGINE DRIVE DAY TANK
- TP-04-POTABLE WATER INLET NOZZLE ON POTABLE WATER STORAGE TANK
- TP-05-RAW WATER INLET NOZZLE ON RAW/FIRE WATER STORAGE TANK
- TP-06-PROCESS WASTEWATER CONNECTION TO PLANT WASTEWATER TANK
- TP-07- TO TP-10-NOT USED
- TP-11-OILY WASTEWATER CONNECTION TO PLANT OILY WASTEWATER SUMP OR TANK
- TP-12-CHEMICAL CONNECTION TO CHEMICAL TOTE OUTLET
- TP-13-CHEMICAL CONNECTION TO CHEMICAL TOTE OUTLET
- TP-14-CHEMICAL CONNECTION TO CHEMICAL TOTE OUTLET
- TP-15-CHEMICAL CONNECTION TO CHEMICAL TOTE OUTLET
- TP-16-THRU TP-19-NOT USED
- TP-20-CONSTRUCTION POWER
- TP-21-ELECTRICAL TRANSMISSION TERMINATION STRUCTURE FOR INTERCONNECTION OF AESO 144KV LINE 1
- TP-22-ELECTRICAL TRANSMISSION TERMINATION STRUCTURE FOR INTERCONNECTION OF AESO 144KV LINE 2



GENERAL NOTES:

ORIGINAL

PRELIMINARY
NOT FOR CONSTRUCTION

ISSUED FOR REVIEW

3/26/19	VJS	DEM	CFD	VJS	
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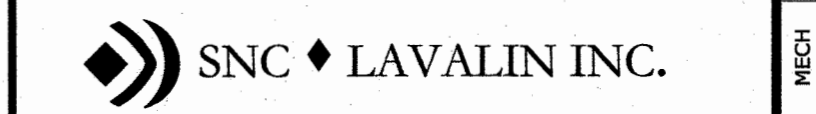
ISSUED FOR REVIEW

3/20/19	KDE	DEM	SEO	VJS	LA
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ISSUED FOR REVIEW

1/31/19	KDE	DS	SO	VJS	LA
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REVISION	DATE	BY	CHECKED	APPROVED	PROJ. TECH.	DIR. TECH.	PROJ. MGR.	INSTR.



SCALE: 1:5000
THIS DRAWING IS THE PROPERTY OF SNC-LAVALIN INC. AND IS NOT TO BE USED IN ANY WAY INJURIOUS TO THEIR INTERESTS AND IS TO BE RETURNED UPON REQUEST.

PRAIRIE LIGHTS POWER PROJECT
GRANDE PRAIRIE, ALBERTA CANADA

SITE PLAN

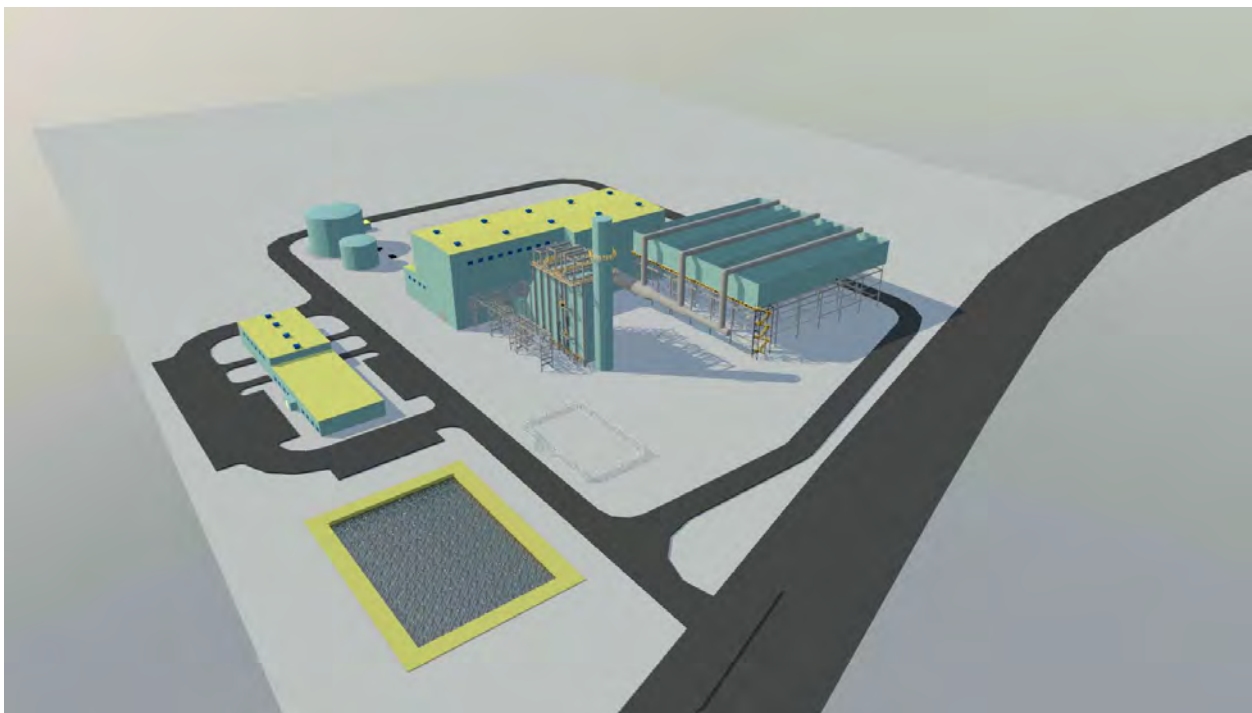
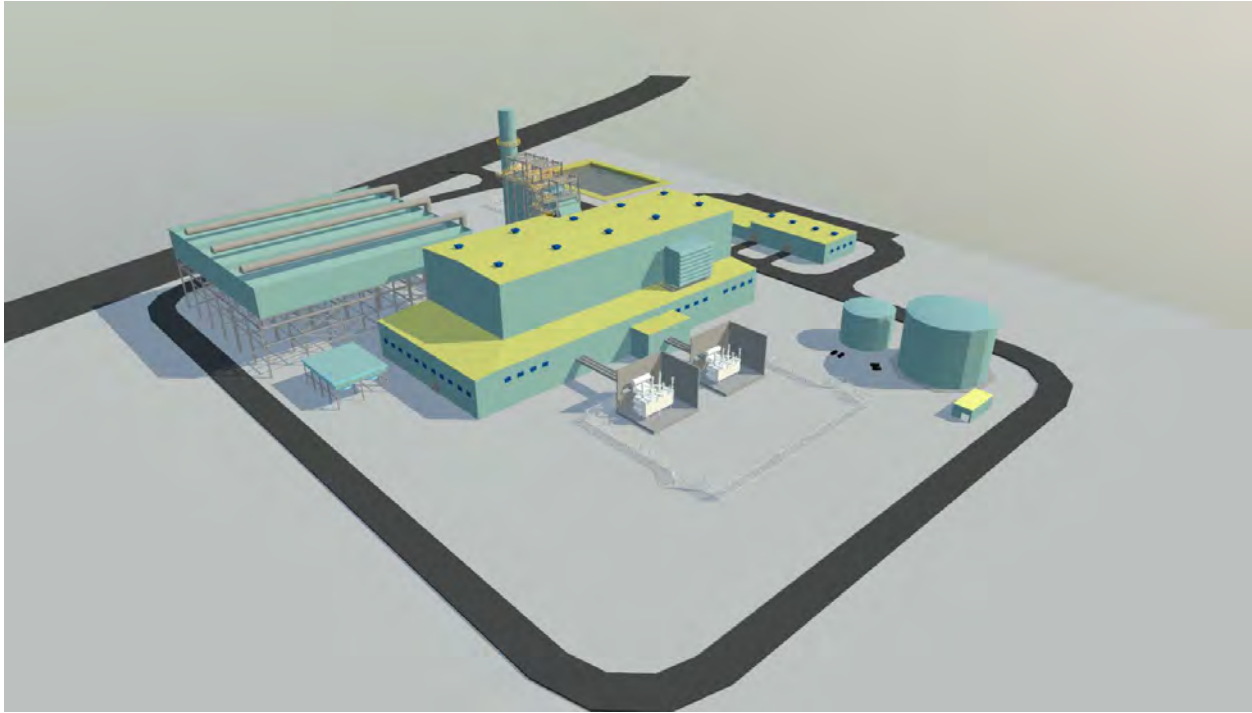
DWG. 662981 GA001-S001

REVIEW/SEEN BY
PROCESS
PIPING
STRUCT
MECH
ELECT

PRAIRIE LIGHTS POWER PROJECT

Visual Simulations

Below are simulated examples of what the Prairie Lights Power Project will look like upon completion of construction. The colour scheme is subject to change however the plant site layout is indicative of the proposed plant site.



Step 6: The public hearing process*

The public hearing process provides an opportunity for those who have been unable to resolve their concerns with the applicant and have made a filing, to express their views directly to a panel of Commission members. The panel reviews the initial filings and grants what is referred to as standing to those who may be directly and adversely affected by the proposed project. Standing is necessary to continue involvement as an intervener in the proceeding which may include the filing of evidence and participation in an oral or written hearing.

The AUC will issue a notice of hearing setting out the hearing date, location and additional process steps and deadlines. An AUC public hearing operates similarly to a court proceeding and is a quasi-judicial process. The general public is welcome to attend as an observer and the hearings are often broadcast online so that those interested can listen-in.

Participants in a hearing can either represent themselves or be represented by legal counsel. In addition, participants may hire experts to assist in preparing and presenting evidence to support their position.

Persons who hire legal counsel or technical experts must be aware that while reimbursement for the costs of legal and technical assistance may be available under Rule 009, recovery of costs is subject to the Commission assessing the value of the contribution provided by counsel and technical experts. People with similar interests and positions are expected to work together to ensure that any expenditures for legal or technical assistance are minimized and costs are not duplicated.

Step 7: The decision

For electric transmission facilities, the need for transmission development filed by the Alberta Electric System Operator to the AUC must be considered to be correct unless someone satisfies the Commission that the needs application is technically deficient, or that to approve it would be contrary to the public

interest. For electric needs applications, the Commission can either approve, deny, or send the application back with suggestions for change.

Commission decisions made about applications filed for a specific utility development, including electric transmission lines, gas utility pipelines and power plants, may be approved, approved with conditions or denied. Decisions are typically released within 90 days from the close of the record as a written report. The decision, available on the AUC website, will summarize the Commission's findings and state its reasons for the decision with any conditions or approval time limits if applicable.

Sometimes needs and facility applications are considered together in a single proceeding.

Step 8: Right to appeal

A participant in a hearing who is dissatisfied with the decision of the Commission may request that the Commission review and vary its decision. Such a request must follow the procedure set out in Rule 016: *Review of Commission Decisions*.

A dissatisfied participant may also file a leave to appeal motion in the Court of Appeal of Alberta within 30 days from the date the decision is issued.

Step 9: Construction and operation

Any applicant that receives a permit to construct and licence to operate a facility from the Commission must adhere to any conditions that were set out in the decision. If you notice something during the construction or operational phases of a project that concerns you, bring this to the applicant's attention. If you are not satisfied with the response you receive, please bring your concerns to the attention of the AUC.

***Denotes opportunity for public involvement**

The Alberta Utilities Commission is committed to ensuring that Albertans whose rights may be directly and adversely affected by utility development in Alberta have the opportunity to have their concerns heard, understood and considered. If you believe you may be directly and adversely affected, you can become involved in the AUC application and review process.

Contact information

Phone: 780-427-4903
Email: consumer-relations@auc.ab.ca

Dial 310-0000 prior to the 10-digit number and then press 1 for toll-free access anywhere in Alberta.

Information session

It is our goal to ensure that you understand the process, and your opportunities for involvement in proceedings to consider utility development applications. For those interested in having an AUC staff member further explain the application and review process or answer questions you may have about your involvement in utility development proceedings, please contact us as we may schedule a formal information session for you. The virtual information session on our website, found under Involving Albertans, will also provide you with further details which could assist you in understanding the process and having your say in a utility development proceeding.

This brochure provides general information only. Specific participation opportunities may differ depending on the type of application.

Public involvement in a proposed utility development

Understanding your rights and options for participating in a proceeding to consider applications for a proposed project in your area

Application process

Step 1*

Public consultation by the applicant.

Step 2

Application filed with the AUC.

Step 3

The AUC issues a notice of application or notice of hearing.

Step 4*

Interested parties submit filings to the AUC with any outstanding issues or objections.

If the AUC does not receive any submissions, the application will be reviewed and a decision may be made without a hearing.

Step 5*

The AUC issues a notice of hearing, if it was not already issued in Step 3.

- Continued opportunity for consultation and negotiation with the applicant.

Step 6*

Public hearing.

Step 7

The AUC issues its decision. Below are the options the AUC may consider for:

Needs applications from the Alberta Electric System Operator:

- Approval of application.
- Return to the Alberta Electric System Operator with suggestions.
- Denial of application.

Facilities applications:

- Approval of application.
- Approval of application with conditions.
- Denial of application.

Step 8

Option to appeal decision or ask the AUC to review its decision.

Step 9

Approvals, construction and operation of facility, if approved.

Having your say

Early discussions with the applicant about proposed utility developments will often result in greater influence on what is filed in the application for approval. Utility developments include natural gas pipelines, electric transmission lines and substations (including Alberta Electric System Operator needs identification documents), and power plants. Should you have concerns related to a proposed utility development, it is best to have early and ongoing discussions with the applicant.

If your objections cannot be resolved, or you have outstanding concerns upon the filing of an application with the AUC, you have an opportunity to submit an initial filing with your objections in writing to the AUC containing the following information:

- How you may be affected by the proposed project and the location of your land or residence in relation to it or any alternative proposed in the application.
- The potential effect the proposed project may have on your property or interest in the property .
- A description of the extent to which you may be affected, and how you may be affected in a different way or to a greater degree than other members of the general public.

Following this initial filing, you may be able to fully participate in the proceeding. This could include having legal representation and participation in a public hearing. It is important to note that any applied for routes and segments (preferred and alternate) could be chosen as the approved route in the AUC decision.

Step 1: Public consultation prior to application*

Prior to filing an application with the AUC for the approval of a proposed utility development, the applicant is required to conduct public consultation in the area of the proposed project, so that concerns may be raised, addressed and if possible, resolved.

The requirements for consultation and notification, namely the participant involvement requirements, are set out in Rule 007 for electric facilities and Rule 020 for gas utility pipelines.

Potentially affected parties are strongly encouraged to participate in the initial public consultation, as early involvement in discussions with an applicant may lead to greater influence on project planning and what is submitted to the AUC for approval.

Step 2: Application to the AUC

When the participant involvement requirements have been completed, the proponent of the utility development files an application with the AUC. The application must indicate the issues which came up during the public consultation and any amendments considered or made to the project. Any unresolved objections or concerns which arose from the public consultation must be identified in the application.

*Denotes opportunity for public involvement

Step 3: Public notification

The Commission will issue a notice when it receives an application that, in the Commission's opinion, may directly and adversely affect the rights of one or more people. The notice is typically sent by mail to residents in the project area and may also be published in local newspapers. The notice will provide key dates, contacts and participation information for those interested in becoming involved in the application process.

Step 4: Public filings to the AUC*

If you have unresolved objections or concerns about the proposed project filed with the AUC for approval and wish to participate in an AUC proceeding, you must make an initial written filing. Your filing must include your contact information, concern or interest in the application, an explanation of your position and what you feel the AUC should decide. Please be aware that any information or materials filed with the AUC, except information granted confidentiality, is available to the public.

Filing your concerns

The eFiling System is a web-based tool created to manage applications and filings made to the AUC through a proceeding-based review. This system gives access to all public documents associated with applications filed with the AUC and is the most efficient way to provide your input to the AUC and monitor the related proceeding filings.

Those who do not have access to the Internet can send filings, evidence and other material by mail or fax and the AUC will upload the submission on your behalf.

Participant cost reimbursement

A person determined by the Commission to be a local intervener can apply for reimbursement of reasonable costs incurred while participating in an AUC proceeding. Details regarding recovery of participants' costs are described in Rule 009: *Rules on Local Intervener Costs*.

Step 5: Consultation and negotiation*

The Commission supports ongoing efforts to reach a positive outcome for the applicant and all affected parties. The Commission encourages the applicant and those who have made filings to continue to attempt to resolve any outstanding issues. If all concerns can be satisfactorily resolved this may eliminate the need for a formal hearing. However, if there continues to be unresolved issues, typically those matters will be addressed at an AUC public hearing.

