MANITOBA HYDRO

St. Vital Transmission Complex

Heritage Technical Memorandum

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1.0 INTRODUCTION

The following is a characterization report of known and potential heritage resource concerns in anticipation of proposed construction of two new 230-kV transmission lines originating from the St. Vital Station. One proposed transmission line travels from the St. Vital Station, through south-central Manitoba (via the Steinbach area) and terminates at the Letellier Station, while the second extends from the St. Vital Station and terminates at the La Verendrye Station near Oak Bluff, MB.

Development of the heritage technical memorandum involved acquiring locations of previously recorded archaeological sites and registered century farms from Manitoba Historic Resources Branch, accessing the Historic Resources Branch website to compile a list of municipally and provincially designated sites, examining online archival documents such as early township plans, early maps and journals, previous research within the study area and any other relevant publications. The archival maps and township plans were compared with topographic maps and Google® images to identify areas within the project area that have not been modified agriculturally or impacted by road development, land drainage, or urban development. Cemetery locations were compiled by examining 1:50,000 National Topographic System maps available online through Natural Resources Canada.

2.0 EXISTING DATA SOURCES AND MODELING

2.1 PRECONTACT PERIOD (CA. 12,000 B.C. – CA. 1700 A.D.)

The cultural chronology of Manitoba is generally divided into two periods, Precontact and Historic (Table 4-1). Each is further divided into Early, Middle and Late. The Precontact Period dates from ca. 12,000 to 300 years ago and relates to the time when First Nation hunter/gatherer groups first moved into the area as Lake Agassiz receded, bringing with them a plains-adapted subsistence primarily based on bison hunting. Through time, woodland adapted groups from the south and southeast utilized the area and either displaced or merged their cultural traditions with earlier groups. Cultural traditions, history and spirituality were passed to subsequent generations through the spoken word or possibly by rock paintings (pictographs), alignments (petroforms) and figures cut into rock faces (petroglyphs).

The Historic Period dates after ca. A.D 1700, when European and Canadian fur traders and explorers entered the area to trade goods for furs that could be exported to Europe. Oral histories were augmented with written records such as diaries, letters, trade post journals and annual reports.

2.1.1 Early Precontact Period

The earliest Manitoba inhabitants were probably small groups of hunters who followed large game into the southwest corner of the province as Lake Agassiz receded and gradually moved northeast. The lithic technology of these early hunters would have consisted of large spears, scrapers, knives and adzes. Preferred kill sites would have consisted of settings where animals could be channeled into an area that restricted the speed at which they could escape (Pettipas 1984:36). Narrow river or creek channels or wet marshy areas where the animals could get bogged down would have been favoured hunting spots within the study area.

Lanceolate projectile points diagnostic of the Plano people have been recovered from along the east bank of the Red River near Ste. Agathe. A private collection recorded in 1983 contained projectile points from Late Sisters Hills and Logan Creek (Callaghan 1984:22). The assemblage was from cultivated fields between the Red and Rat rivers.

Table 2-1: Suggested Archaeological Time Periods in Manitoba Based on Technology

Archaeological Period	Technology	
	Container Type	**Food Procurement**
Late Historic Period (ca. 143 – 80 B.P.) (A.D. 1870 – 1940)	Porcelain Tableware Earthenware Dinnerware Stoneware Storage Jars Glass Sealers Tin Cans	Repeating Rifles Automatic Shotguns
Middle Historic Period (ca. 192 – 143 B.P.) (A.D. 1821 – 1870)	Earthenware Dinnerware Stoneware Storage Jars Glass Bottles Copper Pots/Kettles	Breach Loading Rifles/Shotguns Percussion Cap Muskets
Early Historic Period (ca. 300 – 192 B.P.) (A.D. 1700 – 1821)	Copper Pots/Kettles	Flintlock Muskets/Shotguns Metal Traps Metal Projectile Points Metal Knives/Axes
Late Precontact Period (ca. 2500 - 300 B.P.)	Clay Vessels: • Selkirk (Late Woodland) • Blackduck (Middle Woodland) • Rainy River Composite (Middle Woodland) • Laurel (Early Woodland)	Bow and Arrow Bone Harpoons Nets Projectile Points Side-notched Points Eastern and Plains Triangular
Middle Precontact Period (ca. 6500 - 2500 B.P.)	Fiber Baskets/Bags Animal Viscera/Hide	Atlatl Bone Harpoons Nets/Fishing Weirs Oxbow Corner-notched Points McKean Lanceolate Points Pelican Lake Points Old Copper Points/Adzes
Early Precontact Period (ca. 9500 – 6500 B.P.)	Fiber Baskets/Bags Animal Viscera/Hide	Bone Harpoons Lanceolate Projectile Points Trihedral Adzes Agate Basin Logan Creek Late Sisters Hill Plano

