

**APPENDIX D:
STAGE 1 ARCHAEOLOGICAL
ASSESSMENT**



**Stage 1 Archaeological Assessment:
Dawn – Corunna Project**

Parts of Various Lots and Concessions,
Multiple Lower Tier Municipalities,
Lambton County, Ontario

September 21, 2021

Prepared for:

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Project Information Form Number:
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Project Number: 160961392

ORIGINAL REPORT

Executive Summary

Stantec Consulting Ltd. (Stantec) was retained by Enbridge Gas Inc. (Enbridge Gas) to complete Stage 1 archaeological assessment for the Dawn – Corunna Project (the Project). The archaeology study area for the Stage 1 archaeological assessment of the Project comprises approximately 25,400 hectares and includes various Lots and Concessions, multiple lower tier municipalities, Lambton County, Ontario. The Stage 1 archaeological assessment was conducted in accordance with the provisions of the *Ontario Heritage Act* (Government of Ontario 1990a) and the requirements of Section 4.3.4 of the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario, 7th Edition* (OEB 2016).

The Stage 1 archaeological assessment was completed under Project Information Form number P256-0678-2021 issued to Parker Dickson, MA, of Stantec, by the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI). The current study area for the Stage 1 archaeological assessment is large and serves to capture a broad and generalized geographic area associated with the Project; however, the Stage 1 property inspection, completed on August 19, 2021, focused on lands associated with the Preliminary Preferred Route, which will be approximately 20 kilometres in length. Broadly, much of the study area consists of woodlot, scrubland, and active agricultural field. The study area also includes pockets of modern development which may be extensively disturbed, such as industrial lands, municipal road ROWs, buried infrastructure, railways, and other buildings (including residential and commercial structures).

The Stage 1 archaeological assessment determined that the majority of the study area for the Project retains potential for the identification and documentation of archaeological resources. In accordance with Section 1.3.1 and Section 7.7.4 of the MHSTCI's 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), **Stage 2 archaeological assessment is required for any of the Project's anticipated construction activities which impact an area of archaeological potential.**

It is further recommended that engagement with interested Indigenous communities be completed as part of the Stage 2 archaeological assessment for the Project. Indigenous engagement activities must be completed in accordance with the MHSTCI's 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011a) and the MHSTCI's *Engaging Aboriginal Communities in Archaeology: A Draft Technical Bulletin for Consultant Archaeologists in Ontario* (Government of Ontario 2011b).

In addition to the above, the Stage 1 archaeological assessment determined that there are small pockets of previously surveyed or previously disturbed lands within the study area which retain low to no archaeological potential (i.e., Stantec 2015b, 2017a; and TMHC 2017). In accordance with Section 1.3.2 and Section 7.7.4 of the MHSTCI's 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), **Stage 2 archaeological assessment is not required for any portion of**



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the Project’s anticipated construction activities which impact a previously surveyed or disturbed area.

Full and detailed recommendations are provided in the body of the report.

The MHSTCI is asked to review the results presented and to accept this report into the *Ontario Public Register of Archaeological Reports*. Archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48 (1) of the *Ontario Heritage Act* (Government of Ontario 1990a) and may not be altered, or have artifacts removed from them, except by a person holding an archaeological license.

The Executive Summary highlights key points from the report only; for complete information and findings, the reader should examine the complete report.

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1.0 PROJECT CONTEXT

1.1 DEVELOPMENT CONTEXT

Stantec Consulting Ltd. (Stantec) was retained by Enbridge Gas Inc. (Enbridge Gas) to complete Stage 1 archaeological assessment for the Dawn – Corunna Project (the Project). The archaeology study area for the Stage 1 archaeological assessment of the Project comprises approximately 25,400 hectares and includes various Lots and Concessions, multiple lower tier municipalities, Lambton County, Ontario (Figure 1; see Table 1). The Stage 1 archaeological assessment was conducted in accordance with the provisions of the *Ontario Heritage Act* (Government of Ontario 1990a) and the requirements of Section 4.3.4 of the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario, 7th Edition* (OEB 2016).

Enbridge Gas has conducted a review of its gas storage and transmission system and has identified the need to replace assets to maintain the safe and reliable operation of Enbridge Gas' systems and continue to meet the firm demands of Enbridge Gas customers. The proposed Project will involve the construction of a new steel pipeline, up to 36-inch diameter, between the existing Dawn Operations Centre in the Township of Dawn-Euphemia and the existing Corunna Compressor Station in St. Clair Township. A qualitative and quantitative evaluation of the Alternative Routes for the Project resulted in the selection of a Preliminary Preferred Route, which will be approximately 20 kilometres in length (Figure 2).

1.1.1 Objectives

In compliance with the provincial standards and guidelines set out in the Ministry of Heritage, Sport, Tourism and Culture Industries' (MHSTCI) 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), the objectives of Stage 1 archaeological assessment are:

- To provide information about the study area's geography, history, previous archaeological fieldwork, and current land conditions.
- To evaluate the study area's archaeological potential, which will support recommendations for Stage 2 survey for all or parts of the study area.
- To recommend appropriate strategies for Stage 2 survey.

To meet these objectives, Stantec archaeologists employed the following research strategies:

- A review of relevant archaeological, historical, and environmental literature pertaining to the study area.
- A review of the land use history, including pertinent historical maps.
- An examination of the *Ontario Archaeological Sites Database* to determine the presence of registered archaeological sites in and around the study area.
- A property inspection of the study area by a licensed archaeologist.



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Permission to conduct the Stage 1 property inspection of the study area was provided by Enbridge Gas. However, access to private lands for the purposes of the archaeological assessment was not obtained. Thus, photo documentation completed during the Stage 1 visual assessment was completed from municipal road rights-of-way (ROW) and public lands.

1.2 HISTORICAL CONTEXT

As noted above, the study area for the Stage 1 archaeological assessment is broad and comprises various Lots and Concessions, multiple lower tier municipalities, Lambton County, Ontario. Table 1 provides a summary of the lower tier municipalities associated with the study area.

Table 1: Summary of Lower Tier Municipalities Comprising the Study Area

Lots	Concessions	Geographic Township	Former County	Current Lower Tier Municipality	Current Upper Tier Municipality
1 to 21	1 to 7	Moore	Lambton	Township of St. Clair	Lambton County
10 to 30	11 to 15	Sombra	Lambton	Township of St. Clair	Lambton County
1 to 5	1 to 7	Enniskillen	Lambton	Township of Enniskillen	Lambton County
23 to 34	1 and 2	Dawn	Lambton	Township of Dawn-Euphemia	Lambton County

1.2.1 Post-contact Indigenous Resources

“Contact” is typically used as a chronological benchmark when discussing Indigenous archaeology in Canada and describes the contact between Indigenous and European cultures. The precise moment of contact is a constant matter of discussion. Contact in what is now the province of Ontario is broadly assigned to the 16th century (Loewen and Chapdelaine 2016).

At the turn of the 16th century, the region of the study area is documented to have been occupied by people associated with the Western Basin Tradition archaeological culture (see Section 1.3.2). Following the turn of the 17th century, this region of the study area is understood to have been within the territory of the Fire Nation, an Algonkian group occupying the western end of Lake Erie. It is argued, however, that the Attiwandaron (Neutral) expanded extensively westward, displacing the Fire Nation (Lennox and Fitzgerald 1990:418-419). It is debated whether the Fire Nation was descendent from the archaeologically described Western Basin Tradition, or if they migrated into the western part of Lake Erie, displacing a previous Indigenous culture (Murphy and Ferris 1990:193-194). In 1649, the Seneca, with the Mohawk, led a campaign into southern Ontario and dispersed the Huron-Wendat, Tionontate (Petun), and Attiwandaron (Neutral), and the Seneca established dominance over the region and used it as a hinterland for beaver hunting (Heidenreich 1978; Trigger 1978:345).

By 1690 however, Ojibwa-speaking people had begun to displace the Seneca from southern Ontario. Historians understand that the displaced Fire Nation moved across the St. Clair and Detroit Rivers into what is modern-day lower Michigan, and their populations are synonymous with the later Kickapoo, Miami, Potawatomi, Fox, and Sauk (Heidenreich 1990: Figure 15.1). Bkejwanong (Walpole Island) First Nation oral tradition states that nations of the Three Fires (a political confederacy constituted of the



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Potawatomi, Ojibwa, and Ottawa) have occupied the delta of the St. Clair River and the surrounding region continually for thousands of years.

The Indigenous economy, since the turn of the 18th century, focused on fishing and the fur trade, supplemented by agriculture and hunting (Konrad 1981; Rogers 1978). The study area falls within the traditional territory of the Bkejwanong (Walpole Island) First Nation (WIFN) and the Aamjiwnaang (Sarnia) First Nation (Aamjiwnaang First Nation), the Wiiwkwedong and Aazhoojena (Kettle Point and Stony Point) First Nation (Lytwyn 2009), and the Deshkaan Ziibing Anishnaabeg (Chippewas of the Thames First Nation) (COTTFN). Some populations of Wyandot (a Nation of 17th century amalgamated Tionontate and Huron-Wendat populations) also had moved to the region of Lake St. Clair at the turn of the 18th century and resided with the Three Fires (Tooker 1978:398).

By 1730, it is reported that a community of approximately 300 Three Fires peoples were living at the north end of Lake St. Clair (Rogers 1978:762). D'Anville's 1755 map (Konrad 1981: Plate 1) indicates the Mississauga (an Ojibwa Nation) on the east bank of the St. Clair River. By 1760, the Chippewa community was established on the Thames River, southwest of present-day London, Ontario (COTTFN n.d.). By approximately 1790, the region of the study area was occupied by populations of Three Fires, as well as Wyandot. By 1796, the Three Fires community of Chenail Ecarté was established (Feest and Feest 1978:777-779).

The expansion of the fur trade led to increased interaction between European and Indigenous people, and ultimately intermarriage between European men and Indigenous women. During the 18th century the progeny of these marriages began to no longer identify with either their paternal or maternal cultures, but instead as Métis. The ethnogenesis of the Métis progressed with the establishment of distinct Métis communities along the major waterways in the Great Lakes of Ontario. Métis communities were primarily focused around the upper Great Lakes and along Georgian Bay, however, Métis people have historically lived throughout Ontario (Métis Nation of Ontario 2021; Stone and Chaput 1978:607-608).

Despite the dispersal and movement of Indigenous groups throughout southern Ontario during the 17th and 18th centuries, archaeologically they can be characterized by continuity with their pre-contact Indigenous counterparts. These peoples still maintained a Terminal Woodland archaeological culture, albeit with some features of European material culture. While there was cultural and social change occurring due to contact with European colonial powers, there was equally a definite persistence of Indigenous socio-cultural practices since these groups were not so profoundly affected by European contact that they left their former lifeways behind (Ferris 2009).

Under British administration in the 19th century, the various Indigenous groups were divided into separate bands. The Anishinaabe included the western Algonquian peoples, among them the Chippewa and the Odawa. Until the 18th century, the central Algonquian-speaking peoples, among them Potawatomi, were located in the Michigan Peninsula (Blackbird 1887). In the middle of 18th century, the Chippewa were located on the south shores of Lake Huron, the east shores of Georgian Bay, and on the west end of Lake Ontario. Indigenous peoples and their communities continue to play a large role in the occupation of the study area and its environs.



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Since contact with European explorers and immigrants, and later, with the establishment of provincial and federal governments (the Crown), the lands within Ontario have been included in various treaties, land claims, and land cessions. Following the American Revolutionary War, Britain focused on the settlement of European immigrants into what became the province of Upper Canada in 1791. To enable widespread settlement, the British government negotiated a series of treaties with Indigenous peoples. Figure 3 provides a map of southwestern Ontario illustrating early treaties and purchases (Government of Canada n.d.a). Review of historical mapping, including early treaty maps, has inherent accuracy difficulties due to potential error in georeferencing. Georeferencing is conducted by assigning spatial coordinates to fixed locations and using these points to spatially reference the remainder of the map. Due to changes in “fixed” locations over time (e.g., road intersections, road alignments, water courses, etc.), errors/difficulties of scale and the relative idealism of the historical cartography, historical and treaty maps may not translate accurately into real space points. This may provide obvious inconsistencies during historical and treaty map review.

The study area for the Project is situated near numerous early treaties with the Crown. One of the earliest treaties involving lands located near the study area was made on May 19, 1790. Originally identified as the Detroit Treaty, the chiefs of the Odawa, Chippewa, Pottawatomie, and Huron Nations and representatives of the British Crown established a vast tract of land “...from the Detroit River easterly to Catfish Creek and south of the river La Tranche [now Thames River] and Chenail Ecarte [now St. Clair River], and contains Essex County except Anderdon Township and Part of West Sandwich; Kent County except Zone Township, and Gores of Camden and Chatham; Elgin County except Bayham Township and parts of South Dorchester and Malahide...[i]n Middlesex County, Deleware and Westminster Township and part of North Dorchester” (Morris 1943:17). Today, this treaty is identified as Treaty Number 2, illustrated by the letter “C” on Figure 4. The mapped northern limits of Treaty Number 2 are situated to the south of the study area for the Project. A plaque, erected by the Historic Sites and Monuments Board of Canada further identifies this treaty as *McKee’s Purchase*. A commemorative plaque located in the Blenheim Memorial Park in Blenheim, Ontario reads (Ontario Plaques 2021a):

In May 1790 Alexander McKee, Deputy Agent of the British Indian Department, and the principal chiefs of the Ottawa, Potawatomi, Chippewa and Wyandot negotiated a treaty whereby the British Crown acquired title to what is now southwestern Ontario. This treaty completed the process begun with Niagara treaties of 1781 and 1784, with the result that most of the Ontario peninsula was soon opened to British and Loyalist settlement.

Later, on September 29, 1795, McKee obtained a preliminary agreement from several Ojibwa Chiefs to set apart land at Chenail Ecarté for the purpose of establishing a Reserve for those who lost their lands and homes during the last stages of the American Revolution War (Willig 2008). A preliminary agreement was signed by which the Crown offered to pay £1,200 for these lands (Willig 2008). On September 7, 1796, the Chenail Ecarté Treaty was signed by the Ojibwa and Odawa chiefs (Lytwyn 2009). Figure 5 provides an early illustration by Abraham Iredell of the Chenail Ecarté Treaty lands (Government of Canada n.d.b; see also Curnoe 1996:166). Today, this treaty is more commonly identified as Treaty Number 7, identified by the letter “J” on Figure 4. This treaty comprises “...a tract of land near the River called Chenail Ecarte...[to include] the Township of Sombra in Lambton County and the Gore of Chatham



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Township in Kent County” (Morris 1943:21). This tract of land is also illustrated on Figure 3, dating to September 7, 1796.

Treaty Number 21 is adjacent to the eastern edge of the study area for the Project. Treaty Number 21 was an agreement made on March 9, 1819, between John Aiken, on behalf of the Crown, and the Chippewa. Treaty Number 21 is illustrated on Figure 4 by the letter “R”. The lands of Treaty Number 21 commence:

...at the northerly side of the River Thames at the south west angle of the Township of London; thence along the western boundary of the Township of London, in a course north 21 degrees, 30 minutes west, twelve miles to the north west angle of the said Township; then on a course about south 62 degrees and 30 minutes west forty-eight miles more or less until it intersects a line on a course produced north two miles from the north east angle of the Shawnee [Sombra] Township; then along the eastern boundary line of the said Township, twelve miles and a half more or less to the northern boundary line of the Township of Chatham; then east twenty-four miles more or less to the River Thames; then along the water[']s edge of the River Thames against the stream to the place of beginning, reserving a tract of land situate[d] on the northerly side of the River Thames nearly opposite to the northerly angle of the Township of Southwold and south west angle of the Del[a]ware Township containing 15,360 acres; also reserving two miles square distant about four miles above the rapids where the Indians have their improvements and nearly parallel to the Moravian Village containing 5,120 acres.

(Morris 1943:24-25)

To the north of the study area for the Project, the chiefs of the Chippewa and representatives of the Crown established a tract of land south of Lake Huron as Treaty Number 27 ½. Figure 4 provides an approximate outline of Treaty Number 27 ½, illustrated by the letter “T”, based on a series of compilations by Morris (1943). The lands of Treaty Number 27 ½ are described as:

...being an agreement made at Amherstburg in the Western District of the Province of Upper Canada on the 26th of April, 1825, between James Givens, Esquire, Superintendent of Indian Affairs, on behalf of His Majesty King George the Fourth and the Chiefs and Principal Men of the part of the Chippewa Nation of Indians, inhabiting and claiming the tract of land Wawanosh Township in the County of Huron was named after Way-way-nosh the principal Chief of the Band making this Treaty.

(Morris 1943:26)

The nature of Indigenous settlement size, population distribution, and material culture shifted as European settlers encroached upon Indigenous territory. However, despite this shift, “written accounts of material life and livelihood, the correlation of historically recorded villages to their archaeological manifestations, and the similarities of those sites to more ancient sites have revealed an antiquity to documented cultural expressions that confirms a deep historical continuity to...systems of ideology and thought” (Ferris 2009:114). As a result, Indigenous peoples of southern Ontario have left behind archaeological resources throughout the region which show continuity with past peoples, even if they have not been explicitly recorded in Euro-Canadian documentation.



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1.2.2 Euro-Canadian Resources

The study area extends though the numerous geographic townships in Lambton County. In discussing 19th century historical atlas mapping it must be remembered that many historical county atlases were produced primarily to identify factories, offices, residences, and landholdings of subscribers and were funded by subscription fees. Landowners who did not subscribe were not always listed on the maps (Caston 1997:100). As such, structures were not necessarily depicted or placed accurately (Gentilcore and Head 1984). As noted earlier, review of historical mapping has inherent accuracy difficulties due to potential error in georeferencing. Due to changes in “fixed” locations over time (e.g., road intersections, road alignments, water courses, etc.), errors/difficulties of scale and the relative idealism of the historical cartography, historical maps may not translate accurately into real space points. This may provide obvious inconsistencies during historical map review. Table 1 in Section 1.2 provides a summary of the historical townships comprising the study area.

In 1791, the Provinces of Upper Canada and Lower Canada were created from the former Province of Quebec by an act of British Parliament. At this time, Colonel John Graves Simcoe was appointed as the Lieutenant Governor of Upper Canada and was tasked with governing the new province, directing its settlement and establishing a constitutional government modelled after that of Britain (Petryshyn 1985). In 1792, Simcoe divided Upper Canada into 19 counties consisting of previously settled lands, new lands opened for settlement, and lands not yet acquired by the Crown. These new counties stretched from Essex in the west, to Glengarry in the east.

Lambton County was part of the District of Hesse, which in 1792 was renamed the Western District. The Western District consisted of Kent (which included Lambton County) and Essex Counties. Lambton County was named after John George Lambton, first Earl of Durham. Lambton was the author of the Durham Report, which investigated the issues that led to the rebellion of 1837. The townships in Lambton County were not completely surveyed until 1835. After the Municipal Act of 1849, which provided a means of government for towns and counties, several counties amalgamated and separated over the next few years with the former Kent County, with Lambton County finally becoming independent in 1853. Lambton County was known as the ‘Last Frontier’, as Lambton was one of the last areas of southern Ontario to be settled by European immigrants (Elford 1982).

1.2.2.1 Geographic Township of Moore

Moore Township, with its easy accessibility to the St. Clair River, was one of the first areas in Lambton County to be settled by European immigrants. Fifteen French-speaking and five English-speaking families were among the first Euro-Canadians to settle the area. Part of Moore Township was bought from the Aamjiwnaang First Nation in 1827 and a reserve was partitioned for the Indigenous community along the township’s northern border. The township was named after Sir John Moore, the celebrated British General killed in the Battle of Corunna, in 1829. The survey of Moore township was completed in 1829 by Roswell Mount who squeezed as many lots along the St. Clair River front as possible for veterans of the Napoleonic Wars. Figure 6 illustrates a portion of the 1829 plan of Moore Township. No Indigenous notations are depicted near the study area on the 1829 plan of Moore Township. In the southwest corner of the township, the 1829 plan dedicates 2,575 acres as an “Indian Reserve”.



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The 1880 *Illustrated Historical Atlas of the County of Lambton, Ontario* (Belden & Co. 1880) illustrates Moore Township in the late 19th century (Figure 7). Several early communities are depicted on the 1880 map, such as: Brigden, Courtright, Mooretown, and Corunna. The early community of Froomfield is illustrated to the west of the study area. Though the interior of the township had been settled, the population of the township and economic centres continue to be focused along the St. Clair River, particularly in the community of Corunna. The population of Moore Township had reached 5,146 by 1881, thanks in large part to the advent of the Canada Southern Railway (Mika and Mika 1981). Within the Stage 1 study area for the Project, several landowners, structures, and other historical notations are illustrated on the 1880 map of Moore Township, as well as historical transportation routes and portions of primary water sources such as Black Creek and the Sydenham River (see Figure 7). Table 2 summarizes the applicable landowner and historical information from the 1880 map of Moore Township.

Table 2: Applicable Landowner and Historical Information from the 1880 Map of Moore Township

Lot	Concession	Landowner	Comment
1	1	L. Shepherd	No structures illustrated.
5	1	Est. of E. Stephens	No structures illustrated.
8	1	Est. of E. Stephens	No structures illustrated.
9	1	Albert R. Rittermaster	Structure illustrated on west side of lot, adjacent to historical roadway.
4	2	Wm. J. Priest	No structures illustrated.
5	2	Est. of E. Stephens	No structures illustrated.
10	2	Smith Stephens	Structure illustrated on north side of lot, adjacent to historical roadway.
12	2	None illustrated	Structure illustrated on north side of lot, adjacent to historical roadway.
15	2	Donald Taylor	"B.S." with structure illustrated on north side of lot, adjacent to historical roadway – likely a black smith and forge.
16	2	Donald Taylor	Structure illustrated on east side of lot, adjacent to historical roadway.
21	2	Geo Taylor; Chas. Reilley	Structure illustrated in northwest corner of lot, adjacent to historical roadway.
7	3	Smith Stephens	No structures illustrated.
12	3	None illustrated	Church and Waubuno Post Office (P.O.) illustrated on south side of lot, adjacent to historical roadway.
17	3	Jno. Taylor	Structure illustrated on south side of lot, adjacent to historical roadway.
21	3	Chas. Coyle	Structure illustrated on west side of lot, adjacent to historical roadway.
2	4	James Bullock	Structure illustrated in northern portion of lot, likely fronting historical roadway to the north.
7	4	None illustrated	Structure illustrated in northeast corner of lot, adjacent to historical roadways.



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Lot	Concession	Landowner	Comment
8	4	Peter Brown	"B.K." with an adjacent indeterminate notation in northwest corner of lot, adjacent to historical roadway – likely a brick kiln.
10	4	Peter Duncan; Robt. Brown	No structures illustrated.
11	4	Robt. Brown	No structures illustrated.
12	4	J.B. McKinnon	No structures illustrated.
1	5	None illustrated	"S.M", a sawmill, illustrated on east side of lot, adjacent to historical roadway and rail line.
3	5	Alex Watson	Structure illustrated in central portion of lot.
5	5	Chas. S. Duncan	No structures illustrated.
6	5	Chas. S. Duncan	Structure illustrated on west side of lot, north of Sydenham River and adjacent to historical roadway. Portion of Brigden town plot illustrated in southwest corner of lot.
7	5	Nathaniel Boswell	No structures illustrated north of rail line. Brigden town plot, plus two mills, illustrated in southern portion of lot.
8	5	Peter Brown	Structure illustrated in southern end of lot, adjacent to south side of rail line.
9	5	R. Brown Sr.; Peter Brown	Two structures illustrated north of rail line. Possible quarry illustrated south of rail line.
10	5	Robt. Brown; Mrs. Margaret Brown	Two structures illustrated north of rail line on east side of the lot, adjacent to historical roadway.
11	5	Jno Hewer	Structure illustrated on south side of lot, between historical roadway and rail line.
16	5	W. Kimball	Kimball P.O. and Rail Station and Store illustrated in southeast corner of lot.
21	5	Chas. Reilly	No structures illustrated.
4	6	John Farqharson	No structures illustrated.
5	6	John Farqharson	No structures illustrated.
6	6	James Welsh	Structure illustrated on south side of lot. Store and Cheese Factory illustrated in northwest corner of lot.
7	6	None illustrated	Birkwall P.O. and additional structure illustrated in northeast corner of lot.
10	6	None Illustrated	Church with cemetery illustrated in northeast corner of lot.
16	6	None illustrated	Structure illustrated on east side of lot, adjacent to historical roadway.
18	6	Thos. Johnston	Structure illustrated on north side of lot, adjacent to historical roadway.
19	6	Wm. McDonald; Jas. Jarvis	Structure illustrated in northeast corner of lot, adjacent to historical roadway.
1	7	None illustrated	Church with cemetery illustrated on east side of lot, adjacent to historical roadway.
2	7	Wm Wilson	Structure illustrated in southern end of lot.
4	7	Alex Watson	No structures illustrated.



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Lot	Concession	Landowner	Comment
14	7	James Lang	Structure illustrated on south end of lot, adjacent to historical roadway.
15	7	None illustrated	Town Hall illustrated in southwest corner of lot.
18	7	Jno J. Eyre	Structure illustrated on south end of lot, adjacent to historical roadway.
19	7	J.H. Sippwell	Structure illustrated on south end of lot, adjacent to historical roadway.
21	7	J.B. McKinnon	Structure illustrated on south end of lot, adjacent to historical roadway.

