

5.0 Existing environment

This chapter provides an overview of the existing environment in the Project RSA, including a summary of the biophysical and socio-economic environments with respect to the Project.

5.1 Biophysical environment

The biophysical environment section provides an overview of the biophysical setting of the Project, including information on the following:

- Atmospheric environment (climate, noise and air quality);
- Geology and hydrogeology;
- Terrain and soils;
- Aquatic environment;
- Vegetation; and
- Wildlife and wildlife habitat.

5.1.1 Atmospheric environment

5.1.1.1 Climate

The proposed Project falls within the MacGregor Ecodistrict, located in the Manitoba Plain Ecoregion of the Prairies Ecozone (Smith *et al.* 1998). This Ecodistrict is situated in the warmest subdivision of the Grassland Transition Ecoclimatic Region (Smith *et al.* 1998) that lies between the driest subdivision to the southwest and the most humid subdivision to the east and northeast. The region is characterized as having a Continental climate, with short, warm summers and long, cold winters. The average growing season is 182 days and the number of growing degree-days is about 1,700 (Smith *et al.*, 1998).

Seasonal temperature data was obtained from the Brandon meteorological station (Environment Canada, 2017a) and precipitation data was obtained from the Portage La Prairie meteorological station (Environment Canada, 2017b). Table 5-1 shows the monthly normal data.

Table 5-1 Monthly normal meteorological data

Parameter	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Daily Average Temperature (°C)	-16.6	13.6	-6.2	4.0	10.6	15.9	18.5	17.7	11.8	4.1	-5.6	-14.0
Precipitation	21.3	16.2	25.7	28.3	58.4	90.0	78.0	68.3	50.1	43.2	25.8	26.8

The area receives 532 mm of precipitation per year, with 415.6 mm as rainfall and 118.5 cm as snow. The annual daily average temperature at the Brandon meteorological station was 2.2°C, ranging from -17°C in January to 18°C in July. Extreme temperatures range from -45.6°C (on January 7 1966) to 38.5°C (on August 6 1988). Extreme precipitation ranges from 29.0 cm of snow (on October 30 1971) to 137.0 mm of rainfall (on August 16, 1985).

5.1.1.2 Noise and air quality

The Project is located in an area predominantly used for agricultural purposes and existing noise and air quality conditions would not be expected to be an issue for the majority of the year. The exception may occur at harvest time when harvesting activities result in increased vehicular and equipment activities that would increase local noise and local air quality, including emissions and particulate matter from and reduced visibility from local crop residue burning programs.

5.1.2 Geology and hydrogeology

The RSA falls within the Manitoba Lowland Physiographic Region, which lies to the east of the Manitoba Escarpment (Betcher et al. 1995). According to Betcher et al. (1995), the area has gentle relief and “is underlain by gently southwestward dipping Paleozoic and Mesozoic sediments consisting mainly of carbonate rocks with some clastic and argillaceous units. Bedrock is overlain by glacial tills and proglacial lacustrine sediments” and the overburden is generally less than 10 m thick, increasing with proximity to the Escarpment.

Groundwater aquifers in the bedrock of the Project RSA are typically not a significant water source as they are generally very saline, with total dissolved solids concentrations ranging between 5,000 mg/L and 100,000 mg/L (Smith et al. 1998, Rutulis, 1986a). The principal source of water is good quality groundwater extracted from shallow, sandy, surface deposits and gravelly aquifers associated with till (Smith et al. 1998). These shallow groundwater aquifers occurring in some sand and gravel lenses in the Project RSA have depths ranging from a few meters to more than 100 m. They typically produce well yields between 0.1 L/s and 10 L/s, with groundwater quality ranging from very poor to excellent (Rutulis, 1986b).

5.1.3 Terrain and soils

Soils and terrain information was developed for the RM of Portage La Prairie by Agriculture and Agri-Food Canada (Manitoba Land Resource Unit 1997), and for the MacGregor Ecodistrict by Smith et al. (1998).

According to Smith et al. (1998) the MacGregor Ecodistrict has a mean elevation of approximately 328 masl and consists of a smooth, level to very gently sloping sandy glaciolacustrine plain with slopes that range from level to less than two percent. There are local changes to topography of approximately 3.0 m per km with stronger relief of approximately 3 to 5 m occurring along the Assiniboine River on the east side of the RSA.

Smith et al. (1998) indicate that almost all of the soils in the MacGregor Ecodistrict consist of imperfectly drained Gleyed Rego Black Chernozems that have developed on the shallow, slightly to strongly calcareous, sandy glaciolacustrine and deltaic sediments of the Lower Assiniboine Delta. While the surface is mainly sandy a clay substrate is typically located at about the 1 to 3 m depth which results in high water tables. Local areas of poorly drained Gleysolic soils are very common, and Regosolic soils have accumulated along many of the road allowances and wooded areas as a result of wind erosion of the surrounding cultivated land.

5.1.4 Aquatic environment

While the Assiniboine River is located approximately 5 km due east of the Project, the only watercourse crossed by the transmission line is an ephemeral creek/drain in the south of the RSA (Map 5-1; Figure 5-1) that feeds into Rat Creek 6 km to the northwest. Based on an April 21 2017 site visit and a review of mapping and aerial photography this is the headwaters of an ephemeral creek that had no flow at the time of the site visit, and passes through agricultural lands with limited, infrequent, isolated areas of poor quality fish habitat (e.g., in farm dugouts approximately 1 km and 3 km downstream) and empties into the Portage Diversion approximately 20 km downstream.



Figure 5-1 Ephemeral drain at southern end of route

Based on Milani's (2013) fish habitat classification of agricultural waterways, this watercourse would be characterized as Class E Habitat, as it does not support direct fish habitat due to insufficient flow volume or flow duration to allow fish to complete one or more of their life processes. However, as one landowner mentioned that there may be some overland flow from the Assiniboine River in certain years, there is the potential for fish to be present temporarily during high flow spring conditions, with those species able to tolerate high temperature/low oxygen conditions possibly being able to persist into the summer.

There are 57 fish species representing 16 families documented for the Assiniboine River Watershed (Stewart and Watkinson 2004). Milani (2013) sampled several sites in the general region, including another tributary to Rat Creek, and found northern pike (*Esox lucius*), white sucker (*Catostomus commersonii*), brook stickleback (*Culaea inconstans*), finescale dace (*Chrosomus neogaeus*), and northern redbelly dace (*Chrosomus eos*), but the habitat was classified as being of much higher quality (Class A or B Habitat) than that present at the Project crossing site. Only species such as brook stickleback and northern pike would likely be able to persist for several months on those occasions where there was overland flooding.