2.1.2 Middle Precontact Period

The Middle Precontact Period corresponds to a period of warmer and drier environmental conditions that created a northerly expansion of the grasslands and an expansion in the bison range further east and north. Prior to this event, the wooded areas of the south central portion of the province were probably only used as wintering areas for small groups of bison. The expansion of the bison range could have resulted in a longer site occupation by groups who, prior to the warmer and drier conditions, only inhabited the southern portion of Manitoba during certain times of the year during their seasonal round. In addition, the increased number of people could also be the result of population pressures on the plains as a result of over hunting causing people to not only diversify their resources but also move to new areas where such resources were more reliable.

The Middle Precontact Period is characterized by use of the spearthrower, or atlatl, which may have diffused into the plains from southeastern United States (Wright 1995:127). The adoption of the atlatl appears to have been fairly rapid and can be identified in the archaeological record by a change from stemmed to notched projectile points. The technology of this time period consists of bifacially flaked and hafted stone knives, side-notched projectile points, large end scrapers, drills and woodworking tools. The flakes that fell to the ground during the manufacture process were often collected, used for cutting and then discarded. These are referred to as utilized flakes. Bone, antler and shell were used to make awls, needles, hide scrapers and personal adornment articles (Syms 1970:132). Canoes, snowshoes and toboggans were used as forms of transportation (Wright 1995:265). Unfortunately, given the fragile nature of these wooden materials they do not survive in the archaeological record.

A private collection containing Oxbow points was recorded in the Arnaud area but the Historic Resources Branch database has only limited information on site location. Three archaeological sites and three sites where bison collagen has been collected and dated have been reported along the Red River between the junction of the Red and Assiniboine rivers and the Canada-United States border (Morlan 2000). Collectively, these sites date from 2235 to 5570 years ago. One of the archaeological sites, located along the east bank of the Red River south of its confluence with the Rat River, was a bison kill and butchering site found between 3.0 and 4.0 m below the surface. The upper portion of the site had been cultivated and the site was recorded 180 m away from the riverbank. Therefore, there is the potential for deeply buried cultural strata to be present at any of the proposed river crossing sites.

2.1.3 Late Precontact Period

The most frequently found Precontact Period sites in Manitoba date from about 2000 to 400 years ago when local resource users combined bison and medium to small game hunting with fishing and gathering available fruit and plants as their main subsistence. Habitation sites

tended to be more permanent where seasonal resources were plentiful, such as at the junction of the Red and Assiniboine rivers.

Groups known as Besant and Sonota, although more plains-adapted, could have incorporated the lower Red River region in their seasonal round. Both groups were primarily bison hunters and relied on communal hunts using traps and pounds or by stampeding them over river banks. Projectile points diagnostic of these two groups have been found northeast of the study area.

Pottery making marks the boundary between the Middle and Late Precontact periods. Pottery was either brought into Manitoba by groups migrating from eastern Canada and/or the south central United States or the technique of pottery manufacturing was transplanted into Manitoba through contacts with these groups. This period is also characterized by adoption of the bow and arrow, and the associated smaller side-notched points, and an increase in interaction with outside groups through trade.