1.2.2.2 Geographic Township of Sombra

Originally named Shawnese Township, the Township of Sombra was surveyed in 1820 by Deputy Surveyor T. Smith (Dalgety 1984). It was the first block of land purchased by the Crown in Lambton County and was named Sombra (the Spanish word for shade) as it was heavily wooded. An early survey plan of the township, drawn in 1820, depicts a sparsely populated block of land, with numerous areas identified as swamp and marsh land. The few land grant recipients noted on the survey are concentrated along major waterways, including the St. Clair River, Bear Creek (now Sydenham River), and Otter Creek. The 1820 survey of Sombra Township, confirmed by an examination of the accompanying field notes, illustrates an Indigenous presence in the township (Figure 8). In the southern portion of the township, along the banks of Bear Creek (now Sydenham River), there are two “Sugar Camps” and an “Indian Corn Field” illustrated. A third “Sugar Camp” is illustrated in the northwestern portion of the township. The lineage of these camps and cornfields can be traced to current community members of the Walpole Island First Nation (personal communication; Jared Macbeth, March 31, 2016). The importance of the sugar camps was further communicated by Dr. Dean Jacobs. These camps were economic centres which brought various groups and families together, which provided individuals and families the opportunity to socialize, trade, and share stories (personal communication; Dr. Dean Jacobs, March 31, 2016).

As illustrated by the 1820 survey, the Township of Sombra was poorly drained during early settlement by Euro-Canadian immigrants. In fact, Belden & Co. (1880:17) note that “...much of the area of the township is and for many years must continue to be a comparative swamp, though much is being done, and with effect too, to redeem the hitherto useless lands and increase the value of those already occupied by a system of drain which has already begun to bear good fruit, and will someday transform the whole of Sombra into a continuous expanse of valuable and fertile lands.” The extent of modern-day municipal drains throughout Sombra Township (as well as others involved in the study area) attests to the concerted efforts of reclaiming land.

The 1880 historical atlas of Lambton County (Belden & Co. 1880) shows the extent to which Sombra Township was settled by the late 19th century (Figure 9). Similar to the 1820 survey, settlement of the township in the late 19th century was initially dependent more on rivers than constructed roads as evidenced by landowner clustering along the St. Clair and Sydenham Rivers. The first post office in Sombra Township opened in 1851 in Sombra Village and later, in 1852, a post office was opened in



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Wilkesport (Dalgety 1984). As a result of municipal restructuring in 2001, the townships of Sombra and neighbouring Moore were amalgamated and re-identified as the Township of St. Clair. Within the Stage 1 study area for the Project, several landowners, structures, and other historical notations are illustrated on the 1880 map of Sombra Township, as well as historical transportation routes and portions of primary water sources such as the Sydenham River, Black Creek, and Crooked Creek (see Figure 9). Table 3 summarizes the applicable landowner and historical information from the 1880 map of Sombra Township.

Table 3: Applicable Landowner and Historical Information from the 1880 Map of Sombra Township

Lot	Concession	Landowner	Comment
17	11	Geo Ramsay (southern half); Wm Kimball (northern half)	No structures illustrated
18	11	Geo Ramsay (southern half); Wm Kimball (northern half)	No structures illustrated
13	12	Urias Dawson	Structure illustrated on north side of lot, adjacent to historical roadway.
14	12	Rev. R. Hooper	Portion of Wilkesport town plot in northern part of lot, with hotel and two sawmills illustrated independently.
15	12	None illustrated	Portion of Wilkesport town plot in northwest part of lot, with a sawmill and store illustrated independently.
16	12	None illustrated	Portion of Wilkesport town plot in northern part of lot.
11	13	Chas A Witherell; Henry A Brown	Structures illustrated on south side of lot, adjacent to historical roadway.
13	13	Henry A Brown (southern half)	Structure illustrated on south side of lot, adjacent to historical roadway.
14	13	Wm Kimball	Portion of Wilkesport town plot in southeast corner of lot.
17	13	Abraham Dawson (northern half)	No structures illustrated.
18	13	Abraham Dawson	No structures illustrated.
19	13	Abraham Dawson	Structure illustrated on north side of lot, adjacent to historical roadway and Black Creek.
20	13	George Lucas	No structures illustrated.
21	13	George Ramsay	No structures illustrated.
22	13	George Ramsay	No structures illustrated.
23	13	Jno J McNiece	Structure illustrated on north side of lot, adjacent to historical roadway.
13	14	E. Shaw (northern half); J. Elbwood (southern half)	No structures illustrated.
14	14	Chas A. Witherell (northern half); J. Elbwood (southern half)	Structure illustrated on north side of lot, adjacent to historical roadway.
15	14	Chas A. Witherell (northern half)	No structures illustrated.
16	14	Peter Knight (northern half)	No structures illustrated.



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Lot	Concession	Landowner	Comment
20	14	None illustrated	Structure illustrated in southeast corner of northern half of lot, adjacent to historical roadway.
22	14	George Ramsay	Structure illustrated in southern half of lot, adjacent to Black Creek.
23	14	Peter Wilson; Chas Wilson	Structures illustrated in southern half of lot, adjacent to Black Creek.
25	14	None illustrated	Bradshaw P.O. and other structure illustrated in southern half of lot, adjacent to historical roadway. Indeterminate notation illustrated in northeast corner of lot, likely associated with the church and cemetery situated in adjacent lot to the east.
26	14	Wm Richards	Church, cemetery, and other structure illustrate in northwest corner of lot, adjacent to historical roadway.
28	14	Archibald Tiderington	Structure illustrated on north side of lot, adjacent to historical roadway.
29	14	Jas Smith	Structure illustrated on north side of lot, adjacent to historical roadway.
16	15	Peter Knight	No structures illustrated.
17	15	Peter Knight	Structure illustrated on north side of lot, adjacent to historical roadway and Sydenham River.
24	15	Alex Taylor (northern half)	Structure illustrated on east side of lot, adjacent to historical roadway.
25	15	Alex Taylor (northern half)	Structure illustrated on south side of northern half of lot, adjacent to historical roadway.
27	15	Edward Arnold (southern half)	Structure illustrated on north side of southern half of lot, adjacent to historical roadway.
28	15	Jno Croft (southern half)	Structure illustrated on south side of lot, adjacent to historical roadway.

1.2.2.3 Geographic Township of Enniskillen

The Township of Enniskillen was named after the Earl of Enniskillen from Ireland. Deputy Surveyor Lewis Burwell hired Eliakim Malcolm to survey Enniskillen Township in 1832. Many of the lots within the Township of Enniskillen were assigned to the British soldiers who served in the War of 1812 (Elford 1982). Large portions of the township were known to contain forested swamps and often impassable wetland areas. An early survey plan of the township, originally drawn in 1833, depicts lots and concession numbers, but does not include any names of land grants, and illustrates various major and minor watercourses located within township boundaries (Figure 10).

The 1880 historical atlas of Lambton County (Belden & Co. 1880) shows the extent to which Enniskillen Township was settled by the late 19th century (Figure 11). Early Euro-Canadian settlement of the township was slow, with the township's population indicated as only 150 people in 1850. The 1861 census of Enniskillen Township states that only a few people initially settled in the township known by many as a "miserable swamp" (Canada Census 1861). According to the 1861 census there were 1,069 Enniskillen township occupants. The fortunes of the township changed in mid-1850 after the discovery of



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oil in Enniskillen Township. One of the first oil wells drilled in North America was in Lot 16, Concession 2 owned by James Miller Williams (Ball and Phelps 2021). The historical plaque erected in Oil Springs by the Historic Sites and Monuments Board of Canada identifies the first oil wells in Canada (Ontario Plaques 2021b):

The presence of oil in this locality was observed by early travelers and by the pioneer farmers who used it for medical purposes. In 1858, near Oil Springs, James M. Williams dug the first oil well in Canada and later established a refinery at Hamilton. In 1861, John Shaw, by drilling into the rock, opened the first flowing well, its situation being Lot 18, Concession 2, Enniskillen Township. From these beginnings developed one of Canada's most important industries.

Initially the discovery of petroleum did not have a positive effect on the overall township population. Many unoccupied lots were purchased or leased by oil speculators, who kept them out of reach of the Euro-Canadian inhabitants. At the end of 1862, there were 1,000 oil wells and 10 refineries in Enniskillen Township, and by 1866 there were estimated 1,500 wells in operation. Much of the product was refined in nearby Oil Springs until the discovery of the Petrolia oil field and the construction of the railway connecting Petrolia with the Great Western Railway at Wyoming. The last quarter of the 19th century saw an increase in township settlement due to changes to provincial legislation allowing farmers to have ditches made along the concession lines and have them paid for by the taxes levied on all adjacent lands. Once the oil boom subsided in 1870s the township became an agricultural community with improved drainage and roadways (Elford 1982). Within the Stage 1 study area for the Project, several landowners, structures, and other historical notations are illustrated on the 1880 map of Enniskillen Township, as well as historical transportation routes and portions of primary water sources such as the Sydenham River, Black Creek, and Durham Creek (see Figure 11). Table 4 summarizes the applicable landowner and historical information from the 1880 map of Enniskillen Township.

Table 4: Applicable Landowner and Historical Information from the 1880 Map of Enniskillen Township

Lot	Concession	Landowner	Comment
4	2	A.B. Mitchell	No structures illustrated.
1	3	Robert Brown	No structures illustrated.
4	3	James Durance	Structure illustrated in southwest corner of lot, adjacent to historical roadway.
5	3	None illustrated	Structure illustrated on south side of lot, adjacent to historical roadway.
1	4	Jas. Bullock	No structures illustrated.
2	6	Thos. Barwise	Structure illustrated on north side of lot, adjacent to historical roadway.
1	7	Thos. Barwise	Structure illustrated on west side of lot, adjacent to historical roadway.
3	7	John Stapleton	No structures illustrated. Portion of the "Old Sarnia & Oil Springs Plank Road" (the Plank Road) illustrated within lot.
4	7	None illustrated	Portion of the Plank Road illustrated within lot.
5	7	None illustrated	Structure illustrated in southwest corner of lot, adjacent to historical roadway. Portion of the Plank Road illustrated within lot.



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1.2.2.4 Geographic Township of Dawn

Dawn Township was surveyed in 1821 by Shubal Park, and settlement by European immigrants officially started in 1822. An early survey plan of the township, originally drawn in 1821, depicts numerous land grant recipients, and illustrates how land grants changed over time, with multiple names denoted in each lot, with many overlapping each other. The 1821 survey of Dawn Township (Government of Ontario n.d.) confirmed by an examination of the accompanying field notes, also illustrates an Indigenous presence in the township, particularly along the banks of Bear Creek, now known as the Sydenham River (Figure 12). One instance of an “Indian Clearing” and one instance of an “Indian Village” are noted on the 1821 map. The 1821 survey map also indicates that much of the township at that time was poorly drained, as depicted by greenish shading along the surveyed concessions and sidelines.

Dawn Township was originally connected with three other townships to form one municipal unit consisting of 147 taxpayers (Lauriston 1949). The township was densely wooded and had poor drainage, which held back Euro-Canadian settlement in the 1800s. The majority of land was not cleared, and most clearings were only between five and 25 acres (Lauriston 1949). By 1835, Dawn Township was its own municipality; although a portion of Dawn Township was lost to Kent County when Lambton and Kent Counties split in 1849. In 1850, the township still only numbered 429 people. With sawmills in use by the 1870s, growth picked up; by 1881 the population was 2,026 and by 1901 grew to 3,659 (Elford 1982). However, even by 1901, only half of the land in Dawn Township was cultivated, and reliable roadways had not been built; most concession roads could not be traversed their entire length until the 1920s (Elford 1982). After 1901, many Euro-Canadian settlers left the township for Western Canada with the promise of 160 free acres, causing the population of Dawn Township to decrease. However, during this time, the oil and gas resources that the area became known for were starting to be developed, which also discouraged land clearance for agricultural purposes. By 1980, 1,796 people lived in Dawn Township (Elford 1982). Drainage continues to be an issue throughout the township and much of the poorly drained land is used as pasture for beef cattle. The remaining land is used for production of corn, soybeans, hay, tomatoes, and cereal crops.

The 1880 *Illustrated Historical Atlas of Lambton County, Ontario* (Belden & Co. 1880) illustrates Dawn Township in the late 19th century (Figure 13). The township is illustrated as largely being settled (at least by those who had subscribed to the atlas and had their names associated with the map) along the eastern boundaries coinciding with the location of the Sydenham River near Florence. Within the Stage 1 study area for the Project, no landowners, structures, or other historical notations are illustrated on the 1880 map of Dawn Township. In other areas of the township, outside of the study area, several landowners, structures, and other historical notations are illustrated, as well as historical transportation routes and portions of primary water sources such as the Sydenham River (see Figure 13).

1.2.3 Summary

The historical context of the study area for the Project includes numerous examples of Indigenous and early Euro-Canadian resources. Historical mapping depicts Indigenous notations and numerous Euro-Canadian residential, commercial, and industrial structures within and adjacent to the study area. The majority of the study area has been subject to European-style agricultural practices for over 100 years,



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having been densely populated by Euro-Canadian farmers by the late 19th century. Portions of the study area have been cleared of forest and have had extensive drainage systems installed to reclaim swamp and marshland as agricultural field.

1.3 ARCHAEOLOGICAL CONTEXT

1.3.1 Natural Environment

Generally, the soil composition of the study area comprises clay to silt textured till, derived from glaciolacustrine deposits or shale, and modern alluvial deposits, composed of clay, silt, sand, gravel, and organic remains (Ontario Geological Survey 2010). Such conditions are suitable for Indigenous and Euro-Canadian agriculture, especially following the implementation of municipal drainage systems and agricultural field tiling in the 19th and 20th centuries. The study area is situated within the St. Clair Clay Plain physiographic region. This region is described as:

Adjoining Lake St. Clair in Essex and Kent County Counties and the St. Clair River in Lambton County are extensive clay plains covering 2,270 square miles. The region is one of little relief, lying between 575 and 700 feet a.s.l., except for the moraine at Ridgetown and Blenheim which rises 50 to 500 feet higher....Glacial Lake Whittlesey, which deeply covered all of these lands, and Lake Warren which subsequently covered nearly the whole area, failed to leave deep stratified beds of sediment on the underlying clay till except around Chatham, between Blenheim and the Rondeau marshes, and in a few other smaller areas. Most of Lambton and Essex Counties, therefore, are essentially till plains smoothed by shallow deposits of lacustrine clay which settled in the depressions while the knolls were being lowered by wave action.

(Chapman and Putnam 1986:147)

Potable water is the single most important resource for any extended human occupation or settlement and since water sources in southwestern Ontario have remained relatively stable over time, proximity to drinkable water is regarded as a useful index for the evaluation of archaeological site potential. In fact, distance to water is one of the most commonly used variables for predictive modeling of archaeological site location in Ontario. Primary water sources, such as the Sydenham River, Black Creek, Indian Creek, Plum Creek, Crooked Creek, Nichol Creek, Jarvis Creek, Clay Creek, and Booth Creek, as well as tributaries and seasonal offshoots thereof, are located throughout the study area.

1.3.2 Pre-contact Indigenous Resources

This portion of southwestern Ontario has been occupied by Indigenous peoples since the retreat of the Wisconsin glacier approximately 11,000 years ago. Much of what is understood about the lifeways of Indigenous peoples is derived from archaeological evidence and ethnographic analogy. In Ontario, Indigenous culture prior to the period of contact with European peoples has been distinguished into cultural periods based on observed changes in material culture. These cultural periods are largely based in observed changes in formal lithic tools, and separated into the Early Paleo-Indian, Late Paleo-Indian, Early Archaic, Middle Archaic, and Late Archaic periods. Following the advent of ceramic technology in the Indigenous archaeological record, cultural periods are separated into the Early Woodland, Middle



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Woodland, and Late Woodland periods, based primarily on observed changes in formal ceramic decoration. It should be noted that these cultural periods do not necessarily represent specific cultural identities but are a useful paradigm for understanding changes in Indigenous culture through time. The current understanding of Indigenous archaeological culture is summarized in Table 5, based on Ellis and Ferris (1990). The provided time periods are based on the “Common Era” calendar notation system, i.e., Before Common Era (BCE) and Common Era (CE).

Table 5: Generalized Cultural Chronology Related to the Study Area

Period	Characteristics	Time Period	Comments
Early Paleo-Indian	Fluted Projectiles	9000 – 8400 BCE	Spruce parkland, caribou hunters
Late Paleo-Indian	Hi-Lo Projectiles	8400 – 8000 BCE	Smaller but more numerous sites
Early Archaic	Kirk and Bifurcate Base Points	8000 – 6000 BCE	Slow population growth
Middle Archaic	Brewerton-like Points	6000 – 2500 BCE	Environment similar to present
Late Archaic	Narrow Point	2500 – 1800 BCE	Increasing site size
	Broad Point	1800 – 1500 BCE	Large chipped lithic tools
	Small Point	1500 – 1100 BCE	Introduction of bow hunting
Terminal Archaic	Hind Points	1100 – 950 BCE	Emergence of true cemeteries
Early Woodland	Meadowood Points	950 – 400 BCE	Introduction of pottery
Middle Woodland	Couture Corded Pottery	400 BCE – 500 CE	Increased sedentism
	Riviere au Vase Phase	500 – 800 CE	Seasonal hunting and gathering
Late Woodland	Young Phase	800 – 1200 CE	Incipient agriculture
	Springwells Phase	1200 – 1400 CE	Agricultural villages
	Wolf Phase	1400 – 1550 CE	Earth worked villages, warfare
Contact Indigenous	Various Algonkian and Iroquoian Groups	1600 – 1875 CE	Early written records and treaties
Historic	French/Euro-Canadian	1749 CE – present	European settlement

Between 9000 and 8000 BCE, Indigenous populations were sustained by hunting, fishing, and foraging and lived a relatively mobile existence across an extensive geographic territory. Despite these wide territories, social ties were maintained between groups. One method in particular was through gift exchange, evident through exotic lithic material documented on many sites (Ellis 2013:35-40).

By approximately 8000 BCE, evidence exists and becomes more common for the production of ground-stone tools such as axes, chisels and adzes. These tools themselves are believed to be indicative specifically of woodworking. This evidence can be extended to indicate an increase in craft production and arguably craft specialization. This latter statement is also supported by evidence dating to approximately 7000 BCE of ornately carved stone objects which would be laborious to produce and have explicit aesthetic qualities (Ellis 2013:41). This is indirectly indicative of changes in social organization which permitted individuals to devote time and effort to craft specialization. Since 8000 BCE, the Great Lakes basin experienced a low-water phase, with shorelines significantly below modern lake levels (Stewart 2013: Figure 1.1.C). It is presumed that the majority of human settlements would have been focused along these former shorelines. At approximately 6500 BCE the climate had warmed considerably



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since the recession of the glaciers and the environment had grown more similar to the present day. By approximately 4500 BCE, evidence exists from southern Ontario for the utilization of native copper (naturally occurring pure copper metal) (Ellis 2013:42). The known origin of this material along the north shore of Lake Superior indicates the existence of extensive exchange networks across the Great Lakes basin.

At approximately 3500 BCE, the isostatic rebound of the North American plate following the melt of the Laurentide glacier had reached a point which significantly affected the watershed of the Great Lakes basin. Prior to this, the Upper Great Lakes had drained down the Ottawa Valley via the French-Mattawa River valleys. Following this shift in the watershed, the drainage course of the Great Lakes basin had changed to its present course. This also prompted a significant increase in water-level to approximately modern levels (with a brief high-water period); this change in water levels is believed to have occurred catastrophically (Stewart 2013:28-30). This change in geography coincides with the earliest evidence for cemeteries (Ellis 2013:46). By 2500 BCE, the earliest evidence exists for the construction of fishing weirs (Ellis *et al.* 1990: Figure 4.1). Construction of these weirs would have required a large amount of communal labour and are indicative of the continued development of social organization and communal identity. The large-scale procurement of food at a single location also has significant implications for permanence of settlement within the landscape. This period is also marked by further population increase and by 1500 BCE evidence exists for substantial permanent structures (Ellis 2013:45-46).

By approximately 950 BCE, the earliest evidence exists for populations using ceramics. Populations are understood to have continued to seasonally exploit natural resources. This advent of ceramic technology correlated, however, with the intensive exploitation of seed foods such as goosefoot and knotweed as well as mast such as nuts (Williamson 2013:48). The use of ceramics implies changes in the social organization of food storage as well as in the cooking of food and changes in diet. Fish also continued to be an important facet of the economy at this time. Evidence continues to exist for the expansion of social organization (including hierarchy), group identity, ceremonialism (particularly in burial), interregional exchange throughout the Great Lakes basin and beyond, and craft production (Williamson 2013:48-54).

By approximately 550 CE, evidence emerges for the introduction of maize into southern Ontario. This crop would have initially only supplemented the Indigenous diet and economy (Birch and Williamson 2013:13-14). Maize-based agriculture gradually became more important to societies and by approximately 900 CE permanent communities emerge which are primarily focused on agriculture and the storage of crops, with satellite locations oriented toward the procurement of other resources such as hunting, fishing, and foraging. By approximately 1250 CE, evidence exists for the common cultivation of historic Indigenous cultigens, including maize, beans, squash, sunflower, and tobacco. The cultural affiliation of populations within the region of the study area at this time period is debated, whether they may have spoken a form of Iroquoian language or Algonquian (Murphy and Ferris 1990). The extant archaeological record demonstrates many cultural traits similar to historical Indigenous nations (Williamson 2013:55).



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By the Late Woodland period there was a distinctive cultural occupation in southwestern Ontario, including Essex, Kent, and Lambton counties, which includes the western portion of the study area. The primary Late Woodland occupants of the western portion of the study area were populations described by archaeologists as belonging to the Western Basin Tradition. Murphy and Ferris (1990:189) indicate that these people had ties with populations in southeastern Michigan and northwestern Ohio and represent an *in situ* cultural development from the earlier Middle Woodland groups. The Western Basin Tradition seems to have been centered in the territory comprising the eastern drainage basin of Lake Erie, Lake St. Clair, and the southern end of Lake Huron. The Western Basin Tradition is divided into four phases based on differences in settlement and subsistence strategies and pottery attributes: Riviere au Vase, Younge, Springwells, and Wolf. By the time of increased European interaction in the early 17th century, there were no Western Basin Tradition sites in the Essex County area, having moved west into Michigan (Ferris 2009:32-33).

1.3.3 Registered Archaeological Sites and Surveys

In Canada, archaeological sites are registered within the Borden system, a national grid system designed by Charles Borden in 1952 (Borden 1952). The grid covers the entire surface area of Canada and is divided into major units containing an area that is two degrees in latitude by four degrees in longitude. Major units are designated by upper case letters. Each major unit is subdivided into 288 basic unit areas, each containing an area of 10 minutes in latitude by 10 minutes in longitude. The width of basic units reduces as one moves north due to the curvature of the earth. In southern Ontario, each basic unit measures approximately 13.5 kilometres east-west by 18.5 kilometres north-south. In northern Ontario, adjacent to Hudson Bay, each basic unit measures approximately 10.2 kilometres east-west by 18.5 kilometres north-south. Basic units are designated by lower case letters. Individual sites are assigned a unique, sequential number as they are registered. These sequential numbers are issued by the MHSTCI who maintain the *Ontario Archaeological Sites Database*. The study area under review is located within Borden Blocks AeHn, AeHo, and AfHn.

Information concerning specific site locations is protected by provincial policy and is not fully subject to the *Freedom of Information and Protection of Privacy Act* (Government of Ontario 1990b). The release of such information in the past has led to looting or various forms of illegally conducted site destruction. Confidentiality extends to media capable of conveying location, including maps, drawings, or textual descriptions of a site location. The MHSTCI will provide information concerning site location to the party or an agent of the party holding title to a property, or to a licensed archaeologist with relevant cultural resource management interests.

An examination of the *Ontario Archaeological Sites Database* has shown that there are 32 archaeological sites registered within the study area or within one kilometre of the study area (Government of Ontario 2021a). Tile 1 in the Supplementary Documentation to this report provides an illustration of the location of the registered archaeological sites in relation to the broad study area. None of the registered archaeological sites are located within 50 metres of the Preliminary Preferred Route. Table 6 provides a summary of the registered archaeological sites.