5.1.5 Vegetation

Map 1-1 shows the land cover in the RSA and Table 5-2 displays the various broad land cover types (as per Manitoba Land Cover Classification 2006) with the associated area and percent of the total area in both the RSA and in an area one mile either side of the right-of-way, established as the Local study Area (LSA). Figure 5-2 shows a typical area with more natural vegetation.

More than 60% of the land in the RSA is used for agriculture (almost 70% in the LSA), with the majority of this consisting of cropland. Less than 16% of the RSA consists of wooded areas, with less than 8% of the LSA being wooded – mainly consisting of the treed areas along windbreaks and the abandoned rail bed. Areas of shrub/grass are also uncommon, comprising approximately only 15% of the RSA and LSA.

This is consistent with Smith et al. (1998) who noted that the vegetation in the MacGregor Ecodistrict has been substantially altered by cultivation, with native vegetation consisting of tree species such as trembling aspen (*Populus tremuloides*) and balsam poplar (*Populus balsamifera*), shrub species such as snowberry (*Symphoricarpos albus*), red-osier dogwood (*Cornus stolonifera*), Saskatoon (*Amelanchier alnifolia*), willow (*Salix spp*) and various herb, tall grass prairie, meadow grass and sedge species.

Table 5-2 Land cover in the RSA and LSA

Cover Type	RSA		LSA		Project Footprint	
	Hectare	Percent	Hectare	Percent	Hectare	Percent
Annual cropland	9,738.0	57.4%	3,966.6	66.1%	32.8	53.0%
Pasture	1,139.6	6.7%	458.1	7.6%	2.4	4.0%
Forest	2,591.2	15.3%	493.9	8.2%	13.5	21.9%
Grassland	2,179.7	12.8%	727.8	12.1%	7.4	11.9%
Shrubland	474.4	2.8%	112.9	1.9%	1.9	3.1%
Wetland	101.7	0.6%	55.3	0.9%	0	0
Urban	433.2	2.6%	165.7	2.8%	3.8	6.2%
Water	321.2	1.9%	19.6	0.3%	0	0
Barren	1.9	0.0%	0.9	0.0%	0	0
Total	16981.0	100.0%	6,000.8	100.0%	61.9	100.0%



Figure 5-2 Shelterbelt area crossed by Project

5.1.6 Wildlife and wildlife habitat

5.1.6.1 Amphibians and reptiles

The proposed ROW (Project Footprint) is on private agricultural land in the Central Assiniboine river watershed. This watershed support a variety of amphibians including boreal chorus frog, (*Pseudacris maculate*), leopard frog (*Lithobates pipens*), wood frog (*Lithobates sylvaticus*), spring peeper (*Pseudacris crucifer*), gray tree frog (*Hyla versicolor*) and blue-spotted salamander (*Ambystoma laterale*). Reptiles found in this

region include painted turtle (*Chrysemys picta*), snapping turtle (*Chelydra serpentina*), common garter snake (*Thamnophis sirtalis*), plains garter snake (*Thamnophis radix*) and redbelly snake (*Storeria occipitomaculata*), and falls within the extreme eastern range limits of prairie skink (*Plestiodon septentrionalis*).

Amphibians and reptiles are not typically found in agricultural crop land, and generally prefer natural habitats such wetlands, riparian areas, forests, shrubs and grasslands. As shown in Table 5-2, a portion of the Project route (approximately 25 ha) does traverse some of these habitats, and in these locations some mitigation may be required. A field visit conducted on April 21 2017, identified wood frogs calling from wet drainage ditches and shallow wetlands in the Project RSA. A follow up field visit on June 28 2017 was used primarily to conduct a survey for prairie skink along the Final Preferred Route. No skinks were found.

5.1.6.2 Birds

The Manitoba Breeding Bird Atlas states that the south central portion of Manitoba supports approximately 200 species breeding birds, including 88 species with evidence of breeding identified within a 10 km by 10 km survey square around the Project RSA. Some of these species include Canada goose (*Branta canadensis*), mallard (*Anas platyrhynchos*), blue winged teal (*Anas discors*), mourning dove (*Zenaida macroura*), American robin (*Turdus migratorius*), clay-coloured sparrow (*Spizella pallid*), and the red-tailed hawk (*Buteo jamaicensis*).

Most bird species in this region do not typically breed in agricultural crop land, and generally prefer natural habitats including wetlands, riparian areas, forests, shrubs and grasslands. As shown in Table 5-2, a portion (approximately 25 ha) of the Project Footprint passes through some of these habitats.

A field visit conducted on April 21, 2017 identified bird migrating behaviour within the Local Study Area including the following species: chipping sparrow (*Spizella passerine*), western meadowlark (*Sturnella neglecta*), mourning dove (*Geothlypis Philadelphia*), common grackle (*Quiscalus quiscula*), red winged blackbird (*Agelaius phoeniceus*), brewer blackbird (*Euphagus cyanocephalus*), Canada goose (*Branta Canadensis*), mallard (*Anas platyrhynchos*), American crow (*Corvus brachyrhynchos*), ring billed gull (*Larus delawarensis*), pileated woodpecker (*Dryocopus pileatus*), northern flicker (*Colaptes auratus*), killdeer (*Charadrius vociferous*), American coot (*Fulica Americana*), tundra swan (*Cygnus columbianus*). No breeding or nesting activity was noted during the April 21, 2017 field survey. The largest concentration of birds was found in a large wetland complex east of PTH 305, south of road 62N. A large wetland complex at this site was supporting tundra swans, Canada geese, and other waterfowl.

5.1.6.3 Mammals

As indicated, the proposed Project ROW footprint is on private agricultural land in the Central Assiniboine river watershed. This watershed supports a variety of mammal species including jackrabbit (*Lepus townsendii*), raccoon (*Procyon lotor*), red fox (*Vulpes vulpes*), coyote (*Canis latrans*), white-tailed deer (*Odocoileus virginianus*), muskrat (*Ondatra zibethicu*), beaver (*Castor canadensis*), and mink (*Neovison vison*).

Most mammal species in the RSA are not typically found in agricultural cropland, and generally prefer natural habitats including wetlands, riparian areas, forests, shrubs and grasslands. As indicated, as shown in Table 5-2, a small portion (approximately 25 ha) of the Project ROW passes through some of these habitats.

A field visit conducted on April 21, 2017 identified mammals at various locations included three white-tailed jackrabbits (*Lepus townsendii*), three white-tailed deer (*Odocoileus virginianus*) and one lone calf moose (*Alces alces*). Coyote (*Canis latrans*) tracks were also identified.