There are three basic pottery styles that were used by cultural groups in the immediate study area: Laurel, Blackduck, and the Selkirk composite. Laurel pottery was manufactured using the coil technique whereby successive rolled clay coils were placed on top of one other to build the vessel sides. The walls were then smoothed. Decorative designs were either scratched or pushed into the stiffening clay on the upper outside walls below the rim. The finished Laurel vessel had a pointed bottom, curving shoulder and tapered lip (Pettipas 1984:157).

Blackduck pottery was developed by groups associated with the eastern woodlands of Minnesota, northern Wisconsin, Michigan and northwestern and southern Ontario (Dawson 1974). Blackduck pottery styles consisted of large globular vessels used for cooking and storage. The vessels were manufactured either by the paddle-and-anvil technique or formed inside twined textile containers. In the former process, excess water in the clay was squeezed out of the vessel by the manufacturer holding an anvil, such as a round, smooth stone, on the interior surface and a cord wrapped paddle on the exterior. Decorations are highly variable consisting of several combinations of thick horizontal and/or oblique lines on the neck and rim, lip and inner rim.

Recently, the Rainy River Complex has been identified based on ceramic styles recovered from excavations at the Canadian Museum for Human Rights (Quaternary Consultants Ltd. 2010; Stantec Consulting Ltd. 2012). This complex was previously identified by Lenius and Olinyk (1990). The decorative motifs on these vessels are similar to that of the general Blackduck tradition with and, since there is a cultural similarity with pottery found in the Rainy River area, could relate to the ancestral Anishinabe.

Stone tools associated with this culture include small triangular and side-notched projectile points, a variety of stone and bone scraping tools, ovate knives, stone drills and smoking pipes. Bone awls, needles, harpoons and spatulas are also found. Personal ornaments were made from bone and copper. Copper was also used to make tools.

The Selkirk culture was both contemporaneous with and post-dated the Blackduck culture. The relationship between people who manufactured Selkirk pottery, the preceding Laurel and contemporaneous Blackduck is not known. Often Blackduck and Selkirk pottery are found at the same site (Wright 1972:102). Furthermore, the stone and bone tools used by both cultures are very similar. Like Blackduck, Selkirk vessels were globular with slightly constricted necks and out flaring rims. Selkirk vessels were also manufactured by either the paddle and anvil or textile container method. Unlike the Blackduck vessels, Selkirk rims are undecorated, encircled by a single row of punctates or impressed with a cord-wrapped stick.

Other artifacts associated with Late Precontact Period sites include a variety of small, triangular side-notched projectile points, scrapers and bifaces, hammer stones and smoking pipes. Shell paint dishes, antler end-scraper handles, beaver tooth gouges, bone harpoons, scapula hoes, and bone awls and needles were also used.

Several sites with Laurel pottery have been recorded along the Red River north and west of the study area including a burial in the Normand Park area of south St. Vital. The burial dated approximately 2000 years ago. An eroded hearth with associated Laurel pottery was recorded along the Red River in the St. Adolphe area. The site materials were recorded at a depth of over 1.0 m below the ground surface (Callaghan 1984:19).

Several Blackduck sites and one Selkirk period site have also been recorded along the Red River. However, most of the assemblages were small and were suggestive of temporary camp sites rather than long-term occupations (Callaghan 1984:24). The one exception to this finding is the large inventory of site materials collected from the sites near the confluence of the Red and Rat rivers.

The Late Precontact Period cultures were also characterized by burying their dead in linear or circular mounds. One burial mound was recorded northwest of Ginew on the east bank of the Rosseau River. This site has been destroyed by unlawful excavation.

2.2 HISTORIC PERIOD (CA. A.D. 1700 – CA. A.D. 1940)

2.2.1 Early Historic Period

Members of the La Verendrye expedition were probably the first Euro-Canadians in the project area when they arrived in the early 1730s. Maps from this period identify the Cree and Assiniboine as occupying the study region. In 1734, the La Verendryes established a post on the Red River near present-day Selkirk and, for several years thereafter, the La Verendryes frequently used the Roseau River, also known as the Reed River, as a travel route between the Red River and Fort St. Charles on the Lake of the Woods. This route was shown to the French by the local First Nation groups. La Verendrye's nephew, Christophe Dufrost Le Jemeraye, succumbed to disease when he was travelling along this route on May 10, 1736. He apparently was buried somewhere near the junction of the Red and Roseau rivers (Burpee 1927:214).