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Table 6: Registered Archaeological Sites

Borden Number	Site Name	Site Type	Cultural Affiliation
AeHn-3	James Thompson	Findspot	Indigenous
AeHn-4	Booth Creek	Camp	Indigenous
AeHn-5	Mitchell	Findspot	Indigenous
AeHn-6	Bentpath-Rosedale 1	Homestead	Euro-Canadian
AeHn-9	Bentpath-Rosedale 2	Camp	Indigenous
AeHn-10	Not applicable (n/a)	Refuse	Euro-Canadian
AeHn-11	Location 13	Homestead	Euro-Canadian
AeHn-12	Location 1	Homestead	Euro-Canadian
AeHn-13	Location 2	Scatter	Indigenous
AeHo-2	Dawn 2	Camp	Indigenous
AeHo-3	Dawn 3	Scatter	Indigenous
AeHo-4	Dawn 4	Midden	Euro-Canadian
AeHo-5	Dawn 5	Homestead	Euro-Canadian
AeHo-17	Graham	Camp	Indigenous
AeHo-18	Bruin	Homestead	Euro-Canadian
AeHo-19	Tecumseh A	Homestead	Euro-Canadian
AeHo-20	Tecumseh B	Homestead	Euro-Canadian
AeHo-21	J. Ward	Homestead	Euro-Canadian
AeHo-22	R. Rish	Findspot	Indigenous
AeHo-23	Albert Perkins	Camp	Indigenous
AeHo-25	Richard Coughlin	Camp	Indigenous
AeHo-26	James Cameron	Camp	Indigenous
AeHo-31	Black Creek Line	Camp	Indigenous
AeHo-32	Kimball Road	Camp	Indigenous
AeHo-33	Kimball Road 2	Camp	Indigenous
AeHo-34	Robert Grant	Camp; Homestead	Indigenous; Euro-Canadian
AeHo-35	Wilkesport	Camp, burial	Indigenous
AeHo-147	Zhashгаа Wiiskbing	Camp	Indigenous
AeHo-148	Location 1	Scatter	Indigenous
AeHo-149	Location 4	Scatter	Indigenous
AfHn-6	Helen Thompson	Findspot	Indigenous
AfHn-14	n/a	Camp	Indigenous

A query of the *Ontario Public Register of Archaeological Reports* indicates that there have been several previous archaeological studies undertaken within the study area or within 50 metres of the study area (Government of Ontario 2021b). However, as the MHSTCI does not currently maintain an accessible or searchable database of archaeological assessment areas or study areas, additional archaeological



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assessments and studies may have occurred, or are occurring, within or adjacent to the current study area. Based on an examination of the queried reports, none document registered archaeological sites within 50 metres of the Preliminary Preferred Route.

Several of the queried reports represent archaeological assessments prior to 2011 when mapping and artifact recording standards were less precise than today's standards. As it relates to the current Stage 1 study area for the Project, a detailed review of all possible early assessments and reports is not meaningful for this phase of the Project. Despite some previous archaeological assessments overlapping with the current and broad Stage 1 study area, Stantec has determined that illustrating all the previously surveyed areas is not practical given the size and scale of the current study area and the quality of mapping provided in some of the previous archaeological assessment reports. Table 7 summarizes some of the previous archaeological assessments which may document work related to the study area for the Project. Entries that are **bolded** in Table 7 document archaeological fieldwork which may impact the anticipated construction easement and temporary lands for the Project and are discussed further below. However, following confirmation of the construction easement for the Preliminary Preferred Route and delineation of any temporary lands required for the Project, the proximity of previous archaeological assessments and previously surveyed lands will be re-evaluated.

Table 7: Archaeological Assessments Related to the Study Area

Year	Report Title	Consultant	Project Information Form (PIF) Number
1995a	<i>Archaeological Assessment (Stages 1, 2 and 3), Wilkesport & Selman Bridges, County Road 31, Township of Sombra, County of Lambton, Ontario</i>	Mayer Heritage Consultants Inc. (MHCI)	94-005; 95-044
1995b	<i>Archaeological Monitoring (Stage 4), Wilkesport & Selman Bridges, County Road 31, Township of Sombra, County of Lambton</i>	MHCI	95-044
1999	<i>The 1999 Stage 1-III Archaeological Assessment of the Proposed Enbridge Consumers Gas, Wilkesport/Coveny Connection Project, Lambton County, Ontario</i>	D.R. Poulton & Associates Inc. (DRP)	1999-031-018; 1999-031-018-STG3
2000	<i>Supplementary Report on the 1999 Archaeological Investigations of the Wilkesport Site (AeHo-35) and the Wilkesport/Coveny Connection Project, Lambton County, Ontario</i>	DRP	1999-031-018; 1999-031-018-STG3
2013a	<i>The 2012 Stage 1-2 Archaeological Assessment of the Proposed Wilkesport Meter Station, Part of Lot 15, Concession 13, Geographic Township of Sombra, The Corporation of the Township of St. Clair, Lambton County Ontario</i>	DRP	P242-018-2012; P242-024-2012
2013b	<i>The 2012 Stage 4 Archaeological Excavations of the Zhashgaa Wiiskabing Site (AeHo-147), Part of Lot 15, Concession 13, Geographic Township of Sombra, The Corporation of the Township of St. Clair, Lambton County Ontario</i>	DRP	P242-029-2012
2014	<i>Stage 1 Archaeological Assessment: Payne-Sarnia Reinforcement Pipeline, Lots 21 to 27, Concession 6 to 9, Geographic Township of Moore, now Township of St. Clair, Lambton County, Ontario</i>	Stantec	P256-0045-2014
2015	<i>The 2014 Stage 1-2 Archaeological Assessment of the Proposed Enbridge Gas Distribution Inc. Wilkesport Storage Well Project, Part of Lot 15, Concession 13, Geographic Township of Sombra,</i>	DRP	P316-0284-2014



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Year	Report Title	Consultant	Project Information Form (PIF) Number
	<i>The Corporation of the Township of St. Clair, Lambton County, Ontario</i>		
2015a	<i>Stage 2 Archaeological Assessment: Payne-Sarnia Reinforcement Pipeline, Part of Lot 21 Concession 7, Lots 21 and 26 Concession 8 and Lots 22 to 26 Concession 9, Geographic Township of Moore, now Township of St. Clair, Lambton County, Ontario</i>	Stantec	P256-0199-2014
2015b	Stage 1-2 Archaeological Assessment: Dawn Parkway System, Dawn H Compressor Station Project, Part of Lots 25, 26 and 27, Concession 2, Geographic Township of Dawn, now Township of Dawn-Euphemia, Lambton County, Ontario	Stantec	P389-0215-2015
2016	<i>Stage 1 Archaeological Assessment: Panhandle Reinforcement Project (Dawn – Dover), Parts of Various Lots and Concessions, Geographic Township of Dawn, now Township of Dawn-Euphemia, and Geographic Township of Sombra, now Township of St. Clair, Lambton County; and Geographic Townships of Chatham and Dover, now Municipality of Chatham-Kent, Ontario</i>	Stantec	P256-0388-2015
2017a	Stage 2 Archaeological Assessment: Panhandle Reinforcement Project (Dawn – Dover), Parts of Various Lots and Concessions, Geographic Township of Dawn, now Township of Dawn-Euphemia, and Geographic Township of Sombra, now Township of St. Clair, Lambton County; and Geographic Townships of Chatham and Dover, now Municipality of Chatham-Kent, Ontario	Stantec	P256-0401-2016
2017b	<i>Stage 1 Archaeological Assessment: Dawn-Enniskillen Pipeline Project, Parts of Various Lots and Concessions, Geographic Township of Dawn, now Township of Dawn-Euphemia and Township of Enniskillen, Lambton County, Ontario</i>	Stantec	P083-0272-2016
2017c	<i>Stage 3 Archaeological Assessment: Location 13 (AeHn-11), Panhandle Reinforcement Project (Dawn-Dover), Part of Lot 25, Concession 1, Geographic Township of Dawn, now Township of Dawn-Euphemia, County of Lambton, Ontario</i>	Stantec	P256-0410-2016
2017	Stage 1 & 2 Archaeological Assessment, Corunna East Compressor Station, Part of Lot 18, Concession 7, Former Geographic Township of Moore, Now St. Clair Township, County of Lambton, Ontario	Timmins Martelle Heritage Consultants Inc. (TMHC)	P324-0286-2017
2018	<i>Stage 1-2 Archaeological Assessment: Dawn Valley Parcel, Excess Fill Storage, Part of Lot 29, Concession 1, Geographic Township of Dawn, now Township of Dawn-Euphemia, Lambton County, Ontario</i>	Stantec	P256-0543-2018
2019a	<i>Stage 1-2 Archaeological Assessment: Ladysmith Designated Storage Area (DSA) Well TL9H, Lot 20, Concession 5, Geographic Township of Moore, now Township of St. Clair, Lambton County, Ontario</i>	Stantec	P256-0558-2018
2019b	<i>Stage 1-2 Archaeological Assessment: Delta Pressure Project, Part of Lot 14, Concession 13, Geographic Township of Sombra, now Township of St. Clair, Lambton County, Ontario</i>	Stantec	P256-0593-2019
2020a	<i>Stage 1-2 Archaeological Assessment: Kimball-Colinville (TKC 67H) and Payne (UP24) Well Drilling Project, Part of Lot 8,</i>	Stantec	P256-0604-2020



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Year	Report Title	Consultant	Project Information Form (PIF) Number
	<i>Concession 5, and Part of Lot 21, Concession 7, Geographic Township of Moore, now Township of St. Clair, Lambton County, Ontario</i>		
2020b	<i>Stage 1-2 Archaeological Assessment: NPS 16 Wilkesport Pipeline & Gathering System Upgrades, Part of Lot 16, Concession 12, and Part of Lots 14 to 16, Concession 13, Geographic Township of Sombra, now Township of St. Clair, Lambton County, Ontario</i>	Stantec	P256-0614-2020
2020c	<i>Stage 3 Archaeological Assessment: Location 1 (AeHo-148), NPS 16 Wilkesport Pipeline & Gathering System Upgrades, Part of Lot 16, Concession 13, Geographic Township of Sombra, now Township of St. Clair, Lambton County, Ontario</i>	Stantec	P256-0626-2020
2020d	<i>Stage 3 Archaeological Assessment: Location 2 (AeHo-35), NPS 16 Wilkesport Pipeline & Gathering System Upgrades, Part of Lot 16, Concession 13, Geographic Township of Sombra, now Township of St. Clair, Lambton County, Ontario</i>	Stantec	P256-0627-2020
2020e	<i>Stage 3 Archaeological Assessment: Location 4 (AeHo-149), NPS 16 Wilkesport Pipeline & Gathering System Upgrades, Part of Lot 16, Concession 12, Geographic Township of Sombra, now Township of St. Clair, Lambton County, Ontario</i>	Stantec	P256-0630-2020
2020f	<i>Stage 1 Archaeological Assessment: London Lines Replacement Project, Parts of Various Lots and Concession, Multiple Lower Tier Municipalities, Middlesex and Lambton Counties, Ontario</i>	Stantec	P256-0622-2020
2021a	<i>Stage 4 Archaeological Mitigation: Location 4 (AeHo-149), NPS 16 Wilkesport Pipeline & Gathering System Upgrades, Part of Lot 16, Concession 12, Geographic Township of Sombra, now Township of St. Clair, Lambton County, Ontario</i>	Stantec	P256-0643-2020
2021b	<i>Stage 3 Archaeological Assessment: Human Remains at Location 2 (AeHo-35), NPS 16 Wilkesport Pipeline & Gathering System Upgrades, Part of Lot 16, Concession 13, Geographic Township of Sombra, now Township of St. Clair, Lambton County, Ontario</i>	Stantec	P256-0658-2020
2021c	<i>Stage 4 Preliminary Excavation Report: Location 2 (AeHo-35), NPS 16 Wilkesport Pipeline & Gathering System Upgrades, Part of Lot 16, Concession 13, Geographic Township of Sombra, now Township of St. Clair, Lambton County, Ontario</i>	Stantec	P256-0644-2020
2021d	<i>Stage 1-2 Archaeological Assessment: London Lines Replacement Project, Temporary Land Use, Part 1, Parts of Various Lots and Concessions, Multiple Lower Tier Municipalities, Middlesex and Lambton Counties, Ontario</i>	Stantec	P256-0653-2020

Stantec completed Stage 1-2 archaeological assessment for Enbridge Gas' (formerly Union Gas Limited's) Dawn H Compressor Station Project (Stantec 2015b). The study area comprised approximately 30 hectares. During the Stage 2 portion of the assessment, one new archaeological site was identified: Location 1 (AeHn-10). Stantec (2015b) determined that Location 1 (AeHn-10) represented a refuse deposit of very late 19th century and early 20th century Euro-Canadian materials and no further archaeological assessment was recommended. The Stantec (2015b) study area includes the existing Dawn Compressor Station and adjacent lands which may include anticipated lands required as part of the



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Preliminary Preferred Route for the Project. Figure 14 illustrates the Stantec (2015b) study area as it relates to the Project.

As part of Enbridge Gas' (formerly Union Gas Limited's) Panhandle Reinforcement Project (Dawn – Dover), Stantec completed Stage 2 archaeological assessment (Stantec 2017a). The study area comprised approximately 233 hectares and the northernmost portion of the Stantec (2017a) study area overlaps the southern portion of the study area for the Project near the existing Dawn Compressor Station. Figure 14 illustrates a portion of the Stantec (2017a) study area as it relates to the Project. Overall, the Stage 2 assessment (Stantec 2017a) identified 26 new archaeological locations, with 11 locations recommended for Stage 3 assessment. Of those archaeological locations recommended for Stage 3, Location 13 (AeHn-11) is nearest the Project and is greater than 50 metres from the Preliminary Preferred Route. During the Stage 2 assessment, Location 13 (AeHn-11) was identified as a surface scatter of late 19th century Euro-Canadian artifacts (Stantec 2017a).

Stage 3 assessment of Location 13 (AeHn-11) was completed by Stantec (2017c). The Stage 3 archaeological assessment determined that Location 13 (AeHn-11) represented the remnants of a Euro-Canadian homestead constructed around the turn of the 20th century (Stantec 2017c). It was further determined that the cultural heritage value or interest of the site had been sufficiently documented and no further archaeological assessment or mitigation was recommended (Stantec 2017c).

TMHC completed Stage 1-2 archaeological assessment for Enbridge Gas' (formerly Enbridge Gas Distribution Inc.'s) Corunna East Compressor Station (TMHC 2017). The study area comprised approximately 15 hectares. No archaeological resources were identified by TMHC (2017) during the Stage 1-2 archaeological assessment. Figure 14 illustrates the TMHC (2017) study area as it relates to the Project.

1.4 EXISTING CONDITIONS

The Stage 1 archaeological assessment was completed under PIF number P256-0678-2021 issued to Parker Dickson, MA, of Stantec, by the MHSTCI. The study area for the Stage 1 archaeological assessment of the Project comprises approximately 25,400 hectares of various lots and concessions, multiple lower tier municipalities, Lambton County (see Figures 1 and 2, and Table 1). The Project is anticipated to occur within existing and new permanent easement space, with additional temporary easement used during construction. Pipeline installation will occur through an open trench technique, although select features may be crossed using a trenchless method such as bore or horizontal directional drill. Final construction footprint and technique will be determined during detailed design. The current study area for the Stage 1 archaeological assessment is large and serves to capture a broad and generalized geographic area associated with the Project; however, the Stage 1 property inspection focused on lands associated with the Preliminary Preferred Route, which will be approximately 20 kilometres in length. Broadly, much of the study area consists of woodlot, scrubland, and active agricultural field. The study area also includes pockets of modern development which may be extensively disturbed, such as industrial lands, municipal road ROWs, buried infrastructure, rail ways, and other buildings (including residential and commercial structures). Existing conditions are further discussed in Section 2.0.



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2.0 FIELD METHODS

Initial background research compiled information about registered and/or potential archaeological resources within the study area for the Project. A property inspection was conducted for the study area under archaeological consulting license P256 issued to Parker Dickson, MA, of Stantec by the MHSTCI. The property inspection was completed on August 19, 2021, under PIF number P256-0678-2021 in accordance with Section 1.2 of the MHSTCI's 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). The weather during the property inspection was sunny and hot. The weather, visibility, and lighting conditions were sufficient to conduct the property inspection and at no time were conditions detrimental to the identification of features of archaeological potential.

Permission to enter private lands within the study area for the property inspection was not required as photo documentation for the Stage 1 assessment occurred from public spaces and municipal road ROWs. The property inspection involved random spot-checking of the study area, focusing on the lands associated with the Preliminary Preferred Route, to gather information pertaining to features of archaeological potential. Thus, while the final construction easement for the Project has yet to be determined by Enbridge, the property inspection was limited to the lands associated with the Preliminary Preferred Route and the lands immediately adjacent to it, to identify the presence or absence of any features of archaeological potential.

The photography from the property inspection is presented in Section 7.1 and confirms that the requirements for a Stage 1 property inspection were met, as per Section 1.2 and Section 7.7.2 Standard 1 of the MHSTCI's 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). Photos 1 to 28 document the existing conditions of the study area for the Project.

Typical examples of existing Enbridge infrastructure, specifically the Corunna Compressor Station and Dawn Compressor Station, are illustrated in Photos 1, 2, and 23 to 28. These areas are disturbed and retain low to no archaeological potential.

Examples of typical municipal road ROWs and associated ditching are illustrated in Photos 5, 7, 9, 11, 14, 20, and 27. While these areas appear to have impacted by modern development and construction, the degree of disturbance cannot be determined based on visual examination alone and, given the uncertainty surrounding the Project's construction easement, cannot be evaluated as extensively disturbed.

Photos 10 and 21 illustrate typical examples of extant creeks within the study area. These areas are low and permanently wet and retain low to no archaeological potential.

Within the study area, there are some areas which have been subject to recent archaeological assessment and do not require re-survey (i.e., Stantec 2015b, 2017a; and TMHC 2017). These areas retain low to no archaeological potential and were not photo-documented as part of this Stage 1 archaeological assessment.



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Lastly, the majority of the study area comprises agricultural field, manicured lawn, pasture, woodlot, and scrubland. These areas do not appear to have been impacted by previous construction or modern development. The following photos provide typical examples of areas within the study area that have not been impacted by previous construction or modern development: Photos 3, 4, 6, 8, 12, 13, 15 to 19, 22, and 28.

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Analysis and Conclusions

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3.0 ANALYSIS AND CONCLUSIONS

Archaeological potential is established by determining the likelihood that archaeological resources may be present within a study area. Stantec applied archaeological potential criteria commonly used by the MHSTCI (Government of Ontario 2011) to determine areas of archaeological potential within the study area. These variables include proximity to previously identified archaeological sites, distance to various types of water sources, soil texture and drainage, glacial geomorphology, elevated topography, and the general topographic variability of the area. However, it is worth noting that extensive land disturbance can eradicate archaeological potential (Government of Ontario 2011).

Potable water is the single most important resource for any extended human occupation or settlement and since water sources in Ontario have remained relatively stable over time, proximity to drinkable water is regarded as a useful index for the evaluation of archaeological site potential. In fact, distance to water is one of the most commonly used variables for predictive modeling of archaeological site locations. Distance to modern or ancient water sources is generally accepted as the most important determinant of past human settlement patterns and considered alone, may result in a determination of archaeological potential. However, any combination of two or more other criteria, such as well-drained soils or topographic variability, may also indicate archaeological potential. When evaluating distance to water it is important to distinguish between water and shoreline, as well as natural and artificial water sources, as these features affect site location and type to varying degrees. The MHSTCI categorizes water sources in the following manner:

- Primary water sources: lakes, rivers, streams, creeks.
- Secondary water sources: intermittent streams and creeks, springs, marshes, and swamps,
- Past water sources: glacial lake shorelines, relic river or stream channels, cobble beaches, shorelines of drained lakes or marshes.
- Accessible or inaccessible shorelines: high bluffs, swamp or marshy lake edges, sandbars stretching into marsh.

Primary water sources are identified within the Stage 1 study area, including the Sydenham River, Black Creek, Indian Creek, Plum Creek, Crooked Creek, Nichol Creek, Jarvis Creek, Clay Creek, and Booth Creek. Additional ancient and/or relic tributaries of water sources may have existed but are not identifiable today and are not indicated on historic or modern mapping.

The soil composition of the study area generally comprises clay to silt textured till, derived from glaciolacustrine deposits or shale, and modern alluvial deposits, composed of clay, silt, sand, gravel, and organic remains (Ontario Geological Survey 2010). Such conditions are suitable for Indigenous and Euro-Canadian agriculture, especially following the implementation of municipal drainage systems and agricultural field tiling in the 19th and 20th centuries.

An examination of the *Ontario Archaeological Sites Database* has shown that there are 32 archaeological sites registered within the study area or within one kilometre of the study area (Government of Ontario 2021a). Tile 1 in the Supplementary Documentation to this report provides an illustration of the location of the registered archaeological sites in relation to the study area. None of the registered archaeological



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sites are located within 50 metres of the Preliminary Preferred Route for the Project. Early township plans and surveys illustrate an Indigenous presence in much of Lambton County.

Archaeological potential can be extended to areas of early Euro-Canadian settlement, including places of military or pioneer settlements; early transportation routes; and properties listed on the municipal register or designated under the *Ontario Heritage Act* (Government of Ontario 1990a) or property that local histories or informants have identified with possible historical events, activities, or occupations. Historical mapping demonstrates that the study area includes early concession roads with structures illustrated as fronting these roads, particularly along major arterial roads. Much of the established road and rail networks and agricultural settlement from the 19th century are still visible today.

As noted above, extensive and deep land alteration can eradicate archaeological potential. Based on aerial imagery of the Stage 1 study area, there are likely to be pockets of modern disturbance from municipal road ROWs and municipally constructed drains, as well as buildings and structures associated with existing homes and rural properties. However, while a visual examination of the road surface, gravel shoulder, and adjacent ditching of municipal roads may be sufficient to confirm extensive disturbance and removal of archaeological potential, it may not be possible to confirm extensive disturbance of other portions of the municipal road ROWs, particularly those portions immediately adjacent to agricultural fields, through visual examination alone. Thus, these areas are judged to retain archaeological potential and require confirmation of disturbance through additional archaeological assessment.

Further, existing infrastructure, such as municipal infrastructure, buried utilities, and industrial complexes and manufacturing plants, as well as associated tailings ponds and reservoirs, are located within the study area. However, the Stage 1 property inspection was unable to access private lands and, thus, these areas were not specifically examined for evidence of modern disturbance. Thus, while these areas may be extensively disturbed, in the absence of specific visual examination during this Stage 1 assessment they are judged to retain archaeological potential and require confirmation of disturbance through additional archaeological assessment.

A cursory review of several previous archaeological assessments is provided in Section 1.3.3. Few recent surveys have been completed within the study area and those that have been completed did not identify any archaeological sites within 50 metres of the Preliminary Preferred Route or did not identify any archaeological sites still retaining further cultural heritage value or interest (i.e., Stantec 2015b, 2017a; and TMHC 2017). As it relates to the current Stage 1 study area for the Project, a detailed review of all possible early assessments and reports is not relevant. Despite some previous archaeological assessments overlapping with the current Stage 1 study area, Stantec has determined that illustrating all the previously surveyed areas is not practical given the size and scale of the current study area and the quality of mapping provided in some of the early archaeological assessment reports. Following confirmation of the selected route and delineation of any temporary construction easement required for the Project, the proximity of previous archaeological assessments and previously surveyed lands will be re-evaluated.

In summary, it has been determined that the majority of the study area retains potential for the identification of Indigenous and Euro-Canadian archaeological resources. As noted above, numerous industrial complexes, residences, municipal ROWs, and other existing features of potential disturbance



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(e.g., existing roads, railways, residential areas, etc.) are located throughout the study area; however, they were not specifically examined as part of a Stage 1 property inspection and may still retain archaeological potential. Further, additional low and permanently wet areas and areas of steep slope may exist within the study area but were not specifically examined as part of a Stage 1 property inspection. As such, these areas have been included as part of the determination that the study area exhibits potential for the identification and recovery of archaeological resources and will require specific examination during Stage 2 archaeological assessment. A small portion of the study area has been identified as retaining low to no archaeological potential due to existing Enbridge infrastructure, low and permanently wet areas, and areas of previous archaeological assessment. Once the construction easement for the Preliminary Preferred Route and any associated temporary lands for the Project are determined, a refinement of archaeological potential specific to the Project's anticipated impacts will be included as part of the Stage 2 archaeological assessment for the Project.

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4.0 RECOMMENDATIONS

The Stage 1 archaeological assessment determined that the majority of the study area for the Project retains potential for the identification and documentation of archaeological resources. In accordance with Section 1.3.1 and Section 7.7.4 of the MHSTCI's 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), **Stage 2 archaeological assessment is required for any portion of the Project's anticipated construction activities which impact an area of archaeological potential (Figure 14).**

The objective of Stage 2 archaeological assessment will be to document archaeological resources within the study area and to determine whether these archaeological resources require further assessment. The Stage 2 archaeological assessment will include the systematic walking of open ploughed fields as outlined in Section 2.1.1 of the MHSTCI's 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). The MHSTCI's standards further require that all agricultural land, both active and inactive, be recently ploughed and sufficiently weathered to improve the visibility of archaeological resources. Ploughing must be deep enough to provide total topsoil exposure, but not deeper than previous ploughing, and must provide at least 80% ground surface visibility.

Moreover, for areas inaccessible for ploughing, the Stage 2 archaeological assessment will include a test pit survey as outlined in Section 2.1.2 of the MHSTCI's 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). The MHSTCI's standards require that each test pit be at least 30 centimetres in diameter, excavated to at least five centimetres into subsoil, and have soil screened through six-millimetre hardware cloth to facilitate the recovery of any cultural material that may be present. Prior to backfilling, each test pit will be examined for stratigraphy, cultural features, or evidence of fill.