Appendix 6: ACO Adequacy Assessment

Adequacy Assessment

File Number for Consultation:

Date of Submission:

Client Project Name:

The Aboriginal Consultation Office has reviewed the consultation records regarding the proposed projects provided by

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Date of Review:

Should you have any questions, please contact the reviewer at:

Phone Number:

Email Address:

Supporting Comments/Direction:

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Adequacy Assessment

Activity Number	Disp Type	Program Type	Source Line Spacing	Regulator	Purpose Type			Activity Area/Distance	Land Use Area
FNC201903137-001	DML			AEP	Electrical - Power Station / Substation			20.6 HA	Peace Region
	ATS Legal - From		ATS Legal - To		First Nation(s) / Metis Settlement(s)	Gift Lake Metis Settlement	Horse Lake First Nation	Sucker Creek First Nation	
	NE 4 68 5 6		SW 3 68 5 6						
Action Required	Already Deemed Adequate								
Adequacy	Already Deemed Adequate								
Activity Number	Disp Type	Program Type	Source Line Spacing	Regulator	Purpose Type			Activity Area/Distance	Land Use Area
	ATS Legal - From		ATS Legal - To		First Nation(s) / Metis Settlement(s)				
Action Required									
Adequacy									
Activity Number	Disp Type	Program Type	Source Line Spacing	Regulator	Purpose Type			Activity Area/Distance	Land Use Area
	ATS Legal - From		ATS Legal - To		First Nation(s) / Metis Settlement(s)				
Action Required									
Adequacy									

Appendix 7: Agency Mailing List

Appendix G - Agency Mailing List

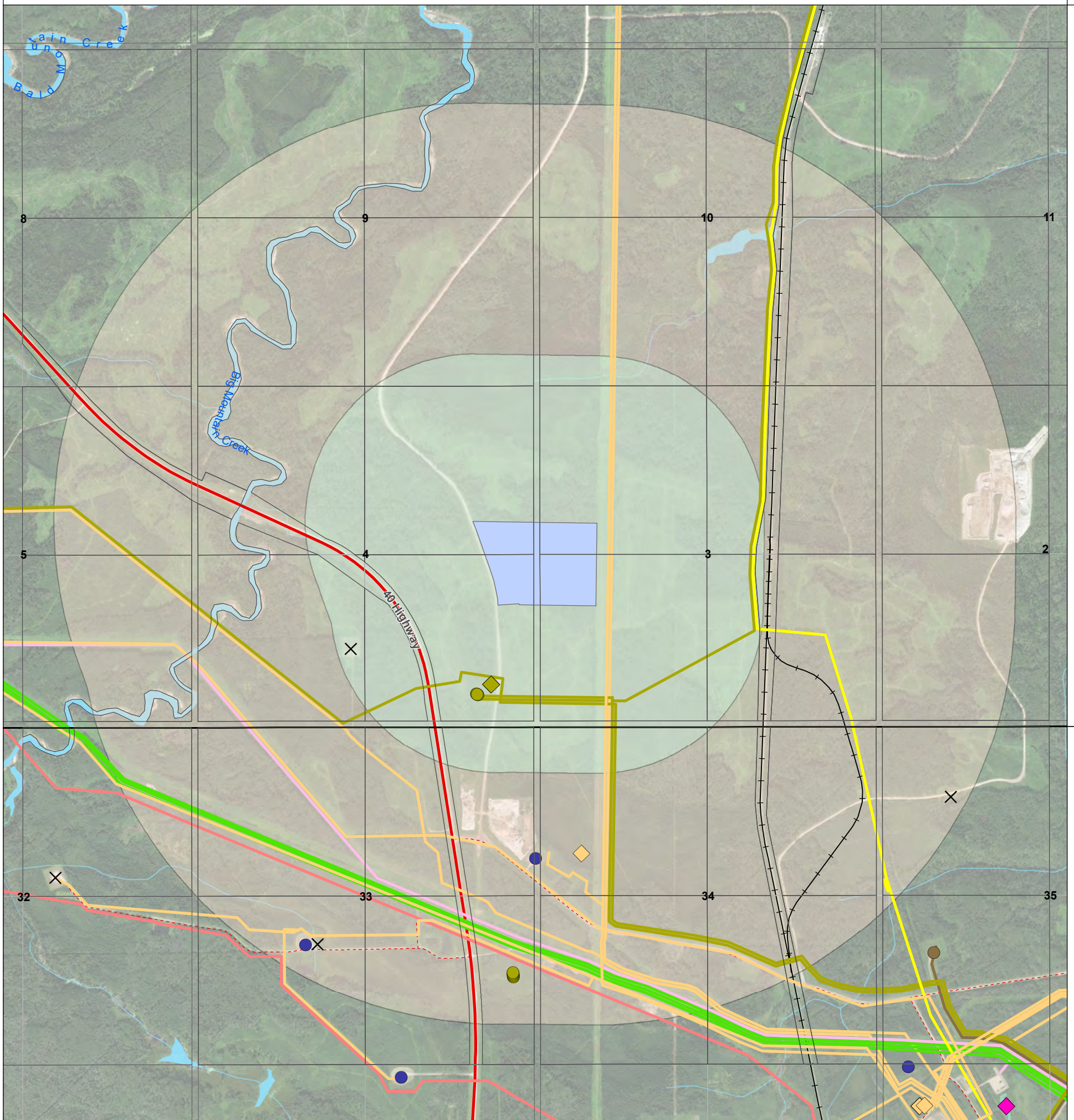
Stakeholder Type	Agency	Attention	Address	City	Province	Postal Code
Agency	Alberta Highway Services		11010 178 St NW Suite 200	Edmonton	Alberta	T5S 1R7
Agency	Grande Prairie Office - Land Use Area-Lands Division Dept. of Sustainable Resource Dev		10320 99 St	Grande Prairie	Alberta	T8V 6J4
Agency	Municipal District of Greenview		4806 - 36 Ave Box 1079	Valleyview	Alberta	T0H 3N0
Agency	Municipal District of Greenview		4806 - 36 Ave Box 1079	Valleyview	Alberta	T0H 3N0
Agency	Tourism, Parks and Recreation		9820 106 St NW Floor 2	Edmonton	Alberta	T5K 2J6
Agency	Transportation - Highway and Roadside Planning Section		Floor 2 Twin Atria Building 4999 98 Ave NW	Edmonton	Alberta	T6B 2X3
Agency	Transportation - Transportation & Civil Engineering		9621 96 Ave Room 301	Peace River	Alberta	T8S 1T4

Appendix 8: Industry Mailing List

Appendix 8 - Industry Mailing List

Stakeholder Type	Stakeholder	Attention	Address	City	Province	Postal Code
Industry	1505440 Alberta Ltd.		10155 102 St NW Suite 2200	Edmonton	Alberta	T5J 4G8
Industry	ATCO Electric Ltd.		10035 105 St NW Floor 12 PO Box 2426 Stn Main	Edmonton	Alberta	T5J 2V6
Industry	Alliance Pipeline Ltd.		605 5 Ave SW Suite 800	Calgary	Alberta	T2P 3H5
Industry	Atco Gas and Pipelines Ltd. (South)		10035 105 St NW Floor 9	Edmonton	Alberta	T5J 2V6
Industry	Canadian Natural Resources Limited		855 2 St SW Suite 2100	Calgary	Alberta	T2P 4J8
Industry	Devco Developments Corp.		10625 West Side Dr Suite 206	Grande Prairie	Alberta	T8V 8E6
Industry	Mainline Construction		14244 102 St	Grande Prairie	Alberta	T8V 7E2
Industry	Manitok Energy Inc.		Bow Valley Square 4 250 6 Ave SW Suite 1110	Calgary	Alberta	T2P 3H7
Industry	Norbord Inc.		PO Box 6700 Stn Main Highway 40	Grande Prairie	Alberta	T8V 6Y9
Industry	North Coast Ready Mix Ltd.		PO Box 608	Grande Prairie	Alberta	T8V 3A8
Industry	Nova Gas Transmission Ltd.		450 1st SW PO BOX 1000 Stn M	Calgary	Alberta	T2P 4K5
Industry	Petronas Energy Canada Ltd.		215 2 St SW Suite 1600	Calgary	Alberta	T2P 1M9
Industry	Recover Energy Services Inc.		1000 8 Ave SW Suite 405	Calgary	Alberta	T2P 3M7
Industry	Semcams ULC		Suite 1200, 520 3rd Avenue SW	Calgary	Alberta	T2P 3T3
Industry	Shell Canada Limited		400 4 Ave SW PO BOX 100 Stn M	Calgary	Alberta	T2P 2H5
Industry	Strong Pine Energy Services Inc.		Suite 505, 230 22nd Street East	Saskatoon	Saskatchewan	S7K 0E9

Appendix 9: Industrial Interests Map



68

67

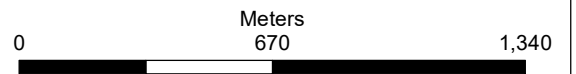
Prairie Lights Power Project

Local Industry

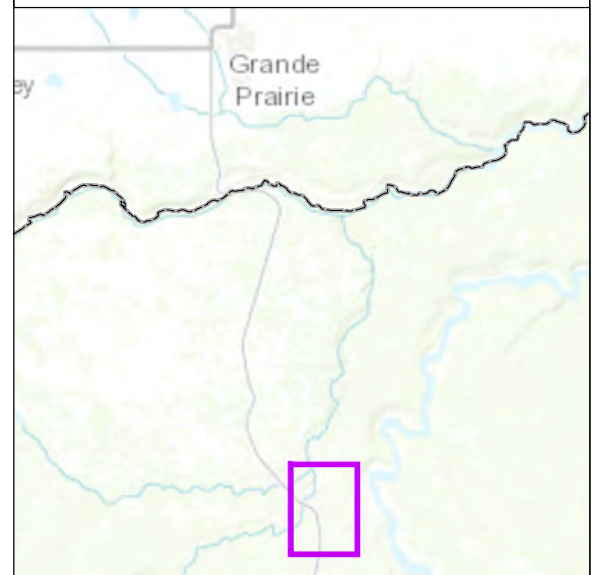


- Project Area
- 800m Consultation Radius
- 2000m Notification Radius
- O&G Facilities**
 - ALLIANCE PIPELINE LIMITED PARTNERSHIP
 - ALLIANCE PIPELINE LTD.
 - CANADIAN NATURAL RESOURCES LIMITED
 - HAMMERHEAD RESOURCES INC.
 - NOVA GAS TRANSMISSION LTD.
 - SHELL CANADA ENERGY
- O&G Wells**
 - CANADIAN NATURAL RESOURCES LIMITED
 - DOMESTIC WATER WELL
 - HAMMERHEAD RESOURCES INC.
 - RAIMOUNT ENERGY CORP.
 - SECURE ENERGY SERVICES INC.
 - SHELL CANADA LIMITED

- Abandoned O&G Wells
- O&G Pipelines**
 - ALLIANCE PIPELINE LTD.
 - ATCO GAS AND PIPELINES
 - CANADIAN NATURAL RESOURCES LIMITED
 - HAMMERHEAD RESOURCES INC.
 - NOVA GAS TRANSMISSION LTD.
 - RAIMOUNT ENERGY CORP.
 - SEMCAMS MIDSTREAM ULC
 - SEVEN GENERATIONS ENERGY LTD.
 - SHELL CANADA LIMITED



Scale: 1:20,000
Coordinate System: NAD 1983 3TM 120



Sources: © OpenStreetMap contributors, AeroGRID, and the GIS User Community, AltaLIS, CNES/Airbus DS, DataBC, DeLorme, DigitalGlobe, Earthstar Geographics, Esri, Esri China (Hong Kong), Esri Japan, FAO, GEBCO, GeoBase, GeoEye, GeoGratis, HERE, IGN, increment P Corp., Intermap, Kadaster NL, MapmyIndia, METI, NPS, NRCAN, Ordnance Survey, swisstopo, USDA, USGS

Author: Dave Taylor
Contact: (403) 261-6529
Version: 1.0



HMR-0003

Appendix D - Alberta Adequacy Assessment

Adequacy Assessment

File Number for Consultation:

Date of Submission:

Client Project Name:

The Aboriginal Consultation Office has reviewed the consultation records regarding the proposed projects provided by

In accordance with Alberta's First Nations and Metis Settlements policies and guidelines (<http://indigenous.alberta.ca/1.cfm>), the Aboriginal Consultation Office has determined adequacy for each activity number. The proponent may proceed with their regulatory applications for those activities deemed Adequate.

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Date of Review:

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Phone Number:

Email Address:

Supporting Comments/Direction:

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Adequacy Assessment

Activity Number	Disp Type	Program Type	Source Line Spacing	Regulator	Purpose Type			Activity Area/Distance	Land Use Area	
FNC201904021-001	EZE			AEP	Electrical - Powerline - Above Ground Transmission			25.043 KM	Peace Region	
	ATS Legal - From		ATS Legal - To		First Nation(s) / Metis Settlement(s)	Horse Lake First Nation		Sucker Creek First Nation		Gift Lake Metis Settlement
	SW 17 70 5 6		NW 3 68 5 6							
Action Required	Already Deemed Adequate									
Adequacy	Already Deemed Adequate									
Activity Number	Disp Type	Program Type	Source Line Spacing	Regulator	Purpose Type			Activity Area/Distance	Land Use Area	
	ATS Legal - From		ATS Legal - To		First Nation(s) / Metis Settlement(s)					
Action Required										
Adequacy										
Activity Number	Disp Type	Program Type	Source Line Spacing	Regulator	Purpose Type			Activity Area/Distance	Land Use Area	
	ATS Legal - From		ATS Legal - To		First Nation(s) / Metis Settlement(s)					
Action Required										
Adequacy										

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Adequacy Assessment

Activity Number	Disp Type	Program Type	Source Line Spacing	Regulator	Purpose Type			Activity Area/Distance	Land Use Area
FNC201904022-001	WAC			AEP	Water Act			25.043 KM	Peace Region
	ATS Legal - From		ATS Legal - To		First Nation(s) / Metis Settlement(s)	Gift Lake Metis Settlement		Sucker Creek First Nation	Horse Lake First Nation
	SW 17 70 5 6		NW 3 68 5 6						
Action Required	Already Deemed Adequate								
Adequacy	Already Deemed Adequate								
Activity Number	Disp Type	Program Type	Source Line Spacing	Regulator	Purpose Type			Activity Area/Distance	Land Use Area
	ATS Legal - From		ATS Legal - To		First Nation(s) / Metis Settlement(s)				
Action Required									
Adequacy									
Activity Number	Disp Type	Program Type	Source Line Spacing	Regulator	Purpose Type			Activity Area/Distance	Land Use Area
	ATS Legal - From		ATS Legal - To		First Nation(s) / Metis Settlement(s)				
Action Required									
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	NE 4 68 5 6		SW 3 68 5 6						
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Action Required									
Adequacy									
Activity Number	Disp Type	Program Type	Source Line Spacing	Regulator	Purpose Type			Activity Area/Distance	Land Use Area
	ATS Legal - From		ATS Legal - To		First Nation(s) / Metis Settlement(s)				
Action Required									
Adequacy									

Appendix E - Air Quality Assessment

PRAIRIE LIGHTS POWER PROJECT

GRANDE PRAIRIE, AB

AIR QUALITY ASSESSMENT

RWDI #1901065

July 9, 2019

SUBMITTED TO

Greg Belostotsky

Prairie Lights Power GP Inc.
Eighth Avenue Place
East Tower, Suite 2700
525 8th Avenue SW
Calgary, Alberta T2P 1G1

SUBMITTED BY

Golnoosh Bizhani, PhD.

Senior Project Scientist
golnoosh.bizhani@rwdi.com

Bryce Dawson, B.Sc., EPt

Senior Project Manager
bryce.dawson@rwdi.com

RWDI

Suite 1000, 736 8 Ave. SW
Calgary, AB T2P 1H4
T: 403.232.6771



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APPENDICES

Appendix A: Modelled point source stack parameters from external facilities



1 INTRODUCTION

RWDI AIR Inc. (RWDI) was retained by Prairie Lights Power GP Inc. (Prairie Power) to conduct an air quality assessment for the proposed Prairie Lights Power Project (the Project) located approximately 25 km south of Grande Prairie, Alberta. This air quality assessment was completed to satisfy requirements for Approval Applications under both the Alberta Environment and Parks (AEP) Environmental Protection and Enhancement Act (EPEA) and Alberta Utilities Commission (AUC) Rule 007: *Applications for Power Plants, Substations, Transmission Lines, Industrial System Designations and Hydro Developments* (AUC 2019).

The purpose of the air quality modelling was to evaluate the Project in terms of its compliance with the Alberta Ambient Air Quality Objectives (AAAQO) (AEP 2019a). This assessment focused on emissions of carbon monoxide (CO), nitrogen oxides (NO_x), and particulate matter less than 2.5 microns in diameter (PM_{2.5}), from all major sources included in the Project. Emissions of total suspended particulate (TSP) were not considered for this assessment, because all particulate matter emitted from the Project was considered to be PM_{2.5}, which has more stringent objectives than TSP.

This air quality assessment complies with the regulatory guidance laid out in the Air Quality Modelling Guideline (AQMG) (AEP 2013) and includes a detailed comparison of ground level predictions with applicable AAAQOs for the proposed operation scenario.

This report presents the results of a cumulative air quality assessment (including major industrial sources within the study area and ambient background) using the latest version of the United States Environmental Protection Agency (U.S. EPA) AERMOD dispersion model version 18081 (U.S. EPA 2018a).

2 SOURCE CHARACTERIZATION

Project emission sources of CO, NO_x, and PM_{2.5} were identified and characterized based on information provided by Prairie Power. The Project includes one gas turbine generator engine with a net power output of 360 MW and an auxiliary boiler. Modeled source parameters, maximum emission rates, and emission intensities for the generator turbine included in this assessment are summarized in Table 1 and Table 2. Emissions from the auxiliary boiler were determined to be negligible and were therefore not included in the assessment.

Emission intensities are included for comparison with the Alberta Air Emission Standards for Electricity Generation (AEP 2005). These standards require that new generating units for a natural gas fired power plant with an electrical generating power capacity more than 60 MW have a NO_x emission intensity of less than 0.3 kg/MWh_{output} for each generating unit. The NO_x emission intensity of the generating unit for the proposed power plant meets this requirement.



Table 1: Modelled point source stack parameters from the Project

Source Description	Source ID	Number of Sources	Power Rating (output)	Low NO _x Engine	NO _x Emission Intensity	UTM Easting ⁽¹⁾	UTM Northing ⁽¹⁾	Stack Height	Nearest Building Height	Stack Diameter	Exit Velocity	Exit Temperature
			kW	Y/N	kg/MW h	m	m	m	m	m	m/s	°C
Siemens F-Class SGT6-5000F	STACK	1	360,000	Y	0.281	391544	6080329	50	25	6.7	18.6	87.5

Notes: 1. UTM coordinates are in NAD 1983 (datum), UTM Zone 11N.

Table 2: Modelled point source emission rates for the Project

Source ID	CO Emission Rate	NO _x Emission Rate	PM _{2.5} Emission Rate
	g/s	g/s	g/s
STACK	6.89	28.19	1.44



3 MODELLING APPROACH

As recommended in the AQMG, refined dispersion modelling of emissions was performed using the latest version (18081) of the U.S. EPA AERMOD dispersion model. AERMOD is a steady-state plume model that estimates transport and dispersion based on planetary boundary layer turbulence structure and scaling concepts, including treatment of both surface and elevated sources, and both simple and complex terrain. All technical decisions and general methodology are consistent with the guidance in the AQMG, where applicable. The different components of the dispersion model setup are described in the following sections.