5.1.7 Species of Conservation Concern

Table 5-3 lists species of conservation concern that may occur near the proposed RSA. To identify species of conservation concern that may occur in the RSA, a variety of databases were examined including the Bird Studies Canada (BSC) Manitoba Breeding Bird Atlas (BBA), and the Manitoba Herpetological Atlas (MHA). In addition, a specific project area query of the Conservation Data Centre was made to identify any known occurrence of species of conservation concern (Appendix C). The species listed in these databases were cross-referenced with Schedule 1 of the federal *Species at Risk Act* (SARA) and *The Endangered Species and Ecosystems Act* (Manitoba), to determine the provincially listed rare or sensitive species with the Manitoba Plain Ecoregion and Project RSA. Furthermore, distribution maps and habitat requirements were examined to determine the likelihood of occurrence of federally and/or provincially listed species in the Project RSA. There are four bird and one reptile species of conservation concern known to occur in the RSA. There are no known vegetation or invertebrate species of conservation concern in the RSA. There are also no endangered ecosystems, as defined by *The Endangered Species and Ecosystems Act* (Manitoba) known to occur in the RSA. The site visit conducted on April 21, 2017 did not identify any species of conservation concern at the proposed Project site. As indicated, a follow up field visit on June 28 2017 was used primarily to conduct a survey for prairie skink along the Final Preferred Route. While no skinks were found, a red-headed woodpecker was spotted in suitable nesting habitat at a wooded pasture.

Table 5-3 Species of conservation concern that may occur near the proposed RSA

Species	Federal SARA Species Schedule 1 Status	Manitoba <i>Endangered Species and Ecosystems Act</i> Status	COSEWIC Status	Environmental Considerations
Barn Swallow (<i>Hirundo rustica</i>)	Not listed	Not listed	Threatened	Aerial insectivore that nests in agricultural buildings and bridges
Bobolink (<i>Dolichonyx oryzivorus</i>)	Not Listed	Not listed	Threatened	Nests in grassland areas, including pastures often near wetlands.
Chimney Swift (<i>Chaetura pelagic</i>)	Not listed	Threatened	Threatened	Aerial insectivore that nests in chimneys and other urban structures
Olive-sided Flycatcher (<i>Contopus cooperi</i>)	Threatened	Threatened	Threatened	Aerial insectivore. Not typically known to nest in agricultural areas.
Prairie Skink (<i>Plestiodon septentrionalis</i>)	Endangered	Endangered	Endangered	Small lizard that survives in Manitoba by hibernating in deep sandy soils.
Red-headed Woodpecker (<i>Melanerpes erythrocephalus</i>)	Threatened	Threatened	Threatened	Nests in dead or dying deciduous trees, with a preference for open mature woodlands areas.

5.2 Socio-economic environment setting

The socio-economic environment section provides an overview of the socio-economic setting of the Project. It provides information on the following:

5.2.1 Population, employment and economy

According to the 2016 census, the City of Portage la Prairie had a population of 13,304, which represents a 2.4% increase over the reported population of 12,996 in 2011. The Rural Municipality (RM) of Portage La Prairie had a population of 6,975 in 2016, representing a 6.9% increase over the reported population of 6,525 in 2011. According to Indigenous and Northern Affairs Canada (INAC 2017a) in March, 2017 the Long Plain First Nation population was 4,404, with 2,278 on reserve (2,126 off).

The RM and City coordinate planning through the Portage la Prairie Planning District. This serves to standardize requirements and “promote a regional approach to industrial, agricultural, and urban fringe development” (<http://www.rmofportage.ca/>).

The RM contains several small communities, such as St. Ambrose, High Bluff, Newton, Oakville, Poplar Point, Skelding and Edwin. Most are outside of the RSA but as shown in Figure 5-1 Skelding is located approximately 4 km southwest of the Poplar Bluff industrial Park, 1.6 km (1 mile) east of the route, and Edwin is located in the RSA, approximately 0.5 km west of route, 1.7 km north of the existing transmission line at the south end of the RSA. In addition, there are three First Nation communities located on Reserve land: Dakota Plains Wahpeton Oyate, Dakota Tipi First Nation, located outside of the RSA approximately 3.5 km to the southeast of the Poplar Bluff Industrial Park, and Long Plain First Nation, located immediately south of the RSA, with TLE sites along the south edge of the RSA, north of the existing line. Long Plain First Nation is discussed in Section 5.2.12.

While the majority of the economy is based around agriculture, there are several industrial parks, including the Oakville Industrial Park and Southport Aerospace Centre, as well as the Poplar Bluff Industrial Park, where the Project will be terminating. The Poplar Bluff Industrial Park is currently the location for Prairie Mushrooms and the JR Simplot Potato Processing facility.

5.2.1 Public safety and emergency services

Emergency services are shared between the City and RM of Portage la Prairie. The Portage District General Hospital, located in the City of Portage la Prairie, is the primary health care centre, with the RM of Portage being served by the Central Region Emergency Medical Services, providing ambulance and paramedic services. The City has several medical clinics, pharmacies, personal care homes, dental clinics, massage therapists and physiotherapists. Emergency services, including 911, are provided by the fire department and the Royal Canadian Mounted Police (RCMP) servicing, both of which are located in the City (Rural Municipality of Portage la Prairie, 2013).

5.2.2 Designated lands and protected areas

There are no designated lands or protected areas in the RSA. According to the provincial Wildlife Management Area (WMA) website (WMA 2017), the nearest protected area is the Portage Sandhills WMA, located approximately 5.9 km to the southeast edge of the RSA and established to protect “a unique habitat of sand dunes covered in mixed-grass prairie and aspen-oak forest.” Two provincial parks are located the northeast of the RSA - the Portage Spillway Provincial Park (approx. 4.5 km from the Final Preferred Route) and Yellow Quill Wayside Park (approx. 4.2 km from the Final Preferred Route), established primarily for outdoor recreational purposes.

5.2.3 Recreation and tourism

The RM of Portage la Prairie is located in the Central Plains tourism area (www.centralplainsmanitoba.ca) and the provision of recreation and leisure facilities in the Portage la Prairie Region is managed by the Portage Regional Recreation Authority Inc. (PRRA 2017), a non-profit corporation funded in part by the City of Portage la Prairie and the Rural Municipality of Portage la Prairie. Facilities include Stride Place, Splash Island Water Park, Rotary Republic Park and Beaver Stadium in the City and the Southport Golf Club, Portage la Prairie Regional Library, Southport Bowl, Southport Recreation Centre, Herman Prior Senior Services Centre, Portage Curling Rink, Portage Golf Club, and William Glesby Centre in the RM.