In addition to the above, areas along various roadways were examined as part of the property inspection and disturbances, such as ditching, were evident; however, the proposed Project impacts were not known at the time of the property inspection and so, the specific roadways and municipal ROWs will require further archaeological assessment in accordance with Section 2.1.8 of Standard 2 of the MHSTCI's 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). Portions of the municipal ROW within agricultural or accessible land may require ploughing and pedestrian survey in accordance with Section 2.1.1 of the MHSTCI's 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), depending on the specific Project impact. Confirmation of disturbance will also be required for anticipated Project impacts to other existing features (e.g., existing roads, railways, farm complexes, residences, buried utilities and other infrastructure).

If the archaeological field team determines lands to be low and wet, steeply sloped, or disturbed during the Stage 2 field work, those areas will not require survey, but will be photographically documented in accordance with Section 2.1 of the MHSTCI's 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).



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It is further recommended that engagement with interested Indigenous communities be completed as part of the Stage 2 archaeological assessment for the Project. Indigenous engagement activities must be completed in accordance with the MHSTCI's 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011a) and the MHSTCI's *Engaging Aboriginal Communities in Archaeology: A Draft Technical Bulletin for Consultant Archaeologists in Ontario* (Government of Ontario 2011b).

In addition to the above, the Stage 1 archaeological assessment determined that there are small pockets of previously surveyed lands and disturbed lands within the study area which retain low to no archaeological potential (i.e., Stantec 2015b, 2017a; and TMHC 2017). In accordance with Section 1.3.2 and Section 7.7.4 of the MHSTCI's 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), **Stage 2 archaeological assessment is not required for any portion of the Project's anticipated construction activities which impact a previously surveyed or disturbed area (Figure 14).**

The MHSTCI is asked to review the results presented and to accept this report into the *Ontario Public Register of Archaeological Reports*.

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Advice on Compliance with Legislation

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5.0 ADVICE ON COMPLIANCE WITH LEGISLATION

In accordance with Section 7.5.9 of the MHSTCI's 2011 Standards and Guidelines for Consultant Archaeologists (Government of Ontario 2011), the following standard statements are a required component of archaeological reporting and are provided verbatim from the MHSTCI's 2011 Standards and Guidelines for Consultant Archaeologists (Government of Ontario 2011).

This report is submitted to the Minister of Heritage, Sport, Tourism and Culture Industries as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c O.18 (Government of Ontario 1990a). The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the study area of a development proposal have been addressed to the satisfaction of the MHSTCI, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* (Government of Ontario 1990a) for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the *Ontario Public Register of Archaeological Reports* referred to in Section 65.1 of the *Ontario Heritage Act* (Government of Ontario 1990a)

Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the *Ontario Heritage Act* (Government of Ontario 1990a) The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48(1) of the *Ontario Heritage Act* (Government of Ontario 1990a)

The *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 (Government of Ontario 2002), requires that any person discovering or having knowledge of a burial site shall immediately notify the police or coroner. It is recommended that the Registrar of Cemeteries at the Ministry of Government and Consumer Services is also immediately notified.

Archaeological sites recommended for further archaeological fieldwork remain subject to Section 48(1) of the *Ontario Heritage Act* (Government of Ontario 1990a) and may not be altered, or have artifacts removed, except by a person holding an archaeological license.



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Images

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7.0 IMAGES

7.1 PHOTOGRAPHS

Note: Some photo icons on Figure 14 have been adjusted to not obscure other mapping data.

Photo 1: View of existing Enbridge infrastructure within the study area, facing southeast



Photo 2: View of existing Enbridge infrastructure within the study area, facing northwest



Photo 3: General view of the study area, facing northeast

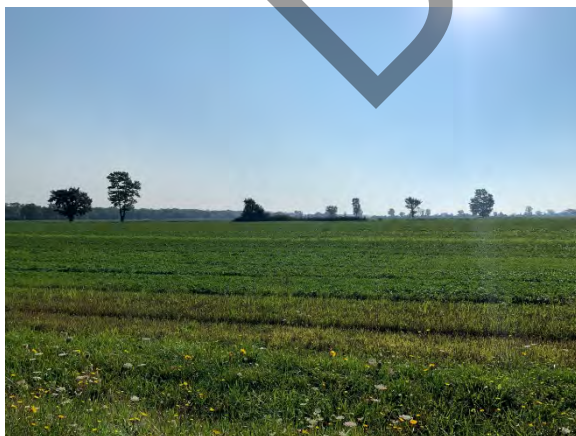


Photo 4: General view of the study area, facing southeast



STAGE 1 ARCHAEOLOGICAL ASSESSMENT: DAWN – CORUNNA PROJECT

Images
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Photo 5: View of typical municipal road ROW with extensive ditching within the study area, facing west



Photo 6: General view of the study area, facing southeast



Photo 7: View of typical municipal road ROW within the study area, facing north



Photo 8: General view of the study area, facing east



STAGE 1 ARCHAEOLOGICAL ASSESSMENT: DAWN – CORUNNA PROJECT

Images
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Photo 9: View of typical municipal road ROW within the study area, facing east



Photo 10: View of typical low and permanently wet watercourse within the study area, facing west



Photo 11: View of typical municipal road ROW within the study area, facing south



Photo 12: General view of the study area, facing east



STAGE 1 ARCHAEOLOGICAL ASSESSMENT: DAWN – CORUNNA PROJECT

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Photo 13: General view of the study area, facing southeast



Photo 14: General view of the study area, facing north

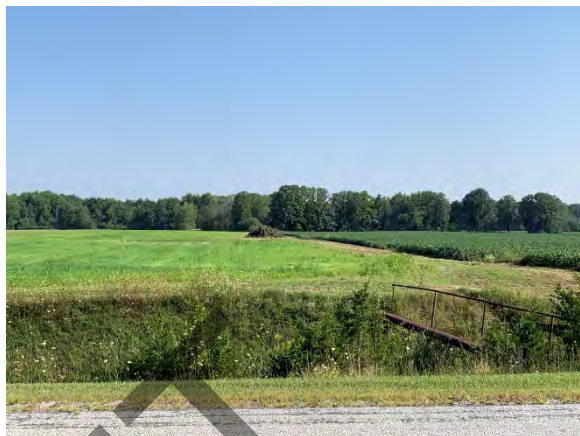


Photo 15: General view of the study area, facing southeast



Photo 16: General view of the study area, facing northwest



STAGE 1 ARCHAEOLOGICAL ASSESSMENT: DAWN – CORUNNA PROJECT

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Photo 17: General view of the study area, facing south



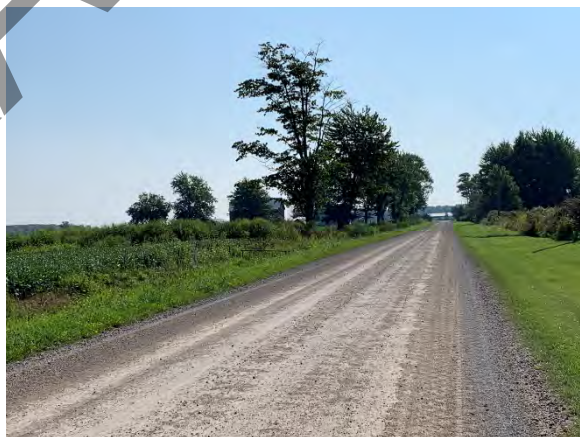
Photo 18: General view of the study area, facing north



Photo 19: General view of the study area, facing south



Photo 20: View of typical municipal road ROW within the study area, facing east



STAGE 1 ARCHAEOLOGICAL ASSESSMENT: DAWN – CORUNNA PROJECT

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Photo 21: View of typical low and permanently wet watercourse within the study area, facing southwest



Photo 22: General view of the study area, facing north

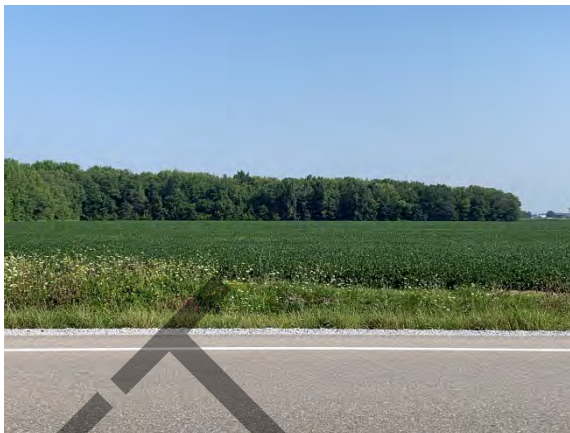


Photo 23: View of existing Enbridge infrastructure within the study area, facing north



Photo 24: View of existing Enbridge infrastructure within the study area, facing northwest



STAGE 1 ARCHAEOLOGICAL ASSESSMENT: DAWN – CORUNNA PROJECT

Images
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Photo 25: View of existing Enbridge infrastructure within the study area, facing southeast



Photo 26: View of existing Enbridge infrastructure within the study area, facing southeast



Photo 27: View of typical municipal road ROW within the study area, facing south



Photo 28: General view of the study area, facing west



STAGE 1 ARCHAEOLOGICAL ASSESSMENT: DAWN – CORUNNA PROJECT

Maps

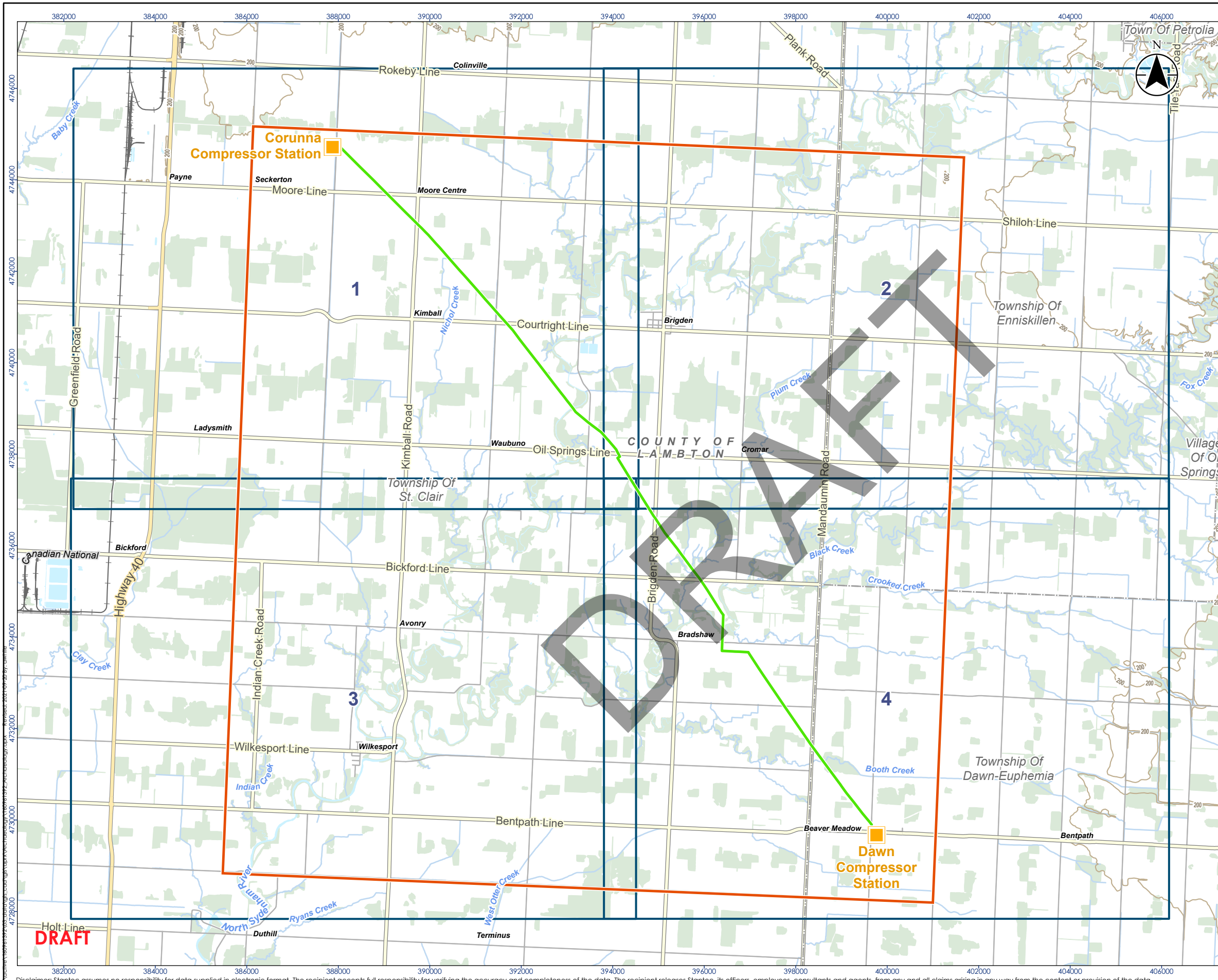
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8.0 MAPS

General maps of the Stage 1 study area are provided on the following pages. Maps identifying exact archaeological site locations do not form part of this public report; they may be found in the Supplementary Documentation.

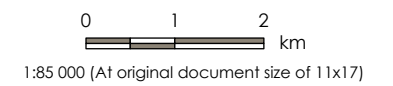
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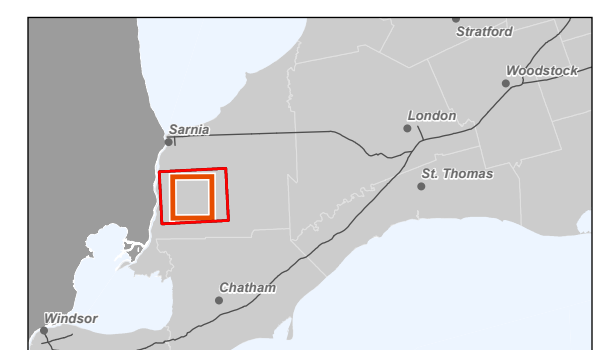


Legend

- Study Area
- 1:40,000 Map Tile
- Existing Station
- Preferred Route
- Municipal Boundary
- Municipal Boundary, Lower
- Highway
- Major Road
- Minor Road
- Minor Road
- Railway
- Contour
- Waterbody
- Watercourse
- Wooded Area



- Notes**
1. Coordinate System: Name: NAD 1983 UTM Zone 17N
 2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2020.
 3. Known Archaeological Sites from MTCs 2021.



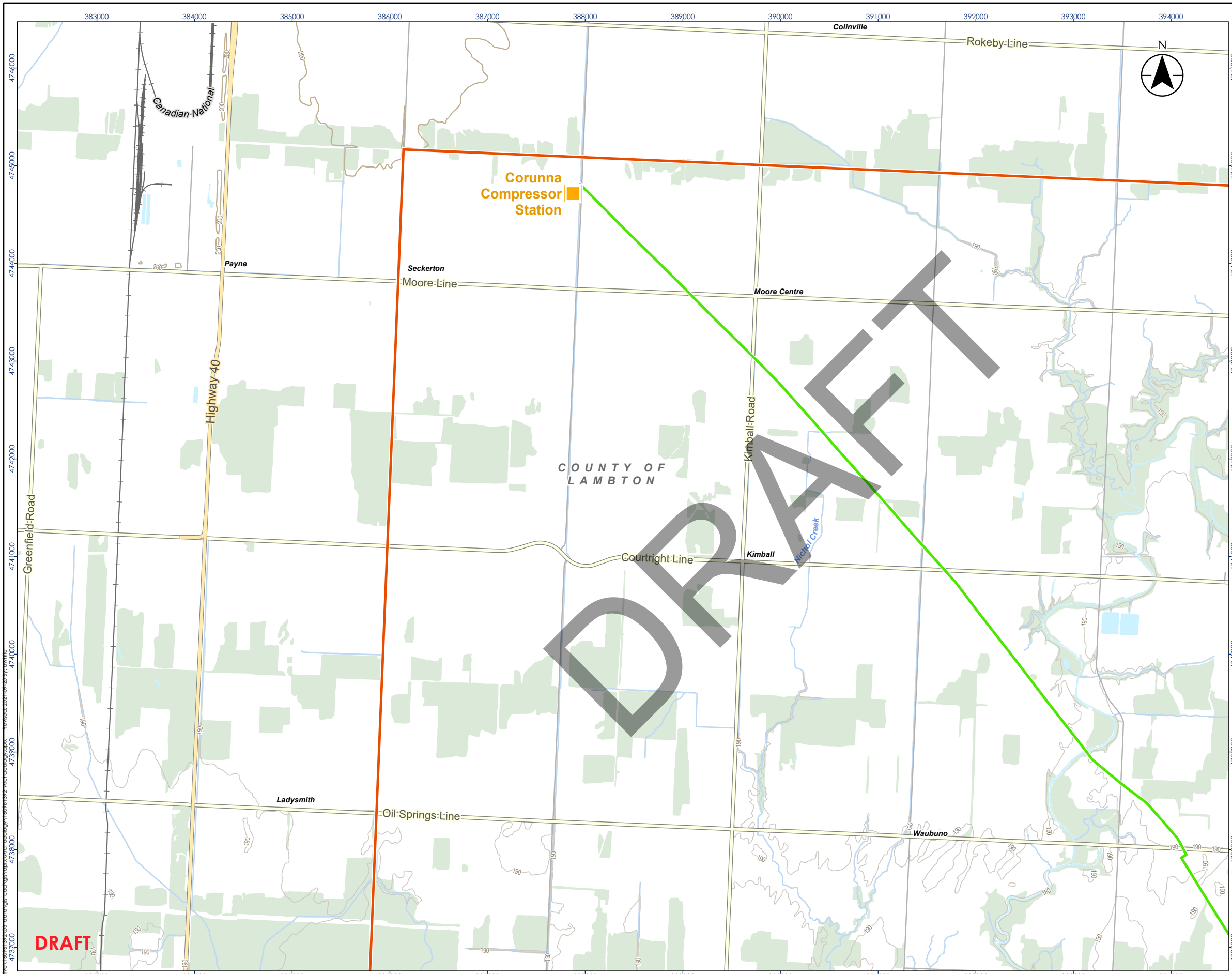
Project Location: Lambton County
 Prepared by: awwhite on 2021-09-20
 Technical Review by: PD on 2021-09-08

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Figure No. **1**

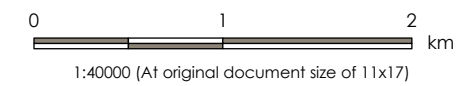
Title: **Location of the Study Area Overview**

DRAFT

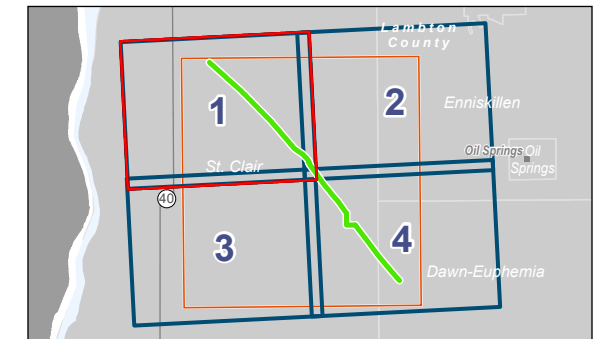


Legend

- Study Area
- Preferred Route
- Existing Station
- Highway
- Major Road
- Minor Road
- Minor Road
- Railway
- Contour
- Watercourse
- Waterbody
- Municipal Boundary
- Municipal Boundary, Lower
- Wooded Area



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Project Location: Lambton County
 Prepared by: awwhite on 2021-09-20
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 Project Number: 160961392 REVA

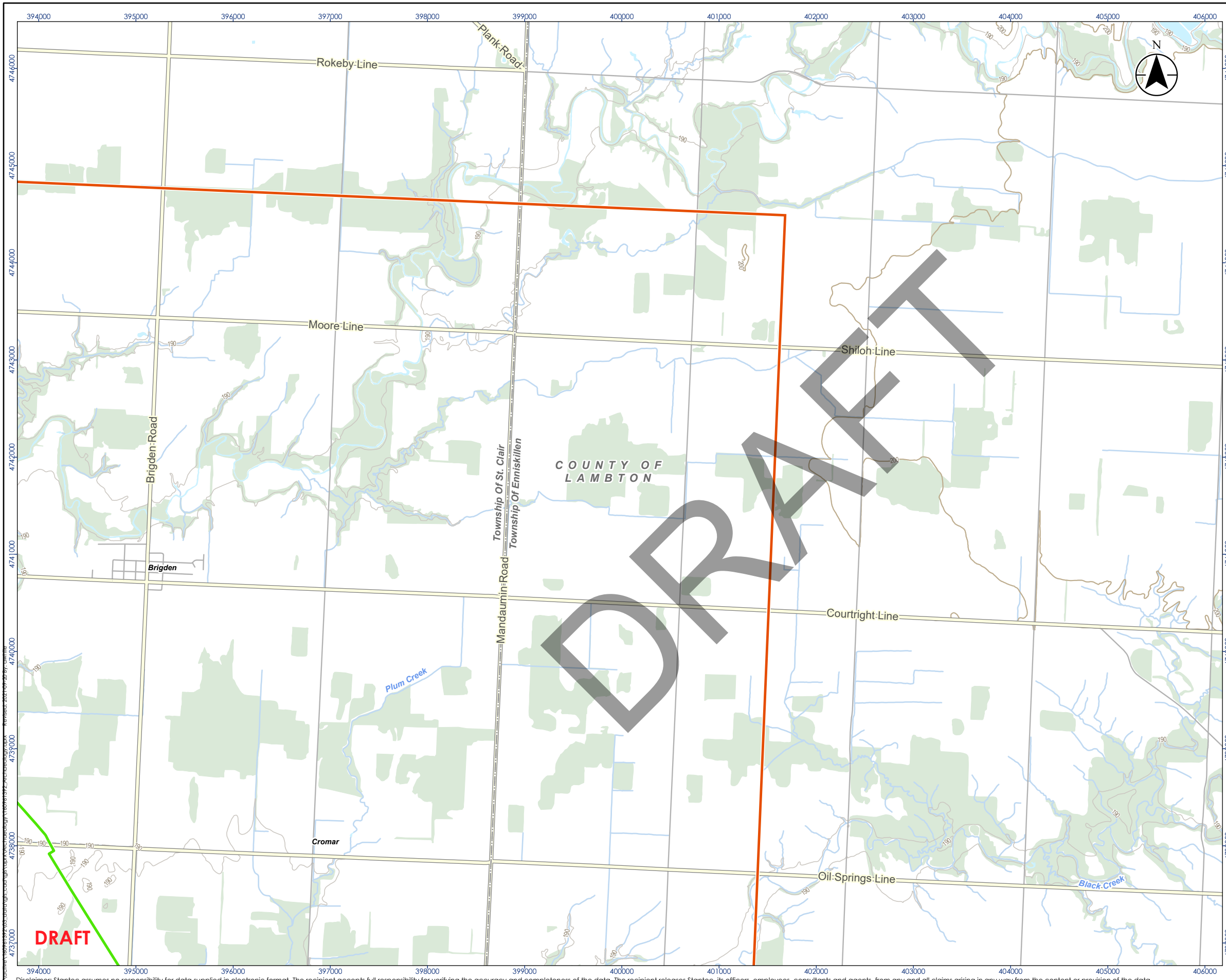
Client/Project: ENBRIDGE GAS INC., DAWN TO CORUNNA PIPELINE PROJECT

Figure No. **1.1** **DRAFT**

Title: **Location of the Study Area Map Book**

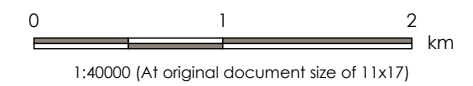
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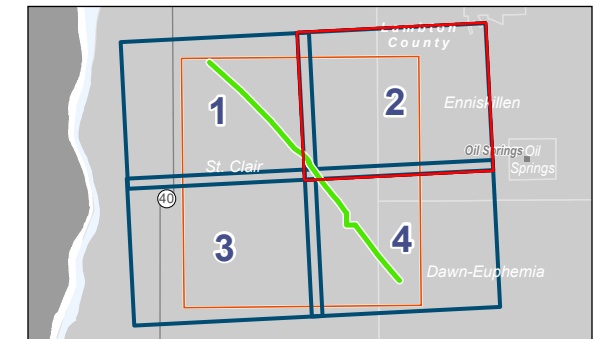


Legend

- Study Area
- Preferred Route
- Major Road
- Minor Road
- Minor Road
- Contour
- Watercourse
- Waterbody
- Municipal Boundary
- Municipal Boundary, Lower
- Wooded Area