3.1 Study Area and Terrain

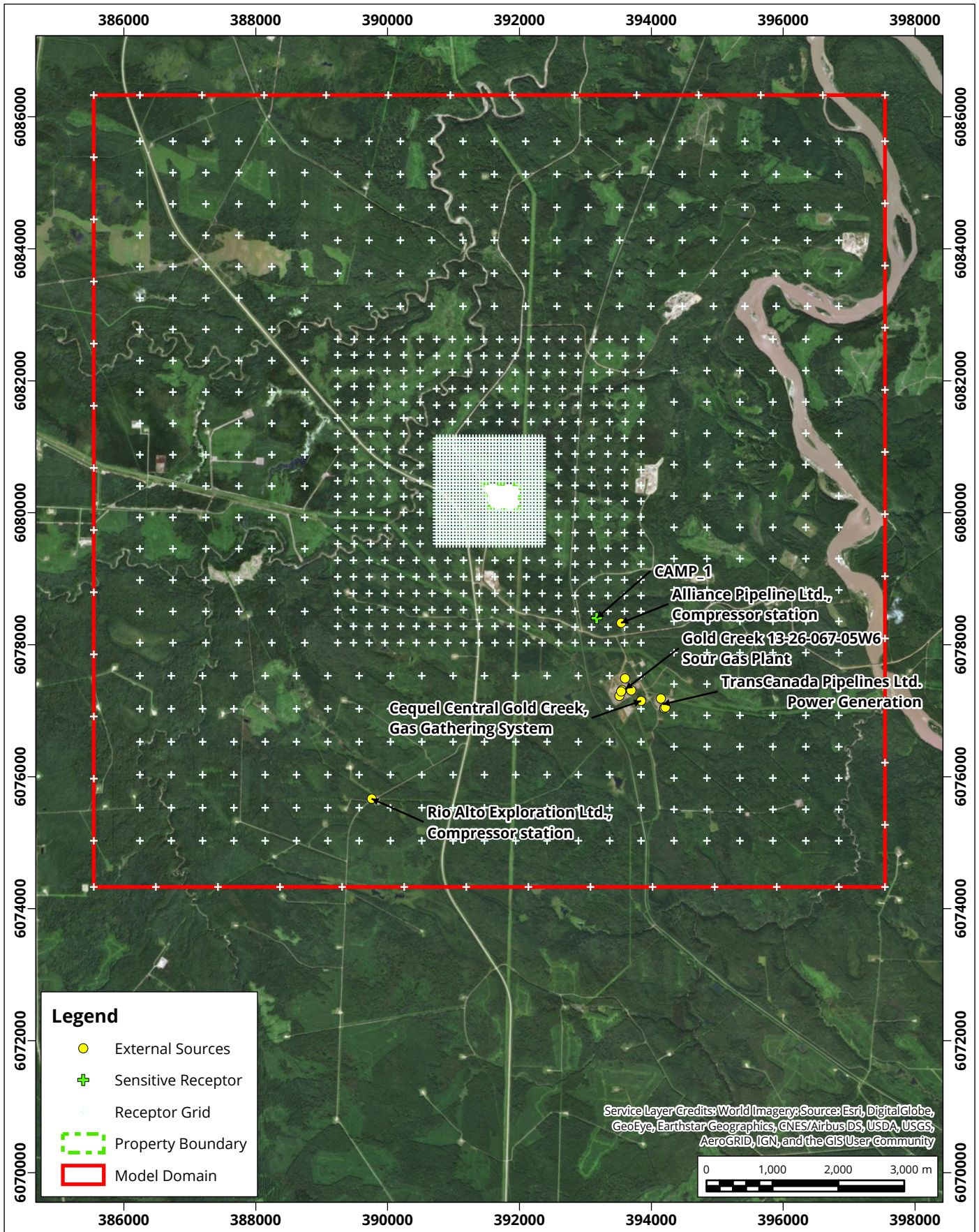
The Project is located approximately 25 km south of Grande Prairie, Alberta. A 12 km by 12 km area was considered around the Project, to ensure inclusion of nearby industrial facilities in the region. Figure 1 shows the Project location and study area. The AERMOD terrain pre-processor AERMAP was used to prepare the terrain data within the study area. Canadian Digital Elevation Data (CDED) for a 1:50,000 map scale was used in AERMAP.

3.2 Meteorology

For a refined air quality assessment as defined by the AQMG, and in the absence of local meteorological observations, hourly surface and upper air meteorological data covering the five-year period from 2002 to 2006 were extracted from the MM5 meteorological dataset provided by AEP.

The AERMOD meteorological pre-processor AERMET (version 18081) was used to create a meteorological time series at the center of the study area. Figure 2 presents the five-year wind rose for the Project location. The frequency of calm winds is approximately 14.5%. The predominant winds were westerly and west-southwesterly, occurring nearly 30% of the time.

AERMET considers factors that influence wind fields over the study area, such as surface roughness (from vegetation, buildings, etc.), Bowen ratio (ratio of sensitive heat flux to latent heat flux) and albedo (degree of surface reflection from incoming solar radiation). The land-use near the Project is primarily grassland and forests. Surface parameters for this land-use type provided in the AQMG were used in AERMET. Seasons were selected based on the 1981-2010 climate normals for the Grande Prairie A, Grovedale, and Simonette stations, all located within approximately 100 km of the Project (ECCC 2019a). The seasons were defined as follows: Winter (November, December, January, February, March and April), Spring (May), Summer (June, July and August), and Fall (September and October). AERMET was run with the ADJ_U* model option, as per the guidance in the U.S. EPA Federal Register Vol. 80 No.145 (U.S. EPA 2015) and new AERMET default options described in the AERMET Users Guide v18081 (U.S. EPA 2018b). The ADJ_U* option increases model accuracy under low wind-speed stable conditions.



Model domain, sensitive receptor and receptor grid, and external facility locations

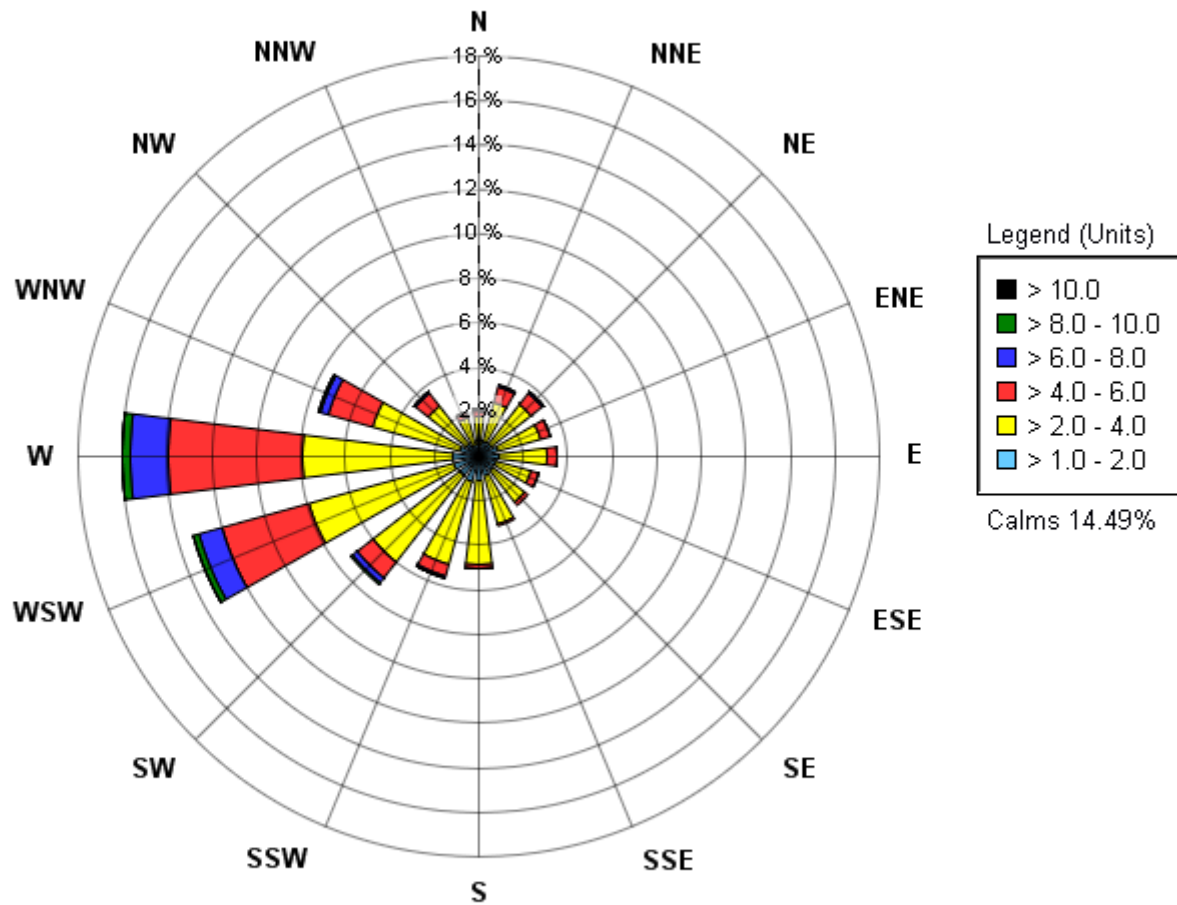
Map Projection: NAD 1983 UTM Zone 11N
 Prairie Lights Power Project - Grande Prairie, AB



Project #: 1901065

Drawn by: DJH	Figure: 1
Approx. Scale: 1:80,000	
Date Revised: Jul 4, 2019	





Joint frequency distribution of wind speed and wind direction (Wind rose)

Drawn by: DJH	Figure: 2
Date Revised: Jul 4, 2019	





3.3 Receptors

Air emissions were modelled on and outside the Project property boundary using a nested receptor grid following the AQMG. Receptor heights were at ground level. Nested receptors had the following spacing in accordance with the AQMG:

- No receptors inside the property boundary;
- 20 m receptor spacing along the property boundary;
- 50 m receptor spacing outside of the property boundary up to 500 m from the property boundary;
- 250 m receptor spacing between 500 m and 2 km from the property boundary;
- 500 m receptor spacing between 2 km and 5 km from the property boundary; and
- 1000 m receptor spacing beyond 5 km from the property boundary (up to 6 km).

Additionally, 1 sensitive receptor was identified within the study area; its coordinates are listed in Table 3 and its location is highlighted in Figure 1 (CAMP_1).

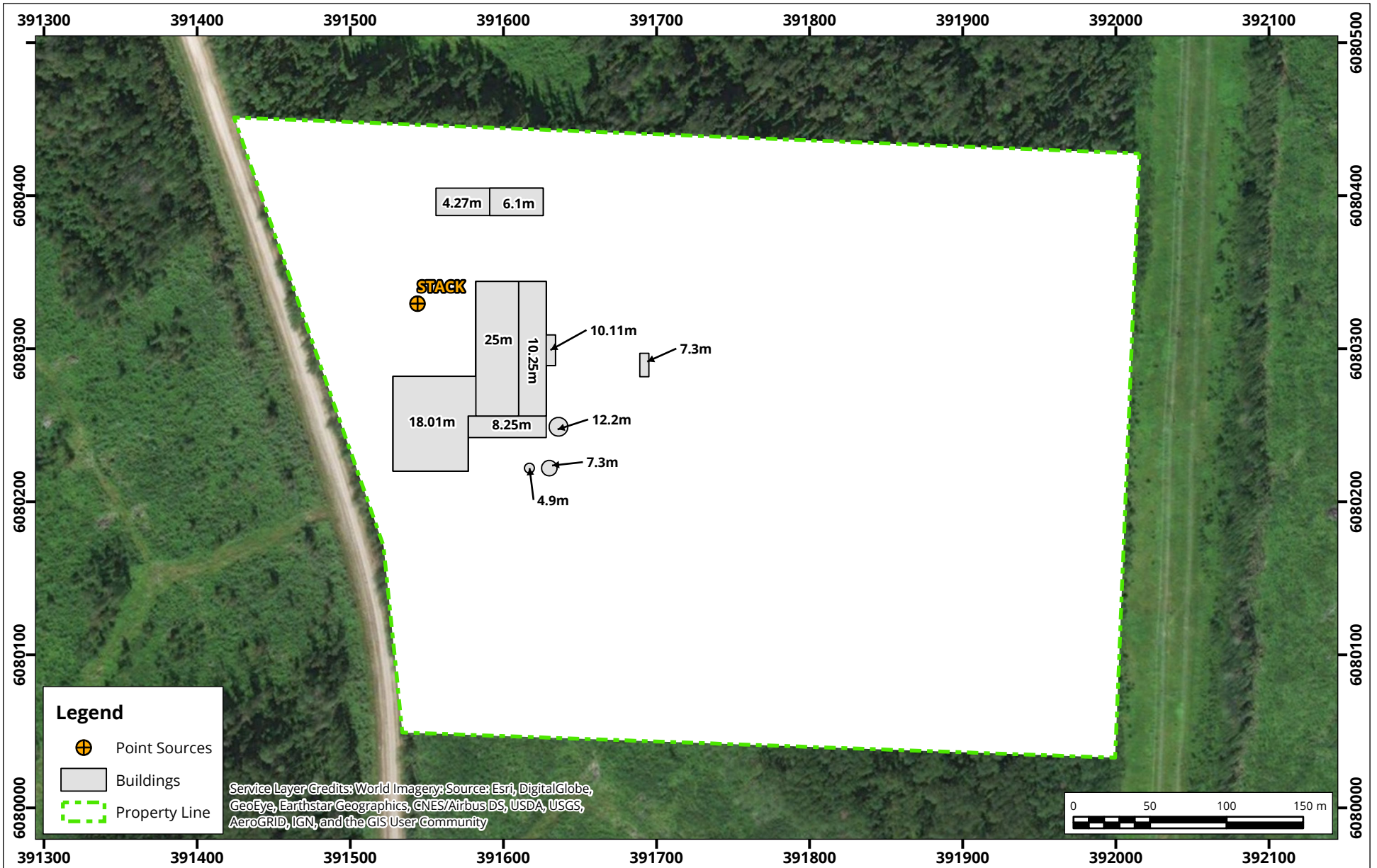
Table 3: Sensitive receptors located within the study area

Receptor Description	UTM Easting (m) ⁽¹⁾	UTM Northing (m) ⁽¹⁾	Distance from the Project (km)
Nearby work camp (CAMP_1)	393171	6078403	2.5

Note: 1. UTM coordinates are in NAD 1983 (datum), UTM Zone 11N

3.4 Building Downwash

Building downwash was incorporated into the AERMOD model using the Building Profile Input Program – Plume Rise Model Enhancement model (BPIP-PRIME) The BPIP-PRIME model considers the influence of nearby buildings and structures on point sources. Building information was provided by Prairie Power. The layout of the modelled buildings and sources is shown in Figure 3.



Site plan showing modelled emission sources and buildings

Map Projection: NAD 1983 UTM Zone 11N
 Prairie Lights Power Project - Grande Prairie, AB



True North	Drawn by: DJH	Figure: 3
	Approx. Scale: 1:3,500	
Project #: 1901065	Date Revised: Jul 4, 2019	





3.5 Background Concentrations and External Facilities

The approach for calculating background concentrations was consistent with the AQMG recommendations. The closest monitoring site measuring pollutants of interest is Henry Piker Station, located approximately 35 km north of the Project in the City of Grande Prairie. The most recent year of ambient air quality data at the time of modeling was downloaded from Air Data on the AEP website (AEP 2019b). The period of May 2018 to April 2019 was used for all pollutants.

As outlined in the AQMG, the 90th percentile value from the cumulative frequency distribution of the non-blank background monitoring data was used to represent the 1-hour averaging period. Ambient background values for the 8-hour, 24-hour and annual averaging periods were calculated based on the reduced hourly ambient data set (i.e. after values above the 90th percentile were removed from the hourly ambient data set). Calculated background values are provided in Table 4, along with the AAAQOs.

Table 4: Calculated ambient background values for CO, NO₂, and PM_{2.5} from Henry Piker ambient monitoring station and AAAQO (in µg/m³)

Pollutant	Averaging Period	AAAQO	Background Concentration	Percentage of AAAQO
CO	1-Hour	15,000	1308	8.7%
	8-Hour	6,000	1308	21.8%
NO ₂	1-Hour	300	54.7	18.2%
	Annual	45	16.2	36.0%
PM _{2.5}	24-Hour	29	17.1	58.8%

The AQMG recommends that cumulative effects of the Project, background, and industrial sources within five kilometers of the Facility be considered in the air quality assessment. To be conservative, all external facilities within the model domain were included in the model. Emissions from five (5) existing facilities in the study area were incorporated into the model. External facility emissions were estimated using information from permit approvals, a survey of the 2017 National Pollutant Release Inventory (NPRI) operated by Environment Canada (ECCC 2019b). These facilities are listed in Table 5 and a summary of emission rates and stack parameters used are provided in Appendix A. Figure 1 shows the locations of external facilities within the model domain.