Based on a review of mapping information there do not appear to be any churches, campgrounds, RV Parks, or recreation sites in the RSA. There are several shooting ranges on the east side of the RSA, and the Edwin Community Hall (the former Edwin School) is on the west side of the RSA (Map 5-3). In addition to the parks mentioned previously, the RM has several campgrounds, including Delta Beach Campground, Creekside Campground, Miller's Camping Resort, Ofty's Landing Camping Park, and St. Ambroise Provincial Recreation Park. Other tourist attractions for the broader region include the Fort la Reine Museum established in 1967 to commemorate Canada's Centennial, and the St. Anne's Anglican Church near Poplar Point on Highway #26, completed around 1864 and one of the oldest log churches in continuous use in Western Canada. Natural areas visited by tourists include the Portage Sandhills and the Delta Marsh, one of the best known large natural wetlands in North America and the most prominent waterfowl area in the Northern Great Plains.

Snowmobilers of Manitoba Inc. (Snoman) develop and maintain a network of snowmobiling trails with the help of local clubs with the goal of promoting organized, safe and environmentally responsible snowmobiling. As shown on Map 5-4 there is a snowmobile trail to the east of the RSA.

The RSA falls within provincial Game Hunting Area 32 and Game Bird Hunting Zone 4 (Manitoba Hunting Guide 2017). White-tailed deer hunting can occur in the fall (September to November), with specific dates determined by weapon types (archery/ rifle) and hunter age (youth/ adult). While hunting in other Game Hunting Areas occurs in the fall for moose and elk, and the spring for black bear, this does not occur in Game Hunting Area 32. Game bird hunting for grouse and wild turkey species can occur in the late fall to early winter, with hunting for migratory game birds such as ducks, coots snipe, geese occurring in the fall (September to November).

The RSA falls within provincial Open Trapping Area Zone 1 (Manitoba 2016-2017 Trapping Guide), with trapping of species such as badger, beaver, coyote, fisher, and raccoon typically permitted for the fall (October/November) to late winter (January/February) depending on species. The RSA falls within provincial Southern

Angling Division (Manitoba Anglers Guide 2017) with favoured species include walleye, smallmouth bass, yellow perch, northern pike and brook trout and the season being closed from April to mid May, coinciding with the spawning/rearing period for most species. There are no special conservation restrictions for hunting, trapping or fishing in this zone.

5.2.4 Regional infrastructure

Map 5-4 shows the infrastructure in the Project RSA. The TransCanada Highway (1) runs east to west, to the north of the RSA and this is paralleled on either side by the Canadian National and Canadian Pacific railways. The Portage la Prairie Southport Airport is a former air force base and the primary airport in the City. Highway 305 is the main north-south vehicular route running through the RSA, with municipal roads connecting the majority of mile sections. The existing 230 kV transmission line (P81C) runs east to west and there is a network of distribution lines present.

The TransCanada Highway west of Portage la Prairie east of PTH 16 has an average annual daily traffic (AADT) of just over 12,000 vehicles (MHTIS 2017). West of PTH 16, the AADT drops to under 8,000. Provincial Road 305, just south of the TransCanada Highway has an AADT of just over 1,300. In all cases, peak traffic (up to 20% increase over AADT) occurs in the summer (May through September) on these key roadways. Based on basic design principles from the transportation planning manual (Manitoba Department of Highways and Transportation 1998), these highways are not operating near capacity.

There are several irrigation pivots and a snowmobile trail to the east of the RSA, and several communication towers outside RSA, to the north east and south east. There are several existing gas lines to the east and west sides of the RSA and a TransCanada Pipelines gas line runs generally east to west near the centre of the RSA, with a station (#34) located to the west of the route.

Drinking water for the City and RM is supplied by the City's water treatment plant using water from the Assiniboine River, and also supplying industries such as McCain's Foods Ltd. and Simplot (City of Portage la Prairie, 2016). The City of Portage La Prairie operates a water treatment facility for municipal wastewater from the City and some small surrounding residential and commercial areas located in the Rural Municipality of Portage la Prairie, as well as final treatment of pretreated industrial wastewater from three major industries. There are two wastewater treatment facilities to the north and east of the RSA and the RM of Portage and the City of Portage operate a joint regional landfill outside of the RSA.

5.2.5 Land tenure and property ownership

5.2.5.1 Overview

Land use planning responsibilities in municipal jurisdictions falls under the jurisdiction of the respective municipalities or planning districts. Municipal jurisdictions may adopt development plans and zoning by-laws to guide land use decisions within their boundaries. Municipalities can become members of planning districts to work together with respect to land use planning (i.e., development plans). The RM of Portage la Prairie and the City of Portage la Prairie have formed the Portage la Prairie Planning District. The planning district is established to ensure standardized planning requirements through an updated development plan and zoning by-law encompassing both municipal jurisdictions. This promotes a regional approach to industrial, agricultural, and urban fringe development. The RSA includes a combination of crown-owned lands and rural agricultural privately-owned lands with farmsteads. The Final Preferred Route for the Project is located completely on private lands.

5.2.5.2 Provincial and Federal Crown lands

Crown lands are lands vested in the Crown, and described under *The Crown Lands Act*. They include lands such as provincial parks, provincial forests, wildlife management areas, community pastures and ecological reserves. Map 5-3 shows the Crown lands, Reserve lands and Treaty Land Entitlement (TLE) areas in the RSA. Crown land is located in several areas to the east of the RSA, with Dakota Tipi First Nation located to the northeast of the RSA and the Long Plain First Nation located to the south of the RSA. As indicated previously, Long Plain First Nation has several TLE parcels along the south of the RSA. The Final Preferred Route does not traverse any provincial park, provincial forest, wildlife management area or other provincially protected area, community pasture, Treaty Land Entitlement area or First Nation reserve land.

5.2.5.3 Commercial and Residential Development

Map 5-3 shows the commercial and residential development in the Project RSA. As indicated, the Portage la Prairie Planning District has standardized planning requirements through an updated development plan and zoning by-laws encompassing both municipalities. The RSA is largely zoned Agricultural. Rural farm residential development is generally widespread throughout the RSA and is associated with agricultural operations, including farm accessory buildings. Farming activities are permissible in the RSA under the development plan. There is a total of 176 homes in the RSA (50 in the LSA), and 477 agricultural buildings in the RSA (136 in the LSA). No homes or agricultural buildings are located in the Project Footprint.