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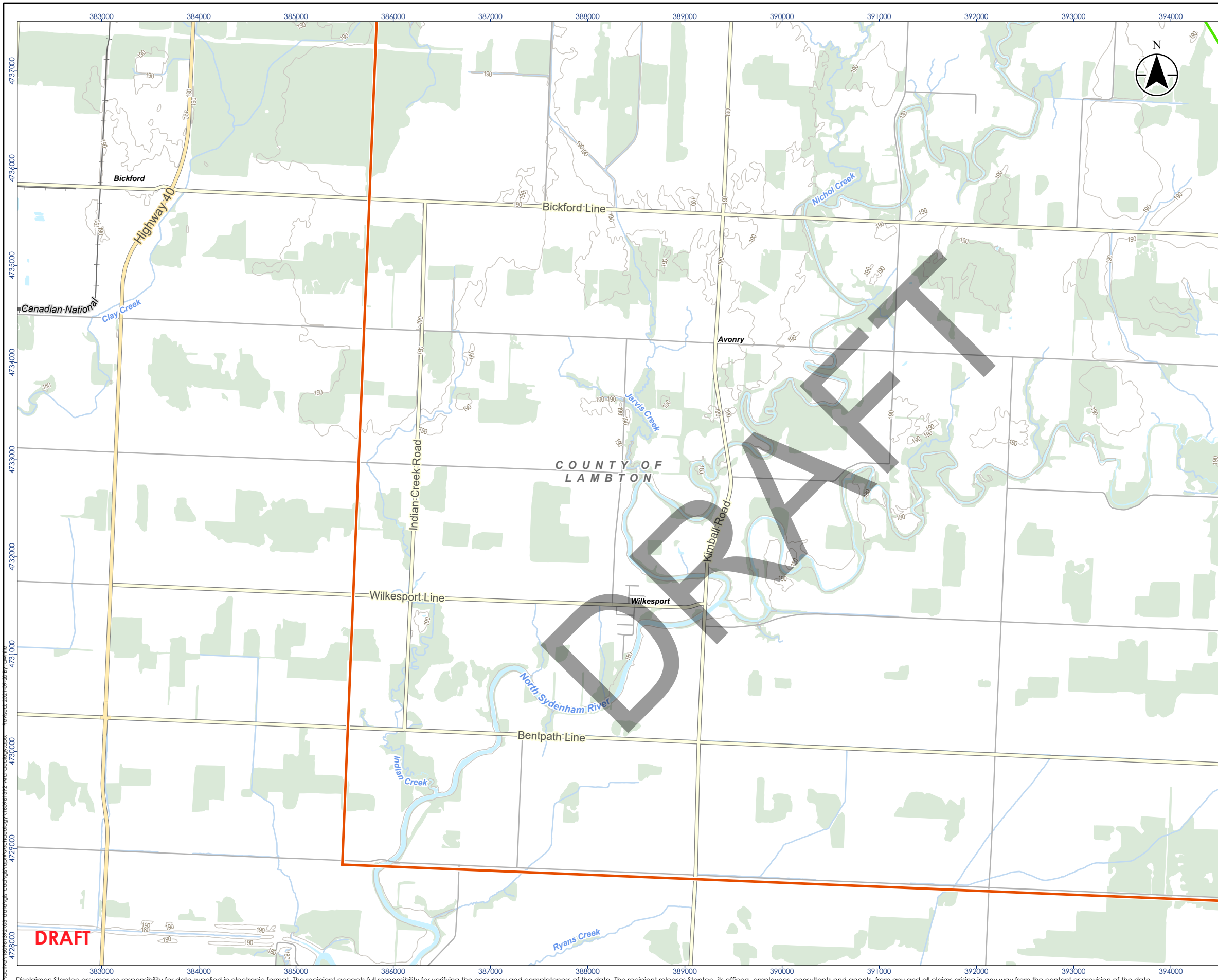


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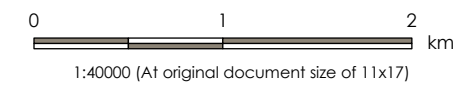
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Title: **Location of the Study Area Map Book**

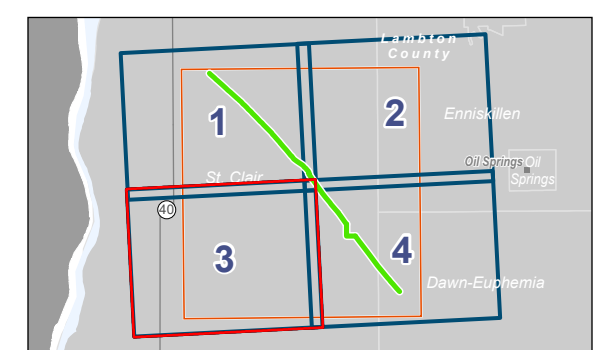


Legend

- Study Area
- Preferred Route
- Highway
- Major Road
- Minor Road
- Minor Road
- Railway
- Watercourse
- Waterbody
- Municipal Boundary
- Municipal Boundary, Lower
- Wooded Area



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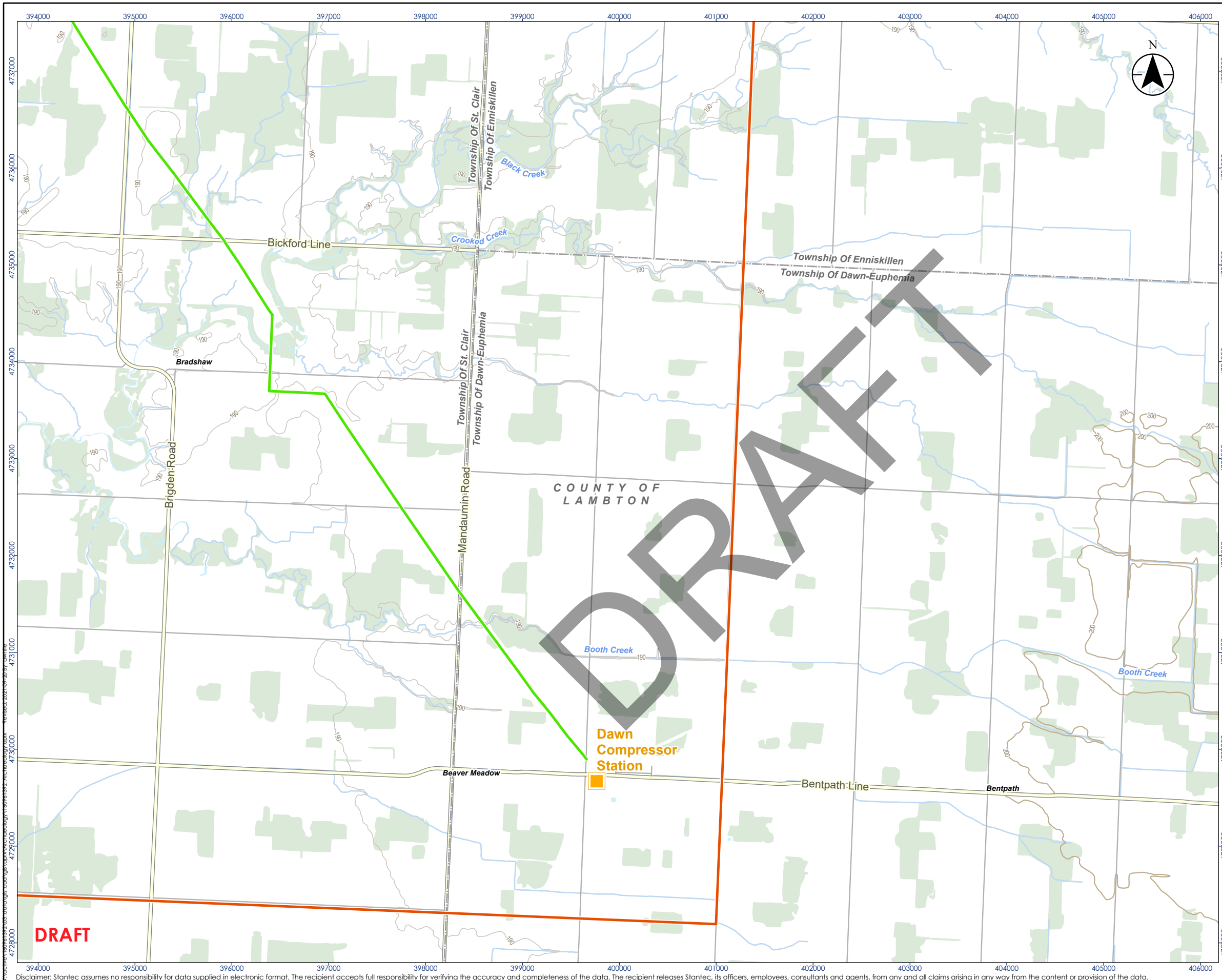
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Figure No. **1.3** **DRAFT**

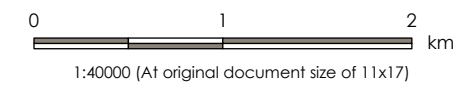
Title: **Location of the Study Area Map Book**

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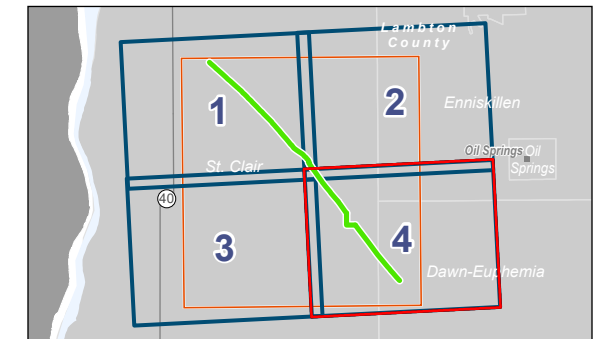


Legend

- Study Area
- Preferred Route
- Existing Station
- Major Road
- Minor Road
- Minor Road
- Contour
- Watercourse
- Waterbody
- Municipal Boundary
- Municipal Boundary, Lower
- Wooded Area



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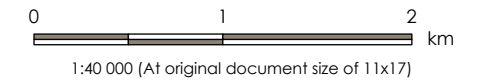
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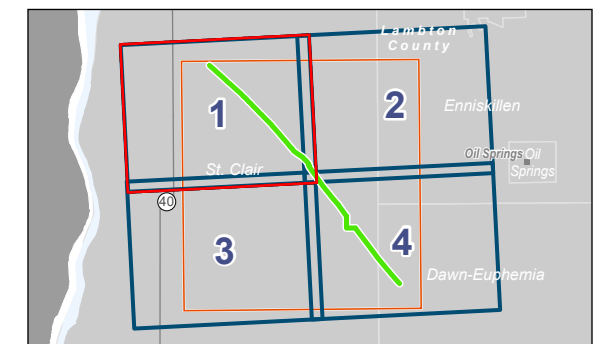


Legend

- Study Area
- Preferred Route
- Existing Station
- Highway
- Major Road
- Minor Road
- Minor Road
- Railway
- Contour
- Watercourse
- Waterbody



- Notes**
1. Coordinate System: Name: NAD 1983 UTM Zone 17N
 2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2020.



Project Location: Lambton County
 Prepared by: awwhite on 2021-09-20
 Technical Review by: PD on 2021-09-08

Client/Project: ENBRIDGE GAS INC., DAWN TO CORUNNA PIPELINE PROJECT

Figure No. **2.1** DRAFT

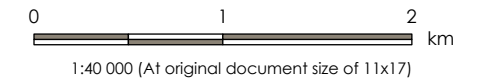
Title: **Location of the Study Area Aerial Map Book**

DRAFT

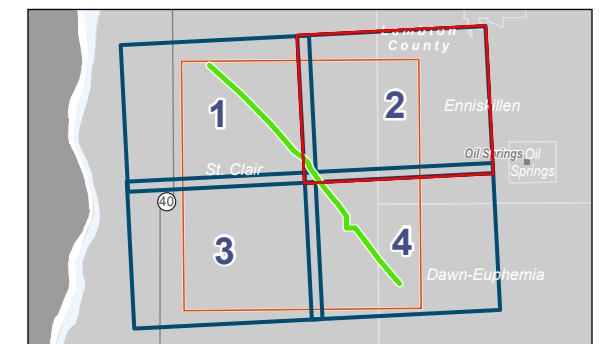


Legend

- Study Area
- Preferred Route
- Major Road
- Minor Road
- Minor Road
- Contour
- Watercourse
- Waterbody



- Notes**
1. Coordinate System: Name: NAD 1983 UTM Zone 17N
 2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2020.



Project Location: Lambton County
 Prepared by: awwhite on 2021-09-20
 Technical Review by: PD on 2021-09-08

Client/Project: ENBRIDGE GAS INC., DAWN TO CORUNNA PIPELINE PROJECT

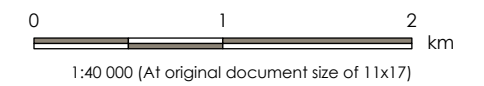
Figure No. **2.2** DRAFT

Title: **Location of the Study Area Aerial Map Book**

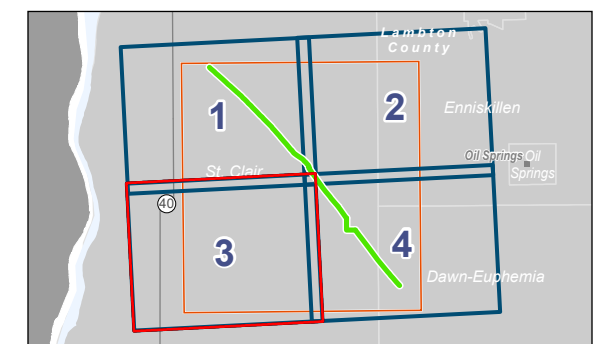


Legend

- Study Area
- Preferred Route
- Highway
- Major Road
- Minor Road
- Minor Road
- Railway
- Watercourse
- Waterbody



- Notes**
1. Coordinate System: Name: NAD 1983 UTM Zone 17N
 2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2020.



Project Location: Lambton County
 Prepared by: awwhite on 2021-09-20
 Technical Review by: PD on 2021-09-08

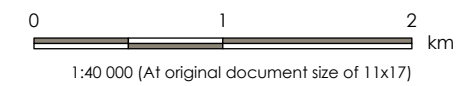
Client/Project: ENBRIDGE GAS INC., DAWN TO CORUNNA PIPELINE PROJECT

Figure No. **2.3** **DRAFT**

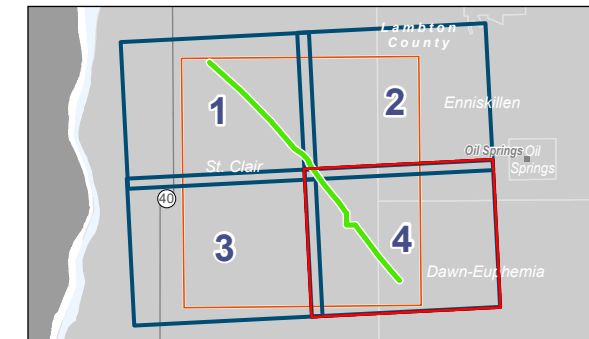
Title: **Location of the Study Area Aerial Map Book**



- Legend**
- Study Area
 - Preferred Route
 - Existing Station
 - Major Road
 - Minor Road
 - Minor Road
 - Contour
 - Watercourse
 - Waterbody



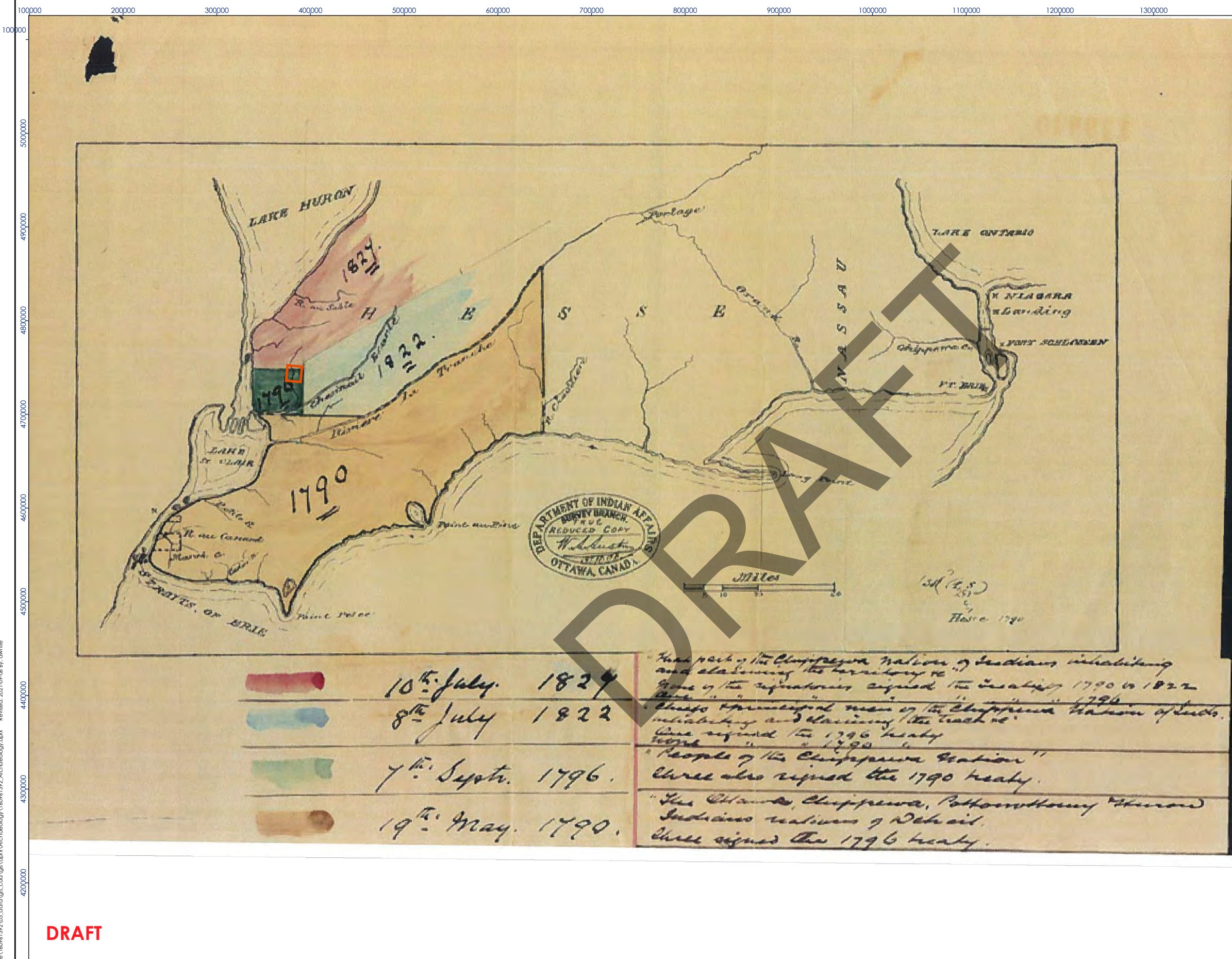
- Notes**
1. Coordinate System: Name: NAD 1983 UTM Zone 17N
 2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2020.



Project Location: Lambton County
 Prepared by: 160961392 REVA
 Technical Review by: PD on 2021-09-08

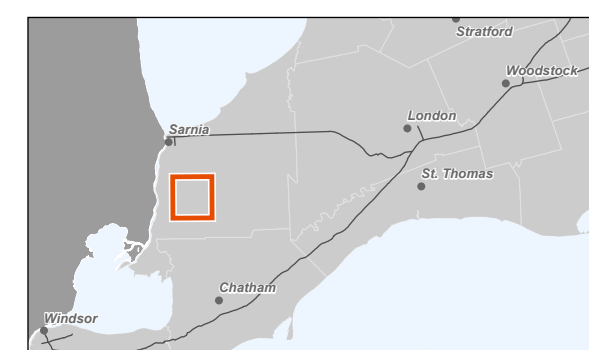
Client/Project: ENBRIDGE GAS INC.
 DAWN TO CORUNNA PIPELINE PROJECT

Figure No. **2.4** **DRAFT**
 Title: **Location of the Study Area**
Aerial Map Book



Legend
 Study Area

Notes
 1. Map not to scale.
 2. Government of Canada, n.d.a. Map of Treaty Areas in Upper Canada, Ottawa: Department of Indian Affairs, Survey Branch.

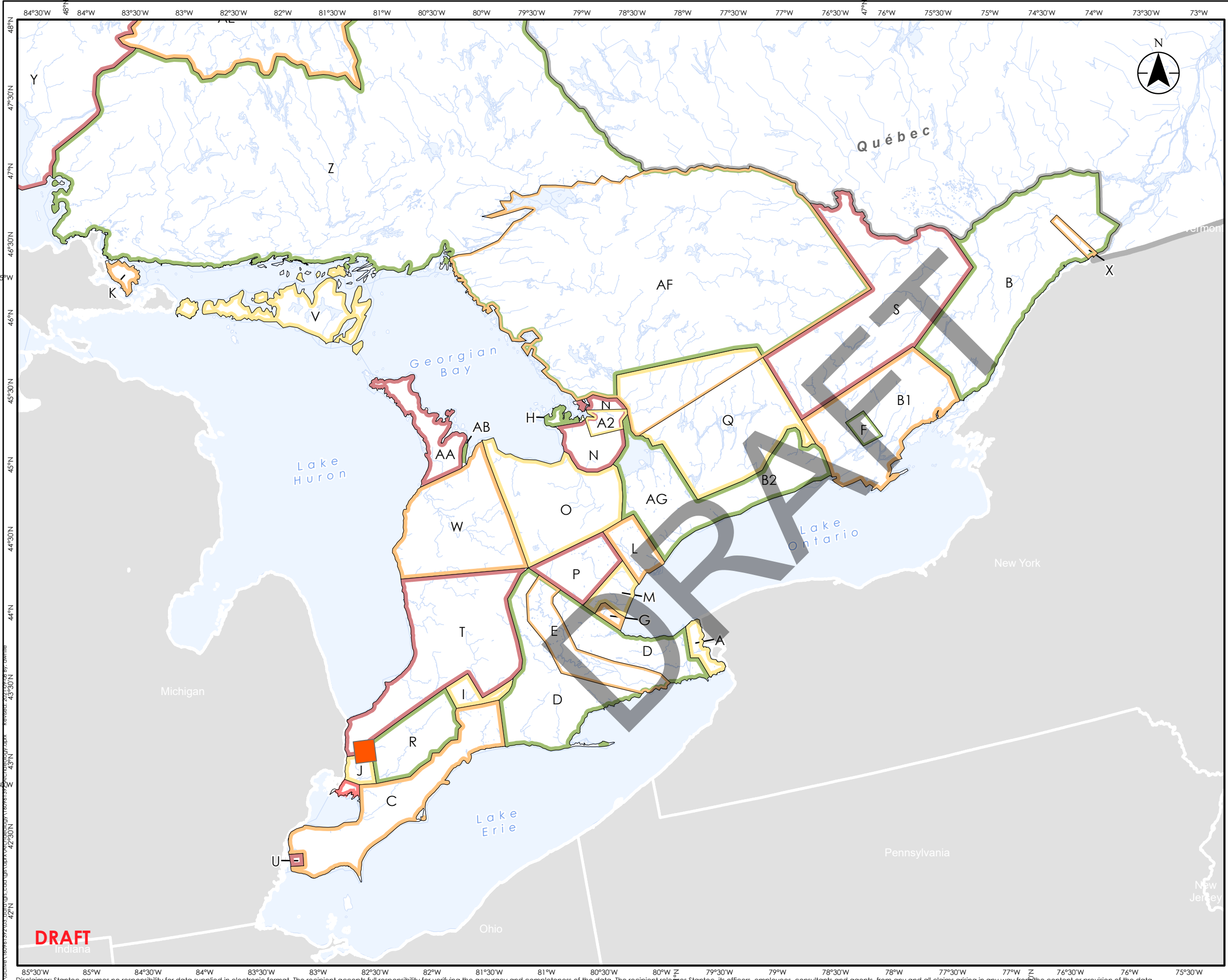


Project Location
 Lambton County
 Prepared by awwhite on 2021-09-08
 Technical Review by PD on 2021-09-08
 160961392 REVA

Client/Project
 ENBRIDGE GAS INC.
 DAWN TO CORUNNA PIPELINE PROJECT

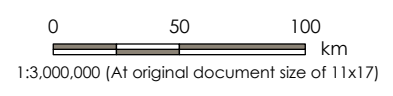
Figure No.
3
 Title
Map of Treaty Areas in Upper Canada

DRAFT



- Legend**
- Study Area
 - Waterbody

- A Treaty No. 381, May 9th, 1781 (Mississauga and Chippewa)
- AA Treaty No. 72, October 30th, 1854 (Chippewa)
- AB Treaty No. 82, February 9th, 1857 (Chippewa)
- AE Treaty No. 9, James Bay 1905, 1906 (Ojibwa and Cree)
- AF Williams Treaty, October 31st and November 15th, 1923 (Chippewa and Mississauga)
- AG Williams Treaty, October 31st, 1923 (Chippewa)
- A2 John Collins' Purchase, 1785 (Chippewa)
- B Crawford's Purchase, October 9th, 1783 (Algonquin and Iroquois)
- B1 Crawford's Purchase, October 9th, 1783 (Mississauga)
- B2 Crawford's Purchase, 1783, 1787, 1788 (Mississauga)
- C Treaty No. 2, May 19th, 1790 (Odawa, Chippewa, Pottawatomi, and Huron)
- D Treaty No. 3, December 2nd, 1792 (Mississauga)
- E Haldimand Tract: from the Crown to the Mohawk, 1793
- F Tyendinaga: from the Crown to the Mohawk, 1793
- G Treaty No. 3 3/4: from the Crown to Joseph Brant, October 24th, 1795
- H Treaty No. 5, May 22nd, 1798 (Chippewa)
- I Treaty No. 6, September 7th, 1796 (Chippewa)
- J Treaty No. 7, September 7th, 1796 (Chippewa)
- K Treaty No. 11, June 30th, 1798 (Chippewa)
- L Treaty No. 13, August 1st, 1805 (Mississauga)
- M Treaty No. 13A, August 2nd, 1805 (Mississauga)
- N Treaty No. 16, November 18th, 1815 (Chippewa)
- O Treaty No. 18, October 17th, 1818 (Chippewa)
- P Treaty No. 19, October 28th 1818 (Chippewa)
- Q Treaty No. 20, November 5th, 1818 (Chippewa)
- R Treaty No. 21, March 9th, 1819 (Chippewa)
- S Treaty No. 27, May 31st, 1819 (Mississauga)
- T Treaty No. 27 1/2, April 25th, 1825 (Ojibwa and Chippewa)
- U Treaty No. 35, August 13th, 1833 (Wyandot or Huron)
- V Treaty No. 45, August 9th, 1836 (Chippewa and Odawa, "For All Indians To Reside Thereon")
- W Treaty No. 45 1/2, August 9th, 1836 (Saugeen)
- X Treaty No. 57, June 1st, 1847 (Iroquois of St. Regis)
- Y Treaty No. 60, Robinson, Superior, September 7th, 1850 (Ojibwa)
- Z Treaty No. 61, Robinson, Huron, September 9th, 1850 (Ojibwa)



- Notes**
1. Coordinate System: NAD 1983 Statistics Canada Lambert
 2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2018.
 3. Treaty boundaries adapted from Morris 1943 [1964 reprint]. For cartographic representation only.

