

APPENDIX 7.5-A

Stage 1 Archaeological Assessment – Proposed Waasigan Transmission Line Districts of Thunder Bay, Rainy River, and Kenora, Ontario





ORIGINAL REPORT

Stage 1 Archaeological Assessment

Proposed Waasigan Transmission Line Districts of Thunder Bay, Rainy River, and Kenora, Ontario

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Executive Summary

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

WSP Canada Inc. (WSP), was retained by Hydro One Networks Inc. (Hydro One) to conduct a Stage 1 Archaeological Assessment (AA) for the proposed Waasigan Transmission Line (the Project) as part of an Environmental Assessment (EA) being completed under the Ontario *Environmental Assessment Act, RSO 1990, C.E.18* (Government of Ontario 1990a). The proposed Waasigan Transmission Line is a new double-circuit 230 kilovolt (kV) transmission line between Lakehead Transformer Station (TS) in the Municipality of Shuniah and Mackenzie TS in the Town of Atikokan, and a new single-circuit 230 kV transmission line between Mackenzie TS and Dryden TS in the City of Dryden. Hydro One is currently considering multiple alternative routes that were included as part of the approved Amended Terms of Reference for the Project. The Project local study area (LSA) includes a 1 km buffer on the alternative routes, as well as potential locations of access roads and other supporting infrastructure (e.g., aggregate pits and laydown areas). The Project is in the early design phase and a 1 km buffer has been used to consider design refinements as the Project design progresses. The LSA is located in the traditional territories of many Anishinaabe and Métis communities in the Districts of Thunder Bay, Rainy River, and Kenora of northwestern Ontario, and is approximately 200,185 hectares (ha) (Map 1 and Map 2).

The objectives of the Stage 1 AA were to gather information about the Study Area's geography, history, current land conditions, and any previous archaeological research within the vicinity in order to determine the archaeological potential of the LSA and to recommend appropriate further archaeological assessment methods. To meet these objectives, WSP archaeologists completed a background study that included a review of data from the Ontario Archaeological Sites Database, topographic and quaternary surficial geology mapping, data from Indigenous Knowledge studies, stream order data, MNRF archaeological potential modelling, and recent high-resolution aerial imagery of the LSA to arrive at a rigorous model of archaeological potential within the LSA. Finally, regionally specific Ontario Ministry of Citizenship and Multiculturalism (MCM) special conditions criteria for the assessment of study areas on the Canadian Shield were applied to develop a map of the LSA indicating where further archaeological assessment is recommended prior to ground disturbance related to the Project (Map 10).

In addition to the above, other Project-specific objectives of this Stage 1 AA included facilitating engagement with Indigenous communities to establish and/or further develop a mutual understanding of archaeological issues and expectations, and to identify opportunities for solutions and partnership. These objectives were addressed in part by reviewing information provided by Indigenous communities through Indigenous Knowledge studies, such as unregistered archaeological sites known to Indigenous communities, that may contribute to the archaeological potential of the LSA.

According to the desktop background study, and when the archaeological potential criteria for northern Ontario and Canadian Shield terrain is applied, portions of the LSA contain archaeological potential for both pre- and postcontact Indigenous as well as Euro-Canadian archaeological resources. The areas of archaeological potential were identified through the presence of several features within and adjacent to the LSA, including: registered archaeological sites; historical transportation routes; water sources; elevated topographic features; areas on quaternary geological mapping indicating well-drained soils; and relict shorelines. Based on the results of the Stage 1 AA, the following recommendations are provided:

- Areas within the LSA determined to have archaeological potential should be subject to Stage 2 AA survey prior to anticipated Project impacts. The survey should be in the form of shovel test pitting in accordance with Section 2.1.5 of the *Standards and Guidelines for Consultant Archaeologists* prior to development/construction impacts (Map 10).
- 2) Areas within the LSA that have been determined to have low to no archaeological potential are not recommended for further archaeological assessment (Map 10).
- 3) Areas within the LSA that have been previously assessed and where further work is recommended (Map 10) should be subject to the recommended work prior to anticipated Project impacts.
- 4) Indigenous communities should be engaged on the process for the management of artifact collections recovered from subsequent archaeological work completed for this Project.
- 5) Areas within the LSA that have been previously assessed and where no further work is recommended do not require further archaeological assessment (Map 10).
- 6) Should the alternative routes change following submission of this Stage 1 AA report such that it no longer falls within the LSA assessed within this report as indicated on Map 2, Stage 1 AA of all new areas will be required.
- 7) If ground disturbing activities related to the Project are required beyond the limits of the LSA assessed within this report, then additional Stage 1 AA will be required prior to ground disturbance.
- 8) If ground disturbing activities related to the Project will impact navigable waterways, a Marine Archaeological Assessment may be required.

The MCM is asked to review the results and recommendations presented herein, accept this report into the Provincial Register of archaeological reports and issue a standard letter of compliance with the Ministry's 2011 *Standards and Guidelines for Consultant Archaeologists* and the terms and conditions for archaeological licencing.

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1.0 PROJECT CONTEXT

1.1 Development Context

WSP Canada Inc. (WSP) was retained by Hydro One Networks Inc. (Hydro One) to conduct a Stage 1 Archaeological Assessment (AA) for the proposed Waasigan Transmission Line (the Project) as part of an Environmental Assessment (EA) being completed under the Ontario *Environmental Assessment Act, RSO 1990, C.E. 18* (Government of Ontario 1990a). The proposed Waasigan Transmission Line is a new double-circuit 230 kilovolt (kV) transmission line between Lakehead Transformer Station (TS) in the Municipality of Shuniah and Mackenzie TS in the Town of Atikokan, and a new single-circuit 230 kV transmission line between Mackenzie TS and Dryden TS in the City of Dryden. Hydro One is currently considering multiple alternative routes that were included as part of the approved Amended Terms of Reference for the Project. The Project local study area (LSA) includes a 1 km buffer on the alternative routes, as well as locations of potential access roads and other supporting infrastructure (e.g., aggregate pits and laydown areas). The Project is in the early design phase and a 1 km buffer has been used to consider design refinements as the Project design progresses. The LSA is located in the traditional territories of many Anishinaabe and Métis communities in the Districts of Thunder Bay, Rainy River, and Kenora of northwestern Ontario, and is approximately 200,185 hectares (ha) (Map 1, Map 2, and Map 3).

The Stage 1 AA was conducted under professional archaeological license P457, issued to Lafe Meicenheimer of WSP by the Ontario Ministry of Citizenship and Multiculturalism (MCM) (PIF # P457-0103-2020).

1.2 Stage 1 Archaeological Assessment Objectives

Consistent with the MCM *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), the objectives of this Stage 1 AA are as follows:

- To provide information about the LSA's geography, history, previous archaeological fieldwork, and current land conditions.
- To evaluate in detail the LSA's archaeological potential.
- To recommend appropriate strategies for Stage 2 AA for all or parts of the LSA, if required.

In addition to the above, other Project-specific objectives of this Stage 1 AA included facilitating engagement with Indigenous communities to establish and/or further develop a mutual understanding of archaeological issues and expectations, and to identify opportunities for solutions and partnership. These objectives were addressed in part by reviewing information provided by Indigenous communities through Indigenous Knowledge studies, such as unregistered archaeological sites known to Indigenous communities, that may contribute to the archaeological potential of the LSA.

1.3 Historical Context

Indigenous people live, work, hunt, fish, trap, and harvest throughout their lands and rely on them for their individual as well as their community's overall cultural, social, spiritual, physical, and economic wellbeing. Lands are inextricably connected to a community's shared identity and culture. It is recognized that the relationship between Indigenous communities and their lands is a symbiotic one and the health of the community is tied to the health of the land. As such, what happens to lands in relation to use, development, ecosystems, and sustainability is of fundamental importance to the communities.

For a more holistic understanding of the pre-contact Indigenous culture history presented below, which is largely based on archaeological evidence interpreted through a western perspective, it is critical to understand and to incorporate information about Indigenous traditional land and resource use because in many cases, the locations of archaeological sites from which archaeological evidence is derived are connected to areas of past and current traditional land and resource use.

1.3.1 Pre-Contact Indigenous Culture History

Based on the archaeological evidence that has been documented to date, the culture history of northern Ontario has been sub-divided into a series of phases (Periods). These are based upon the material remains that survive within the archaeological record that allow the reconstruction and differentiation of past lifeways. These subdivisions are an archaeological construct created to help better understand the development and change of cultures across the region, and benefit from the broad brush of hindsight and generalisation without the fine detail of local variation.

The broadest pre-contact archaeological periods corresponding to northern Ontario are identified as Paleo-Indigenous, Archaic (Middle Period), Middle Woodland and Late Woodland, within which further temporal and regional subdivisions exist.

Within the pre-contact culture history of northern Ontario there are several themes and issues that are relevant across all phases:

- The general acidity of the podzolic and brunisolic soils that make up the vast majority of the soils on the Canadian Shield in Ontario leads to a lack of organic preservation. As a consequence, there are large gaps in the understanding of various aspects of past cultures, ranging from mortuary practices and skeletal morphology through to diet and subsistence strategies. A huge portion of the non-lithic technologies developed in response to the demands of the environment leave no trace; with perishable organics such as bone tools, bark storage containers, hide clothing, and birch canoes, all archaeologically invisible. Aside from rare occasions of survival due to waterlogged or chemically altered soils, such ephemeral yet crucial aspects must be inferred through site locations and the general survival requirements of people within a harsh climate.
- All Indigenous peoples of northern Ontario have used its multitude of interconnected watercourses as a transport network to some degree, either by birch bark canoe or as trails when frozen in the winter. The affiliation with water also extends to the constant utilization of fish as a stable and dependable resource, without which habitation of the Shield would be virtually impossible.
- The highly mobile, multi-resource oriented, hunting and gathering lifestyle is a consistent theme throughout the pre-contact history of northern Ontario. The very nature of the landscape and its dispersed resources mean that there are no other options to this flexible strategy in most of the Canadian Shield (Wright 1995). This results in a very widespread and relatively homogenous set of subsistence patterns and attendant tool kit across the boreal forests of northern Ontario. This is not to define the area as stagnant, but rather acknowledge the complexity and mobility required to populate such an expanse of 'micro ecological zones' (Hamilton & Larcombe 1994).
- A combination of thin soils, bioturbation, including floralturbation and faunalturbation, frost action, and regular forest fires have resulted in the disturbance and mixing of any previously stratified sites, with artifacts congregating at the mineral/organic soil interface (Hinshelwood 1996, Courchesne et al. 2012). This has greatly hindered attempts to separate occupation phases and the research into the temporal and spatial chronologies of such sites.

- Settlement patterns consist of small social groups engaged in seasonal subsistence hunting and gathering, with the more productive late spring and summer seasons able to support greater concentrations of population. Winter hunting camps consisted often of a single-family unit or groups of two to three at most. The stability and easily available resources associated with large fishing sites enabled the congregation of people to conduct ceremonies and trade, serving as community focal points within an otherwise dispersed routine (Larcombe 1994).
- Habitation probably consisted of a form of shelter constructed from wood, animal hides and/or birch bark, in keeping with early ethnographic accounts (Wright 1999). These shelters do not survive archaeologically (Wright 2004), at best leaving a hearth, post moulds, and weight stones. They are, however, highly mobile and ideally suited to the Boreal forest-adapted way of life. Large permanent settlement does occur in the southern portion of northwestern Ontario during the Woodland period (Reid 1984, Reid and Rajnovich 1991), but within the LSA there was likely little need for change until the encroachment of Europeans produced a reliance on trade goods and the pursuit of furs.
- Unlike southern Ontario, agriculture, permanent settlement, and large societies are not currently known to have become established in most of northern Ontario during the pre-contact phase, except for the areas immediately adjacent to the Minnesota border along the Rainy River, as well as Lake of the Woods and the Winnipeg River near present-day Kenora (Reid 1984, Reid and Rajnovich 1991). Here, settlement and ceremonial mound building, as well as the possible cultivation of maize, has been linked to indirect connections to the Hopewell Interaction Sphere in the midwestern United States (Boyd and Surette 2010).

1.3.1.1 Paleo-Indigenous; ca. 10,000 to 7,000 BP

Initial habitation of southern Ontario followed the retreat of the ice sheets at the end of the Late Pleistocene 11,000 BP; however, the LSA for this Project was fully covered by ice and not open to inhabitation until the Holocene transition approximately 2,000 years later.

Archaeological evidence collected to date indicates that groups of hunter-gatherers moved north following caribou and other arctic species that colonized the tundra-like margins of the glacial lakes. Late Paleo-Indigenous people moved north and east into the Interlakes Region between glacial lakes Agassiz and Minong around 9,500 BP (Dawson 1983, Norris 2012) with settlement favouring the strandlines of glacial Lake Agassiz as it receded across the western portion of northern Ontario and glacial Lake Minong in the Lake Superior Basin, as well as outcrops of the Gunflint Formation (Ross 1995). The retreat of the Lake Agassiz shoreline across the Project area during this period (Thorleifson 1996) as well as the shoreline of Lake Minong in the Lake Superior Basin at the eastern end of the LSA, likely provided ideal habitation for Paleo-Indigenous people. William Fox (1975) originally grouped Paleo-Indigenous sites in the Thunder Bay area into the Lakehead Complex, however it has subsequently been suggested that the Lakehead Complex is one of four complexes in a larger Interlakes Composite, including the Lake of the Woods/Rainy River Complex, the Quetico/Superior Complex, and the Reservoir Lakes Complex (Ross 1995).

The incoming large game hunting populations ambushed migratory caribou herds at the various bottlenecks caused by the lakes and rivers of the region (Wright 1972a:), with small family groups following game across the tundra landscape in a varied and highly flexible manner. Site location has also been linked to raw materials found in bedrock outcrops within northwestern Ontario, utilized in the production of distinctive unfluted, ribbon-flaked, lanceolate spear points and knives. These lithic resources were often obtained by quarrying and used to produce blades, spear points, large scrapers, and bifaces (Dawson 1983). There are a number of known sources of fine-grained lithic materials available in northwestern Ontario, including various materials associated with the Gunflint Formation northwest of Lake Superior in northwestern Ontario and northern Minnesota, including Gunflint silica,

Kakabeka chert, jasper taconite, taconite, and Rossport chert, as well as Lake of the Woods chert and Hudson Bay Lowland chert. Other stone material commonly recovered from archaeological sites in the northern Ontario include rhyolites, siltstones, argillite, slate, greywacke, quartz, quartzites, pipestone and greenstone (Fox 2009).

1.3.1.2 Archaic (Middle Period); ca. 7,000 BP to 3,000 BP

The retreat of the Laurentide Ice Sheet during the onset of the Holocene resulted in changes to environmental conditions that included the establishment of coniferous forests in addition to mixed and deciduous forest cover with open grasslands in milder areas to the south (McAndrew 1982). This facilitated a corresponding change in material culture and subsistence strategies. The migratory caribou herd dominated lifestyle of the Paleo-Indigenous people was replaced by a more seasonally shifting hunting and gathering of caribou, deer, elk, moose, fish, and plant resources. This is reflected in the archaeological record by a decrease in the size and change in style of projectile points, along with the appearance of hooks and net sinkers (Wright 1995). In adapting to a forested environment, new woodworking tools such as axes, adzes, and chisels were developed (Dawson 1983).

A defining technological change of the Archaic Period was the development of copper tools, produced from near surface copper deposits found on the shores of Lake Superior and traded all across eastern North America. Copper work of this period consisted of heating and hammering the ore to a desired form, rather than smelting and casting. This was achievable because Lake Superior copper ore is unusually pure, allowing it to be malleable at lower temperatures and shaped with simpler tools. The earliest evidence of copper working near the LSA comes from South Fowl Lake on the Ontario/Minnesota border, providing a radiocarbon date of 6,800 BP for the wooden haft of a copper projectile point (Wright 1995), however radiocarbon dates from northeasterrn Wisconsin provide the earliest known date for a copper artifact at 8,500 BP (Pompeani et al. 2021).

1.3.1.3 Middle Woodland; ca. 3,000 BP to 1000 BP (Initial Woodland Period)

Within southern Ontario, the Woodland Period is split into three distinct phases, Early, Middle, and Late, with influence from the preceding Laurentian cultures of the Great Lakes/St. Lawrence region. In northwestern Ontario, there is little to no evidence of the Early Woodland, and the Middle and Late Woodland appear more influenced by Plains cultures to the south and west.

For archaeologists, the adoption of pottery and the bow and arrow mark the beginning of the Woodland Period. It is important to stress that this provides a marker within the archaeological record that is convenient to use as a subdivision and is not indicative of a change of people through migration, rather a continuing development of the Paleo-Indigenous and Archaic way of life by encompassing new technological advancements. The introduction of pottery around 2,200 to 2,300 BP (Wright 1999) is postulated to have diffused into northwestern Ontario from the southwest or east and, with it, the development of the Laurel culture within the northern forests of the Canadian Shield, running east from Saskatchewan to northwestern Quebec.

Laurel ceramics were thick-walled and manufactured using the coil method and were stylistically conical with a tapering base. Decoration was restricted to the upper portion of the vessel's exterior surface and consisted of a variety of techniques that left impressions or drag marks.

In addition to the introduction of pottery, the bow and arrow began to replace the spear as the dominant hunting technology, resulting in a change of projectile point morphology. Chipped stone technology was dominated by small side-notched arrowheads and a wide range of scraper varieties (Wright 1999). Tools were based mainly on relatively small nodular chert cores with a heavy reliance upon Hudson Bay lowlands nodular chert (Wright 1999) in contrast to the previously quarried rhyolite and quartzite. This resulted in a marked decrease in the size of all tool types and decline in the occurrence of biface knives, along with an increase in projectile points and scrapers (Wright 1995).

A well-developed bone technology toolkit is suggested for Laurel culture by the unusually well-preserved Heron Bay site on the north shore of Lake Superior, with hafted beaver incisors, bone awls, toggle harpoons, needles, beads and snowshoe netting recovered (Dawson 1983). Copper tools were concentrated around the Lake Superior area and were traded further afield for exotic stone, obsidian and marine shell into Manitoba, southern Ontario and the northern United States (Ross 1979, Harris 1987).

The spread of Laurel culture has been linked to the northward expansion of wild rice due to late Holocene cooling; however, few Laurel components have been associated with micro-floral evidence of rice or rice processing features (Boyd and Surette 2010). Recent microfossil analysis on Middle and Late Woodland pottery fragments has revealed the preparation and consumption of maize on sites within the southern edge of the boreal forest near the Ontario-Minnesota border. No evidence for agriculture survives at these sites; however, the results suggest trade networks linked to the maize producing cultures upon the plains to the south (Boyd and Surette 2010).

1.3.1.4 Late Woodland; ca. 1000 BP to 400 BP (Terminal Woodland)

The Late Woodland period in northern Ontario is defined arbitrarily based on ceramic distinctions. With the climate and landscape prohibiting the adoption of agriculture above the Rainy River, there does not appear to have been the same profound change in lifestyle that occurred amongst the agricultural populations to the south. The boreal forests and lichen woodlands of the shield are environmental constraints on the density of population that can be supported (Wright 1999), and also deterministic of the subsistence methods of such populations. Fish and large game were, as before, essential to supporting human existence within northern Ontario.

Settlement patterns reflect this focus on fishing and hunting, with fish sought in the spring, summer and fall, and large game hunted in the fall and early winter. Sites are located on level, well-drained ground with protection from northwest winds, and access to canoe landing beaches. Larger summer encampments were located in proximity to favourable fishing locations, such as lake narrows and rapids, while the probable location of dispersed winter camps on frozen creeks has led to a lack of surviving archaeological information (Wright 2004).

The Late Woodland period is represented as a wide variety of pottery styles and manufacturing techniques that did not appear uniformly over northern Ontario. In some areas, it can be identified around 1,500 BP while in other, usually remote, areas, Laurel-type pottery continues until 1,000 BP. A variety of pottery types are typically found at Late Woodland sites, ranging from Iroquoian to vessels from Michigan and Wisconsin, provide further evidence of previously established trade networks and contacts with the south (Dawson 1983, Wright 2004).

1.3.1.4.1 Blackduck

The Blackduck complex has been identified based on the existence of a contrasting pottery tradition to Laurel. Vessels were large globular and manufactured using the paddle and anvil technique or formed inside textile containers. Decoration is diverse, consisting of horizontal and/or oblique lines along with circular indentations or punctates, and is present on the neck, rim, lip, or inner rim of the container.

Tools associated with the Blackduck culture include small triangular and side-notched arrowheads, a large array of scrapers, both stone and bone, ovate knives, stone drills, smoking pipes, bone awls needles and harpoons, and copper tools.

The development of Blackduck extends through the southwest part of northern Ontario, Manitoba, northern Minnesota, and eastern Saskatchewan (Wright 2004).

1.3.1.4.2 Selkirk

The Selkirk complex is again characterized by its pottery, manufactured with the same techniques as Blackduck, similar in form but distinguished only by decoration. If decorated, it is usually only a single row of punctates or impressed with a cord wrapped stick along the rim (Dawson 1983, Meyer and Russell 1987). The non-ceramic assemblage associated with Selkirk is almost identical to that found on Blackduck sites, with the two often being found together in northern Ontario.

The Selkirk are represented as the ancestors of the present-day Cree (Meyer and Russell 1987); however, it must be noted that inferring ethnicity based on pottery traditions is problematic. The interchangeable nature of both cultures purported to precede the Cree and Ojibwa in northwest Ontario highlight this and caution against focusing on a single technological element when talking of a cultural construct, such as ethnicity. It is possible to identify the Selkirk and Blackduck as ancestral to a Cree-Ojibwa complex, but further separation is perhaps misrepresentative (Wright 2004).

Selkirk pottery is found mainly to the north of northwestern Ontario and into northern Manitoba, Saskatchewan, and northeastern Alberta. Attempts to produce a ceramic chronology in relation to the Blackduck complex have been hampered by the lack of stratified sites and the validity of carbon-dating attempts. It is now generally accepted that Selkirk is slightly later and did not develop from Blackduck; diffusing in from the northwest rather than developing out of existing traditions.

A number of other traditions have been identified based on additional decoration variation; however, the uniformity present within the non-ceramic assemblages suggests caution against over-emphasising small differences and the subscription to regional patriarchy (Wright 2004).

1.3.1.4.3 Rock Art

The Late Woodland also sees the emergence of rock art as an expression of spiritual life and ritual. Rock paintings, known as pictographs, comprised of red ochre mixed with a binding agent, such as bear fat or sunflower oil, are typically found within western Ontario on the vertical faces of cliffs where they enter a body of water (Rajnovich 1994). Pictographs constitute a form of written language, signifying sounds, objects and ideas in reference to subsistence, geography, climate, history and also sacred or religious beliefs and visions (Bursey *et al*), although they could have served a variety of cosmological functions and even political ones by marking territory (Wright 2004:1545). The damming of lakes and rivers by the timber and hydroelectric industries may have drowned many sites, while the fragile nature of the paintings themselves, when exposed to the elements, also reduces their chances of survival. There are two registered pictograph site on the eastern shore of White Otter Lake, approximately 400 m west of the LSA about 37 km northwest of Atikokan (see Section 2.2 below). Rock etchings, or petroglyphs, are relatively rare within the Canadian Shield, with most examples occurring within the south and east of the province. Likewise, petroforms, or artificial arrangements of stones in pits or cairns, are not thought to be common within the area (Dawson 1983).

1.3.2 Post-Contact History

1.3.2.1 Early Exploration

European exploration of northern Ontario in the Lake Superior region began in the early 1600s. The first European to reach Lake Superior was most likely Etienne Brulé, an interpreter employed by Samuel de Champlain (Stuart 2003). It would be several decades before Lake Superior and its surrounding region were more thoroughly explored by the Europeans. These early European explorations relied heavily on knowledge of existing territorial routes provided by the local First Nations, which were based on extensive trade among the First Nations. The first known European explorers on the lake were Pierre Esprit Radisson and Médard Court. They set off in 1658 and returned two years later with "a rich cargo of furs and the knowledge that the best furs could be obtained to the north and west of Superior" (Stuart 2003).

European exploration of the James Bay Region began in 1610 with Henry Hudson, who entered the bay while exploring what would come to be called Hudson Bay. James Bay would later be named for Welsh captain Thomas James, who explored the area more extensively from 1630 to 1631. Apart from Hudson's ship being visited briefly by a Cree man in 1611, the English sailors made no contact with Indigenous people (Morantz 2001).

The earliest European exploration of north-central Canada occurred along the shores of the bays and the major river systems, with further inland exploration occurring at a later date. In the early decades of European exploration, northern North America was explored by both the English and the French. The English focused their efforts of exploration in and around Hudson Bay and James Bay, and farther inland along the watershed systems from these bays. The French concentrated their efforts farther south and moved inland along the St. Lawrence waterway before exploring the Great Lakes area farther inland.

1.3.2.2 The Fur Trade in Northern Ontario

The northern portions of Ontario, north of Lake Superior and south and west of Hudson Bay and James Bay, have had a number of successive exploration ventures beginning in 1610 with the Hudson's Bay Company (HBC), but more extensively in the mid-18th century. Henry Kelsey was the first of the European explorers to venture into the northern part of Ontario and farther east. On Kelsey's second expedition (1690-1692), he explored from York Fort in Hudson Bay and extended the HBC trade west to the Saskatchewan River. Anthony Henday was the second explorer of European descent to venture into the Petit Nord of Ontario, penetrating farther west and well into the Prairies. The boundaries of the Petit Nord are approximately described as being James Bay and Hudson Bay to the north, the divide between the Moose and the Albany River drainages to the east, Lake Superior and the boundary waters between Lake Superior and Lake Winnipeg to the south and Lake Winnipeg and the Hayes River system to the west (Hackett 2002).

The English formally initiated trading on James Bay in 1668 when Fort Rupert was established on the Rupert River. Moose Fort (Factory) and Fort Albany followed in 1673 and 1675, both located on the south end of James Bay. Trading post journals record the extent that Indigenous peoples were travelling to trade at these posts; one record from Gloucester House (operated from 1777-1818) indicates that Indigenous peoples were travelling to the trade post from up to 600 miles away (Newton and Mountain 1980).

During this time of initial exploration, both the HBC and the French St. Lawrence traders (SLT) began to create forts and houses in order to establish trade routes along the various water corridors. The primary corridors that the various groups utilized for trade and transport are mapped by the distribution of forts, company houses and trade posts (Map 4). Major routes utilized by traders included the waterways connecting York Factory south along the Hayes River to Lake Winnipeg. The eastern side of Lake Winnipeg and the water ways from Fort Albany in James Bay, east down the Albany River, through Osnaburgh House, Lac-Seul, Bas-de-la-Rivière into the south end of Lake Winnipeg were also well travelled. Numerous other small or secondary corridors by the traders connected various other forts, houses, and depots within the Petit Nord. In 1670, Charles II granted the Hudson Bay Company (HBC) exclusive rights for English trading in the land drained by rivers flowing into Hudson's Bay, referred to by the Europeans as Rupert's Land. Rupert's Land was composed of several different physiographic regions that included the Hudson Bay Lowlands, located along Hudson and James Bays consisting of marshy lowlands with slow-moving rivers and the Canadian Shield located to the south, east and west of the Hudson Bay Lowlands, consisting of rugged terrain, exposed bedrock, glacial features, and numerous lakes. Farther to the west were the Prairies and to the south, the Great Lakes Region (Harris 1987). The LSA is located within the Canadian Shield region, also known as the Boreal Shield within the province of Ontario.

Unlike the HBC, French interests within the area were supported by independent traders and voyagers from Montreal and the St. Lawrence venturing into western and northern Ontario through the Great Lakes. Both the English HBC and the French St. Lawrence traders (SLT) vied for control over the rich and highly productive resources of Rupert's Land. In 1686, French forces from the St. Lawrence captured Fort Albany and a few years later, took York Factory and Fort Severn on Hudson Bay. These victories enabled a French monopoly on fur trade in the Hudson Bay region until 1713 when the Treaty of Utrecht relegated the French to the southerly St. Lawrence – Great Lakes route into Ontario's hinterland, while the English regained control over their forts and over the northern Hudson Bay routes (Harris 1987).

Intermixed within the network of expanding HBC and SLT posts were groups of highly mobile boreal forestadapted First Nations groups, consisting mainly of Cree and Ojibway, with Assiniboine located farther to the west around Lake Winnipeg. In the early period of the fur trade, First Nations groups acted as middlemen, trading furs for European goods such as firearms, ammunition, blankets, tobacco and various other objects between European traders and other First Nations groups further afield. As tensions rose between the SLT and the HBC, so did the tensions rise between local First Nations groups. Settlement and warfare patterns changed with local Cree families and communities settling beside or within close proximity to established forts and trading posts. These families supplied the posts with provisions and locally obtained furs. Eventually, the First Nations and Europeans intermixed giving rise to a population that became referred to as the Métis.

With these increased tensions between the HBC and SLT, First Nations groups allied with the different trading companies. In doing so, traditional lands shifted as First Nations groups expanded and retracted, vying for control over important trapping routes and transportation corridors. By 1720, the majority of land granted to the HBC by royal charter were controlled by Cree bands. The Cree in these areas had a number of allies, including the Siouan-speaking Assiniboine to the west and the Algonkian-speaking Ojibway to the south. The Cree's prime rivals were the Athabaskan-speaking Chipewyan who were located to the north of the Churchill River. However, by 1740, the Ojibway expanded north and east of Lake Superior and occupied the territory between Lake Winnipeg and Hudson Bay, traditionally Cree territory. This displaced the Assiniboine who moved westward and occupied the parkland areas as far north as the Saskatchewan River (Harris 1987).

The state-organized French fur trade within the region ended in 1759 when Montreal surrendered to the English. However, French fur traders continued to work independently and forced the HBC to set up more inland posts. It was around this time that the North West Company (NWC) was created to quell the HBC westward advances. From the early part of the 1770s until 1821, competition between the two groups was fierce. With both companies unable to sustain the prolonged and intense competitions, they amalgamated into a single operation under the overall banner of the HBC (Klimko 1994).

The exploitation of fur bearing and game animals in the northern interior to facilitate the trade for imported items was unsustainable. The depopulation of natural resources led to an increased focus on smaller game, such as snowshoe hare and wildfowl and placed Indigenous populations at the mercy of the cyclic nature of the smaller species. The decline of deer, elk, caribou, and moose also removed many of the raw materials needed for the boreal way of life, further increasing the dependence on goods from trade posts (Rogers and Smith 1994). The increased reliance upon fishing and trapping, and the inexorable pull of the trade posts resulted in an increasingly settled lifestyle that was compounded by the Treaty System, the creation of reserves and the introduction of the snowmobile in the 1960s. Many current Indigenous community locations correlate with the fur trade posts and infrastructure that depended on them and in turn provided them with what became the essentials of a more settled existence.

1.3.2.3 The Métis

The Métis are distinct Indigenous people with a unique identity and culture that initially emerged from early relations between First Nations women and European men and further developed through generations of the subsequent intermarriages. The territory of the Métis surrounds the Great Lakes and associated waterways, and spans what was known as the historic Northwest. The Métis played an important role in the formation of Canada while colonial expansion significantly affected the formation and enforcement of Métis identity (Supernant 2018). The Métis also developed a unique language, Michif, which is mainly a combination of Cree and French. Michif became broadly spoken across Métis territory during the 19th century. Although its use declined during the 20th century, Michif is still spoken today, with efforts to preserve and perpetuate it to Métis youth supported by groups like the Métis Nation of Ontario (MNO 2022).

By the second half of the 18th century, the Métis were living at various fur trading posts and began to take on a larger economic role by supplying the HBC and the NWC with furs and pemmican, as well as transporting goods throughout a broad geographic expanse (Supernant 2018).

The early 19th century saw increasing competition between the HBC and NWC as the fur trade and European settlers expanded west. The Red River settlement was established in 1811 to support the HBC's operations between the Red River and the Assiniboine River. In 1814, the Red River settlement decreed several proclamations forbidding the export of provisions, such as permican, from the Red River settlement (Foster 2015). These decrees and their enforcement directly impacted the regional Métis, who made their living providing supplies to the HBC and the NWC. These events culminated in 1816 with the Battle of Seven Oaks, a skirmish between a group of HBC officers and employees and a group of Métis and First Nations attempting to deliver permican to the NWC. Following the skirmish, the HBC and settlers temporarily abandoned Fort Douglas in the Red River settlement to the Métis, which proved crucial to the development of the Métis identity, as they declared themselves "the New Nation" in the west (Barkwell 2018, Supernant 2018).

Following the merger of the NWC into the HBC in 1821, the Red River settlement became more central in the fur trade. The Métis began transporting goods and furs throughout the northwest, developing major trails, canoe routes, and portages in all directions from the Red River settlement. As a result, large numbers of Métis moved to the Red River settlement where they increasingly became more involved in acquiring furs, pemmican production, transportation and haulage, and farming. The increasing demand for pemmican in the mid-19th century also led to a distinct practice by the Métis where groups of families would collectively build cabins on the plains and hunt bison overwintering in treed areas (Supernant 2018). Being deeply connected to the fur trade, distinct Métis settlements also began to appear along freighting waterways where they were often part of larger regional communities interconnected by a highly mobile lifestyle following seasonal rounds and building extensive kinship relationships that further formed a shared collective history and identity (MNO 2019a).

Historically, the Crown did not recognize the Métis as a distinct group of Indigenous peoples in Canada. As such, when William Robinson negotiated the Robinson-Superior Treaty in 1850, he left it up to the discretion of the First Nations Chiefs involved in the treaty signing whether people of mixed blood would be included in the treaty or not (Taylor 1983):

As the [Métis] at Sault Ste. Marie and other places may seek to be recognized by the Government in future payments, it may be well that I should state here the answer that I gave to their demands on the present occasion. I told them I came to treat with the chiefs who were present, that the money would be paid to them - and their receipt was sufficient for me - that when in their possession they might give as much or as little to that class of claimants as they pleased. To this no one, not even their advisers, could object, and I heard no more on the subject.

Morris, 1880:20

This treaty set the background for Indigenous policy at the time of Confederation and the Métis were generally excluded from treaties that followed (Taylor 1983). When Canada acquired the HBC's territories in 1870, the large Indigenous group within these territories formed a distinct social group. The Red River Rebellion, led by Louis Riel in 1869 and 1870, protected the Metis way of life by resisting the transfer of land to Canada. The Red River Métis prevented the Canadian government from assuming control of the Red River territory and declared a provisional government to discuss the terms of entry into Confederation with the government of Canada. Negotiations resulted in the creation of the province of Manitoba via the Manitoba Act on May 12, 1870, as well as guaranteed land titles for the Métis and 607,000 ha of land reserved for the Métis and their families. Riel did not receive amnesty for his actions and was forced into exile in the United States (Bumstead 2019). The decline of the fur trade and buffalo population in the late 19th century saw many Métis move farther west into Manitoba and Saskatchewan following the buffalo population, but also disperse into parts of northern Ontario for trapping (Taylor 1983).

Following the Manitoba Act, the government of Canada created the Métis scrip system to extinguish Métis land title so the land could be used for commercial development and Euro-Canadian settlement. This system, in use until the 1920s, was misrepresented to provide equitable settlements to Métis, and resulted in very little land being granted to them. Scrip was a document issued by the Canadian government redeemable at a Dominion Lands Act Office for either land or money. Numerous problems were inherent in the Métis scrip system, including the location of the majority of land allotments in southern and western Manitoba far from where many Métis lived, and fraud, as the owner of the scrip's name did not appear on the certificate, making it possible for fraudulent land speculators to redeem them (Robinson 2019).

By 1884, Métis in Saskatchewan along with the Cree, Siksika, Kainai, Piikani, and Saulteaux First Nations of the plains were facing difficult changes to their ways of life, including the near extinction of the bison, loss of land to settlers, and the decline of the fur trade. The Métis of Saskatchewan brought back Louis Riel from exile, who urged the dissatisfied peoples to unite against the Canadian government. In 1885, the Métis passed a "Revolutionary Bill of Rights" asserting Métis rights of possession to their farms along with other demands (Beal and Macleod 2019). On March 18 and 19 of that year, a Métis armed force seized the parish church at Batoche, demanded the surrender of nearby HBC post Fort Carlton, and formed a provisional government with Louis Riel as president, thus beginning the North-West Rebellion. Following this, the rebellion spread with a series of battles being fought between Métis and First Nations and Canadian forces, although most Métis and First Nations communities of the region did not get involved. The North-West Rebellion ended on June 3, 1885, and Louis Riel was hanged for treason on November 16, 1885 (Beal and Macleod 2019).

As a result of the Métis scrip system and being left out of the majority of treaties, many Métis became disenfranchised and marginalized in the late 19th and 20th centuries, though many communities persisted (Supernant 2018). The Métis National Council was formed in 1983 to represent the Métis Nation both nationally and internationally through democratically elected representatives from the five governing members: The Métis Nation of Ontario, the Manitoba Métis Federation, the Métis Nation-Saskatchewan, the Métis Nation of Alberta, and the Métis Nation British Columbia (Métis Nation 2021).

Despite being a large part of the history of Canada, the Métis of Canada did not receive recognition by the federal government until 2003. Section 35 of the Constitution Arc of 1982 protected existing Indigenous Treaty rights for the first time, including "Indian, Inuit, and Métis peoples of Canada." However, the government maintained that the Métis did not have any Indigenous rights protected by Section 35 and did not negotiate with the Métis. It was not until 2003 and the case of R. v. Powley heard by the Supreme Court of Canada that the Métis were recognized as a distinct Indigenous group and that their Indigenous rights were protected under Section 35 (MNO 2019b). Within Ontario, the Métis Nation of Ontario holds harvesting rights for hunting, trapping, fishing, and gathering of natural



resources for food, social, or ceremonial purposes within harvesting areas created by the Métis Nation of Ontario based on Métis traditional land use and knowledge as well as Historic Métis Communities (MNO 2018). The Study Area falls within the traditional territories of the Northwestern Ontario Métis Community (Treaty 3, Lake of the Woods/Lac Seul and Rainy Lake/Rainy River traditional territories) and Northern Lake Superior Métis Community's Lakehead Harvesting area.

Archaeological research of the Métis is limited and for the most part has largely focused on Métis overwintering sites found throughout the prairies and parkland areas of western Canada and the northern United States (Supernant 2018). In Canada, these distinctly Métis sites, as opposed to other fur trade-era sites within traditional Métis territory, are primarily located in Manitoba and Alberta (Supernant 2018). In Ontario, historical Métis settlements were predominately centred on the fur trade, located along major river systems surrounding the Great Lakes and northwestern Ontario (MNO 2019a).

1.3.2.4 Further Euro-Canadian Settlement and Resource Extraction (circa 1850 to Present)

Settlement in northern Ontario for farming, forestry, mining, and other forms of resource extraction by Euro-Canadians began around the middle of the 19th century. A substantial presence on Lake Superior was made possible in 1855 through completion of a railway from Toronto to Collingwood on Georgian Bay and by a canal at Sault Ste. Marie for marine transport from Lake Huron to Lake Superior that opened the same year (Bray 1984). Additionally, effort was made in the latter half of the 19th century to complete an all-Canadian route linking the Great Lakes and the prairies. This route, known as the Dawson Trail, was a land- and water-based route connecting Porth Arthur (Thunder Bay) on Lake Superior to the Red River settlement in what is now Manitoba (Map 5). The route was initially surveyed in 1858 by Simon James Dawson, but construction on it did not being until 1868 and it was not completed until 1871 (DTAHC 2020).

Census records from 1871 list 15,000 people inhabiting northern Ontario, clustered in a few settlements, primarily Bruce Mines and Sault Ste. Marie. By 1911, largely driven by new railways, the population had increased to 215,000 people scattered over a wide geographical area (Bray 1984). The lumber and mining industries propelled population growth during the early and mid-20th century from 215,000 in 1921 to 722,000 in 1961 (Bray 1984:14). The most recent Census data indicates that the population of northern Ontario is just over 780,000 and is clustered in regional centres (Statistics Canada 2016a and b). Government policy in the early 20th century drove much of the development of northern Ontario through infrastructure creation and geological surveys. Aviation also played a role after World War I in aiding survey of difficult terrain and supplying remote communities.

1.3.2.4.1 Lumber, Mining, and Infrastructure

The lumber and mining industries were pivotal for developing northern Ontario from the mid-19th century to the present day. The history of lumbering in the area is commonly grouped into three overlapping periods: a first phase from the 1870s to early 1900s where the focus was on large white pine and white spruce for the global timber market; a second phase from 1900 onward when the focus shifted to spruce for the pulp and paper industry to provide the eastern United States with pulp for newsprint; and a third phase beginning in the mid-20th century marked by adoption of the combustion engine to power new equipment, which revolutionized all aspects of the industry (Smith 1984).

The first phase of the lumber industry from the 1870s to 1900s focused on white spruce and white pine primarily because of the distances to market; to be profitable, the value of the timber had to heavily outweigh the costs of bringing the trees to distant markets and the large white pine and white spruce trees of northern Ontario met this criterion. Lumberjacks would haul large trees to the rivers with teams of horses and live in semi-permanent camps that included bunkhouses, cookhouses, barns for the horses, smithies and storage sheds (Bogue 2007). The remnants of these camps may be present as debris scatters on the surface or ruins.



The second phase shifted in focus to supplying the eastern United States with pulp for making newspaper (Smith 1984). Softwood spruce is easily pulped and abundant in northern Ontario. By the 1920s, lumbering in northern Ontario was devoted almost entirely to the pulp and paper industry. Larger, more permanent, and complex mill operations were required for pulping, resulting in long-term investment in the area and a need for a permanent labour force. This, in turn, spurred further settlement in the region.

Mechanization marks the third phase of the lumber industry, which emerged in the mid-20th century with the invention of the chainsaw and the increased availability of heavy tracked vehicles. Chainsaws increased productivity in felling trees by approximately 25% over axes and handsaws, and a combination of bulldozer and crane called a "skidder" had replaced horses by the 1960s. Roads slowly outpaced waterways as the primary form of transport and also facilitated workers to commute to work and have greater choice in where they lived.

Mining also played an important role in northern Ontario's development and settlement. At first, the mineral wealth of the Canadian Shield was exploited intermittently, first with the failed Bruce Mine southeast of Sault Ste. Marie from the 1840s to 1876, then with the Silver Islet Mine on and adjacent to the Sibley Peninsula from 1869 to 1874. Mining was not a major industry in northern Ontario until the Canadian Pacific Railway (CPR) was built in 1874. Following this, the industry expanded rapidly with the discovery of significant gold, silver, iron, and nickel deposits along the CPR line. Temporary or semi-permanent camps were built to sample and mine these various deposits.

In 1890, the Ontario government began supporting mine development through the Bureau of Mines, which also sponsored classes in prospecting and provided some specialized equipment to miners (Gilbert 1984). By 1914, Ontario was the leading mining province in the country, accounting for 40% of all production and employing 11,000 workers. A boom in demand for minerals during the First World War dropped after the Armistice and growth in the industry slowed during the interwar years (Gilbert 1984).

With World War II came renewed demand for resources overseas, but also perceived security risks on the home front. During the war, German prisoners of war and Japanese-Canadians were detained at camps across the country, including several permanent and temporary camps along the north shore of Lake Superior. Camps at Red Rock, Neys, and Angler Creek were seen as so inhospitable that escape would be unlikely to succeed. At these camps, both German POWs and Japanese-Canadian internees were put to work in the logging industry.

The demand for resources continued into the 1950s and 1960s. Investment and mechanization led to larger operations that could exploit deposits more effectively and could pull new returns from old mines. In the 1970s the growth rate seen in the previous three decades faltered and competition from other parts of the world redirected investment away from northern Ontario. Mechanization has increased since then and with it has come different labour requirements.

From around the turn of the 20th century until the First World War, mines and prospecting followed the path of railways. Travel and trade around the north shore of Lake Superior to this point had relied on the water but this began to change in the 1880s with the construction of the CPR. In 1884, the CPR finished its route across the north end of the lake. Construction of the railway relied on marine transportation and small ports were built approximately 100 km apart along the north shore of Lake Superior to deliver supplies for railway construction leading to the development of small communities and tracks or roads to support the railway. Other rail lines in the area included the Algoma Central Railway and Temiskaming and Northern Ontario Railway (Chisholm et al. 1998).

Infrastructure, including roads, was difficult to build in northern Ontario due to challenging terrain and environmental conditions. As early as 1912, the province began to fund roads, bridges, and transportation facilities in northern Ontario, and by 1930 the "Nipigon Highway" between Port Arthur and Nipigon opened



(Shragge and Bagnato 1984). The Trans-Canada Highway began with federal funding in 1949. Progress was slow, with a section between the Agawa River and Marathon completed in 1956. The complete highway across Northern Ontario was connected at Wawa in 1960 (Shragge and Bagnato 1984).

1.3.2.4.2 Agriculture

Agriculture has also aided the development of northern Ontario, although climate and soil conditions limit the region's capacity to support a viable agricultural economy. Most of the area around the LSA is unsuitable for large-scale agriculture use since the typical soil formation on the Canadian Shield produces sharply undulating terrain with minimal overburden and large areas of exposed bedrock. Despite these challenges, agricultural settlement has occurred on small areas of fertile land close to mining and lumbering centres such as Sault Ste. Marie, Thunder Bay, and on Manitoulin Island (Brozowski et al. 1984). These farms were vital for supplying lumber and mining industry workers and their horses with an affordable food source.

The Ontario government actively promoted the agricultural potential of the north in the last quarter of the 19th century, which attracted many prospective farmers to settle in the region. However, by the Great Depression the regional agricultural economy was in decline, partly because of wider developments in the industry and also due to the difficulties of farming in the harsh climate (Brozowski et al. 1984). In 1931, nearly 2.8 million acres of land were under cultivation in northern Ontario, but by 1981 only 1.2 million acres were being farmed.

1.3.2.5 First Nations and Métis Context

The LSA is within traditional First Nations and Métis territory.

The official policy in Ontario, as outlined in the Royal Proclamation of 1763, has been to recognize Indigenous title to the lands occupied by First Nations. Despite the Halfbreed Adhesion to Treaty Number 3 (see Section 1.3.2.5.1 below), the Métis were only formally recognized by the Canadian government as a distinct Indigenous group in 2003 (see Section 1.3.2.3 above). As part of this recognition of Indigenous title, compensation has been provided for portions of land surrendered by First Nations, and reservations have been set aside to ensure First Nations can meet their current and future needs. Treaty-making in Ontario generally started in the south, moving north as the European population grew and found more uses for northern lands and resources. Hunting pressures due to increased access to the north through the Canadian Pacific Railway was a driving force to the treaty signing. Ontario currently accommodates Métis harvesting rights through the Ontario Framework Agreement on Métis Harvesting (MNO 2018). The Study Area falls within the Rainy Lake/Rainy River/Lac Seul Métis Harvesting Area, as well as the Halfbreed Adhesion to Treaty Number 3 (see Section 1.3.2.5.1 below; MNO 2018).

The LSA is located within lands that were originally part of Treaty Number 3 (1873) and Treaty Number 60 (Robinson-Superior Treaty, 1850) (Map 6).

1.3.2.5.1 Treaty Number 3

The Study Area is located within lands that were originally part of Treaty Number 3 (1873). After Canada acquired the title to Rupert's Land in 1869, they endeavoured to build a series of roads and canals between Thunder Bay and the Red River Settlement. Almost the entire length of this infrastructure was to bisect the yet-unceded territory of the Saulteaux tribe of the Ojibway (Daugherty 1986). Hoping to avoid a repeat of the Métis Rebellion at the Red River Settlement, a treaty commission was organized and sent out to the Saulteaux in 1871. The negotiations were a long process and delayed further with discovery of precious metals in the Saulteaux's territory (Daugherty 1986).

Treaty Number 3 was signed on October 3, 1873. By the terms, Canada acquired 55,000 square miles of land, while the Saulteaux's treaty terms included one square mile of land for farming per family of five, the construction of schools when required, hunting and fishing rights, \$12 per person in immediate compensation for band members, \$20 annuity for each chief and \$5 annuity for band members, and the promise of not being conscripted to fight Canada's wars (Daugherty 1986).

Two years later in 1875, the Métis of Rainy Lake and River around the Fort Francis area, who had been fighting to be included in Treaty Number 3, signed the "Halfbreed Adhesion to Treaty Number 3" with the Crown, which set aside two reserves for this Métis group and entitled them to annuity payments, farm implements, and cattle (Barkwell n.d.). However, in 1876, with the passage of the first Indian Act, the Department of Indian Affairs refused to recognize the Métis of Rainy Lake and River as a distinct Métis group or uphold the Halfbreed Adhesion to Treaty Number 3 (MNO 2020). Instead, the Métis of Rainy Lake and River were given the choice to join local First Nations or receive no treaty benefits. As such, many Métis in this area joined the Couchiching First Nation and other First Nations in the area, while many did not (MNO 2020). The Métis of Rainy Lake and River continued to fight for their rights under the Halfbreed Adhesion to Treaty Number 3 and petitioned the Department of Indian Affairs for the annuities, farm implements, and cattle owed from the original 1875 treaty adhesion. As this petition was sent shortly after the North-West Rebellion (see Section 1.3.2.3 above), the government paid these back payments, however subsequent attempts by the Métis of Rainy Lake and River to be paid their full compensation due under the adhesion were denied, as the Department of Indian Affairs considered the matter closed after the back payments (Barkwell n.d.). This Halfbreed Adhesion to Treaty Number 3 is the only numbered treaty signed by the Métis (MNO 2020).

1.3.2.5.2 Treaty Number 60 (Robinson-Superior Treaty)

By the mid-19th century, there was pressure on the Crown Lands Department for mineral resource development in what is now northern Ontario, driven by the success of successful mining operations on the upper Michigan Peninsula. However, the Department had no past experiences to rely on nor knowledge of what resources might be present there. In 1845, the Crown Lands Department began issuing licenses for prospecting and establishing mining claims, and between 1846 and 1848, conducted several surveys to develop its own data concerning the north shore of Lake Superior, including William E. Logan and McNaughton and Vidal in 1846, and Albert P. Alter in 1848 (Surtees 1986). All the activity in the area began to worry the Indigenous populations of the area, who warned off the surveyors and prospectors and filed formal complaints with the government stating that they should receive money for what they considered their lands and a share of what was found on them. In 1847, the Commissioner of Crown Lands, Denis-Benjamin Papineau, rejected the Indigenous claims to the northern lands based on the grounds that the bands only occupied those lands since their conquest in 1763 and were therefore not the original inhabitants of the lands. However, Governor General Lord Elgin did not agree with Papineau's report, though he did not think the Indigenous claim to the land was strong (Surtees 1986). He sent Alexander Vidal and Thomas Gummersol Anderson to more fully investigate the circumstances on the north shore of Lake Superior. The Vidal-Anderson Report concluded that there was a high probability of successful negotiations for land cessation and recommended that it be done quickly. The report also laid out recommendations regarding the size of annuity payments, the perseveration of fishing and hunting rights, and the establishment of reserve lands, including size and location recommendations. This report set the groundwork for Treaty Number 60 (Surtees 1986).

In January 1850, William Benjamin Robinson, a former commissioner of public works, was appointed to settle the land issues in the northwest. He was given instructions to buy as much land as possible along the northern shores of both Lake Superior and Lake Huron and given a budget of £7,500. He set out in April of 1850 and travelled around the north, acquainting himself with the area and announcing his intent to return for former negotiations in



the summer. Formal final negotiations began in September 1850 in Sault Ste. Marie, and Robinson offered £4,000 with a perpetual annuity of £1,000 for all lands along the northern shores of Lake Superior and Lake Huron. The Lake Superior Bands were satisfied with this deal and signed Treaty Number 60 on September 7, 1850. The Lake Huron bands were not satisfied until two days later on September 9, 1850, when after attempts to secure more money failed, they signed Treaty Number 61. These treaties are known as the Robinson Treaties; Treaty Number 60 as the Robinson-Superior Treaty, and Treaty Number 61 as the Robinson-Huron Treaty (Surtees 1986).

The Robinson-Superior Treaty was based on earlier land cession agreements, but also had its own innovations. Individual band chiefs were allowed to select reserve sites, usually based on summer encampment areas that had been used historically where limited agriculture was practiced. Additionally, the Robinson-Superior Treaty addressed three other major components of European-Indigenous relations; mineral rights, the rights of those of mixed Indigenous and European ancestry, and hunting and fishing rights. The treaty stipulated that the Indigenous peoples were not to interfere with the mining operations, and that reserves could not be sold or leased without the consent of the Chief Superintendent of Indian Affairs. The issue of people of mixed ancestry was included as part of this issue; could Métis be permitted to join bands and sell or lease reserve land and share the money with the bands? To address this, Robinson mandated that these people of mixed ancestry declare themselves as either Indigenous or non-Indigenous. Finally, the Robinson-Superior Treaty was the first treaty to include provisions guaranteeing hunting and fishing rights for ceded lands directly in the treaty (Surtees 1986).

Finally, the Robinson-Superior Treaty remuneration for the lands was unique in that they were paid in cash. The initial purchase was for £2000 with an annuity of £500 to follow each year. Annuities would decrease proportionally if the population decreased to two-thirds of the population at the time of signing. However, if the sale of the ceded lands produced a greater return than expected, the Crown could choose to increase the annuities (Surtees 1986).

Each group received an initial sum of £2000. An annuity of £500 was to follow each year. And for the first time, these sums were to be paid in cash. As in some previous arrangements, the annuities would decrease with a decline in population. In this case the crucial figure was two-thirds of the population at which point the annuity would be reduced proportionately. But if the sale of lands surrendered produced a greater than expected return, the annuities might be increased at the Crown's pleasure.

1.3.2.6 First Nations and Métis Nation of Ontario Charter Community Councils

There are a number of First Nations reserves and three Métis Nation of Ontario Community Councils located along or within close proximity to the Project LSA, each with a rich and diverse history.

1.3.2.6.1 Fort William First Nation (Fort William 52)

Fort William First Nation is an Ojibway First Nation located adjacent to the City of Thunder Bay to the south. The nation has a registered population of 1,798 members, 832 of whom live on the 5,815.1-ha Fort William 52 reserve (FWFN n.d.).

1.3.2.6.2 Nezaadiikaang (Lac des Mille Lacs 22A1 and 22A2)

The following community description was provided by Nezaadiikaang. Nezaadiikaang, also known as Lac des Mille Lacs First Nation, is an Ojibway First Nation comprised of 2 land reserves. Reserve 22A1 is 1,518 ha and is located on Lac des Mille Lacs. Reserve 22A2 is 3430 ha and is located at the confluence of the Firesteel and Seine Rivers. Extensive flooding over reserve lands after the construction of the Dawson Dam in 1872, the Bakus Dam in the 1920s, and the Ontario Hydro Dam in the 1950s forced members from the reserve lands and caused widespread displacement. The construction of a road to Reserve 22A1 in 2007 and the completion of a community roundhouse in 2012 marked the beginning of the reestablishment of an on-reserve community.



A community complex consisting of 10 units and a communal kitchen area has also been built as well as roads to lots, where community members are currently building homes. A state-of-the-art solar field provides electricity to the community complex and roundhouse. Marine cables were laid in order to provide electricity for on reserve residences. The on-reserve community continues to grow with community members building new homes on reserve 22A1 in recent years. Four new homes have recently been completed and 11 more are under construction. Lac des Mille Lacs First Nation has worked hard to re-establish an on-reserve community and is proud of the progress being made. Growth has not only been seen on the land base, but also in the work being done to bring community together, re-establish family ties, and the multiple developments being made to ensure a sustainable future for generations to come.

1.3.2.6.3 Lac La Croix First Nation (Neguaguon Lake 25D)

Lac La Croix First Nation is an Ojibway First Nation is located on the northern shore of Lac La Croix on the Canada-United States border. The nation has a registered population of 410 members, 285 of whom live on the 6,214.1-ha Neguaguon Lake 25D reserve (INAC 2013b).

1.3.2.6.4 Seine River First Nation (Sturgeon Falls 23, Seine River 23A, Seine River 23B)

Seine River First Nation is an Ojibway First Nation located on the Seine River between Atikokan and International Falls with three reserves; the 1,758.8-ha Seine River 23A, the 904.5-ha Seine River 23B, and the 2,488.9-ha Sturgeon Falls 23. The nation has a registered population of 706 members, 312 of whom live on the Seine River 23A reserve (INAC 2013c).

1.3.2.6.5 Nigigoonsiminikaaning First Nation (Rainy Lake 26A, Rainy Lake 26B, Rainy Lake 26C, Agency 1)

Nigigoonsiminikaaning First Nation is an Ojibway First Nation located on the northeastern shores of Rainy Lake with four reserves; the 1,909.7-ha Rainy Lake 26A reserve, the 1,068.4-ha Rainy Lake 26B reserve, the 1,107.6-ha Rainy Lake 26C reserve, and the 63-ha Agency 1 reserve. The Agency 1 reserve is shared between Nigigoonsiminikaaning First Nation, Couchiching First Nation, Mitaanjigamiing First Nation, and Naicatchewenin First Nation. The nation has a registered population of 290 members, 130 of whom live on the Rainy Lake 26A reserve (NFN 2019).

1.3.2.6.6 Mitaanjigamiing First Nation (Rainy Lake 18C and Agency 1)

Mitaanjigamiing First Nation is an Ojibway First Nation located on the northwestern shores of Rainy Lake with two reserves; the 1,562.6-ha Rainy Lake 18C reserve and the 63-ha Agency 1 reserve. The Agency 1 reserve is shared between Mitaanjigamiing First Nation, Nigigoonsiminikaaning First Nation, Couchiching First Nation, and Naicatchewenin First Nation. The nation has a registered population of 140 members, 100 of whom live on the Rainy Lake 18C reserve (MFN n.d.).

1.3.2.6.7 Couchiching First Nation (Couchiching 16A and Agency 1)

Couchiching First Nation is an Ojibway First Nation located on the northwestern shores of Rainy Lake with two reserves; the 6,504-ha Couchiching 16A reserve and the 63-ha Agency 1 reserve. The Agency 1 reserve is shared between Couchiching First Nation, Mitaanjigamiing First Nation, Nigigoonsiminikaaning First Nation, and Naicatchewenin First Nation. The nation has a registered population of 2,049 members, 626 of whom live on the Couchiching 16A reserve (INAC 2013a).

1.3.2.6.8 Anishinaabeg of Nagaajiwanaang (Naicatchewenin First Nation; Rainy Lake 17A, Rainy Lake 17B, Agency 1)

The Anishinaabeg of Nagaajiwanaang, also known as Naicatchewenin First Nation, is an Ojibway First Nation located on the northwestern shores of Rainy Lake and the Manomin River with three reserves; the 1,501.8-ha Rainy Lake 17A reserve, the 987.5-ha Rainy Lake 17B reserve, and the 63-ha Agency 1 reserve. The Agency 1 reserve is shared between Naicatchewenin First Nation, Couchiching First Nation, Mitaanjigamiing First Nation, and Nigigoonsiminikaaning First Nation. The nation has a registered population of 387 members, 265 of whom live on the Rainy Lake 17A reserve (Anishinaabeg of Nagaajiwanaang 2021)

1.3.2.6.9 Ojibway Nation of Saugeen (Ojibway Nation of Saugeen)

The Ojibway Nation of Saugeen is located approximately 20 km northwest of Savant Lake, Ontario on a 5,986-ha reserve located on the shores of Kashawagama Lake (Ojibway Nation of Saugeen 2019). The community has a registered population of 254 members, 83 of whom live on-reserve (INAC 2021b).

1.3.2.6.10 Lac Seul First Nation (Lac Seul 28)

Lac Seul First Nation is an Ojibwe community located on the southeastern shores of Lac Seul, whose 26,821.5-ha reserve, *Obishikokaang*, is one of the largest reserves in the Treaty Number 3 area. There are three main settlement areas on the reserve: Keesic (Kejick) Bay, Frenchman's Head, and Whitefish Bay. Historically, the main settlement area of the reserve was Keesic Bay, which was in close proximity to the Lac Seul HBC outpost. Construction of a hydroelectric dam at Ear Falls in 1929 raised the water level of Lac Seul, separating the Keesic Bay settlement from the mainland (LSFN 2019). The Lac Seul First Nation has a population of 3,021 people, 789 of whom live on the reserve (IFNA 2020).