5.2.6 Agriculture

Map 5-5 shows the agricultural land use capability in the Project RSA. This map is based primarily on the Canada Land Inventory (CLI 1965) Soil Capability Classification of Agriculture that displays the potential for agricultural production in one of seven classes, based on the characteristics of the soil. Class 1 and 2 soils are found along the north side of the RSA, and these have no significant to only moderate limitations for crop production. The majority of the RSA consists of Class 3 Soils, which have moderately severe limitations that restrict the range of crops or require special conservation practices. In addition, there are small patches of class, 4, 5, 6 and 7 soils, which have severe to very severe limitations that restrict the range of crops, require special conservation practices, are capable only of producing perennial forage crops, or have no capacity for arable culture or permanent pasture. There are a number of livestock producers in the Portage La Prairie area and grazing occurs on some of the lands not used for crops. Although through the windshield survey there did not appear to be any dairy or hog facilities in close proximity to the proposed route, beef cattle were seen in the vicinity of the proposed route, the closest agricultural building is approximately 31 m from the Final Preferred Route on the other side of a road and the closest livestock operation is approximately 205 m away from the Final Preferred Route on the other side of a roadway.

Based on a review of the harvested acres in the RM from 2006-2015 from Manitoba Agricultural Services Corporation data (MASC 2017), canola was the crop most harvested, followed by red spring wheat, soybeans, barley, grain corn and oats, feed wheat, several types of beans, flax, oil sunflowers, fall rye, and field peas.

According to the City of Portage La Prairie website (<http://www.city-plap.com/>) the RM produces many speciality crops such as carrots, onions, asparagus, parsnips, beans, rutabagas, cauliflower, broccoli, peas, potatoes, various grains and oil seeds, strawberries, Saskatoon berries, and raspberries. Much of the R.M. of Portage la Prairie is under irrigation, and additional acreage can be incorporated into the existing irrigation system. The diverse agricultural production of the Portage area has drawn many food processing plants to the city. These include McCain Foods Ltd., Richardson Milling, and JR Simplot's newest Canadian potato processing plant.

5.2.7 Other commercial resource use

Commercial resource use is discussed primarily in Section 5.2.7 (Agriculture) and Section 5.2.4 (Regional infrastructure). There are no commercial forests in the RSA, but there is a Manitoba Forestry Association (MFA 2017) woodlot located to the east. The MFA is involved in promoting woodlot management as an integral part of land stewardship, including planting and harvesting trees, attracting wildlife, and protection

measures for issues such as fire, insects, disease, and soil productivity. There is a private quarry permit outside of the RSA to the southeast.

5.2.8 Traditional land use

Map 5-3 shows the Crown lands, Reserve lands and Treaty Land Entitlement areas in the Project RSA. The project is located in the Treaty One Territory, the traditional territories of the Anishinabe, Cree, and Dakota people and the homeland of the Metis Nation.

As described in Section 4.2.2, Manitoba Hydro contacted several Indigenous communities and organizations, see section 4.2.2. One First Nation community, Long Plain First Nation No. 287, has TLE lands located within the RSA. The RSA falls within GHA 33, which is a recognized area for Métis natural resource harvesting by the Province of Manitoba (Manitoba Metis Federation 2013).

In addition to the discussions with Long Plain First Nation summarized in Section 4.3.2, a review of the publically available documents for several previous Manitoba Hydro projects in the region – the Bipole III Transmission Project (Manitoba Hydro, 2015) and Manitoba-Minnesota Transmission Project (MMTP 2016) – were used to gain information about the current and historical adjacent land use by Long Plain First Nation. Out of respect for the use of this project-specific information, it is only generally discussed for this Project.

The RSA was used extensively by local First Nations in the past. Cultural/spiritual activities, hunting, fishing, trapping, and plant gathering for food and medicines were centred around/near the Assiniboine River and its tributaries, although bison hunting occurred in the extensive areas of tall grass prairie. Most of these activities continue to be carried out today, and the potential for disturbances to these activities, or the loss of resources that support these activities, are issues typically expressed when new transmission lines are planned for an area.

As indicated in Section 4.3.2, Long Plain First Nation has Treaty Land Entitlement (TLE) areas in the RSA along much of the southern portion of the RSA, and the process of converting these to Reserve land is underway. Much of the existing Reserve land is leased to local farmers, and Community representatives have said that some of the cultural/spiritual activities may be relocated to the present TLE land, once it is converted to Reserve land.

5.2.1 Heritage resources

A screening request to the Historic Resources Branch (HRB) was sent for the proposed Project to determine if there are any potential heritage resources that may be affected and if a Heritage Resources Impact Assessment (HRIA) is required. The HRB requested

that the specific sites not be mapped, but the sites known to exist in the RSA are listed in Table 5-4. The transmission line was routed to avoid these sites.

Table 5-4 Heritage sites recorded for the RSA

Borden No.	Artifact	Cultural affiliation	Site type
DILo-11	Oxbow Point	Archaic	A. Campsite
DILo-1	-	Historic	M. Fur Trade Post
DILo-2	Grooved Hammer	Prehistoric	I. Isolated Find
DILo-4	-	Prehistoric	A. Campsite
DILo-5	-	Prehistoric	I. Isolated Find
DILo-6	-	-	I. Isolated Find
DILo-7	-	Prehistoric	I. Isolated Find
DILo-9	1 Grooved Maul	-	I. Isolated Find
DILo-Y1	-	-	H. Uninterpreted
DILp-2	Oxbow Point	Archaic; Woodland	F. Burial
DILp-3	McKean, Duncan-Hanna, Side-Notched Points	Archaic; Woodland	A. Campsite
DILp-4	Projectile points; Ceramics	Archaic; Woodland	F. Burial
DILp-5	Plains Side-Notched Points	-	A. Campsite
DILp-6	-	Prehistoric	E. Workshop
DILp-7	Grooved Hammer	Prehistoric	I. Isolated Find

Based on their review of the sites and archaeological potential, the Archaeological Assessment Services Unit of the HRB indicated that the Branch has no concerns with the Project and the potential to impact heritage resources has been deemed low in these areas. A copy of the correspondence is located in Appendix D. In it HRB noted that if any heritage resources are encountered HRB must be immediately contacted, that an acceptable heritage resource management strategy be developed to mitigate the effects on the heritage resources, and that it must have a provision concerning the possibility of accidentally encountering heritage sites as well as a plan outlining the appropriate measures to mitigate the impacts upon such an encounter. A commitment to addressing this is described as part of the Environmental Protection Program, summarized in Section 9.2.5.4.