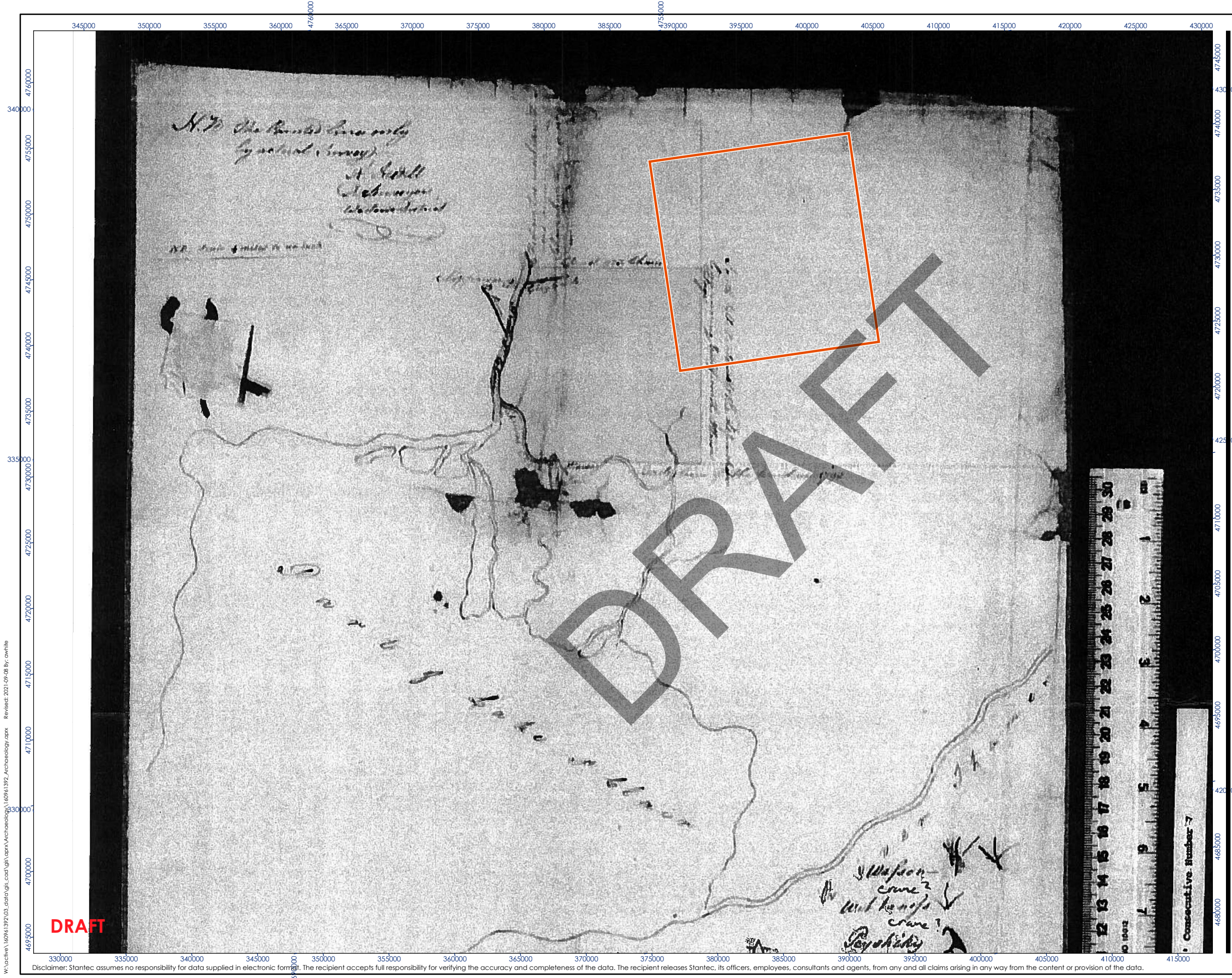
Project Location	160961392 REVA
Lambton County	Prepared by awhite on 2021-09-08
	Technical Review by PD on 2021-09-08

Client/Project
ENBRIDGE GAS INC.
DAWN TO CORUNNA PIPELINE PROJECT

Figure No.
4 **DRAFT**

Title
Treaties and Purchases (Adapted from Morris 1943)

DRAFT
 Indiana

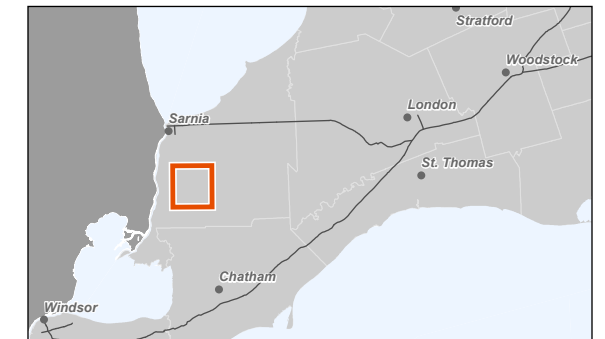


Legend

Study Area (approx. location)

Notes

1. Map not to scale.
2. Government of Canada, n.d.a. Map of Treaty Areas in Upper Canada, Ottawa: Department of Indian Affairs, Survey Branch.



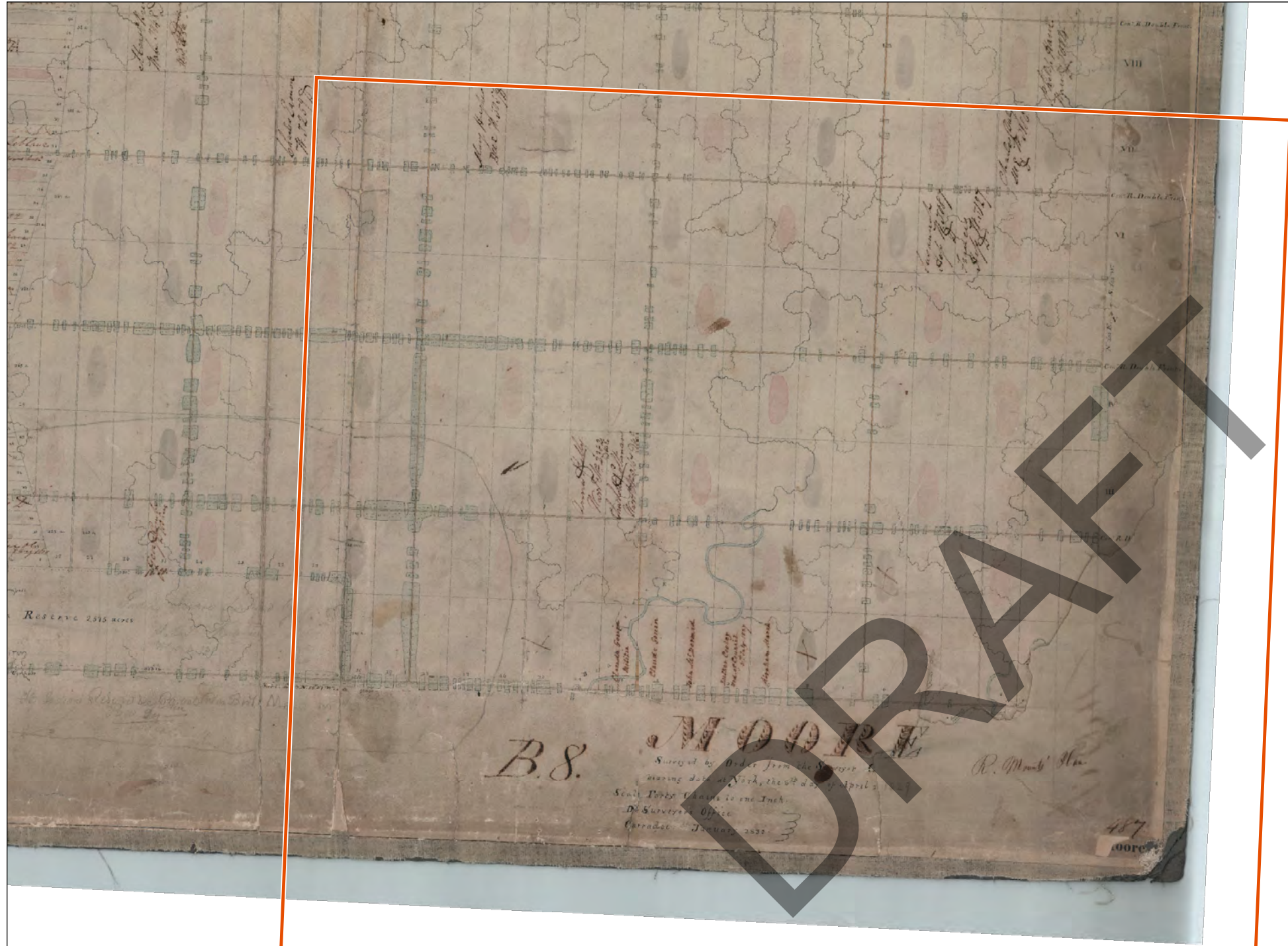
Project Location: Lambton County
 Prepared by: 160961392 REVA
 Technical Review by: PD on 2021-09-08

Client/Project: ENBRIDGE GAS INC.
 DAWN TO CORUNNA PIPELINE PROJECT

Figure No. **5** **DRAFT**
 Title: **The 1796 Chenail Ecarté Treaty**

W:\active\160961392_03_data\GIS_cad\GIS\aprx\Archeology.aprx Revised: 2021-09-08 By: cwhite

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Legend
Study Area (approx. location)

Notes
1. Map is not to scale.
2. Historic map source: Mount, Roswell, 1829. Plan of Moore Township. Ministry of Natural Resources and Forestry, Crown Land Survey Records.

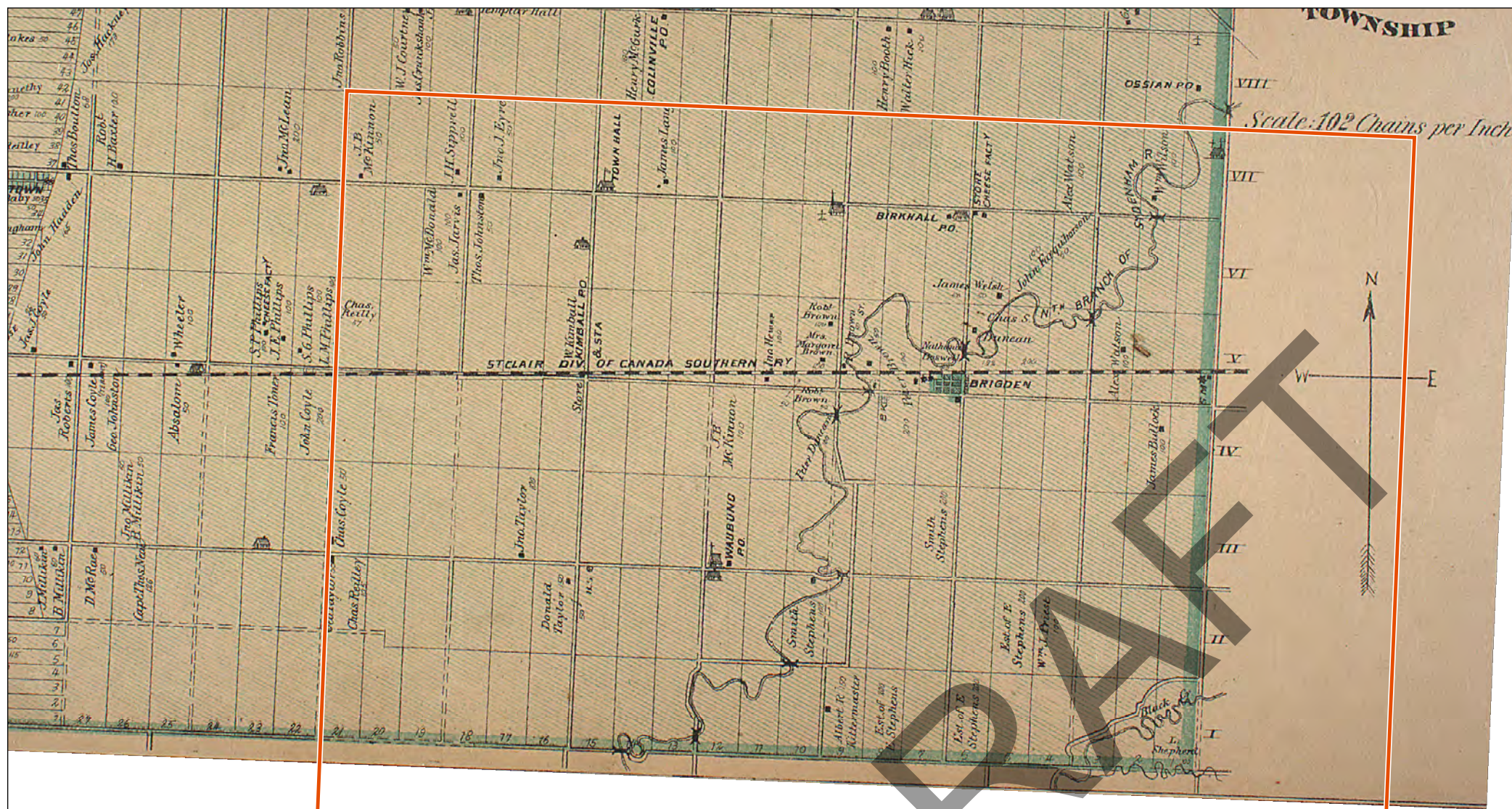
Project Location 160961392 REVA
Lambton County Prepared by awhite on 2021-09-08
Technical Review by PD on 2021-09-08

Client/Project
ENBRIDGE GAS INC.
DAWN TO CORUNNA PIPELINE PROJECT

Figure No. **6** **DRAFT**

Title
Portion of the 1829 Plan of Moore Township

DRAFT



Legend
 Study Area (approx. location)

Notes
 1. Map is not to scale.
 2. Historic map source: Belden, H. 1880. Belden's Historical Atlas of the County of Lambton, H. Belden and Co.

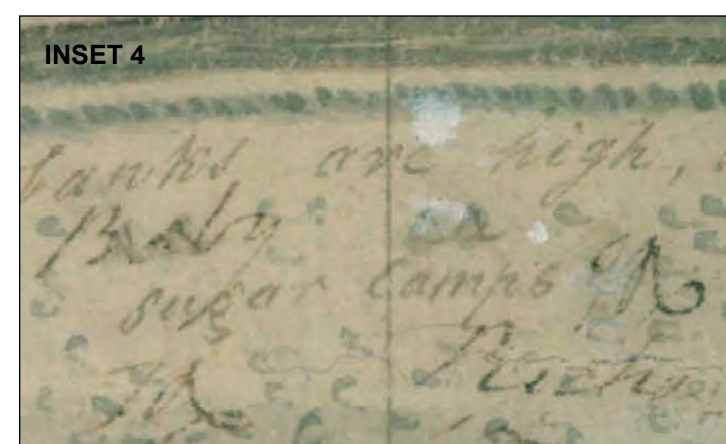
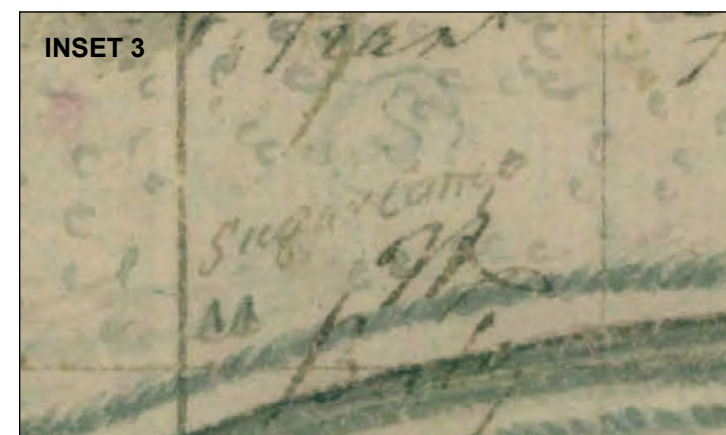
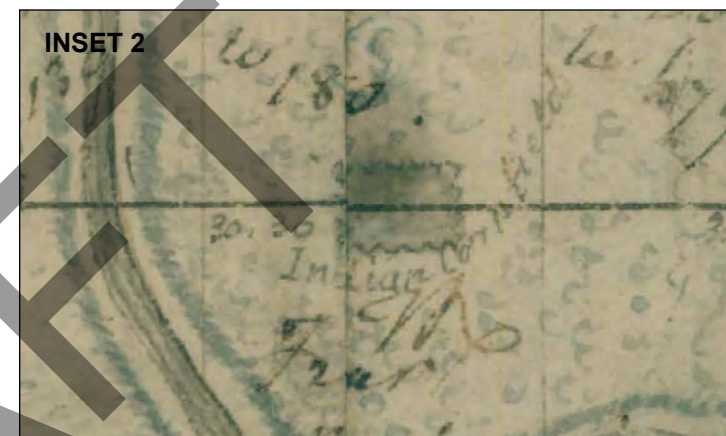
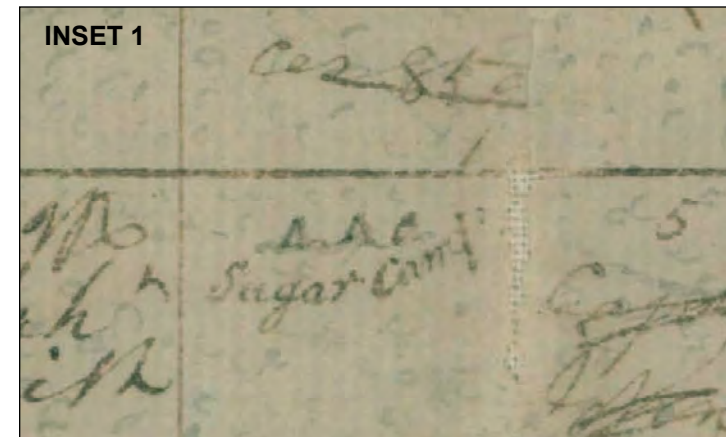
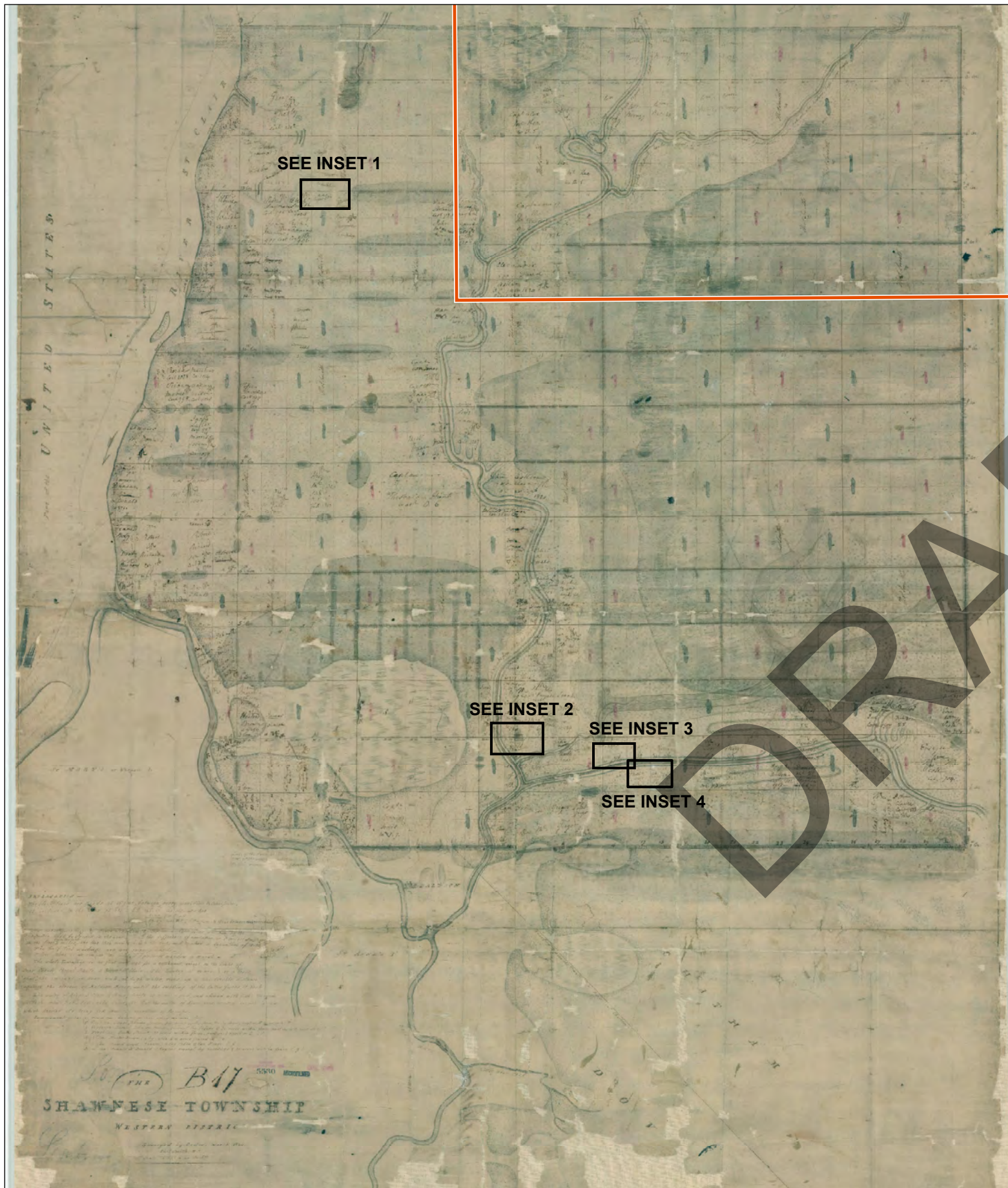
Project Location: Lambton County
 Prepared by: awwhite on 2021-09-09
 Technical Review by: PD on 2021-09-08

Client/Project: ENBRIDGE GAS INC.
 DAWN TO CORUNNA PIPELINE PROJECT


Figure No. **7** **DRAFT**

Title: **Portion of the 1880 Map of Moore Township**

DRAFT



Legend

 Study Area (approx. location)

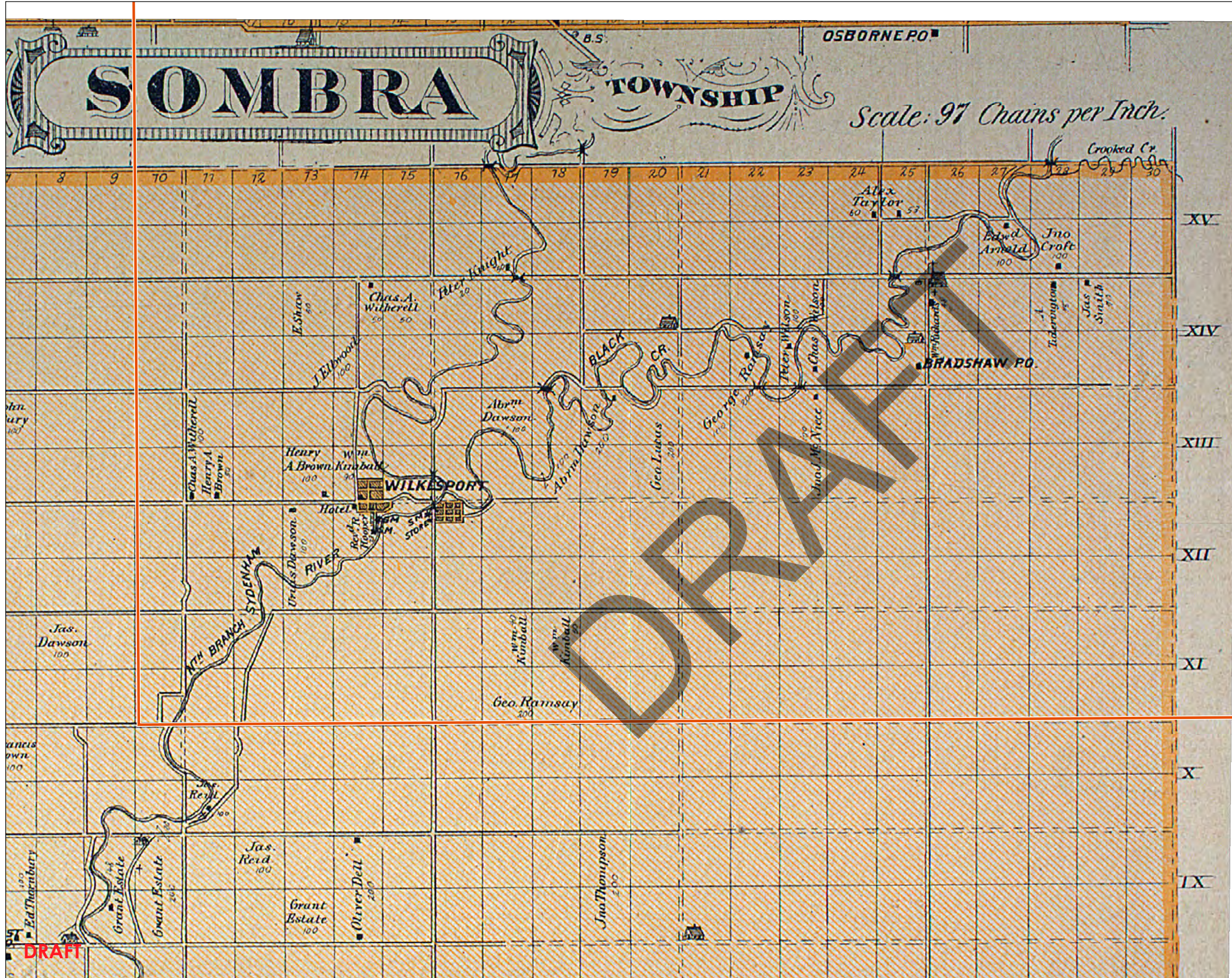
Notes
1. Map is not to scale.
2. Government of Ontario, n.d.a. Crown Land Surveys. Personal communication: Lisa Casselman, Survey Records Clerk, Ministry of Natural Resources and Forestry.