1.3.2.6.11 Waabigoniiw Saaga'iganiiw Anishinaabeg (Wabigoon Lake Ojibway Nation; Wabigoon Lake 27)

Waabigoniiw Saaga'iganiiw Anishinaabeg, also known as the Wabigoon Lake Ojibway Nation, is located on Dinorwic Lake, approximately 21 km southeast of Dryden. The nation has a registered population of 567, with 183 people living on the 5,209.2-ha Wabigoon Lake 27 reserve (Wabigoon Lake First Nation n.d., INAC 2013d).

1.3.2.6.12 Eagle Lake First Nation (Eagle Lake 27)

Eagle Lake First Nation is located on the north shore of Eagle Lake, approximately 13 km south-southwest of Dryden. Its people, the *Migisi Sahgaigan*, are an Ojibway community with a registered population of 589 members, 268 of whom live on the 3,440-ha Eagle Lake 27 reserve (Eagle Lake Development 2019, INAC 2019b).

1.3.2.6.13 Rainy River First Nations (Manitou Rapids 11, Long Sault, Rainer River 1, 2, 3, 4)

Rainy River First Nations is an amalgamation of seven historical Rainy River Saulteaux Ojibway bands, including the Hungry Hall 1 Band of Rainy River Saulteaux, Hungry Hall 2 Band of Rainy River Saulteaux, Little Forks Band of Rainy River Saulteaux, Long Sault 1 Band of Rainy River Saulteaux, Long Sault 2 Band of Rainy River Saulteaux, Manitou Rapids 1 Band of Rainy River Saulteaux, and Manitou Rapids 2 Band of Rainy River Saulteaux. In 1914 and 1915, six of the seven bands that now make up Rainy River First Nations surrendered or sold their reserves and consolidated in the Manitou Rapids 11 reserve (Heart of the Continent 2022). The Rainy River First Nations Land Settlement Agreement in 2005 provided monetary compensation for grievances related to the 1914-1915 land surrenders, as well as stipulations to provide 18,725 ha of reserve lands over 40 years to the Rainy River First Nations (Government of Canada 2005). Rainy River First Nations currently has six reserves in the southwest corner of northern Ontario: the 2,267-ha Manitou Rapids 11 Reserve, the 3-ha Long Sault Reserve, The 279-ha Rainy River 1 Reserve, the 3,735 Rainy River 2 Reserve, the 1-ha Rainy River 3 Reserve, and the 1,459-ha Rainy River 4 Reserve (LABRC 2022). Rainy River First Nations has a registered population of 1,292 members, 468 of whom live on-reserve (INAC 2021a).



1.3.2.6.14 Wabauskang First Nation (Wabauskang 21)

Wabauskang First Nation is a Saulteaux First Nation located approximately 22 km south of Ear Falls, Ontario on Wabauskang Lake. It has one reserve, the 3,254-ha Wabauskang 21 Reserve, and a registered population of 366 member, 137 of whom live on-reserve (INAC 2021d).

1.3.2.6.15 Wabaseemoong Independent Nations (Wabaseemoong, One Man Lake 29, Swan Lake 29, Agency 30)

Wabaseemoong Independent Nations represents the Ojibway communities of One Man Lake, Swan Lake, and White Dog. These three communities were separate settlements until the 1950s, when they amalgamated into the Islington Band of Saulteaux when hydroelectric development flooding made significant portions of their territory inaccessible. The Islington Band of Saulteaux changed their name to Wabaseemoong Independent Nations to better reflect their Anishinaabe traditions (WIN n.d.). Wabaseemoong Independent Nations has three reserves northwest of Kenora, Ontario: the 8,480-ha Wabaseemoong Reserve (formerly Islington Reserve 29), the 1,117-ha One Man Lake 29 Reserve, and the 2,237-ha Swan Lake 29 Reserve. The community is also part of the Agency 30 Reserve that is shared by 13 First Nation communities on the Aulneau Peninsula of Lake of the Woods. Wabaseemoong Independent Nations has a registered population of 2,031, 1,004 of whom live on reserve (INAC 2021c).

1.3.2.6.16 Niisaachewan Anishinaabe Nation (Dalles 38C, Agency 30)

Niisaachewan Anishinaabe First Nation is located 8 km northwest of Kenora, Ontario on the 32.57 km² Dalles 38C Reserve. The community is also part of the Agency 30 Reserve that is shared by 13 First Nation communities on the Aulneau Peninsula of Lake of the Woods. The Ojibway community has a registered population of 469 members, 160 of whom live on-reserve. The Niisaachewan Anishinaabe First Nation is one of the 29 communities that are part of the Grand Council Treaty #3 (INAC 2019d).

1.3.2.6.17 Wauzhushk Onigum First Nation (Kenora 38B, Agency 30)

The Wauzhushk Onigum First Nation is located approximately 3 km southeast of Kenora, Ontario on the 22.31.2 km² Kenora 38B Reserve. The community is also part of the Agency 30 Reserve that is shared by 13 First Nation communities on the Aulneau Peninsula of Lake of the Woods. The Ojibway community has a registered population of 793 members, 381 of whom live on-reserve. The Wauzhushk Onigum First Nation is one of the 29 communities that are part of the Grand Council Treaty #3 (INAC 2019a).

1.3.2.6.18 Naotkamegwanning First Nation (Whitefish Bay First Nation; Whitefish Bay 32A, Yellow Girl Bay 32B, Sabasking Bay 32C, Agency 30)

Naotkamegwanning First Nation consists of two reserves located approximately 32 and 48 km southeast of Kenora, Ontario; the19.54 km² Whitefish Bay 32A Reserve and 18.02. km² Yellow Girl Bay 32B Reserve. The community is also part of the Agency 30 Reserve that is shared by 13 First Nation communities on the Aulneau Peninsula of Lake of the Woods, as well as the Sabaskong Bay 32C Reserve just east of Lake of the Woods. The Ojibway community has a registered population of 1,292 members, 753 of whom live on-reserve. The Naotkamegwanning First Nation is one of the 29 communities that are part of the Grand Council Treaty #3 (INAC 2019c).

1.3.2.6.19 Grand Council Treaty #3

Grand Council Treaty #3 represents 24 signatories of Treaty Number 3 and four Treaty Number 3 signatory First Nations that are not affiliated with Grand Council Treaty #3, particularly regarding treaty rights. The 24 signatory communities are grouped into three Tribal Councils: the Anishinabeg of Kabapikotawangag Resource Council, which includes Animakee Wa Zhing 37 First Nation, Mishkosiminiziibiing First Nation (Big Grassy First Nation),

the Anishnaabeg of Naongashiing (Big Island First Nation), Northwest Angle 33 First Nation, the Ojibways of Onigaming First Nation (Sabaskong) and the Anishinabe of Wauzhushk Onigum (Rat Portage); the Bimose Tribal Council, which includes Asubpeeschoseewagong First Nation (Grassy Narrows), Migisi Sahgaigan First Nation (Eagle Lake), Iskatewizaagegan 39 Independent First Nation, Lac des Mille Lacs First Nation, Naotkamegwanning First Nation (Whitefish Bay), Niisaachewan Anishinaabe Nation (Dalles), Washagamis Bay First Nation (Obashkaandagaang Bay First Nation), Shoal Lake 40 First Nation, Wabaseemoong Independent Nations Whitedog), Wabauskang First Nation, and the Waabigoniiw Saaga'iganiiw Anishinaabeg (Wabigoon Lake Ojibway Nation); and Pwi-Di-Goo-Zing Ne-Yaa-Zhing Advisory Services, which includes Couchiching First Nation, Lac La Croix First Nation, Naicatchewenin First Nation (Northwest Bay), Nigigoonsiminikaaning First Nation (Red Gut), Rainy River First Nations (Manitou Rapids), Seine River First Nation, and Mitaanjigamiing First Nation (Stanjikoming First Nation). The four unaffiliated First Nations represented by Grand Council Treaty #3 are Buffalo Point First Nation, Lac Seul First Nation (Obishikokaang), the Ojibway Nation of Saugeen, and Sagkeeng First Nation (Grand Council Treaty #3 2022).

1.3.2.6.20 Ogemawahj Tribal Council

Ogemawahj Tribal Council is a regional chiefs' council representing Mississaugas, Chippwa, and Pottawatomi First Nations. Its six member First Nations are the Mississaugas of Alderville First Nation, Chippewas of Beausoleil First Nation, Chippewas of Georgina Island First Nation, Chippewas of Rama First Nation, Mississaugas of Scugog Island First Nation, and Pottawatomi of Moose Deer Point First Nation (Ogemawahj Tribal Council 2015).

1.3.2.6.21 Red Sky Métis Independent Nation

Red Sky Métis Independent Nation (RSMIN) is made up of the descendants of the 84 so-called "half-breeds" recognized by the Crown as beneficiaries and annuitants in Treaty 60 (Robinson-Superior Treaty). Ancestors of the RSMIN in the 18th and 19th centuries worked at fur trade posts along the northern shore of Lake Superior from the Thunder Bay area north to the Lake Nipigon Area and south to the Sault Ste. Marie area. Following the decline of the fur trade, ancestors of the RSMIN continued to live and work in the Robinson-Superior Treaty area, and today, the RSMIN has approximately 8,000 citizens (RSMIN 2009).

1.3.2.6.22 Métis Nation of Ontario

The Métis Nation of Ontario (MNO) was established in 1993 by Métis people and communities across Ontario to create a Métis-specific governance structure. The MNO was not created to represent all individuals and communities claiming to be Métis, but rather those that are part of the Métis Nation (MNO 2019a). Métis citizens across Ontario are represented locally through MNO Charter Community Councils, though these are not in and of themselves rights-bearing Métis communities. Instead, these councils represent component parts of the larger regional, rights-bearing Métis community in which they are located. MNO Community Councils provide a level of local governance for the descendants of the historic rights-bearing Métis communities have authorized the MNO and its Community Councils – by voluntarily applying to the MNO for citizenship – to collectively represent them for the purpose of Crown consultation. Through this transparent and verifiable system, the Regional Métis Communities – as the proper rights holder to whom the Crown's consultation duty is owed – mandate the MNO for the purposes of consultation, accommodation, and negotiations related to rights and claims.

The Study Area is in the vicinity of the MNO's Northern Lake Superior Métis Community and Northwestern Ontario Métis Community. The Northern Lake Superior Métis Community is represented through the Lakehead/Nipigon/Michipicoten Consultation Committee, and the region's Captain of the Hunt. This consultation



committee is chaired by the MNO Region 2 Regional Councillor and includes representatives from the region's three MNO Community Councils, the Thunder Bay Métis Council, the Superior North Shore Métis Council, and the Greenstone Métis Council. As well, the Northwestern Ontario Métis Community is represented through the Treaty 3/Lake of the Woods/Lac Seul/Rainy Lake/Rainy River Consultation Committee, and the region's Captain of the Hunt. This consultation committee is chaired by the MNO Region 1 Regional Councillor and includes representatives from the region's four MNO Community Councils, the Atikokan Métis Council, the Kenora Métis Council, the Northwest Métis Council, and the Sunset Country Métis Council.

1.3.2.7 Other Communities

Though the documented histories of the following communities may only go back 100 years or less, they represent some of the first historical settlements in the area, and as a result the buildings and structures associated with the early pioneers are of heritage value. Depending on their exact location within the communities, heritage studies on specific buildings may be required if they are to be impacted by the project.

1.3.2.7.1 City of Dryden

The City of Dryden is on the northern shore of Wabigoon Lake and was originally settled by the Minister of Agriculture, Honourable John Dryden, who announced the establishment of an agricultural settlement in the Wabigoon Lake area in 1895. Surveyors had laid out the Township of Wainwright and Township of Van Horne within 1895, and in early 1896, the provincial government produced a brochure promoting the two townships to prospective settlers. In 1897, the village was officially named Dryden after the Hon. John Dryden and consisted of a sawmill and a handful of stores and homesteads (City of Dryden 2017). Agriculture and mining fueled the growth of Dryden into the early 20th century, and it was incorporated as a town in 1910. Soon after, the pulp and paper industry became a major contributor to Dryden's economy, with the settlement being incorporated as a city in 1998 (City of Dryden 2017).

1.3.2.7.2 Town of Atikokan

The Town of Atikokan was laid out in 1899 by the Canadian Northern Railway at a divisional point, though there were several mines established in the general area following the signing of Treaty Number 3 in the late 19th century. The prospect of gold led settlers to move to Atikokan in the early 20th century, with a hotel, post office, and store being established by 1902 (Town of Atikokan 2012). Atikokan remained a small settlement until the discovery of iron ore in the Steep Rock Lake area north of Atikokan in 1938. Demand for iron ore for World War II led to the draining of Steep Rock Lake for mining and population growth in Atikokan in the 1940s, as well as its incorporation as a town in 1954. Mining remained the Town's primary economic driver until the early 1980s when both major iron mines closed. Atikokan's economy now functions on the Atikokan Generating Station, tourism, and pulpwood (Town of Atikokan 2012).

1.3.2.7.3 City of Thunder Bay

The Euro-Canadian history of Thunder Bay begins with the fur trade. The first fur trade outpost in the area, Fort Caministigoyan, was established around 1683 by French trader Daniel Greysolon, Sieur du Lhut along the Kaministiquia River where it flows into Lake Superior. This post was closed in 1696 but re-established in a similar location in 1717 by Zacharie Robutel de la Noue as Fort Kaministiquia. Fort Kaministiquia operated until around 1758, when it closed due to the war between the French and the English (Thunder Bay Museum n.d.). In 1803, the Northwest Company established Fort William in the same area after Americans gained control of Grand Portage to the south in what is now Minnesota, where the Northwest Company had previously operated from. The Northwest Company merged with the Hudson's Bay Company in 1821, and Fort William became a minor outpost, closing in the 1880s, though the community surrounding the fort remained (Thunder Bay Museum n.d.).

Meanwhile, in 1869, another settlement named Prince Arthur's Landing was established north of Fort William at the eastern end of the Dawson Trail, which connected Lake Superior to the Red River settlement in what is now Manitoba. Prince Arthur's Landing was renamed Port Arthur in 1883, when the Canadian Pacific Railway built a large grain elevator there (Anderson and Kemp 2012). Port Arthur grew more quickly than Fort William in the late 19th century due to its superior docks and shipping facilities, though the Canadian Pacific Railway established a station at Fort William in 1875, which helped renew the community. Port Arthur was incorporated as a town in 1884, and Fort William was incorporated as a town in 1892 (Anderson and Kemp 2012).

Both towns continued to develop separately in the late 19th and early 20th century, shaped primarily by silver mining, the forestry industry, and the railways, including the flow of grain via railway through the large grain elevators at the ports. Both towns were designated as cities in 1907 and were amalgamated along with the geographic Townships of Neebing and McIntyre as the City of Thunder Bay in 1970 (City of Thunder Bay 2018).

2.0 ARCHAEOLOGICAL CONTEXT

2.1 Previous Archaeological Research

An extensive overview of archaeological research in northern Ontario up to 1983 has been provided by Dawson (1984). A brief synopsis follows. Virtually no archaeological work was carried out in northern Ontario prior to the 1940s, with systematic studies only commencing in the 1970s, following the direct involvement of the Provincial government in archaeological fieldwork. Work conducted post-1983 is split between academic research and Cultural Resource Management based assessments.

Most work within northwest Ontario has been concentrated within the Lake Superior and Lake Nipigon regions, along with the southwest portion of the province containing the Rainy River, Quetico Park and the Lake of the Woods. Pollack conducted the initial surveys of the Northwest interior and published the first cultural sequence for the mid-northeast region (Dawson 1984), in addition to the more northern Winsk River drainage system, along with Pugh (1971).

Historical archaeology has primarily been concentrated on fur-trade posts, with an overview study by Harris (1987) and a more detailed investigation by Lytwyn (1986).

General overviews of northern Ontario pre-history are provided by Dawson (1983) and Wright (1972a, 1972b, 1995, 1999, 2004). The predictive modelling study undertaken by Lakehead University also provides an excellent and detailed synopsis of the area (Larcombe 1994, Hamilton et al 1994).

A number of archaeological investigations have been conducted within the current LSA or within 50 m beyond its boundary.

A total of six Stage 1 and 2 AAs have been conducted on powerline corridors east of the Lakehead TS that overlap with the current LSA at the Lakehead TS, including assessments by Scarlet Janusas Archaeology Inc. (2014; PIF #: P027-0245-2014), Golder (2016; PIF #: P1056-0074-2016), Archaeological Research Associates Ltd. (2019; PIF #:s: P007-0954-2018 and P007-0955-2018), and Stantec (2018a; PIF #: P1084-0037-2017; 2018b; PIF #s P1018-0008-2018, P1018-0009-2018, P1018-0010-2018, P1018-0011-2018, P1018-0012-2018, and P1018-0013-2018; 2020; P083-0354-2020). These assessments identified areas of archaeological potential within the current LSA, some of which have been subject to Stage 2 test pit survey. None of these assessments resulted in the identification of any archaeological sites or materials within the current LSA.

A Stage 1 AA was conducted in 2018 by Northwest Archaeological Assessments for an approximately 60 ha study area that falls within the current LSA in the Municipality of Shuniah. It included a property inspection and determined that there was no archaeological potential within the study area (Northwest Archaeological Assessments 2018; PIF #: P236-0098-2018).

Several AAs have been conducted on Highway 11/17 within the City of Thunder Bay, portions of which are within the current LSA. In 1992, Andrew Hinshelwood conducted a preliminary archaeological investigation for the expansion of Highway 11/17 to four lanes between Balsam Street and the Current River Bridge, which crosses the LSA. This investigation resulted in the identification of archaeological site DcJh-40, which is within the current LSA. The site was subsequently excavated in the same year (Hinshelwood 1992a and b; 1992-044).

In 1993, Adams Heritage conducted a Stage 2 AA of Highway 11/17 from the Current River to Highway 527, which crosses the LSA. The fieldwork It consisted of test pit survey and resulted in the identification of three archaeological sites within the current LSA: the Naomi Site (DcJh-42), the Hydro Crest Site (DcJh-43), and the Hodder East Site (DcJh-44). Further work was recommended at the Naomi Site (DcJh-42) and the Hodder East Site (DcJh-44), but not at the Hydro Crest Site (DcJh-43) (Adams Heritage 1993; 1993-040-010).



In 2006, Archaeological Research Associates Ltd. conducted a Stage 1 AA and subsequent Stage 2 AA that included more intensified test pit survey of the Naomi Site (DcJh-42), the Hydro Crest Site (DcJh-43), and the Hodder East Site (DcJh-44) previously identified during Nicholas Adams' 1993 assessment at the intersection of Highway 11/17 and Hodder Avenue, as well as a portion of lands east of Highway 527 that were not included as part of Adam's 1993 survey. The three archaeological sites and portions of the lands east of Highway 527 are within the current LSA. The Stage 2 AA resulted in additional documentation of the three sites but did not identify any new sites in the portion of lands east of Highway 527. Similar to Adams' 1993 report, further work was recommended at the Naomi Site (DcJh-42) and the Hodder East Site (DcJh-44), but not at the Hydro Crest Site (DcJh-43) (ARA 2006a and b; PIF #s P007-078-2006 and P007-095-2006).

The Naomi Site (DcJh-42) was subject to excavation in 1995 by Adams Heritage consisting of hand excavation of blocks of 50 cm square units in three activity areas of the site, resulting in the recovery of 26,756 artifacts (Adams Heritage 1995; 1994-061). Following that excavation, Western Heritage conducted a Stage 4 excavation at the Naomi Site (DcJh-42) involving the hand excavation of 10-1 m² units adjacent to the 1995 excavation areas. A total of 117 artifacts were recovered and no further work was recommended for the site (Western Heritage 2010; PIF # P307-009-2010).

The Hodder East Site (DcJh-44) was subject to Stage 3 AA in 2011 by Western Heritage, consisting of the hand excavation of 64-1 m² test units, resulting in the recovery of 2,348 artifacts as well as an additional 260 artifacts recovered from uncertain contexts, including surface collection in areas previously disturbed by recent tree clearing activities. The site was recommended for Stage 4 mitigation (Western Heritage 2012; PIF # P307-018-2011). Following the Stage 3 AA, Western Heritage conducted a Stage 4 excavation at the Hodder East Site (DcJh-42) involving the hand excavation of 161-1 m² units within the development zone. The report available from the MCM is an interim report and does not contain a total artifact count or catalogue, however the portion of the site within the development zone was not recommended for further work, while the portion of the site outside the development zone was recommended for Stage 4 avoidance and protection (Western Heritage 2011; PIF # P330-002-2011).

Additionally, in the City of Thunder Bay, several AAs have been conducted on the Shuniah Mines mountain bike trail system within the LSA. Avocational archaeologist Christopher Hamilton identified four sites, the Dagobah Site (DcJh-67), the Black Sheep Site (DcJh-68), the West Upper 2 km Site (DcJh-69), and the East Upper 2 km Site (DcJh-70), along trails within the mountain bike trail system. Hamilton documented and collected artifacts from the Dagobah Site (DcJh-67) and observed artifacts at the other three sites. Artifacts were observed eroding from the trails following trail construction and maintenance. Further archaeological assessment was recommended for the trail system (Hamilton 2016, PIF # A1101-0001-2015). Following Hamilton's report, North Shore Archaeology conducted a Stage 1 AA post-impact archaeological assessment in 2017 following the construction of a mountain bike trail built near known archaeological sites within the current LSA. The Stage 1 AA observed artifacts near the West Upper 2 km Site (DcJh-69) and recommended that Stage 2 test pit survey be conducted of the entire trail to determine the size and extent of the known sites in the area and identify the presence of unknown sites that may be impacted through continued use of the trail (North Shore Archaeology 2017; PIF #: 307-0074-2017). Also, within the Shuniah Mines mountain bike trail system, avocational archaeologist Kelsey Pennanen conducted a surface survey in an attempt to relocate the Richardson Site (DcJh-22) within the current LSA after artifacts were observed eroding out of a mountain bike trail near the suspected location of the site. This survey did not recover any artifacts nor succeed in relocating the site (Pennanen 2016; PIF #: A1080-0001-2015).

Also, within the current LSA in the City of Thunder Bay, a Stage 1 and 2 AA was conducted in 2015 by North Shore Archaeology at the McDaid Site (DcJh-16) after trade beads were discovered along a path in Centennial Park. This assessment consisted of trowel excavation to a depth of 5 cm of 28-1 m² test units in the path and



shovel test pit survey adjacent to the path, resulting in the recovery of 2,020 trade beads and the identification of a hearth feature and the recommendation to continually monitor the path for artifacts as it erodes (North Shore Archaeology 2016; PIF #P307-0038-2015).

In 2016, Stantec conducted a Stage 1 and 2 AA for a study area measuring approximately 3 ha that falls within the current LSA in the Kashabowie Lake Area of the District of Rainy River. The Stage 2 test pit survey did not result in the identification of any archaeological sites or materials (Stantec 2017; PIF #: P415-0099-2016).

In 2016, North Shore Archaeology conducted a Stage 2 AA along proposed routes of a path within Quetico Provincial Park at the location of the French Portage West End Site (DeJs-2). The Stage 2 AA consisted of test pit survey at 5 m intervals along the proposed path routes and resulted in the recovery of 33 sherds of Indigenous pottery, one scraper, nine pieces of lithic debitage, seven pieces of fire-cracked rock, 22 nails, and 25 shards of glass (North Shore Archaeology 2017b; PIF # P307-0063-2016). As a result, a non-destructive pathway was designed to cross the French Portage West End Site (DeJs-2) without ground disturbance. The pathway consists of a wooden frame with geotextile affixed to it containing crushed stone. The installation of this pathway was subject to Stage 4 Construction Monitoring in 2017. There were no impacts to the site and Stage 4 Excavation was recommended for any future work at the French Portage West End Site (DeJs-2) (North Shore Archaeology 2017c; PIF # P307-0066-2017).

In 2007, Boreal Heritage Consulting conducted a Stage 1 and 2 AA of Crown lands on the shores of Plateau Lake and Lerome Lake near Atikokan. Portions of Plateau Lake fall within the current LSA. The majority of the shorelines of both lakes was found to be rugged and have low archaeological potential, however one site, the Plateau Lake Site (DeJu-4) was identified on Plateau Lake in the current LSA, while two additional sites DeJw-1 and DeJw-2 were identified on Lerome Lake, outside the current LSA. The Plateau Lake Site (DeJu-4) was not recommended for further work because it was not expected to be subject to development at the time (Boreal Heritage Consulting 2007; PIF # P073-115-2007).

In 2021, WSP Golder, now WSP Canada Inc., conducted a Stage 1 and 2 AA on a 1.1 ha study area in support of the Mackenzie Transformer Station expansion on Highway 11B south of Atikokan within the current LSA. The majority of the Study Area was found to be low-lying land with low archaeological potential and disturbed, though a small portion was subject to test pit survey at 5 m intervals. The Stage 2 AA did not result in the identification of any archaeological sites or materials (WSP Golder 2021; PIF # P457-0119-2021).

In 2011, Central Archaeology Group Inc. conducted a Stage 1 and 2 AA for the replacement of 104 pole structures on the D26A Transmission Line Corridor between Atikokan and the intersection of Highway 17 and Highway 622 between Ignace and Dinorwic, which falls within the current LSA. The Stage 2 AA consisted of test pit surveys in a 2 m radius surrounding each pole location, excepting where thin soils, exposed bedrock, or inaccessibility prohibited such. The Stage 2 did not result in the identification of any archaeological sites or materials within a 2 m radius of all pole structures subject to assessment, and the inaccessible pole locations were deemed to have low archaeological potential. Stage 2 AA was recommended for portions of the D26A Transmission Line Corridor outside of the assessed areas deemed to have moderate to high archaeological potential (Central Archaeology Group 2012; PIF # P272-199-2011).

In 2017, Western Heritage conducted a Stage 1 AA of Amershaw Metallics Inc. Patent Lands in the Bending Lake Area in the District of Kenora, a portion of which falls within the current LSA. The Stage 1 included a property inspection and identified multiple areas of archaeological potential, including two within the current LSA on the shores of a small, unnamed lake east of Highway 622 (Western Heritage 2017; PIF #: P425-0005-2017).

In 2015, Stantec conducted a Stage 1 and 2 AA of the East Energy Pipeline Project Ignace Pumping Station study area measuring approximately 7.5 ha in Ilsley Township in the District of Kenora, a portion of which falls within the current LSA. The Stage 1 identified a 2.45-ha portion of the study area as having archaeological potential, which was subject to Stage 2 test pit survey. The Stage 2 AA did not result in the identification of any archaeological sites or materials (Stantec 2015; PIF #: P001-784-2013).

Stantec also conducted Stage 1 and Stage 2 AAs in 2015 for a study area measuring approximately 6.75 ha located along Highway 17 in Hodgson Township in the District of Kenora, most of which falls within the current LSA. The Stage 1 AA identified portions of the study area as having archaeological potential (Stantec 2016a; P389-0175-2015). Portions of the study area within the proposed new alignment of Highway 17 were subject to Stage 2 test pit survey, which did not result in the identification of any archaeological sites or materials (Stantec 2016b: P1084-0001-2015).

WSP Golder, now WSP Canada Inc., conducted a Stage 1 and 2 AA in 2022 for TC Energy at work area R57+14.56 in support of TC Energy's 2022 Cathodic Protection Remedial Program. The study area for this Stage 1 and 2 AA consisted of a 10-m wide corridor approximately 155 m in length located in Lot 1, Concession 1 in Revell Township in the Kenora District. The Stage 1 AA identified the study area to have archaeological potential and the entire study area was subject to Stage 2 test pit survey at 5 m intervals. The Stage 2 AA did not result in the identification of any archaeological resources and the entire study area was found to be disturbed (WSP Golder 2022; PIF #: P457-0134-2022).

Past Recovery Archaeological Services Inc. conducted a Stage 1 and 2 AA in 2016 for a study area measuring approximately 1.05 ha located along Highway 17 south of Dinorwic in Southworth Township in the District of Kenora, which falls within the current LSA. The Stage 1 AA identified most of the study area as previously disturbed from the construction of Highway 17, however a small portion was subject to Stage 2 test pit survey. The Stage 2 assessment did not result in the identification of any archaeological sites or materials (Past Recovery 2016; PIF #: P336-0136-2016).

In 2012, Boreal Heritage Consulting conducted a Stage 1 AA of a study area measuring approximately 4.9 ha in Zealand Township in the District of Kenora, most of which falls within the current LSA. The Stage 1 included a property inspection and found the entirety of the study area to have no areas of archaeological potential (Boreal Heritage Consulting 2014; PIF #: P073-258-2012).

Finally, Archaeological Research Associates Ltd. conducted a Stage 1 AA in 2015 for the E4D Transmission Upgrade from the Dryden TS to the Ear Falls TS, which overlaps with the current LSA at the Dryden TS. The Stage 1 assessment identified portions of the study area within the current LSA that either have or may have archaeological potential and recommended these areas for test pit survey or systematic visual inspection (ARA 2015; PIF #: P007-0681-2015).

To the best of our knowledge, no additional archaeological assessments have been performed within or within 50 m of the LSA.

2.2 Previously Recorded Archaeological Sites

The primary source of information regarding known archaeological sites within the LSA is the Ontario Archaeological Sites Database (OASD). Robert von Bitter, Archaeological Data Coordinator for the MCM, was consulted for the present assessment. The results indicate that there are a total of 61 registered archaeological sites within the LSA and 38 registered archaeological sites within 1 km of the LSA. Data concerning these sites may be found in Table 1 and Table 2.



Information concerning specific site locations is protected by provincial policy and is not fully subject to the *Freedom of Information Act.* The release of such information in the past has led to looting or various forms of illegally conducted site destruction. Confidentiality extends to all media capable of conveying location, including maps, drawings, or textual descriptions of a site location. For this reason, maps and data that provide information on archaeological site locations are provided as supplementary documentation and do not form part of this public report.

The MCM 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.

Table 1: Sites within the LSA

Borden #	Site Name	Cultural Affinity	Site Type	CHVI Recommendations*
DcJg-12	Twin Eagles	Pre-Contact Indigenous	Unlisted	Further CHVI
DcJh-2	Boulevard Lake	Pre-Contact Indigenous, Paleo	Findspot	Unknown
DcJh-4	Simmonds	Pre-Contact Indigenous, Late Paleo	Campsite	Unknown
DcJh-17	Centennial Park	Pre-contact Indigenous, Late Paleo	Campsite	Unknown
DcJh-16	McDaid	Pre-Contact Indigenous, Late Paleo; Post- Contact	Tool Manufacturing/Campsite	Further CHVI
DcJh-18	Fourex	Pre-Contact Indigenous, Paleo	Campsite	Further CHVI
DcJh-19	Current River	Unlisted	Unlisted	Unknown
DcJh-20	Wardrope	Pre-Contact Indigenous	Campsite	Unknown
DcJh-22	Richardson	Unlisted	Unlisted	No Further CHVI
DcJh-26	Signpost	Unlisted	Campsite	Unknown
DcJh-35	Black Bay Road	Pre-Contact Indigenous, Paleo	Unlisted	Unknown
DcJh-39	Happy Days	Pre-contact Indigenous, Late Paleo	Findspot	Further CHVI
DcJh-40		Pre-contact Indigenous, Late Paleo	Quarry	No Further CHVI
DcJh-42	Naomi	Pre-contact Indigenous, Late Paleo	Campsite/Lookout	No Further CHVI
DcJh-43	Hydro Crest	Pre-contact Indigenous, Late Paleo	Scatter	No Further CHVI
DcJh-44	Hodder East	Pre-contact Indigenous, Late Paleo	Campsite/Lookout	Further CHVI
DcJh-67	Dagobah	Pre-contact Indigenous, Late Paleo	Chipping Station/Quarry/Campsite	Further CHVI
DcJh-68	Black Sheep	Pre-contact Indigenous, Late Paleo	Chipping Station/Quarry/Campsite	Further CHVI
DcJh-69	West Upper 2 km	Pre-contact Indigenous, Late Paleo	Chipping Station/Campsite	Further CHVI
DcJh-70	East Upper 2 km	Pre-contact Indigenous, Late Paleo	Chipping Station/Quarry/Campsite	Further CHVI
DcJh-74	Castlegreen	Pre-Contact Indigenous, Paleo	Campsite	No Further CHVI
DcJh-76	Paleo Currie	Pre-contact Indigenous, Paleo	Campsite	Further CHVI
DcJh-77	Balsam Huron	Pre-Contact Indigenous, Paleo	Campsite	No Further CHVI
DcJh-88	Walker	Pre-Contact Indigenous, Paleo	Unlisted	Further CHVI
DcJh-89	Sweetwater	Pre-Contact Indigenous, Paleo	Unlisted	Further CHVI
DdJh-1	Cascades 2	Unlisted	Campsite	Unknown

Borden #	Site Name	Cultural Affinity	Site Type	CHVI Recommendations*
DdJh-3	Weber	Pre-Contact Indigenous, Paleo	Unlisted	Unknown
DdJi-1	Lappe I	Pre-Contact Indigenous, Paleo	Scatter	Further CHVI
DdJj-1	Kaministikwia River Camp	Euro-Canadian	House/Military	Unknown
DdJj-5	Kaministikwia River	Unlisted	Unlisted	Unknown
DdJk-2	Matawin River Camp	Euro-Canadian	House	Unknown
DdJm-1	Battley Site	Pre-Contact Indigenous; Euro-Canadian	Unlisted	Unknown
DdJm-11	Location 1	Pre-Contact Indigenous	Unlisted	No Further CHVI
DdJn-1	Young	Unlisted	Unlisted	Unknown
DdJo-1	Boyes	Unlisted	Unlisted	Unknown
DdJo-2	Portage	Pre-Contact Indigenous	Unlisted	Unknown
DdJo-3	Wylie	Unlisted	Burial	Unknown
DdJo-5	Kashabowie Station	Post-Contact	Portage	Unknown
DdJo-7	Bogdon	Pre-Contact Indigenous, Archaic	Findspot	Unknown
DeJr-2	RAGS	Unlisted	Campsite	Unknown
DeJs-1	French Portage, East End	Euro-Canadian	Building/Dam	Unknown
DeJs-2	French Portage, West End	Pre-Contact Indigenous, Lake Woodland; Euro-Canadian	Campsite	Further CHVI
DeJs-4	French Lake	Pre-Contact Indigenous, Archaic, Middle Woodland; Euro-Canadian	Unlisted	Unknown
DeJs-5	Windigoostigwan Beach I	Pre-Contact Indigenous, Late Woodland; Euro-Canadian	Campsite/Other	Unknown
DeJs-6	Windigoostigwan Beach II	Unlisted	Unlisted	Unknown
DeJs-15	French River Rapids	Euro-Canadian	Campsite/Other	Unknown
DeJu-4	Plateau Lake Site	Pre-Contact Indigenous	Unlisted	No CHVI
DeJv-3		Unlisted	Unlisted	Unknown
DfKa-2	CWW Access	Pre-Contact Indigenous	Campsite	Further CHVI

Borden #	Site Name	Cultural Affinity	Site Type	CHVI Recommendations*
DhKb-4	Turtle River #1	Pre-Contact Indigenous	Unlisted	Unknown
DhKb-5	Turtle River #2	Pre-Contact Indigenous	Scatter	Unknown
DhKb-7	Turtle River	Pre-Contact Indigenous	Scatter	Unknown
DfJw-2	Rock Island	Pre-Contact Indigenous	Campsite	Unknown
DfJw-3	Drowned Point	Unlisted	Unlisted	Unknown
DfJw-14	Sand Cove	Pre-Contact Indigenous, Lake Woodland	Campsite	Unknown
DfJw-16	Copper Point	Pre-Contact Indigenous	Campsite	Unknown
DhKb-9	Turtle Biface	Pre-Contact Indigenous	Campsite	Further CHVI
DhJw-1	Balmoral Lake	Pre-Contact Indigenous, Late Woodland	Unlisted	Unknown
DhJw-5	Campus Lake #1	Pre-Contact Indigenous	Unlisted	Unknown
DhJx-1	White Otter 1	Pre-Contact Indigenous	Pictograph	Unknown
DhJx-6	Devil's Gap	Pre-Contact Indigenous	Pictograph	Unknown

*Based on OASD Site Forms.

Table 2: Sites within 1 km of the LSA

Borden #	Site Name	Cultural Affinity	Site Type	CHVI Recommendations*
DcJg-1	Wildgoose Park	Pre-Contact Indigenous, Archaic	Campsite	Further CHVI
DcJg-13		Pre-Contact Indigenous	Campsite	Further CHVI
DcJg-14		Pre-Contact Indigenous	Campsite	Further CHVI
DcJh-9	Biloski	Pre-Contact Indigenous, Paleo, Archaic	Scatter	Further CHVI
DcJh-25	Cascades 1	Unlisted	Campsite	Unknown
DcJh-32	Johns	Pre-Contact Indigenous, Paleo	Findspot	Unknown
DcJh-82	BL Terry Projectile	Pre-Contact Indigenous	Campsite	Further CHVI
DcJh-83	BL Iron Point	Pre-Contact Indigenous	Campsite	Further CHVI
DdJk-1		Unlisted	Unlisted	Unknown
DdJm-2	Cherry	Pre-Contact Indigenous, Archaic	Unlisted	Unknown
DdJm-3	Patricia Kozak	Pre-Contact Indigenous, Late Paleo, Late Woodland	Unlisted	Unknown
DdJm-10	Davenport Burial Site	Pre-Contact Indigenous, Middle Woodland, Late Woodland; Post-Contact	Campsite/Burial	No Further CHVI
DeJs-3	Eva Portage	Pre-Contact Indigenous, Middle Woodland, Late Woodland; Post-Contact; Euro- Canadian	Fur Trade/Other	Unknown
DdJs-6		Pre-Contact Indigenous	Findspot	Unknown
DeJs-7		Pre-Contact Indigenous	Findspot	Unknown
DeJs-8		Pre-Contact Indigenous	Findspot	Unknown
DdJt-5	Pickerel Lake Site IV	Pre-Contact Indigenous, Woodland	Unlisted	Unknown
DdJt-6	Novaqua	Pre-Contact Indigenous, Late Woodland	Unlisted	Unknown
DdJt-7	Pickerel Beach	Pre-Contact Indigenous	Campsite	Unknown
DdJt-26	Pickerel Lake VI	Pre-Contact Indigenous	Scatter	Unknown
DdJt-44		Pre-Contact Indigenous	Findspot	Unknown
DdJt-48		Pre-Contact Indigenous	Findspot	Unknown
DeJu-1	Boileau	Unlisted	Unlisted	Unknown
DeJw-2	Lerome Lake Island	Pre-Contact Indigenous	Scatter	Unknown

Borden #	Site Name	Cultural Affinity	Site Type	CHVI Recommendations*
DfJw-1	Jack Pine Island	Unlisted	Unlisted	Unknown
DfJw-6	Quartz	Pre-Contact Indigenous, Archaic	Campsite	Unknown
DfJw-7	Lightning Point	Unlisted	Unlisted	Unknown
DfJw-9	Companion Rock	Unlisted	Unlisted	Unknown
DfJw-13	Crowrock	Unlisted	Unlisted	Unknown
DfJw-15	Next Sand Cove	Unlisted	Unlisted	Unknown
DfJx-1	Vista Islet	Unlisted	Unlisted	Unknown
DfJx-2	Lonely Lodge	Pre-Contact Indigenous	Campsite	Unknown
DfJx-10	Beach Comber	Pre-Contact Indigenous, Late Woodland	Campsite	Unknown
DfJx-11	Swamp Bay	Unlisted	Unlisted	Unknown
DgJw-4	White Otter Lake 4	Pre-Contact Indigenous	Pictograph	Unknown
DiJw-7	Rabbit Hill "Oven"	Euro-Canadian	Unlisted	Unknown
DkKc-1		Pre-Contact Indigenous	Unlisted	Unknown
DkKd-6	Wabigoon Lake (Barrit Bay)	Pre-Contact Indigenous	Scatter	Unknown

*Based on OASD Site Forms.

2.3 Environmental Overview

At the peak of the Last Glacial Maximum (LGM) (26,500 – 20,000 BP; Clark et al. 2009) the LSA would have been located under the Laurentide Ice Sheet (Harris 1987). During deglaciation and warming between 11,000 BP and 10,500 BP, the ice sheet retreated and advanced numerous times over the LSA before finally retreating north with the establishment of the Holocene.

Large glacial lakes were formed by melt water, with Lake Agassiz covering over a third of northern Ontario, Lake Ojibway covering a large portion of northeastern Ontario and northwestern Quebec, and the Tyrell Sea covering the Hudson Bay Lowlands to the north (Baldwin et al 2000). Lake Agassiz gradually drained, exposing the LSA around 9,300 BP (Thorleifson 1996) and making it available for colonization by flora and fauna. The final retreat of the Laurentide Ice Sheet also led to the formation of glacial Lake Minong in the Lake Superior basin around 9,500 BP. Levels of Lake Minong fluctuated throughout the early Holocene, likely caused by the dynamic drainage of Lake Agassiz or hydraulic damming of the Lake Minong outlet during this period. Lake Superior was formed around 8,500 BP with the amalgamation of Lake Agassiz and Lake Ojibway and subsequent reroute of the Lake Agassiz drainage along the retreating margin of the Laurentide Ice Sheet through the Ottawa River Valley (Breckenridge et al. 2010).

As Lake Agassiz receded, the newly exposed land would have become vegetated, pollen cores suggest first with a spruce-dominated landscape that also included birch, poplar, larch and elm, before giving way to jack and red pine along with birch.

During the period between 9,500 and 6,400 BP, the climate became warmer and drier than currently being experienced, with this episode identified as the Holocene Climate Optimum (Kingsmill 2011). This period is characterized by the opening up of previously forested land to the south, giving way to grassland with stands of pine and poplar, and the advancement north of spruce forests into the tundra. Water levels were also at their lowest during this period due to the draining of glacial lakes following the eventual melt of the ice sheets blocking outflow north into Hudson Bay.

The current boreal forest vegetation has been established since 3,600 BP with temperatures and seasonality also stabilizing at current levels around at this time. Minor cooling episodes around 2,500 BP and 500 BP resulted in the southerly retreat of the forests and corresponding development of peat and muskeg, while minor warming around 1,500 BP resulted in a temporary advance north of the tree line (Dawson 1984, Wright 1999).

The LSA is located within the Canadian Shield physiographic region, which makes up approximately 48% of Canada's land mass. Glacial erosion and postglacial deposition have formed the present landscape. The Canadian Shield was originally an area of high relief, with extensive mountains rising up to 12,000 m; however, millennia of erosion have resulted in its current low topographic relief (Clark 1999).

The LSA is underlain by the Precambrian rock of the Canadian Shield and is located within the Southern and Superior Provinces. The topography has a low total relief and drainage patterns that have been heavily altered by glacial action, resulting in poor overall drainage. The glacial deposits on the southern Shield are predominantly sandy to silty till, in contrast to the northern Shield which is dominated by lake deposits of clayey and silty till.

The Canadian Shield, including the metal-rich Sudbury Basin and the Temagami Magnetic Anomaly, is one of the world's richest areas of minerals and mining deposits. This mineral abundance has produced a history of mining activity within the area, from the pre-contact mining of near surface copper and siliceous rock, through to the gold rush of the late 19th century to today's intensive mineral exploration.

The Canadian Shield contains numerous rivers and lakes, accounting for 22% of Canada's freshwater (Royal Canadian Geographical Society 2013). Deposition by glacial streams and lakes account for the majority of soil development and the subsequent composition of supported flora and fauna.

Till material deposited by rivers entering lakes formed deltaic plains, while glacial action left high relief features such as moraines, drumlins and eskers. These raised areas are better drained than the surrounding low-lying land and often form a locally distinct environment capable of supporting drier ecosystems.

Much of the area surrounding the LSA is forested and characterized by exposed bedrock and shallow soils overlying bedrock with lesser occurrences of sandy outwash, silty and clayey lacustrine, and organic materials. Drainage of the area is variable. As depicted in Map 8, the LSA crosses a complex area of surficial geology comprised of:

- bedrock
- undifferentiated till, predominantly sand to silty sand matrix, high content of clasts, often low in matrix carbonate content
- undifferentiated till, fine grained, predominantly silty clay to silt matrix, commonly clast-poor, high matrix carbonate content
- glaciolacustrine deposits, consisting of silt and clay, minor sand, basin and quiet water deposits or sand, gravelly sand and gravel, nearshore and beach deposits
- glaciofluvial ice-contact deposits, consisting of gravel and sand with minor amounts of till, and includes esker, kame, end moraine, ice-marginal delta, and subaqueous fan deposits
- glaciofluvial outwash deposits of gravel and sand, including proglacial river and deltaic deposits
- fluvial deposits of gravel, sand, silt, and clay, deposited on abandoned flood plains, terrace remnants
- organic deposits of peat, muck, and marl
- recent fluvial deposits of gravel, sand, silt, and clay, deposited on modern flood plains

The LSA is located within the Boreal Shield Ecozone, which covers almost two-thirds of the country and includes parts of six different provinces. Headwaters for many major rivers are located within the region, and it is a natural ecosystem for beaver, moose, caribou, and black bears, among many other animals and plant life (Ecological Framework of Canada n.d.).

The LSA is located within the Lake Nipigon, Thunder Bay-Quetico, and Lake Wabigoon Ecoregions.

The Lake Nipigon Ecoregion covers 9.0% of Ontario and is classified as the "Moist Mid-Boreal Ecoclimatic Region" with a moist and cold climate (Crins et al 2009). The region has a history of mining and is located on the Precambrian Shield, with greenstone, siltstone, and shale, as well as basalt (Crins et al 2009). Most of the region is covered by mixed forest in addition to smaller amounts of coniferous, spruce, and deciduous forests (Crins et al. 2009). The flora of the area includes black spruce, balsam fir, trembling aspen, and jack pine, and local fauna include moose, black bear, bald eagle, blue-spotted salamander, painted turtle, and lake trout (Crins et al. 2009). Forest cover throughout the region has been directly influenced by the timber industry and an increase in forest fires due to settlement and railway traffic. Forest fires have the effect of further degrading any thin soils, while also allowing the establishment of more vigorous pioneer species such as trembling aspen and balsam fir. This sequence of tree cover replacement is also encountered after the disturbance of logging operations. Without disturbance, natural or man-made, black spruce forest dominates the upland areas of the region (Winterhalder 1983).

The Lake Wabigoon Ecoregion covers approximately 6.0% of the province. It is classified as "Subhumid Transitional Low Boreal Ecoclimatic Region" (Crins et al. 2009), which is characterized by warm, relatively dry summers and cold winters with limited precipitation. (Environment Canada 1989). Most of the region is covered by forest, with the majority being mixed forest, followed by sparse forest, coniferous and deciduous, with 24% of the region being covered in water, and 4.9% being cleared land (Crins et al. 2009). Within the region, flora includes jack pine, black spruce, balsam fir, trembling aspen, white birch, and white spruce. Local fauna includes the grey wolf, ermine, fisher, American mink, moose, common raven, yellow-rumped warbler, western painted turtle, lake trout and northern pike (Crins et al. 2009).

The Thunder Bay-Quetico Ecoregion covers approximately 2.0% of the province. It is classified as "Moist Low Boreal Ecoclimate Region" (Crins et al. 2009), which is characterized by warm summer and cold winters. Coniferous and mixed forests cover most of the region, with 17.5% being covered in water. Coniferous forests dominate the western portion of the region, with white spruce, balsam fir, eastern white pine, and jack pine, as well as trembling aspen and paper birch. Warmer sites are dominated by mixed forests, characterized by red and sugar maple, yellow birch, paper birch, jack pine, and red pine. Poorly drained sites are dominated by black spruce, white spruce, balsam fir, tamarack, eastern red cedar, and willow (Crins et al. 2009). Local faunal includes moose, American black bear, snowshoe hare, ruffed grouse, pileated woodpecker, spotted salamander, gray treefrog, western painted turtle, lake trout, northern pike (Crins et al. 2009).

The LSA is located within the Great Lakes Basin and Nelson River Watersheds.

2.4 Archaeological Potential

Archaeological potential is established by determining the likelihood that archaeological resources may be present within a property. In accordance with the MCM's 2011 *Standards and Guidelines for Consultant Archaeologists* the following are features or characteristics that indicate archaeological potential:

- Previously identified archaeological sites;
- Water sources:
 - Primary water sources (lakes, rivers, streams, creeks);
 - Secondary water sources (intermittent streams and creeks; springs; marshes; swamps);
 - Features indicating past water sources (e.g., glacial lake shorelines indicated by the presence of raised gravel, sand, or beach ridges; relict river or stream channels indicated by clear dip or swale in the topography; shorelines of drained lakes or marshes; and cobble beaches);
 - Accessible or inaccessible shoreline (e.g., high bluffs, swamps, or marsh fields by the edge of a lake; sandbars stretching into marsh);
- Elevated topography (eskers, drumlins, large knolls, plateaux);
- Pockets of well drained sandy soil, especially near areas of heavy soil or rocky ground; distinctive land formations that might have been special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds, and promontories and their bases (there may be physical indicators of their use, such as burials, structures, offerings, rock paintings or carvings);

- Resource areas including:
 - Food or medicinal plants;
 - Scarce raw minerals (e.g., quartz, copper, ochre, or outcrops of chert);
 - Early Euro-Canadian industry (fur trade, mining, logging);
- Areas of Euro-Canadian settlement; and
- Early historical transportation routes.

In recommending a Stage 2 property survey based on determining archaeological potential for an area in northern Ontario, the MCM stipulates the following:

- Where an identified feature of archaeological potential is a modern water source, test pitting at 5 m intervals is required between 0 m to 50 m from the feature. Survey beyond 50 m is not required.
- For features of archaeological potential other than modern water sources (e.g., historical water sources such as glacial shorelines), test pitting at 5 m intervals is required between 0 m to 50 m from the feature and at 10 m intervals between 50 m and 150 m from the feature. Survey beyond 150 m is not required.

2.5 Indigenous Knowledge Studies

An Indigenous Knowledge study is a common term used in EAs to describe a study that documents how Indigenous people use their homeland and the resources that it provides. These studies are targeted at current land and resource use and users, as well as stewards of trap lines and resource use areas.

Hydro One offered support and provided capacity funding to each of the communities to help with the gathering of Indigenous Knowledge information, including the option to hire Community Researcher(s) and/or consultants to help with the gathering of Indigenous Knowledge information. Communities led their own processes in evaluating existing compiled knowledge held by the community that may be of relevance to the Project or developing processes to collect information specific to the Project. Information has been shared by several communities to date, considered in this Project. A number of additional studies are underway, with input to be considered in future EA milestones.

As discussed in Section 1.3 above, it is critical to understand the connection between the archaeological cultural history presented above and traditional land and resource use. Based on our current understanding, the locations of archaeological sites, those that are both currently academically recorded and those that are not, are tied in some respect to areas of past and current traditional land and resource use. For example, archaeological sites tend to be located along major and minor waterways that are, or were at one time, navigable, or along well-drained ridge lines that would have afforded Indigenous peoples good vantage points for hunting or communication. Additionally, sites are also located in areas where resources, including animals to hunt and edible plants, as well as organic materials and stone for making tools, were accessible. Finally, some sites are located in areas of spiritual and cultural significance, and there may not be any physical remains left in place at these locations.

As part of the Indigenous Knowledge study, community elders from the Nigigoonsiminikaaning First Nation indicated that there is a sacred site in the vicinity of Windigoostigwan Lake.

3.0 ANALYIS AND CONCLUSIONS

As discussed in Section 2.4 above, the MCM outlines a number of criteria for establishing archaeological potential in the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), including known archaeological sites, physiographic features such as water sources, surficial geology and soils, resource areas, and early Euro-Canadian transportation routes and settlement. The potential for both pre-contact and Euro-Canadian archaeological resources within the LSA are discussed separately below.

3.1 Potential for Pre-Contact Indigenous Archaeological Resources

The potential for pre-contact Indigenous archaeological resources within the LSA was assessed through the review of data from various sources, including the OASD, topographic and quaternary surficial geology mapping, data from Indigenous Knowledge studies, stream order data, and MNRF archaeological potential modelling. All of these sources were used to determine areas within the LSA that are recommended for Stage 2 AA as depicted on Map 10.

There are numerous registered archaeological sites within and adjacent to the LSA (see Section 2.2 above), the majority of which are pre-contact Indigenous sites. These sites, buffered by 300 m as per Section 1.4, Standard 1ci of the *Standards and Guidelines for Consultant Archaeologists*, were incorporated into the determination of areas recommended for further archaeological assessment as indicated on Map 10. Furthermore, there are many elevated topographic features within the LSA. Additionally, areas on quaternary geological mapping indicating well-drained soils and relict shorelines were considered to have archaeological potential, including glaciolacustrine and near shore/beach deposits of sand, gravelly sand, gravel; glaciofluvial outwash deposits of gravel and sand; Pleistocene fluvial deposits of gravel, sand, silt, and clay; and undifferentiated sand, silty sand, and silty clay till. These geological features are considered to have archaeological potential and are recommended for further archaeological assessment as indicated on Map 10.

Relevant information from Indigenous Knowledge studies conducted as part of the EA for this Project was incorporated into the archaeological potential modelling for this Stage 1 AA (Map 10).

Due to the sheer number of waterways in northern Ontario, stream ordering was used to assess navigability of the modern waterways within the LSA to establish their archaeological potential (see Section 3.1.1 below).

Finally, archaeological potential models developed by the MNRF for forestry management purposes were used, as they represent the most sophisticated archaeological potential modelling occurring in the boreal forest of northern Ontario and are based on decades of archaeological potential modelling research see Section 3.1.2 below).

3.1.1 Stream Ordering

Stream ordering is a method used to assign a numerical order to branches in a stream network. Ordering allows for the identification and classification of stream types to infer their characteristics. First-order streams are the smallest streams and have no tributaries. When two first-order streams meet, the downstream portion of the watercourse is classified as a second-order stream. For this analysis, stream order was calculated from the Provincial Enhanced Flow Direction (EFDir) grids, provided to WSP by the MNRF, which are composed of the Archydro Stream and Flow Direction grids. The EFDir grids were analysed in ArcGIS Spatial Analyst software using the Strahler method to create the stream orders presented on Map 9.

Stream order may be used as a rough proxy for channel flow and navigability. Navigability is a key component of archaeological potential modelling within the boreal forest because travel of any significant distance in the region would have been exceedingly difficult without the use of the waterway system as a travel corridor. In the spring, summer and fall, small crafts were used on navigable waterways while in winter the waterway acted as a cleared, frozen footpath.

Streams with very low stream orders 1 or 2 are small, with limited channel flow, and have limited navigability. In the past, the low relief, poor drainage conditions, and shallow post-glacial organic soil formation in the LSA led to their formation in huge quantities. Plant gathering, in particular, is known from ethnographic sources to have taken place primarily in swamps, bogs, small streams, and lake margins (Larcombe 1994). From an archaeological potential modelling perspective, however, there is little reason to recommend one small stream over another in the landscape. The large number of small, low stream order watercourses in the boreal shield, and in the LSA in particular, and their frequent association with very wet, poorly drained peatland greatly reduces their value as features with archaeological potential (Hamilton and Larcombe 1994). This is particularly true considering the ethnographic evidence that suggests that base camps were almost always located on lake margins both in summer and winter, or along larger rivers in the winter (Larcombe 1994). In addition, the large number of these small streams and the saturated nature of their surrounding soils present serious practical obstacles to archaeological assessment. Small streams with stream orders of 1 or 2 are very unlikely to show archaeological evidence of occupation (Hyslop personal communication 2013), and therefore are considered to have low archaeological potential and are not recommended for further assessment.

The highly mobile nature of past inhabitants of the landscape, on the other hand, indicates that streams with higher stream orders 3 or greater, reflecting greater channel flow and higher navigability, would have been important to the population for movement across the landscape. As such, all streams within the LSA with a stream order of 3 or greater are considered to have archaeological potential and are recommended for further archaeological assessment as indicated on Map 10.

3.1.2 MNRF Archaeological Potential Modelling

The MNRF prepares archaeological potential area modelling during forestry management planning work using the MNRF Heritage Assessment Tool (HAT) (MNRF 2007). The HAT combines numerous datasets and allows for the calibration of individual data layers, based on landscape features, by assigning an analytical 'weight' to each layer according to the statistical likelihood that an individual landscape feature may contain an archaeological site.

Archaeological potential is determined by plotting known archaeological site locations on the weighted potential model developed for the forestry region in question. The location of known archaeological sites may also provide extra weight to certain landscape features as part of an iterative modelling process. The distribution of archaeological sites within the model is examined to determine whether the initial archaeological potential model is suitable. Weights may be adjusted until a maximum number of archaeological sites are captured within a minimum area of land designated as containing archaeological potential.

Preliminary archaeological potential mapping is analysed by an MNRF provincial cultural heritage specialist who may perform several more runs of the model with adjusted data weights or the addition of local heritage and landscape knowledge. This process leads to the development of a final archaeological potential map. The final archaeological potential map is modified if mapped landscape features are subsequently determined not to accurately reflect the conditions on the ground.

MNRF archaeological potential within the LSA has been incorporated into the determination of areas recommended for further archaeological assessment as indicated on Map 10.

3.2 Potential for Euro-Canadian Archaeological Resources

Data from a number of sources were considered to establish potential for Euro-Canadian archaeological resources, including the OASD, municipal heritage property registers, mapping of known historical transportation routes and fur trade depots, and background research of early Euro-Canadian industry and settlement in and adjacent to the LSA. The areas of archaeological potential as determined by these sources within the LSA are included on Map 10.

Property listed on a municipal register or designated under the *Ontario Heritage Act* or that is a federal, provincial, or municipal historic landmark or site is also indicative of archaeological potential. A search of the *Ontario Heritage Act Register*, maintained by the Ontario Heritage Trust, indicates that no property within the LSA is listed or designated under the *Ontario Heritage Act* and no historic landmarks are known to exist within the LSA.

The LSA crosses the route of the Dawson Trail, which was a land- and water-based route connecting Lake Superior to the Red River settlement in what is now Manitoba. The route was initially surveyed in 1858 by Simon James Dawson, but construction on it did not being until 1868 and it was not completed until 1871 (Map 5). In addition to the Dawson Trail, the LSA also crosses several known fur trade routes (Map 4). These routes, buffered by 100 m as per Section 1.4, Standard 1d of the *Standards and Guidelines for Consultant Archaeologists*, were incorporated into the determination of archaeological potential requiring further archaeological assessment as indicated on Map 10. Given the proximity of the LSA to the Dawson Trail as well as known fur trade transportation routes and posts, the potential for historical post-contact Indigenous and Euro-Canadian archaeological resources is generally moderate to high along navigable streams and lakes. In addition to the fur trade related areas, Thunder Bay has long been an economic centre on Lake Superior, and there is evidence of early 20th century mining around the areas of Thunder Bay, Atikokan, and Dryden.

3.3 Compliance with MCM 2011 Standards and Guidelines for Consultant Archaeologists: Determining Archaeological Potential in the Boreal Forest

Section 2.1.5 of the *Standards and Guidelines for Consultant Archaeologists* provides alternative strategies for Stage 2 test pit survey in northern Ontario and on Canadian Shield terrain (Government of Ontario 2011):

- **Standard 1** Where the identified feature of archaeological potential is a modern water source, test pitting is required between 0 and 50 m from the feature. Space test pits at maximum intervals of 5 m. Survey is not required beyond 50 m.
- **Standard 2** For features of archaeological potential other than modern water sources (e.g., historic water sources such as glacial shorelines), test pitting is required as follows:
 - a. space test pits at maximum intervals of 5 m between 0 and 50 m from the feature of archaeological potential.
 - b. space test pits at maximum intervals of 10 m between 50 and 150 m from the feature of archaeological potential.
 - c. survey is not required beyond 150 m.
- **Standard 3** While maintaining standard survey grids as closely as possible, the consultant archaeologist may vary from standard survey grids as necessary, based on professional judgement. Document and explain the rationale for all variation in the Stage 2 report.