The first fur trade post constructed adjacent to the project area was that of the North West Company built by Charles Chaboillez in 1796. The post was located just north of the confluence of the Red and Rat rivers (Allaire 1983). By 1797, Chaboillez had relocated the post to the mouth of the Pembina River south of the project area.

A historic period burial has been recorded east of Letellier but only a few scattered pieces of human remains and artifacts such as beads, copper fragments and shell fragments have been recovered. The location of Chaboillez's post was tentatively identified on the east bank of the Red River north of the mouth of the Rat River (Callaghan 1984:12).

2.2.2 Middle Historic Period

This period correlates with the merger of the North West and Hudson's Bay companies and the expansion of the Red River Settlement. Throughout the period between A.D. 1821 and 1870, the homestead settlement expanded along the Red and Rat rivers. These homesteaders were predominantly Métis families who relocated from the St. Boniface portion of the Red River Settlement. They generally constructed small log houses constructed in the Red River frame style with associated log outbuildings. The farm buildings were located on the upper terrace overlooking the river. Small settlements, such as St. Pierre Joly, were also developed by Métis from the French portion of the settlement.

A number of log structures built during the late 1860s have been recorded along the Red River west of the proposed alternative routes. One of the largest homestead sites recorded is the Delorme House on the west bank of the river in the St. Adolphe area. The Red River frame house, now situated in St. Norbert Park, was built in the early 1860s by the Pierre Delorme family (McLeod 1982). This site serves as an example of the types of homestead settlements that stood along the Red, Seine and Rat rivers during the Middle Historic period.

2.2.3 Late Historic Period

The river lots along the Red River continued to be settled by Métis families and French Quebec homestead settlers. Homestead settlement within the township system within the project area began in the northern portion of the study area in the late 1880s and gradually expanded south.

There were several cart trails established in the study area during the period between ca. 1870 and ca. 1880. Most of these were on elevated sections of land and were no doubt originally used by First Nation groups prior to the 1700s. The major trails in the study area were the Dawson Trail in the north portion of the study area, a small section of the cart trail from Fort Garry to Pembina along the west bank of the Red River near Letellier, the Crow Wing Trail along the east side of the Red River, Ste. Anne's Road, a trail identified as the "Cart Trail to Spruce Island", and two unnamed trails identified as Public Road 463 and Public Road 464.

The unnamed trails possibly relate to trails that connected the East Mennonite Reserve with present-day Ile des Chênes, originally known as Oak Island.

Township plans from the Dominion Land surveys in the early 1870s were examined to map the location of the various trails through the project area. This information was compared with topographic maps and Google Earth Pro© images to plot potential intact trail remnants. The trail remnant locations should be considered when transmission line routing and tower placement options are being developed.

The closest First Nation reserve to the study area is Roseau River Anishinabe First Nation Reserve, which was created after signing of Treaty 1 at Lower Fort Garry in 1871. The reserve consists of two parcels of land that make up a total of 3,066 ha. The largest piece of land, approximately 2,135 ha, is located 4 km east of P.T.H. 75, adjacent to the Red River on P.R. 20, and the other 930 ha, known as Roseau River Rapids, located on the Roseau River, 5 km east of P.R. 218 and 4 km north of P.R. 201.

All Provincially and Municipally designated sites relate to land use during the Late Historic Period and consist of historic structures including churches, residences and public buildings.