Project Location: Lambton County
160961392 REVA
Prepared by awwhite on 2021-09-09
Technical Review by PD on 2021-09-08

Client/Project: ENBRIDGE GAS INC.
DAWN TO CORUNNA PIPELINE PROJECT

Figure No. **8**
Title: **The 1820 Plan of Sombra Township**

DRAFT



Legend
 Study Area (approx. location)


Notes
 1. Map is not to scale.
 2. Belden & Co. 1880a. Illustrated Historical Atlas of Lambton County, Ont. Toronto: H. Belden & Co.

Project Location: Lambton County
 Prepared by: awwhite on 2021-09-09
 Technical Review by: PD on 2021-09-08

Client/Project: ENBRIDGE GAS INC.
 DAWN TO CORUNNA PIPELINE PROJECT

Figure No. **9** **DRAFT**

Title: **Portion of the 1880 Map of Sombra Township**

Legend
 Study Area (approx. locations)

DRAFT
Notes

1. Map is not to scale.
2. Government of Ontario, n.d.a. Crown Land Surveys. Personal communication: Lisa Casselman, Survey Records Clerk, Ministry of Natural Resources and Forestry.

Project Location	160961392 REVA
Lambton County	Prepared by awhite on 2021-09-09
	Technical Review by PD on 2021-09-08

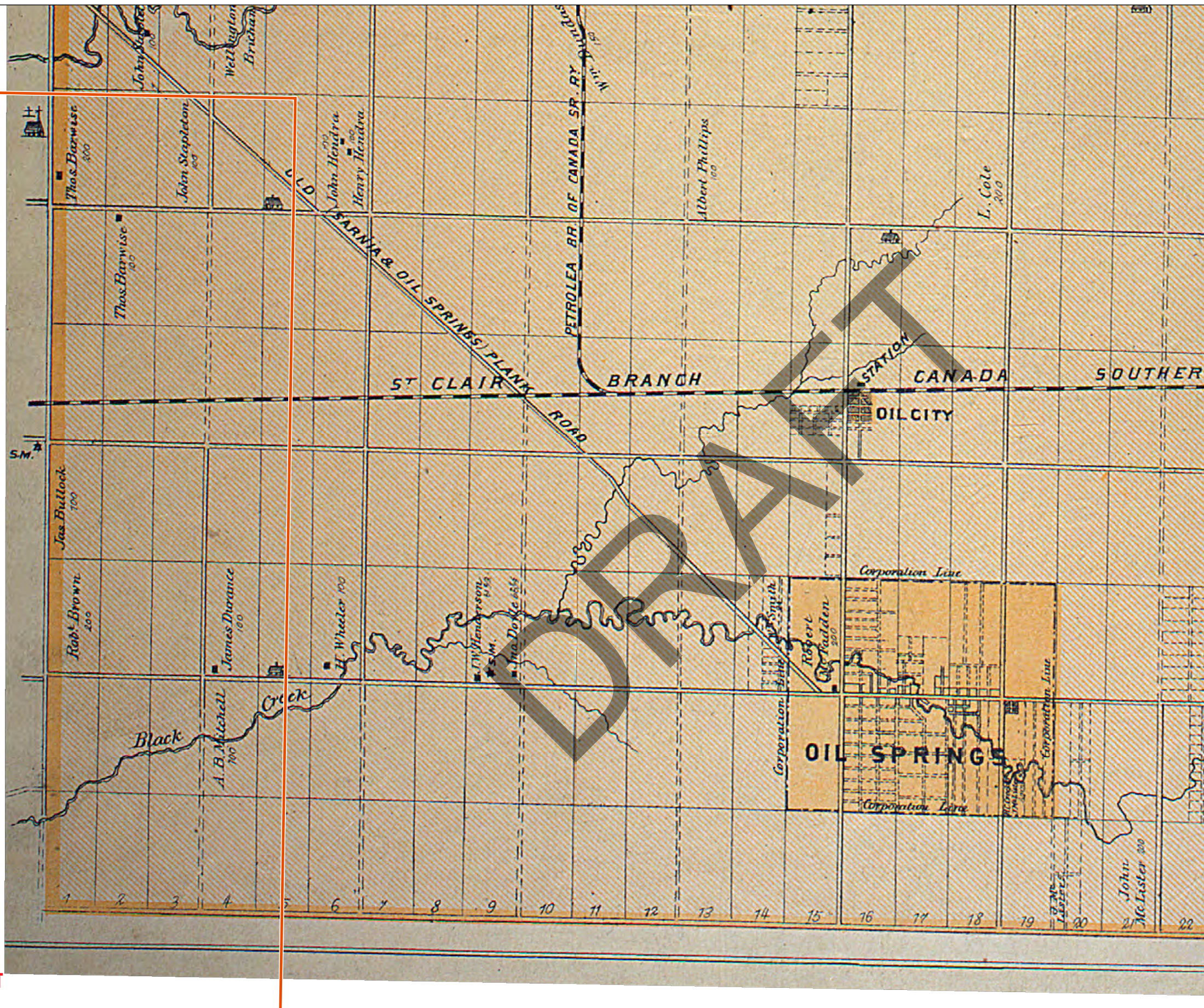
Client/Project	
ENBRIDGE GAS INC.	
DAWN TO CORUNNA PIPELINE PROJECT	

Figure No.	
10	

DRAFT

Title	
Portion of the 1833 Surveyor's Map of the Township of Enniskillen	

Legend
 Study Area (approx. location)



Notes
 1. Map is not to scale.
 2. Government of Ontario, n.d.a. Crown Land Surveys. Personal communication: Lisa Casselman, Survey Records Clerk, Ministry of Natural Resources and Forestry.

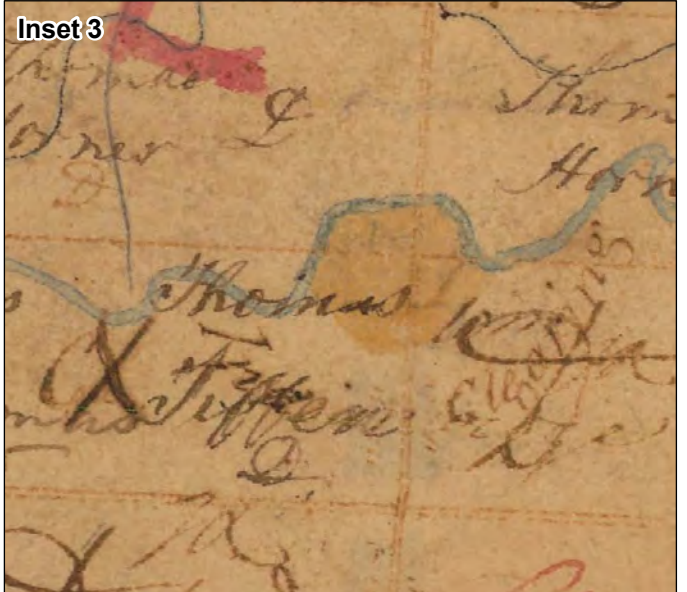
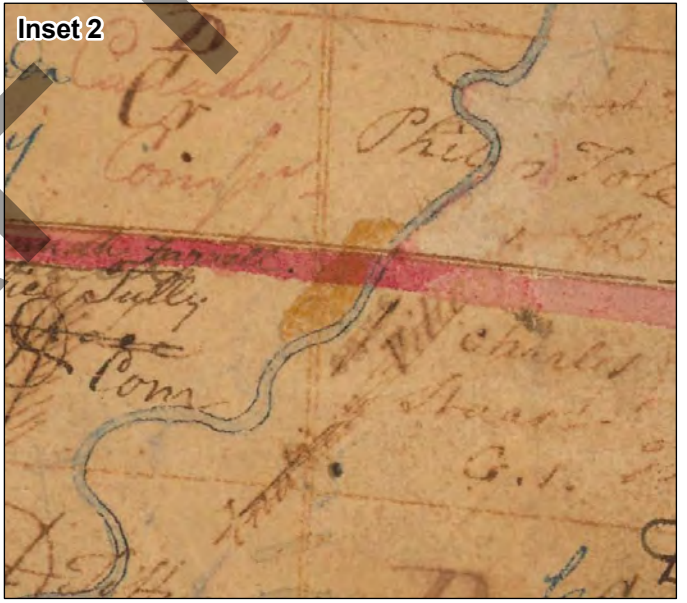
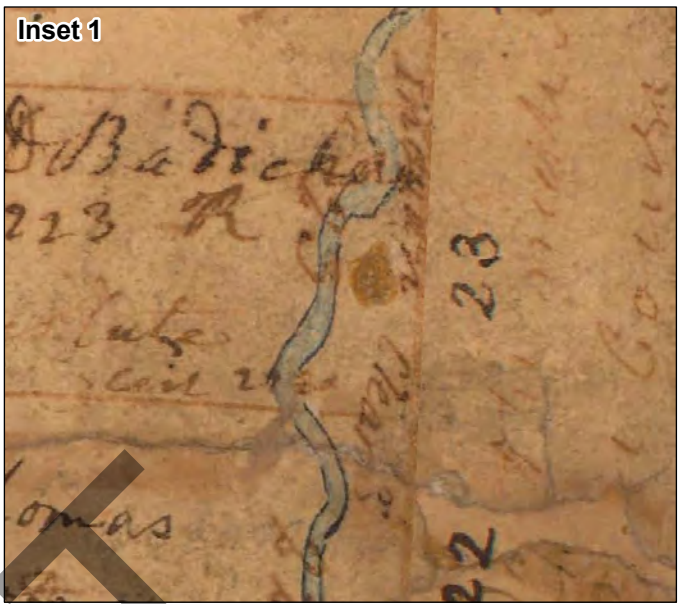
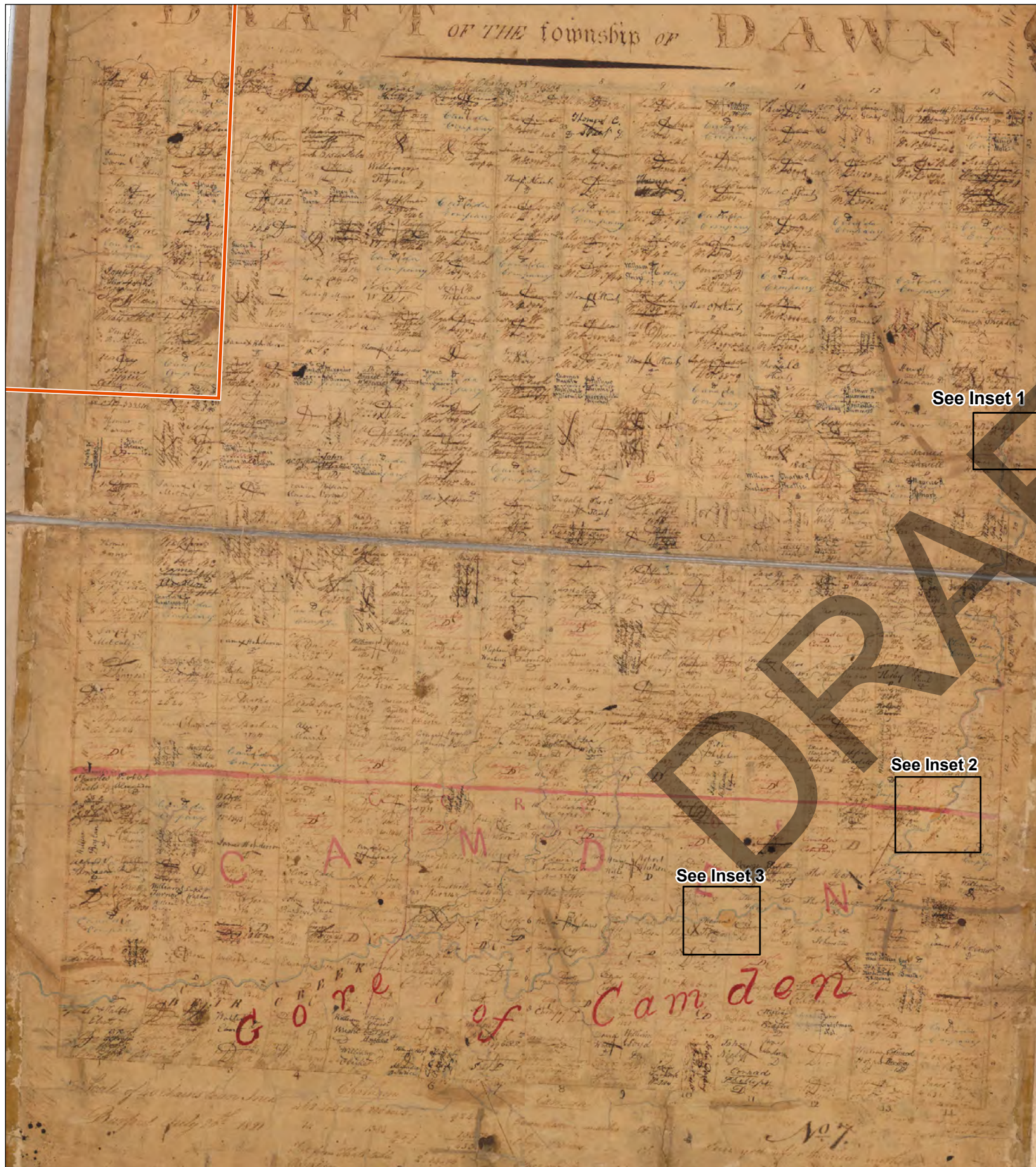
Project Location: Lambton County
 Prepared by: awwhite on 2021-09-20
 Technical Review by: PD on 2021-09-08

Client/Project: ENBRIDGE GAS INC.
 DAWN TO CORUNNA PIPELINE PROJECT

Figure No. 11 **DRAFT**

Title: Portion of the 1880 Historical Atlas Map of Enniskillen Township

DRAFT



Legend
 Study Area (approx. location)

Notes
 1. Map is not to scale.
 2. Government of Ontario, n.d.a. Crown Land Surveys. Personal communication: Lisa Casselman, Survey Records Clerk, Ministry of Natural Resources and Forestry.


Project Location: Lambton County
 Prepared by: awwhite on 2021-09-09
 Technical Review by: PD on 2021-09-08

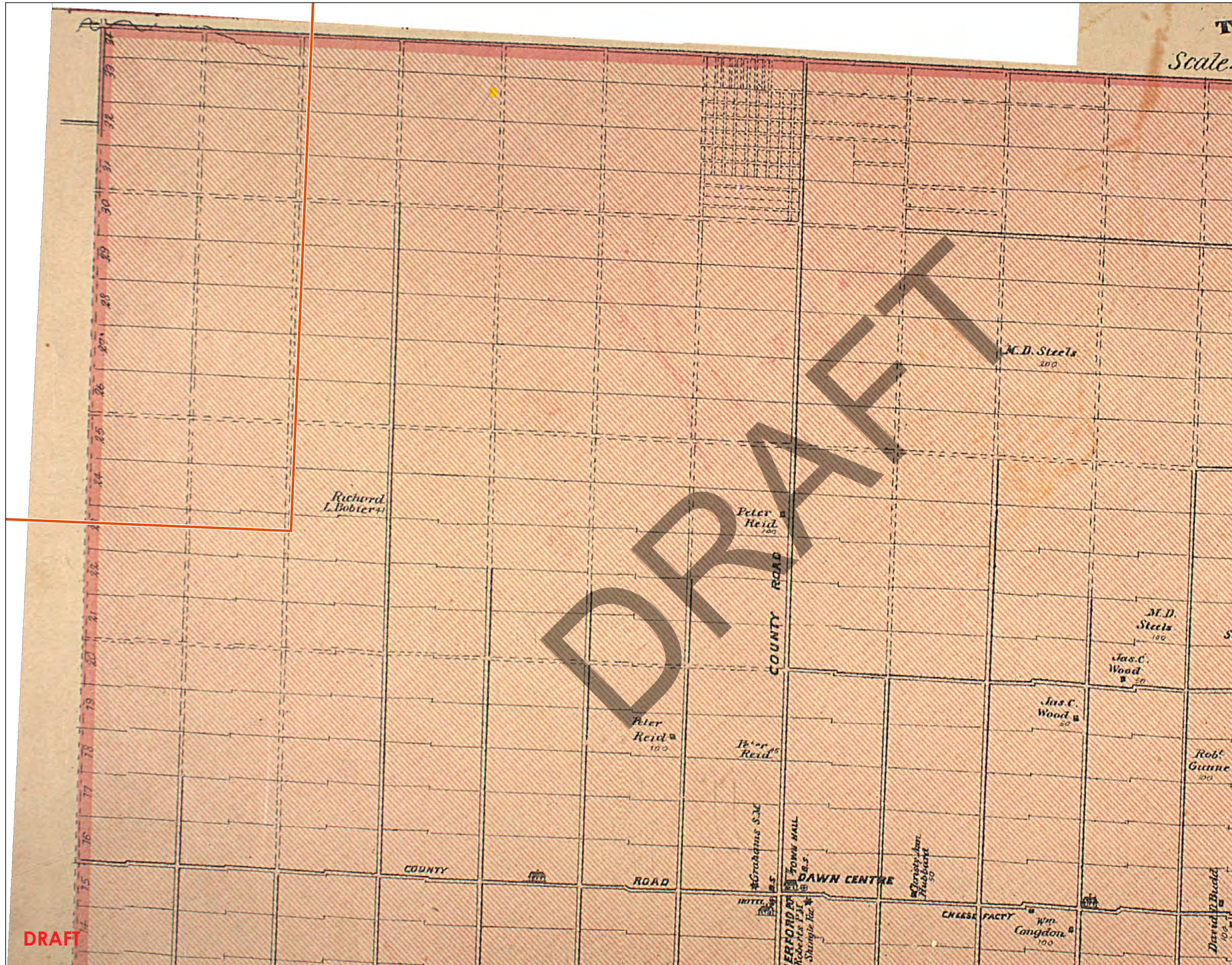
Client/Project: ENBRIDGE GAS INC.
 DAWN TO CORUNNA PIPELINE PROJECT

Figure No. **12** **DRAFT**

Title: **The 1821 Surveyor's Map of the Township of Dawn**

W:\A_Civil\160961392\03_dawn\GIS\sect\gis\sect\Arch\technology\160961392_Arch\technology.aprx
 Revisé le: 2021-09-09 By: awwhite

Legend
 Study Area (approx. location)



Notes
 1. Map is not to scale.
 2. Belden & Co. 1880a. Illustrated Historical Atlas of Lambton Count. Ont. Toronto: H. Belden & Co.

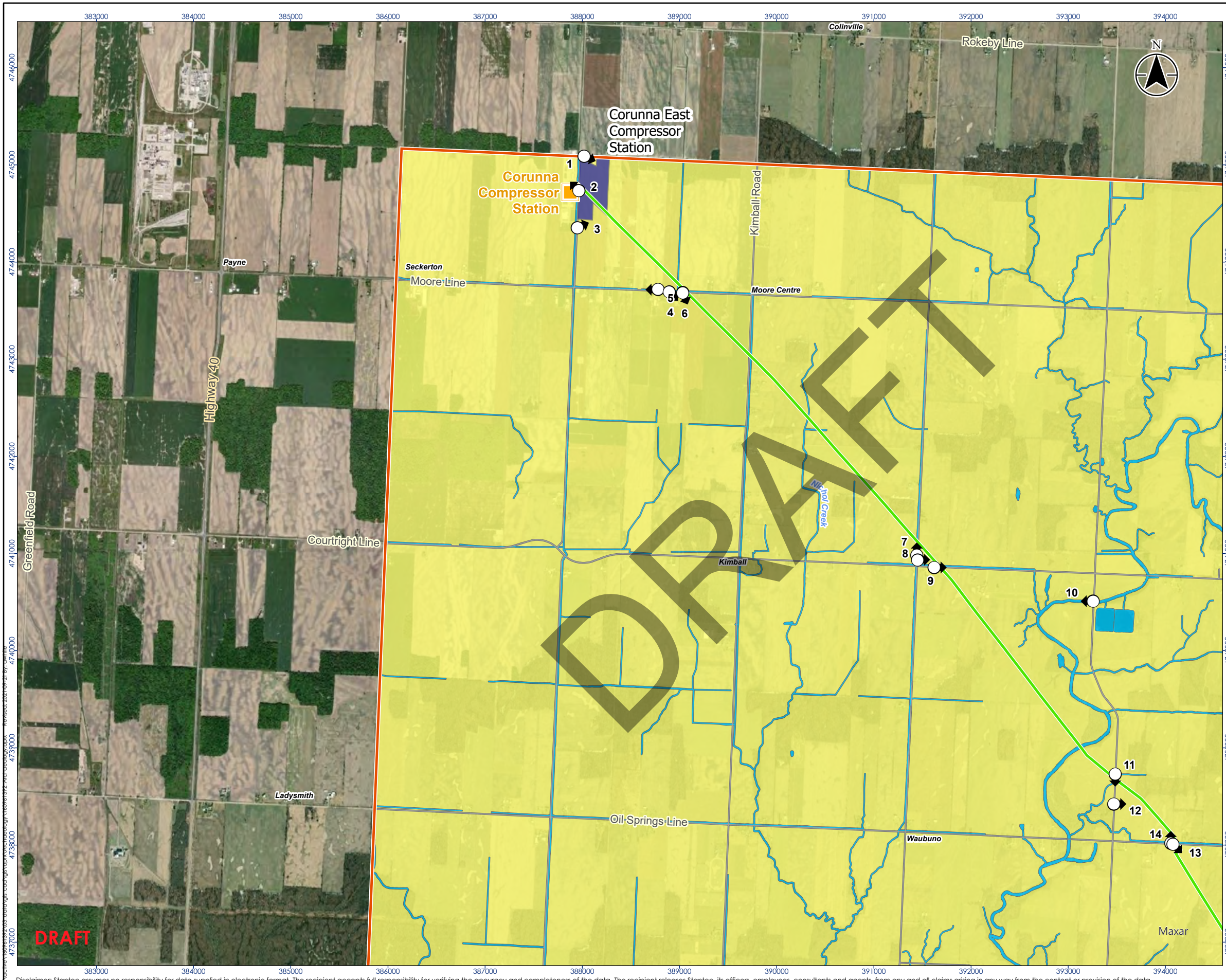
Project Location: Lambton County
 Prepared by: awwhite on 2021-09-09
 Technical Review by: PD on 2021-09-08

Client/Project: ENBRIDGE GAS INC.
 DAWN TO CORUNNA PIPELINE PROJECT

Figure No. **13**
 Title: **Portion of the 1880 Map of Dawn Township**

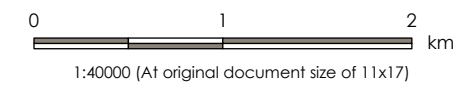
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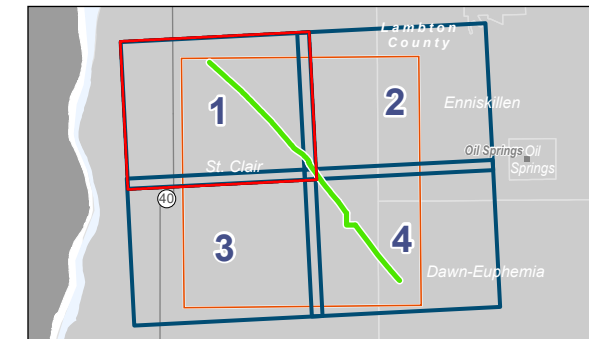


Legend

- Study Area
 - Preferred Route
 - Photo Location and Direction
 - Existing Station
 - Highway
 - Major Road
 - Minor Road
 - Waterbody
 - Watercourse
 - Previously Assessed, Stantec (2015b)
 - Previously Assessed, TMHC (2017)
 - Previously assessed, Stantec (2017a)
-
- Stage 1 Archaeological Potential**
- Retains Archaeological Potential; Stage 2 Assessment Required
 - Municipal/Provincial Road ROW, May Retain Archaeological Potential; Stage 2 Assessment Required to Confirm Disturbance
 - Low and Permanently Wet Areas, Low to No Archaeological Potential; Stage 2 Assessment Required to Confirm Presence



Notes
 1. Coordinate System: Name: NAD 1983 UTM Zone 17N
 2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2020.