Because of the large number of modern water sources in northern Ontario, not all of them are considered features of significant archaeological potential. Archaeological potential is limited within this assessment to modern water sources defined as "primary water sources" (e.g., lakes, rivers, streams, creeks), as per Section 1.3.1 of the Standards and Guidelines (Government of Ontario 2011). Navigability is identified as a prerequisite for a watercourse to possess significant archaeological potential. Navigability is determined through a combination of stream order data and a review of analogous aerial photography as well as mapping of known river and lake canoe trails. No watercourse with a stream order value of less than 3 is considered to possess high archaeological potential (see Section 3.1.1 above). As well, the water course must be a viable transportation route leading from somewhere to somewhere in a sensible fashion, including portages if necessary, for it to be deemed navigable and therefore possess high archaeological potential. There are hundreds of potentially navigable water courses within the LSA that are dead-ends, cul-de-sacs, or minor, isolated creeks whose banks have virtually no potential for the recovery of archaeological remains (Ross personal communication 2013). As such, these are not considered to have high archaeological potential. This is not to say that these small areas of wetland and associated streams were not the site of plant gathering or other important but ephemeral activities in the past, but that ethnographically, occupation sites were rarely located in these areas, and archaeologically, sites are rarely recovered from these areas (Larcombe 1994, Hamilton and Larcombe 1994). Thus, the archaeological potential of these areas is predicted to be very low.

Areas of elevated topography have been attractive to people in the past as areas to settle or collect resources otherwise unavailable in the surrounding landscape. Ethnographic data indicate that winter camps in the boreal forest were occasionally located at inland, upland locations because these were good locations to find moose during that season. Nevertheless, it is also known from the ethnographic and archaeological record that settlement in the boreal forest was primarily influenced by water resources rather than elevation.

Because the LSA is located in northern Ontario on the Canadian Shield, Sections 1.3.3 and 2.1.5 of the *Standards and Guidelines for Consultant Archaeologists* are directly applicable to the LSA, and as such, have been applied to modify the Stage 2 test pit survey recommendations for the LSA. This application of the *Standards and Guidelines* was endorsed in 2013 by Andrew Hinshelwood, an expert in the archaeology of northwestern Ontario, during his tenure as an Archaeological Review Officer at the MCM (Hinshelwood personal communication. 2013) and has been applied in numerous large-scale Stage 1 AAs in northern Ontario since then. These Standards, combined with the analysis of level of archaeological potential described above, have been used to determine areas within the LSA that are recommended for Stage 2 AA as depicted on Map 10.

3.4 Conclusions

When the criteria for archaeological potential outlined above are applied to the LSA, portions of the LSA contain archaeological potential for both pre- and post-contact Indigenous as well as Euro-Canadian archaeological resources due to the presence of several features within and adjacent to the LSA, including: registered archaeological sites, historical transportation routes, water sources, elevated topographic features, and areas on quaternary geological mapping indicating well-drained soils and relict shorelines.

The criteria outlined above, as well as regionally specific MCM special conditions criteria for the assessment of study areas on the Canadian Shield, were used to map areas of archaeological potential within the LSA where further archaeological assessment is recommended prior to Project ground disturbance (Map 10). Portions of the LSA outside of areas of archaeological potential as shown on Map 10 are considered to have low to no archaeological potential.

4.0 **RECOMMENDATIONS**

Based on the results of the Stage 1 AA, the following recommendations are provided:

- Areas within the LSA determined to have archaeological potential should be subject to Stage 2 AA survey prior to anticipated Project impacts. The survey should be in the form of shovel test pitting in accordance with Section 2.1.5 of the *Standards and Guidelines for Consultant Archaeologists* prior to development/construction impacts (Map 10).
- 2) Areas within the LSA that have been determined to have low to no archaeological potential are not recommended for further archaeological assessment (Map 10).
- 3) Areas within the LSA that have been previously assessed and where further work is recommended (Map 10) should be subject to the recommended work prior to anticipated Project impacts.
- 4) Indigenous communities should be engaged on the process for the management of artifact collections recovered from subsequent archaeological work completed for this Project.
- 5) Areas within the LSA that have been previously assessed and where no further work is recommended do not require further archaeological assessment (Map 10).
- 6) Should the alternative routes change following submission of this Stage 1 AA report such that it no longer falls within the LSA assessed within this report as indicated on Map 2, Stage 1 AA of all new areas will be required.
- 7) If ground disturbing activities related to the Project are required beyond the limits of the LSA assessed within this report, then additional Stage 1 AA will be required prior to ground disturbance.
- 8) If ground disturbing activities related to the Project will impact navigable waterways, a Marine Archaeological Assessment may be required.

The Ontario Ministry of Citizenship and Multiculturalism is asked to review the results and recommendations presented herein, accept this report into the Provincial Register of archaeological reports and issue a standard letter of compliance with the Ministry's 2011 *Standards and Guidelines for Consultant Archaeologists* and the terms and conditions for archaeological licencing.

5.0 ADVICE ON COMPLIANCE WITH LEGISLATION

This report is submitted to the Minister of Tourism, Culture, and Sport as a condition of licensing in accordance with *Part VI of the Ontario Heritage Act, R.S.O. 1990, c 0.18.* 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 project area of a development proposal have been addressed to the satisfaction of the Ontario Ministry of Citizenship and Multiculturalism, 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* 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 archaeological 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 Archaeology Reports referred to in Section 65.1 of *the Ontario Heritage* Act.

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. 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*.

The Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33, 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 Ontario Ministry of Consumer Services is also immediately notified.

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

6.0 IMPORTANT INFORMATION AND LIMITATIONS OF THIS REPORT

WSP Canada Inc. has prepared this report in a manner consistent with the level of care and skill ordinarily exercised by members of the archaeological profession currently practicing under similar conditions in the jurisdiction in which the services are provided, subject to the time limits and physical constraints applicable to this report. No other warranty, expressed or implied, is made.

This report has been prepared for the specific site, design objective, developments and purpose described to WSP by the Client. The factual data, interpretations and recommendations pertain to a specific project as described in this report and are not applicable to any other project or site location.

The information, recommendations and opinions expressed in this report are for the sole benefit of the Client. No other party may use or rely on this report or any portion thereof without WSP's express written consent. If the report was prepared to be included for a specific permit application process, then upon the reasonable request of the client, WSP may authorize in writing, the use of this report by the regulatory agency as an Approved User for the specific and identified purpose of the applicable permit review process. Any other use of this report by others is prohibited and is without responsibility to WSP. The report, all plans, data, drawings, and other documents, as well as electronic media prepared by WSP, are considered its professional work product and shall remain the copyright property of WSP, who authorizes only the Client and Approved Users to make copies of the report, but only in such quantities as are reasonably necessary for the use of the report by those parties. The Client and Approved Users may not give, lend, sell, or otherwise make available the report or any portion thereof to any other party without the express written permission of WSP. The Client acknowledges that electronic media is susceptible to unauthorized modification, deterioration, and incompatibility and therefore the Client cannot rely upon the electronic media versions of WSP's report or other work products.

Unless otherwise stated, the suggestions, recommendations and opinions given in this report are intended only for the guidance of the Client in the design of the specific project.

Special risks occur whenever archaeological investigations are applied to identify subsurface conditions and even a comprehensive investigation, sampling and testing program may fail to detect all or certain archaeological resources. The sampling strategies incorporated in this study comply with those identified in the Ministry of Citizenship and Multiculturalism's *Standards and Guidelines for Consultants Archaeologists* (Government of Ontario 2011).

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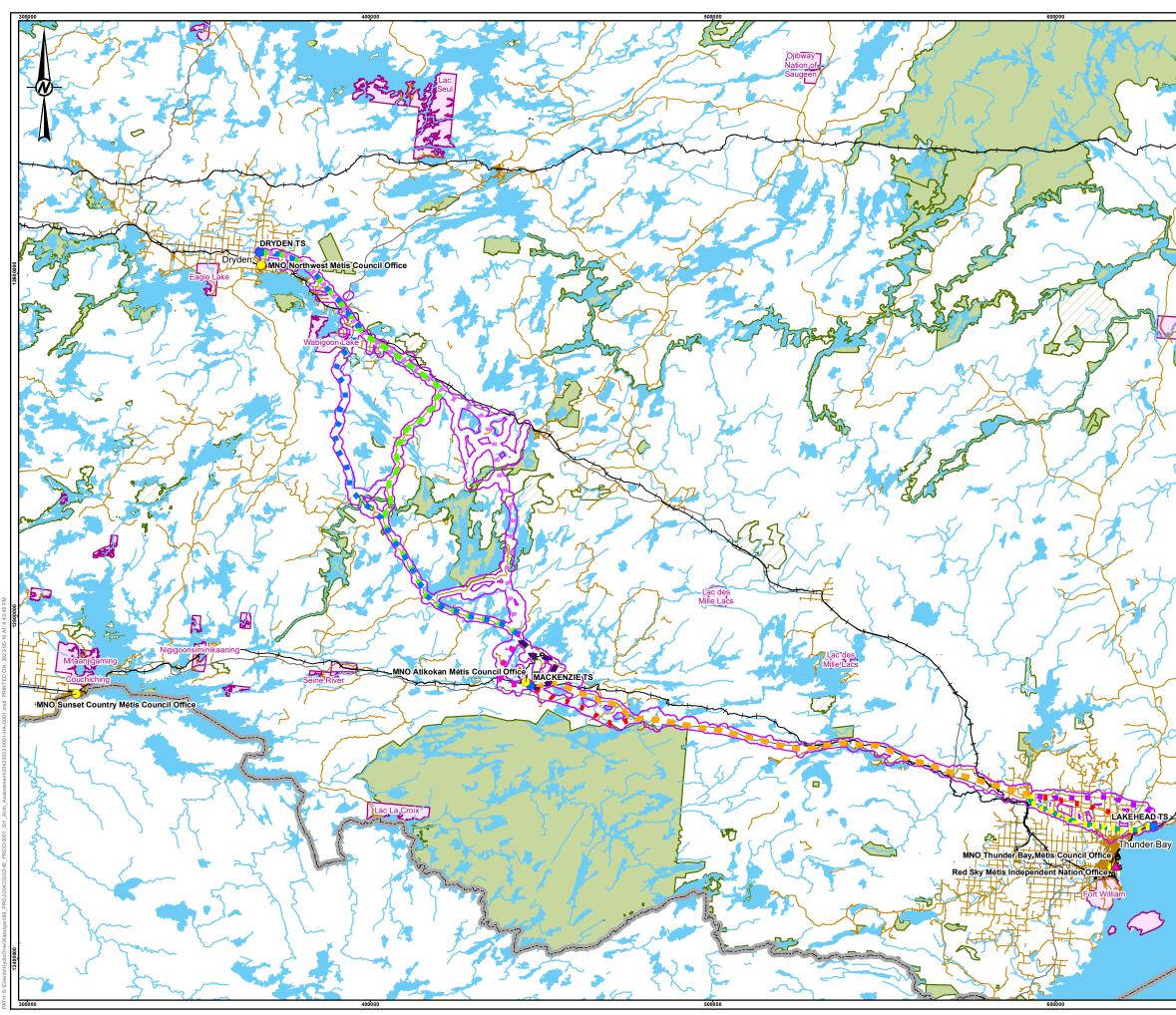
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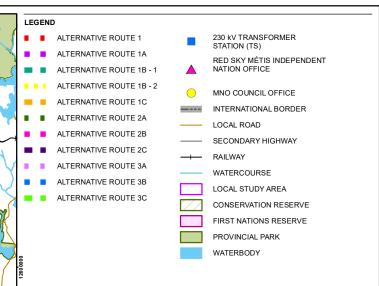
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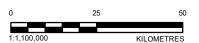
8.0 MAPS

All maps follow on the succeeding pages.









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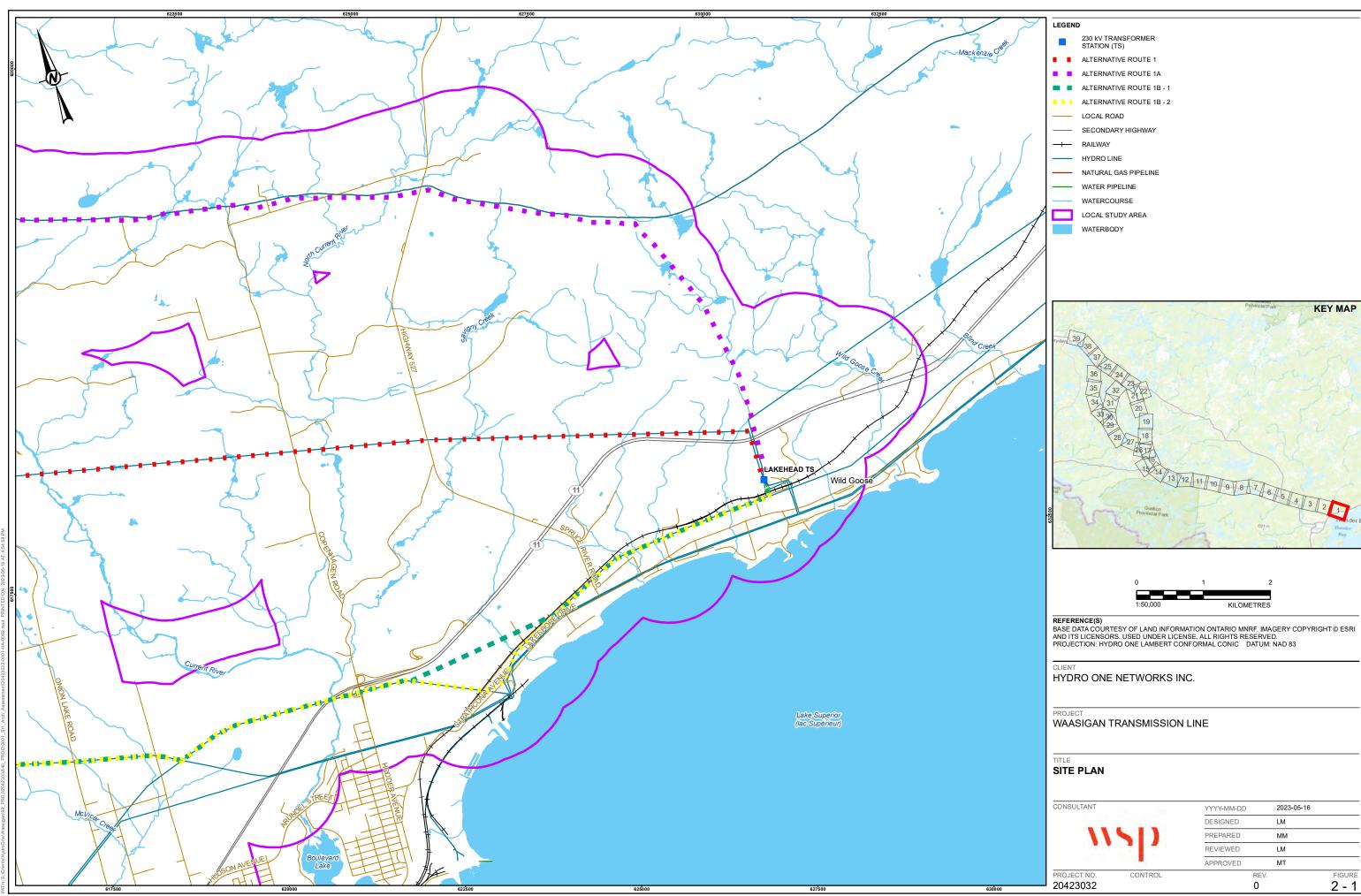
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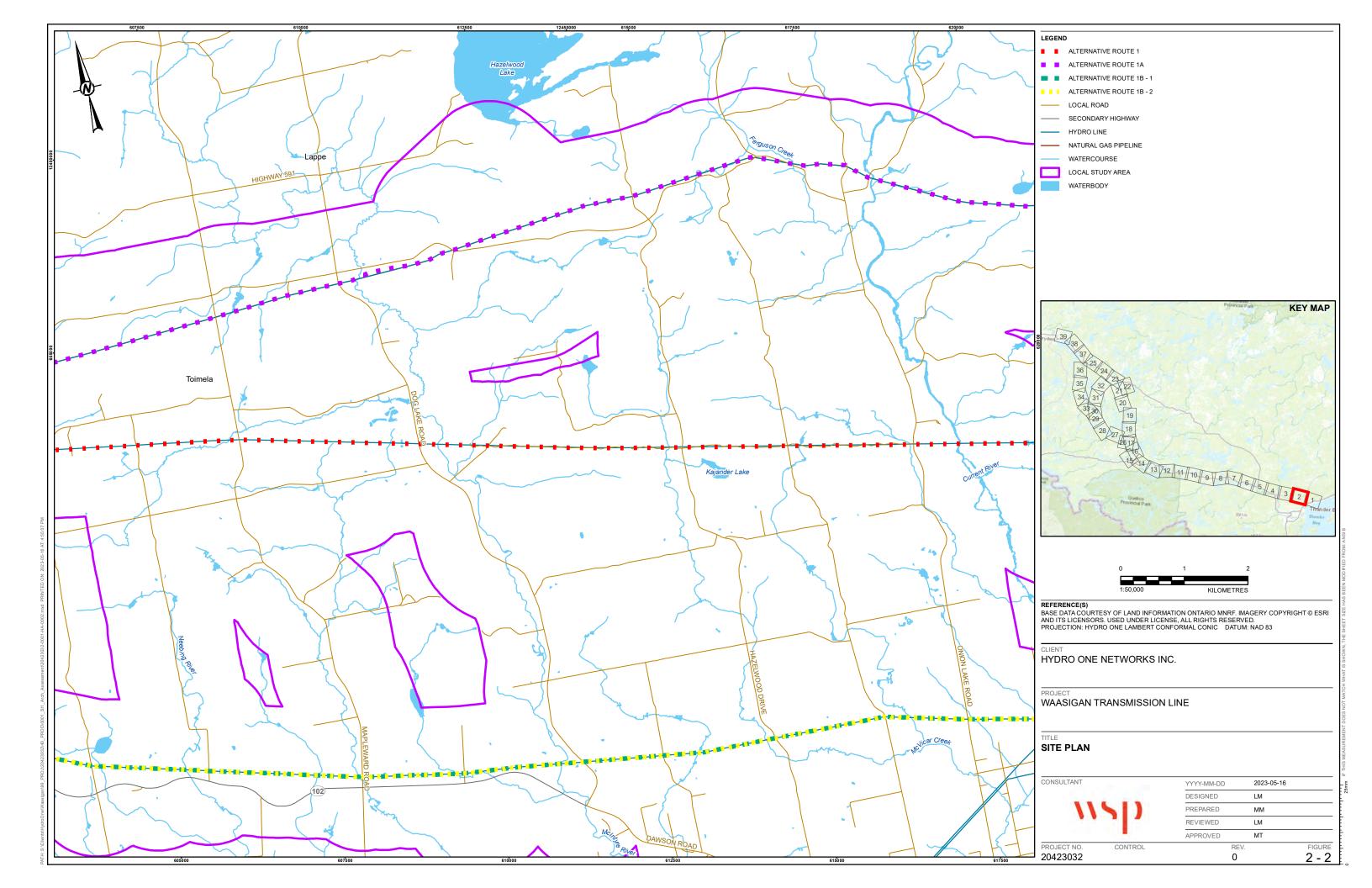
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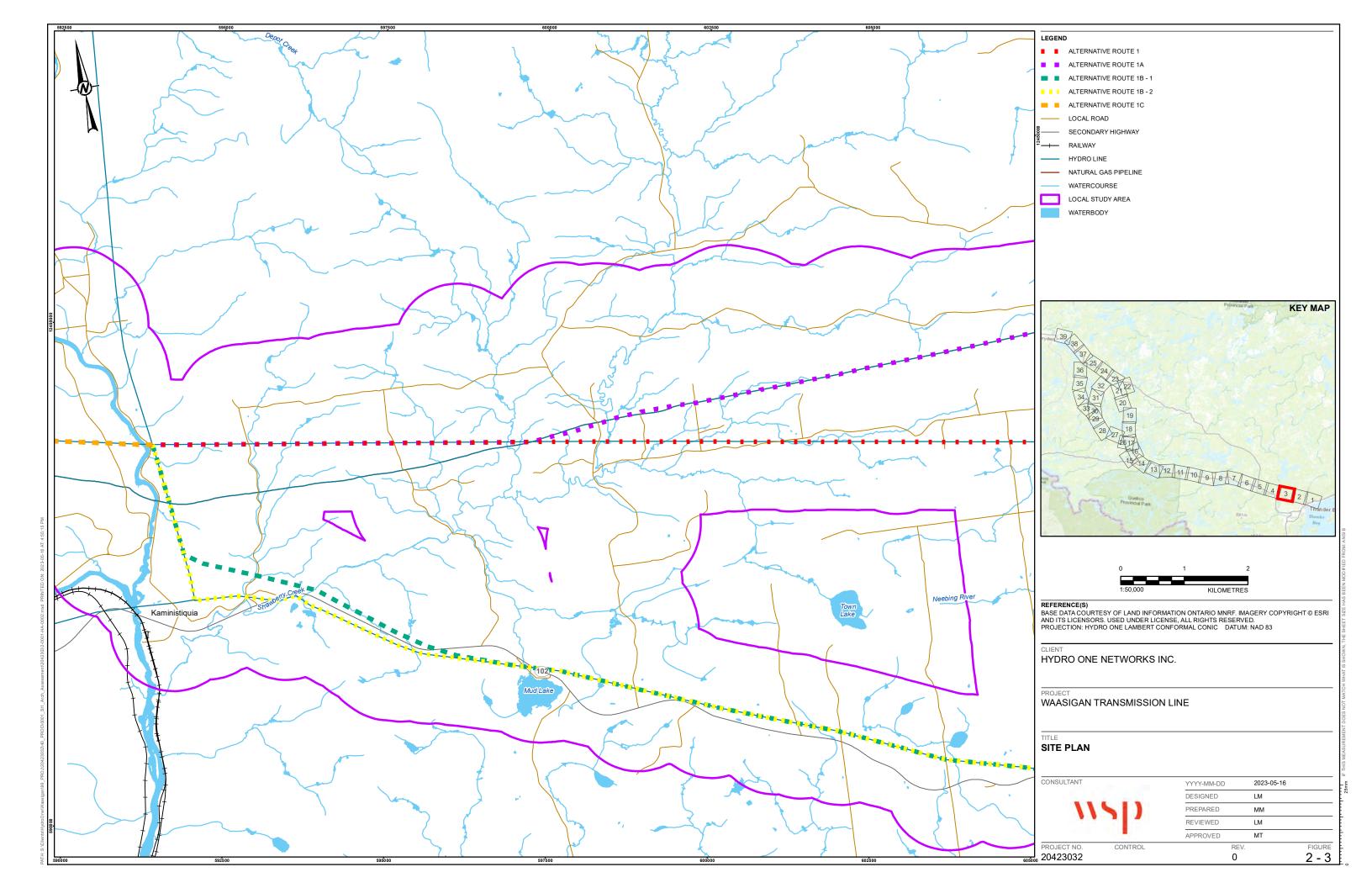
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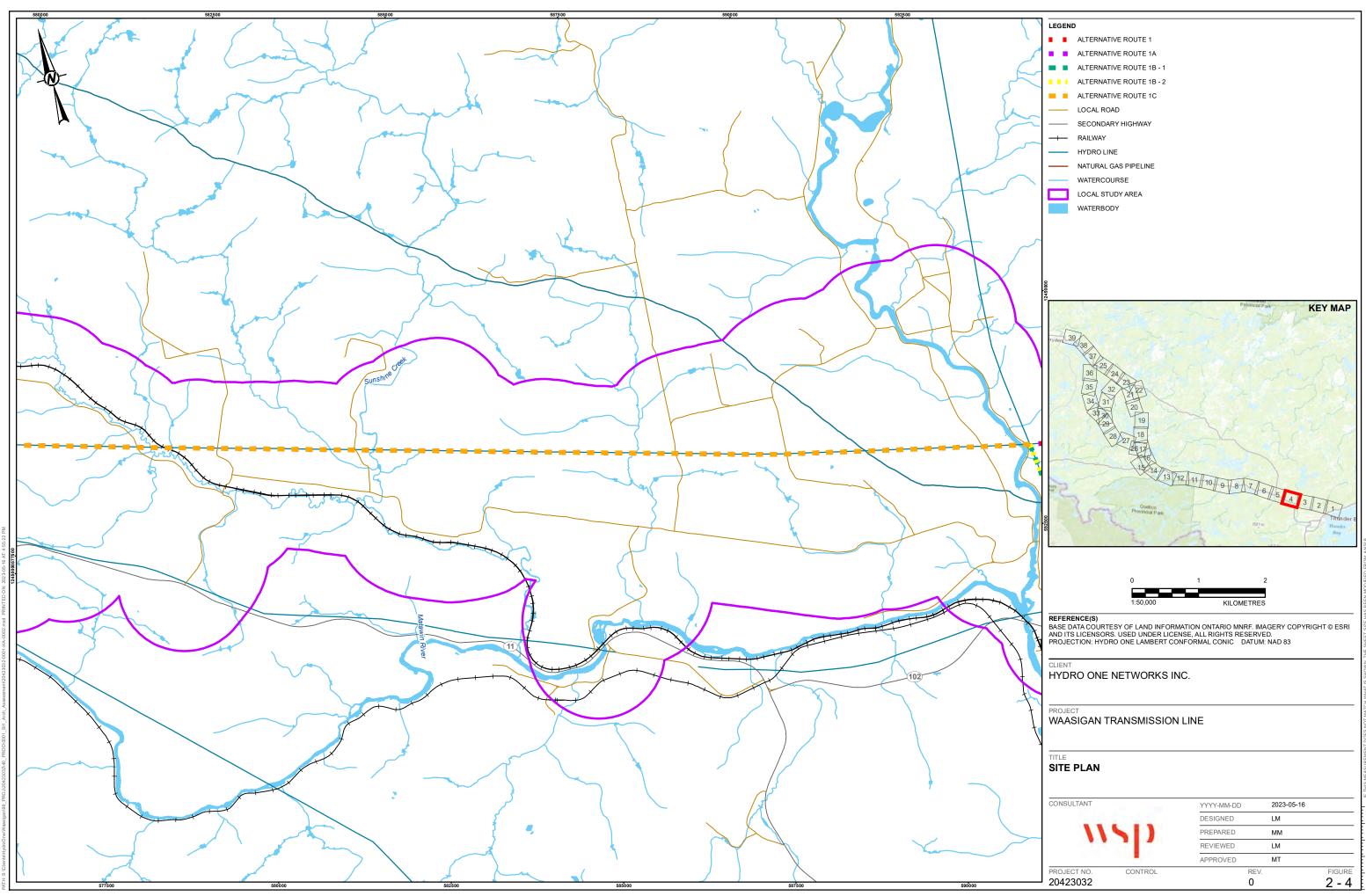


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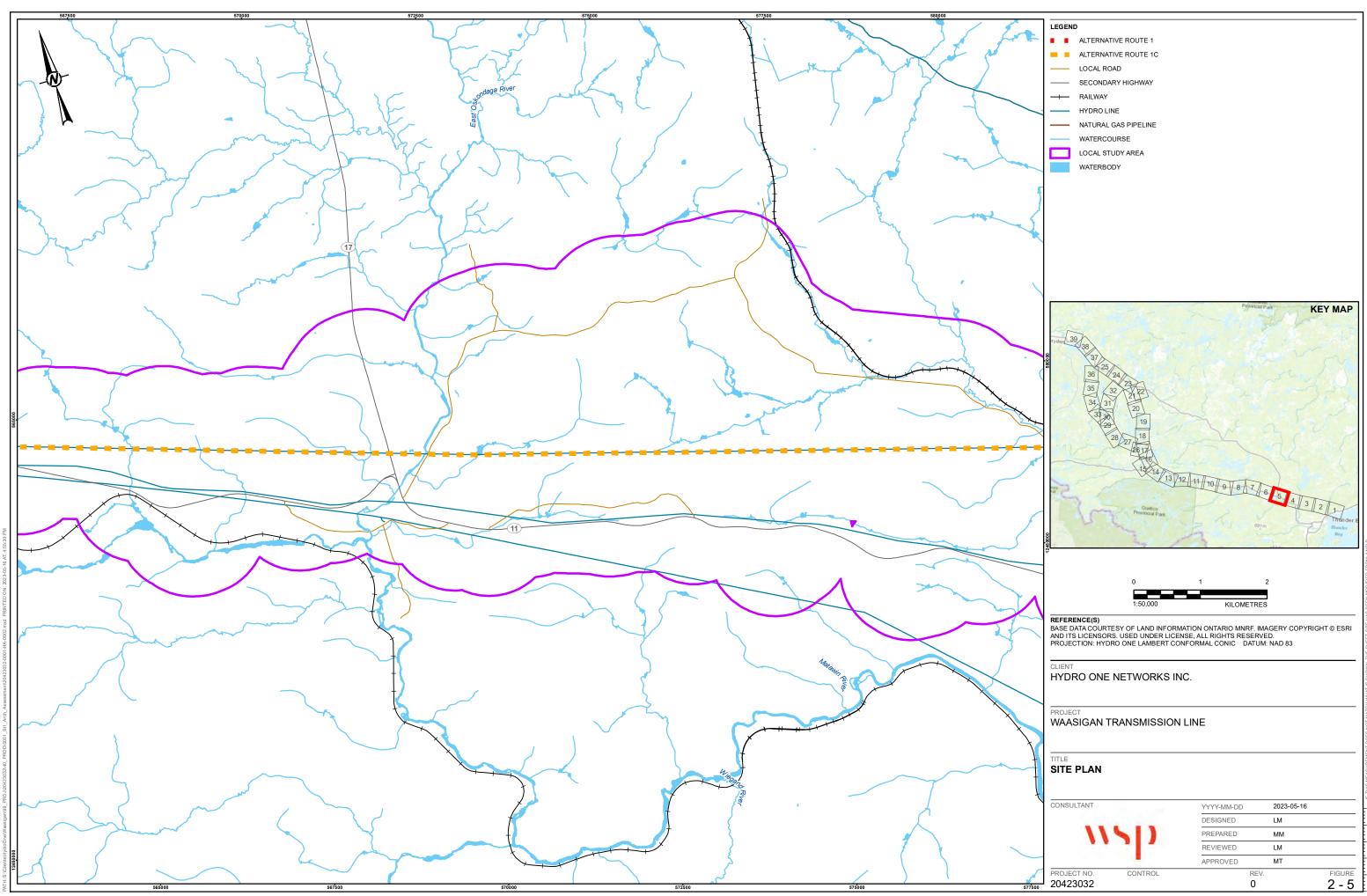




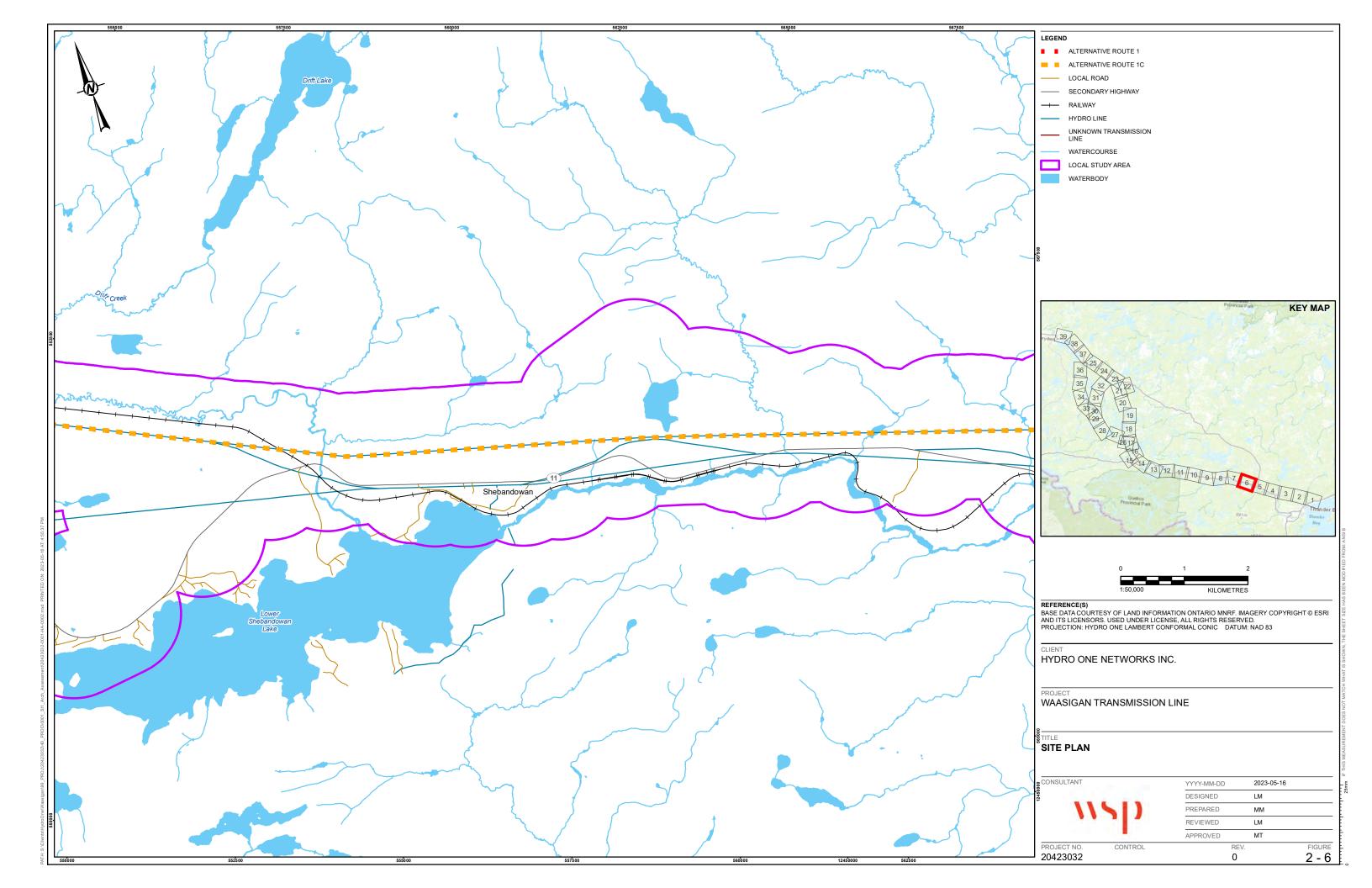


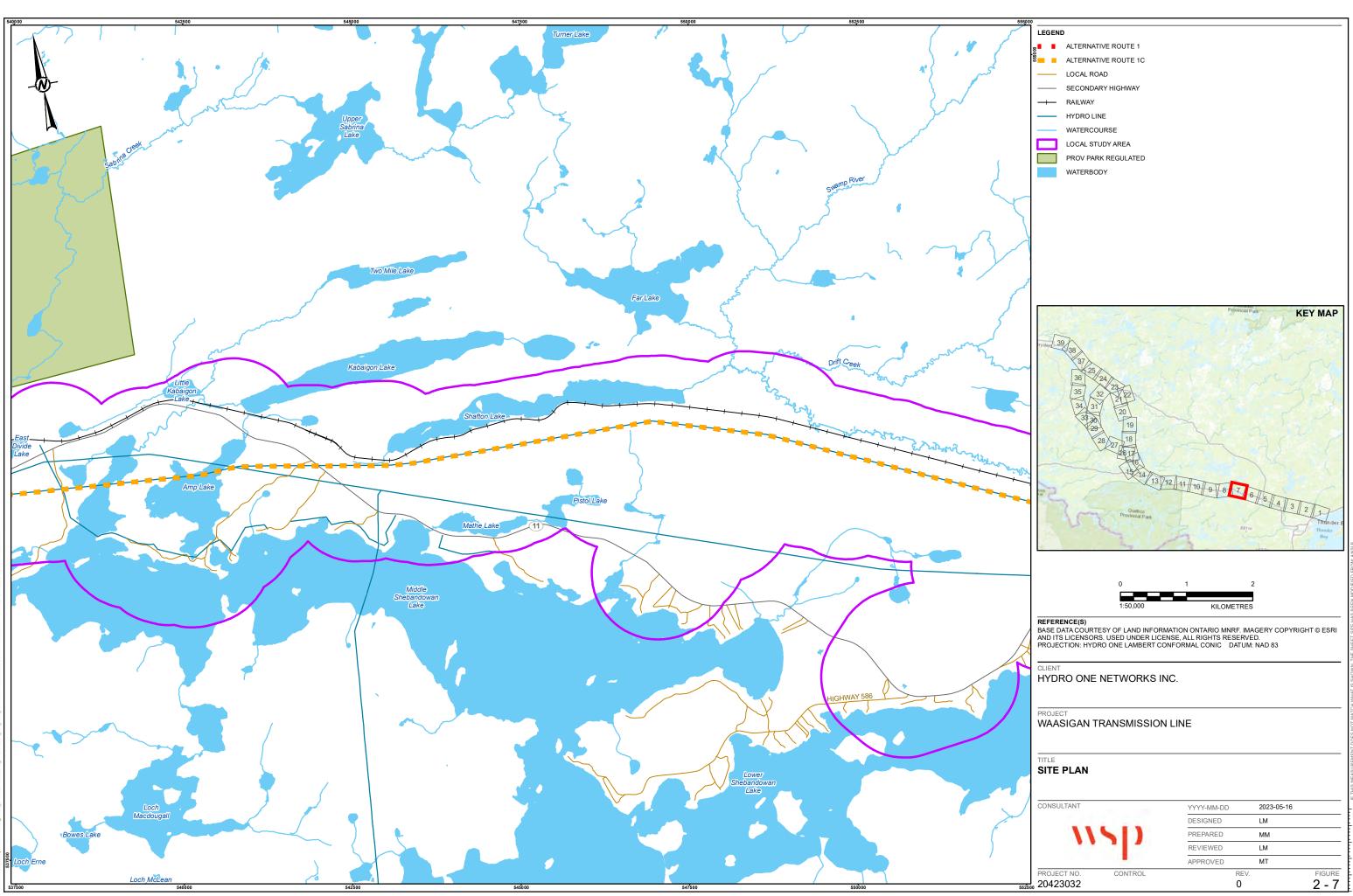


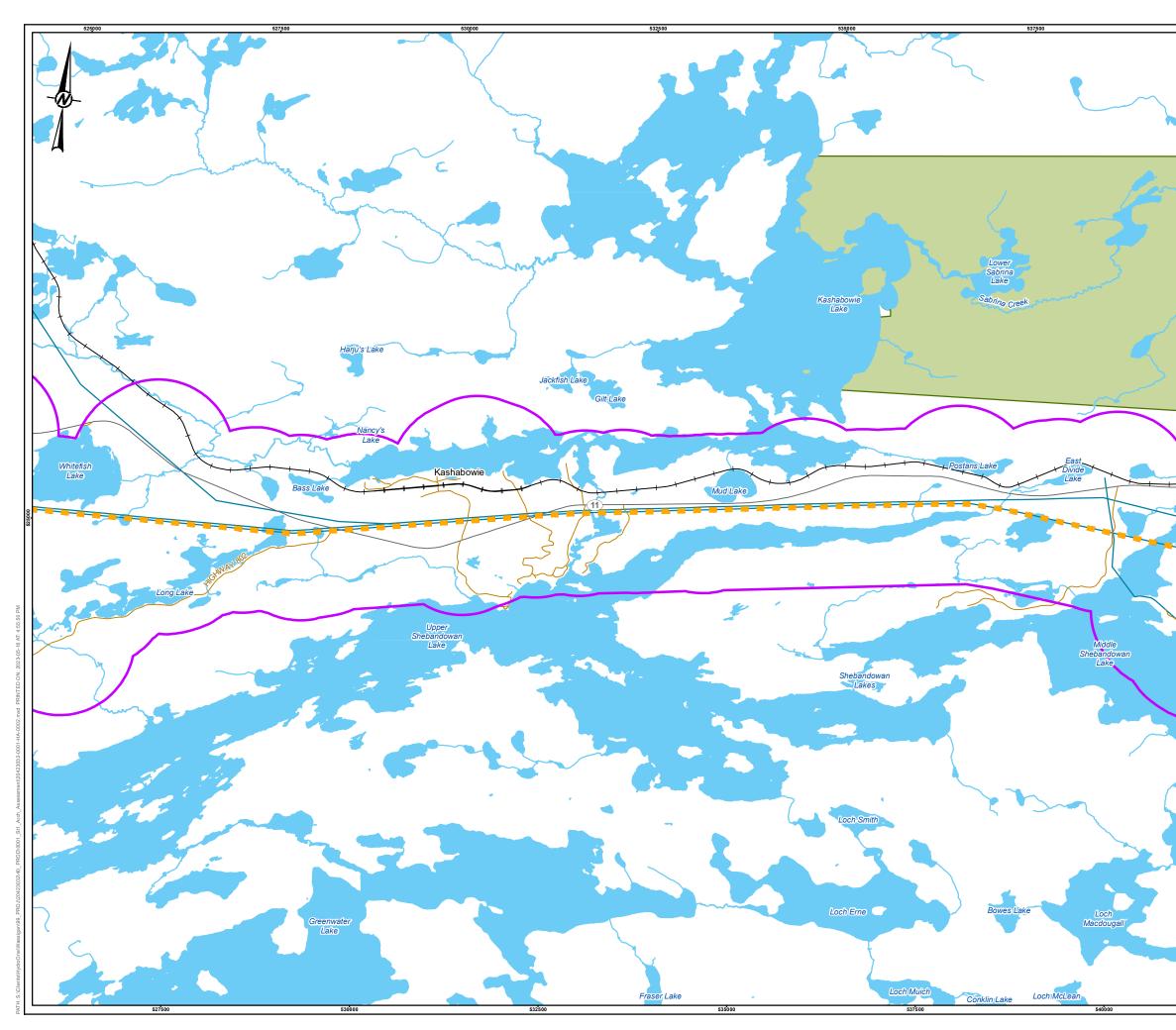
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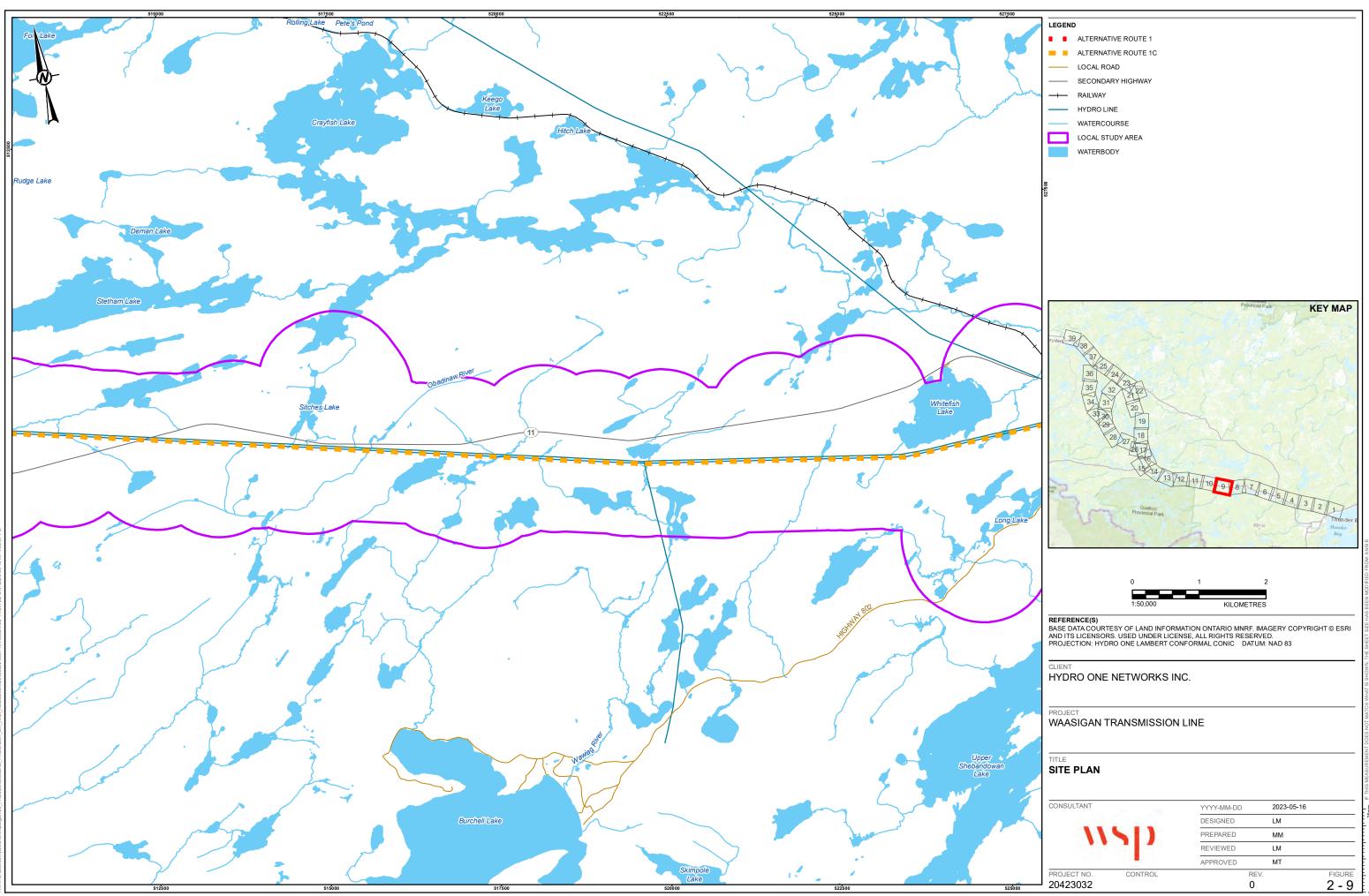
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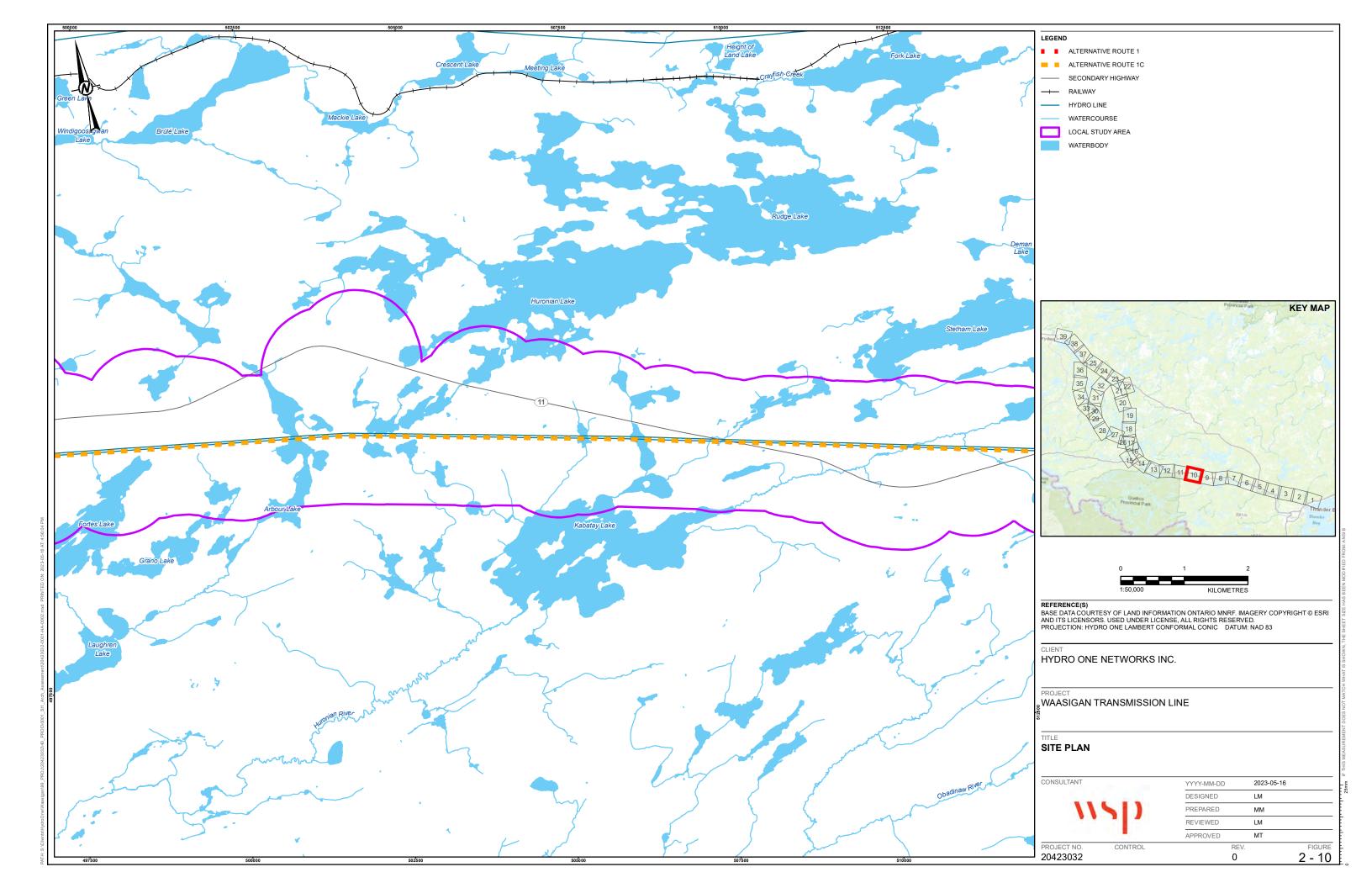


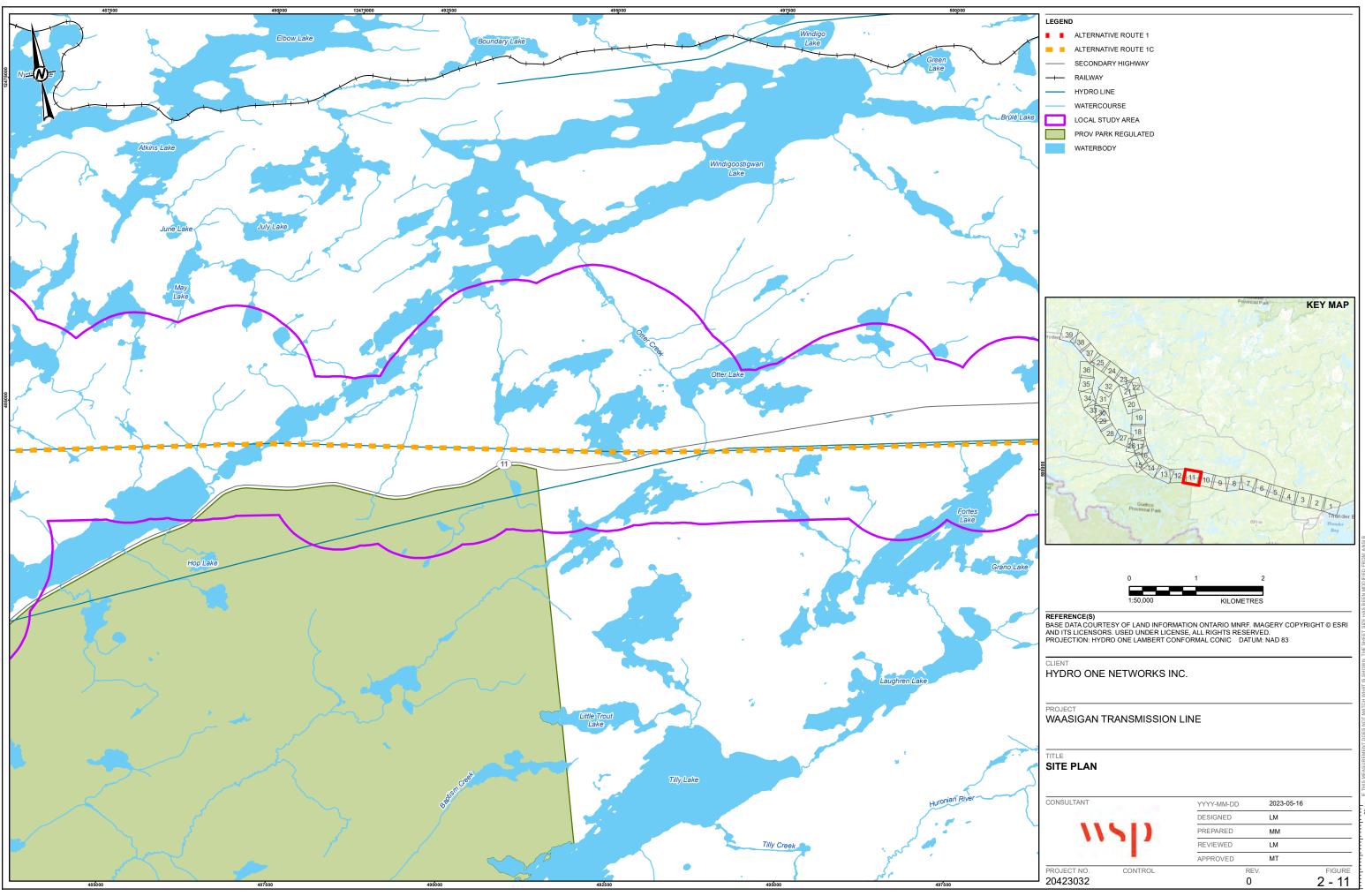


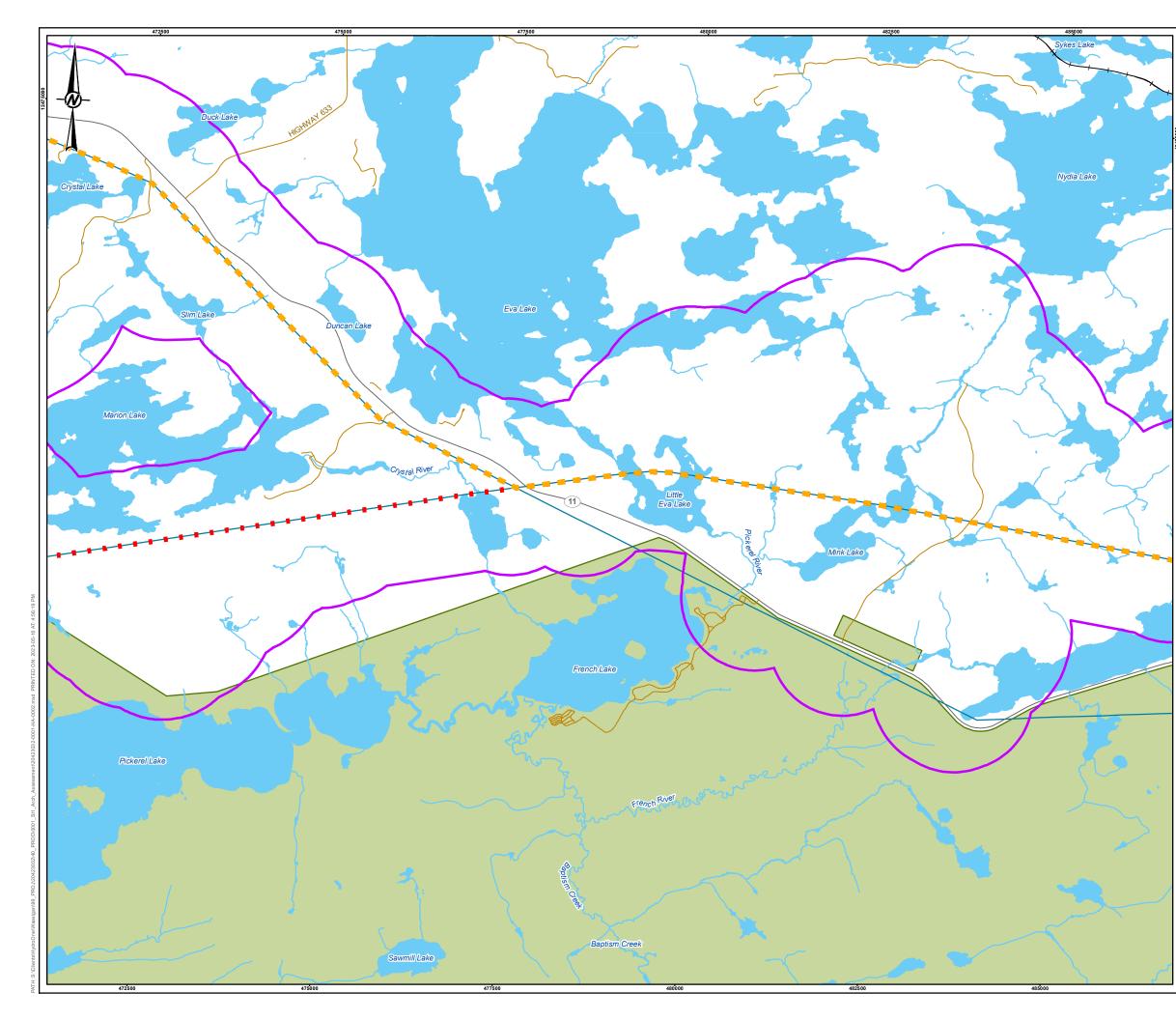






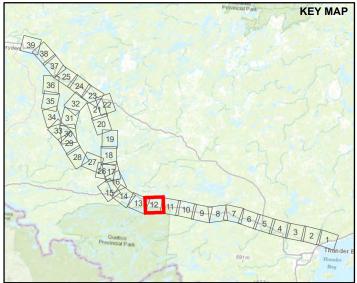








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 - WATERCOURSE
- LOCAL STUDY AREA
 - PROV PARK REGULATED
 - WATERBODY