2.3 HERITAGE RESOURCE POTENTIAL

The assessment of heritage resource potential is based upon a consideration of the locations of documented archaeological sites, historic land use information, and landscape characteristics that either positively or negatively influence archaeological site distribution. The assessment of archaeological site potential was based on proximity to previously recorded archaeological sites; proximity to fresh water sources; terrain and current land use. The information was reviewed to determine associations between the presence of certain biophysical variables and inferred First Nations' land use activities that may have left physical evidence resulting in the formation of archaeological sites. The results of this review were then used to determine the archaeological potential within the proposed development area. For the purposes of this study, archaeological potential is defined as the capability of a landscape to have supported the kinds of past activities that would have resulted in the formation and preservation of archaeological remains. Some activities, such as medicinal plant collection, did not usually result in the creation of physical remains, and such activities cannot be considered in the context of an assessment of archaeological resource potential. The same constraint also applies to places of cultural significance, such as spirited places, but where data are available both kinds of information can be used as landscape attributes to assess archaeological resource potential.

Lands are categorized as having High, Moderate, or Low heritage resources potential. These categories potentially affect the scope and level of effort recommended for future archaeological studies, proposed monitoring and mitigation activities, and basic heritage resource management strategies. In general, the higher the potential class, the greater the level of effort expected by regulatory authorities. High potential areas are lands exhibiting topographic and biophysical attributes highly supportive of past cultural activities that would have left archaeological evidence. These lands exhibit the highest archaeological sensitivity within a particular landscape. Moderate potential areas relate to lands exhibiting fewer attributes that would have

supported past cultural activities than the preceding category; while Low potential areas exhibit few characteristics supportive of past cultural activities. Further archaeological investigations are not normally recommended for lands categorized as having low archaeological potential.

3.0 PREFERRED AND ALTERNATIVE ROUTES: ST. VITAL TO LETELLIER STATION

An initial field reconnaissance of the alternative routes for the St. Vital Station to Letellier Station was conducted on October 3, 2013, under Manitoba Heritage Permit A41-13. The assessment consisted of examining areas of Moderate to High heritage resource potential to determine if past land-use activities, particularly agriculture, had reduced potential significance of the sites.

3.1 RED RIVER CROSSING

The preferred crossing south of Letellier is along a section of river where there is deposition on the west bank and an eroding bank on the east approach. The closest previously recorded archaeological site is 1.7 km southeast and consisted of historic debris from the ca. 1870 to 1920 era eroding out of the riverbank.

The east bank of the river at the preferred crossing is currently unmodified with a dense stand of trees directly at the waterfront and back for a distance of approximately 150 m. The west bank of the preferred crossing is a large cultivated field with limited to no standing vegetation at the immediate edge of the riverbank. A former stream course, now modified as part of site drainage, cuts through the cultivated field and outlets in the river approximately 600 m north of the right-of-way (ROW).

There is the potential for heritage resources to be present on either side of the preferred Red River crossing with a further possibility of deeply buried cultural strata present on both banks. Areas of Moderate to High heritage resource potential would be from the edge of the upper terrace back for 200 m on the east side of the river and from the river back for a distance of 500 m on the west bank.

3.2 RAT RIVER CROSSING

The proposed crossing of the Rat River is located on the south side of a gravel section road. There are no previously recorded archaeological sites in the immediate location of the crossing. The alternative parallels an existing township road with farmsteads located on both the north and south sides of the road. The east approach to the riverbank on the south side of the section road crosses a grassed field that gently drops into the river channel. The west approach on the south side of the section road crosses an agricultural field which terminates approximately 200 m from the river. The route then traverses an open grassed area that descends to a low, grassed field sparsely covered with trees that continues to the west bank of the river.

The east approach on the north side of the road crosses a grassed lawn then descends into a thick river bottom forest along the stream. The west side of the Rat River on the north side of

the road is densely covered with an approximate 100-m-wide band of river bottom forest that gives way to an agricultural field 125 m west of the river.

There is a Moderate potential for heritage resources to be present on the elevated banks overlooking the Rat River. The banks on the south side of the section road have been cleared of standing vegetation but it does not appear as if these areas have been cultivated.