Table 5: External facilities included in AERMOD modelling

Facility Name	Operator	Number of Sources Modelled	Distance to the Project	Details, Reference
Gold Creek 13-26-067-05w6, Sour gas plant	Canadian Natural Resources Ltd. (CNRL)	5	3.3 km	Appendix A, Table A1
Alliance Pipeline Ltd., Compressor station	CNOOC Petroleum North America (ULC)	1	2.5 km	Appendix A, Table A2
TransCanada Pipelines Ltd., Power generation facility	NOVA Gas Transmissions Ltd.	3	3.8 km	Appendix A, Table A3
Cequel Central Gold Creek, Gas gathering system	Progress Energy Canada Ltd.	1	3.6 km	Appendix A, Table A2
Rio Alto Exploration Ltd, Compressor station	Canadian Natural Resources Ltd. (CNRL)	1	4.9 km	Appendix A, Table A2

3.6 NO_x-to-NO₂ Conversion

Ambient air quality objectives are defined in terms of NO₂ rather than total NO_x. Predicted concentrations of both NO_x and NO₂ were calculated. As per AQMG total conversion of NO_x to NO₂ was considered first. Since NO₂ concentrations assuming total conversion was above the AAAQO, the Ozone Limiting Method (OLM) was also applied. For OLM, the NO₂ fraction was calculated using an in-stack ratio of 0.1 (10% of total NO_x emitted assumed to be NO₂, as per the AQMG), and default Alberta background ozone values for rural areas. The hourly ozone values for each month were taken from Appendix E of the AQMG.

4 ASSESSMENT RESULTS

AERMOD dispersion modelling results are presented in terms of maximum predicted levels (99th percentile or 9th highest for 1-hour results) calculated over the five years modelled. As per the AQMG, for 1-hour results, the eight highest values per year were removed to exclude results corresponding to extreme, rare, and transient meteorological conditions. These hours, however, are included when calculating 24-hour and annual average concentrations.



Table 6 summarizes the results from the Project only, and cumulative impacts (including external facility emissions and ambient background). Ambient background concentrations and applicable AAAQOs are also included in the table for comparison.

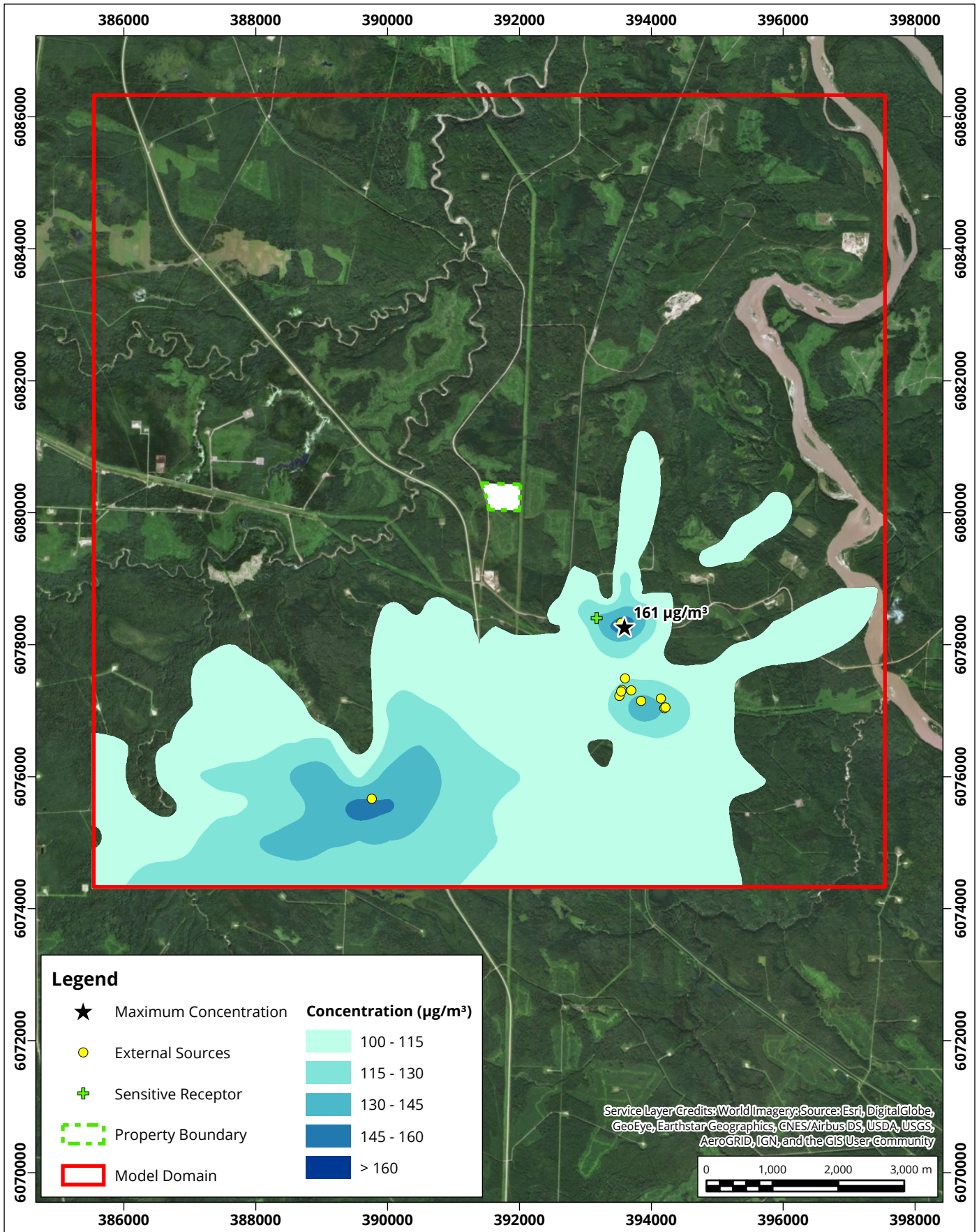
The maximum predicted concentrations of CO, NO₂, and PM_{2.5} are less than the applicable AAAQOs for all modelled averaging periods.

Figures 4 to 6 show the cumulative concentration contours (isopleths) for 1-hour NO₂, annual NO₂, and 24-hour PM_{2.5}, respectively. Contours for CO were not included as maximum predicted concentrations were well below the AAAQOs for all applicable averaging periods.

Table 6: Maximum predicted concentrations (in µg/m³)

Pollutant	Averaging Period	Ambient Background	Maximum Predicted Concentration from the Project ⁽¹⁾	Maximum Predicted Cumulative Concentration ⁽²⁾	AAAQO
CO	1-hour ⁽³⁾	1308	6.98	1542	15,000
	8-hour	1308	6.91	1501	6,000
NO ₂ (total conversion)	1-hour ⁽³⁾	54.7	28.6	392	300
	Annual	16.2	1.02	31.5	45
NO ₂ (OLM)	1-hour ⁽³⁾	54.7	28.6	161	300
	Annual	16.2	1.02	28.7	45
PM _{2.5}	24-hour	17.05	0.62	24.1	29

- Notes:
1. Predictions from Project emissions only
 2. Cumulative impact predictions include the Project, external facilities, and ambient background
 3. 9th highest predictions have been presented for the 1-hour averaging period as per the Alberta AQMG
- Values shown in bold face represent exceedances from the AAAQO



Maximum predicted cumulative 1-hour (9th highest) NO_2 concentrations (in $\mu\text{g}/\text{m}^3$)

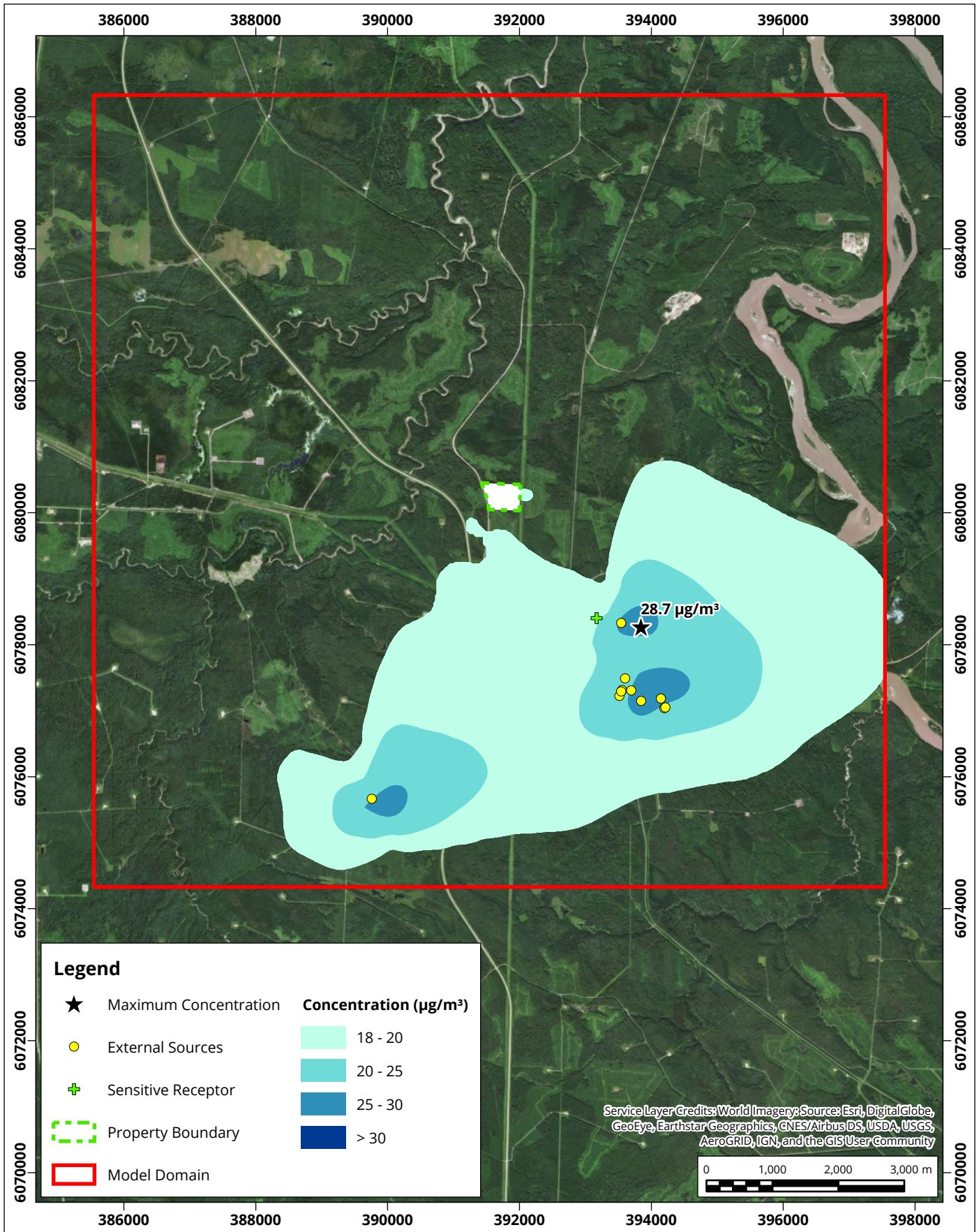
Map Projection: NAD 1983 UTM Zone 11N
 Prairie Lights Power Project - Grande Prairie, AB



1-Hour NO_2 AAAQO = $300 \mu\text{g}/\text{m}^3$
 Background Concentration = $54.7 \mu\text{g}/\text{m}^3$
 Project #: 1901065

Drawn by: DJH	Figure: 4
Approx. Scale: 1:80,000	
Date Revised: Jul 4, 2019	





Maximum predicted cumulative annual NO₂ concentrations (in $\mu\text{g}/\text{m}^3$)

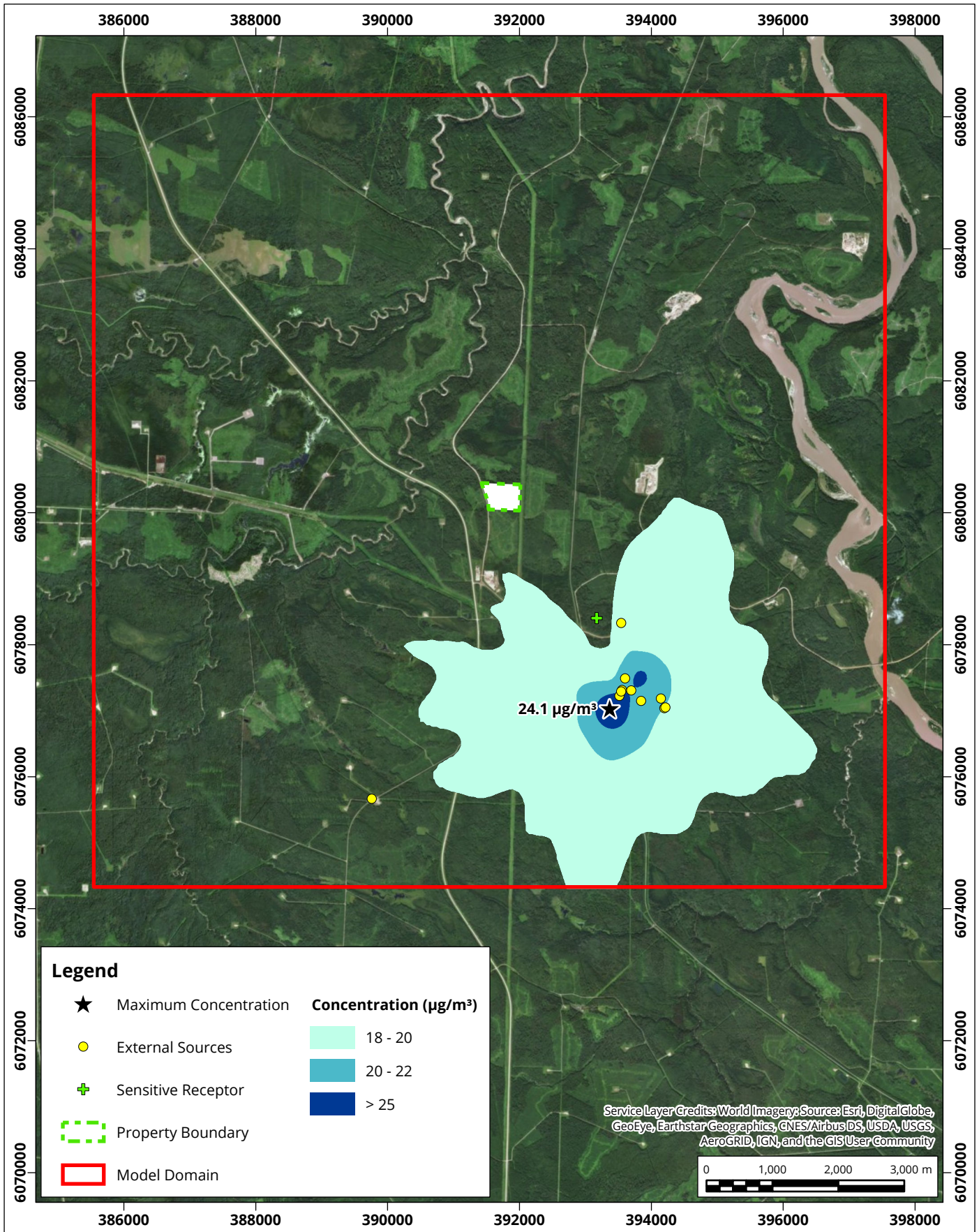
Map Projection: NAD 1983 UTM Zone 11N
 Prairie Lights Power Project - Grande Prairie, AB



Annual NO₂ AAAQO = 45 $\mu\text{g}/\text{m}^3$
 Background Concentration = 16.2 $\mu\text{g}/\text{m}^3$
 Project #: 1901065

Drawn by: DJH	Figure: 5
Approx. Scale: 1:80,000	
Date Revised: Jul 4, 2019	





Maximum predicted cumulative 24-hour PM_{2.5} concentrations (in $\mu\text{g}/\text{m}^3$)

Map Projection: NAD 1983 UTM Zone 11N
 Prairie Lights Power Project - Grande Prairie, AB



24-Hour PM_{2.5} AAAQO = 29 $\mu\text{g}/\text{m}^3$
 Background Concentration = 17.1 $\mu\text{g}/\text{m}^3$
 Project #: 1901065

Drawn by: DJH	Figure: 6
Approx. Scale: 1:80,000	
Date Revised: Jul 4, 2019	





5 SUMMARY

RWDI was retained to conduct an air quality assessment for the proposed Prairie Lights Power Project near Grand Prairie, Alberta. This assessment focused on emissions of CO, NO₂, and PM_{2.5}. The predicted concentrations were compared to the applicable Alberta Ambient Air Quality Objectives (AAAQO). The assessment was conducted using the U.S. EPA AERMOD dispersion model following the methods presented in the Alberta Air Quality Model Guideline.

The cumulative maximum CO, NO₂, and PM_{2.5} concentrations resulting from the Facility, including external industrial emission sources and ambient background, were predicted to be less than their corresponding AAAQOs for all relevant averaging periods.



6 REFERENCES

Alberta Environment and Parks (AEP, former AESRD), 2005. Alberta Air Emission Standards for Electricity Generation and Alberta Air Emission Guidelines for Electricity Generation, Effective January 1, 2006.

Alberta Environment and Parks (AEP, former AESRD), 2013. Air Quality Model Guideline, Effective October 1, 2013.