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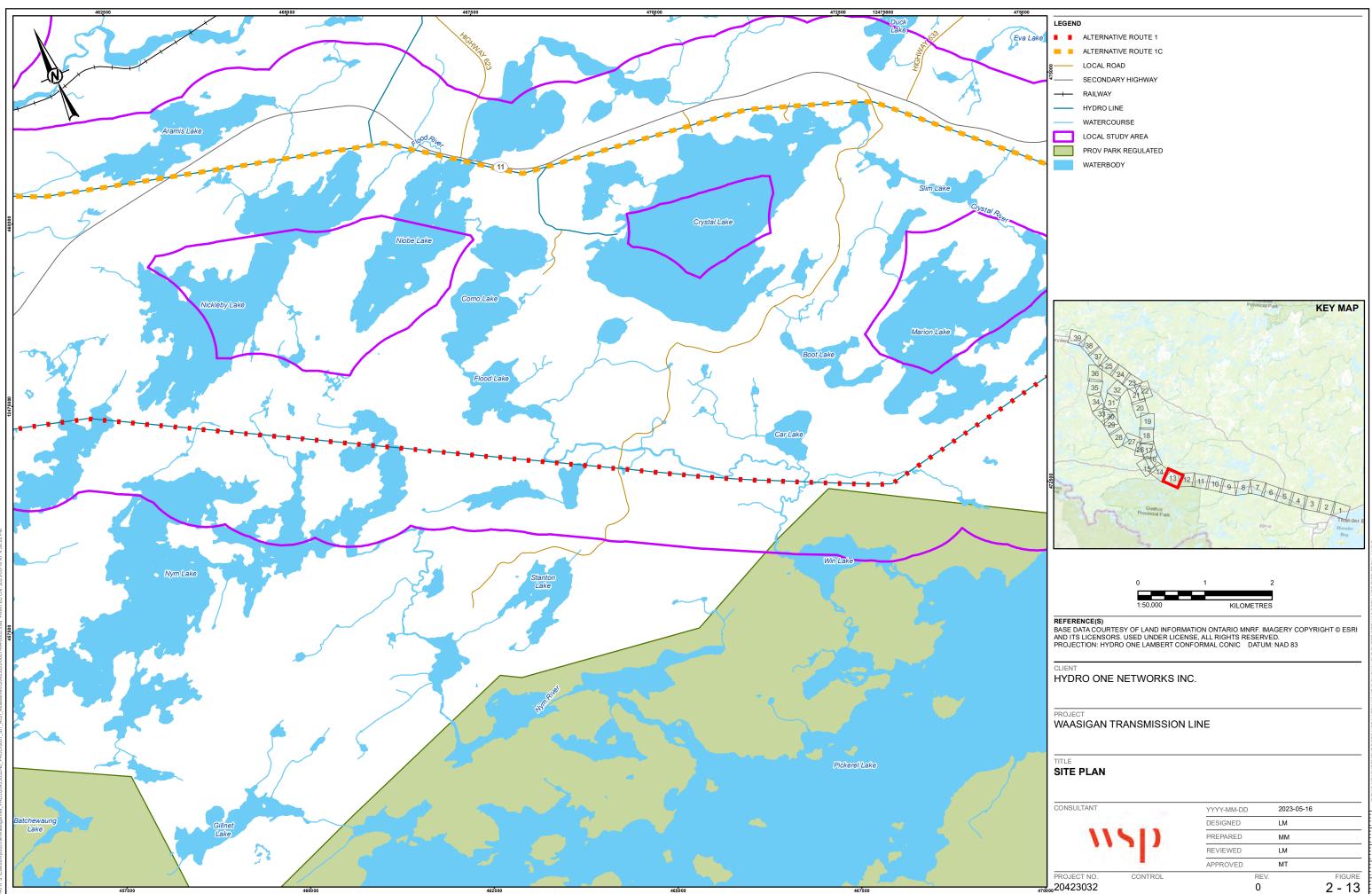
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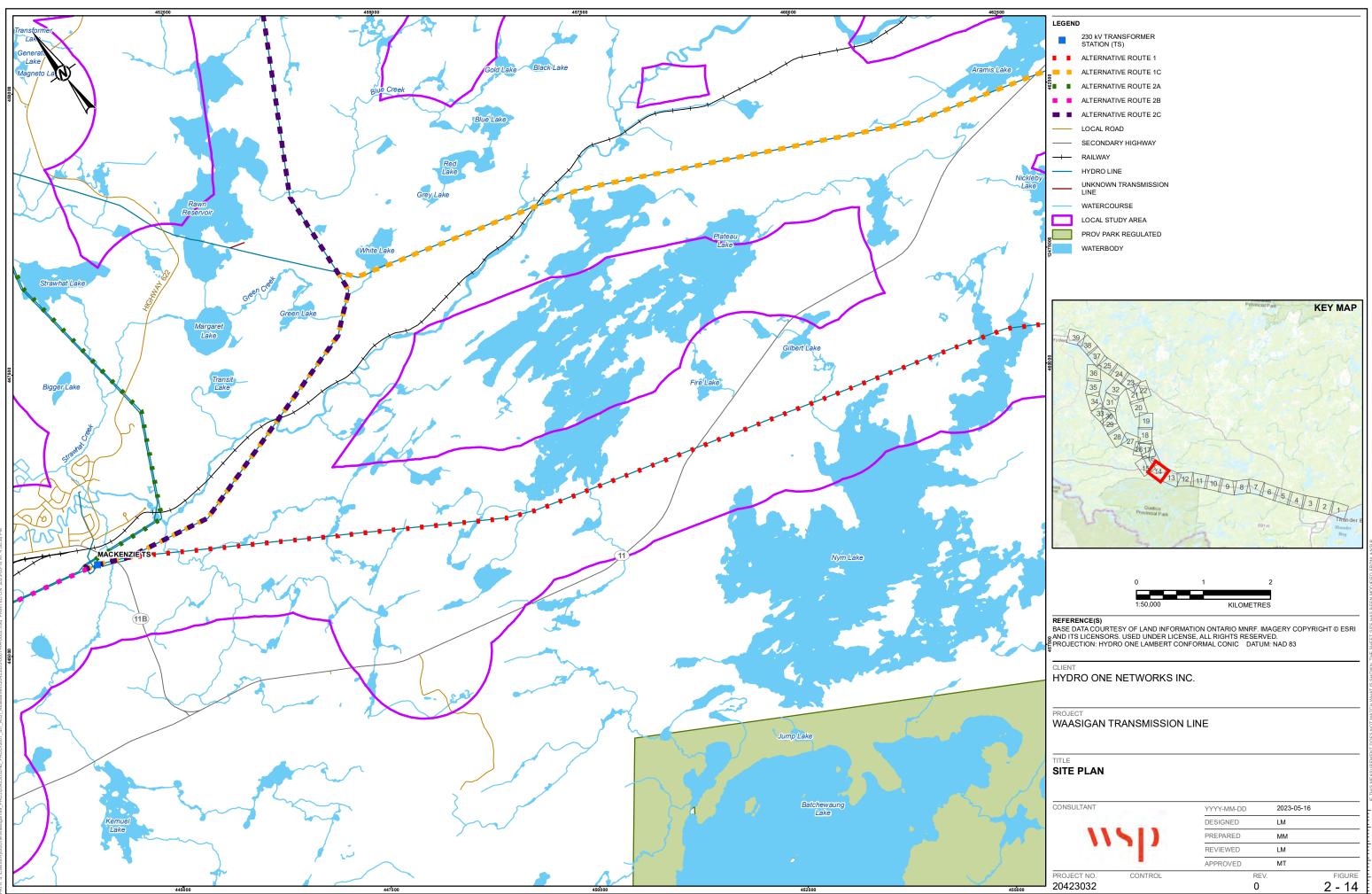
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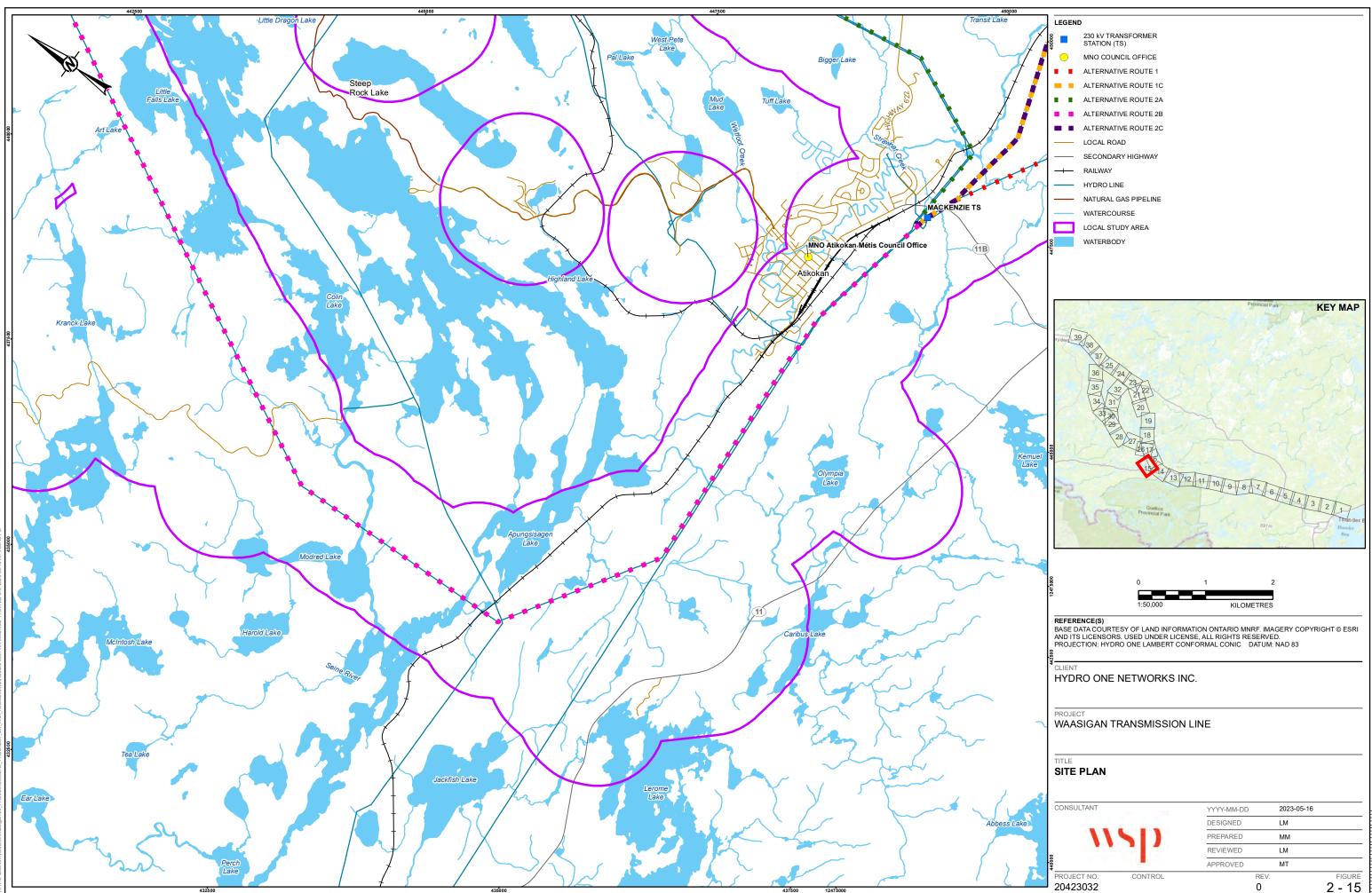
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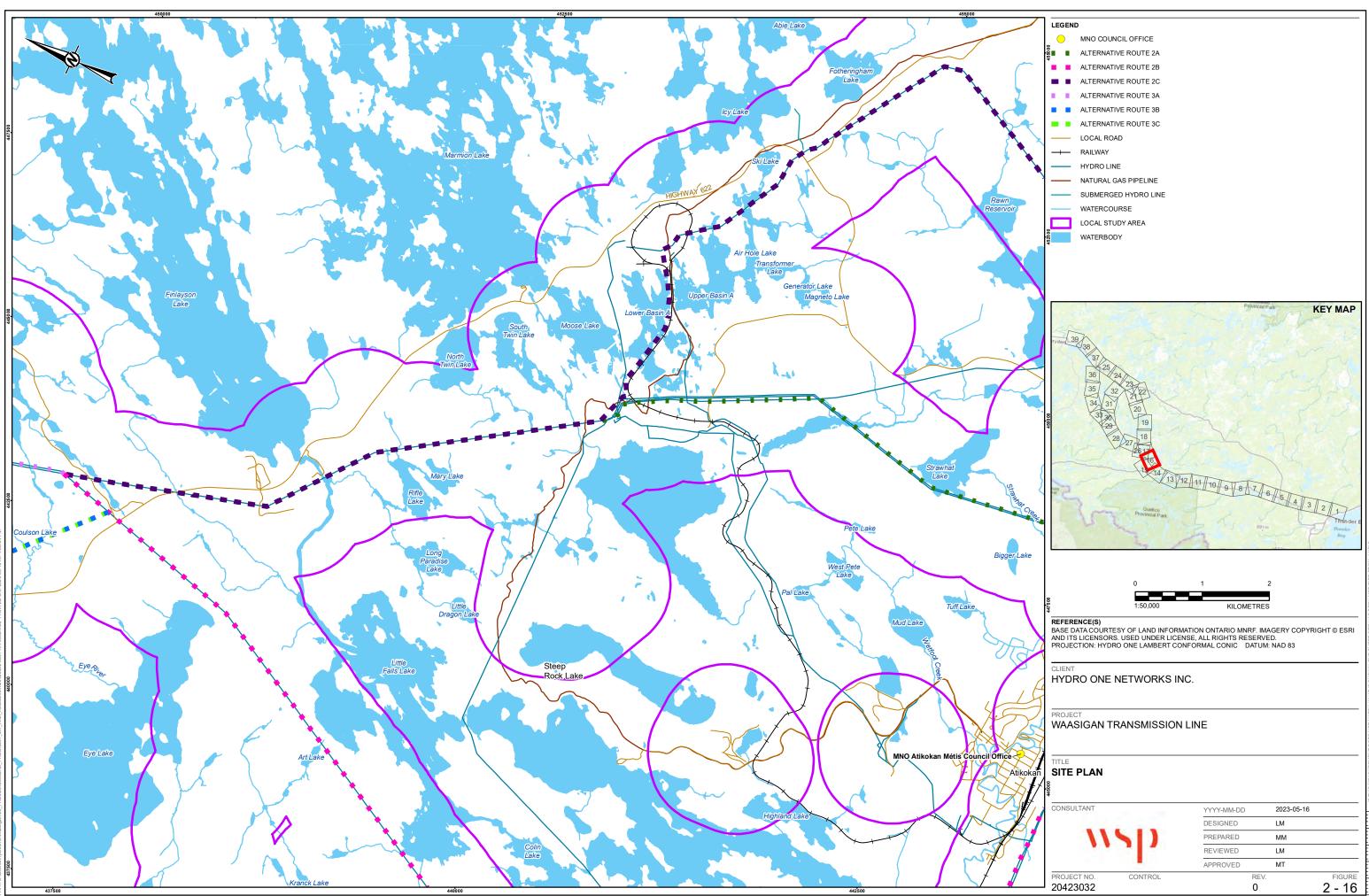
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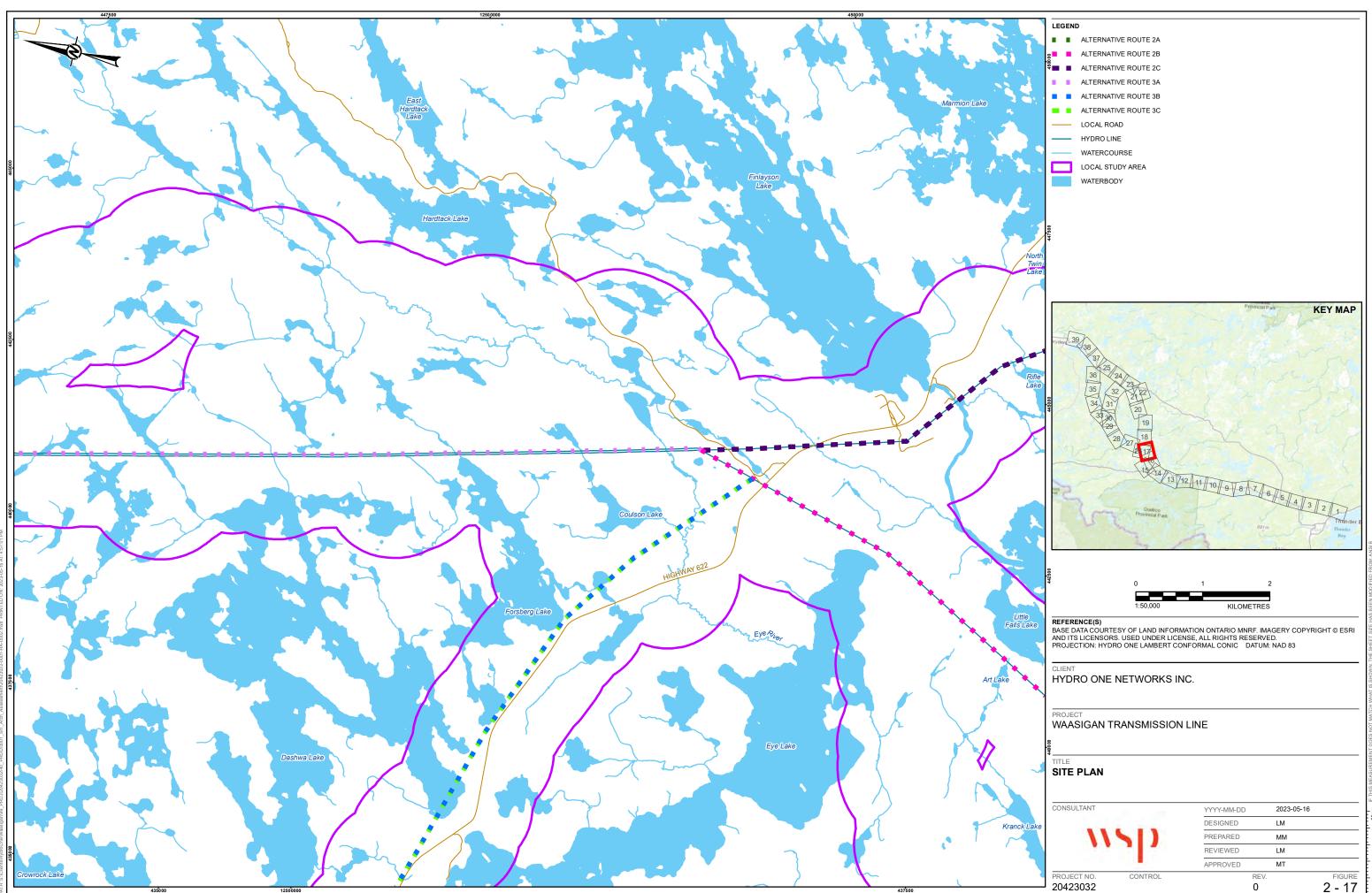
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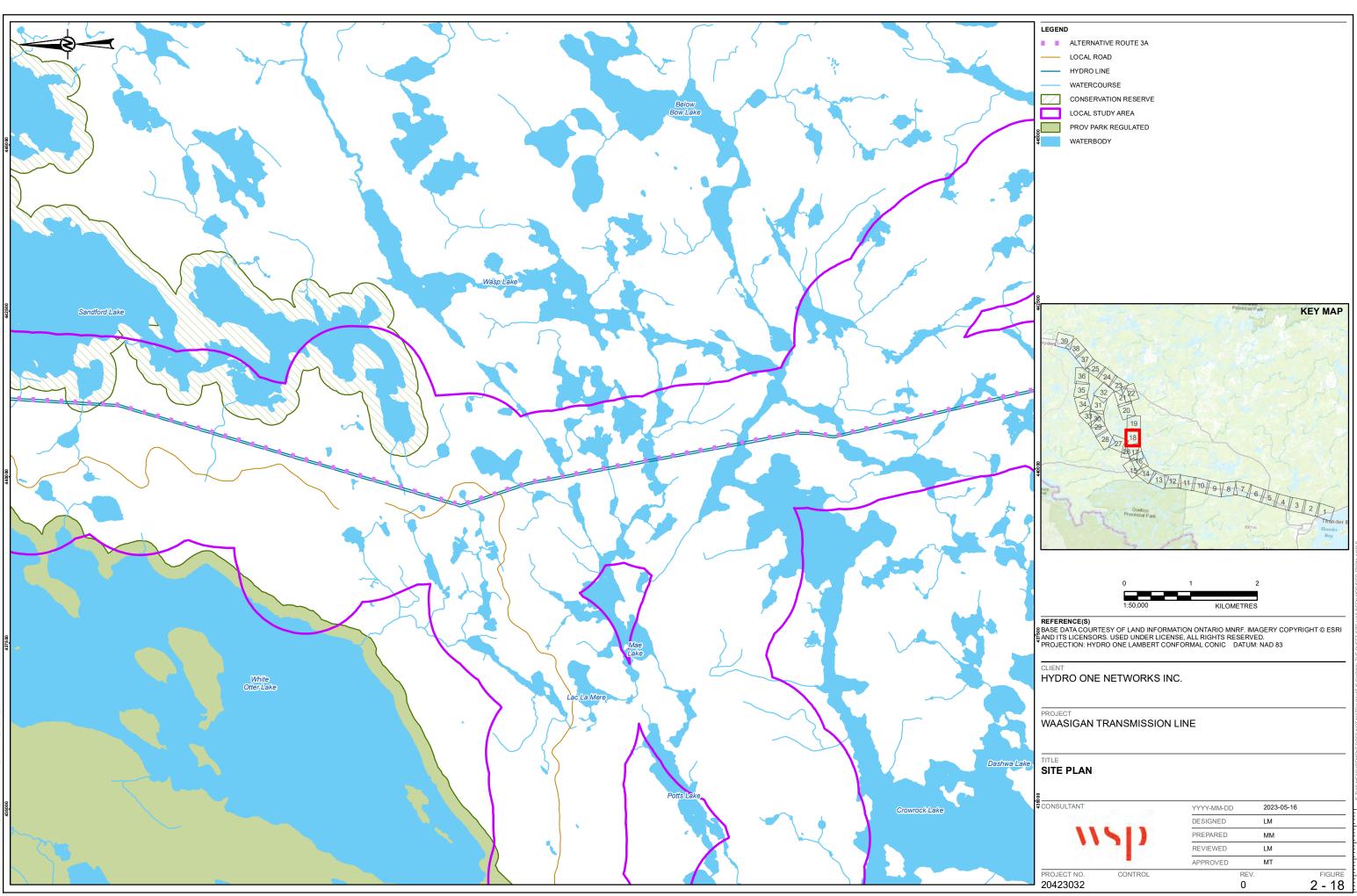




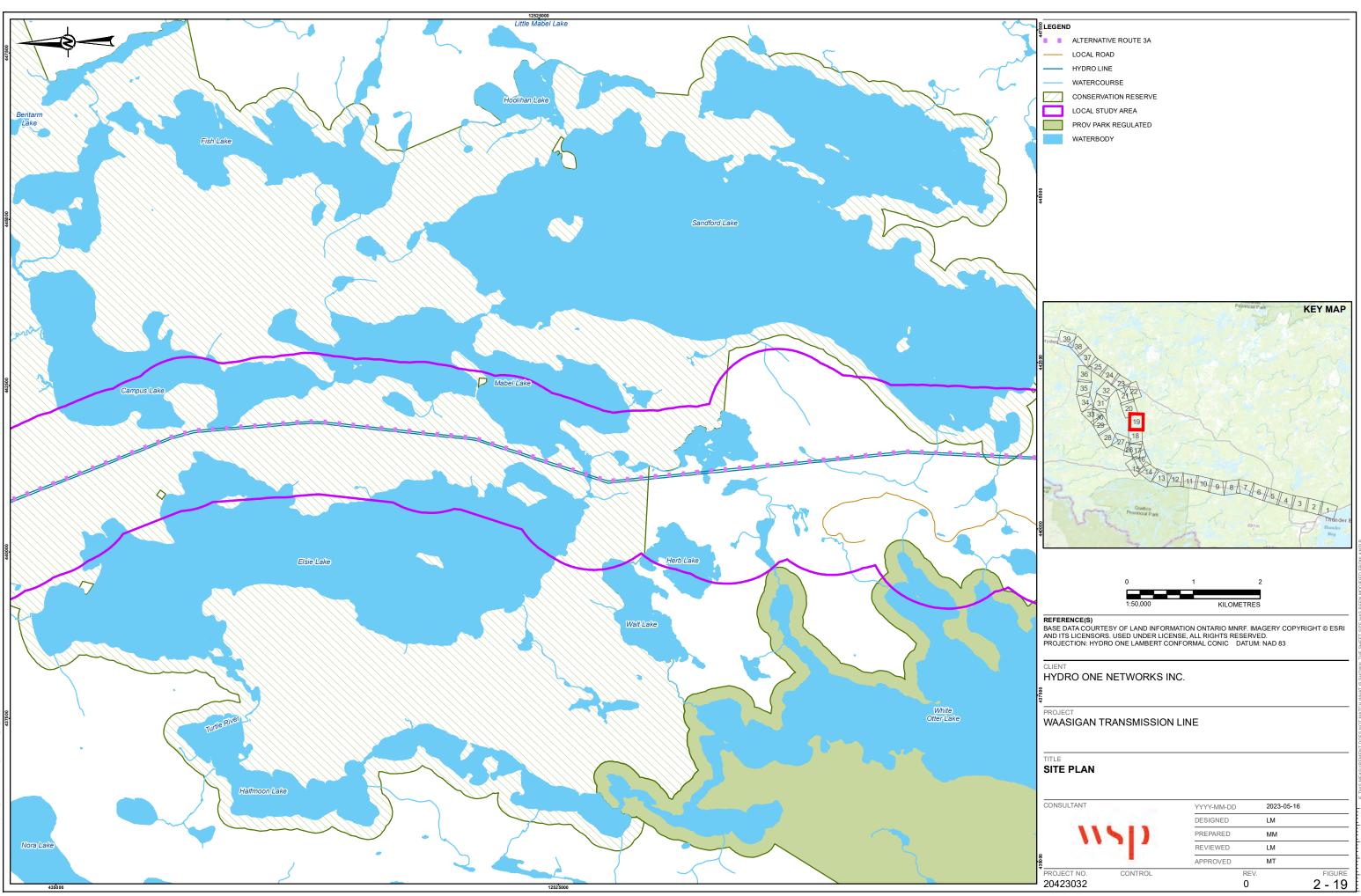


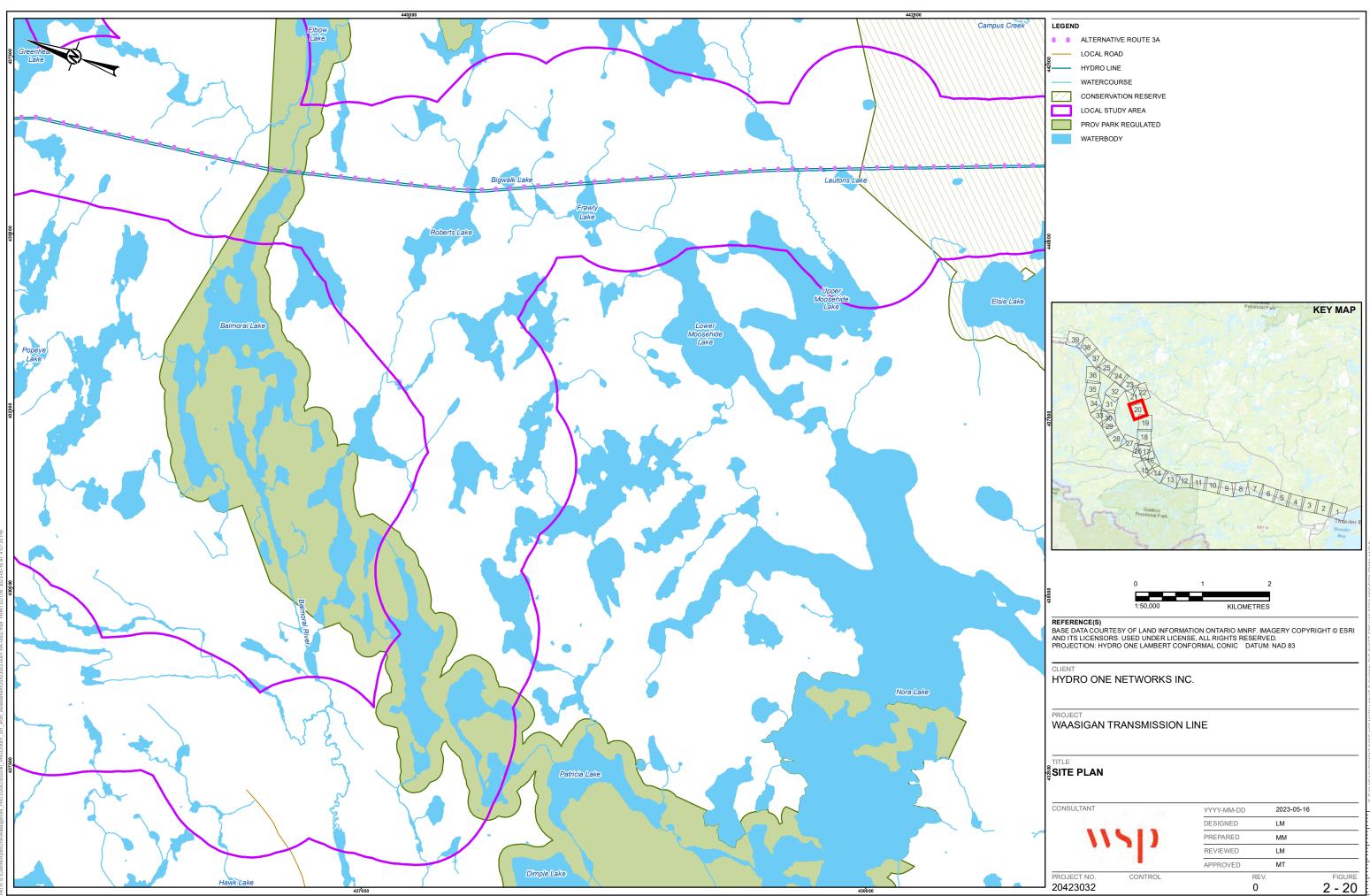
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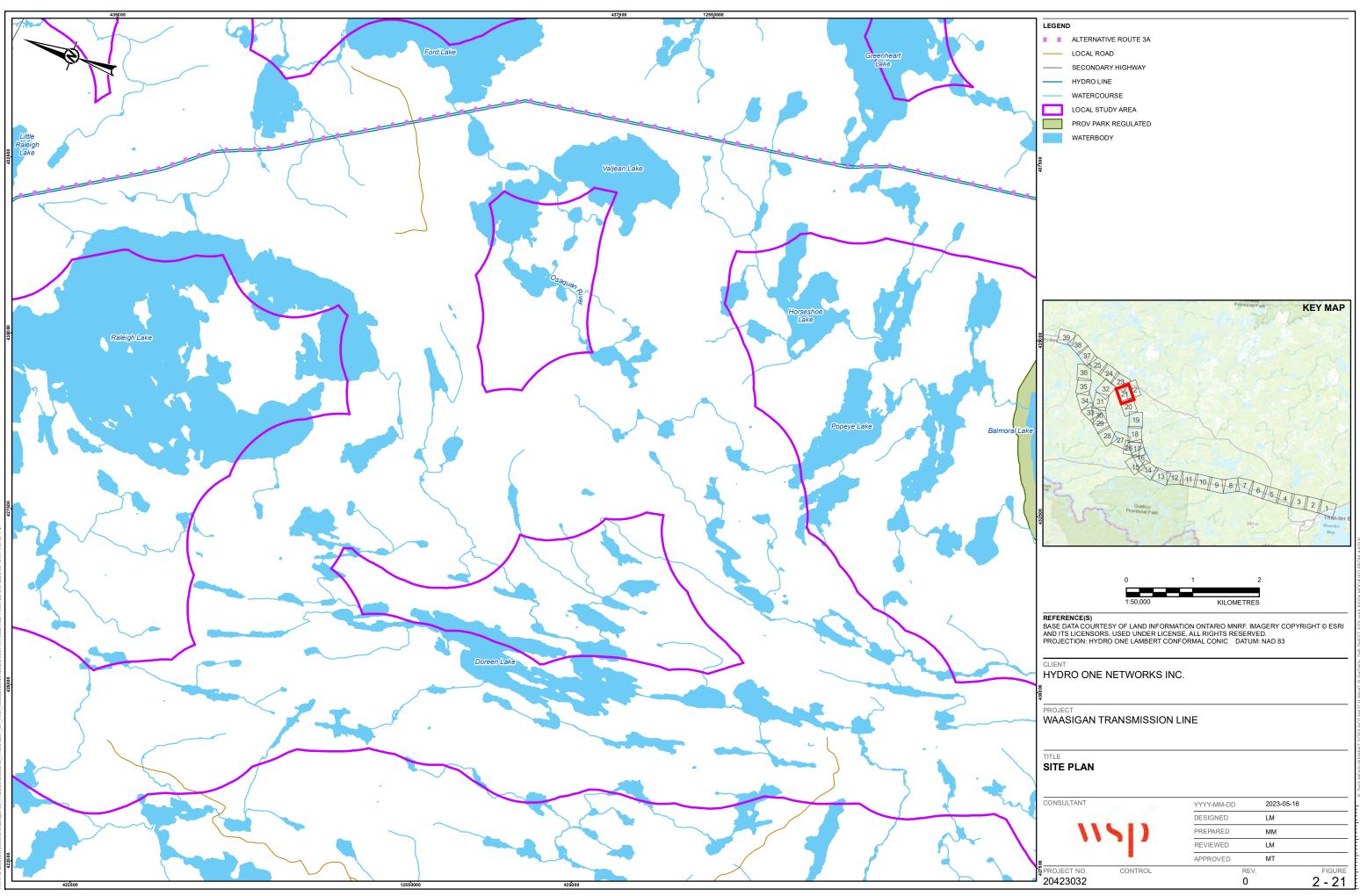


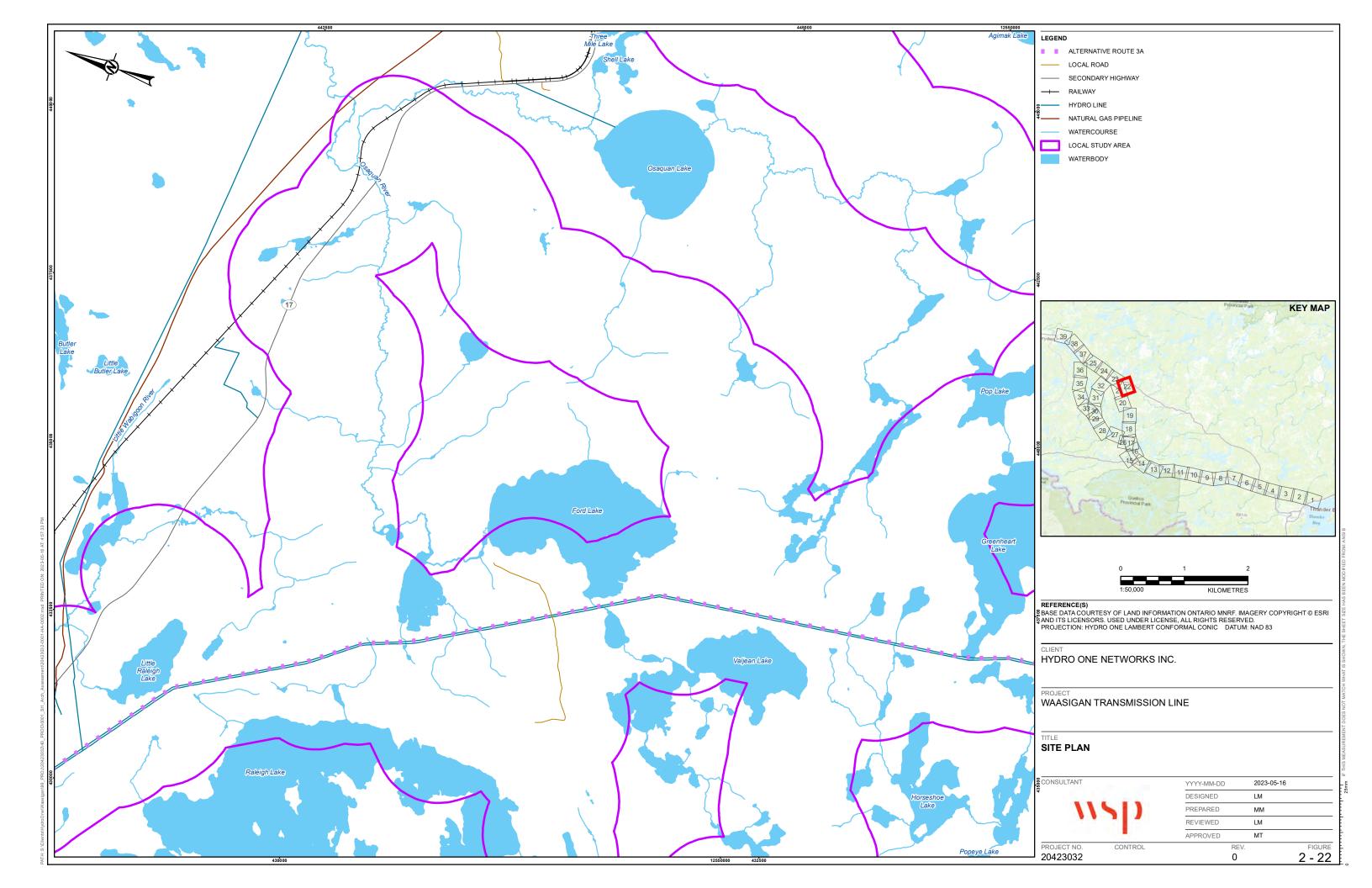


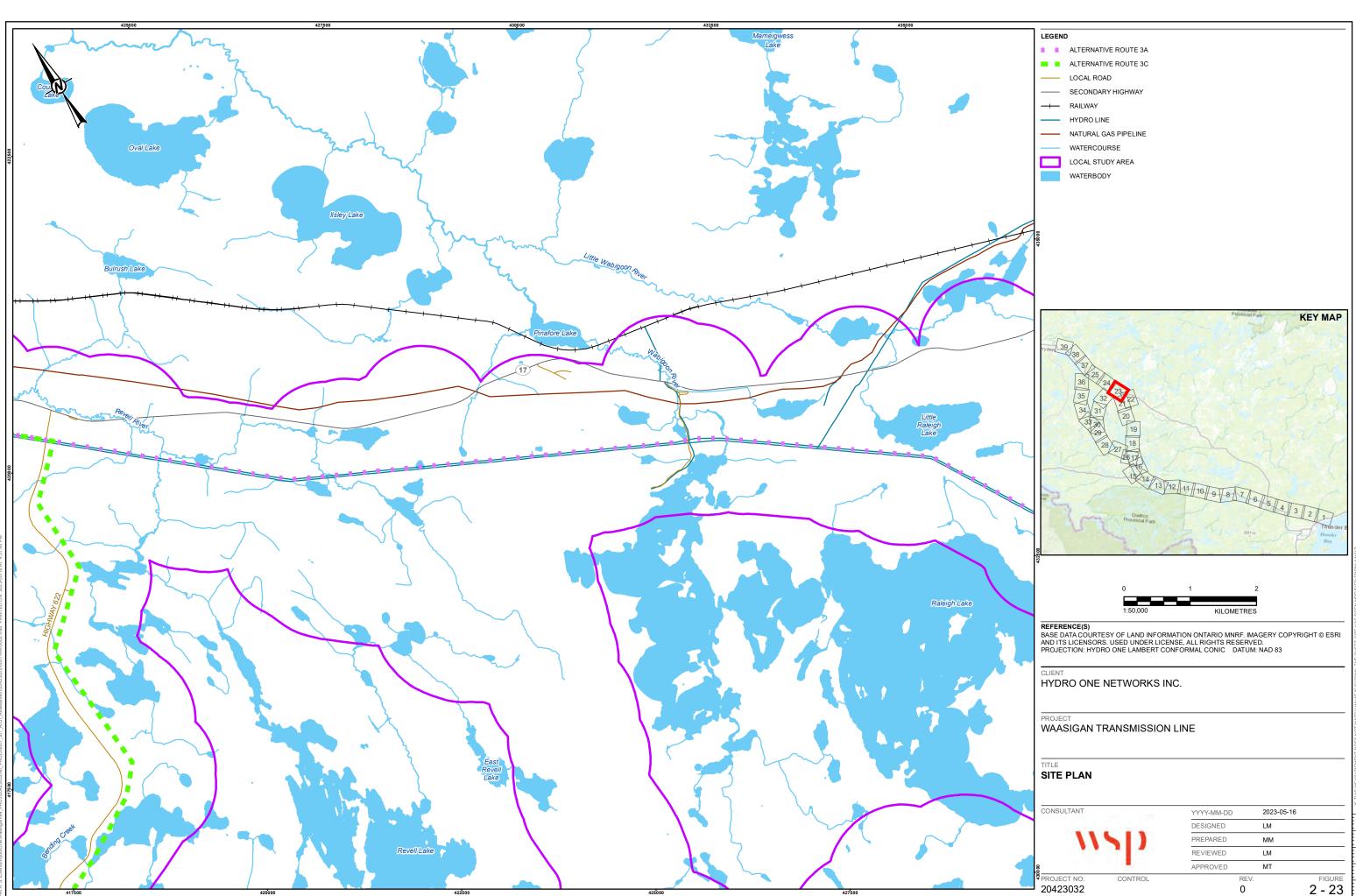
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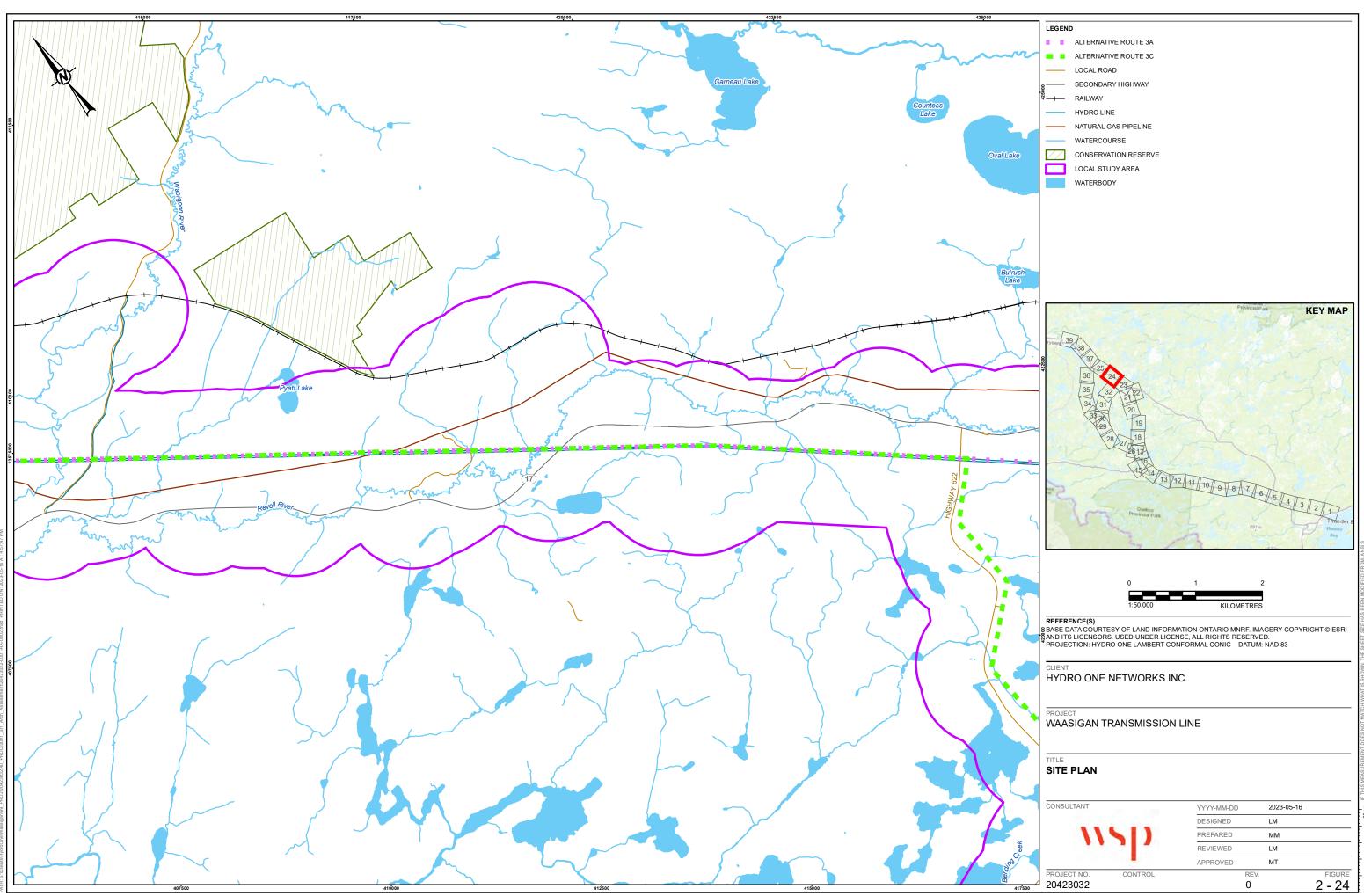


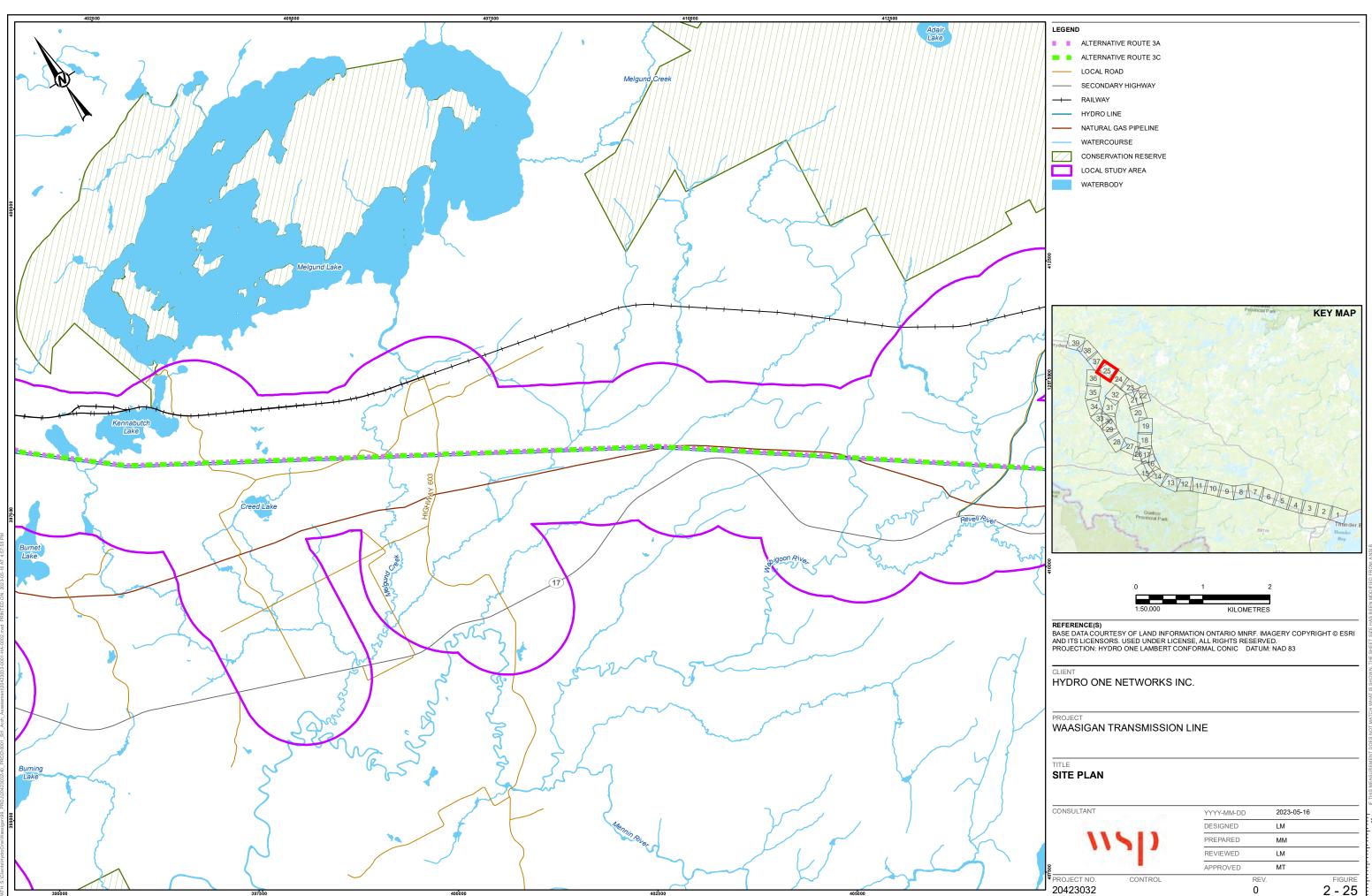


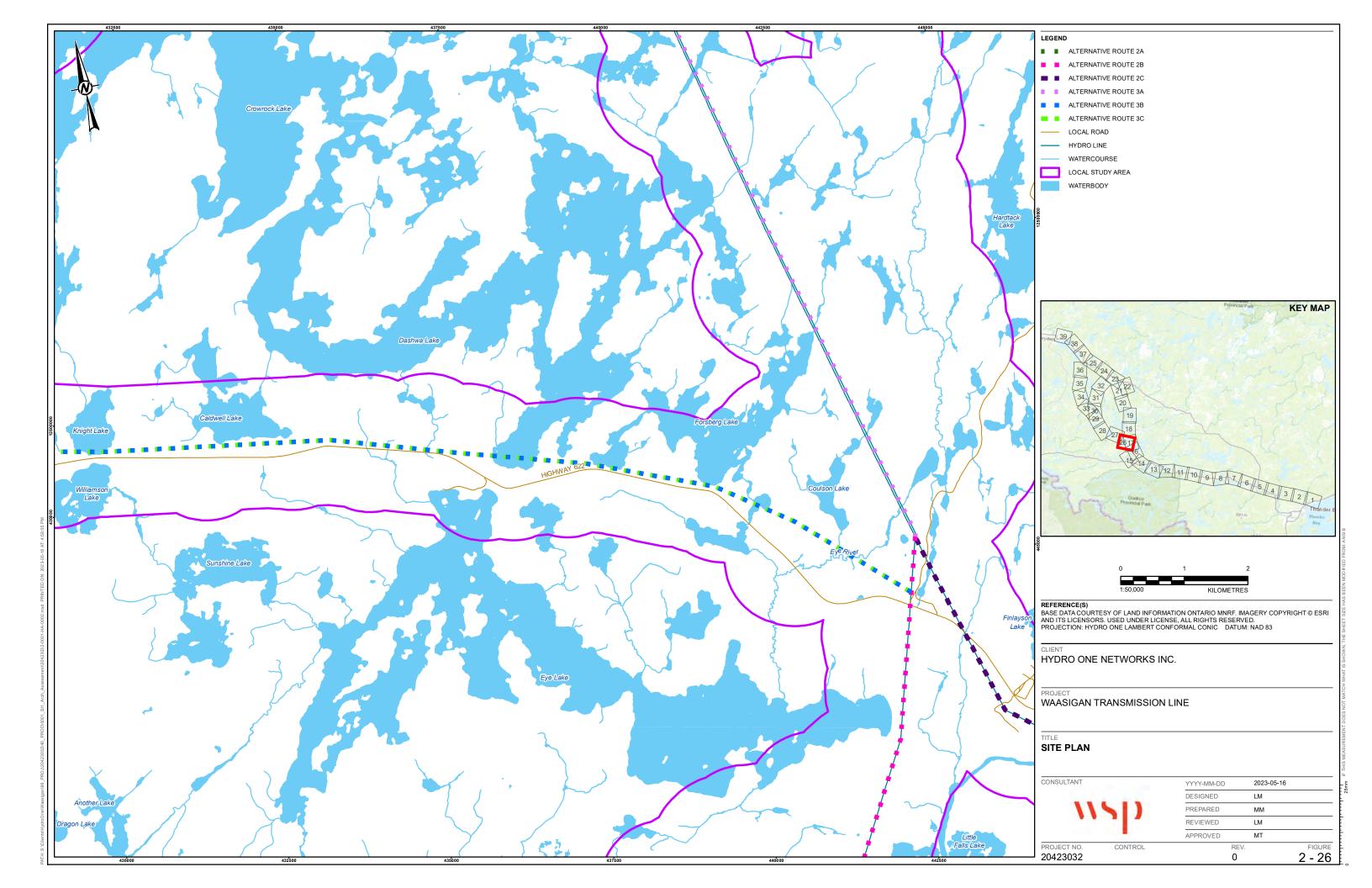


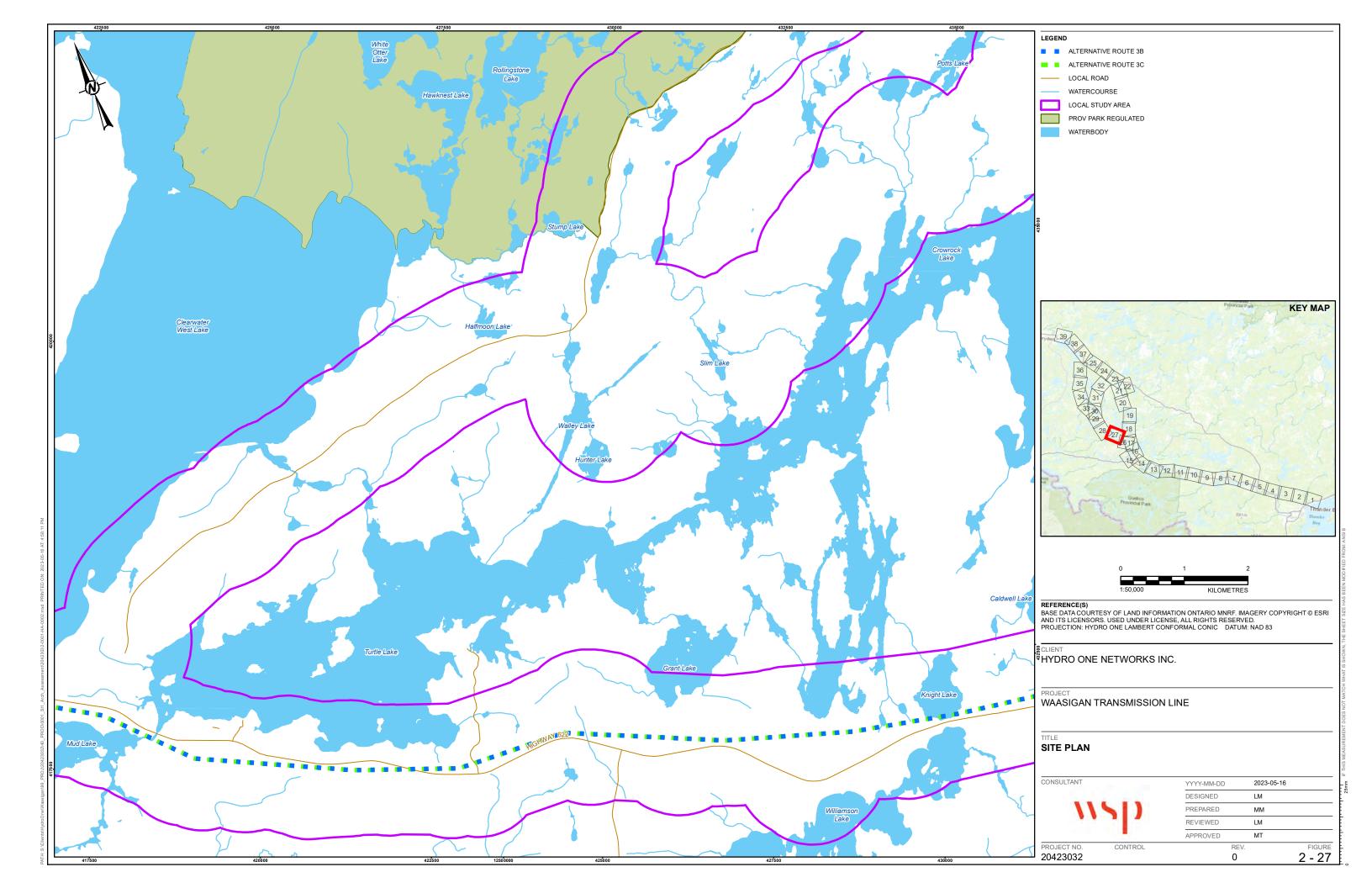


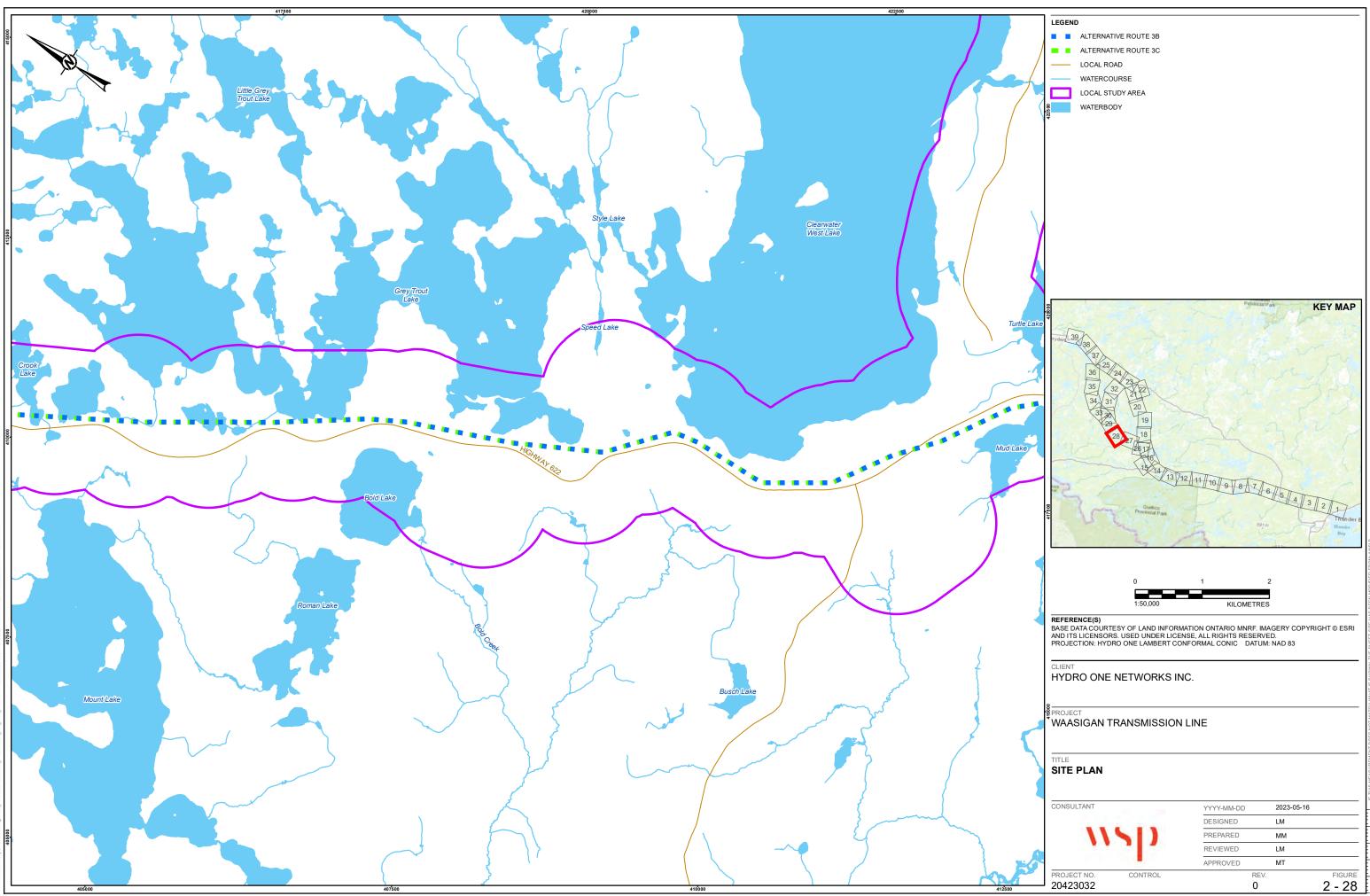
25mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFI





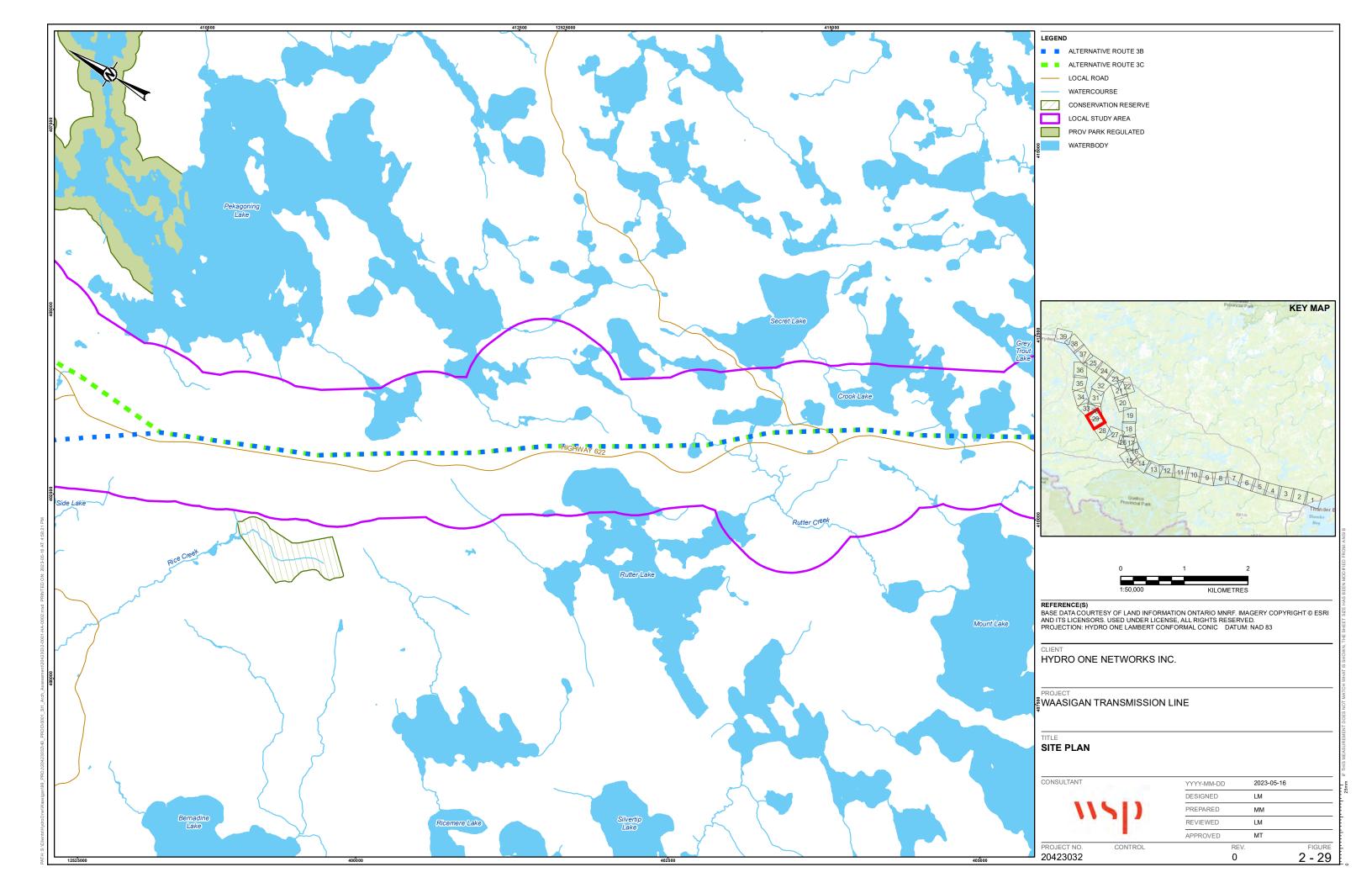


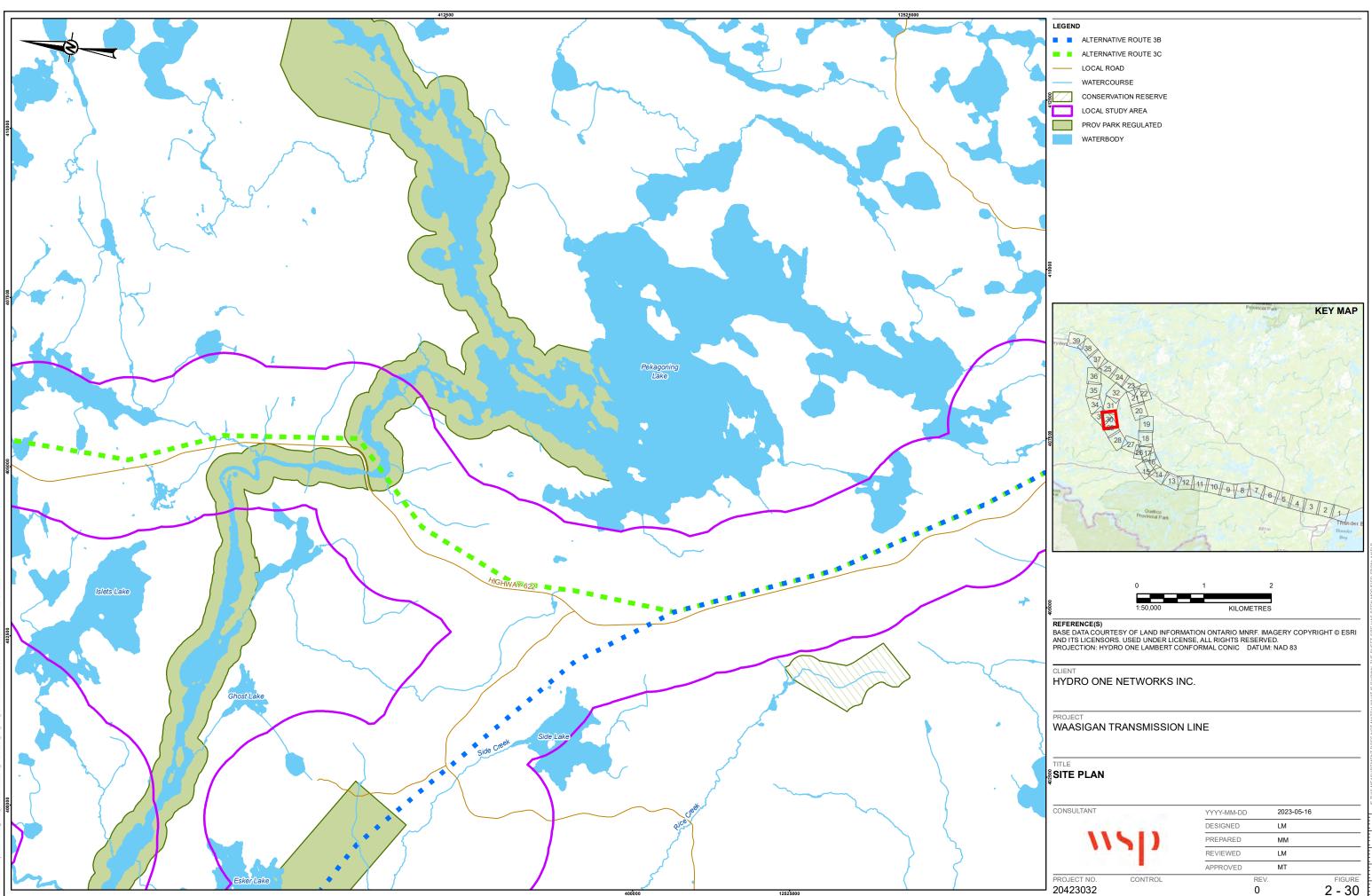


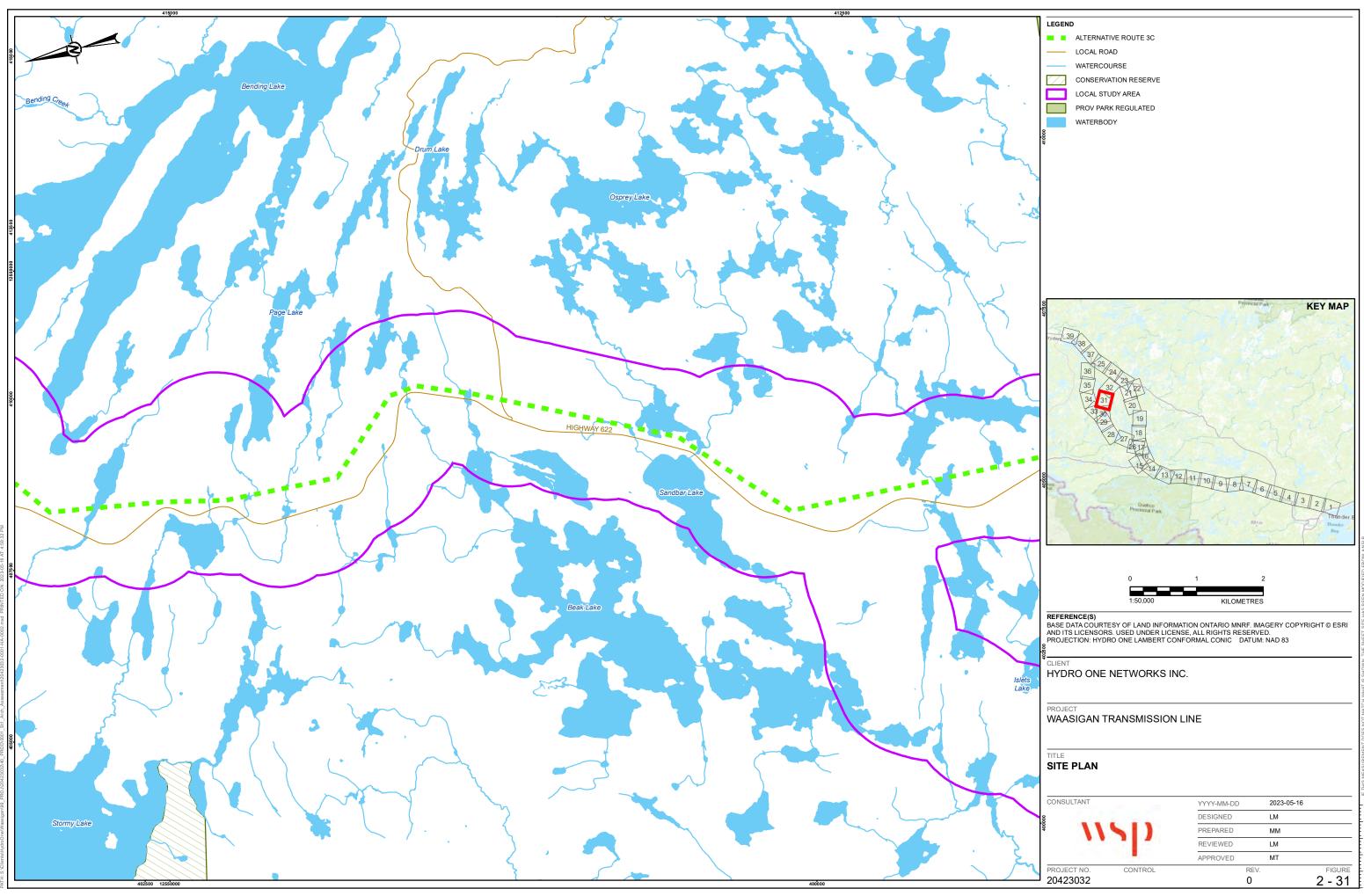


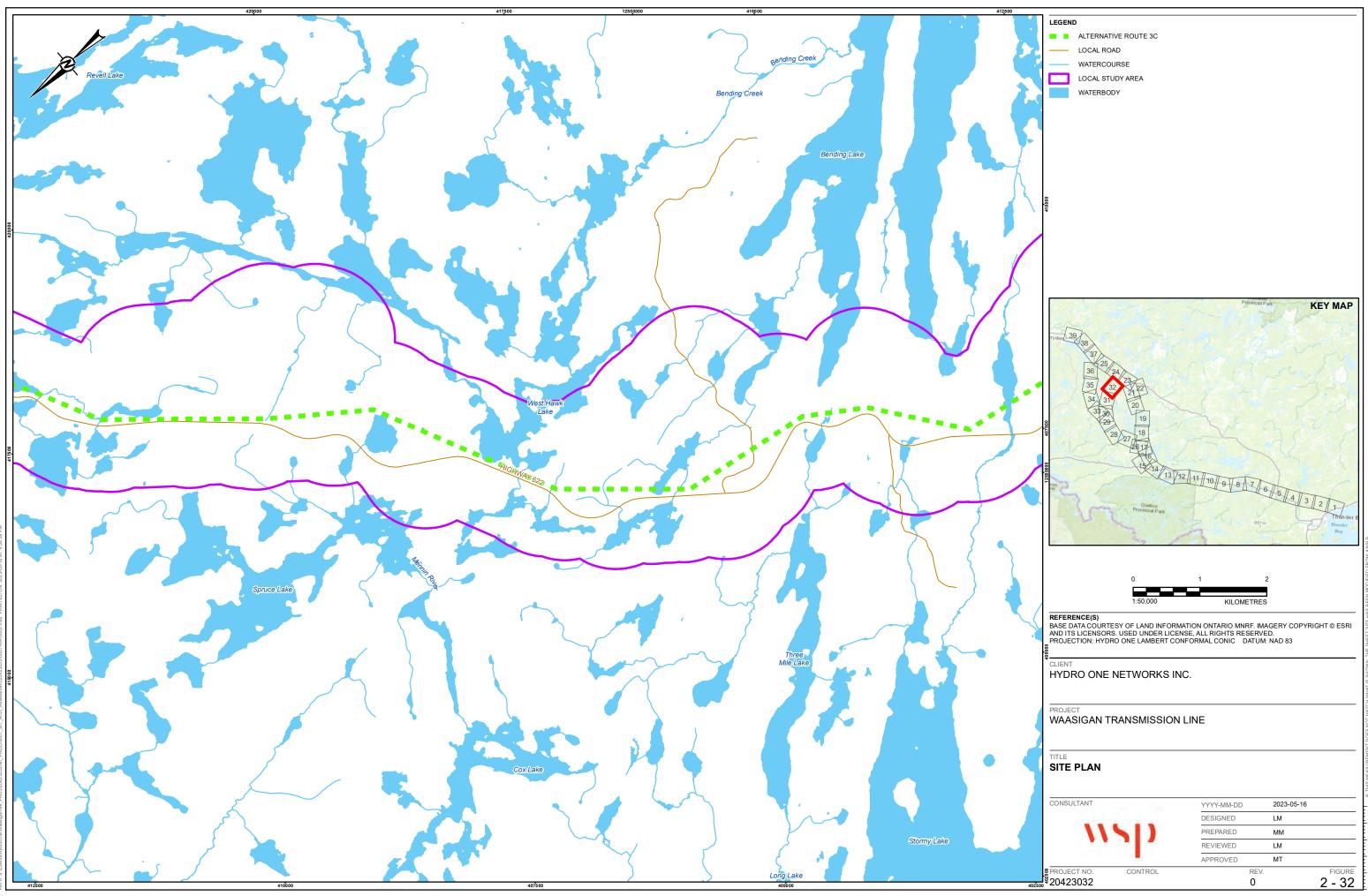
75mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN

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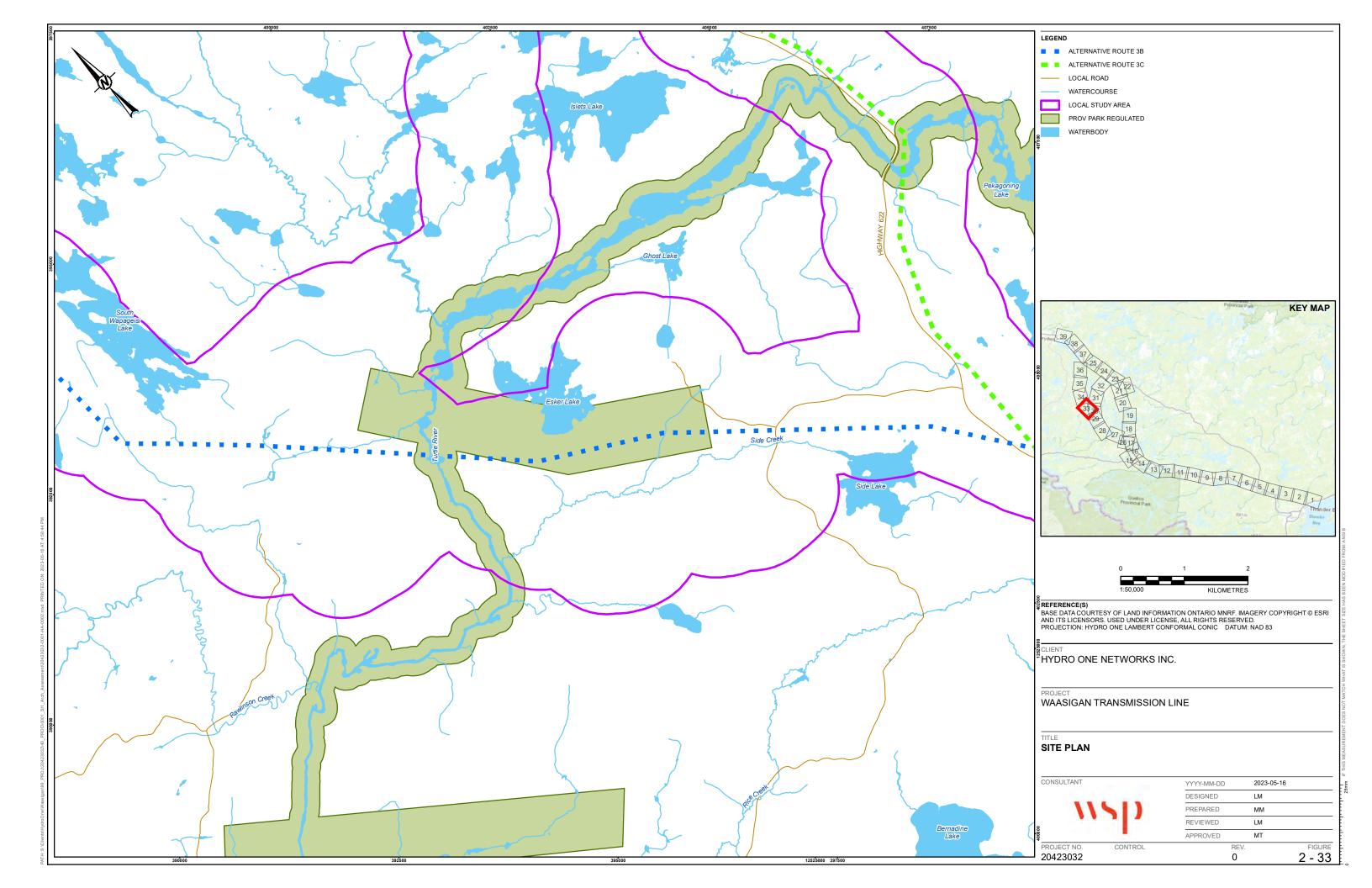


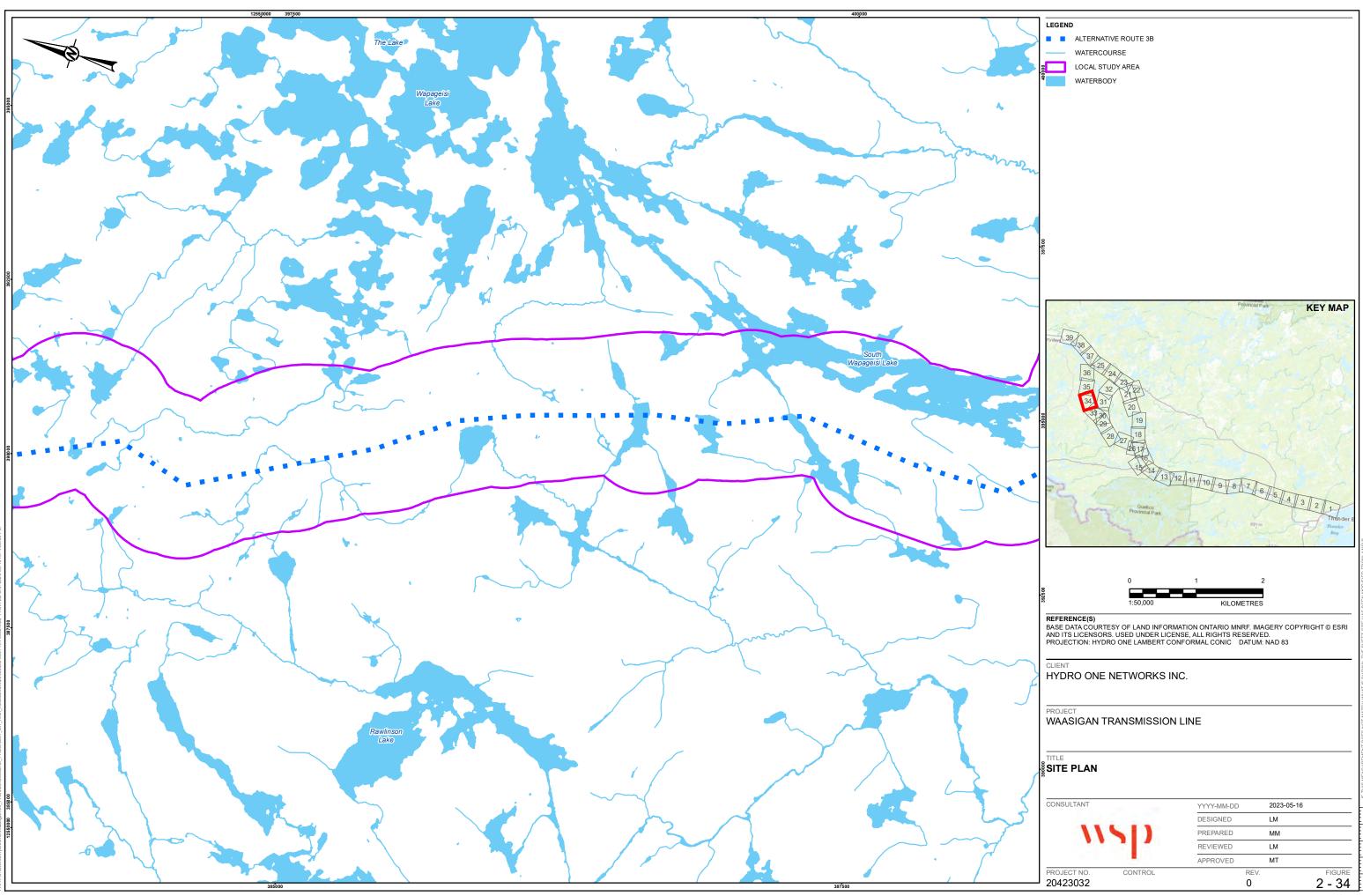




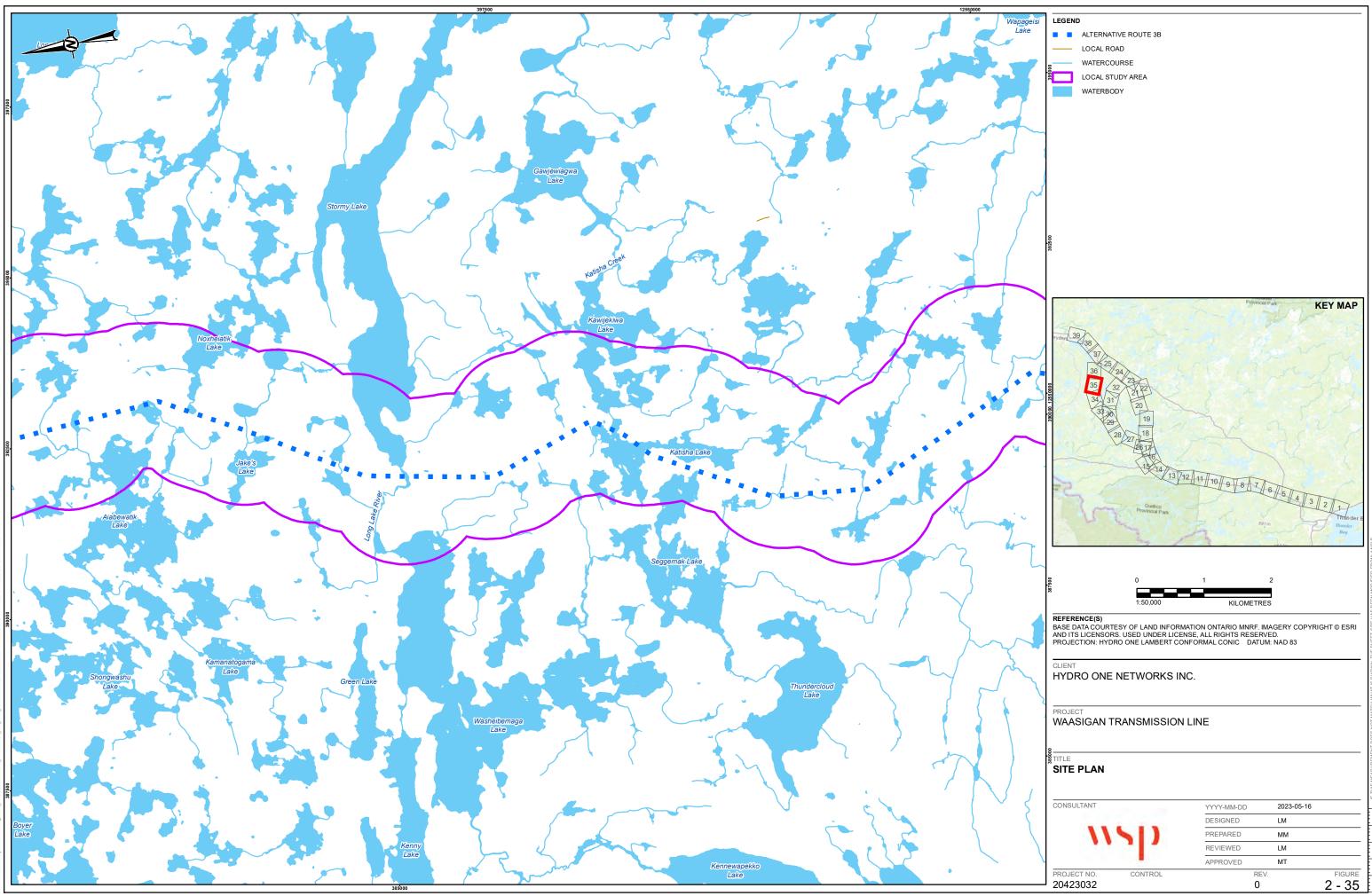


25mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS

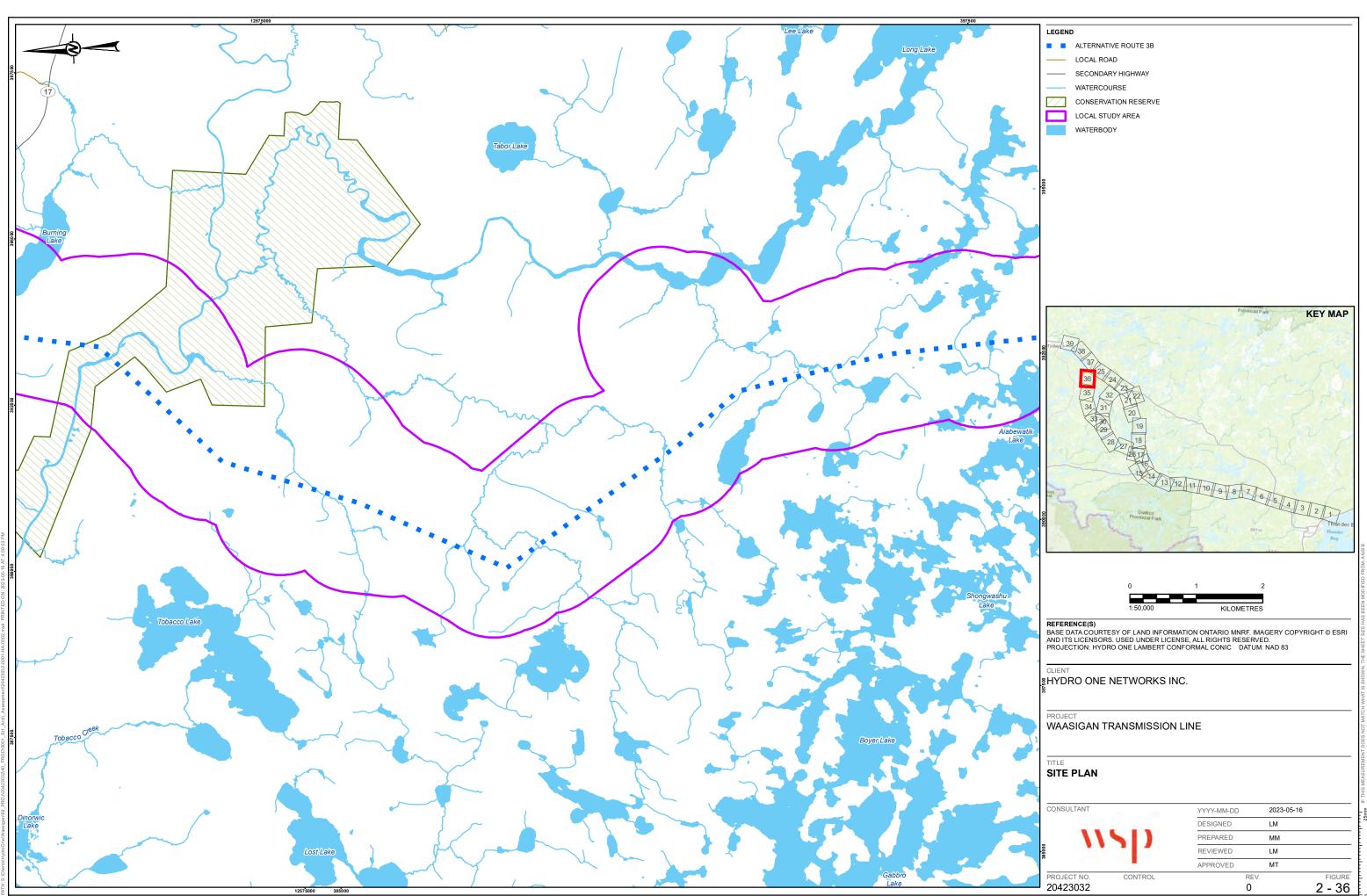


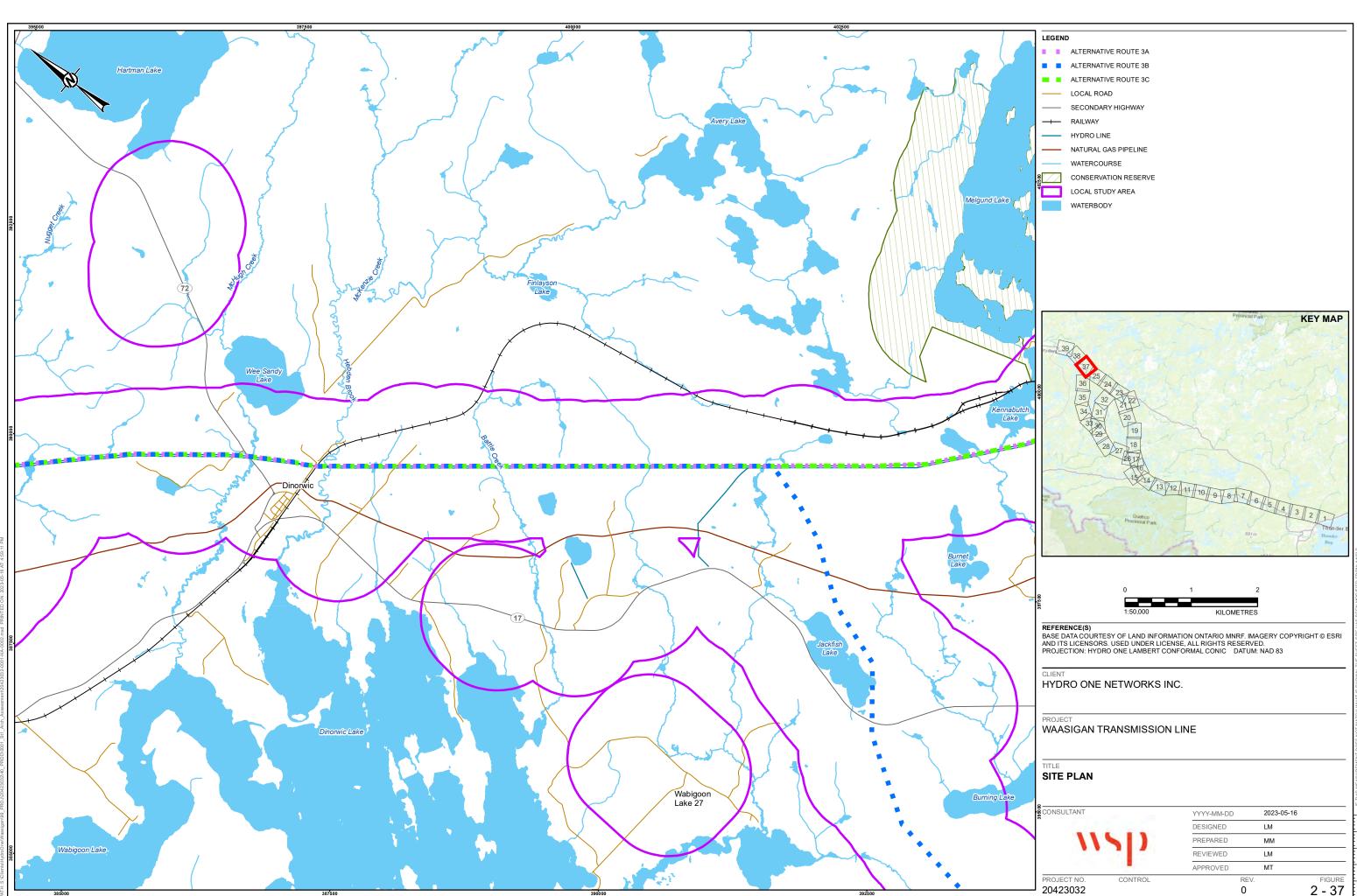


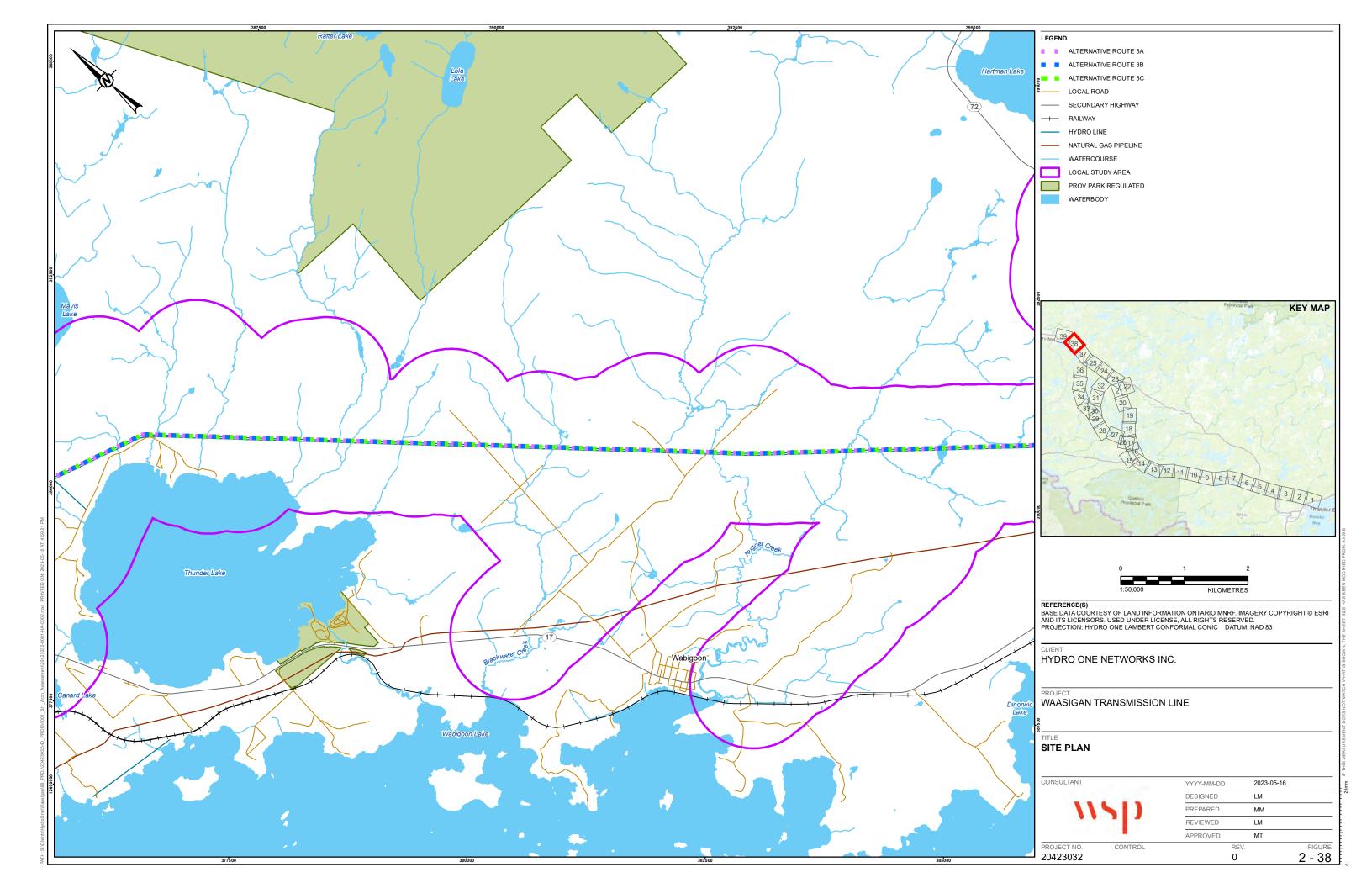
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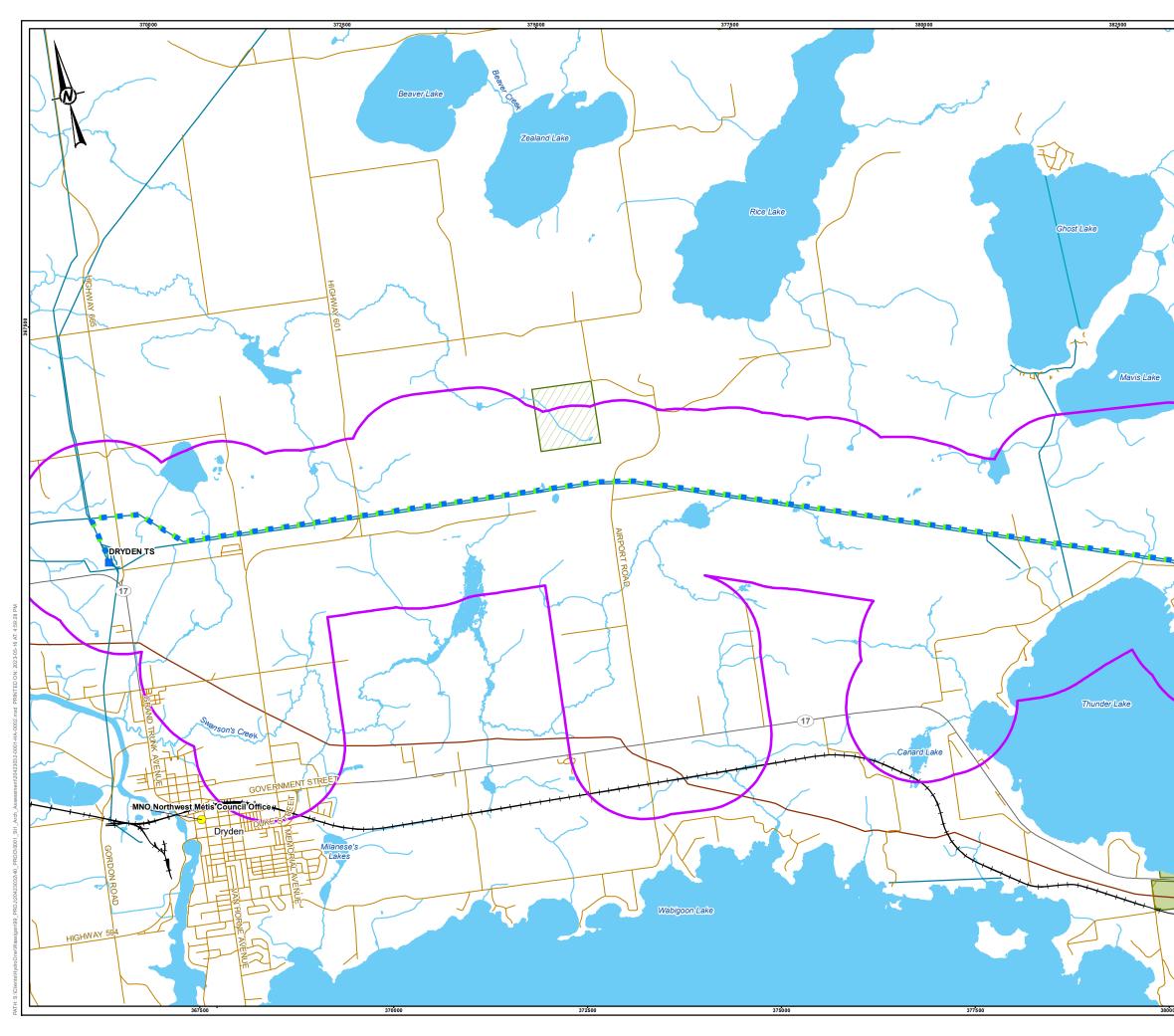


25mm









-	230 kV TRANSF STATION (TS)	ORMER		
	MNO COUNCIL			
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	LOCAL ROAD	RUUTE JU		
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	RAILWAY			
1—	HYDRO LINE			
	NATURAL GAS			
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	LOCAL STUDY			
	PROV PARK RE	EGULATED		
	WATERBODY			
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PROJECT NO. 20423032

CONTROL

REV. 0 FIGURE **2 - 39**



LEGEND

- 230 kV TRANSFORMER STATION (TS)
- ALTERNATIVE ROUTE 1
- ALTERNATIVE ROUTE 1A
- ALTERNATIVE ROUTE 1B 1
- ALTERNATIVE ROUTE 1B 2
- LOCAL ROAD
- SECONDARY HIGHWAY
- CONTOUR (10 m INTERVAL)
- HYDRO LINE
- NATURAL GAS PIPELINE
- WATER PIPELINE
- WATERCOURSE
- LOCAL STUDY AREA
- WATERBODY



0	1	2
1:50,000		KILOMETRES

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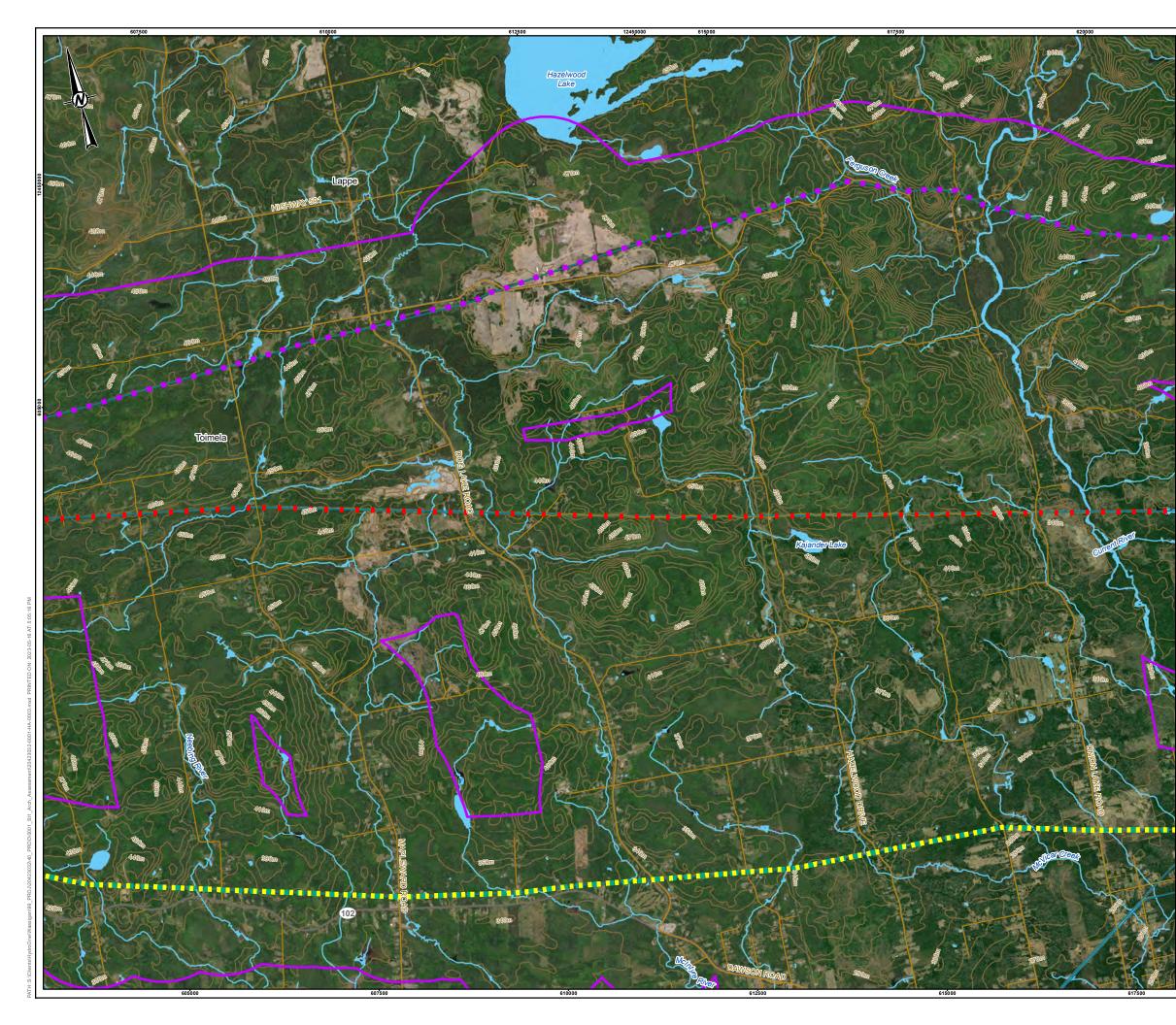
PROJECT

WAASIGAN TRANSMISSION LINE

TITLE

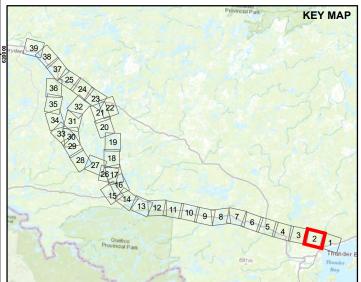
SITE PLAN DETAIL

CONSULTANT 2023-05-16 YYYY-MM-DD DESIGNED LM PREPARED MM REVIEWED LM APPROVED MT PROJECT NO. CONTROL FIGURE REV. 20423032 0 3 - 1



LEGEND

- ALTERNATIVE ROUTE 1
- ALTERNATIVE ROUTE 1A
- ALTERNATIVE ROUTE 1B 1
- ALTERNATIVE ROUTE 1B 2
- LOCAL ROAD
- SECONDARY HIGHWAY
- CONTOUR (10 m INTERVAL)
- HYDRO LINE
- NATURAL GAS PIPELINE
- WATERCOURSE
- LOCAL STUDY AREA
- WATERBODY



0	1	2
1:50,000		KILOMETRES

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CLIENT

HYDRO ONE NETWORKS INC.

PROJECT WAASIGAN TRANSMISSION LINE

TITLE SITE PLAN DETAIL

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CONSULTANT	YYYY-MM-DD	2023-05-16	F
	DESIGNED	LM	[
	PREPARED	MM	[
	REVIEWED	LM	[
	APPROVED	MT	F
PROJECT NO. CONTROL	RE	V.	FIGURE
20423032	0		3 - 2



LEGEND

- ALTERNATIVE ROUTE 1
- ALTERNATIVE ROUTE 1A
- ALTERNATIVE ROUTE 1B 1
- ALTERNATIVE ROUTE 1B 2
- ALTERNATIVE ROUTE 1C
- LOCAL ROAD
- SECONDARY HIGHWAY
- CONTOUR (10 m INTERVAL)
- ----- RAILWAY
- HYDRO LINE
- NATURAL GAS PIPELINE
- WATERCOURSE
- LOCAL STUDY AREA
- WATERBODY



0	1	2
1:50,000		KILOMETRES

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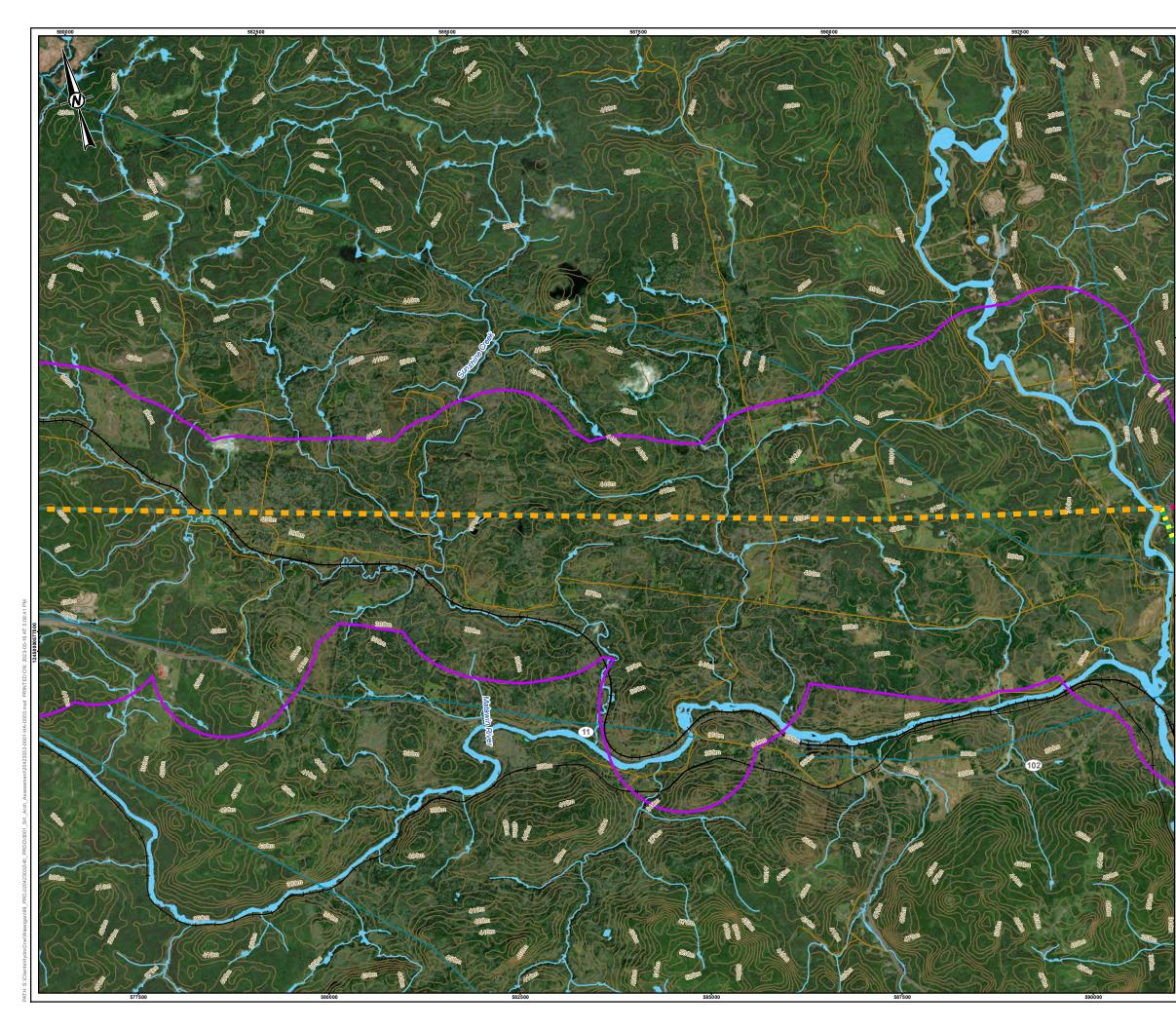
PROJECT

WAASIGAN TRANSMISSION LINE

TITLE

SITE PLAN DETAIL

CONSULTANT		YYYY-MM-DD	2023-05-16	
		DESIGNED	LM	
		PREPARED	MM	
		REVIEWED	LM	F
	1.1	APPROVED	MT	F
PROJECT NO.	CONTROL	RE\	V.	FIGURE
		0		3-3



- ALTERNATIVE ROUTE 1
- ALTERNATIVE ROUTE 1A
- ALTERNATIVE ROUTE 1B 1
- ALTERNATIVE ROUTE 1B 2
- ALTERNATIVE ROUTE 1C
- LOCAL ROAD
- SECONDARY HIGHWAY
- CONTOUR (10 m INTERVAL)
- ----- RAILWAY
- HYDRO LINE
- NATURAL GAS PIPELINE
- WATERCOURSE
- LOCAL STUDY AREA
- WATERBODY



0	1	2
1:50,000		KILOMETRES

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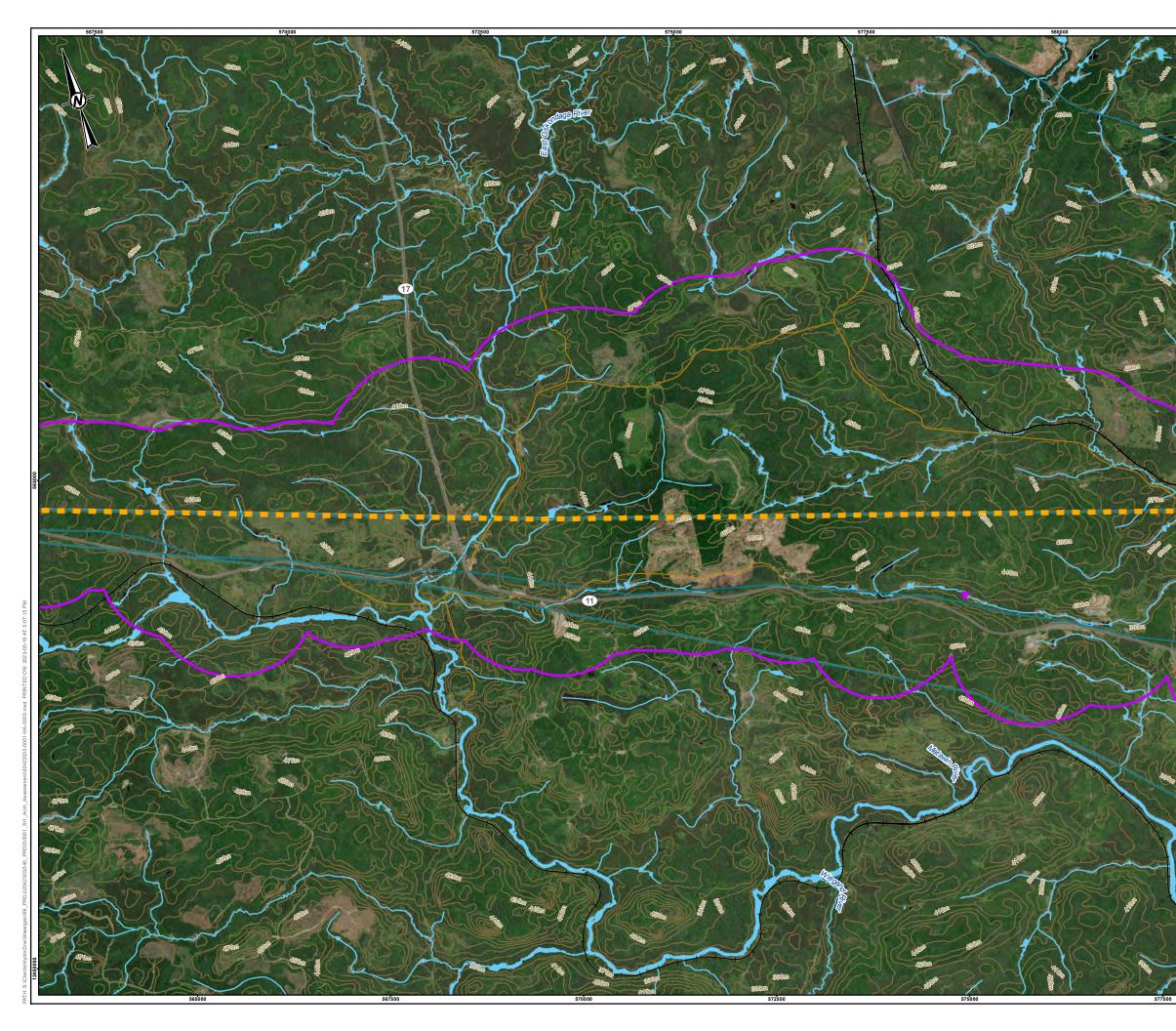
CLIENT HYDRO ONE NETWORKS INC.

PROJECT

WAASIGAN TRANSMISSION LINE

TITLE SITE PLAN DETAIL

		YYYY-MM-DD	2023-05-16	
		DESIGNED	LM	
		PREPARED	MM	E
		REVIEWED	LM	F
		APPROVED	MT	E
PROJECT NO.	CONTROL	RE	EV.	FIGURE
20423032		0		3 - 4



- ALTERNATIVE ROUTE 1
- ALTERNATIVE ROUTE 1C
- LOCAL ROAD
- SECONDARY HIGHWAY
- CONTOUR (10 m INTERVAL)
- RAILWAY ----
- HYDRO LINE
- NATURAL GAS PIPELINE
- WATERCOURSE
- LOCAL STUDY AREA
- WATERBODY



0	1	2
1:50,000		KILOMETRES

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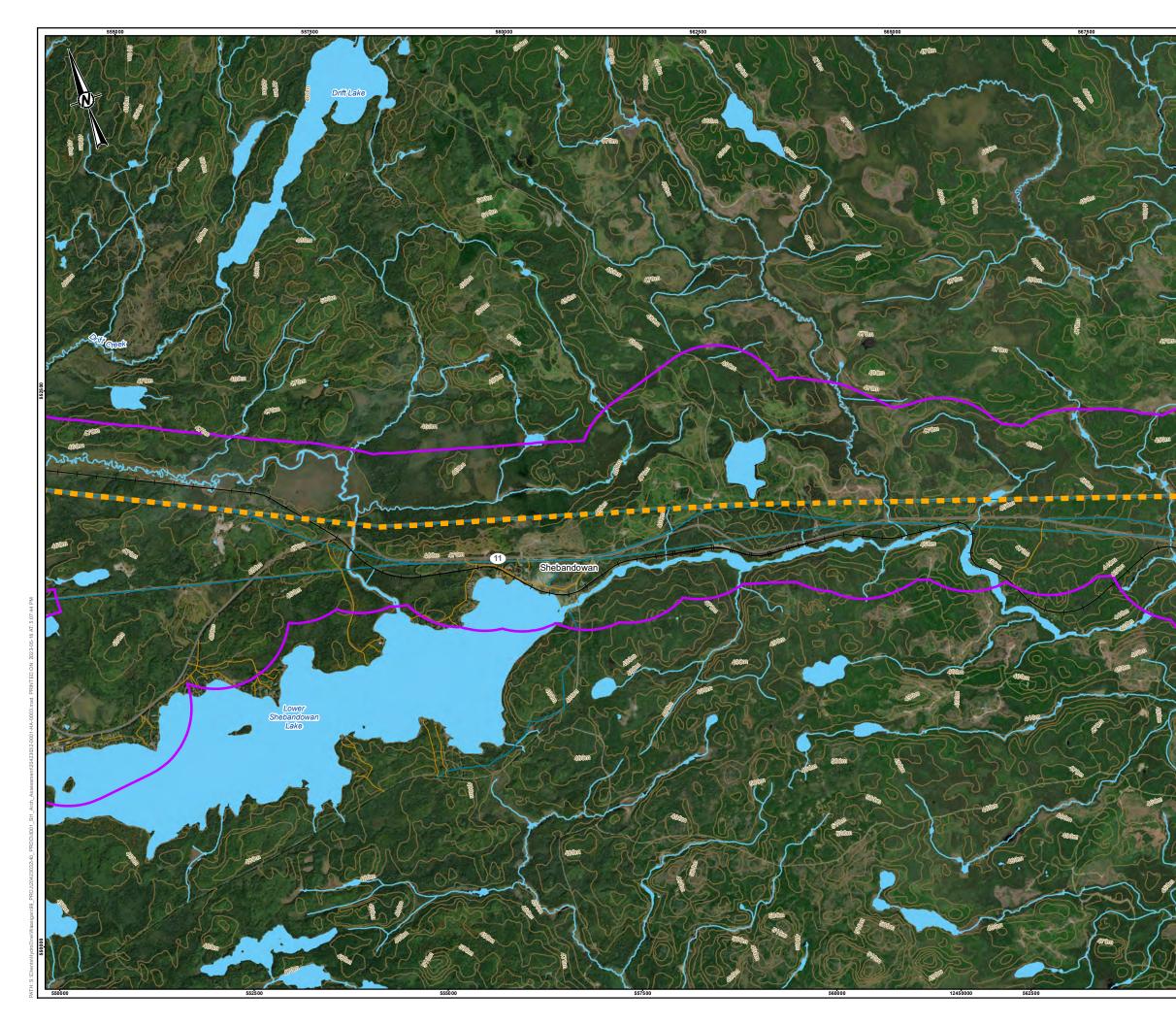
CLIENT HYDRO ONE NETWORKS INC.