3.3 ROSEAU RIVER CROSSING

The ROW crosses the Roseau River in an area that is currently under dense aspen on the north approach and south approaches to the river. This area does not appear to have been cleared and there are a number of oxbows or former channels on either side of the river.

There are no previously recorded archaeological sites along the Roseau River near the crossing point. There is a Moderate to High potential for heritage resources to be present on both sides of the river.

3.4 MARAIS RIVER CROSSING

The ROW crosses the Marais River south of Letellier, MB, in an area that has been previously impacted by road construction along both sides of the river. Heritage resources have been previously recorded 0.85 km northwest of the crossing and relate to a Besant projectile point collected from a cultivated field.

A narrow area in close proximity to the west bank of the river is currently under native vegetation while areas away from the riverbank have been cultivated. The east side of the river has been cleared of standing vegetation but has also been previously impacted by road construction. Areas of Moderate to High heritage resource potential would be from the edge of the river back for 50 m on both sides of the river.

3.5 MINOR STREAM CROSSINGS

3.5.1 Unnamed Creek (tributary of Roseau River)

A small stream flows into the Roseau River at the above-noted co-ordinates. Both sides of the stream are under agricultural land at the approximate proposed crossing location. The stream is in a natural setting on the immediate south side of the crossing with a mixture of trees on the upper slopes and grass in the lower area adjacent to the stream.

No heritage resources have been previously recorded along this tributary and the potential for intact heritage resources within the cultivated portion of the crossing is Low. There is a Low to Moderate potential for heritage resources in the area of standing tree and grassed vegetation.

3.5.2 Joubert Creek

The proposed route crosses Joubert Creek at two locations in Sections 24 and 25-5-4EPM. In the 1870s, this creek was identified as the east branch of the Red River. The crossings are sited within an area of dense bush which appears to be in natural status. No archaeological sites have been previously recorded along Joubert Creek within the study area.

The potential for intact heritage resources is Moderate to High at the two stream crossings given the river setting and that the area has been unmodified.

3.5.3 Unnamed Creek (Tributary of Joubert Creek)

The proposed route crosses an unnamed tributary of Joubert Creek at the above-noted location. The south side of the crossing passes through an agricultural field then egresses through dense deciduous forest along the stream. The north bank of the stream is also covered in a thick deciduous forest from the creek north for a distance of approximately 180 m. No archaeological sites have been previously recorded along this small stream within the study area.

The potential for intact heritage resources is Moderate at the stream crossing given the waterway setting and that the area has been unmodified.

3.5.4 Tourond Creek

The alternative routes cross Tourond Creek in two locations. Alternative 1 crosses at a point where the creek meanders through a low lying area comprised primarily of low willows and marsh grasses. Alternative 2 crosses the stream through an agricultural field and there is only a thin band of standing vegetation along the stream banks. No archaeological sites have been previously recorded along this small stream within the study area.

The potential for intact heritage resources at both crossings is Low given the low-lying nature of this stream and the surrounding area.

3.6 UNMODIFIED AREAS

For this study, unmodified areas are those locations along the alternative routes that have not been cleared of standing vegetation and/or cultivated.

3.6.1 Unmodified 1 and 2

The above-noted location is a mix of unmodified pasture and standing deciduous trees that parallels the section road for a distance of approximately 1.1 km. The topography is primarily level through this area with no obvious potable water sources. No archaeological sites have been previously recorded along this section of the proposed transmission line.

The potential for intact heritage resources at both unmodified areas is Low to Moderate, given that the area is under native vegetation.

3.6.2 Unmodified 3

The alternate route extends across an approximate 0.32-km section of unmodified mixture of deciduous and unmodified pasture. The unmodified area is 400 m east of Joubert Creek. No archaeological sites have been previously recorded along this section of the proposed transmission line.

The potential for intact heritage resources at this location is Low to Moderate given that the area is under native vegetation.

3.6.3 Unmodified 4

The alternate route extends across an approximate 0.95-km section of unmodified section of deciduous trees. The east end of the unmodified area is 75 m west of Joubert Creek. No archaeological sites have been previously recorded along this section of the proposed transmission line.