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<https://www.epa.gov/scram/meteorological-processors-and-accessory-programs>



RWDI aims to accommodate. If you require this document in a different format in order to aid accessibility, please contact the sender of this document, email solutions@rwdi.com or call +1.519.823.1311

APPENDIX A

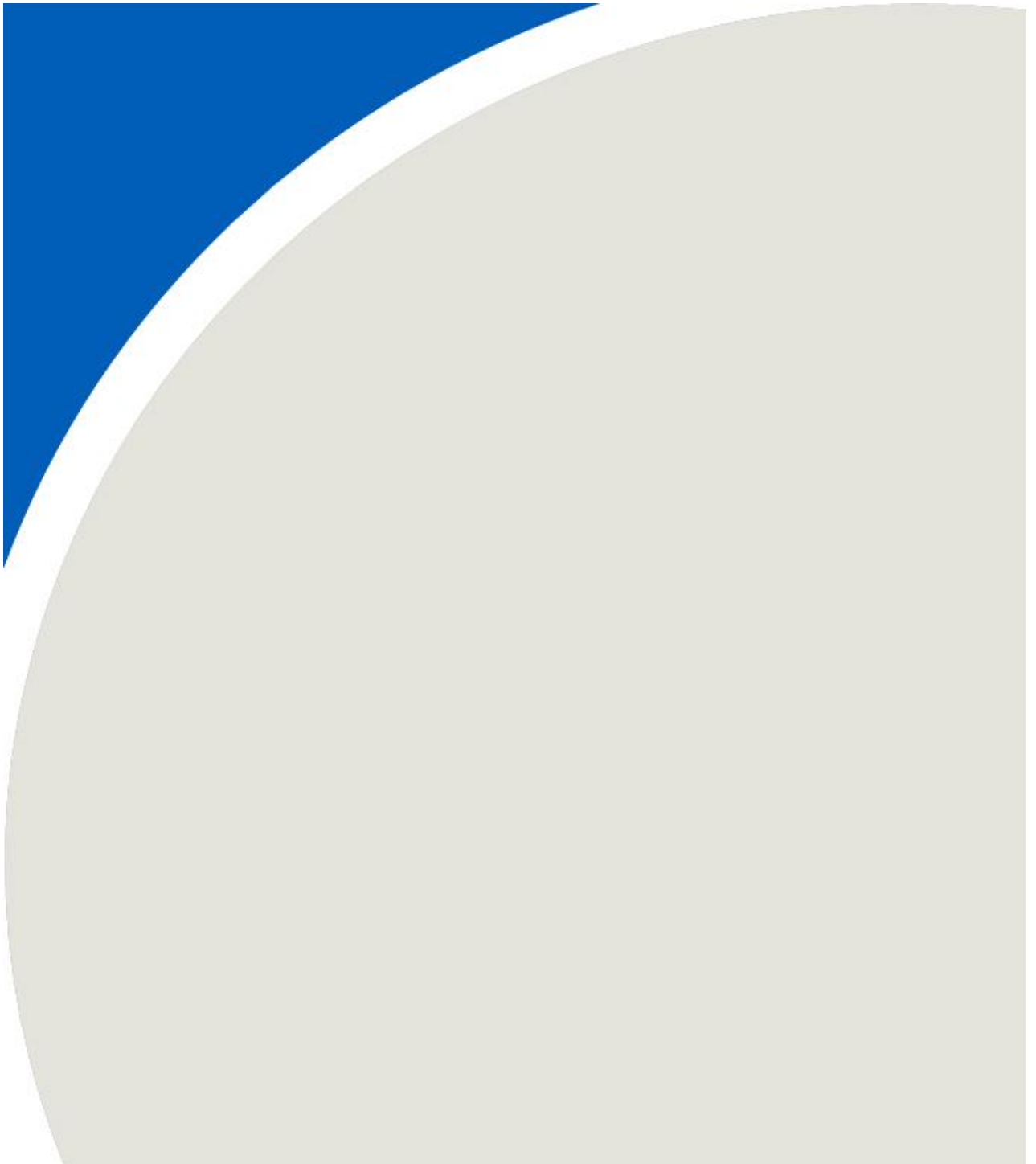


Table A1: Modelled source parameters and emission rates for Gold Creek Sour Gas Plant, operated by Canadian Natural Resources Ltd.

Source Description	UTM Easting (1)	UTM Northing (1)	Stack Height (2)	Stack Diameter (3)	Exit Velocity (3)	Exit Temperature (3)	NO _x Emission Rate ^(2,4)	CO Emission Rate ^(2,4)	PM _{2.5} Emission Rate ^(2,4)
	m	m	m	m	m/s	K	g/s	g/s	g/s
Low pressure acid gas flare	393516	6077224	30.50	0.41	24.30	1273	1.728	3.54	0.25
8195 kW heat medium heater exhaust stack	393555	6077313	15.40	0.9	3.0	634.0	0.15	0.30	0.02
5860 kW heat medium boiler exhaust stack	393601	6077490	6.50	0.9	3.0	634.0	0.09	0.18	0.01
Two 3646 kW compressor engine exhaust stacks	393542	6077292	11.70	0.4	13.4	849.2	1.728	3.54	0.25
5421 kW heat medium heater exhaust stack	393695	6077307	6.10	0.91	3.03	634	0.09	0.18	0.01

- Notes:
1. UTM coordinates are in NAD 1983 (datum), UTM Zone 11N, coordinates and distances estimated based on satellite imagery.
 2. Information was taken from the facility's EPEA approval (Approval No. 11247)
 3. Based on similar projects
 4. Information taken from the National Pollutant Release Inventory to estimate the emissions of the largest sources.

Table A2: Modelled source parameters and emission rates for several small facilities in the region.

Source Description	UTM Easting (1)	UTM Northing (1)	Stack Height (2)	Stack Diameter (2)	Exit Velocity (2)	Exit Temperature (2)	NO _x Emission Rate ⁽³⁾	CO Emission Rate ⁽³⁾	PM _{2.5} Emission Rate ⁽³⁾
	m	m	m	m	m/s	K	g/s	g/s	g/s
Alliance Pipeline Ltd., Compressor station	393543	6078330	6.00	0.35	13.36	849	1.93	1.34	0.01
Cequel Central Gold Creek, Gas Gathering System	393845	6077149	6.00	0.35	13.36	849.15	1.52	n/a	n/a
Rio Alto Exploration Ltd., Compressor station	389760	6075666	6.00	0.35	13.36	849.15	3.81	3.11	0.01

- Notes:
1. UTM coordinates are in NAD 1983 (datum), UTM Zone 11N, coordinates and distances estimated based on satellite imagery.
 2. Information from a surrogate compressor station (GE Waukesha VGF36GSID 1500 rpm)
 3. Information taken from the National Pollutant Release Inventory to estimate the emissions of the largest sources.

Table A3: Modelled source parameters and emission rates for TransCanada Pipelines Ltd power generation facility, operated by NOVA Gas Transmissions Ltd.

Source Description	UTM Easting (1)	UTM Northing (1)	Stack Height (2)	Stack Diameter (2)	Exit Velocity (2)	Exit Temperature (2)	NO _x Emission Rate ⁽³⁾	CO Emission Rate ⁽³⁾	PM _{2.5} Emission Rate ⁽³⁾
	m	m	m	m	m/s	K	g/s	g/s	g/s
9088 kW Solar Mars T-12600	394197	6077039	13.40	2.44	30.40	733	1.50	0.39	0.003
24.68 MW RB211-24C Rolls Royce	394214	6077050	10.50	2.45	40.40	752	4.09	1.05	0.01
28.3 MW RB211-24G DLE Rolls Royce	394145	6077185	18.50	4.66	12.87	752	4.68	1.20	0.01

- Notes:
1. UTM coordinates are in NAD 1983 (datum), UTM Zone 11N, coordinates and distances estimated based on satellite imagery.
 2. Information was taken from the facility's EPEA approval (Approval No. 11247)
 3. Information taken from the National Pollutant Release Inventory to estimate the emissions of the largest sources.



Suite 1000, 736 8th Avenue SW
Calgary AB Canada
T2P 1H4

Tel: +1.403.232.6771
Fax: +1. 403.232.6762
E-mail: solutions@rwdi.com

MEMORANDUM

DATE:	2019-09-30	RWDI Reference No.:	1901065
TO:	Robert McCallum	EMAIL:	Robert@mccallumenvironmental.com
CC:	Greg Belostotsky	EMAIL:	GBelostotsky@hhres.com
FROM:	Bryce Dawson	EMAIL:	Bryce.Dawson@rwdi.com
RE:	Comparing NO₂ results with CAAQS objectives Carbon Dioxide Emissions Intensity Prairie Lights Power Grande Prairie, AB		

This memo compares predicted NO₂ concentration results with the Canadian Ambient Air Quality Standards (CAAQS) and provides the information about the Carbon Dioxide Emission Intensity for the Prairie Lights Power Project.

Comparing NO₂ results with CAAQS objectives

CAAQS

The CAAQS are used for air quality management across Canada and are not used for assessing regulatory compliance. For CAAQS, the 1-hour NO₂ concentrations are presented in terms of a 3-year average of the annual 98th percentile (8th highest) daily maximum 1-hour average concentrations, while the annual NO₂ concentrations are presented as the average over a single calendar year and considers all 1-hour average concentrations.

Assessment Method

These results are based on the air quality modelling completed for the Prairie Lights Power Project (RWDI Reference #1901605, dated July 9, 2019) in support of Alberta Utilities Commission (AUC) and Alberta Environment and Parks (AEP) applications. This current assessment used the same AERMOD dispersion model with no change to the source emission rates and characteristics. To obtain the 1-hour NO₂ concentrations, the 8th highest 1-hour daily maximum was calculated over five years, and running average was calculated over 3-year periods. Then, the maximum of running averages was obtained.



Assessment Results

The predicted NO₂ concentrations along with the CAAQS criteria are presented in Table 1.

Table 1: Comparison of NO₂ results with CAAQS objectives

NO ₂	CAAQS			Maximum Predicted Concentrations (µg/m ³)		
	2020	2025	Basis	Project only	Cumulative ^[1]	Project Contribution into the Maximum Cumulative Concentration
1hour	112.8	78.96	3-year average of the annual 98 th percentile of NO ₂ daily-max 1-hour average conc	21.7	151.7	1.2
Annual	31.96	22.56	The average over a single calendar year of all 1-hour average NO ₂ conc	1.02	28.7	0.2

Note: [1] The cumulative concentration includes the contribution from the project, external sources and ambient background.

1-hour and annual NO₂ concentrations from the project only are below the CAAQS values for 2020 and 2025.

On the other hand, the cumulative 1-hour NO₂ concentration exceeds the 2020 and 2025 CAAQS targets. The cumulative annual concentration is less than CAAQS target value for year 2020. However, the predicted cumulative annual concentration exceeds the 2025 CAAQS target.

As can be seen in Table 1, the project does not contribute much to the cumulative concentration. Contribution of the project into the cumulative 1-hour results is less than 0.8%. Similarly, contribution of the project into the cumulative annual results is less than 0.7%.

Carbon Dioxide Emissions Intensity

Carbon dioxide emissions intensity was calculated in accordance with the Regulations Limiting Carbon Dioxide Emissions from Natural Gas-fired Generation of Electricity (Canadian Environmental Protection Act, 1999).

CO₂ emissions were calculated using Quantification Method 12 (b) in accordance with section 18, using a fuel-based method (measured carbon content). Chemical composition of natural gas (Enbridge, Union Gas) was used to calculate carbon content and the fuel flow rate of 48,581 kg/h (based on the date sheet for the SGT6-5000F).



Production of energy was calculated in accordance with section 11(1) and consists of the gross quantity of electricity generated by the gas and steam turbines (360 MW = 0.360 GW). The summary of the results is provided in Table 2.

The calculated emission intensity of 398 tonnes/GWh is below the established limit of 420 tonnes of CO₂ emissions/GWh of energy produced for the units of more than 150 MW.

Table 2: Carbon Dioxide Emissions Intensity

Natura Gas Flow Rate (kg/hr)	Total Carbon content (%)	CO ₂ (tonnes/hour)	Gross Power output (GW)	Emissions intensity (tonnes/GWh)	Limit (tonnes/GWh)
48,581	73.4	143.2	0.360	398	420

Closing

We trust that this provides the information you require. Should have any additional questions, please do not hesitate to contact the undersigned directly at 403-232-6771 ext. 6222 or via email at bryce.dawson@rwdi.com.

Yours truly,

RWDI

Bryce Dawson, B.Sc., EPT
Project Manager

Appendix F - ACIMS Data Search Results

Search ACIMS Data

Date: 2/7/2019

Requestor: Consultant

Reason for Request: Environmental Assessment

SEC: 03 **TWP:** 068 **RGE:** 05 **MER:** 6



■ Non-sensitive EOs: 0 (*Data Updated: October 2017*)

M-RR-TTT-SS	EO_ID	ECODE	S_RANK	SNAME	SCOMNAME	LAST_OBS_D
No Non-sensitive EOs Found: Next Steps - See FAQ						

■ Sensitive EOs: 0 (*Data Updated: October 2017*)

M-RR-TTT	EO_ID	ECODE	S_RANK	SNAME	SCOMNAME	LAST_OBS_D
No Sensitive EOs Found: Next Steps - See FAQ						

■ Protected Areas: 0 (*Data Updated: October 2017*)

M-RR-TTT-SS	PROTECTED AREA NAME	TYPE	IUCN
No Protected Areas Found			

■ Crown Reservations/Notations: 0 (*Data Updated: October 2017*)

M-RR-TTT-SS	NAME	TYPE
No Crown Reservations/Notations Found		

Appendix G - AEP Correspondence re. EIA Requirement



May 6, 2019

Greg Belostotsky
Staff Facilities and Pipeline Specialist
Prairie Lights Power Plant LP
Eighth Avenue Place
East Tower, Suite 2700
525 8th Avenue SW
Calgary, AB T2P 1G1

Dear Mr. Belostotsky:

Further to your e-mail dated April 5th, 2019, I wish to advise you that pursuant to Section 44 of the *Environmental Protection and Enhancement Act* (EPEA), I have considered the application of the environmental assessment process to your proposed Prairie Lights Power Plant LP, Prairie Lights Power Plant Project. This activity is not a mandatory activity for the purposes of environmental assessment. Having regard to the consideration set out in Section 44(3) of EPEA, I have decided that further assessment of the activity is not required. Therefore, a screening report will not be prepared and an environmental impact assessment report is not required.

Please note that this decision is based on the current information about the project and that I reserve the ability to review this decision should different and/or new information come to light. Prairie Lights Power Plant LP should also note that Section 47 of EPEA gives the Minister of Environment and Parks the authority to order the preparation of an environmental impact assessment report under appropriate circumstances, notwithstanding a director's decision to not require an environmental impact assessment report.

Prairie Lights Power Plant LP should be advised that although an environmental impact assessment report is not required for this project, Alberta Environment and Parks may have other regulatory requirements under EPEA and/or the *Water Act*. For more information about regulatory requirements under EPEA and/or the *Water Act*, please contact Okey Obiajulu (okey.obiajulu@gov.ab.ca). I suggest that Prairie Lights Power Plant LP contact Mike Maximchuk with Indigenous Relations at the Aboriginal Consultation Office at (mike.maximchuk@gov.ab.ca).

At this time, I recommend that you review the contents of the Alberta Utilities Commission's Rule 007 (<http://www.auc.ab.ca/acts-regulations-and-auc-rules/rules/Pages/default.aspx>) to inform yourselves about the application and environmental evaluation requirements of the AUC.

Prairie Lights Power Plant LP should also contact Susan Tiege (Susan.Tiege@ceaa-acee.gc.ca) with the Canadian Environmental Assessment Agency to discuss the potential submission of a federal project description and any federal environmental assessment requirements under the *Canadian Environmental Assessment Act, 2012*.

If you have any questions or need further information please contact me at 780-427-9335.

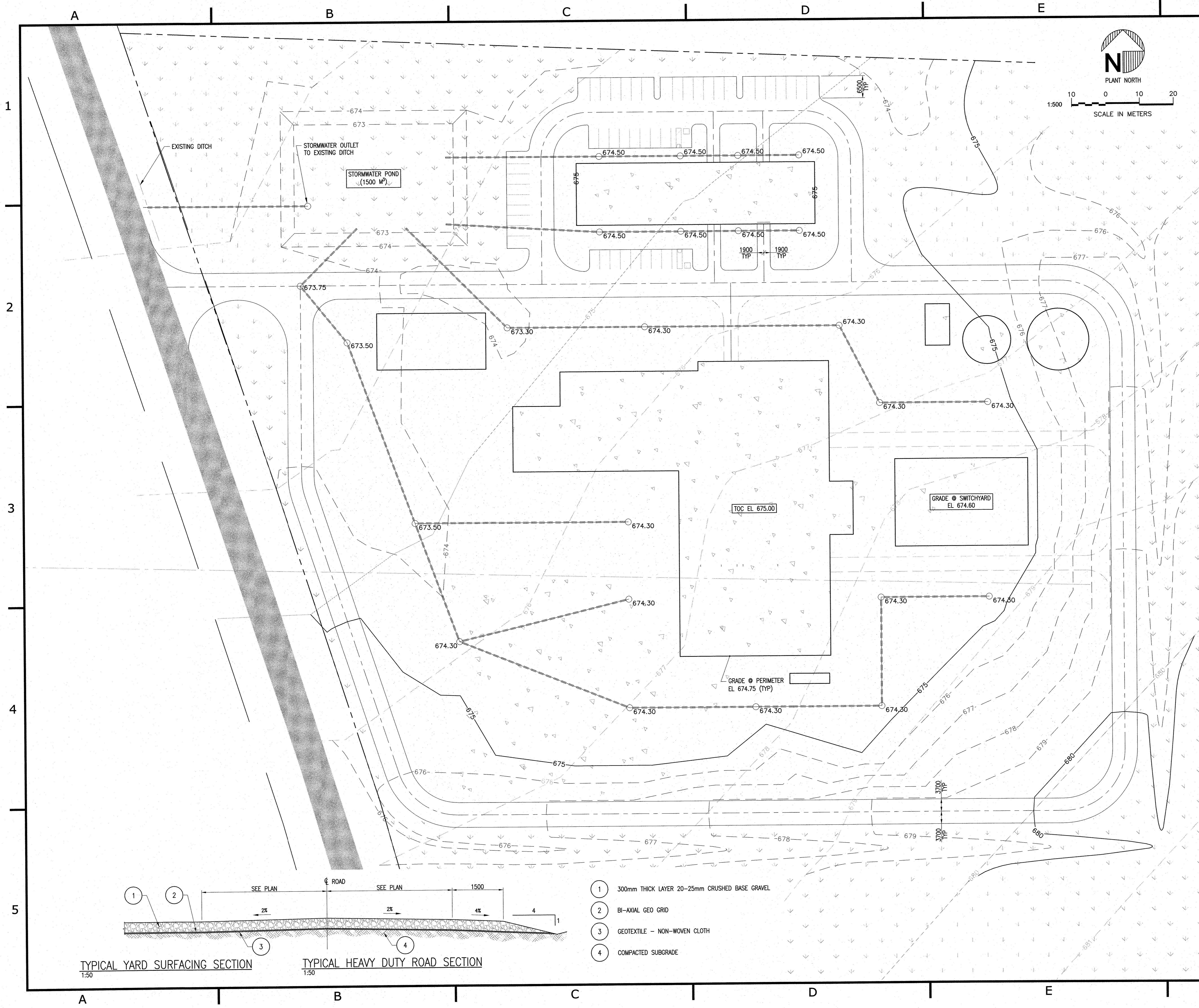
Sincerely,

<Original signed by>

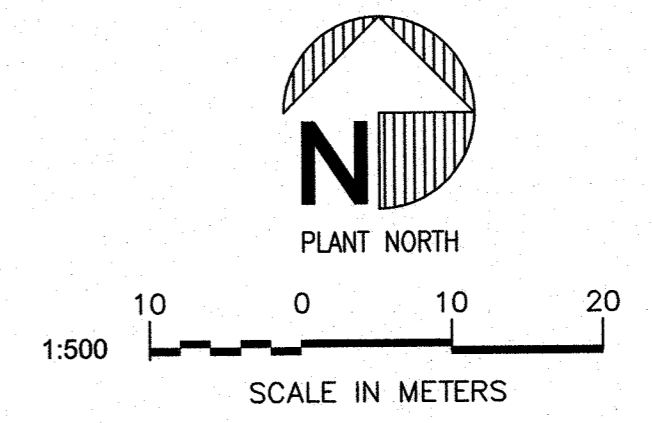
Heather Dent
Senior Manager, Environmental Assessment, Assessment and Continuations
Provincial Approvals
(Designated Director, *Environmental Protection and Enhancement Act*)

cc: M. Daneluk (AEP)
O. Obiajulu (AEP)
M. Maximchuk (IR)
S. Tiege (CEAA)
A. Drolet (AUC)

Appendix H - Construction Drawing / Grading Drainage Drawing



GENERAL NOTES:
 1. COORDINATES SHOWN ARE BASED ON UTM NAD83 (CSRS) ZONE 11.