PROJECT

WAASIGAN TRANSMISSION LINE

TITLE

SITE PLAN DETAIL CONSULTANT 2023-05-16 YYYY-MM-DD DESIGNED LM PREPARED MM REVIEWED LM APPROVED MT FIGURE PROJECT NO. CONTROL REV. 0 20423032



- ALTERNATIVE ROUTE 1
- ALTERNATIVE ROUTE 1C
- LOCAL ROAD
- SECONDARY HIGHWAY
- CONTOUR (10 m INTERVAL)
- ----- RAILWAY
- HYDRO LINE
- UNKNOWN TRANSMISSION
- LINE
- WATERCOURSE
- LOCAL STUDY AREA
- WATERBODY



0	1	2
1:50,000		KILOMETRES

REFERENCE(S)

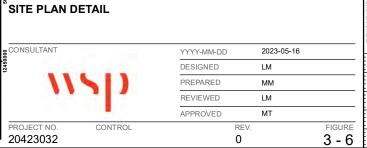
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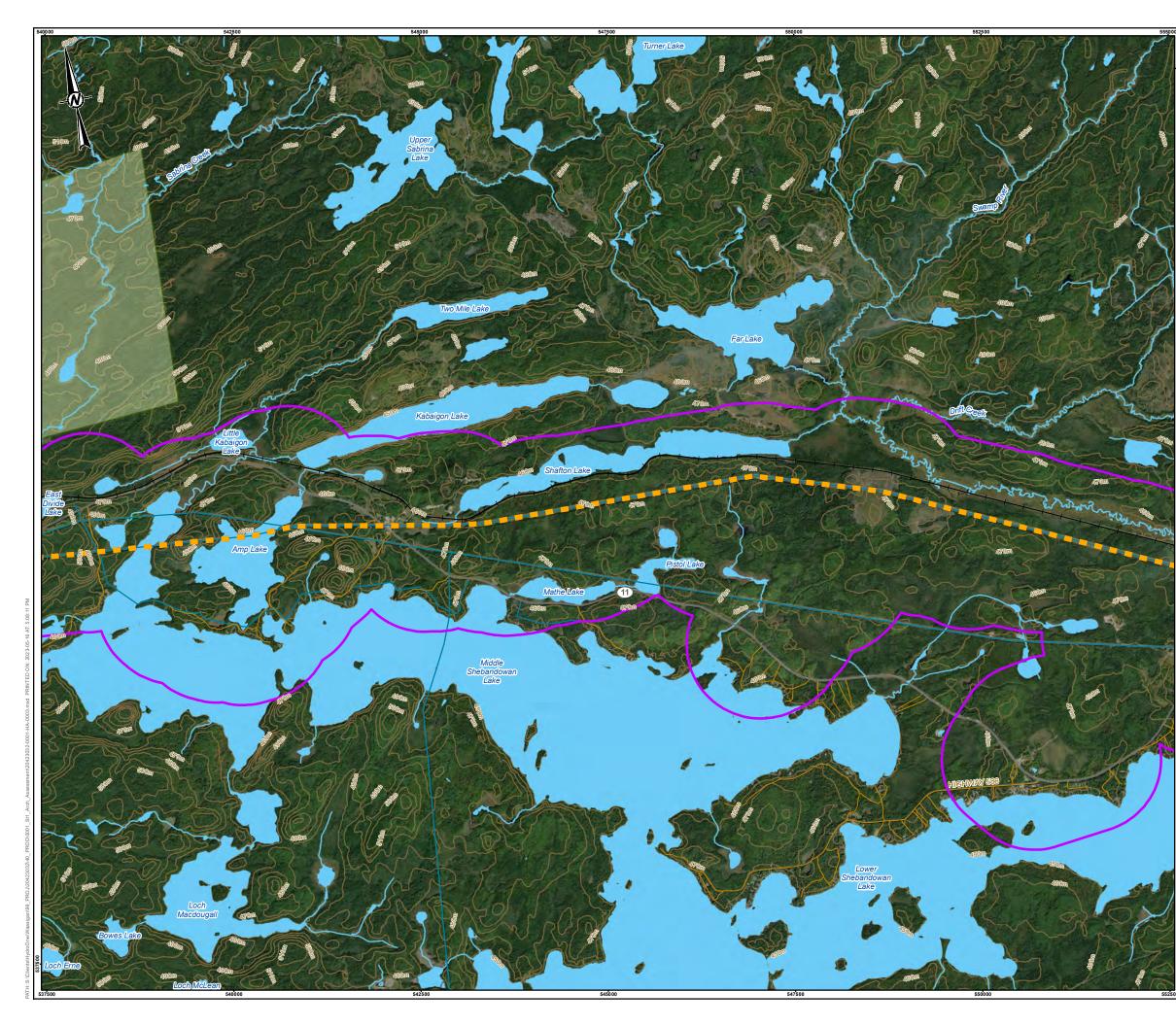
PROJECT

WAASIGAN TRANSMISSION LINE

TITLE



25mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED F



- ALTERNATIVE ROUTE 1
- ALTERNATIVE ROUTE 1C
- LOCAL ROAD
- CONTOUR (10 m INTERVAL)
- RAILWAY
- HYDRO LINE
- WATERCOURSE
- LOCAL STUDY AREA
 - PROV PARK REGULATED
- WATERBODY



0	1	2
1:50,000		KILOMETRES

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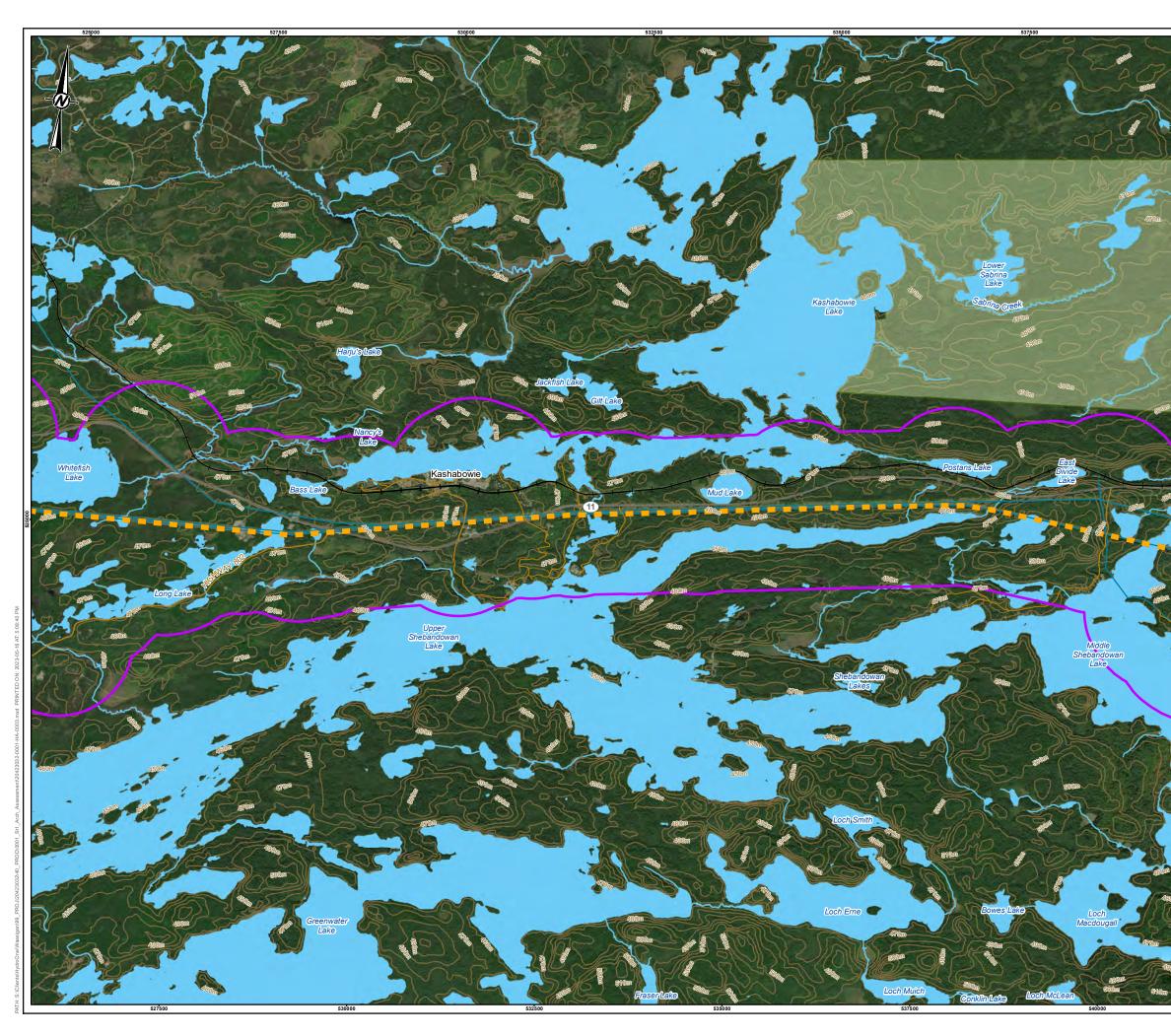
PROJECT

WAASIGAN TRANSMISSION LINE

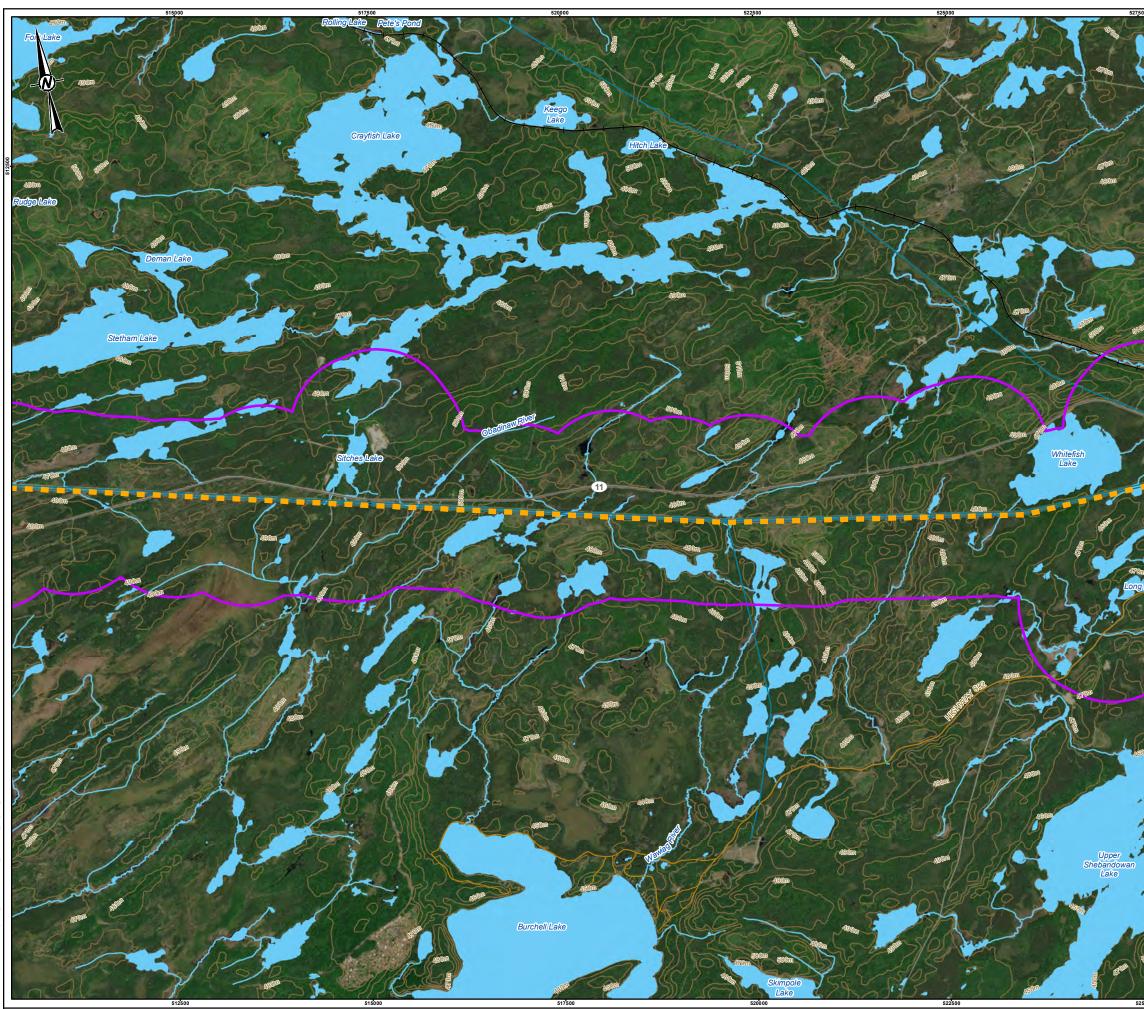
TITLE

SITE PLAN DETAIL CONSULTANT 2023-05-16 YYYY-MM-DD DESIGNED LM PREPARED MM REVIEWED LM APPROVED MT FIGURE **3 - 7** PROJECT NO CONTROL REV. 20423032 0

25mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MOD IF IED FROM: AN

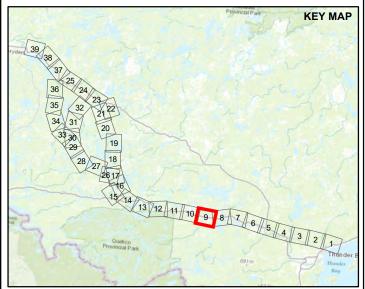








- ALTERNATIVE ROUTE 1
- ALTERNATIVE ROUTE 1C
- LOCAL ROAD
- SECONDARY HIGHWAY
- CONTOUR (10 m INTERVAL)
- RAILWAY ----
- HYDRO LINE
- WATERCOURSE
- LOCAL STUDY AREA
 - WATERBODY



0	1	2
1:50,000		KILOMETRES

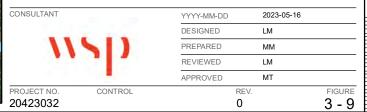
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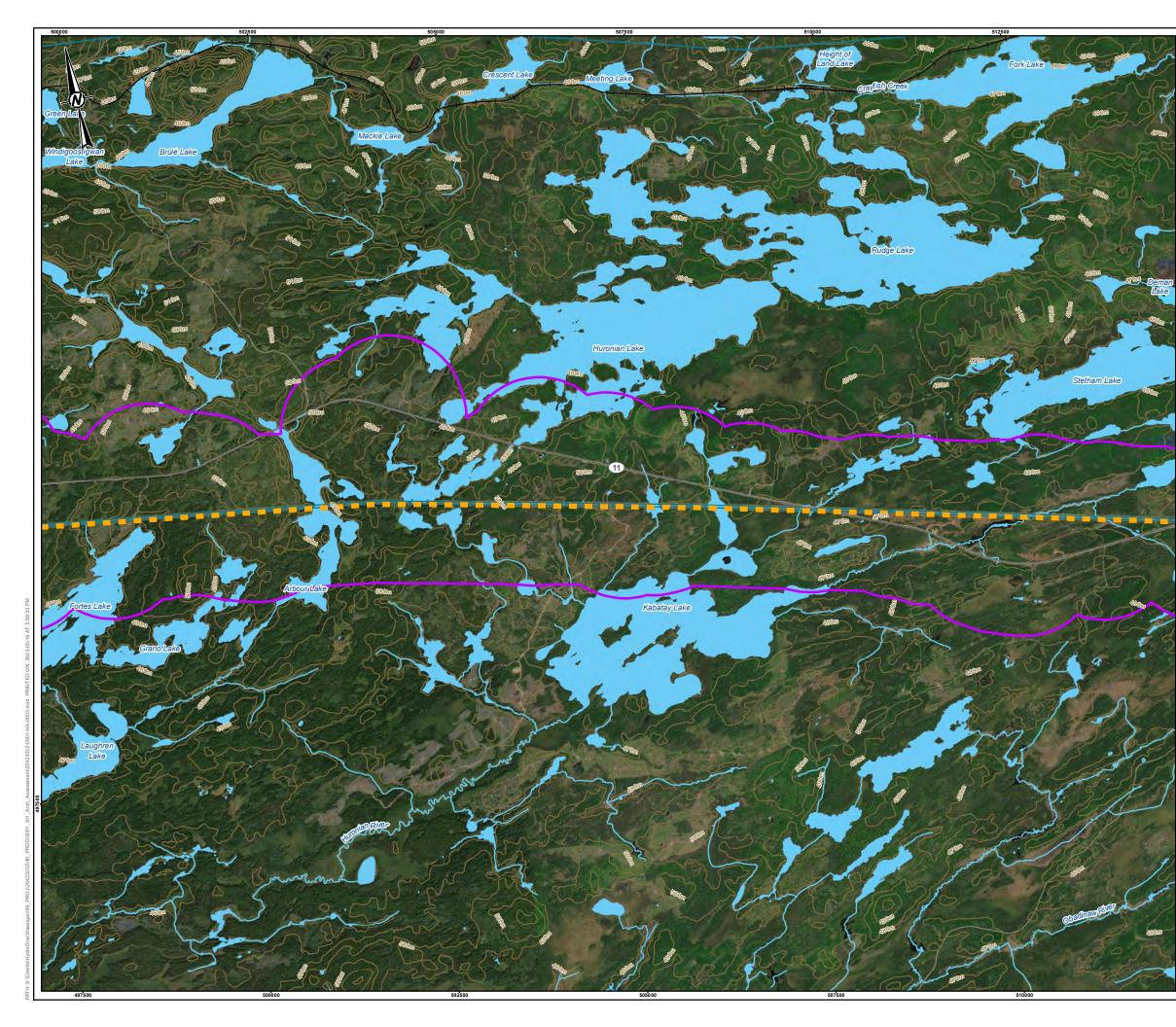
CLIENT HYDRO ONE NETWORKS INC.

PROJECT

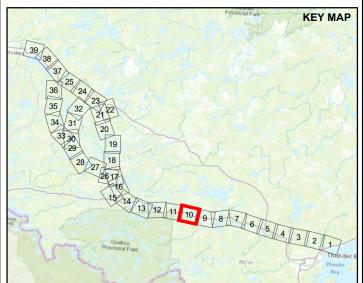
WAASIGAN TRANSMISSION LINE

TITLE





- ALTERNATIVE ROUTE 1
- ALTERNATIVE ROUTE 1C
- CONTOUR (10 m INTERVAL)
- RAILWAY _
- HYDRO LINE
- WATERCOURSE
- LOCAL STUDY AREA
 - WATERBODY



0	1	2
1:50,000		KILOMETRES

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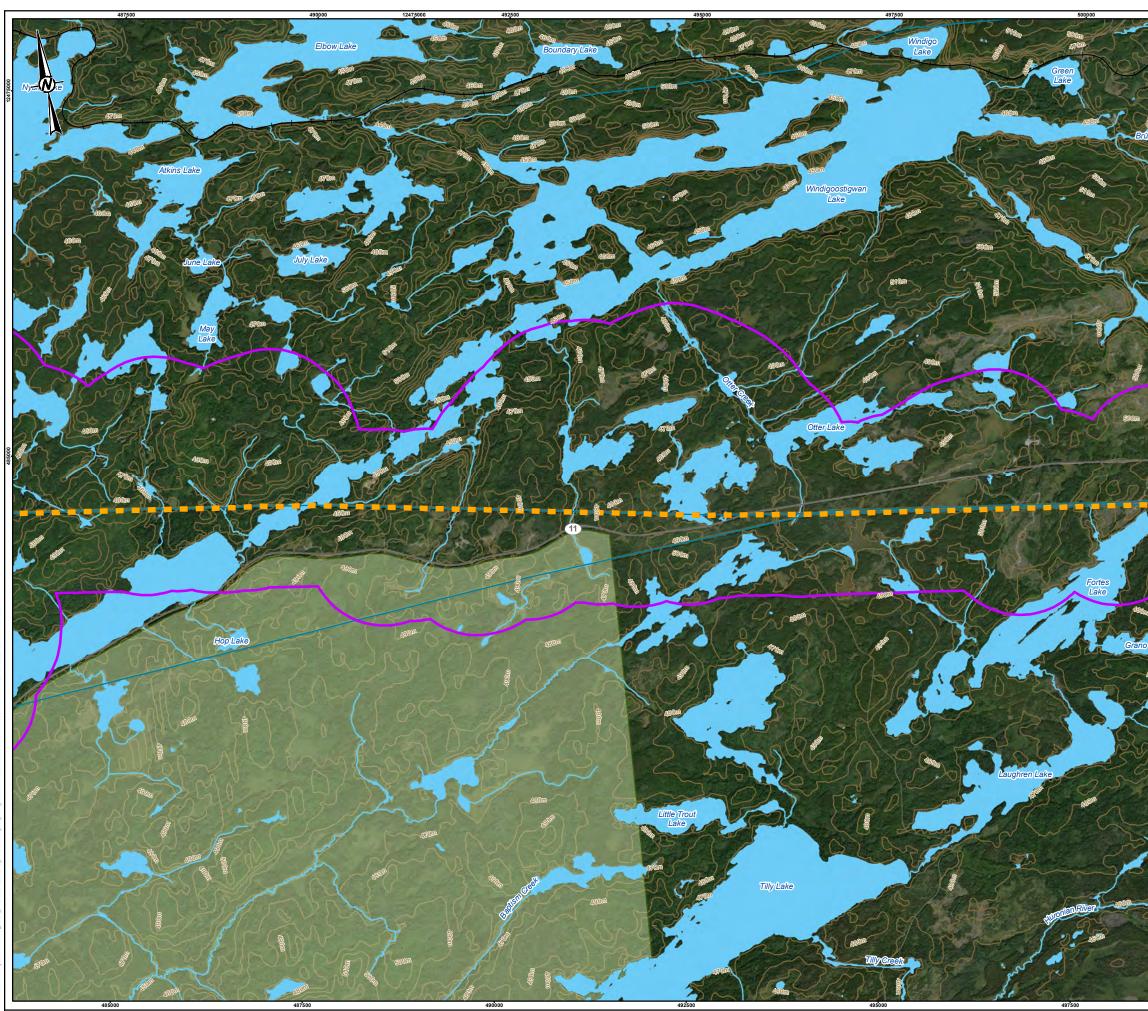
CLIENT HYDRO ONE NETWORKS INC.

PROJECT

WAASIGAN TRANSMISSION LINE

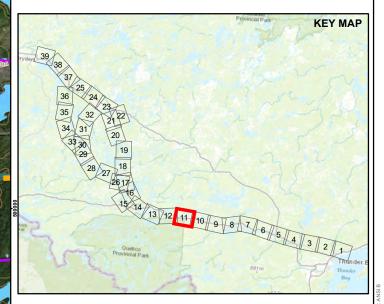
TITLE SITE PLAN DETAIL

CONSULTANT 2023-05-16 YYYY-MM-DD DESIGNED LM PREPARED MM REVIEWED LM APPROVED MT PROJECT NO. CONTROL FIGURE REV. 20423032 0 3 - 10



LEGEND

- ALTERNATIVE ROUTE 1
- ALTERNATIVE ROUTE 1C
- SECONDARY HIGHWAY
- CONTOUR (10 m INTERVAL)
- RAILWAY
- HYDRO LINE
- WATERCOURSE
- LOCAL STUDY AREA PROV PARK REGULATED
 - WATERBODY



0	1	2
1:50,000		KILOMETRES

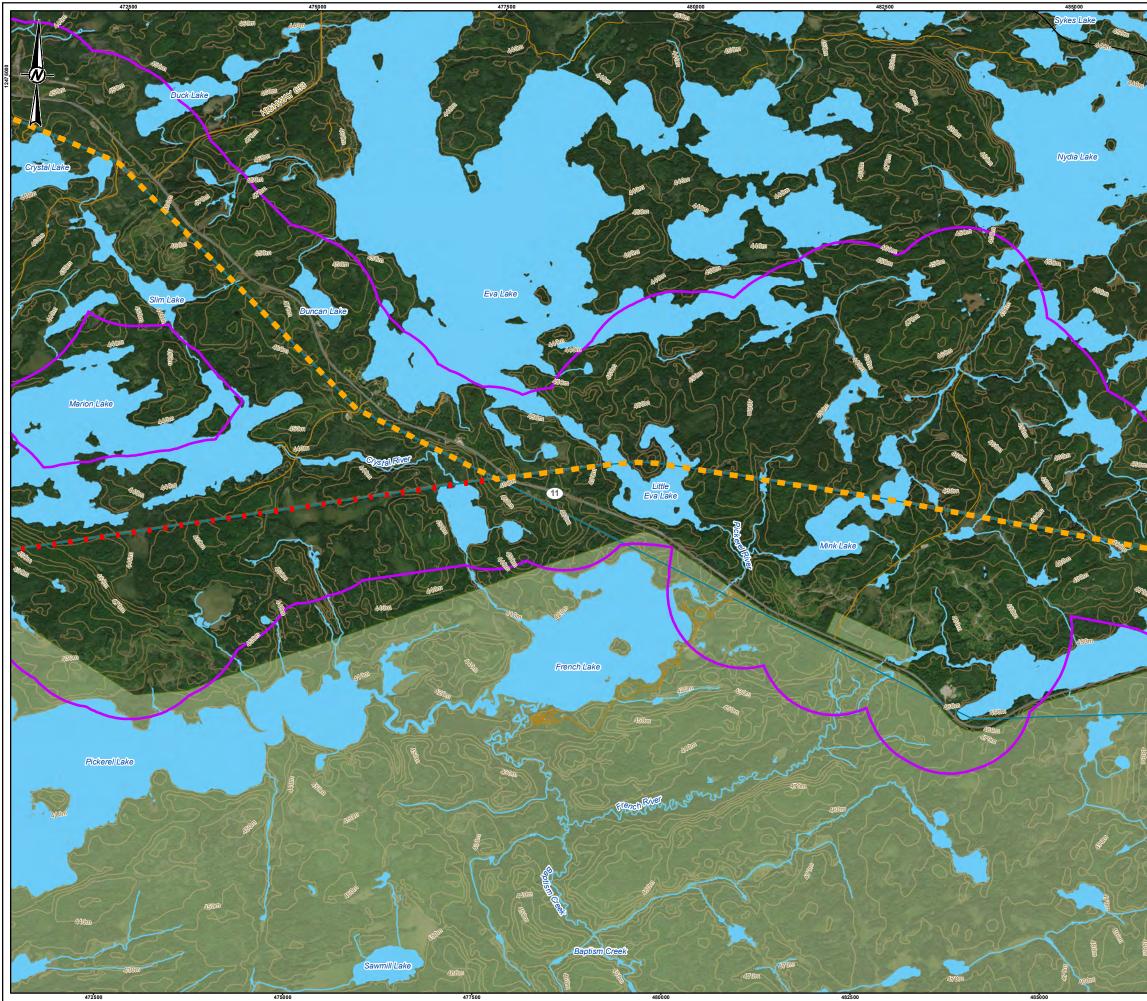
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PROJECT WAASIGAN TRANSMISSION LINE

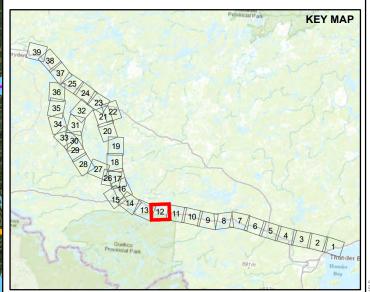
TITLE





5

- ALTERNATIVE ROUTE 1
- ALTERNATIVE ROUTE 1C
- LOCAL ROAD
- SECONDARY HIGHWAY
- CONTOUR (10 m INTERVAL)
- RAILWAY
- HYDRO LINE
- WATERCOURSE
- LOCAL STUDY AREA
 - PROV PARK REGULATED
 - WATERBODY



0	1	2
1:50,000		KILOMETRES

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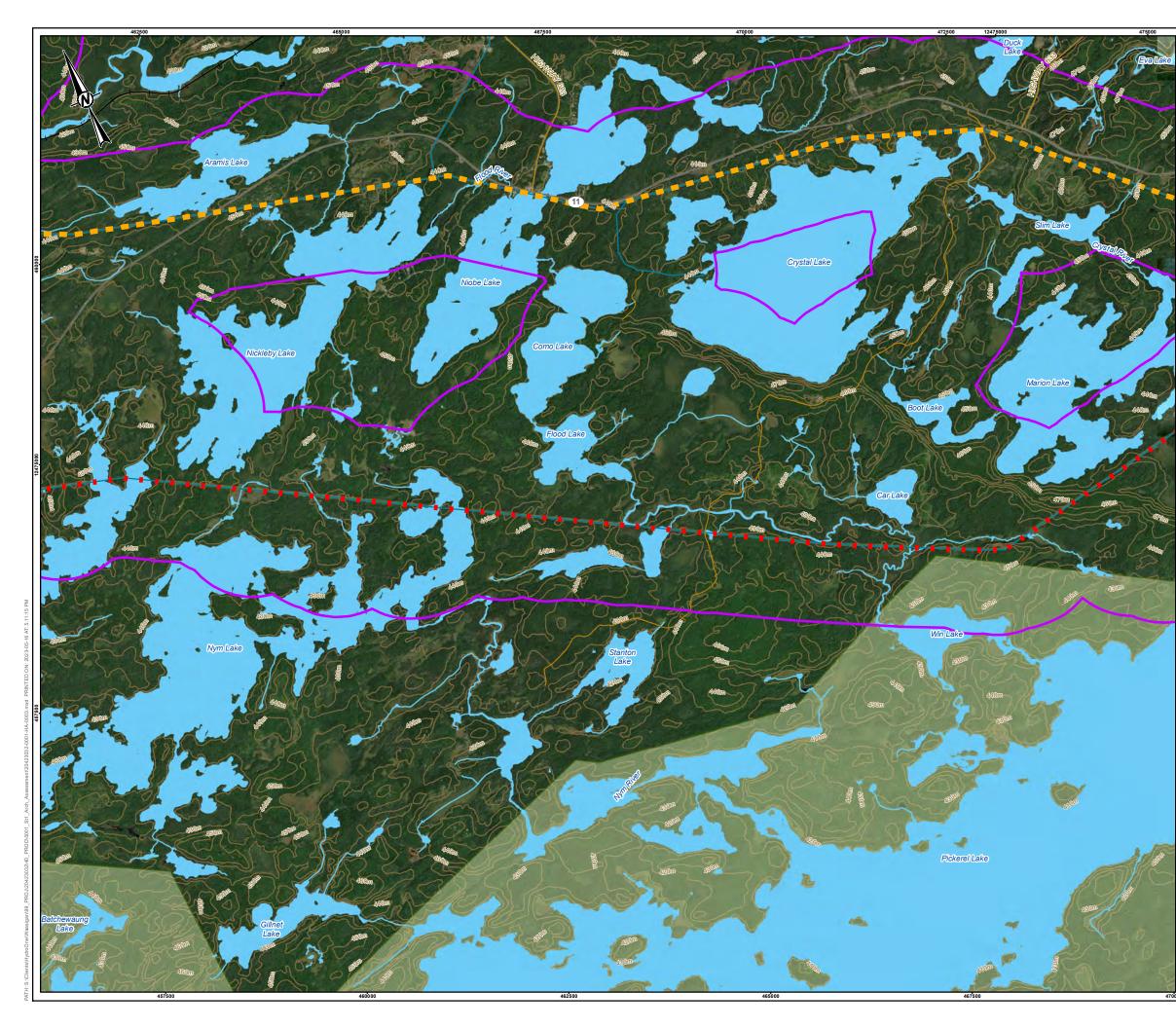
CLIENT HYDRO ONE NETWORKS INC.

PROJECT

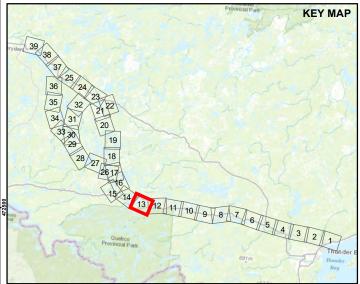
WAASIGAN TRANSMISSION LINE

TITLE





- ALTERNATIVE ROUTE 1
- ALTERNATIVE ROUTE 1C
- LOCAL ROAD
- SECONDARY HIGHWAY
- CONTOUR (10 m INTERVAL)
- RAILWAY
- HYDRO LINE
- WATERCOURSE
- LOCAL STUDY AREA
 - PROV PARK REGULATED
 - WATERBODY



0	1	2
1:50,000		KILOMETRES

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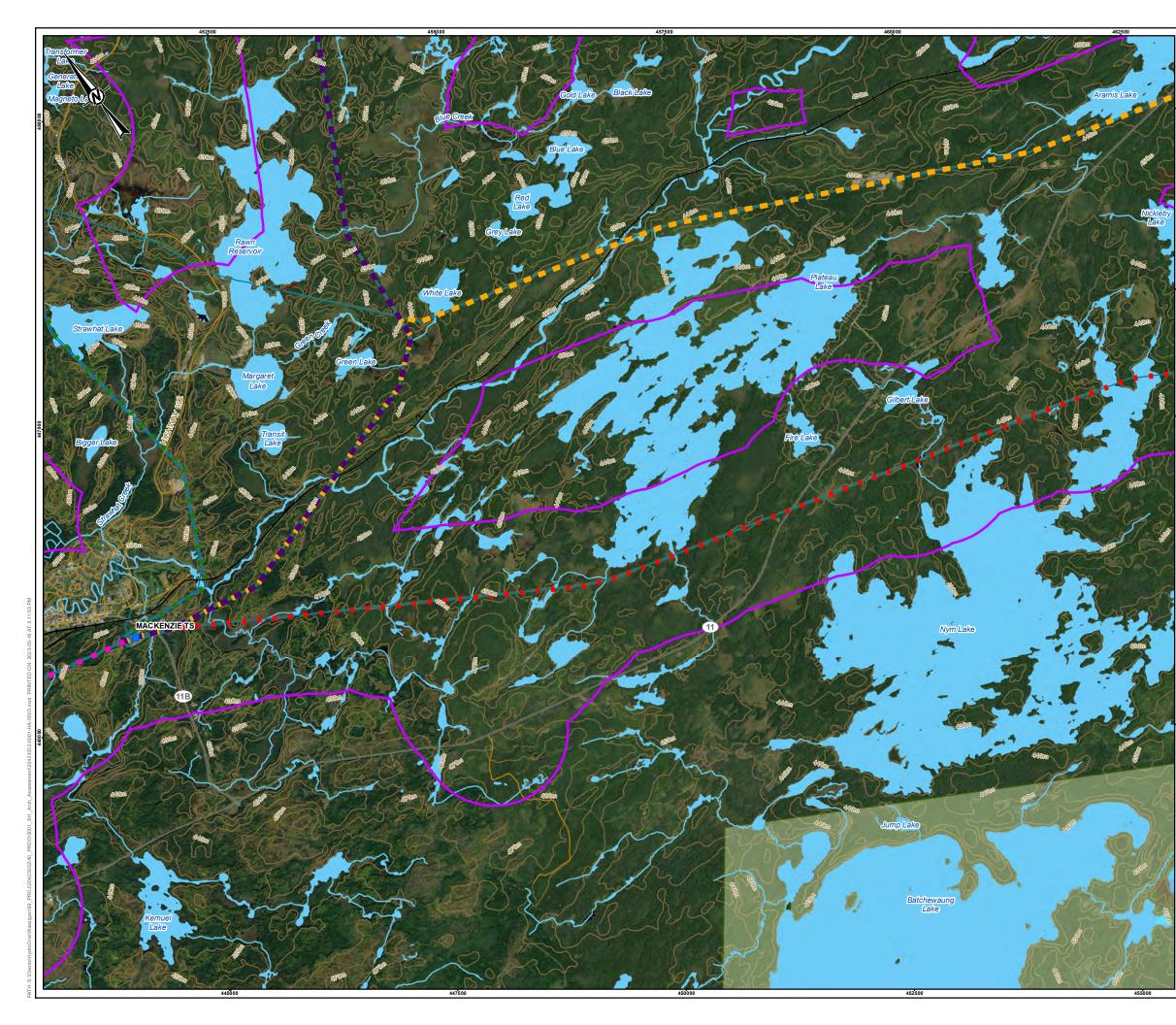
HYDRO ONE NETWORKS INC.

PROJECT

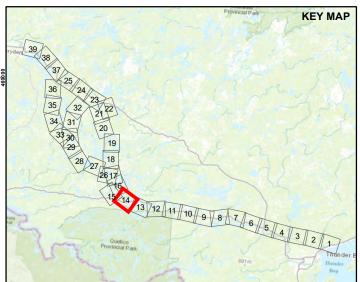
WAASIGAN TRANSMISSION LINE

TITLE

SITE PLAN DETAIL CONSULTANT 2023-05-16 YYYY-MM-DD DESIGNED LM PREPARED MM REVIEWED LM APPROVED MT PROJECT NO. CONTROL FIGURE REV. "20423032 0 3 - 13



- 230 kV TRANSFORMER STATION (TS)
- ALTERNATIVE ROUTE 1
- ALTERNATIVE ROUTE 1C
- ALTERNATIVE ROUTE 2A
- ALTERNATIVE ROUTE 2B
- ALTERNATIVE ROUTE 2C
- LOCAL ROAD
- SECONDARY HIGHWAY
- CONTOUR (10 m INTERVAL)
- HYDRO LINE
- UNKNOWN TRANSMISSION
- WATERCOURSE
- LOCAL STUDY AREA
- PROV PARK REGULATED
- WATERBODY



0	1	2
1:50,000		KILOMETRES

REFERENCE(S)

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HYDRO ONE NETWORKS INC.

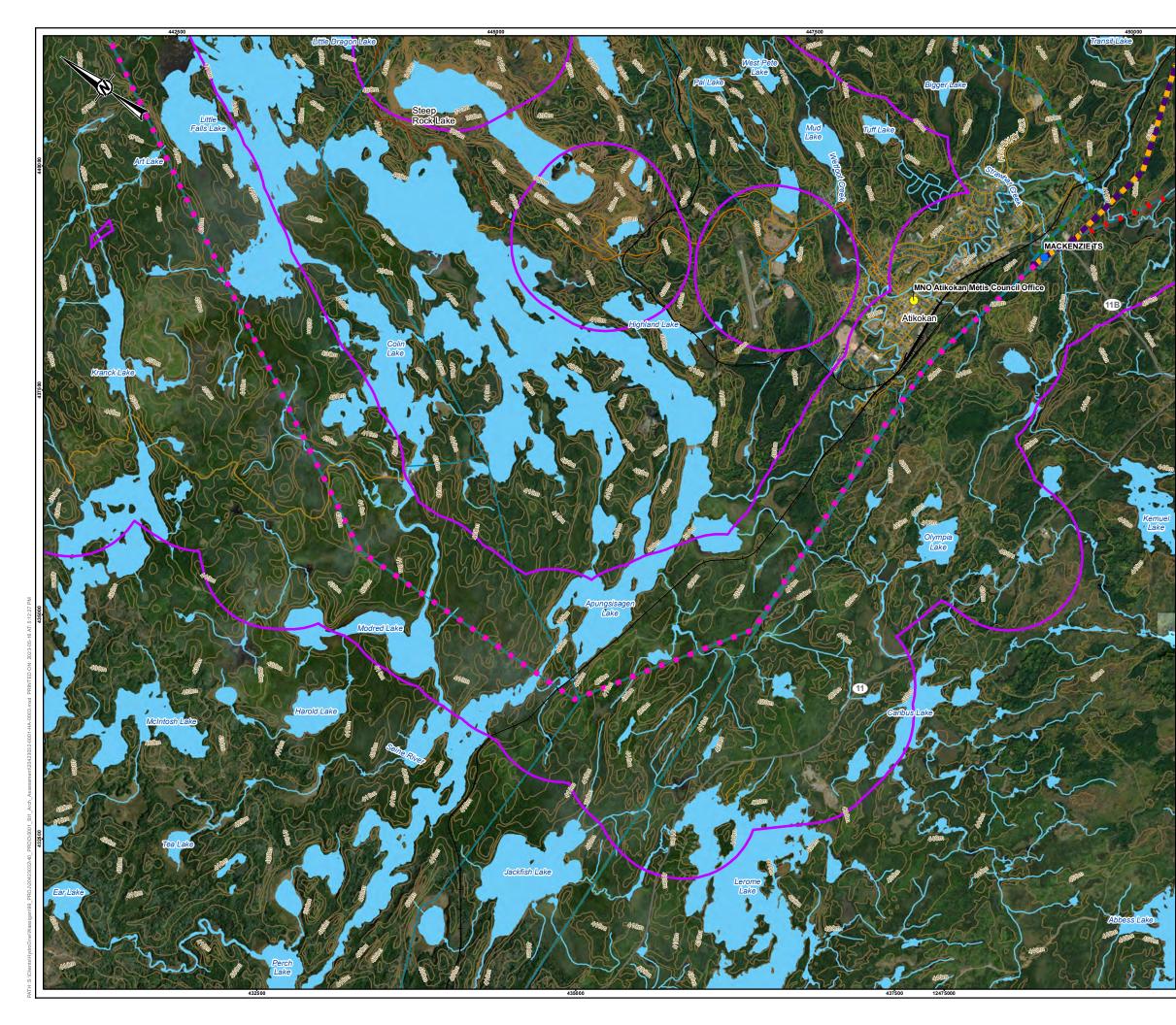
PROJECT

WAASIGAN TRANSMISSION LINE

TITLE

SITE PLAN DETAIL CONSULTANT 2023-05-16 YYYY-MM-DD DESIGNED LM PREPARED MM REVIEWED LM APPROVED MT PROJECT NO. CONTROL FIGURE REV. 20423032 0 3 - 14

25mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOW N, THE SHEET SIZE HAS BEEN MOD IFIED FROM: AN



230 kV TRANSFORMER STATION (TS) MNO COUNCIL OFFICE ALTERNATIVE ROUTE 1 ALTERNATIVE ROUTE 1C ALTERNATIVE ROUTE 2A ALTERNATIVE ROUTE 2B ALTERNATIVE ROUTE 2C LOCAL ROAD SECONDARY HIGHWAY CONTOUR (10 m INTERVAL) RAILWAY HYDRO LINE NATURAL GAS PIPELINE WATERCOURSE LOCAL STUDY AREA WATERBODY



0	1	2
1:50,000		KILOMETRES

REFERENCE(S)

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HYDRO ONE NETWORKS INC.

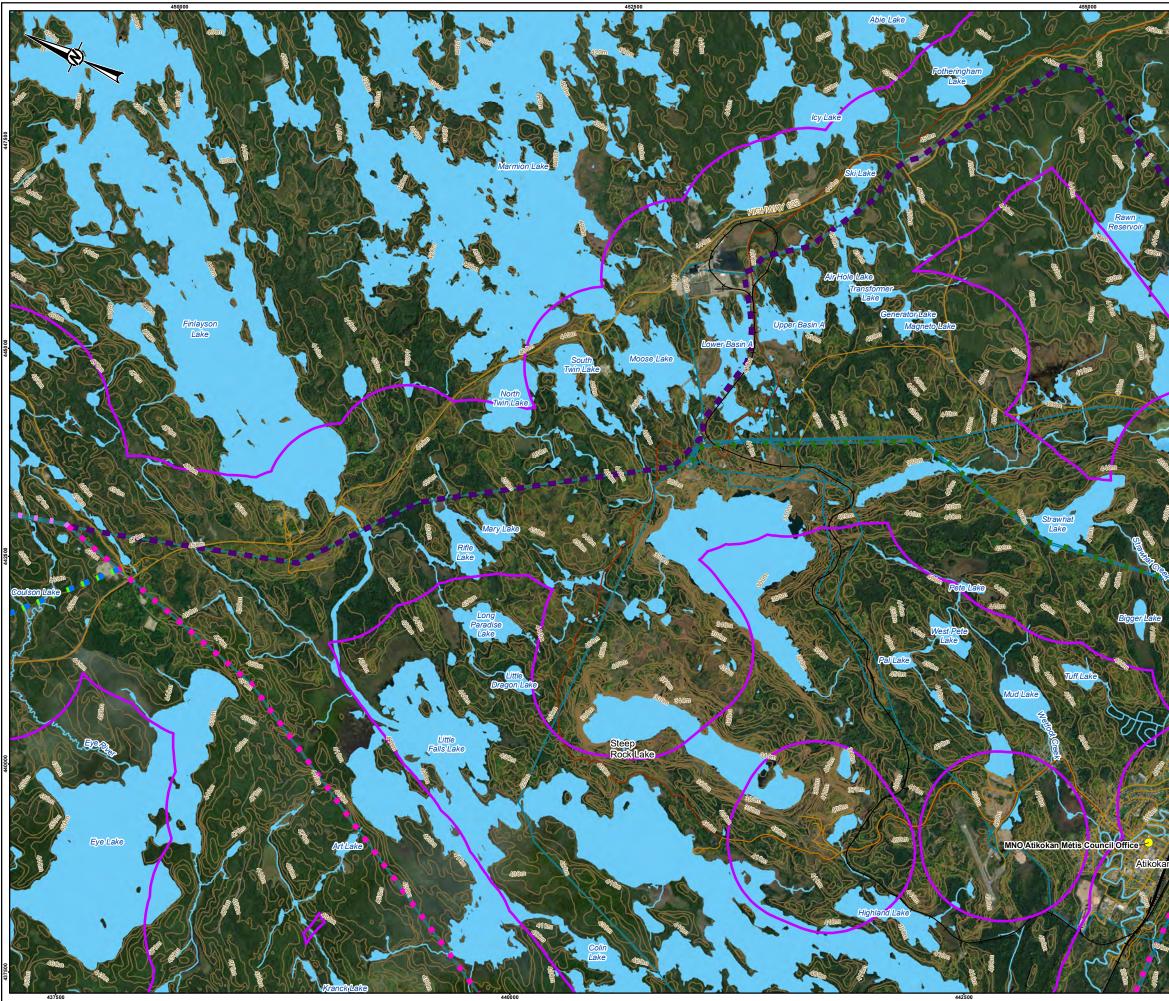
PROJECT

WAASIGAN TRANSMISSION LINE

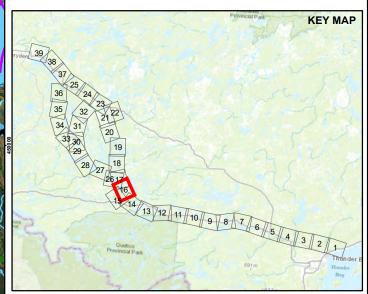
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SITE PLAN DETAIL CONSULTANT 2023-05-16 YYYY-MM-DD DESIGNED LM PREPARED MM REVIEWED LM APPROVED MT CONTROL PROJECT NO FIGURE REV. 20423032 0 3 - 15

25mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MOD IF IED FROM: ANSI B



- MNO COUNCIL OFFICE
- ALTERNATIVE ROUTE 2A
- ALTERNATIVE ROUTE 2B
- ALTERNATIVE ROUTE 2C
- ALTERNATIVE ROUTE 3A
- ALTERNATIVE ROUTE 3B
- ALTERNATIVE ROUTE 3C
- LOCAL ROAD
- CONTOUR (10 m INTERVAL)
- ----- RAILWAY
- HYDRO LINE
- NATURAL GAS PIPELINE
- SUBMERGED HYDRO LINE
- WATERCOURSE
- LOCAL STUDY AREA
- WATERBODY



0	1	2
1:50,000		KILOMETRES

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CLIENT HYDRO ONE NETWORKS INC.

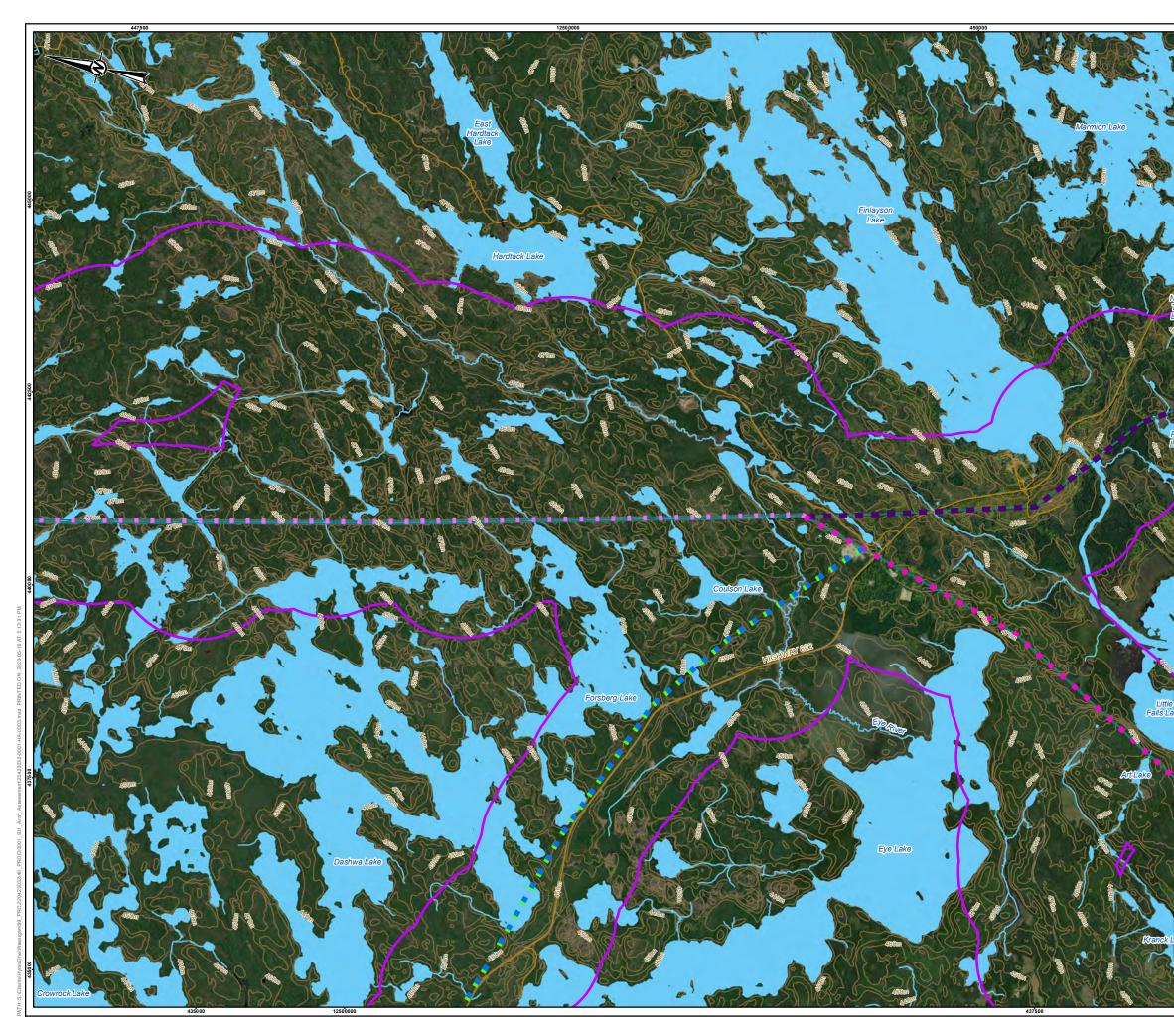
PROJECT

WAASIGAN TRANSMISSION LINE

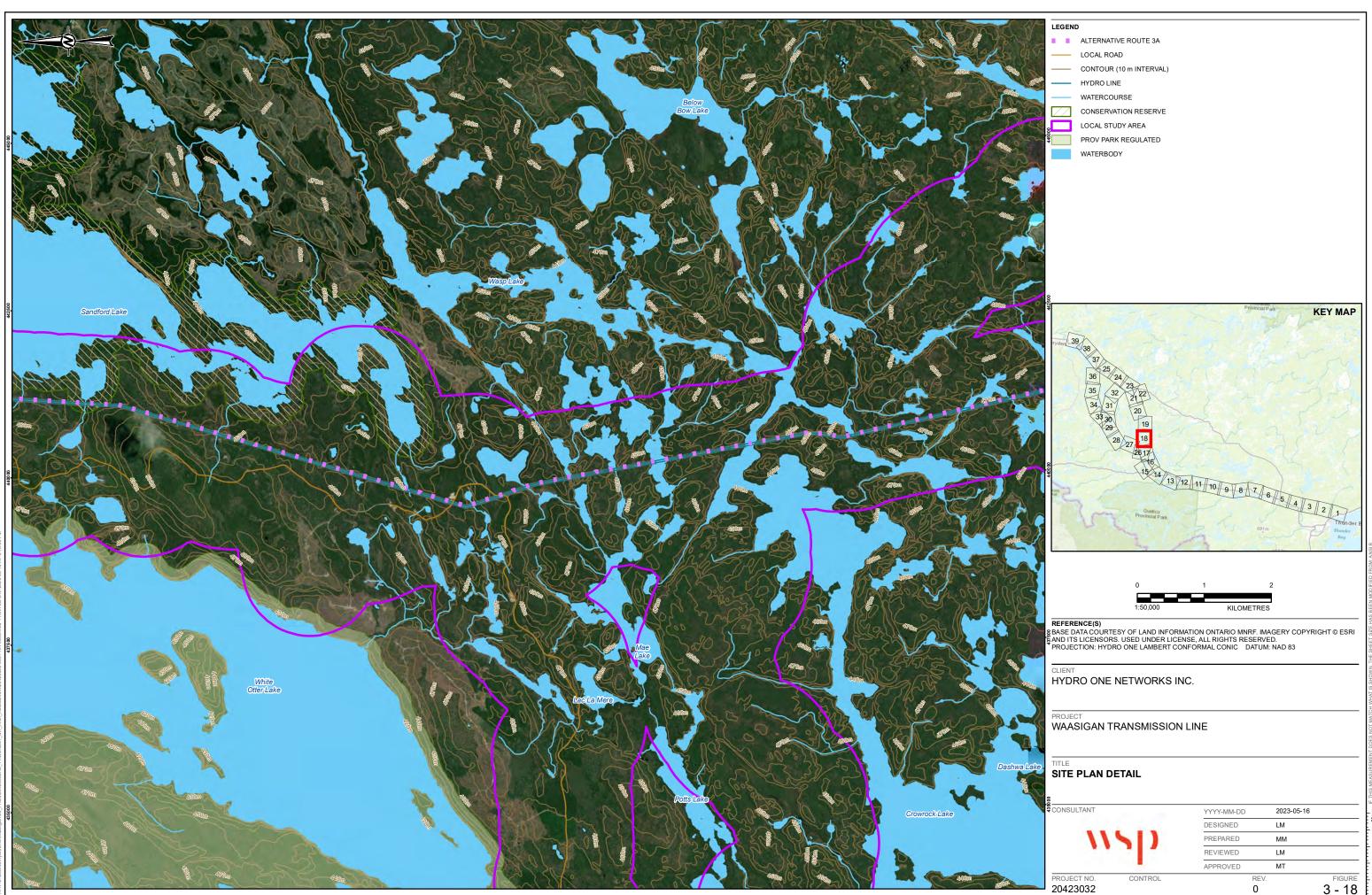
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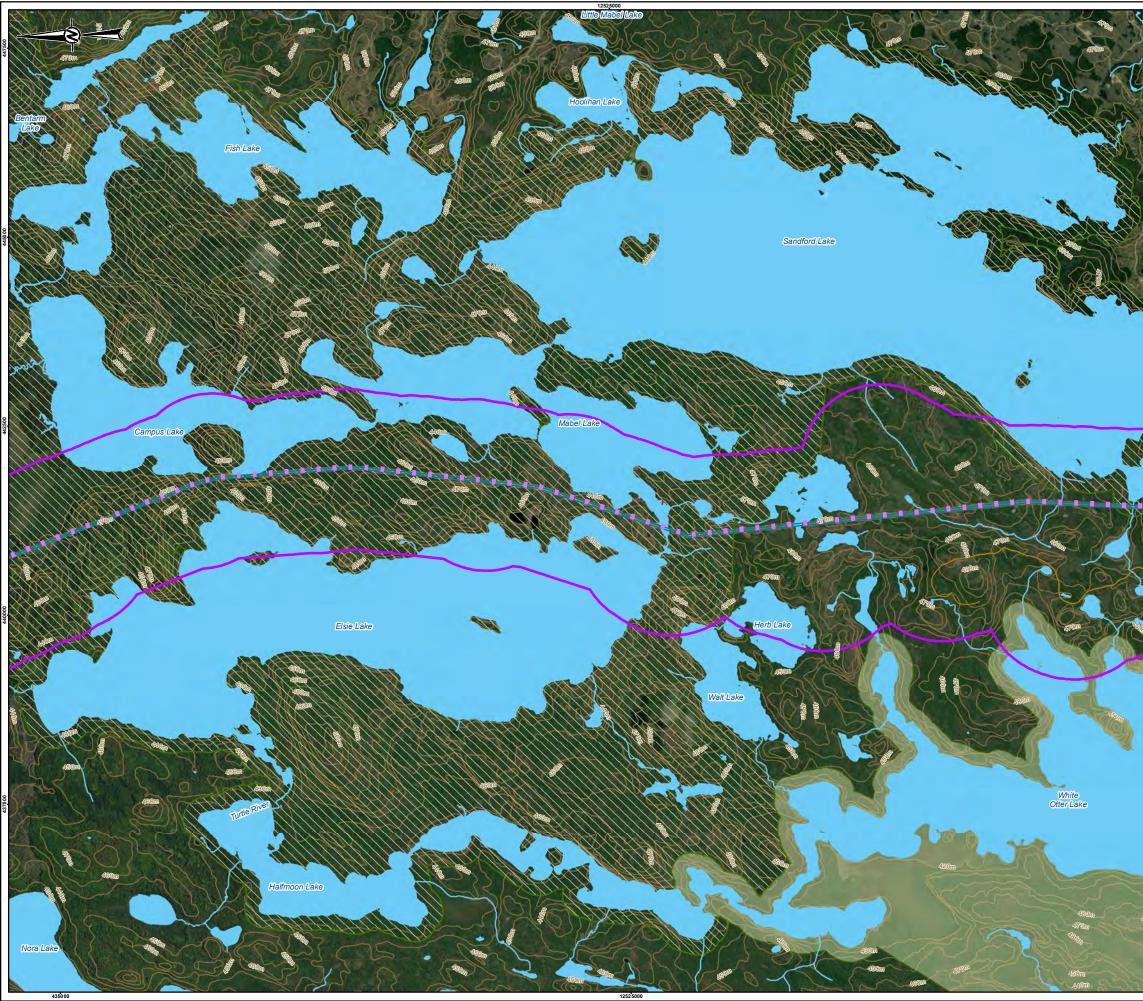
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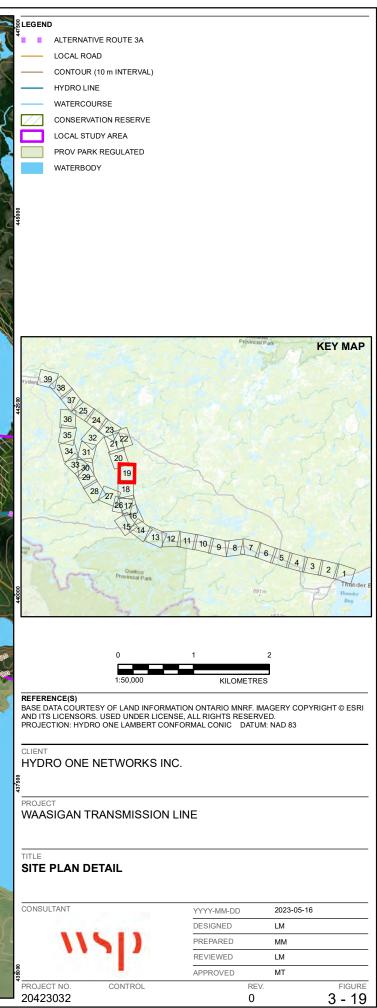
56mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MOD IF IED FROM: ANSI