Poplar Bluff Transmission Project

Project Infrastructure

- Roquette Portage Pea Project
- Final Preferred Route
- Regional Study Area

Existing Infrastructure

- Trans Canada Highway
- Provincial Highway
- Provincial Road
- Municipal Road
- Railway
- Existing Transmission Line
- Trans Canada Pipeline

Landbase

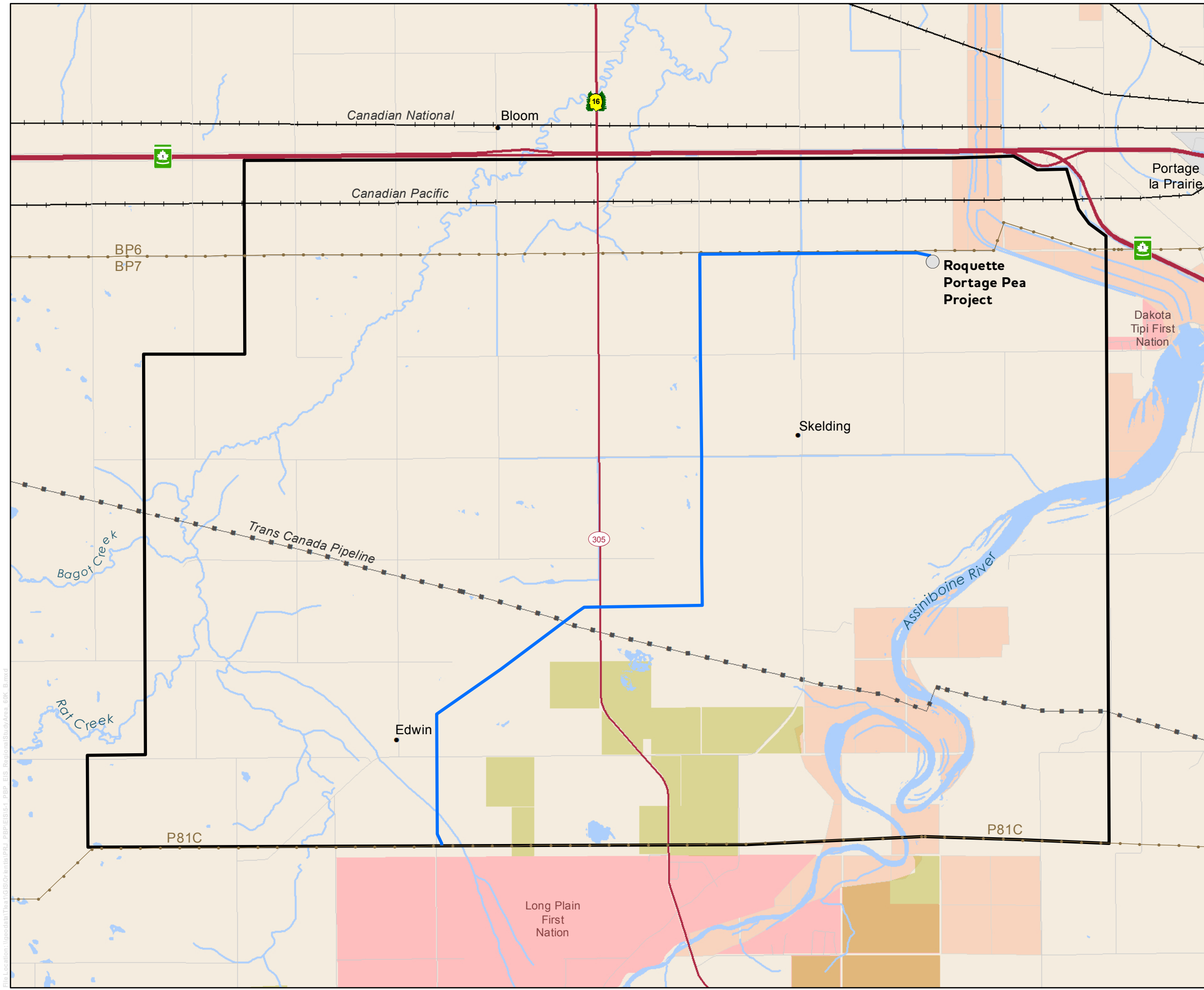
- Treaty Land Entitlement
- First Nation Land
- Crown Land
- Water Body
- Watercourse

Coordinate System: UTM Zone 14N NAD83
 Data Source: MBHydro, ProvMB, NRCAN
 Date: June 28, 2017



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Regional Study Area



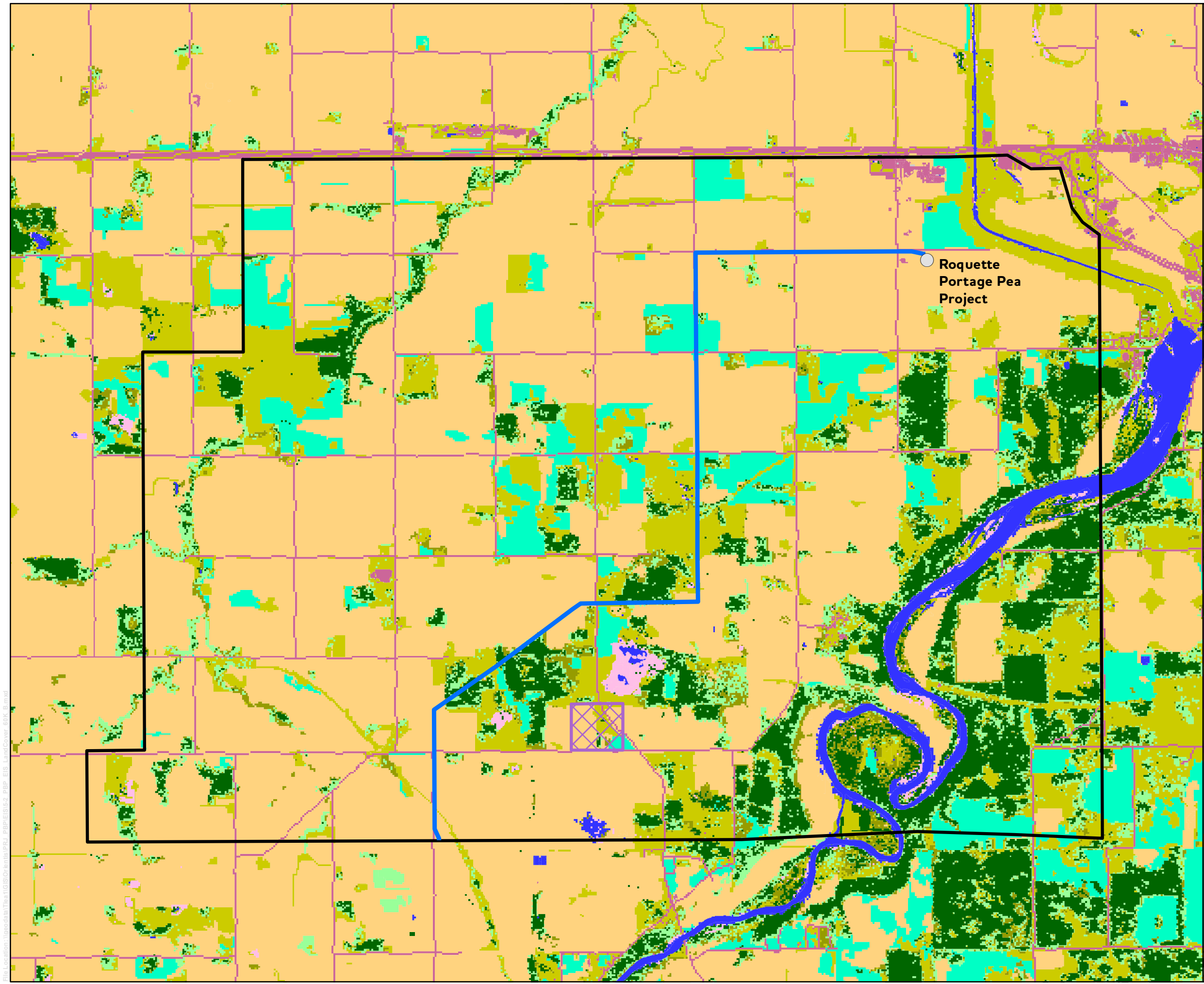
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Poplar Bluff Transmission Project