- LEGEND:**
- EXISTING MAJOR CONTOURS
 - - - EXISTING MINOR CONTOURS
 - PROPOSED MAJOR CONTOURS
 - - - PROPOSED MINOR CONTOURS
 - - - STORM DRAINAGE PIPING
 - CATCH BASIN

REFERENCE DWGS:

REFERENCE SPECS:

PRELIMINARY
 NOT FOR CONSTRUCTION

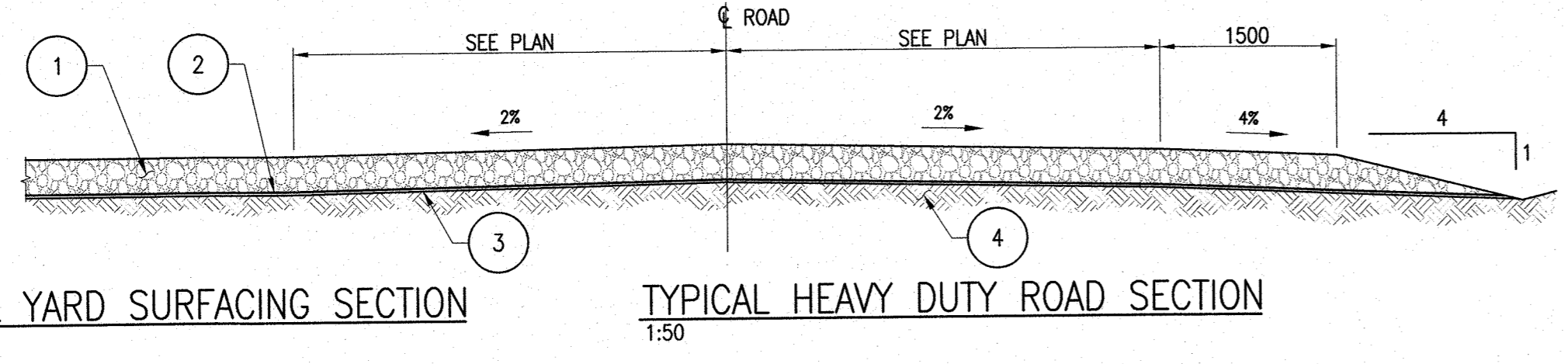
ORIGINAL

ISSUED FOR REVIEW

REVISION	DATE	BY	CHECKED	APPROVED	PROJ. TECH.	DIR. TECH.	PROJ. MGR.	INSTR.
1	3/8/19	BS	GG	CL	VSS			

SCALE: 1:500
 THIS DRAWING IS THE PROPERTY OF SNC-LAVALIN INC. AND IS NOT TO BE USED IN ANY WAY INJURIOUS TO THEIR INTERESTS AND IS TO BE RETURNED UPON REQUEST.

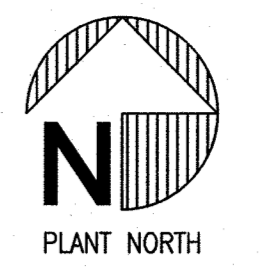
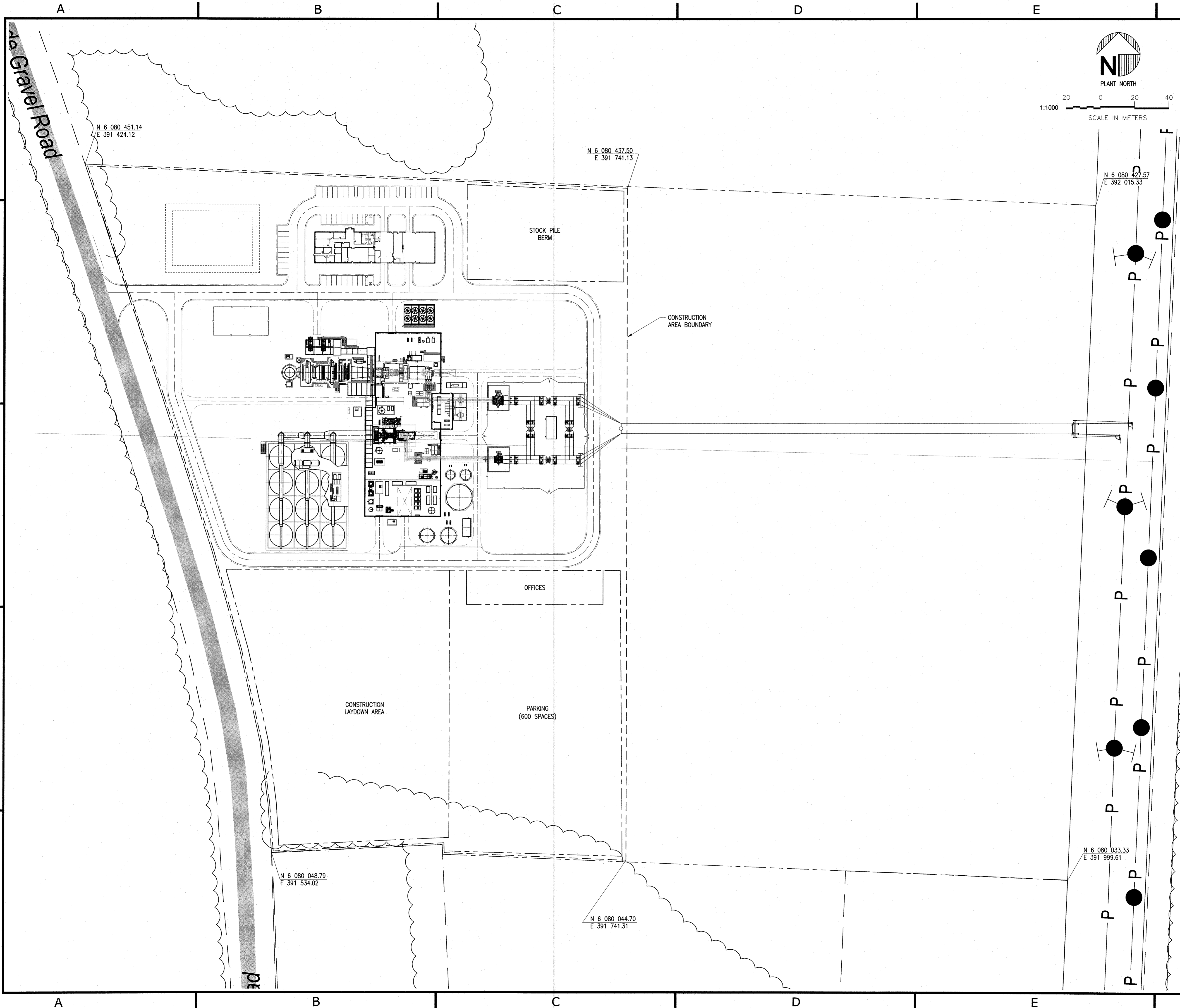
PRAIRIE LIGHTS POWER PROJECT
 GRAND PRAIRIE, ALBERTA CANADA
 CIVIL GRADING & DRAINAGE PLAN
 DWG. 662981 C003-S001



- 1 300mm THICK LAYER 20-25mm CRUSHED BASE GRAVEL
- 2 BI-AXIAL GEO GRID
- 3 GEOTEXTILE - NON-WOVEN CLOTH
- 4 COMPACTED SUBGRADE

1
2
3
4
5

MECH
STRUCT
PIPING
PROCESS



1:1000
SCALE IN METERS

GENERAL NOTES:
1. COORDINATES SHOWN ARE BASED ON UTM NAD83 (CSRS) ZONE 11.

LEGEND:

REFERENCE DWGS:

REFERENCE SPECS:

**PRELIMINARY
NOT FOR
CONSTRUCTION**

ORIGINAL

ISSUED FOR REVIEW

7/12/19	BS	RS	DS	DEW	DS	RS
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ISSUED FOR REVIEW

6/20/19	KDE	DS	DS	VJS	SEO
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REVISION	DATE	BY	CHECKED	APPROVED	PROJ. TECH.	DIR. TECH.	PROJ. MGR.



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PRAIRIE LIGHTS POWER PROJECT
GRANDE PRAIRIE, ALBERTA CANADA

OVERALL SITE PLAN
CONSTRUCTION AREA

DWG. **662981 C005-S001**

INSTR
ELECT
MECH
STRUCT
PIPING
PROCESS

Appendix I - Equipment List



SNC • LAVALIN

Kirkland, Washington

SPECIFICATION SP-E580

REVISION E

FOR

EQUIPMENT LIST

FOR

CONTRACT NO. 662981

SNC-LAVALIN

**PRAIRIE LIGHTS POWER PROJECT
GRANDE PRAIRIE, ALBERTA, CANADA**

ORIGINAL

REVISION HISTORY

PRAIRIE LIGHTS POWER PROJECT

REV	DATE	DESCRIPTION	BY	CHECKED	APPROVED	PROJ TECH	DIR. TECH
A	2/4/2019	ISSUED FOR USE	MS	DS	SEO	VJS	LA
B	2/25/2019	ISSUED FOR USE	DS	DS	SEO	VJS	LA
C	3/21/2019	ISSUED FOR USE	DS	DS	SEO	VJS	LA
D	6/24/2019	ISSUED FOR USE	RS	DS	SEO	VJS	LA
E	7/10/2019	ISSUED FOR USE	RS	DS	DS	DEM	SEO



**PRAIRIE LIGHTS
POWER**

Eighth Avenue Place | Suite 2700, 525 - 8 Ave SW | Calgary, Alberta T2P 1G1



SNC • LAVALIN

Equipment List

EQUIPMENT DESCRIPTION	% DUTY	DESCRIPTION	Purchased By	Vendor or Included in Vendor Package
			BOP = EPC Contractor Utility Owner	
<u>GAS TURBINE / GENERATOR SYSTEMS</u>				
Combustion Turbine	100%	Siemens F-Class SGT6-5000F	Owner	Power Island
Compressor	100%	Axial Flow, 13 stages	Owner	Power Island
Combustion System	100%	16 combustors	Owner	Power Island
Turbine	100%	4 stages, 3 cooled stages	Owner	Power Island
Bearings	100%	Radial and Thrust	Owner	Power Island
GT Auxiliaries			Owner	Power Island
Rotor Air Cooler (Kettle Boiler)	100%	Air to Air Forced Draft Heat Exchanger Fin Fan (if required)	Owner	Power Island
Lube Oil System	2 x 100%	Main, Auxiliary, 1 Emergency DC, Lift, Filters, Coolers, vapor recovery	Owner	Power Island
Hydraulic (Control) System	2 x 100%	pumps, tank, filters, coolers	Owner	Power Island
Air Inlet Filter, Ducting and Silencing System	100%	Pad-Type, Inlet Air Bleed heat, Self-Cleaning pulse filters, With Evaporative Cooler, Anti-icing if required	Owner	Power Island
Compressor Water Wash System	100%	Pumps, detergent tank	Owner	Power Island
Fuel Gas Conditioning System	100%		Owner	Power Island
Fuel Gas Absolute Separator	2 x 100%	If required	Owner	Power Island
Fuel Gas IP Performance Heater	2 x 100%		Owner	Power Island
Electric Start-Up Heater	100%	If required	Owner	Power Island
Fuel Gas Flow meter	100%		Owner	Power Island
Fuel Gas Scrubber	100%		Owner	Power Island
Fire Protection System	100%	Carbon Dioxide Turbine Enclosure, electrical package w/ detectors, gas sensors, pull station, alarms	Owner	Power Island
Integrated Air System	100%	Air Compressor	Owner	Power Island
Starting System	100%	Static Frequency Converter	Owner	Power Island
Turning Gear	100%		Owner	Power Island
Exhaust Transition	100%	Diffuser and Expansion Joint	Owner	Power Island
GT Electrical System	100%		Owner	Power Island
Low Voltage AC Distribution	100%	480 - 240/120 VAC transformer 240/120 VAC panel board	Owner	Power Island
DC systems	100%		Owner	Power Island
Battery bank & Chargers	100%	Lead Acid Battery system for 1 hr	Owner	Power Island
Low Voltage Motor Starters	100%	480 VAC MCC	Owner	Power Island
Supervisory Instrumentation	100%	Vibro-Meter Vibration Monitoring for Turbine compressor, generator	Owner	Power Island
Controls System	100%	Siemens SPPA-T3000, HMI	Owner	Power Island
GT Equipment Enclosures	100%		Owner	Power Island
Acoustic Enclosure	100%	4 Fans, heating, designed to meet OSHA	Owner	Power Island
Power Control Center (PCC) for GT control and electrical equipment	100%	All weather enclosures, lighting, fire protection, 2x100% AC units	Owner	Power Island
GT Generator	100%	SGen6-1000A TEWAC, 304 MVA, 20,000 V	Owner	Power Island
GT Generator Auxiliaries	100%		Owner	Power Island
Excitation System	100%		Owner	Power Island
GT Static Starting System	100%		Owner	Power Island
Neutral Grounding System	100%		Owner	Power Island
Protection System	100%		Owner	Power Island
Synchronization System	100%		Owner	Power Island
Rotor Lift Oil System	100%		Owner	Power Island
Generator Enclosure	100%		Owner	Power Island
<u>STEAM TURBINE AND AUXILIARY SYSTEMS</u>				
Steam Turbine Package			Owner	Power Island
Steam Turbine	100%	SST-700/900, 2 case reheat	Owner	Power Island
Combined Main Steam Stop and Control Valve	100%	Qty 1	Owner	Power Island
Combined Reheat Steam Stop and Control Valve	100%	Qty 1	Owner	Power Island
LP Induction Stop and Control Valve	100%	Qty 1 each	Owner	Power Island
Steam Strainer and Casing for Induction Steam	100%	Qty 1	Owner	Power Island
Check Valve for cold reheat line	100%		Owner	Power Island
HP Vent Valve	100%		Owner	Power Island
Turning Gear	100%	Automatic and manual	Owner	Power Island

Equipment List

EQUIPMENT DESCRIPTION	% DUTY	DESCRIPTION	Purchased By	
			BOP = EPC Contractor Utility Owner	Vendor or Included in Vendor Package
LP Diffuser Expansion Joint	100%		BOP	ACC Vendor
Steam Turbine Auxiliaries				
STG Lube Oil Skid		2x100% AC pumps, 1 DC pump, Tank, exhausters, and accessories	Owner	Power Island
STG Purification Unit	100%		BOP	Vendor
STG Hydraulic Supply System	100%	Pumps, tank, filters, coolers, accumulators	Owner	Power Island
Gland Steam Condenser	100%	Vacuum type, with blower	Owner	Power Island
Turbine Drain System	100%		Owner	Power Island
LP Cooling System	100%		Owner	Power Island
STG Seal Oil Unit	100%		Owner	Power Island
Control Air System	100%		Owner	Power Island
Steam Turbine Electrical Systems				
Low voltage AC distribution	100%		Owner	Power Island
DC systems	100%		Owner	Power Island
Low voltage motor starters	100%		Owner	Power Island
DC motor starters	100%		Owner	Power Island
ST Supervisory Instrumentation				
	100%	Vibro-Meter Vibration Monitoring for Turbine compressor, generator	Owner	Power Island
ST Control System				
	100%	Siemens SPPA-T3000, HMI	Owner	Power Island
ST Stress Controller				
	100%		Owner	Power Island
STG Generator				
	100%	TEWAC, SGen6-100A-2P 304 MVA, 20,000 V, 258.4 MW	Owner	Power Island
STG Generator Auxiliaries				
Excitation System	100%		Owner	Power Island
Neutral Grounding	100%		Owner	Power Island
Protection System	100%		Owner	Power Island
Synchronization System	100%		Owner	Power Island
Rotor Lift Oil System	100%		Owner	Power Island
STG Generator Coolers	100%		Owner	Power Island
STG Generator Enclosure				
	100%		Owner	Power Island
HEAT RECOVERY STEAM GENERATOR (HRSG)				
HRSG				
		Three Pressure level reheat design per ASME B&PV Sect 1	Owner	Power Island
Feedwater Preheater Circulation Pumps	2 x 100%		Owner	Power Island
HRSG Stack	100%	60m high Motorized Damper, Silencer, FAA Lighting, Lightning Protection	Owner	Power Island
HRSG Valves	100%		Owner	Power Island
HRSG Relief Valves and Vent Valve Silencers	100%		Owner	Power Island
HRSG Instrumentation	100%		Owner	Power Island
Rotor Air Cooler (RAC) for GT	100%	Single Stage IP Shell and Tube Air to Water HX	Owner	Power Island
Duct Burner	100%		Owner	Power Island
SCR Spool Piece	100%	For future		
CEM Enclosure				
	100%		Owner	Power Island
Continuous Emission Monitoring System	100%	CO, NOx, NO2 & NO, Wet & dry O2, analyzer console, sample line, sample filtering system, sample conditioning system for the HRSG exhaust stack	Owner	Power Island
STEAM/WATER PROCESS SYSTEMS				
Feedwater Pumps				
	2 x 100%		BOP	FW Pump Vendor
Feedwater Lube System	100%		BOP	FW Pump Vendor
Vibration Monitoring	100%		BOP	FW Pump Vendor
Steam Bypass System				
HP Bypass Station	100%	full capacity	Owner	Power Island
Hot Reheat Bypass Station	100%	full capacity	Owner	Power Island
LP Bypass Station	100%	full capacity	Owner	Power Island
Bypass Diffusers	100%	For each bypass system	Owner	Power Island
Condensate Pumps				
	2 x 100%	Vertical Can Pumps		
Condensate Recirculation Pump	2 x 100%		BOP	Cond Pump Vendor
STG Valves				
Main Steam Stop/Control Valve(s)	100%		Owner	Power Island
Combined Reheat Valve(s)	100%		Owner	Power Island