The potential for intact heritage resources at the east portion of this area is Moderate given that the area is under native vegetation and in close proximity to a stream. The potential lessens to Low as one proceeds west along the proposed route.

3.6.4 Unmodified 5

The alternate route extends across an approximate 0.60 km section of unmodified section of deciduous trees. The 1872 township plan identifies this area as mixture of scattered poplar and prairie and shows the Crow Wing Trail extending approximately 1.6 km west of the unmodified area. No archaeological sites have been previously recorded along this section of the proposed transmission line.

The potential for intact heritage resources at the east portion of this area is Low to Moderate, given that the area is under native vegetation.

3.7 HISTORIC TRAILS

3.7.1 Crow Wing Trail

The proposed alternative routes cross the former alignment of the Crow Wing Trail at three locations south of St. Pierre-Joly. Two of the trail crossings are located in NW 15-5-4 EPM at 14U-646347E/5472110N and 14U-646217E/5473322N. The third crossing point is in NW 9-5-4 EPM at 14U-645223E/5472080N. The latter trail crossing has been obliterated by cultivation.

The two northerly trail crossings have been previously impacted by development of P.T.H. 59 and the flanking drainage ditches along Nault Road.

The potential for intact heritage resources along all three of the Crow Wing Trail remnants is low.

3.7.2 Ste. Anne's Road

One of the alternative routes intersects the former Ste. Anne's Trail in the north half of 19-8-5 EPM at approximately 14U-651424E/5504719N. This correlates with present-day P.R. 210, the construction of which would have impacted any intact heritage resources. Therefore, there is a Low potential for heritage resources at this location.

3.7.3 Public Road 463

The 1872 Dominion Land Survey township plan shows a short section of road extending though the east halves of 30- and 31-7-5 EPM through a high area on the west side of a swamp. One of the alternative routes bisects this roadway at approximately 14U-650281E/5498348N. This location is an agricultural field and any trail remnants have been eradicated by cultivation. The potential for heritage resources is Low.

3.7.4 Public Road 464

The 1872 Dominion Land Survey township plan shows a section of road extending though the north-central portion of Township 7, Range 5 and across the southwest corner of Township 8, Range 5 in an elevated area on the east side of the same swamp paralleled by Road 463. The alternative route bisects this roadway at approximately 14U-652266E/5502458N. This location is an agricultural field and any trail remnants have been eradicated by cultivation. The potential for heritage resources is Low.

3.7.5 Cart Trail to Spruce Island

This trail is also identified in the 1872 Dominion Land Survey township plan for Township 7, Range 4 East in Sections 27, 33 and 34. The former trail can be seen in present-day Google imagery as a definite soil discolouration on the landscape. The three north-south alternatives in the vicinity of New Bothwell all intercept the former trail. The three crossing points are at approximately 14U-647545E/5496376N, 14U-648421E/5495535N, and 14U-650966E/ 5493095N. The first and third crossing points are situated along section roads and therefore have been previously impacted by road construction. The second crossing is within a cultivated field and therefore has been impacted by cultivation.

The potential for heritage resources at the two trail crossings at the section roads is Low, while there is a Moderate potential for the trail in the cultivated field. This ranking is based on the soil discolouration in the Google imagery.

3.7.6 Fort Garry to Pembina Trail

The two alternative crossings of the Red River cross P.T.H. 75 which corresponds with the original cart trail Fort Garry to Pembina, North Dakota. The crossing points are at approximately 14U-620943E/5456690N and 14U-621957E/5451848N.

There is a Low potential for heritage resources relating to use of the cart trail given the amount of previous development along P.T.H. 75.

4.0 PROPOSED ROUTE: ST. VITAL TO LA VERENDRYE STATION

An initial field reconnaissance of the route for the St. Vital Station to La Verendrye Station was conducted on October 4, 2013, under Manitoba Heritage Permit A41-13. No protocols for land access had been developed with pertinent landowners and, therefore, the assessment consisted of examining areas of Moderate to High heritage resource potential to determine if past land use activities, particularly agriculture, had reduced potential significance.