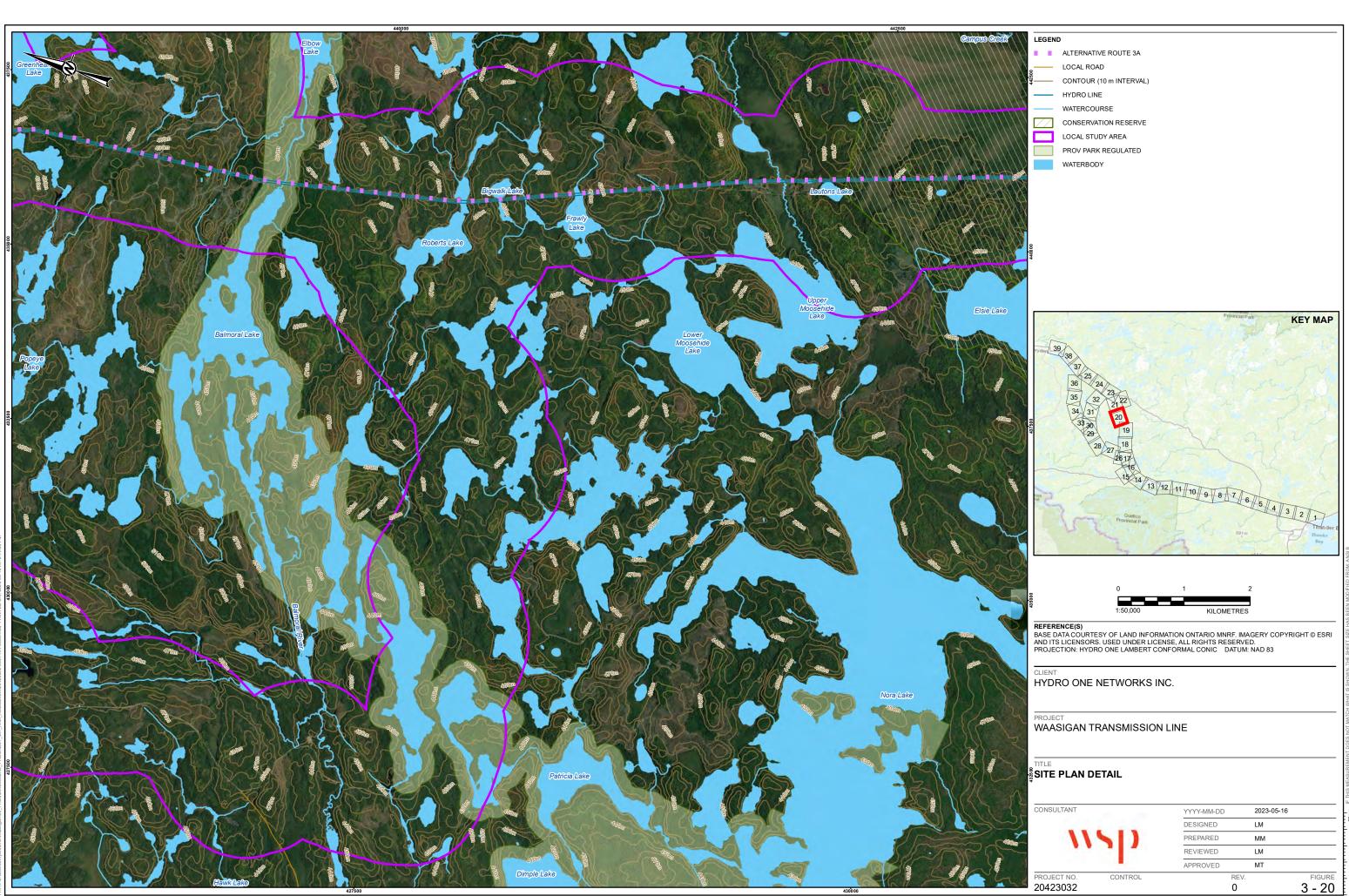
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• •	ALTERNATIV	E ROUTE 2A			
g■ ■	ALTERNATIV	E ROUTE 2B			
	ALTERNATIV	E ROUTE 2C			
• •	ALTERNATIV	E ROUTE 3A			
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	WATERBODY				
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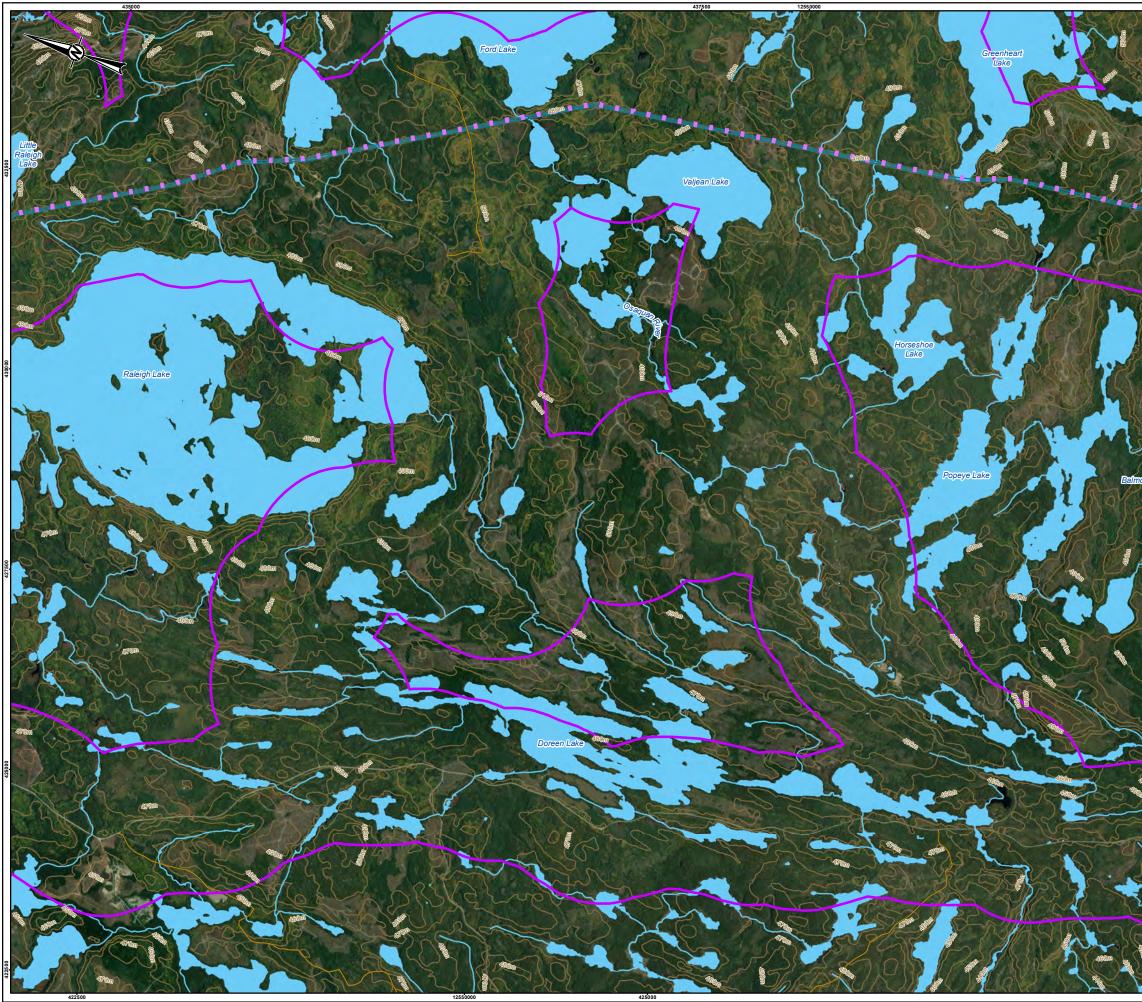


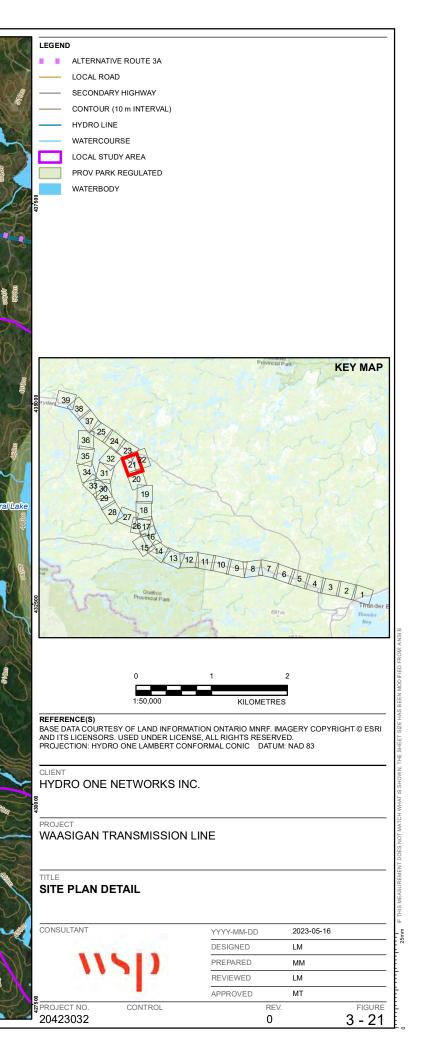


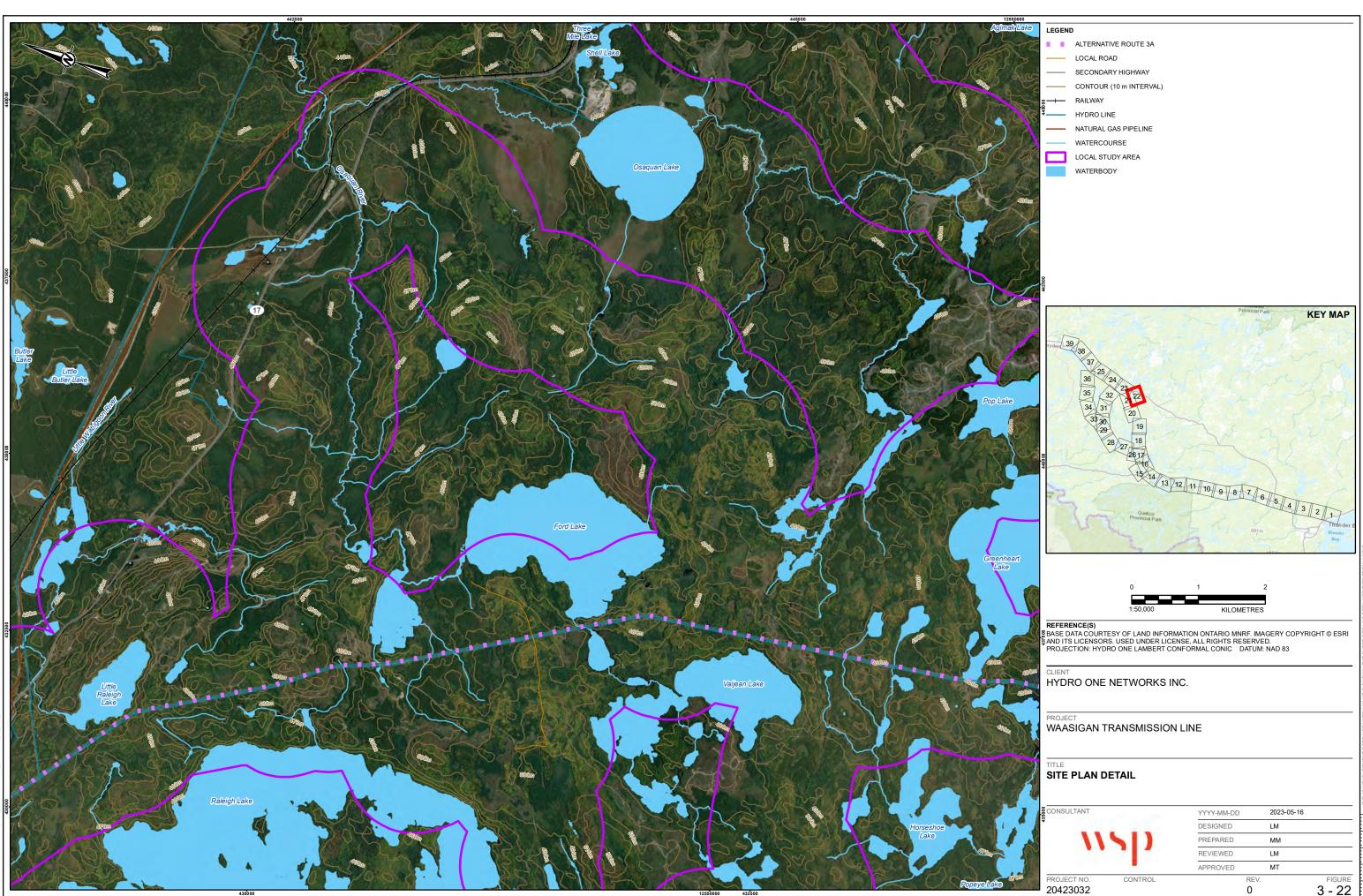


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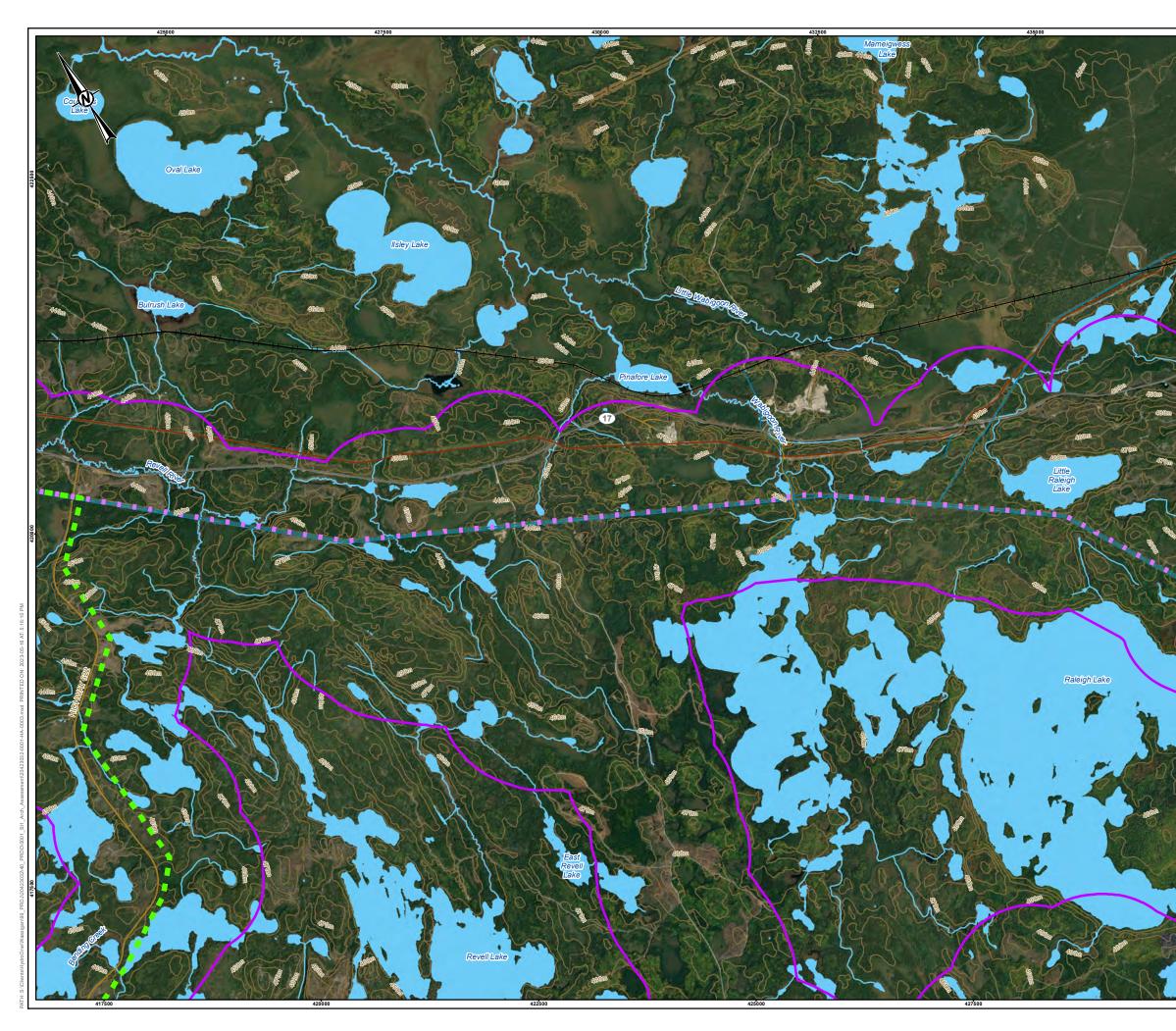




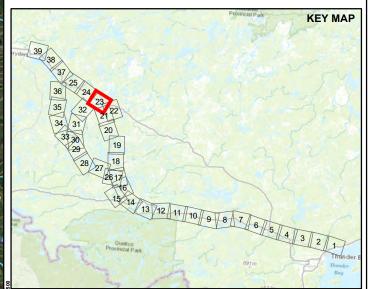




25mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN



- ALTERNATIVE ROUTE 3A
- ALTERNATIVE ROUTE 3C
- LOCAL ROAD
- SECONDARY HIGHWAY
- CONTOUR (10 m INTERVAL)
- ----- RAILWAY
- HYDRO LINE
- NATURAL GAS PIPELINE
- WATERCOURSE
- LOCAL STUDY AREA
- WATERBODY



0	1	2
1:50,000		KILOMETRES

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CLIENT HYDRO ONE NETWORKS INC.

PROJECT

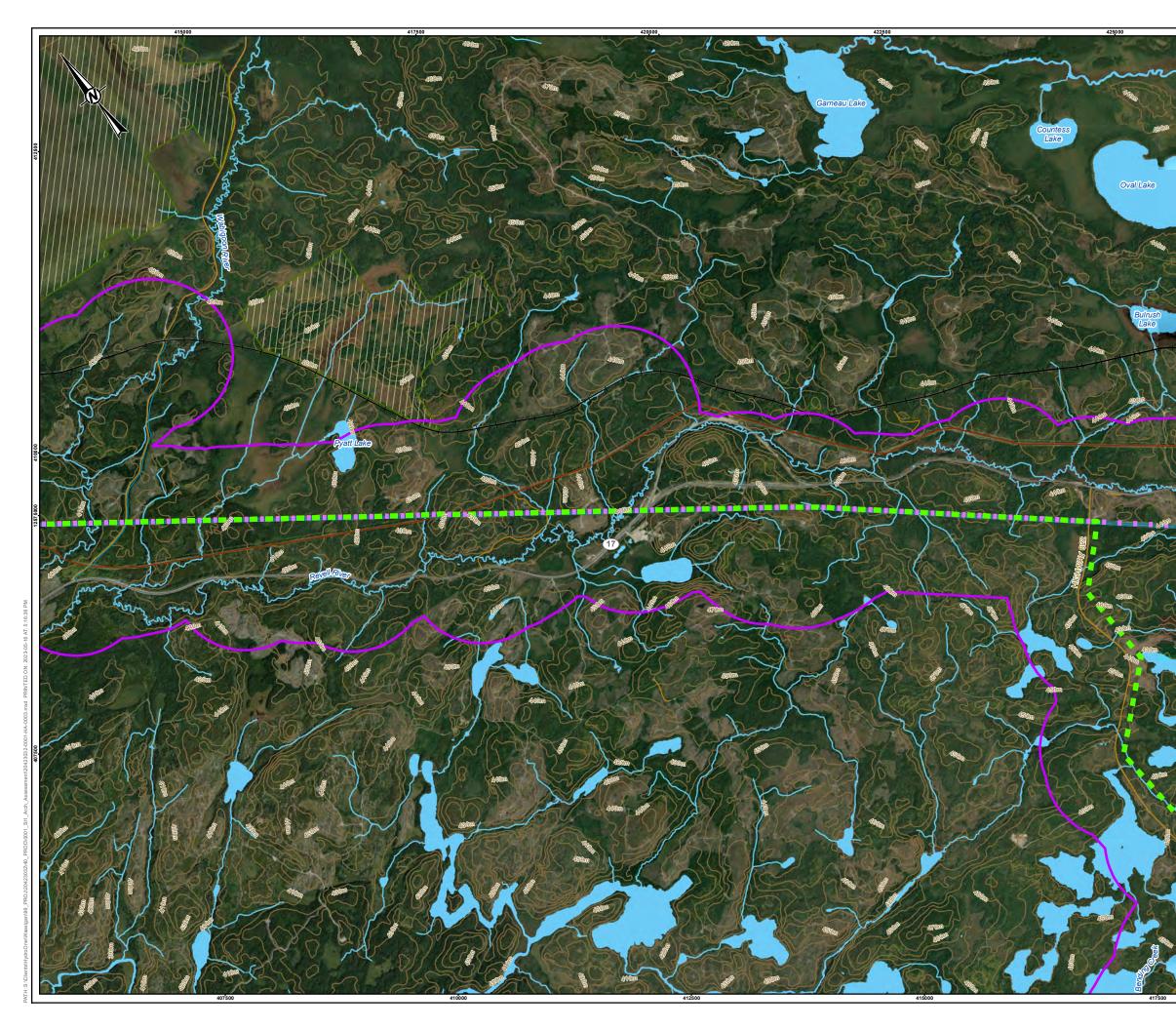
WAASIGAN TRANSMISSION LINE

TITLE

SITE PLAN DETAIL



25mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MOD IF IED FRA



- ALTERNATIVE ROUTE 3A
- ALTERNATIVE ROUTE 3C
- LOCAL ROAD
- SECONDARY HIGHWAY
- CONTOUR (10 m INTERVAL)
- RAILWAY
- HYDRO LINE
- NATURAL GAS PIPELINE
- WATERCOURSE
- CONSERVATION RESERVE
- LOCAL STUDY AREA
 - WATERBODY



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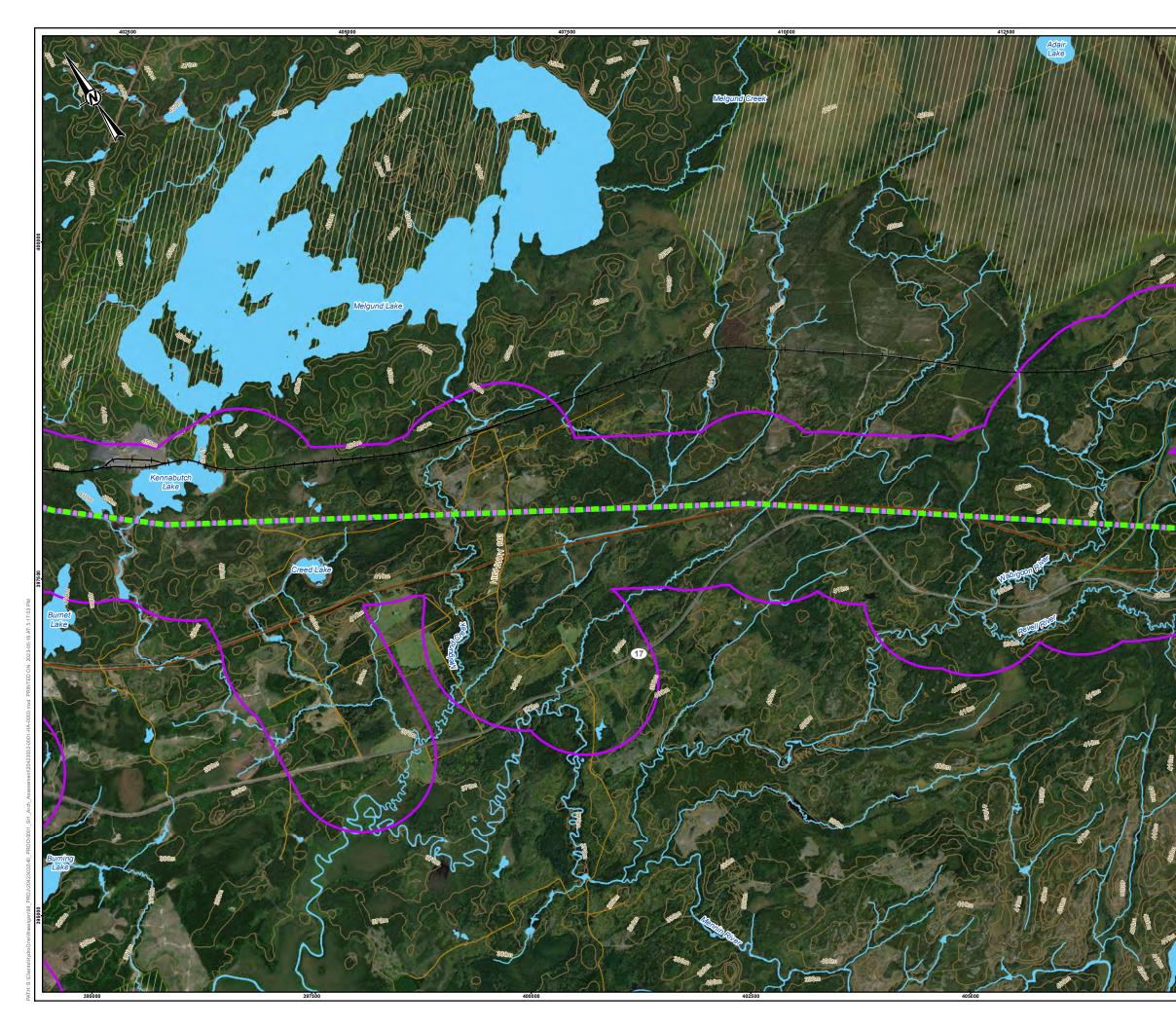
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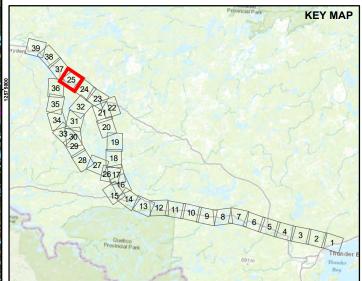
PROJECT WAASIGAN TRANSMISSION LINE

TITLE SITE PLAN DETAIL

CONSULTANT	YYYY-MM-DD	2023-05-16	
	DESIGNED	LM	
	PREPARED	MM	
	REVIEWED	LM	
	APPROVED	MT	
PROJECT NO. CONTROL	RE	EV.	FIGURE
20423032	0		3 - 24



- ALTERNATIVE ROUTE 3A
- ALTERNATIVE ROUTE 3C
- LOCAL ROAD
- ----- SECONDARY HIGHWAY
- CONTOUR (10 m INTERVAL)
- ----- RAILWAY
- HYDRO LINE
- NATURAL GAS PIPELINE
- WATERCOURSE
- CONSERVATION RESERVE
- LOCAL STUDY AREA
- WATERBODY



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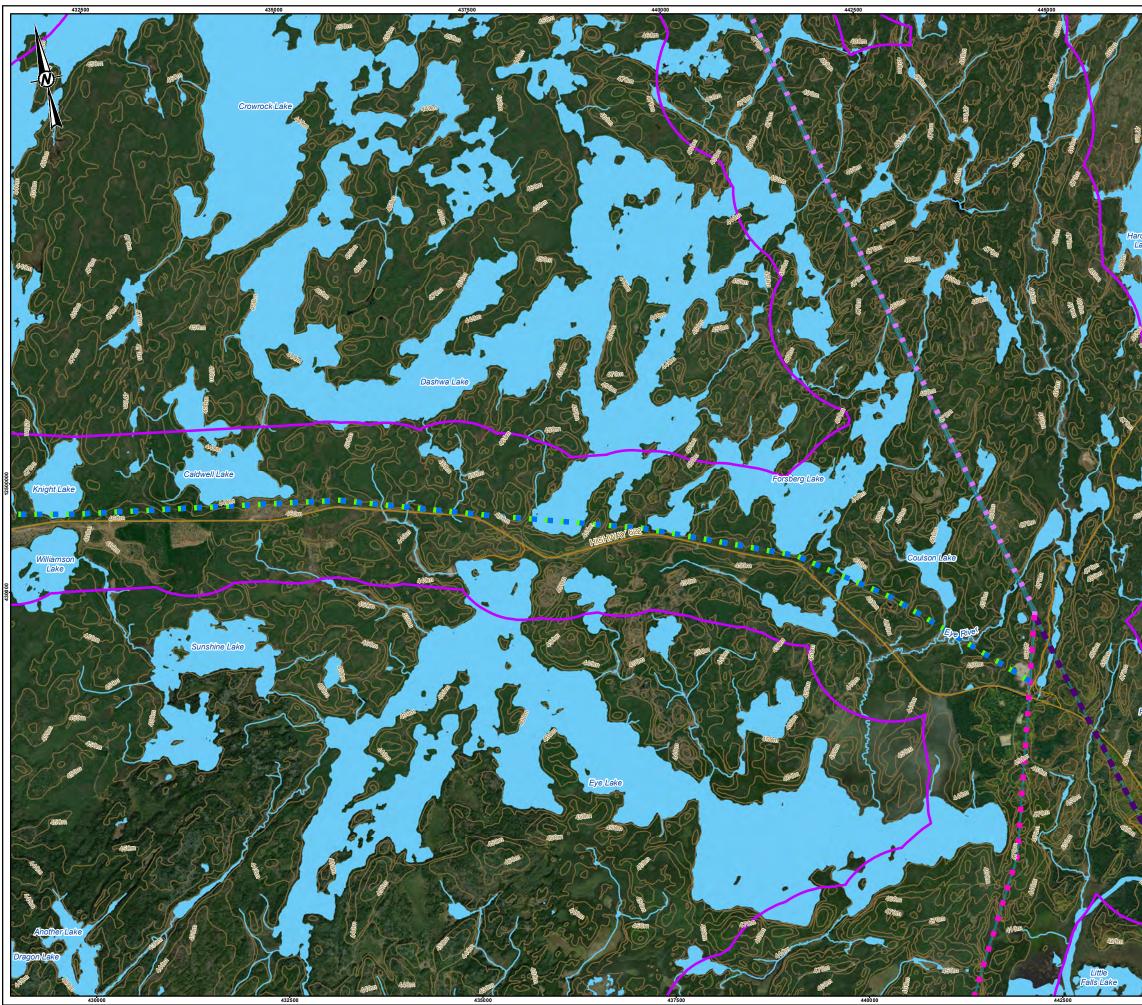
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CLIENT HYDRO ONE NETWORKS INC.

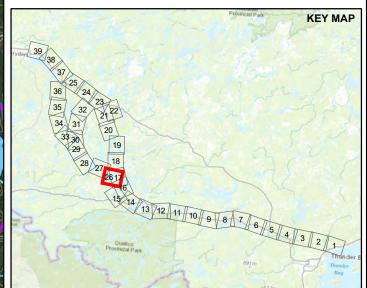
PROJECT WAASIGAN TRANSMISSION LINE

TITLE

CONSULTANT	YYYY-MM-DD	2023-05-16	E
	DESIGNED	LM	
	PREPARED	MM	
	REVIEWED	LM	E
200	APPROVED	MT	E
PROJECT NO. CONTROL	RE	V.	FIGURE
20423032	0		3 - 25



- ALTERNATIVE ROUTE 2A
- ALTERNATIVE ROUTE 2B
- ALTERNATIVE ROUTE 2C
- ALTERNATIVE ROUTE 3A
- ALTERNATIVE ROUTE 3B
- ALTERNATIVE ROUTE 3C
- LOCAL ROAD
- CONTOUR (10 m INTERVAL)
- HYDRO LINE
- WATERCOURSE
- LOCAL STUDY AREA
 - WATERBODY



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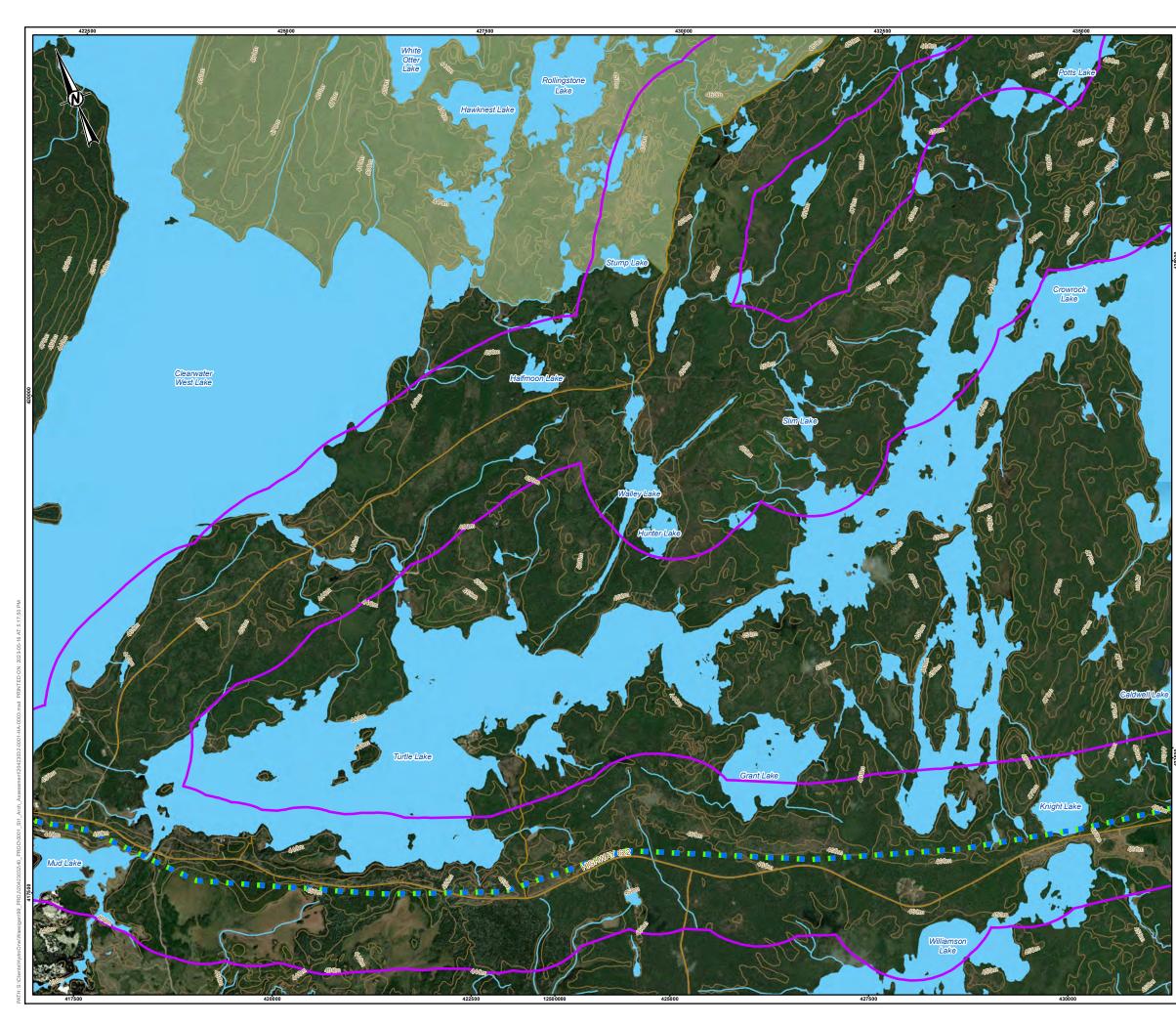
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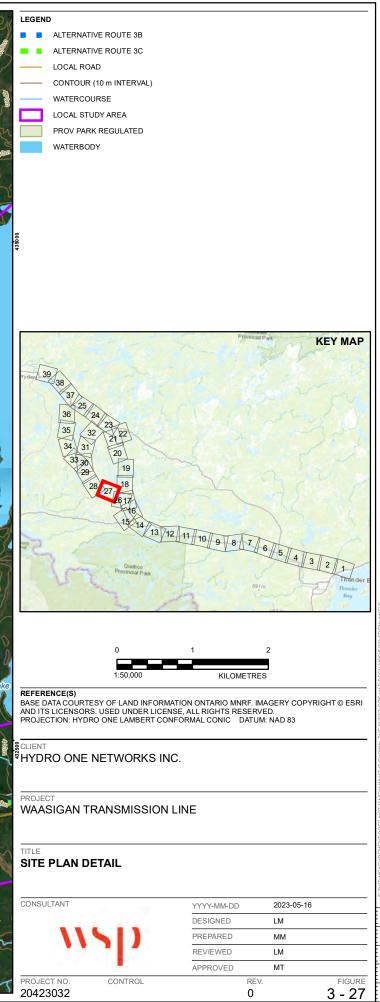
CLIENT HYDRO ONE NETWORKS INC.

PROJECT WAASIGAN TRANSMISSION LINE

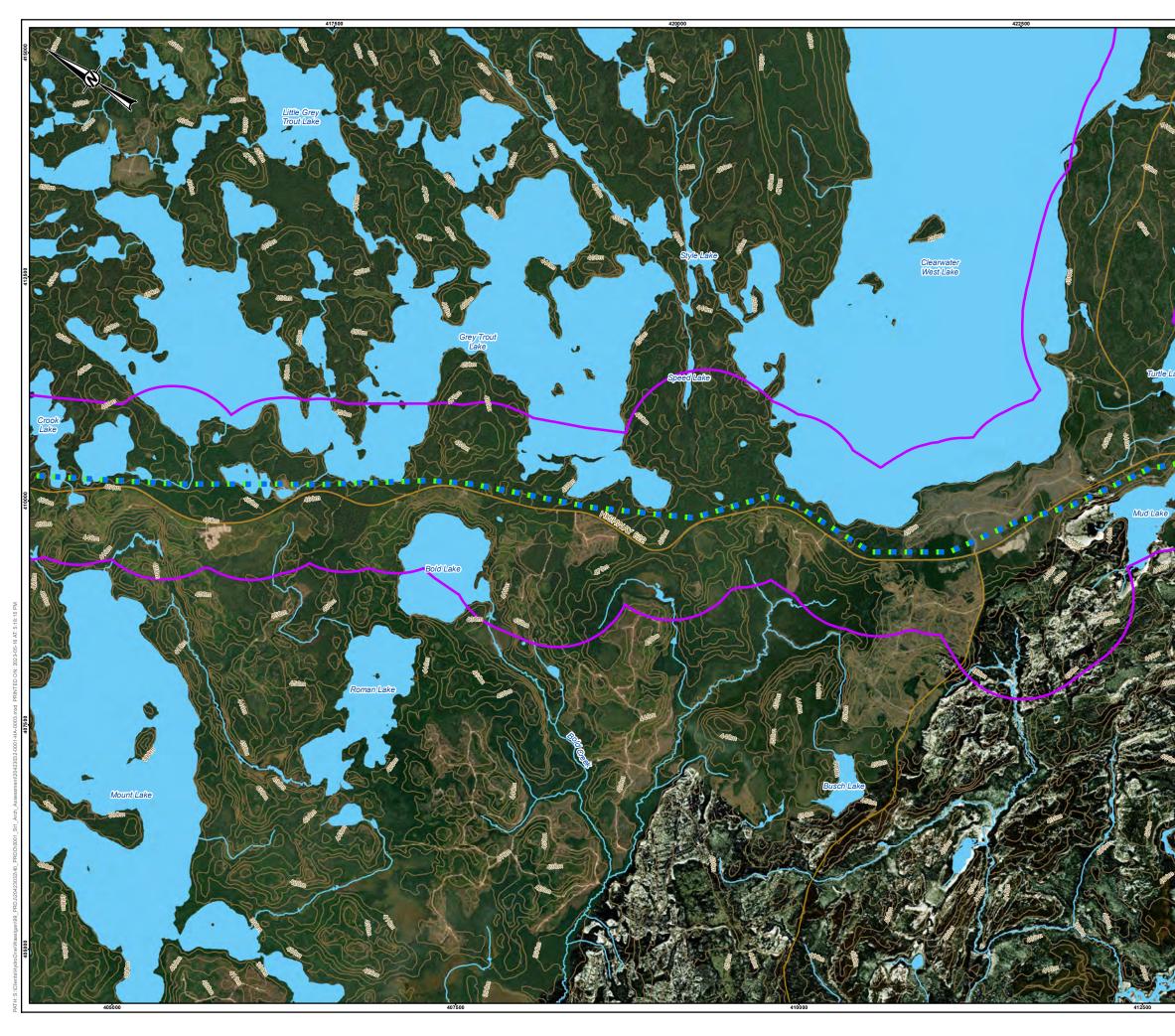
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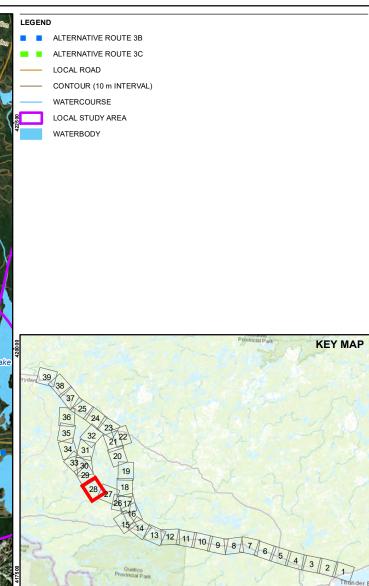
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		APPROVED	MT		
PROJECT NO. CONTRO	CL	RE	EV.	FIGURE	
20423032		0		3 - 26	





25mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOW N, THE SHEET SIZE HAS BEEN MOD IF





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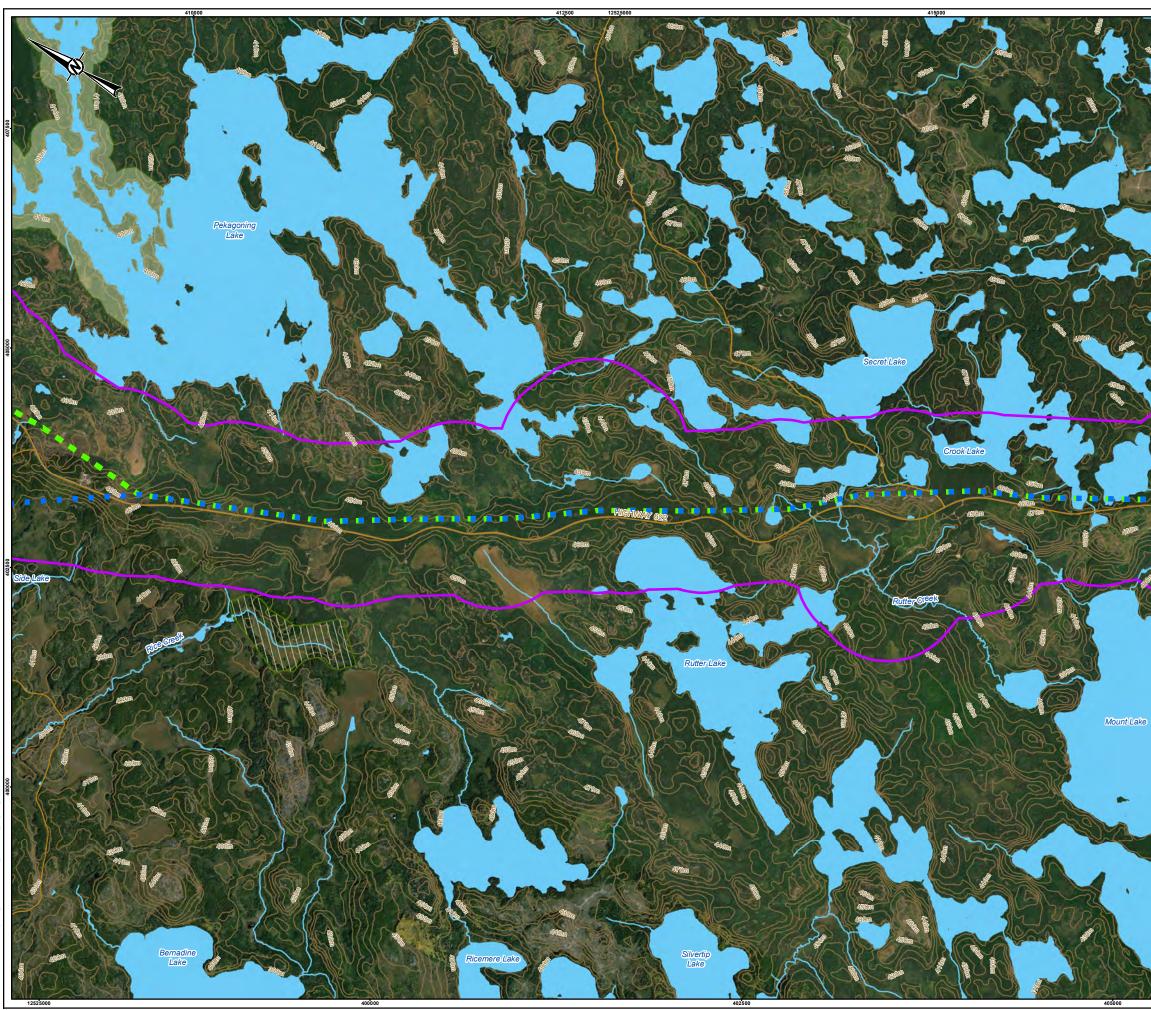
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CLIENT HYDRO ONE NETWORKS INC.

PROJECT WAASIGAN TRANSMISSION LINE

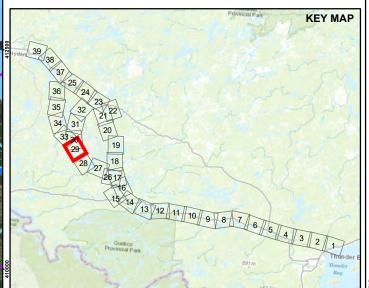
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	SD.	PREPARED	MM	
		REVIEWED	LM	
		APPROVED	MT	E
PROJECT NO.	CONTROL	RE	EV.	FIGURE
20423032		0		3 - 28





- ALTERNATIVE ROUTE 3B
- ALTERNATIVE ROUTE 3C
 - LOCAL ROAD
 - CONTOUR (10 m INTERVAL)
 - WATERCOURSE
 - CONSERVATION RESERVE
 - LOCAL STUDY AREA
 - PROV PARK REGULATED
 - WATERBODY



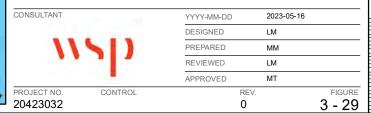
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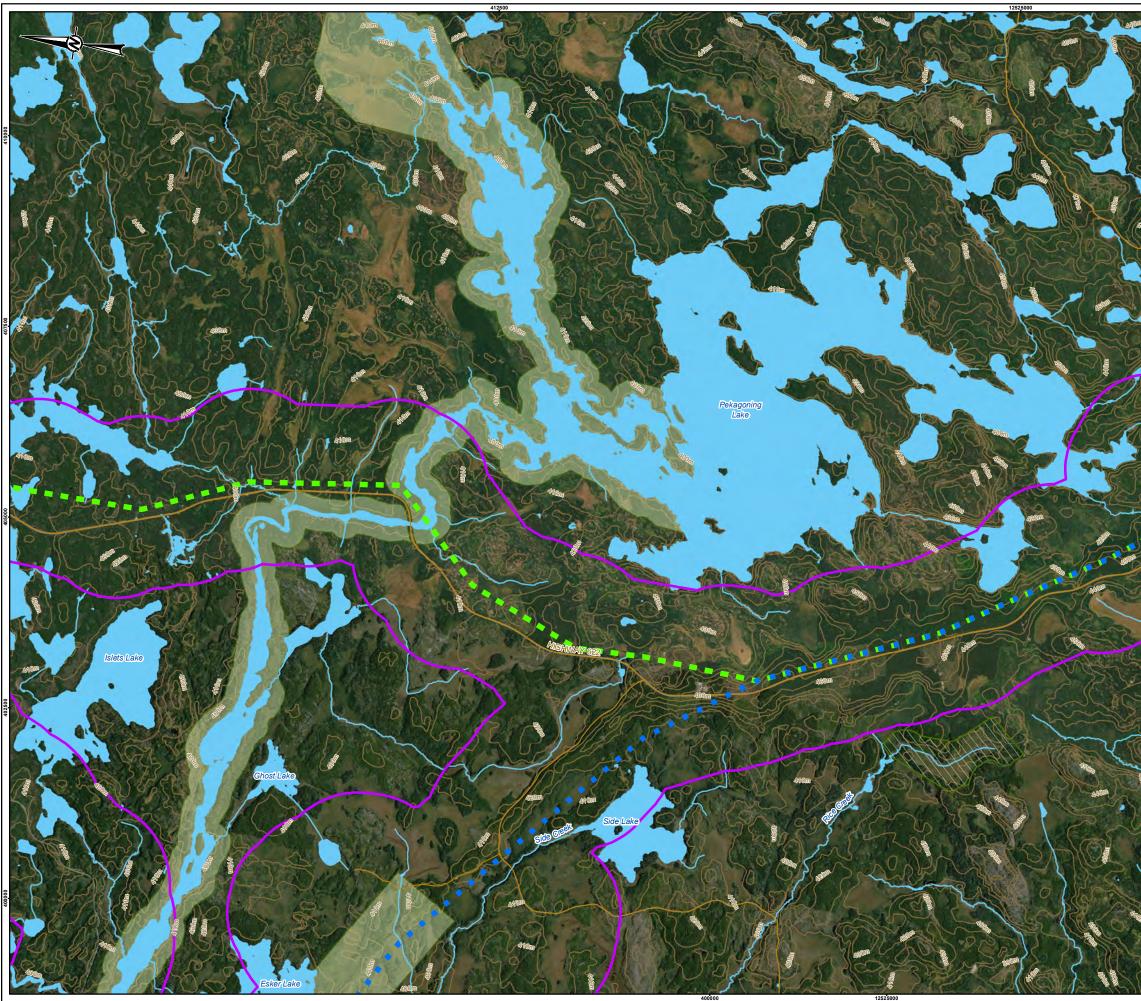
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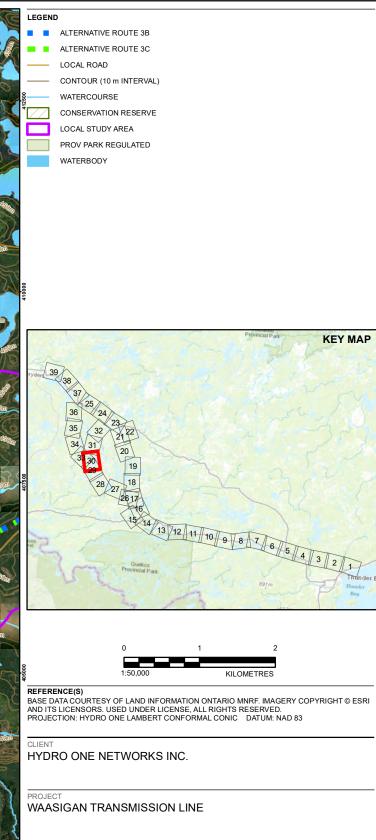
CLIENT HYDRO ONE NETWORKS INC.