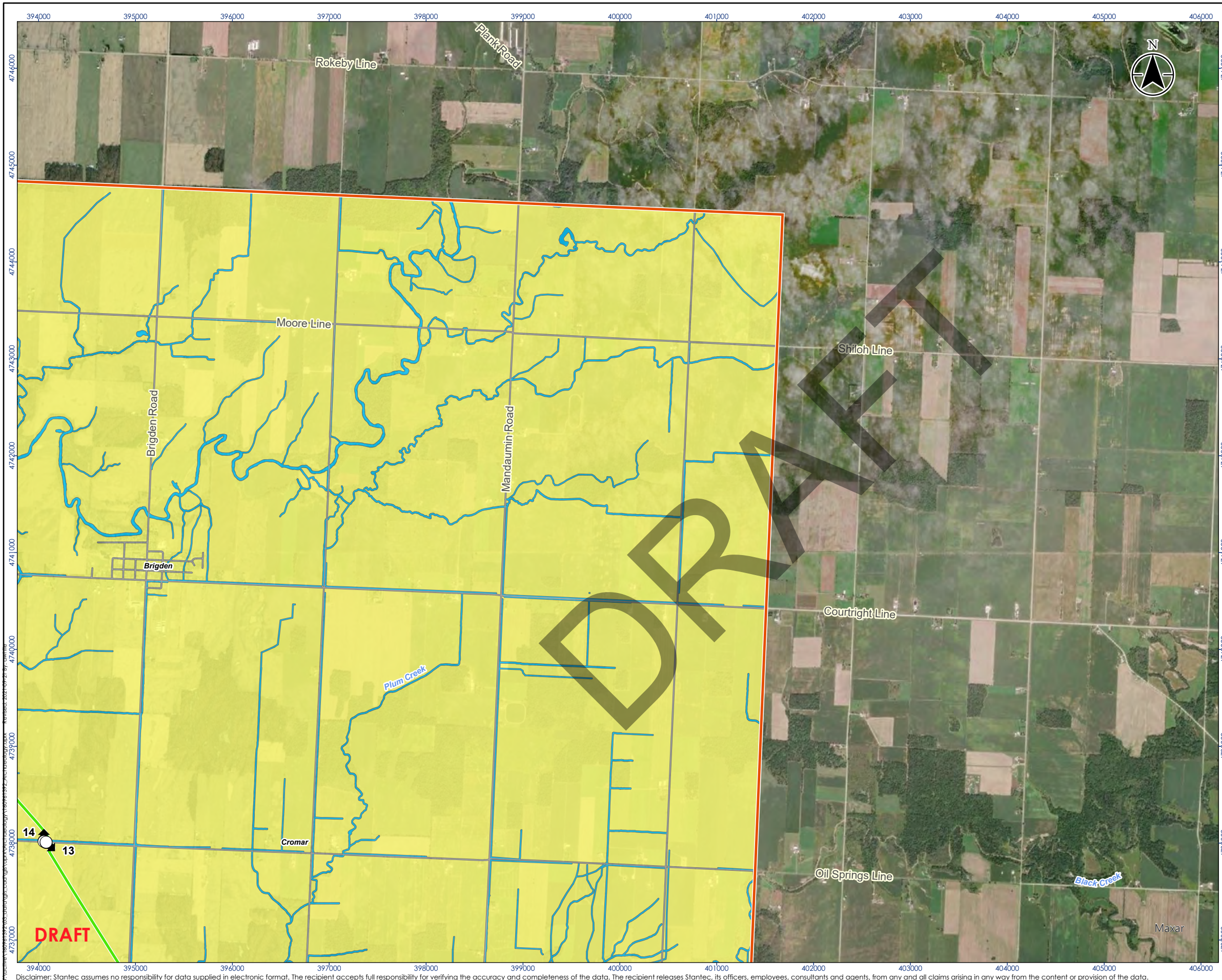
Project Location: Lambton County
 Prepared by: awwhite on 2021-09-21
 Technical Review by: PD on 2021-09-20

Client/Project: ENBRIDGE GAS INC., DAWN TO CORUNNA PIPELINE PROJECT

Figure No. **14.1** **DRAFT**

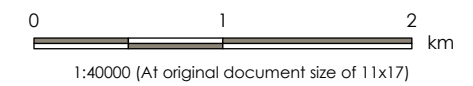
Title: **Archaeological Potential of the Study Area**

DRAFT

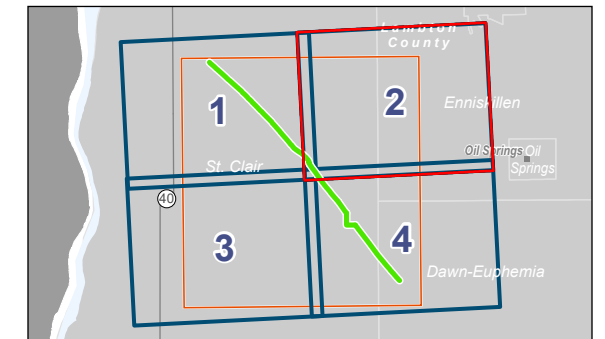


Legend

- Study Area
 - Preferred Route
 - Photo Location and Direction
 - Existing Station
 - Highway
 - Major Road
 - Minor Road
 - Waterbody
 - Watercourse
 - Previously Assessed, Stantec (2015b)
 - Previously Assessed, TMHC (2017)
 - Previously assessed, Stantec (2017a)
-
- Stage 1 Archaeological Potential**
 - Retains Archaeological Potential; Stage 2 Assessment Required
 - Municipal/Provincial Road ROW, May Retain Archaeological Potential; Stage 2 Assessment Required to Confirm Disturbance
 - Low and Permanently Wet Areas, Low to No Archaeological Potential; Stage 2 Assessment Required to Confirm Presence



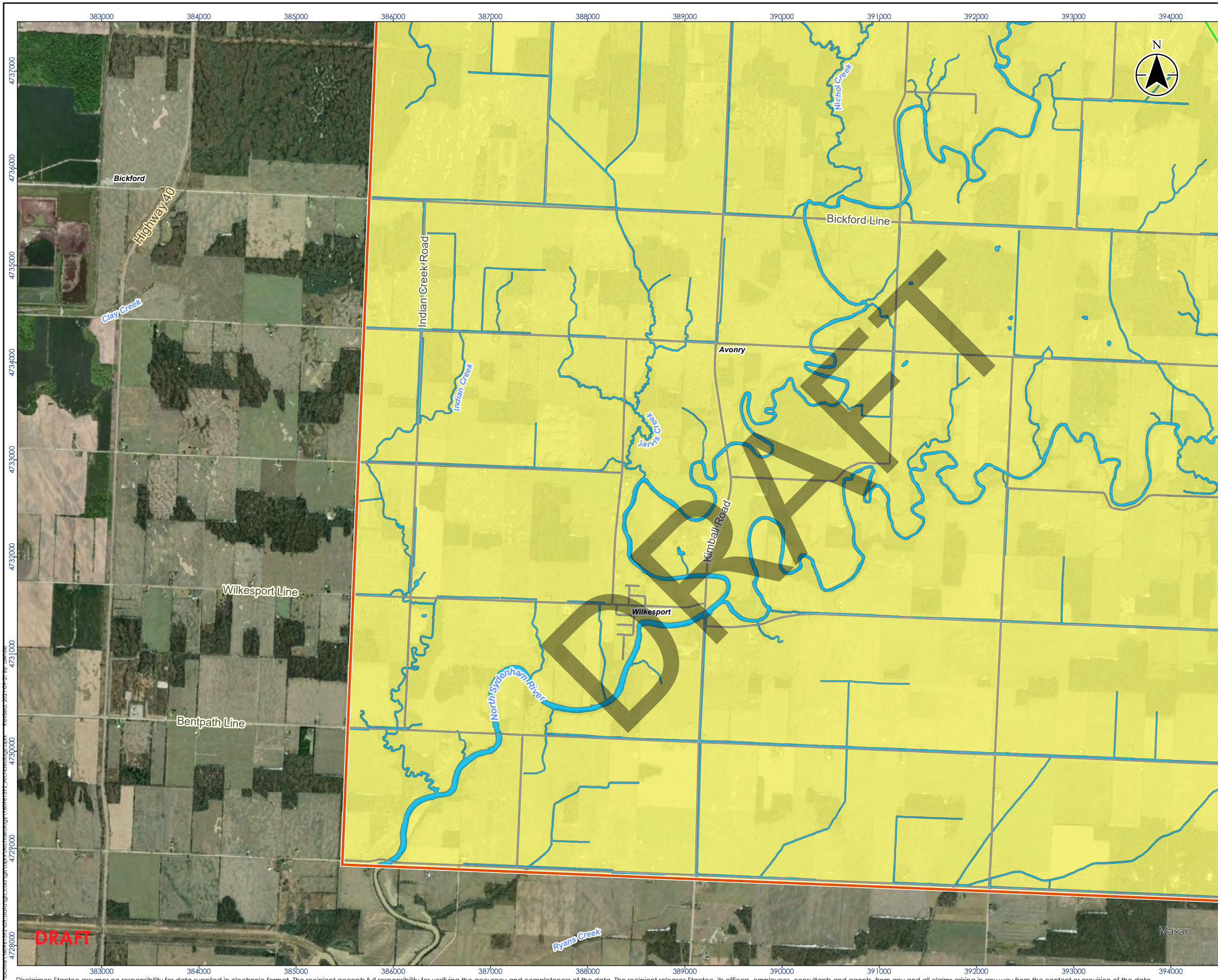
- Notes**
1. Coordinate System: Name: NAD 1983 UTM Zone 17N
 2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2020.



Project Location: Lambton County
 Prepared by: awwhite on 2021-09-21
 Technical Review by: PD on 2021-09-20

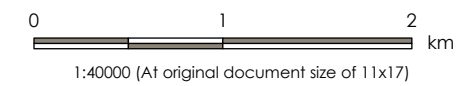
Client/Project: ENBRIDGE GAS INC., DAWN TO CORUNNA PIPELINE PROJECT

Figure No. **14.2** **DRAFT**
 Title: **Archaeological Potential of the Study Area**

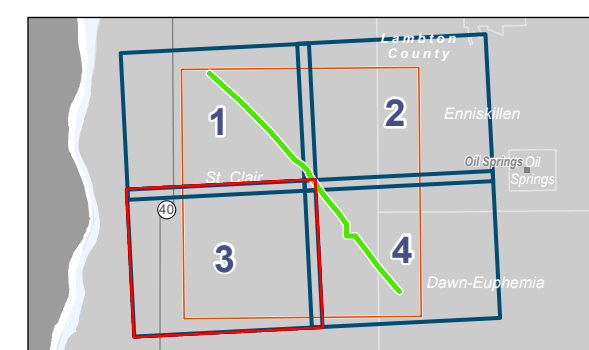


Legend

- | | |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| Study Area | Stage 1 Archaeological Potential |
| Preferred Route | Retains Archaeological Potential; Stage 2 Assessment Required |
| Photo Location and Direction | Municipal/Provincial Road ROW, May Retain |
| Existing Station | Archaeological Potential; Stage 2 Assessment Required to Confirm Disturbance |
| Highway | Low and Permanently Wet Areas, Low to No Archaeological Potential; Stage 2 Assessment Required to Confirm Presence |
| Major Road | |
| Minor Road | |
| Waterbody | |
| Watercourse | |
| Previously Assessed, Stantec (2015b) | |
| Previously Assessed, TMHC (2017) | |
| Previously assessed, Stantec (2017a) | |



- Notes**
1. Coordinate System: Name: NAD 1983 UTM Zone 17N
 2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2020.



Project Location: Lambton County
 Prepared by: awwhite on 2021-09-21
 Technical Review by: PD on 2021-09-20

Client/Project: ENBRIDGE GAS INC., DAWN TO CORUNNA PIPELINE PROJECT

Figure No. **14.3** **DRAFT**

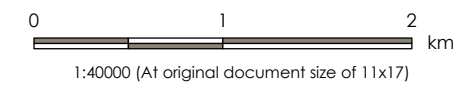
Title: **Archaeological Potential of the Study Area**

DRAFT

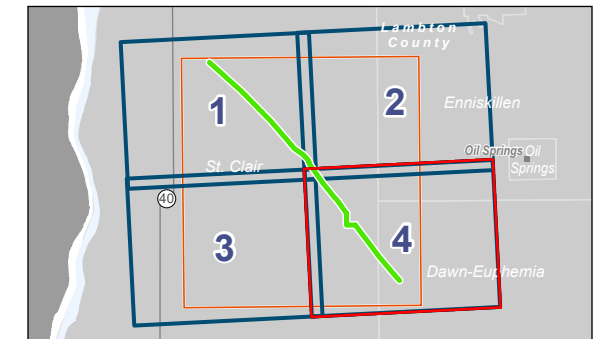


Legend

- | | |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| Study Area | Retains Archaeological Potential; Stage 2 Assessment Required |
| Preferred Route | Municipal/Provincial Road ROW, May Retain |
| Photo Location and Direction | Archaeological Potential; Stage 2 Assessment Required to Confirm Disturbance |
| Existing Station | Low and Permanently Wet Areas, Low to No Archaeological Potential; Stage 2 Assessment Required to Confirm Presence |
| Highway | |
| Major Road | |
| Minor Road | |
| Waterbody | |
| Watercourse | |
| Previously Assessed, Stantec (2015b) | |
| Previously Assessed, TMHC (2017) | |
| Previously assessed, Stantec (2017a) | |



- Notes**
1. Coordinate System: Name: NAD 1983 UTM Zone 17N
 2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2020.



Project Location: Lambton County
 Prepared by: awwhite on 2021-09-21
 Technical Review by: PD on 2021-09-20
 160961392 REVA

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Figure No. **14.4** **DRAFT**
 Title: **Archaeological Potential of the Study Area**

STAGE 1 ARCHAEOLOGICAL ASSESSMENT: DAWN – CORUNNA PROJECT

Closure

September 21, 2021

9.0 CLOSURE

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

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Quality Review _____
(signature)

Colin Varley – Senior Associate, Senior Archaeologist

Independent Review _____
(signature)

Tracie Carmichael – Managing Principal, Environmental Services





**Stage 1 Archaeological Assessment:
Dawn – Corunna Project**

Parts of Various Lots and Concessions,
Multiple Lower Tier Municipalities,
Lambton County, Ontario

September 21, 2021

Prepared for:

Enbridge Gas Inc.
50 Keil Drive North
Chatham, Ontario N7M 5M1

Prepared by:

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Licensee: Parker Dickson, MA
License Number: P256
Project Information Form Number:
P256-0678-2021
Project Number: 160961392

**ORIGINAL SUPPLEMENTARY
DOCUMENTATION**

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DRAFT



STAGE 1 ARCHAEOLOGICAL ASSESSMENT: DAWN – CORUNNA PROJECT

Maps
September 21, 2021

1.0 MAPS

The following page provides a map of the Project illustrating the location of registered archaeological sites within the study area and within one kilometre of the study area.

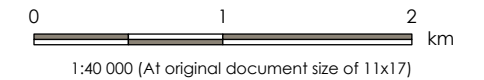
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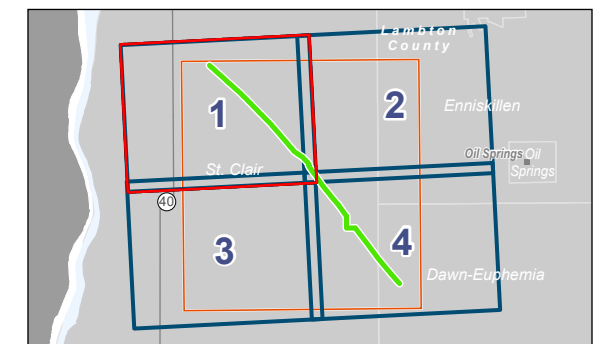


Legend

- Study Area
- ◆ Registered Archaeological Site
- Existing Station
- Preferred Route
- Municipal Boundary
- Municipal Boundary, Lower
- Highway
- Major Road
- Minor Road
- Watercourse
- Waterbody



- Notes**
1. Coordinate System: Name: NAD 1983 UTM Zone 17N
 2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2020.



Project Location: Lambton County
 Prepared by: awwhite on 2021-09-20
 Technical Review by: PD on 2021-09-08

Client/Project: ENBRIDGE GAS INC., DAWN TO CORUNNA PIPELINE PROJECT

Title No.: **1.1** DRAFT

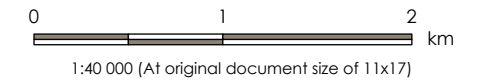
Title: **Location of the Study Area Aerial Map Book with Registered Archaeological Sites**

DRAFT

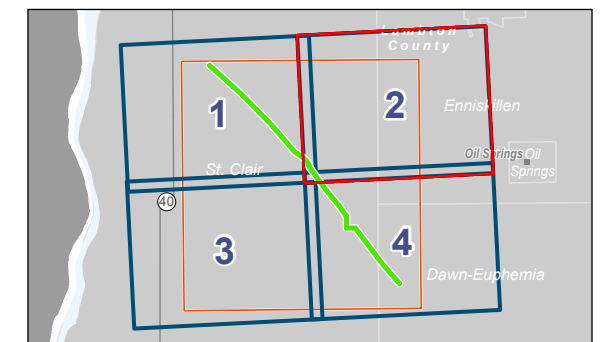


Legend

- Study Area
- ◆ Registered Archaeological Site
- Existing Station
- Preferred Route
- Municipal Boundary
- Municipal Boundary, Lower
- Highway
- Major Road
- Minor Road
- Watercourse
- Waterbody



- Notes**
1. Coordinate System: Name: NAD 1983 UTM Zone 17N
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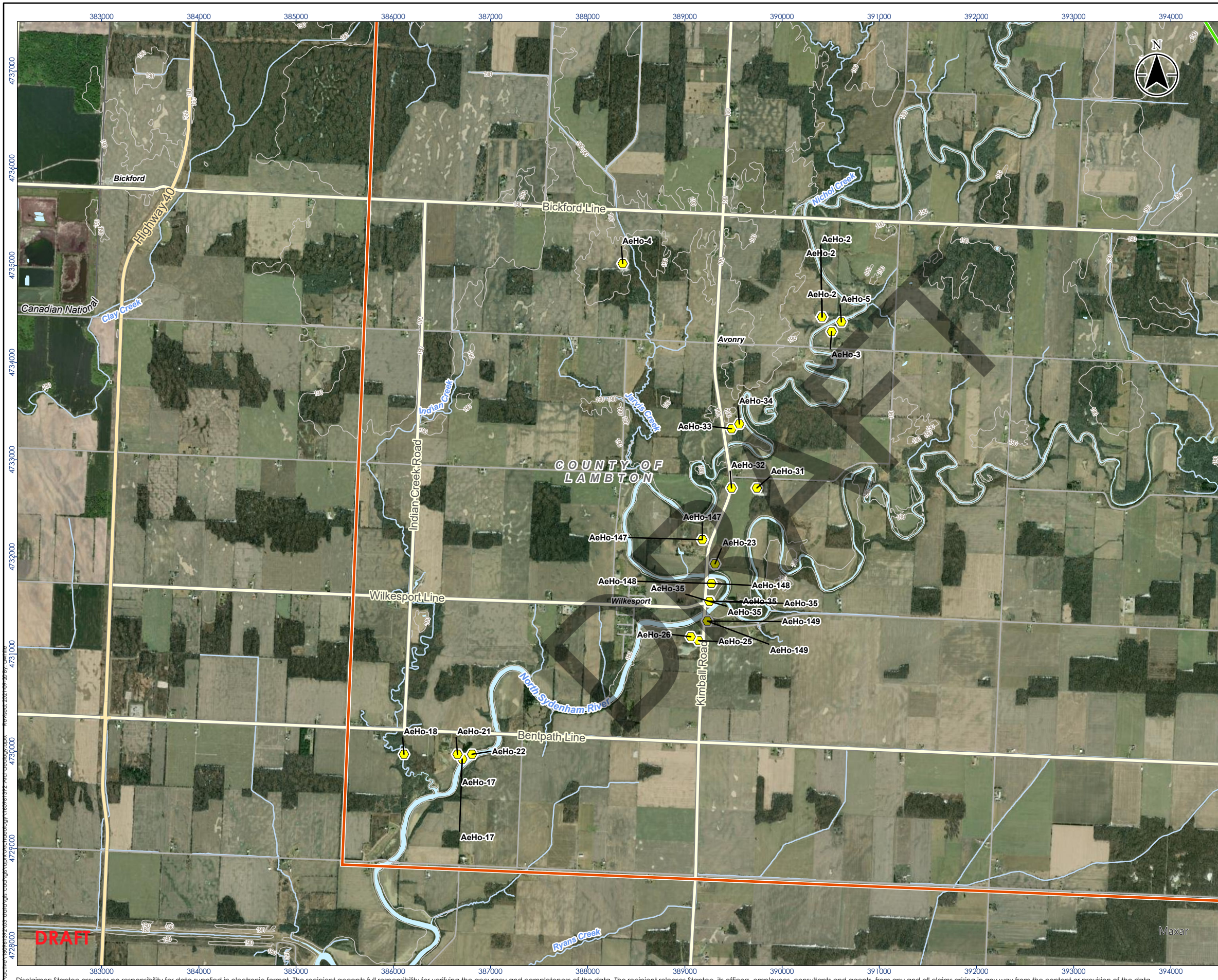


Project Location: Lambton County
 Prepared by: 160961392 REVA
 Technical Review by: PD on 2021-09-08

Client/Project: ENBRIDGE GAS INC.
 DAWN TO CORUNNA PIPELINE PROJECT

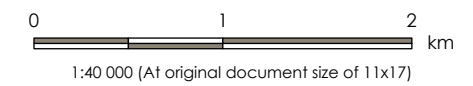
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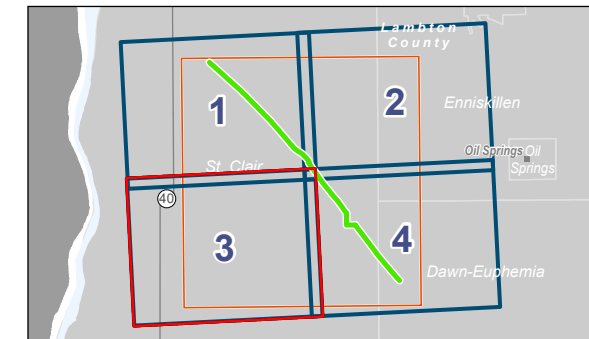


Legend

- Study Area
- Registered Archaeological Site
- Existing Station
- Preferred Route
- Municipal Boundary
- Municipal Boundary, Lower
- Highway
- Major Road
- Minor Road
- Watercourse
- Waterbody



- Notes**
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Title No.: **1.3** **DRAFT**

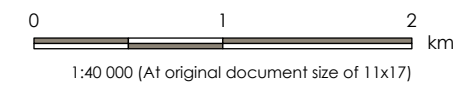
Title: **ocation of the Study Area Aerial Map Book with Registered Archaeological Sites**

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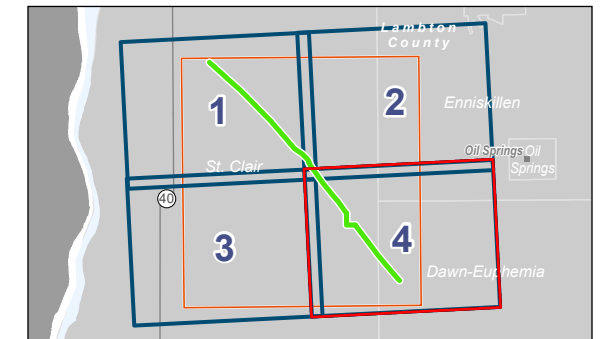


Legend

- Study Area
- ◆ Registered Archaeological Site
- Existing Station
- Preferred Route
- Municipal Boundary
- Municipal Boundary, Lower
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Notes
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Title No.: **1.4** **DRAFT**

Title: **ocation of the Study Area Aerial Map Book with Registered Archaeological Sites**