4.1 SEINE RIVER CROSSING

The proposed alternative crosses the Seine River in close proximity to where the stream course was altered to facilitate entry into the Red River Diversion. The old channel remains intact along the south side of Hallama Drive and is characterized by a thick stand of deciduous trees and tall grass. An archaeological site was recorded in the area of the diverted stream course and consisted of a small site where a number of fabric-impressed pottery sherds, fired clay and charcoal were collected. The site covered an area of about 1.0 m^2.

There is a Moderate to High potential for heritage resources at the Seine River crossing if the route is to be placed on the south side of Hallama Drive. There are no heritage resource concerns if the right-of-way is developed on the north side of Hallama Drive as this area has already been impacted by previous development.

4.2 RED RIVER CROSSING

The east approach of the Red River crossing is located on the 0.4 km south of the Red River floodway intake. The area is predominantly a mix of elm and oak trees and, at the time of the October assessment, several new houses were under construction south of the proposed right-of-way. The wooded area is approximately 160 m wide and gives way to an open field along St. Mary's Road. No archaeological sites have been previously recorded on this side of the river.

The west side of the Red River within the right-of-way consists of a level grassed terrace parallel to the river that is bisected from an agricultural field to the west by Red River Drive. A 100 m long berm has been constructed on the north edge of the proposed right-of-way. An undated Precontact Period site was recorded 0.9 km north of the crossing, while an undated Historic Period site was recorded 1.1 km south of the crossing. The site to the north had been destroyed by construction of the Red River Floodway, the site to the south was in a cultivated field.

There is the Moderate to High potential for heritage resources on both sides of the Red River crossing given that neither bank appears to have been previously impacted. The grassed area between the wood area and St. Mary's Road on the east bank has a Low potential for heritage resources as does the agricultural field west of Red River Drive on the west bank.

4.3 LA SALLE RIVER CROSSING

The La Salle River crossing could not be directly accessed due to the distance of the crossing points from access roads. The east approach crosses a grassed field which may have originally been cultivated. The river bottom forest along the east bank of the La Salle River has also been cleared to create a 75-m-wide gap which correlates with the TransCanada gas pipeline.

The west approach also consists of a cleared gap containing the natural gas pipeline. There is a grassed field adjacent to the riverbank which alters to a cultivated field as one proceeds west. An undated Historic Period archaeological site was recorded on the TransCanada right-of-way but the site had already been destroyed by pipeline construction.

5.0 SUMMARY AND AVOIDANCE RECOMMENDATIONS

In general, heritage resource concerns for transmission line routing and tower placement would be Low to Moderate for the majority of the study area given the agricultural land use over the past 150 years. Cultivation reduces the heritage significance of an archaeological site as the artifactual context is mixed vertically and horizontally. Heritage resource concerns would increase in the event that transmission line routing was to egress through areas where known heritage resources are present or where there is a high potential for such resources to be present.

Areas of Moderate to High heritage resource potential consist of stream crossings that have not been developed or where there is the possibility of deeply buried cultural strata, sections of former trails that have not been impacted, or areas that are under native vegetation. There are no previously recorded heritage resources located within 500 m of the centreline of the alternative routes. Areas of heritage potential at the Red River crossings would consist of a 300 m wide zone parallel to the edge of the riverbank, while a 200 m zone from the water's edge has potential along the Rat River. The small creeks would have a 50 m wide zone of potential parallel to the water's edge. The entire width of the right-of-way would be the zone of potential for areas that are unmodified. A 40 m wide zone would be the area of potential where the proposed right-of-way crosses a former cart trail.

Potential impacts to heritage resources would occur during the construction phase when subsurface ground disturbance is required, such as installation of the transmission line tower. Tower sitings for the preferred route can be reviewed in conjunction with the October 2013 reconnaissance data to determine what locations would require a detailed heritage assessment such as shovel testing to determine nature, extent and significance of any heritage resources.

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