Equipment List

Rev E

EQUIPMENT DESCRIPTION	% DUTY	DESCRIPTION	Purchased By	
			BOP = EPC Contractor Utility Owner	Vendor or Included in Vendor Package
Low Pressure Steam/Control Valve	100%		Owner	Power Island
Auxiliary Steam System	100%	saturated steam	BOP	Aux. Boiler Vendor
Auxiliary Boiler		Water Tube type Packaged Boiler with Fordced Draft Fan		
Deaerator	100%		BOP	Aux. Boiler Vendor
Stack	100%		BOP	Aux. Boiler Vendor
Aux Boiler Feedwater Pump Skid	2 x 100%		BOP	Aux. Boiler Vendor
Blowoff Tank	100%		BOP	Aux. Boiler Vendor
Aux. Boiler Chem. feed System	100%		BOP	Chem Feed Vendor
Auxiliary Steam Electric Superheater	100%		BOP	Vendor
HRSGB Blowdown System				
HRSGB Blowdown Tank	100%		Owner	Power Island
HRSGB Blowdown Sump and Pumps	2 x100%	sump-type pumps	BOP	Vendor
Flash Tank	100%		BOP	Vendor
Sample Panel	100%	Cation, Anion, Silica, as needed by OEM	BOP	Vendor
STG Atmospheric Drains Tank	100%		BOP	Vendor
STG Atmospheric drains tank pumps	2 x 100%		BOP	Vendor
Vacuum Drains Tank	100%		BOP	Vendor
Vacuum Drains Tank Pumps	100%	if required	BOP	Vendor
AIR COOLED CONDENSER SYSTEM				
Air Cooled Condenser (ACC)	12 x 8.33%	12 cell	BOP	ACC Seller
ACC Condensate Collection Tank and Deaerator	100%		BOP	ACC Seller
ACC Electrical PDC Enclosure			BOP	Vendor
Non-Condensable Removal System			BOP	ACC Seller
Steam Jet Air Ejectors (SJAE)	2 x 100%	twin element	BOP	ACC Seller
Hogging	1 x 100%		BOP	ACC Seller
AUXILIARY SYSTEMS				
Fuel Systems				
Revenue Meter	100%		Utility	Others
Revenue Meter - Check	100%	plant to match utility	BOP	Vendor
Pressure Reducing Skid #1 (HP to LP)	100%		BOP	Vendor
Pressure Reducing Skid (HP regulation)	100%		BOP	Vendor
Fuel Gas Chromatograph	100%		Owner	Power Island
Fuel Gas Knock-out Drum	100%		BOP	Vendor
Fuel Gas Drains Tank	100%		BOP	Vendor
Fuel Gas Preheating Skid	2 x 100%		BOP	Vendor
Nitrogen Blanketing System for HRSGBs & Aux. Boiler				
Nitrogen Bulk Storage	100%		Owner	OWNER
Nitrogen Manifold, Regulators, Safety valves, Control Valves	100%		BOP	BOP
Plant Air Compressor Skid	2 x 100%	Panel, pre-filters, air dryers, after-filters, air receiver tank	BOP	Air Compressor Vendor
Non-Potable Domestic Water System				
Non-Potable Domestic Water Storage Tank	100%	100 m ³ (3 days)	BOP	Vendor
Backflow Preventer No. 1	100%		BOP	Vendor
Non-Potable Domestic Water Pumps	2 x 100%		BOP	Vendor
Waste Water System				
Wastewater Storage Tank	100%	400 m ³ (4 days)	BOP	Vendor
Plant Wastewater Sump with pumps	2 x 100%	sump-type pumps	BOP	Vendor
Water Wash Drains Tank	100%		BOP	Vendor
Oil/Water Separator	100%		BOP	Vendor
Water Treatment Wastewater Sump with pumps	2 x 100%	sump-type pumps	BOP	Vendor
Spent Slurry Sump with pumps	2 x 100%	sump-type pumps	BOP	Vendor
Blowdown Cooler	2 x 100%		BOP	Vendor
Raw Water System				
Raw Water Storage Tank	100%	700m ³ (2 days)	BOP	Vendor
Raw Water Pumps	2 x 100%		BOP	Vendor
Service Water System				
Service/Fire Water Storage Tank	100%	2600 m ³ with insulation and heaters	BOP	Vendor
Service Water Pumps	2 x 100%		BOP	Vendor
Ultrafiltration Skid	100%		BOP	Vendor
UF Preemate Tank	100%		BOP	Vendor
Demineralized Water System				

Equipment List

EQUIPMENT DESCRIPTION	% DUTY	DESCRIPTION	Purchased By	
			BOP = EPC Contractor Utility Owner	Vendor or Included in Vendor Package
Demineralized Water Storage Tank	100%	200 m ³ (2 days) with insulation and heaters	BOP	Vendor
Demineralized Water Pumps	2 x 100%		BOP	Vendor
Demineralized Water Treatment	2 x 100%		BOP	Vendor
Reverse Osmosis (RO) Skids	2 x 100%		BOP	Vendor
Electrodeionization Skid (EDI) Skids	2 x 100%		BOP	Vendor
Clean in Place (CIP) Skid	100%		BOP	Vendor
Water Treatment Chemical Equipment				
Tote for each type of chemical used			Owner	Owner
Pumps for each type of chemical used	2x100%		BOP	Vendor
Boiler Water Treatment Chemical Equipment				
Tote for each type of chemical used			Owner	Owner
Pumps for each type of chemical used	2x100%		BOP	Vendor
Condensate Polishing				
Condensate Polisher Skid	2 x 100%		BOP	Cond Polisher Vendor
Advanced Precoat skid	100%		BOP	Cond Polisher Vendor
Resin Traip Strainer	2 x 100%		BOP	Cond Polisher Vendor
Backwash Decant Tank	100%		BOP	Cond Polisher Vendor
Polisher Air Reciever	100%		BOP	Cond Polisher Vendor
Condensate Polisher Air Compressor Skid	100%		BOP	Cond Polisher Vendor
Filter Press Feed Pump Skid	2 x 100%		BOP	Cond Polisher Vendor
Filter Press Skid	100%		BOP	Cond Polisher Vendor
Polymer Feed System	2 x 100%		BOP	Cond Polisher Vendor
Supply of Resin and Polymer chemical			Owner	Owner
Cooling Water System				
CCW Fin Fan Heat Exchanger	100%	qty of fans tbd		FF Vendor
Closed Cooling Water Pumps	2 x 100%		BOP	CCW Vendor
Closed Cooling Water Expansion Tank	100%		BOP	Vendor
Closed Cooling Water Pot Feeder	100%		BOP	Vendor
ANCILLARY SYSTEMS				
Fire Protection System				
Fire Pump Enclosure			BOP	Fire Pump Vendor
Diesel engine driven Fire Pump	100%		BOP	Fire Pump Vendor
Diesel Oil Day Tank	100%		BOP	Fire Pump Vendor
Electric Motor driven Fire Pump	100%		BOP	Fire Pump Vendor
Jockey Pump	100%		BOP	Fire Pump Vendor
Weather Station	100%		BOP	Vendor
Cathodic Protection System	100%		BOP	BOP
Buildings				
Admin/Warehouse/Control Building	100%	HVAC, MUEH	BOP	BOP
Turbine Building	100%	HVAC, MUEH, Rooftop AHU, Battery Room Vent Fans	BOP	BOP
HRSB Penthouse Building	100%	MUEH, Exhaust Fans	BOP	BOP
Stand-By Diesel Generator				
	100%	2000kw, 1250kva, 600V, 3-phase, 60-Hz, four cycle design, emission requirements meet current EPA Tier II and NSPS subpart IIII, with synchronizing capabilities, 0.8 power factor, outdoor installation	BOP	Vendor
Diesel Generator Day Tank	100%	2000 gallon capacity (24hr storage), horizontal and supplied with diesel generator set	BOP	Vendor
Cranes and Hoists				
		STG building bridge crane Feedwater pumps monorail hoist CCW pump HRSB drum level Stack level Generator level ACC	BOP	BOP / Power Island
Pipe Rack	100%	HRSB to Turbine building	BOP	BOP
ELECTRICAL SYSTEMS				
			SEE ELECTRICAL ONE LINE	
Switchyard Electrical Building			BOP	BOP

Equipment List

EQUIPMENT DESCRIPTION	% DUTY	DESCRIPTION	Purchased By	
			BOP = EPC Contractor Utility Owner	Vendor or Included in Vendor Package
Switchyard	100%	145kV Switchyard.(4) 145kV HV CBs w/ assoc. disc sw, PTs, bus work, grounding, foundations, supports, relays, and final dead-end structure	BOP	BOP
HRSO Electrical Enclosure			BOP	BOP
Gen VT & Surge Cubicle				
STG Electrical Room				
Main Electrical Room				
GSU				
GSU Transformer CTG	100%	QTY (1) 180/240/300 MVA. 20-145 kV, ONAN/ONAF/ONAF, +/- 8@1.25% NLTC	BOP	BOP
GSU Transformer STG	100%	QTY (1) 78/104/130MVA. 20-145 kV, ONAN/ONAF/ONAF, +/- 8@1.25% NLTC	BOP	BOP
Generator Main Leads				
18 kV Isophase Phase Bus Duct CTG	100%	QTY (1) 19kV, 10,500A, Al conductor, 175 ft. average length, with 1200A bus tap box for cable feeders 32ft to UAT 11.	BOP	BOP
13.8 kV Isophase Phase Bus Duct STG		QTY (1) 13.8kV, 6,300A, Al conductor, 125 ft. average length.	BOP	BOP
Station Aux Transformer 1	100%	QTY (1) Two-winding 19 - 4.16kV, 12/16MVA ONAN, 7% impedance.	BOP	BOP
Station Aux Transformer 2	100%	QTY (1) Two-winding 13.8 - 4.16kV, 12/16MVA ONAN, 7% impedance.		
Station Service Transformers	100%	QTY (2) 3000/3750 kVA, 4.16 kV-600 V, ANAN/ANAF, 6% impedance, typical for station Service Transformers & ACC & SEE/SEC	BOP	BOP
SEE XFMR	100%	QTY (2) TBD kVA, 4.16 kV-600 V, 6% impedance	Power Island	Power Island
SFC XFMR	100%	QTY (2) TBD kVA, 4.16 kV-600 V, 6% impedance	Power Island	Power Island
ACC Transformers	100%	QTY (2) 3,000/3750 kVA, 4.16 kV-600 V. 6.5% impedance	BOP	BOP
Excitation Control Compartment			BOP	BOP
Generator Circuit Breakers		QTY(2) 20kV & 13.8kV	BOP	BOP
MV Switchgear				
4.16 kV Switchgear		4.16kV, 3000A, 40kA, with three (3) 3000A breakers and eight (8) 1200A breakers	BOP	BOP
4.16 kV MCC	100%	QTY (1) 4.16kV, 1200A, 50kA. Three (3) 800A and three (3) 400A contactors	BOP	BOP
LV Switchgear				
600V Switchgear BOP	100%	600V, 4000A, 65kA. (3) 4000A, (1) 3200A, (7) 1600A	BOP	BOP
600V Switchgear ACC	100%	600V, 4000A, 65kA. (3) 4000A, (5) 1600A.	BOP	BOP
LV MCCs				
600 V BOP, HRSO and ACC MCCs	100%	QTY (10) 600V. 1600A: ACC 1, ACC2. CTG11-1, CTG11-2, STG10-1, STG10-2 1200A: BOP1-1, BOP2-1. 800A ACC-Area1, ACC-Area2	BOP	BOP
Site Lighting	100%	Place holder for all site lighting	BOP	BOP

Equipment List

EQUIPMENT DESCRIPTION	% DUTY	DESCRIPTION	Purchased By	Vendor or Included in Vendor Package
			BOP = EPC Contractor Utility Owner	
Station Batteries				
125 V DC Station Battery A	100%	125VDC, 2000 Ahr, lead-calcium, wet cell.	BOP	BOP
125 V DC Station Battery B	100%	125VDC, 2000 Ahr, lead-calcium, wet cell.	BOP	BOP
125 V DC Battery Charger A	100%	480V 3 phase input, 125VDC, 125A output	BOP	BOP
125 V DC Panelboard A	100%	125V, 225A	BOP	BOP
125 V DC Battery Charger B	100%	480V 3 phase input, 125VDC, 125A output	BOP	BOP
125 V DC Panelboard B	100%	125V, 225A	BOP	BOP
Uninterruptible Power Supply (Vital AC Power)				
UPS Bypass Transformer	100%	45kVA , 600V 3 phase input, 120V single phase output; with rectifier, inverter, static switch bypass, and maintenance bypass switch.	BOP	BOP
	100%	45 kVA, 600V 3 phase input, 120V single phase output, voltage regulating shielded.	BOP	BOP
PLANT CONTROL SYSTEMS-DCS				
DCS Workstations				
DCS Operator Workstation	2 x 100%		Power Island	Power Island
DCS Engineering Workstation	100%		Power Island	Power Island
DCS Database/Domain/AV Workstation	100%		Power Island	Power Island
DCS OPC Server	100%		Power Island	Power Island
DCS Historian station	100%		Power Island	Power Island
DCS AMS Workstation	100%		Power Island	Power Island
Printers				
			Power Island	Power Island
Cabinets				
			Power Island	Power Island
DCS Controller Cabinet Assembly - HRSG	100%		BOP	BOP
DCS Controller Cabinet Assembly - Water Treatment	100%		BOP	BOP
DCS Controller Cabinet Assembly - BOP	100%		BOP	BOP
DCS Controller Cabinet Assembly - ACC	100%		BOP	BOP
DCS Controller Cabinet Assembly - Switchyard				
Network Equipment Cabinet				
Redundant Network switches	100%		BOP	BOP
Media Converters	100%		BOP	BOP
Router/switch/firewall for plant business LAN communication Routers/switches for PLC communications	100%		BOP	BOP
NTP Server Satellite Clock	100%		BOP	BOP
Ethernet Printer Switch	100%		BOP	BOP
Instrument Power Panels				
	100%		BOP	BOP
Instrument Junction Boxes				
	100%		BOP	BOP
DCS Operator and Engineering Consoles	100%		BOP	BOP
Emergency Shutdown Panel in Control Room	100%		BOP	BOP

Appendix J - AUC Approval & Decision

Power Plant Approval 24758-D02-2019

Appendix 1 to Decision 24758-D01-2019

October 30, 2019

Prairie Lights Power GP Inc.
360-MW Natural Gas-Fired Power Plant

Proceeding 24758
Application 24758-A001

Prairie Lights Power GP Inc. (Prairie Lights), by Application 24758-A001, registered on July 23, 2019, applied to the Alberta Utilities Commission for approval to construct and operate a 360-megawatt (MW) natural gas-fired power plant, 35 kilometres south of the city of Grande Prairie, Alberta.

Pursuant to Section 11 of the *Hydro and Electric Energy Act*, the Commission approved the application in Decision 24758-D01-2019,¹ and granted an approval to Prairie Lights to construct and operate the power plant, subject to the provisions of the *Hydro and Electric Energy Act* and the *Alberta Utilities Commission Act*, any regulations made under the acts, any orders made under the acts, the Commission rules made pursuant to the *Alberta Utilities Commission Act*, and the following terms and conditions:

1. The power plant shall be located in the west half of Section 3 and east half of Section 4, Township 68, Range 5, west of the Sixth Meridian, as further described in the application.
2. The power plant shall consist of one combustion turbine generator, one heat-recovery steam generator and one steam turbine generator, with a total generating capability of 360 MW, and as further described in the application.
3. The approval is subject to the following conditions which have been described in the decision:
 - a. Prairie Lights cannot commence construction of the project until it receives the necessary approvals or directions from Alberta Environment and Parks (AEP) and the Impact Assessment Agency of Canada (IAAC).
 - b. Prairie Lights must advise the Commission, in writing, of AEP's decisions on its *Water Act* and *Environmental Protection and Enhancement Act* applications, and the IAAC's determination on the need for an impact assessment.

¹ Decision 24758-D01-2019: Prairie Lights Power GP Inc. – 360-Megawatt Power Plant and Smoky River 1052S Substation, Proceeding 24758, Applications 24758-A001 and 24758-A002, October 30, 2019.