- Project Infrastructure**
- Roquette Portage Pea Project
 - Final Preferred Route
 - Regional Study Area

- Wildlife**
- Species at Risk

- Land Cover**
- Water
 - Barren
 - Urban
 - Shrubland
 - Wetland
 - Grassland
 - Pasture
 - Annual Cropland
 - Undifferentiated Forest
 - Coniferous
 - Broadleaf
 - Mixedwood



Roquette Portage Pea Project

Coordinate System: UTM Zone 14N NAD83
 Data Source: MBHydro, ProvMB, NRCAN, AAFC
 Date: June 28, 2017



Land Cover

Poplar Bluff Transmission Project

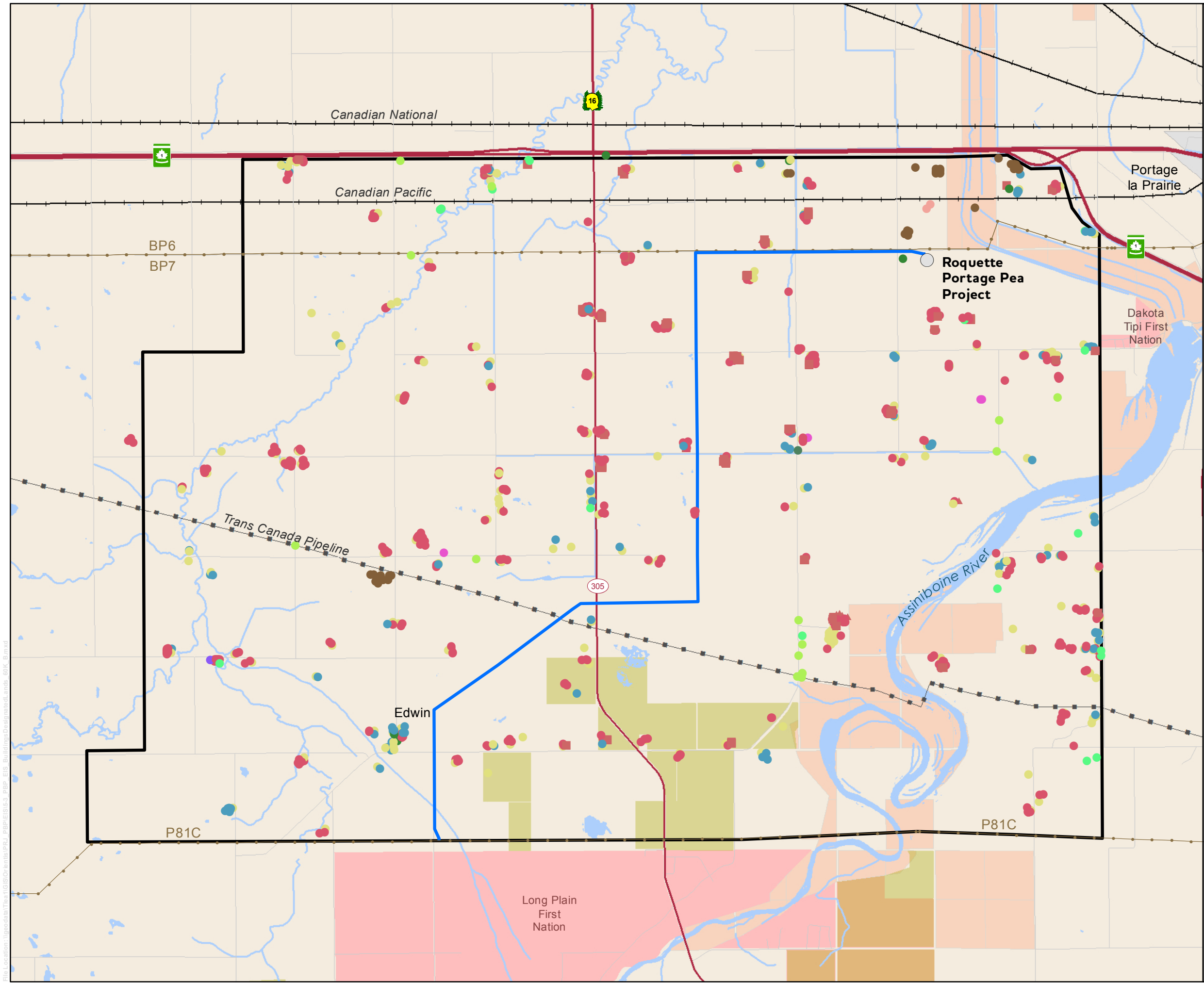
- Project Infrastructure**
- Roquette Portage Pea Project
 - Final Preferred Route
 - Regional Study Area
- Designated Land**
- Treaty Land Entitlement
 - First Nation Land
 - Crown Land
- Buildings**
- | | |
|---------------------|-------------------|
| Agriculture Bldg | Other |
| Commercial Bldg | Outbuilding |
| Government Bldg | Recreational Site |
| Grain Bin | Special Structure |
| Industrial Bldg | Unoccupied House |
| Livestock Operation | Unused Bldg |
| Occupied House | |
- Existing Infrastructure**
- Trans Canada Highway
 - Provincial Highway
 - Provincial Road
 - Municipal Road
 - Railway
 - Existing Transmission Line
 - Trans Canada Pipeline