- c. Once Prairie Lights has made its final selection of equipment for the project, it must file a letter with the Commission in which it identifies the make, model and quantity of the equipment. It must also confirm in this letter that the finalized design of the project will not increase the land, noise or environmental impacts, beyond those reflected in the information submitted by Prairie Lights in support of the present applications and approved by the Commission. The letter should be filed no later than 90 days before construction is scheduled to begin.
4. Prairie Lights shall submit a construction progress report to the Commission in writing, once every six months, pursuant to Section 3 of the *Hydro and Electric Energy Regulation*. The first progress report shall be filed with the Commission six months from the date of issuance of this approval.
5. Unless otherwise authorized by the Commission, construction of the power plant shall be completed by January 31, 2023.
6. Prairie Lights shall notify the Commission within 30 days of completing the power plant.
7. Prairie Lights shall obtain Commission approval prior to making any substantive changes to the power plant or substantially varying the design or specifications of the power plant from what was stated in the application or what the Commission has approved.
8. This approval is not transferable unless approved by the Commission.

The Commission may cancel or suspend this approval, in whole or in part, in accordance with Section 41 of the *Hydro and Electric Energy Act*, or may review this approval, in whole or in part upon its own motion, or upon an application by an interested party, in accordance with Section 10 of the *Alberta Utilities Commission Act*.

The Commission may, within 30 days of the date of this approval and without notice, correct typographical, spelling and calculation errors and other similar types of errors and post the corrected approval on its website.

Alberta Utilities Commission

(original signed by)

Anne Michaud
Vice-Chair



Prairie Lights Power GP Inc.

360-Megawatt Power Plant and Smoky River 1052S Substation

October 30, 2019

Alberta Utilities Commission

Decision 24758-D01-2019

Prairie Lights Power GP Inc.

360-Megawatt Power Plant and Smoky River 1052S Substation

Proceeding 24758

Applications 24758-A001 and 24758-A002

October 30, 2019

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Eau Claire Tower

1400, 600 Third Avenue S.W.

Calgary, Alberta T2P 0G5

Telephone: 310-4AUC (310-4282) in Alberta

1-833-511-4AUC (1-833-511-4282) outside Alberta

Email: info@auc.ab.ca

Website: www.auc.ab.ca

The Commission may, within 30 days of the date of this decision and without notice, correct typographical, spelling and calculation errors and other similar types of errors and post the corrected decision on its website.

1 Decision summary

1. In this decision, the Alberta Utilities Commission considers whether to approve applications by Prairie Lights Power GP Inc. to construct and operate a 360-megawatt gas-fired power plant and the associated Smoky River 1052S Substation, designated as the Prairie Lights Power Project. After consideration of the record of the proceeding, and subject to the specified conditions as outlined in the reasons in this decision, the Commission finds that approval of the project is in the public interest having regard to its social, economic, and other effects, including its effect on the environment.

2. The interconnection of the Smoky River 1052S Substation to the Alberta Interconnected Electric System will be the subject of a separate application, to be filed at a later date.

2 Introduction

3. Prairie Lights Power GP Inc. (Prairie Lights) applied to the AUC for approval to construct and operate a 360-megawatt (MW) gas-fired power plant and the Smoky River 1052S Substation, designated as the Prairie Lights Power Project (the project), in the Grande Prairie area, pursuant to sections 11, 14 and 15 of the *Hydro and Electric Energy Act*.

4. The Commission provided notice of the applications in accordance with Rule 001: *Rules of Practice*, but received no submissions in response.

3 Discussion

5. Prairie Lights stated that the 360-MW combined-cycle power plant would be fuelled using natural gas and would generate electricity from one combustion turbine generator, one heat-recovery steam generator to utilize heat from the gas turbine exhaust, and one steam turbine generator.¹

6. The power plant would be sited on Crown land in the west half of Section 3 and east half of Section 4, Township 68, Range 5, west of the Sixth Meridian, approximately 35 kilometres south of the city of Grande Prairie. Prairie Lights has applied for a surface land use disposition under the *Public Lands Act* that is currently under review by Alberta Environment and Parks (AEP), and a *Historical Resources Act* approval that is also outstanding. The current land use at the project site is forestry harvesting.²

¹ Exhibit 24758-X0001, Prairie Power - Power Plant Application_FINAL, PDF page 6.

² Exhibit 24758-X0001, Prairie Power - Power Plant Application_FINAL, PDF page 6.

7. The Smoky River 1052S Substation would be located on the west side of the project area, in the east half of Section 4, Township 68, Range 5, west of the Sixth Meridian, and would be comprised of four 145-kilovolt (kV) circuit breakers, two step-up transformers,³ and other associated substation equipment. Prairie Lights stated that the project would require a new transmission line to connect to the Big Mountain 845S Substation, which would be the subject of a future application to the Commission.⁴

8. Prairie Lights stated that major equipment such as the turbine generator, heat-recovery steam generator and steam turbine generator have not been finalized. It stated that typical equipment was used for modelling purposes and that it expected to finalize the equipment selection by January 30, 2020. Prairie Lights confirmed that upon final selection of the equipment, the total generating capacity of the project would not exceed 360 MW. It indicated that it would compare its final equipment selection to that used in its noise and air modelling and related studies to determine whether the final equipment selection would result in different design and operational characteristics than anticipated. If design and operational characteristics are found to be different, it would repeat its noise and air quality modelling and implement any required mitigation measures to ensure compliance with federal and provincial emission standards for new electrical generation facilities, and compliance with the *Alberta Ambient Air Quality Objectives* and the requirements in Rule 012: *Noise Control*. Prairie Lights confirmed that it would inform the Commission of its final equipment selection.⁵

9. Prairie Lights submitted that natural gas would be supplied from a new dedicated pipeline from the TransCanada Pipelines Limited Gold Creek Compressor Station located 2.5 kilometres southeast of the plant site.⁶ Prairie Lights confirmed that natural gas piping and pressure vessels within the power plant would adhere to Canadian Standards Association (CSA) B149.1, *Natural Gas and Propane Installation Code*, and that the fuel gas piping within the power plant would be designed and constructed as “pressure piping” in accordance with the *Pressure Equipment Safety Regulation* administered by the Alberta Boilers Safety Association.⁷

10. Prairie Lights developed and conducted a participant involvement program in accordance with Rule 007: *Applications for Power Plants, Substations, Transmission Lines, Industrial System Designations and Hydro Developments*. Personal consultation was conducted with landowners, residents and occupants located within 800 metres of the project and notification was provided to stakeholders within two kilometres of the project, including leaseholders and other interest holders, as well as landowners, residents and occupants.⁸ Prairie Lights committed to continuing its participant involvement program activities with stakeholders throughout all stages of project development.⁹

11. Prairie Lights submitted a pre-consultation assessment request to the Aboriginal Consultation Office (ACO) in relation to its application for a miscellaneous lease of Crown land. The ACO determined that Level 1-Streamlined Consultation was required with

³ Transformers rated at 20/145-kilovolt, 180/240/300-megavolt ampere and 13.8/145-kilovolt, 81/108/135-megavolt ampere.

⁴ Exhibit 24758-X0001, Prairie Power - Power Plant Application_FINAL, PDF page 27.

⁵ Exhibit 24758-X0022, Prairie Lights Power IR1_FINAL, PDF page 6.

⁶ Exhibit 24758-X0001, Prairie Power - Power Plant Application_FINAL, PDF page 6.

⁷ Exhibit 24758-X0022, Prairie Lights Power IR1_FINAL, PDF pages 4 and 5.

⁸ Exhibit 24758-X0001, Prairie Power - Power Plant Application_FINAL, PDF page 16; Exhibit 24758-X0004, Attachment 2 - 2019-06-26 Prairie Power PIP Report_FINAL, PDF page 2.

⁹ Exhibit 24758-X0004, Attachment 2 - 2019-06-26 Prairie Power PIP Report_FINAL, PDF page 5.

three Indigenous groups: Gift Lake Metis Settlement, Horse Lake First Nation and Sucker Creek First Nation.¹⁰ Prairie Lights indicated that no objections to the project were received from these communities in response to the consultation process. Following receipt of Prairie Lights' record of consultation, the ACO deemed Prairie Lights' consultation to be adequate.

12. Prairie Lights submitted a noise impact assessment (NIA) for the project. The NIA concluded that the project is predicted to comply with both the daytime and nighttime permissible sound levels as defined in Rule 012: *Noise Control*, and that the potential for low frequency noise is low.¹¹

13. Prairie Lights submitted an *Environmental Protection and Enhancement Act* industrial approval application to AEP concurrent with its application to the Commission; however, AEP's review of the application has not begun.¹² Prairie Lights also submitted an Initial Project Description document to the Canadian Environmental Assessment Agency in parallel with its application to the Commission, but it did not receive a decision on whether a federal environmental assessment was necessary before the Canadian Environmental Assessment Agency was replaced by the Impact Assessment Agency of Canada (IAAC) on August 28, 2019. As a result, the Initial Project Description will now be considered by the IAAC to determine if it requires an impact assessment.¹³

14. Prairie Lights undertook environmental assessments and surveys of the proposed site, inclusive of wetlands, vegetation, wildlife and air quality. Within its environmental effects assessment report, Prairie Lights described the environmental effects of the project, as well as its mitigation plans, and assessed potential residual effects on vegetation, soils, groundwater, wildlife, and surface hydrology. Prairie Lights conducted a desktop review to determine historic and potential occurrences of wildlife species of concern within the project area. In addition to the desktop review, Prairie Lights conducted a site assessment of the project area to document wildlife use to eliminate or minimize impacts to local wildlife from the proposed project. Prairie Lights stated that the project is not located in any sensitive species ranges.

15. Prairie Lights also submitted a project-specific construction and reclamation plan. It stated that its environmental commitments, including those contained within its mitigation measures, environmental surveys or any other government approvals will be summarized and form a component of any engineering, procurement and construction contract in force during construction.

16. Prairie Lights conducted air quality modelling, the results of which demonstrated compliance with the *Alberta Ambient Air Quality Objectives*. Prairie Lights also stated that the project's emission rates would comply with the *Alberta Air Emission Standards for Electricity Generation*. Prairie Lights has applied for an industrial approval under the *Environmental Protection and Enhancement Act*, and stated that its air monitoring during operations would comply with the methodologies outlined by AEP. Prairie Lights anticipates that, as a condition of that approval, AEP will require it to adhere to the terms of the provincial

¹⁰ Exhibit 24758-X0004, Attachment 2 - 2019-06-26 Prairie Power PIP Report_FINAL, PDF page 3.

¹¹ Exhibit 24758-X0006, Attachment 4 - 190709 Prairie Lights NIA 1901065.

¹² Exhibit 24758-X0022, Prairie Lights Power IR1_FINAL, PDF page 17.

¹³ Exhibit 24758-X0022, Prairie Lights Power IR1_FINAL, PDF page 17.

Air Monitoring Directive, which specifies environmental monitoring and reporting requirements and guidelines for Alberta.¹⁴

17. Prairie Lights stated that its steam turbine would utilize an air-cooled condenser rather than a water-cooled surface condenser, which mitigates the need for a large storage pond or other large water source with availability year-round. Prairie Lights submitted that it expects to obtain a licence under the *Water Act* from AEP, allowing it to receive source freshwater originating from Hammerhead Resources Inc.'s point-of-water diversion on the Smoky River.

18. Prairie Lights submitted that the project's expected commercial life is 30 years. It anticipates that construction would begin in the third quarter of 2020 with commissioning and operation beginning in the fourth quarter of 2022.

4 Findings

19. The Commission considered these applications pursuant to sections 11, 14, 15 and 19 of the *Hydro and Electric Energy Act*. In accordance with Section 17 of the *Alberta Utilities Commission Act*, the Commission must assess whether the project is in the public interest, having regard to its social, economic and environmental effects.

20. The Commission has previously found that the public interest will be largely met if an application complies with existing regulatory standards, and the project's public benefits outweigh its negative impacts.¹⁵ The Commission must take into account the purposes of the *Hydro and Electric Energy Act* and the *Electric Utilities Act*,¹⁶ and cannot consider the need for the project. The Commission must also determine whether an applicant has met the requirements of Rule 007 and Rule 012. An applicant must also obtain all approvals required by other applicable provincial or federal legislation.

21. The Commission has considered these applications having regard to the applicable legislative and regulatory framework described above, and for the reasons that follow, finds that the project is in the public interest having regard to its social, economic and environmental effects.

22. The Commission is satisfied that the technical, siting, emissions, environmental and noise aspects of the project meet the Commission's Rule 007 and Rule 012 requirements.

23. The Commission finds Prairie Lights' participant involvement program to be sufficient and notes that there are no outstanding public or industry objections or concerns.

24. The Commission is satisfied that the NIA and additional noise-related information request responses demonstrate that cumulative sound levels for the project are predicted to be below the daytime and nighttime permissible sound levels set out in Rule 012 and that the project is unlikely to result in low frequency noise issues.

¹⁴ Exhibit 24758-X0005, Attachment 3 - EEA_Prairie Lights Power Project, PDF page 5.

¹⁵ EUB Decision 2001-111: EPCOR Generation Inc. and EPCOR Power Development Corporation 490-MW Coal-Fired Power Plant, Application No. 2001173, December 21, 2001, page 4.

¹⁶ *Hydro and Electric Energy Act*, RSA 2000 Ch. H-16, ss 2, 3; *Electric Utilities Act*, RSA 2003 Ch. E-5.1, ss 5.

25. The Commission accepts Prairie Lights' assessment that the environmental and emissions impacts of the project will not be significant. The Commission reviewed the project's air quality assessment report and is satisfied, based on the analysis conducted by McCallum Environmental Ltd., that the project will satisfy the *Alberta Ambient Air Quality Objectives*. The Commission is aware that a decision from the IAAC on whether a federal impact assessment is required for the project is outstanding. It also recognizes that AEP has not initiated its review of the industrial approval application. As such, the Commission has placed conditions on its approval of the project.

26. The project equipment has not been finalized. As such, following Prairie Lights' selection of equipment, but prior to construction, the Commission will require additional information to confirm that the finalized design of the project will not result in land, noise or environmental impacts beyond those reflected in the information submitted by Prairie Lights in support of the present applications.

27. The Commission has previously stated that the existence of regulatory standards and the proponent's adherence to such standards is an important component to consider in assessing whether approval of a project is in the public interest.¹⁷ As noted above, Prairie Lights has applied for a project-related approval from AEP under the *Environmental Protection and Enhancement Act* and has indicated that it will require an approval under the *Water Act* as well. Further, Prairie Lights has filed an Initial Project Description with the IAAC and is awaiting a decision from that agency on whether Prairie Lights will conduct an impact assessment of this project.

28. While the Commission has conducted its own assessment of the environmental impacts of the proposed project, it recognizes that these agencies must also consider such effects, specifically within the context of their own governing legislation. Needless to say, Prairie Lights cannot proceed with the project until it has received all necessary project-related approvals. In recognition of these important parallel processes, and to ensure regulatory consistency, the Commission is prepared to approve this application, subject to the following conditions:

- a. Prairie Lights cannot commence construction of the project until it receives the necessary approvals or directions from Alberta Environment and Parks (AEP) and the Impact Assessment Agency of Canada (IAAC).
- b. Prairie Lights must advise the Commission, in writing, of AEP's decisions on its *Water Act* and *Environmental Protection and Enhancement Act* applications, and the IAAC's determination on the need for an impact assessment.
- c. Once Prairie Lights has made its final selection of equipment for the project, it must file a letter with the Commission in which it identifies the make, model and quantity of the equipment. It must also confirm in this letter that the finalized design of the project will not increase the land, noise or environmental impacts, beyond those reflected in the information submitted by Prairie Lights in support of the present applications and approved by the Commission. The letter should be filed no later than 90 days before construction is scheduled to begin.

¹⁷ EUB Decision 2001-111: EPCOR Generation Inc. and EPCOR Power Development Corporation 490-MW Coal-Fired Power Plant, Application No. 2001173, December 21, 2001, page 4.

5 Decision

29. Pursuant to sections 11 and 19 of the *Hydro and Electric Energy Act*, the Commission approves Application 24758-A001 and grants Prairie Lights Power GP Inc. the approval set out in Appendix 1 – Power Plant Approval 24758-D02-2019 – October 30, 2019.

30. Pursuant to sections 14, 15 and 19 of the *Hydro and Electric Energy Act*, the Commission approves Application 24758-A002 and grants Prairie Lights Power GP Inc. the approval set out in Appendix 2 – Substation Permit and Licence 24758-D03-2019 – October 30, 2019.

31. The appendixes will be distributed separately.

Dated on October 30, 2019.

Alberta Utilities Commission

(original signed by)

Anne Michaud
Vice-Chair

Appendix A – Summary of Commission directions and conditions requiring further submissions

This section is intended to provide a summary of those directions and conditions that require follow-up with the Commission, for the convenience of readers. It is not intended to summarize all of the conditions imposed on the applicant. In the event of any difference between the directions and conditions in this section and those in the main body of the decision, the wording in the main body of the decision shall prevail. These directions and conditions will be tracked as conditions of Power Plant Approval 24758-D02-2019 using the AUC's eFiling System.

- Prairie Lights cannot commence construction of the project until it receives the necessary approvals or directions from Alberta Environment and Parks (AEP) and the Impact Assessment Agency of Canada (IAAC).
- Prairie Lights must advise the Commission, in writing, of AEP's decisions on its *Water Act and Environmental Protection and Enhancement Act* applications, and the IAAC's determination on the need for an impact assessment.
- Once Prairie Lights has made its final selection of equipment for the project, it must file a letter with the Commission in which it identifies the make, model and quantity of the equipment. It must also confirm in this letter that the finalized design of the project will not increase the land, noise or environmental impacts, beyond those reflected in the information submitted by Prairie Lights in support of the present applications and approved by the Commission. The letter should be filed no later than 90 days before construction is scheduled to begin.