Coordinate System: UTM Zone 14N NAD83
 Data Source: MBHydro, ProvMB, NRCAN
 Date: June 28, 2017

0 1 2 Kilometres
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Buildings and Designated Lands



Poplar Bluff Transmission Project

- Project Infrastructure**
- Roquette Portage Pea Project
 - Final Preferred Route
 - Regional Study Area
- Regional Infrastructure**
- Electrical Station
 - Impacted Site
 - Wastewater Treatment Site
 - Snowmobile Shelter
 - Communication Tower
 - Irrigation Pivot
 - Pipeline
 - Monument
 - Trans Canada Highway
 - Provincial Highway
 - Provincial Road
 - Municipal Road
 - Trail
 - Railway
 - Existing Transmission Line
 - Distribution Line
 - Existing Gas Line
 - Trans Canada Pipeline
 - Bipole III Transmission Line
 - Snowmobile Trail
 - Manitoba Forestry Association Woodlot
 - Private Quarry Permit
- Landbase**
- Treaty Land Entitlement
 - First Nation Land
 - Crown Land

Coordinate System: UTM Zone 14N NAD83
 Data Source: MBHydro, ProvMB, NRCAN
 Date: June 28, 2017

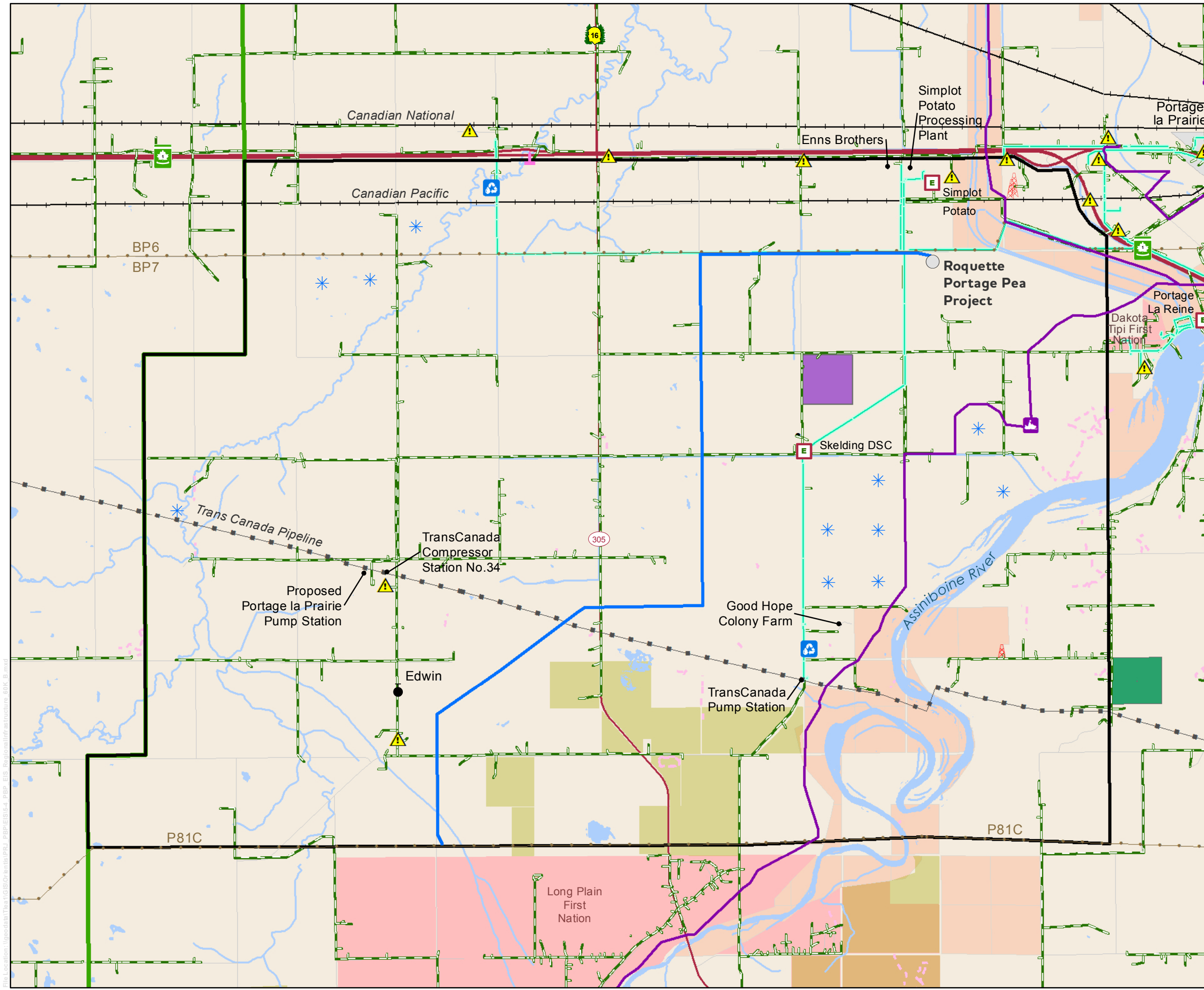
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Regional Infrastructure

Draft: For Discussion Purposes Only

Map 5-4



Poplar Bluff Transmission Project

- Project Infrastructure**
- Roquette Portage Pea Project
 - Final Preferred Route
 - Regional Study Area
- Existing Infrastructure**
- Trans Canada Highway
 - Provincial Highway
 - Provincial Road
 - Railway
 - Existing Transmission Line
 - Trans Canada Pipeline

- Soil Capability**
- Class 1
 - Class 2
 - Class 3
 - Class 4
 - Class 5
 - Class 6
 - Class 7
 - Organic
 - Unclassified

Coordinate System: UTM Zone 14N NAD83
 Data Source: MBHydro, ProvMB, NRCAN
 Date: June 28, 2017

0 1 2 Kilometres
 0 0.5 1 Mile

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Agricultural Land Use

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