PROJECT

TITLE SITE PLAN DETAIL

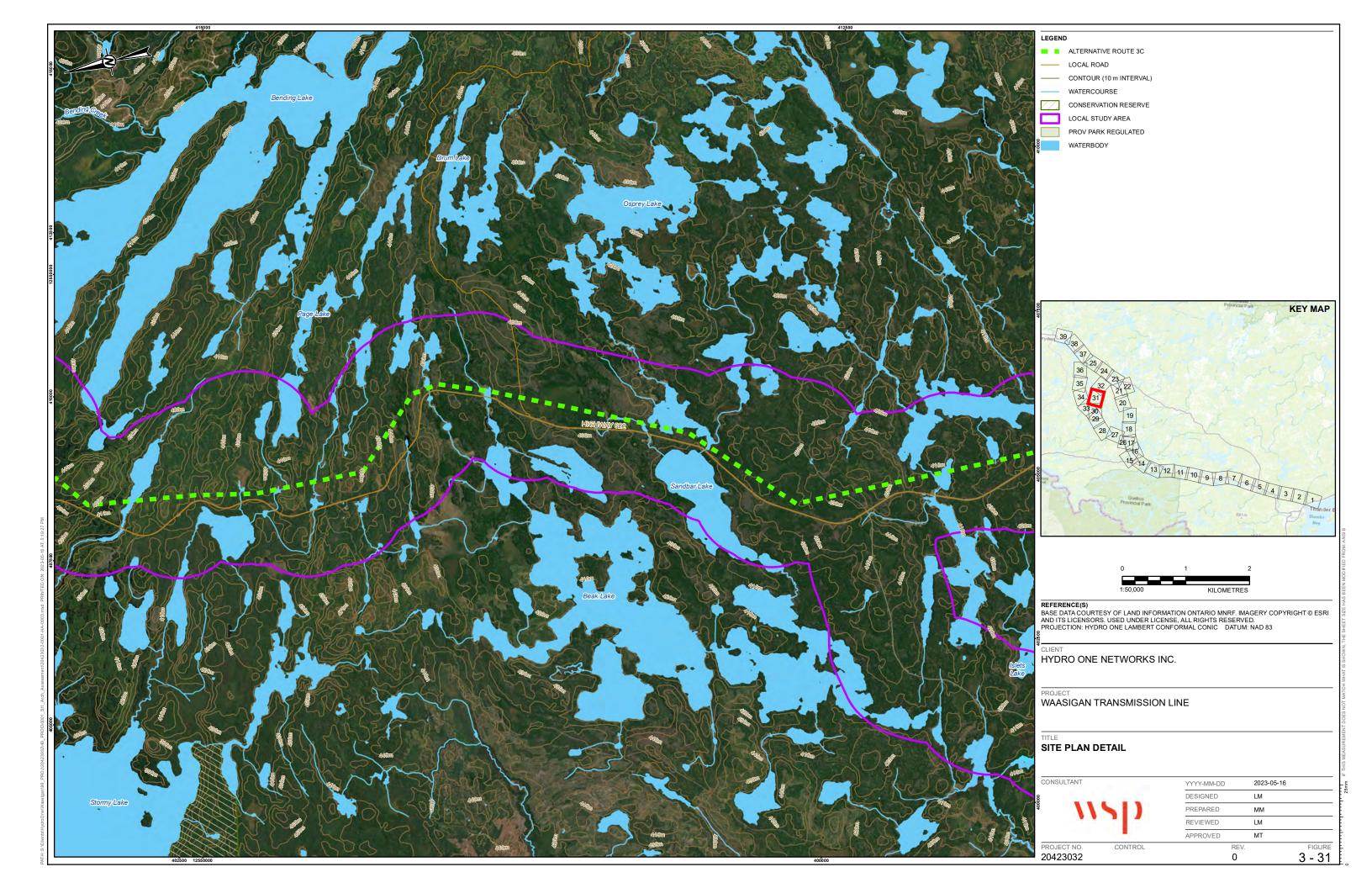


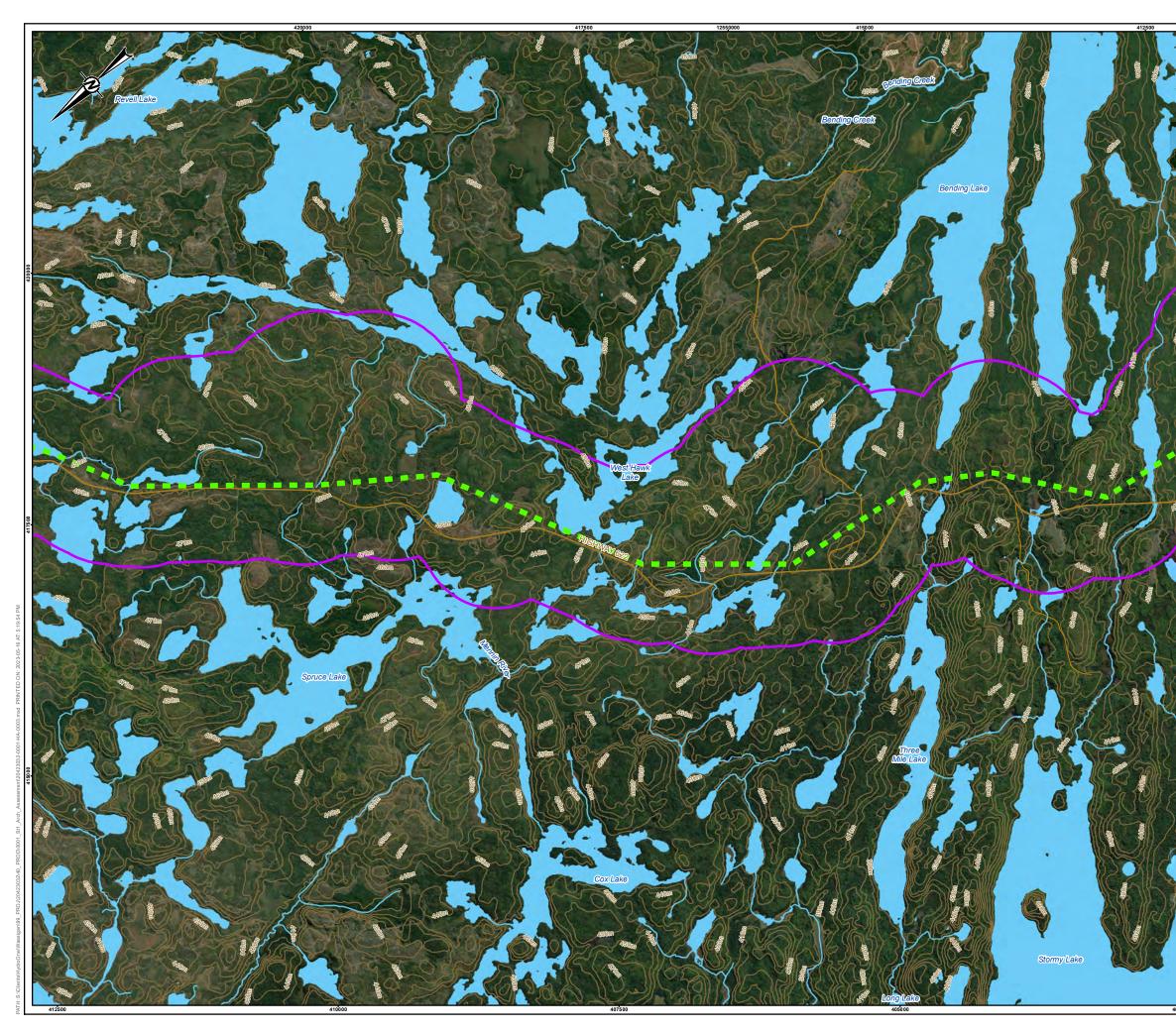


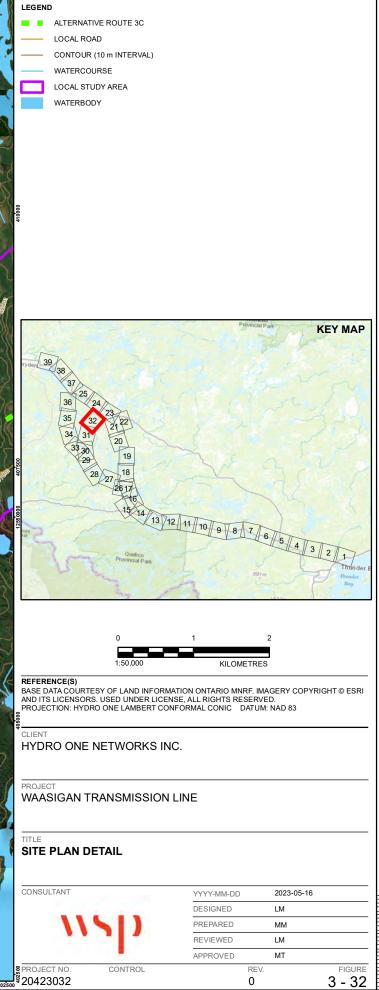


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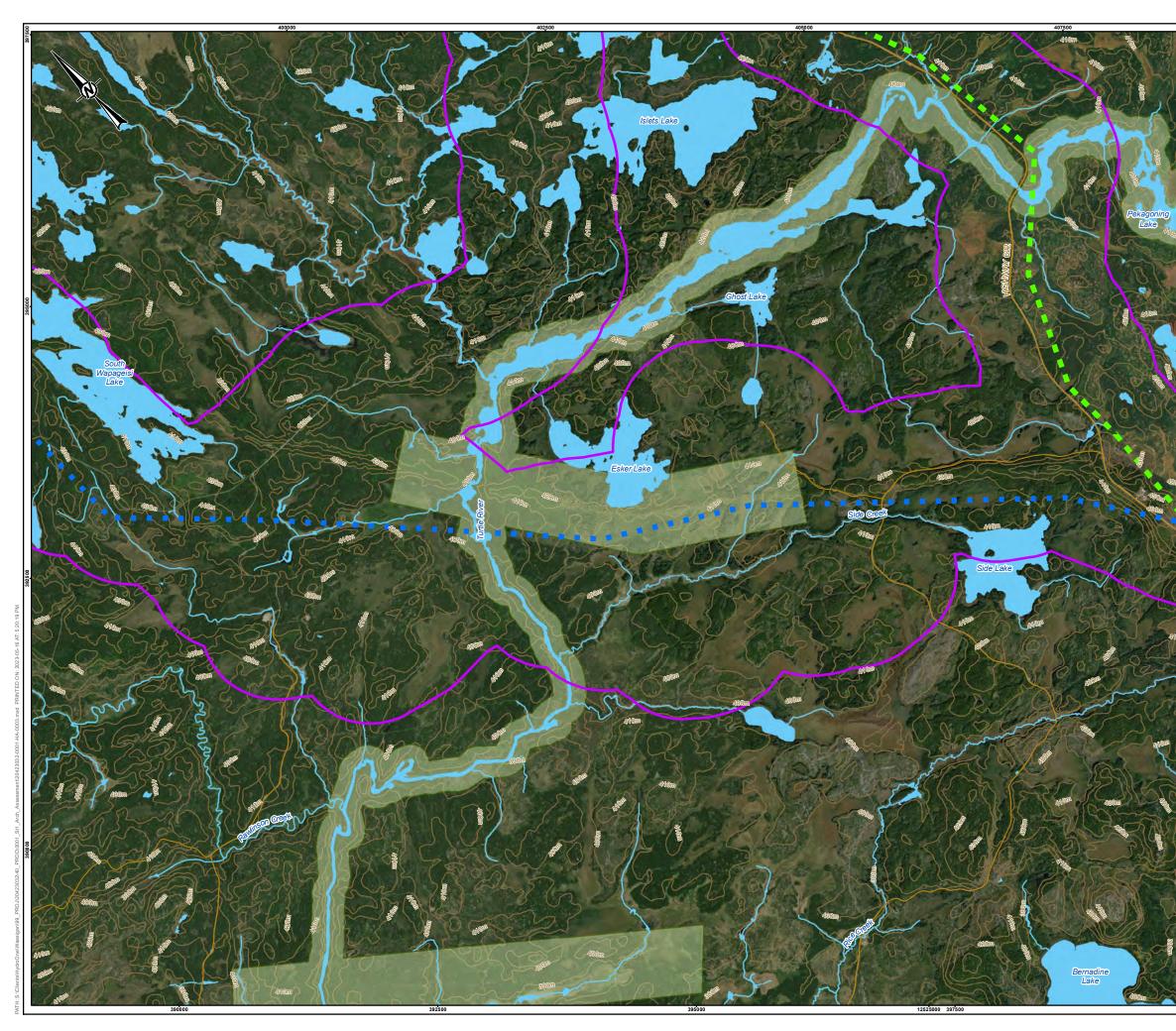
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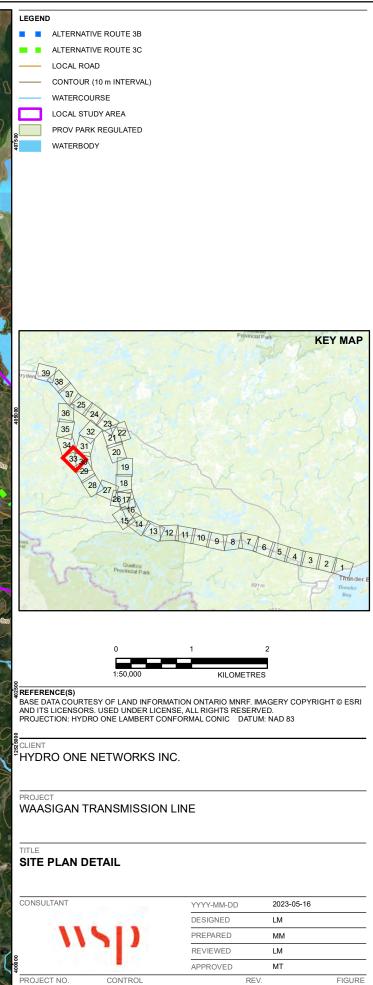






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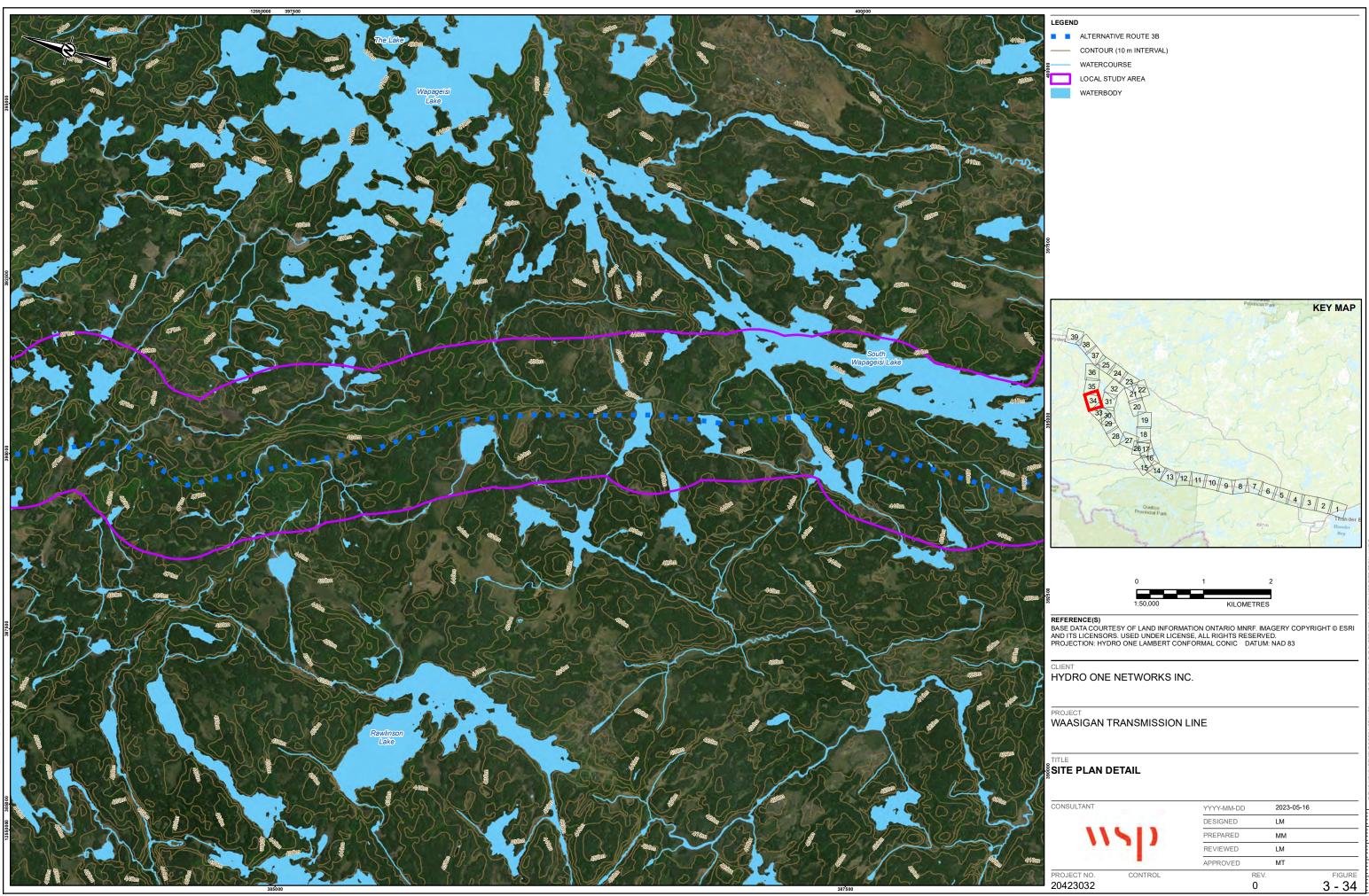


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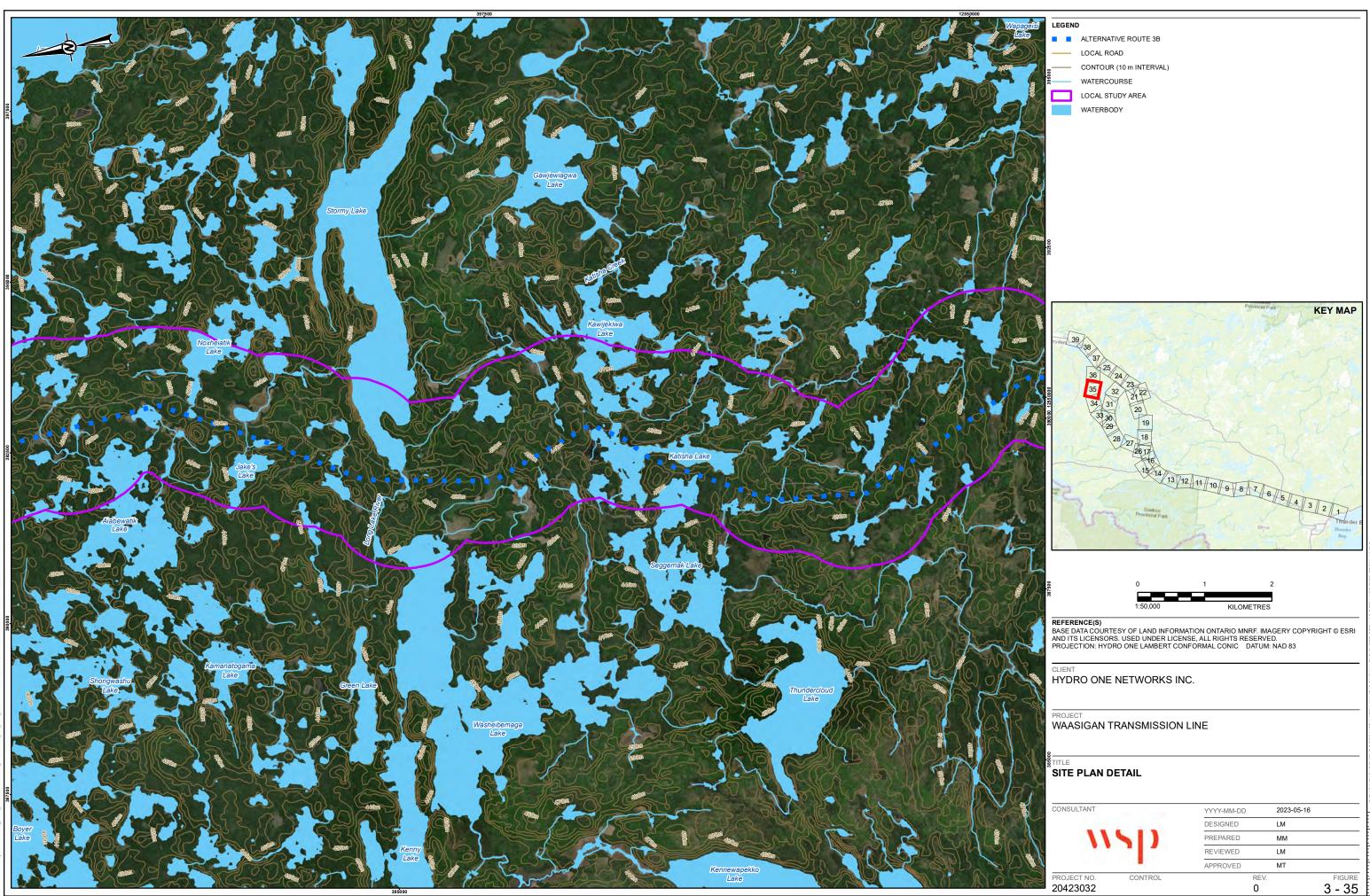
25mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED

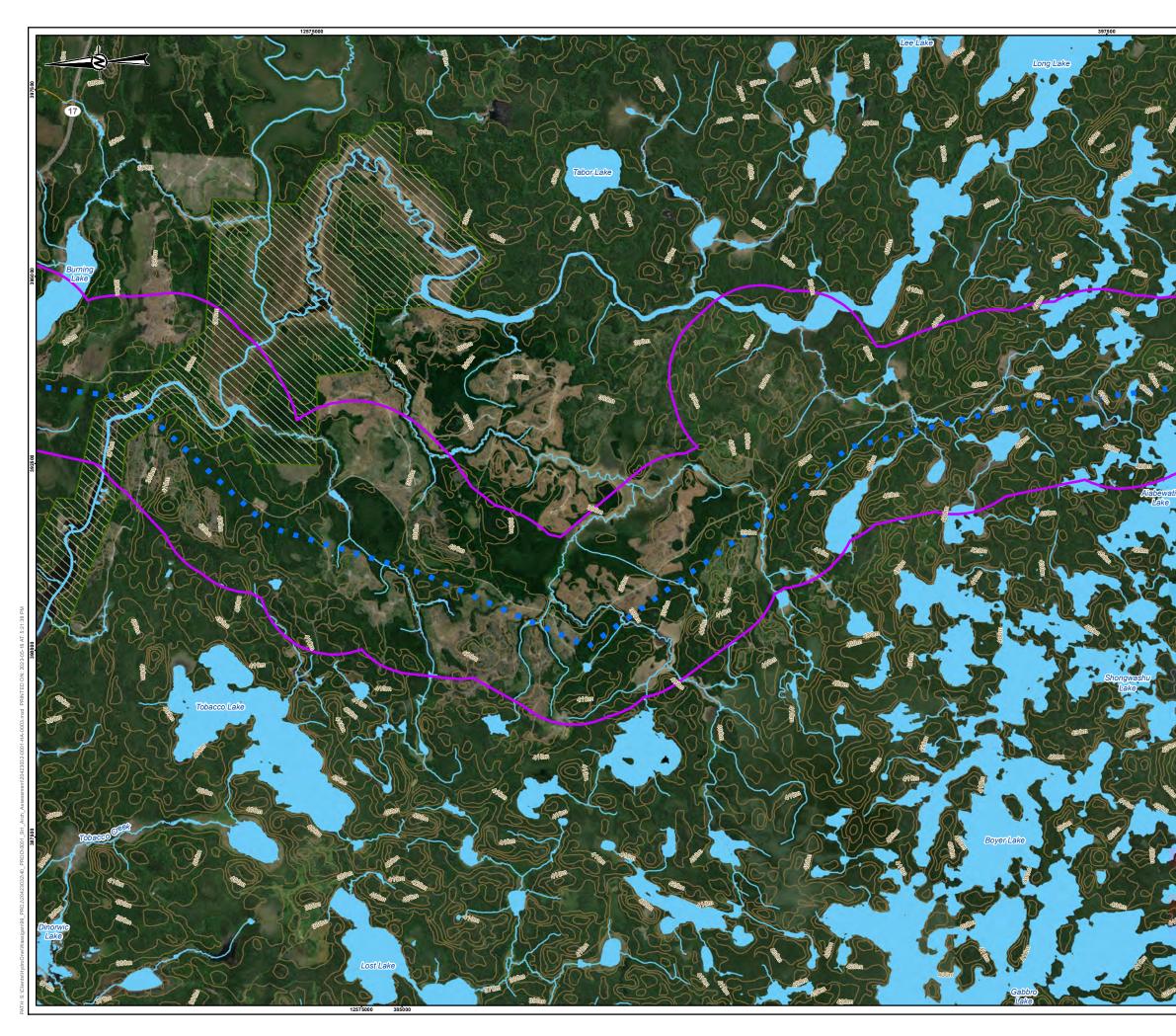
FIGURE **3 - 33**

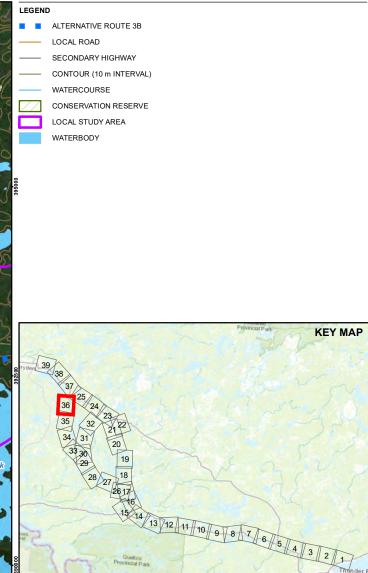
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25mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MO







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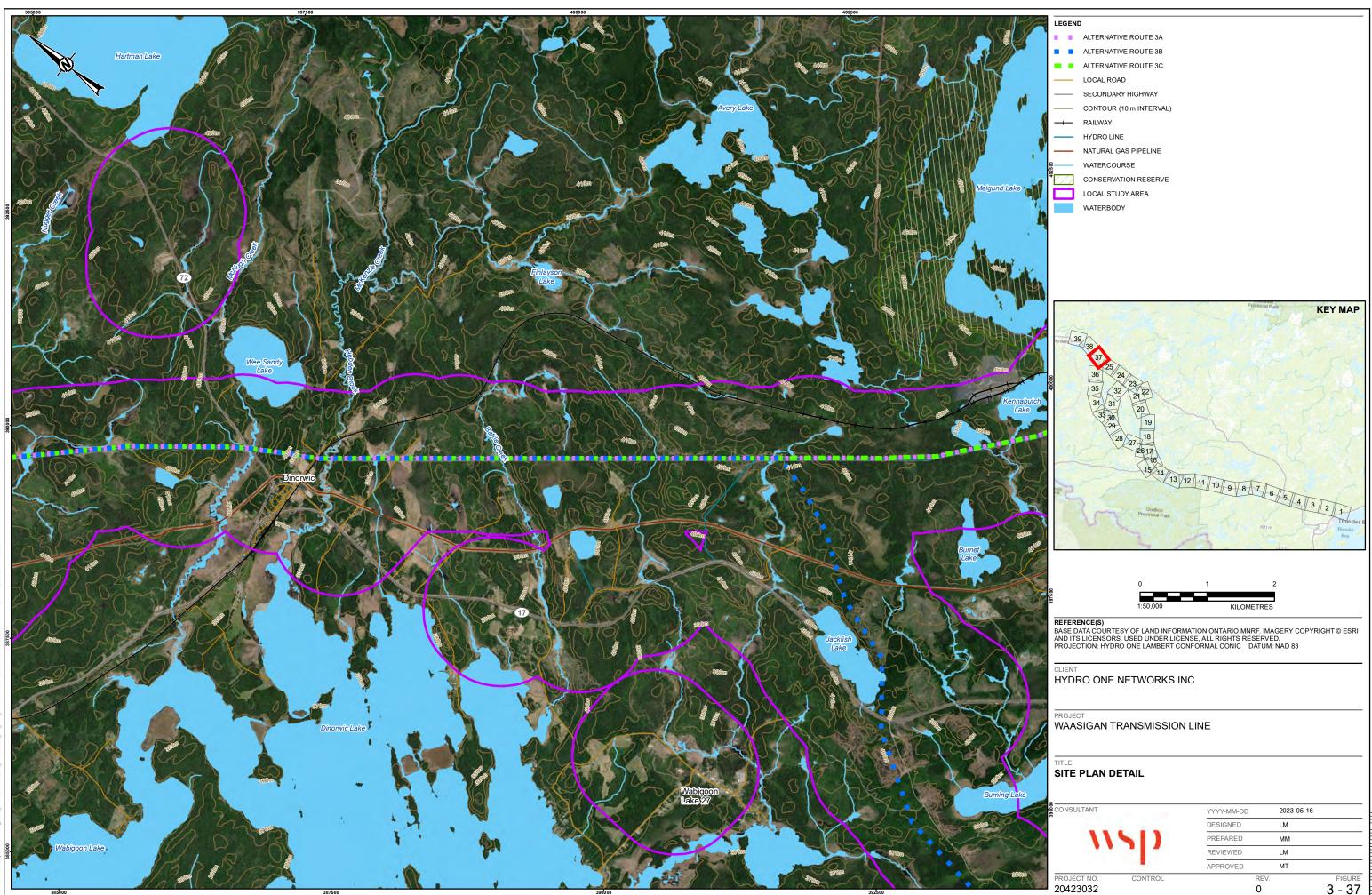
CLIENT BHYDRO ONE NETWORKS INC.

PROJECT

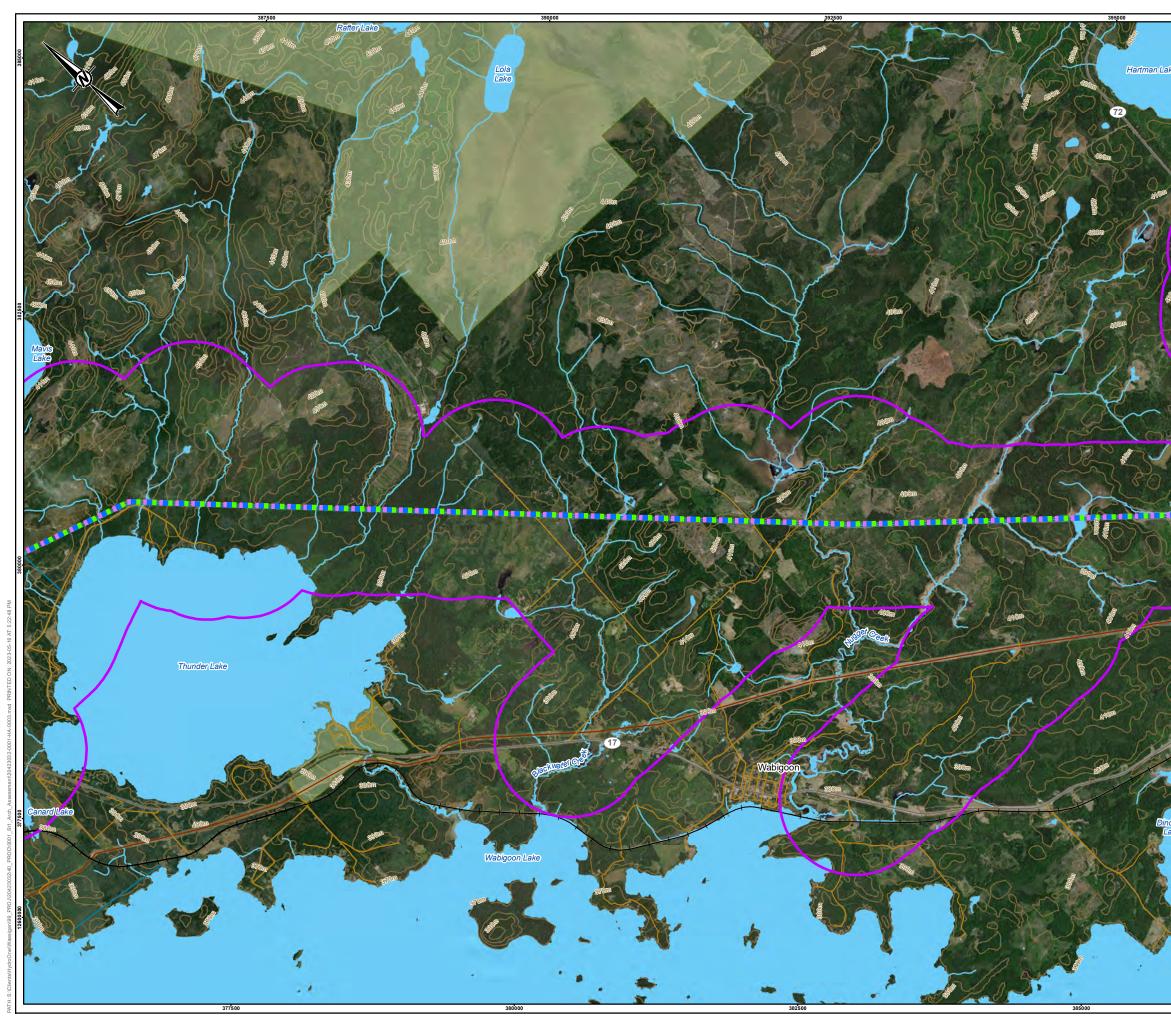
WAASIGAN TRANSMISSION LINE

TITLE SITE PLAN DETAIL

CONSULTANT 2023-05-16 YYYY-MM-DD DESIGNED LM PREPARED MM REVIEWED LM APPROVED MT PROJECT NO CONTROL REV. 0 FIGURE 20423032 3 - 36



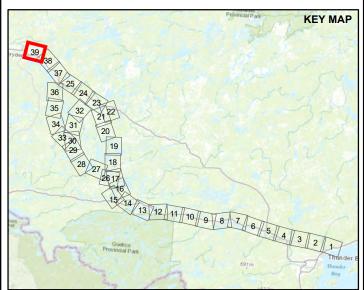
25mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MOD IFIED FROM:



ALTERNATIVE ROUTE 3A ALTERNATIVE ROUTE 3C LIGOLA ROAD SECONDARY HIGHWAY CONTOUR (10 INTERVAL) HATURAL GAS PPELINE WATERCOURSE LIGOLA STUDY AREA PROV PARK REGULATED WATERBODY KEY MAP PROV PARK REGULATED WATERBODY KEY MAP MATURAL GAS PPELINE LIGOLA STUDY AREA PROV PARK REGULATED WATERBODY KEY MAP MATURAL GAS PPELINE LIGOLAS STUDY AREA PROV PARK REGULATED WATERBODY MATURAL GAS UNDER MATURAL GAS UN		D				
ALTERNATIVE ROUTE 3C LOCA ROAD SECONDARY INGINIARY PRODUCE (10 III INTERVAL) RAILWAY HYDRO LINE NATURAL GAS PPELINE WATERCOURSE LOCAL STUDY AREA PROV PARK REGULATED WATERBOOY		ALTERNATIVE	E ROUTE 3A			
LUCAL ROAD SECONDARY HIGHWAY CONTOUR (ION INTERVAL) RALWAY HYDRO LINE NATURAL GAS PIPELINE WATERCOURSE LOCAL STUDY AREA PROV PARK REGULATED PROV PARK REGULATED WATERBODY		ALTERNATIVE	E ROUTE 3B			
SECONDARY HIGHWAY CONTOUR (10 m INTERVAL) RALWAY CONTOUR (10 m INTERVAL) RALWAY RALWA	8	ALTERNATIVE	E ROUTE 3C			
CONTOUR (10 m INTERVAL) RALWAY HYDRO LINE WATERCOURSE LOCAL STUDY AREA PROV PARK REGULATED WATERBODY KEY MAP MATURAL GAS PIPELNE WATERBODY KEY MAP MATURAL CONSULTANT KEY MAP KEY M	3950	LOCAL ROAD)			
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- ALTERNATIVE ROUTE 3A
- ALTERNATIVE ROUTE 3B
- ALTERNATIVE ROUTE 3C
- LOCAL ROAD
- CONTOUR (10 m INTERVAL)
- HYDRO LINE
- NATURAL GAS PIPELINE
- SUBMERGED HYDRO LINE
- WATERCOURSE
- CONSERVATION RESERVE
- LOCAL STUDY AREA
 - PROV PARK REGULATED
 - WATERBODY



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REFERENCE(S)

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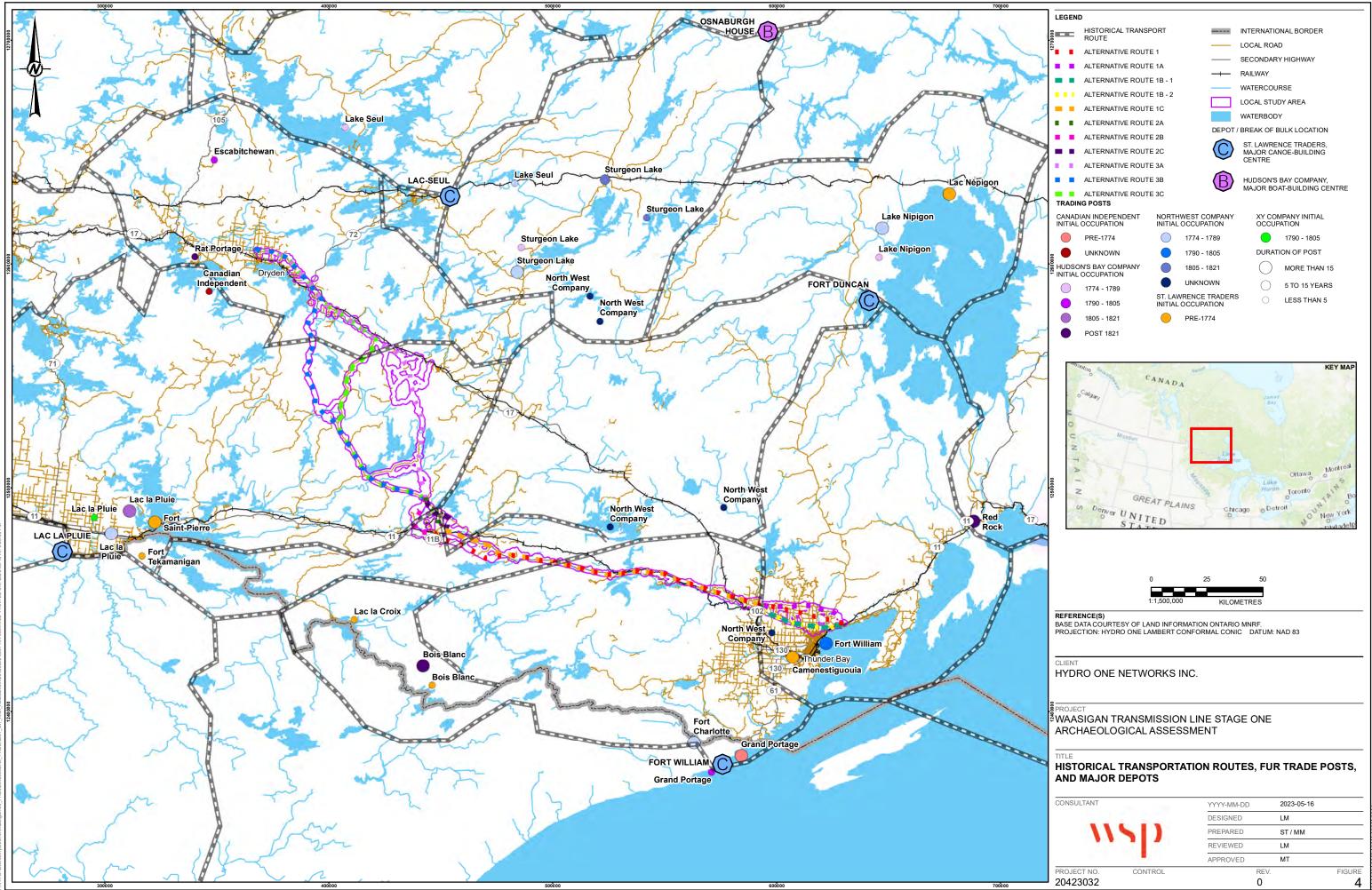
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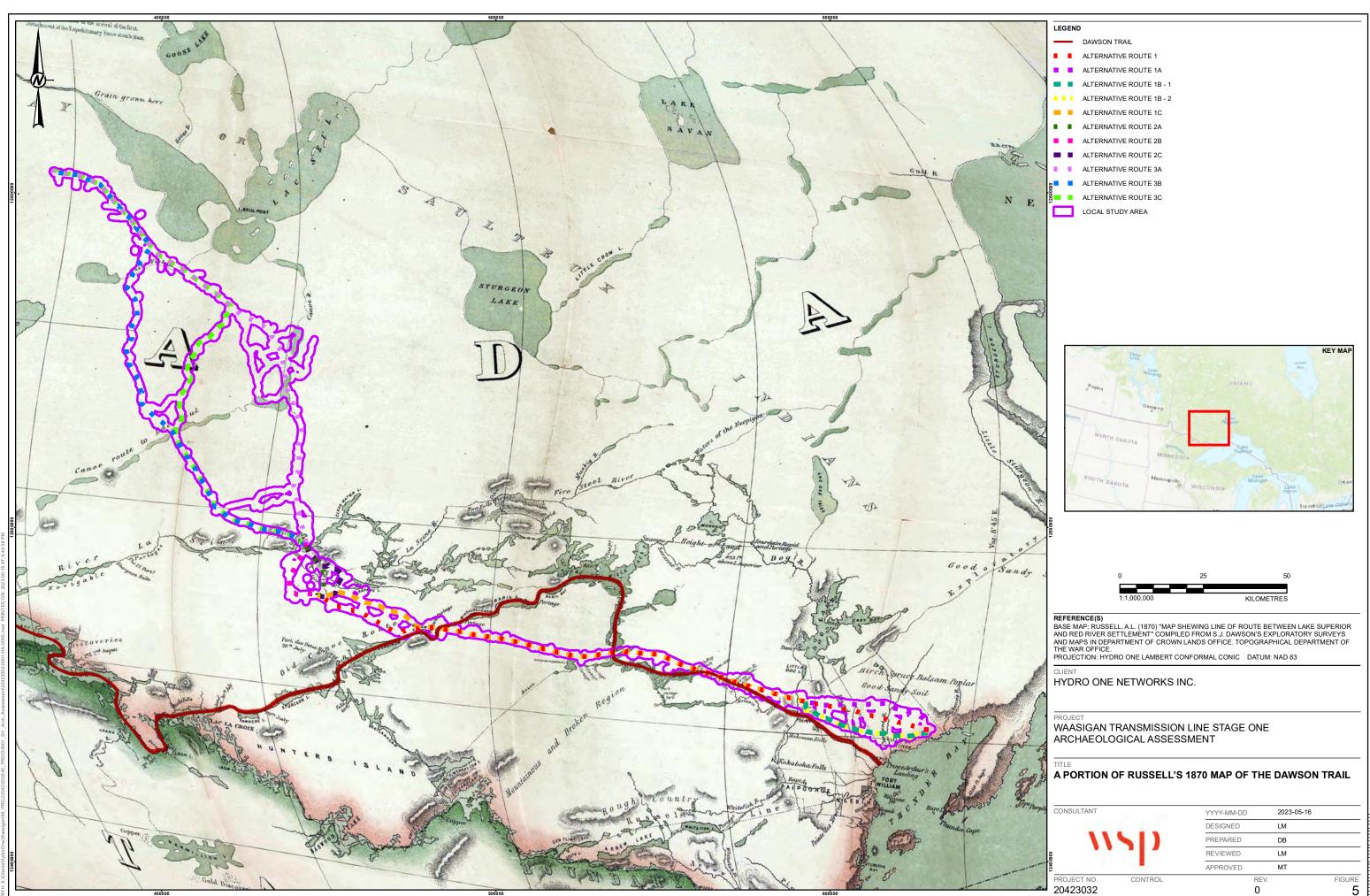
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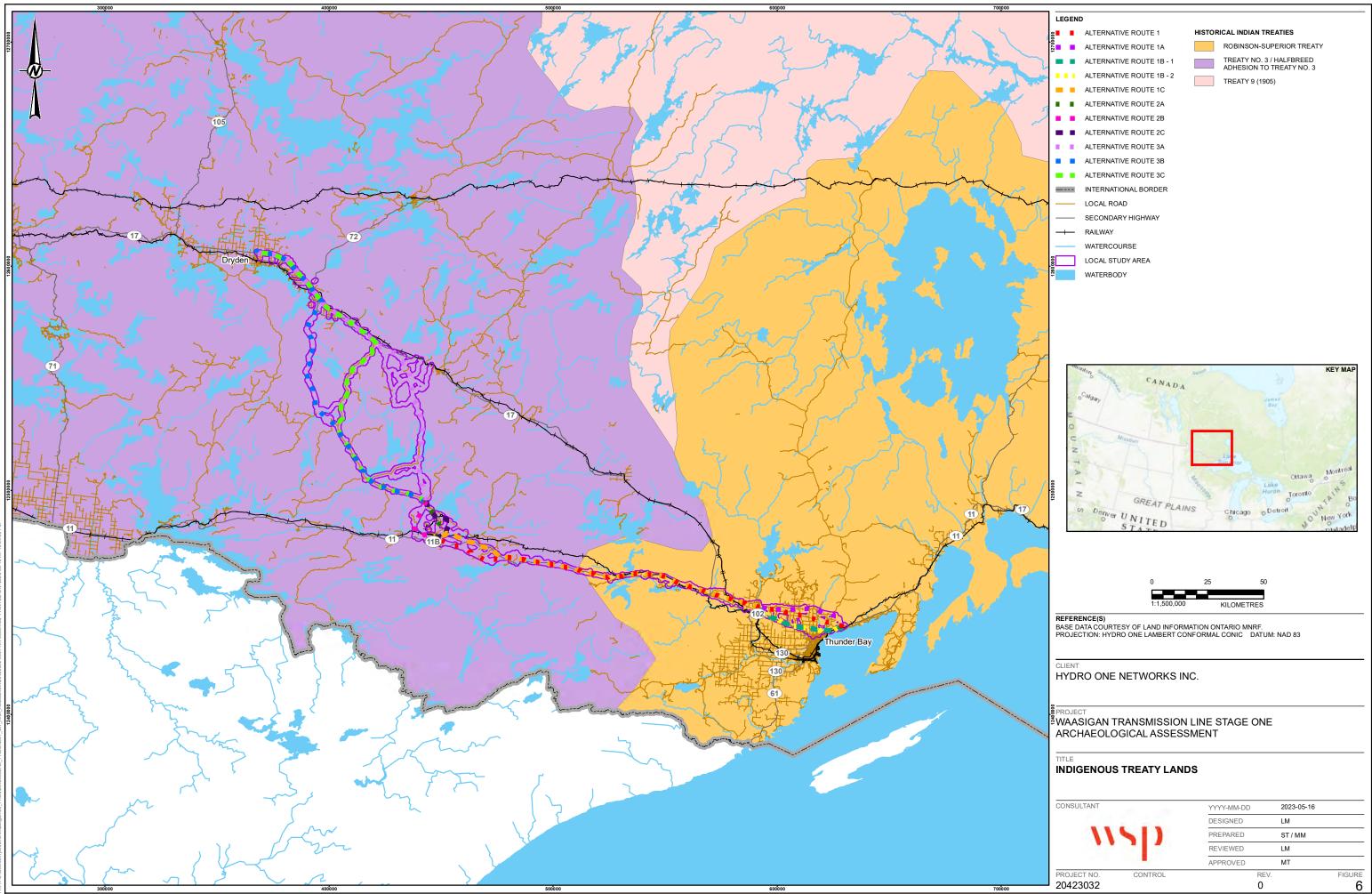
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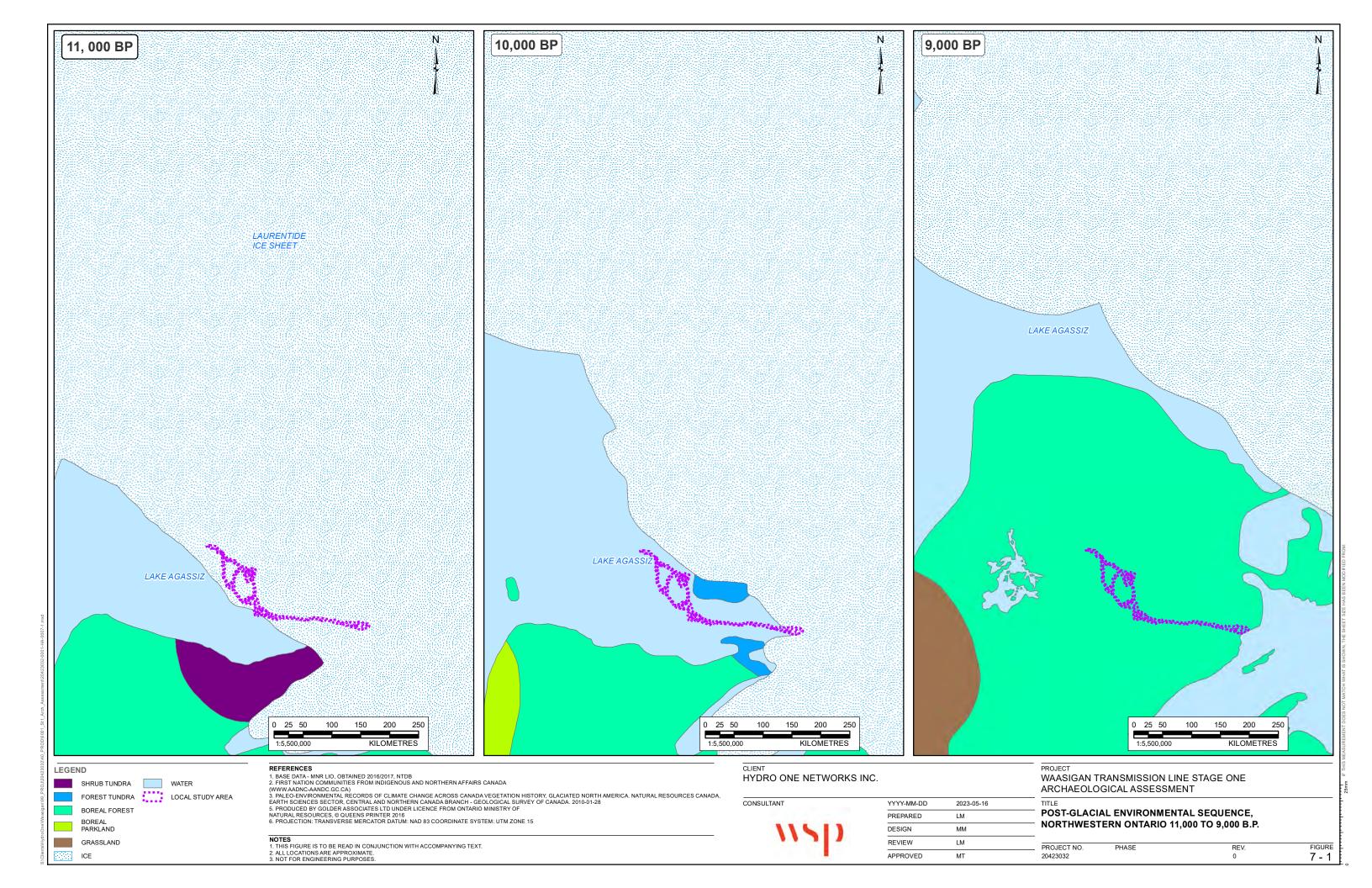
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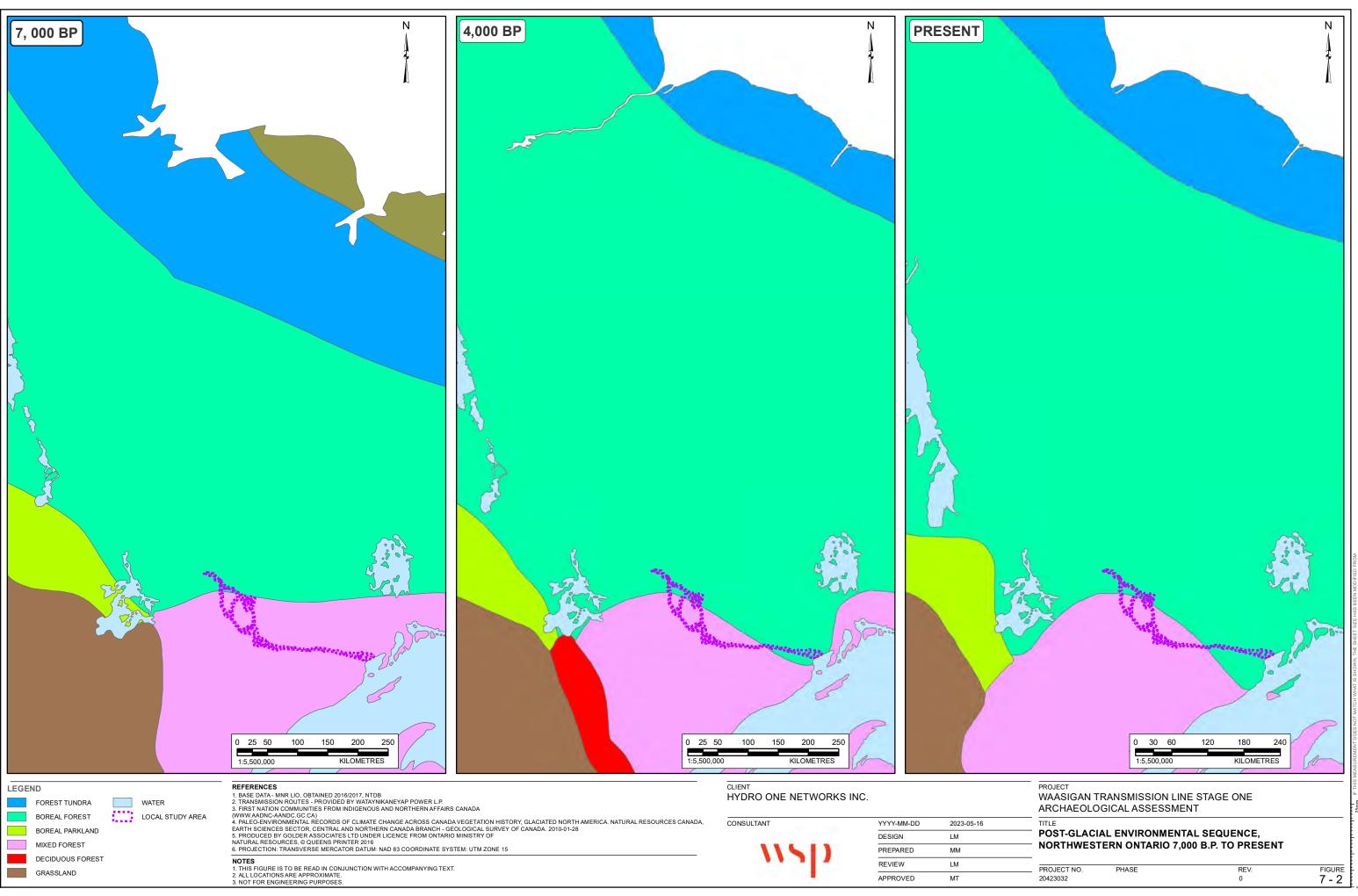


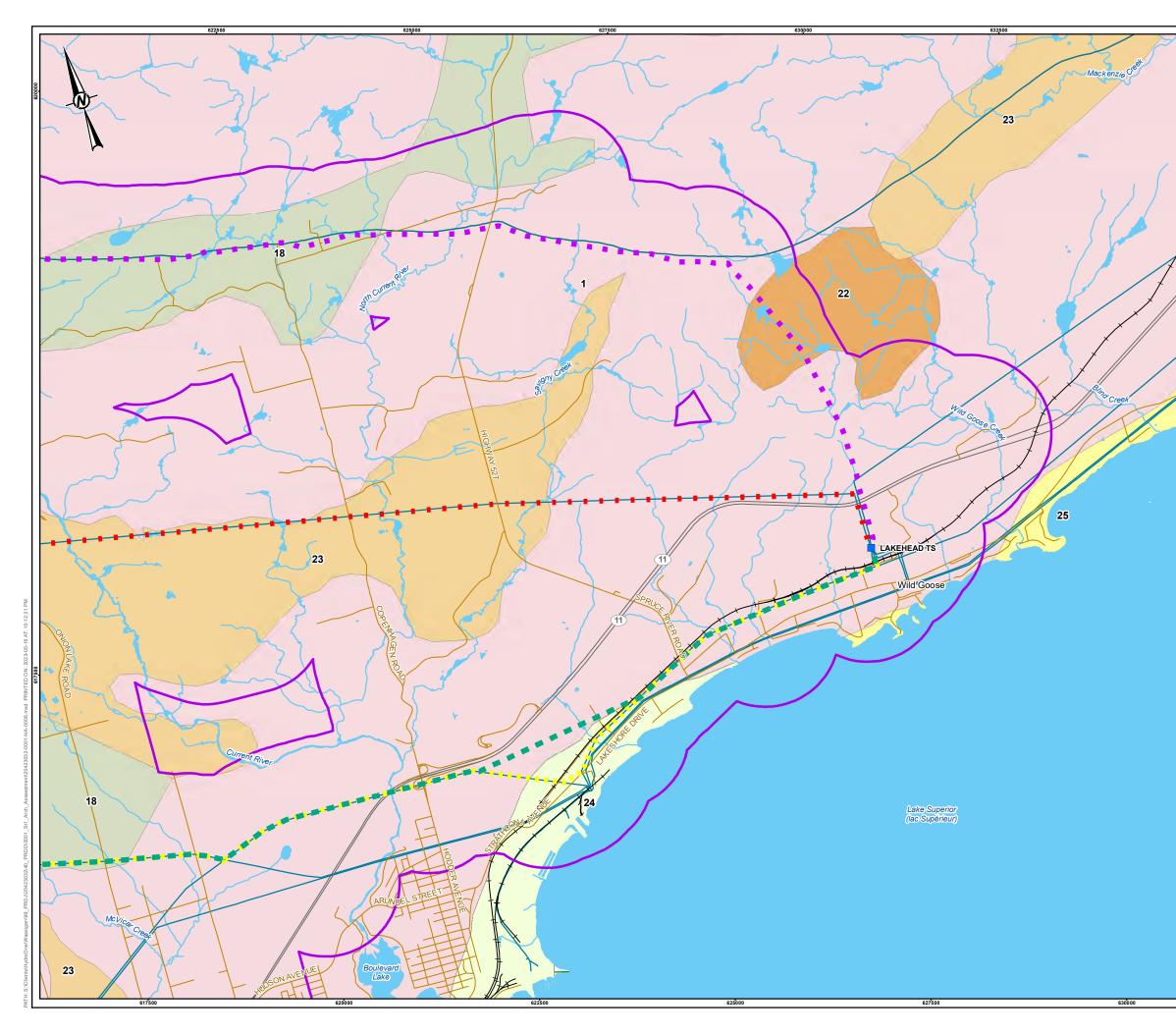
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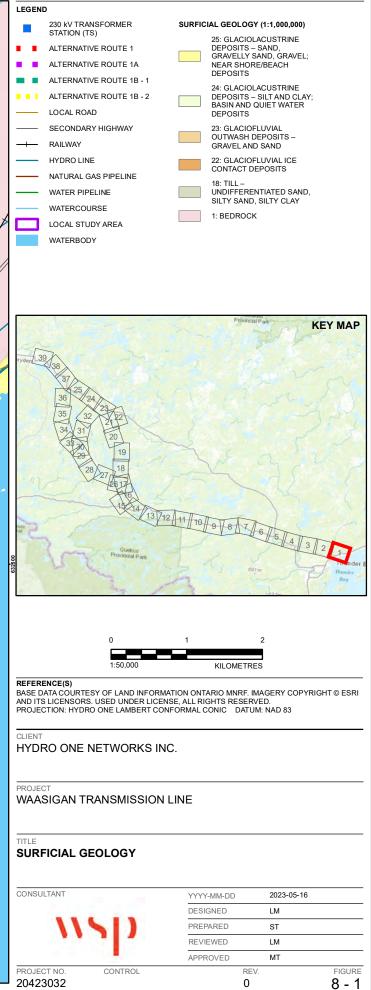




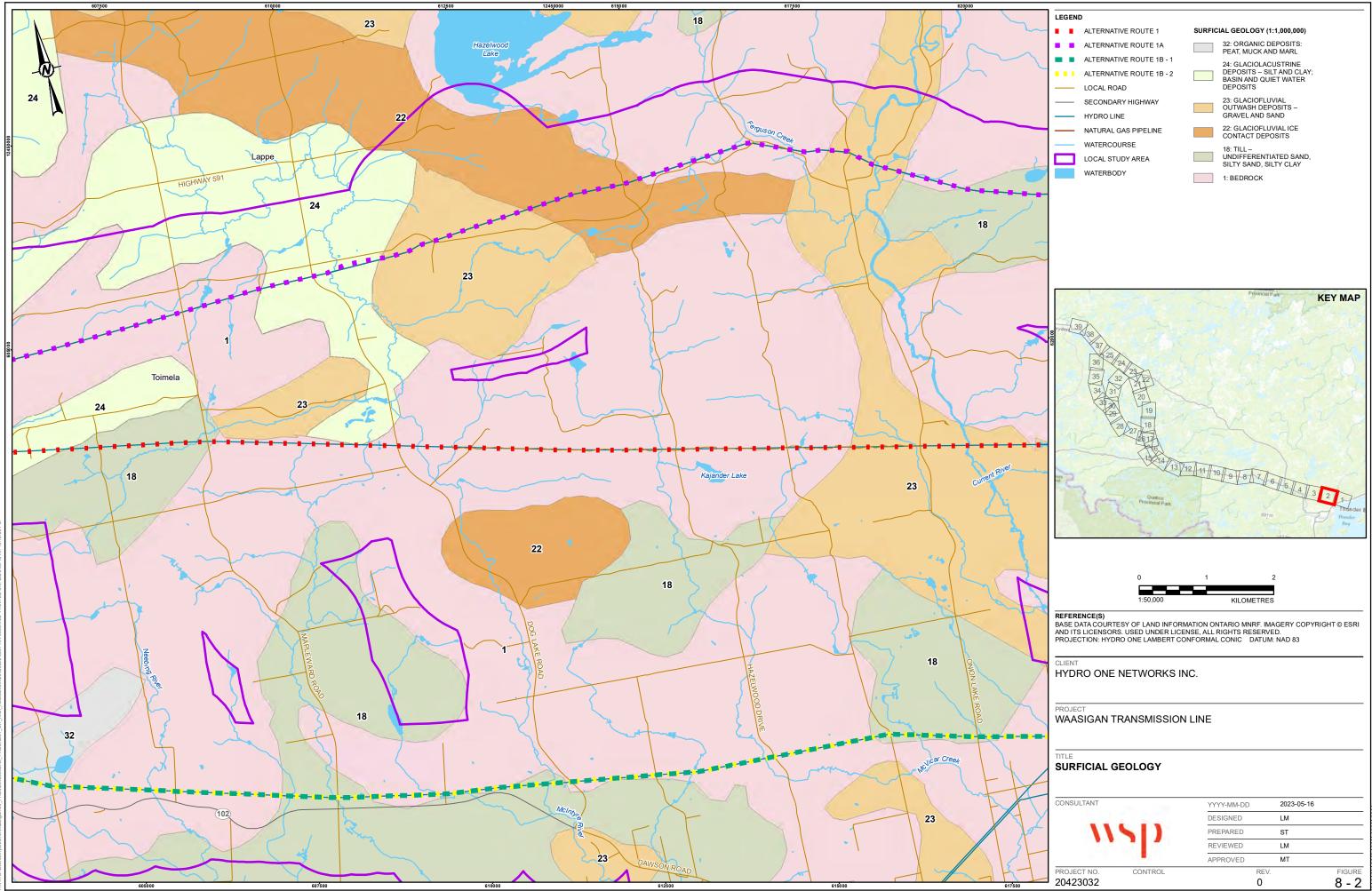


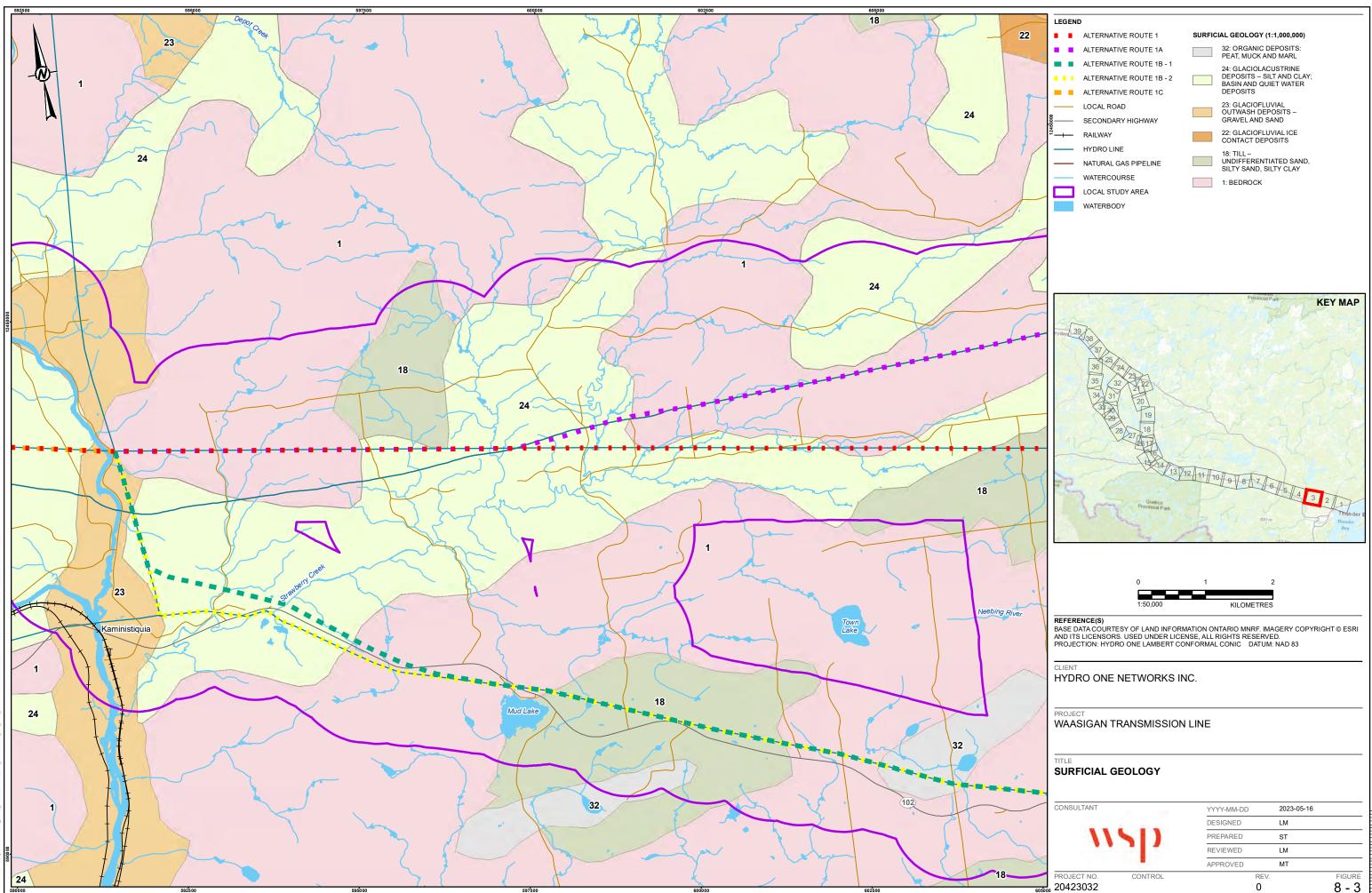


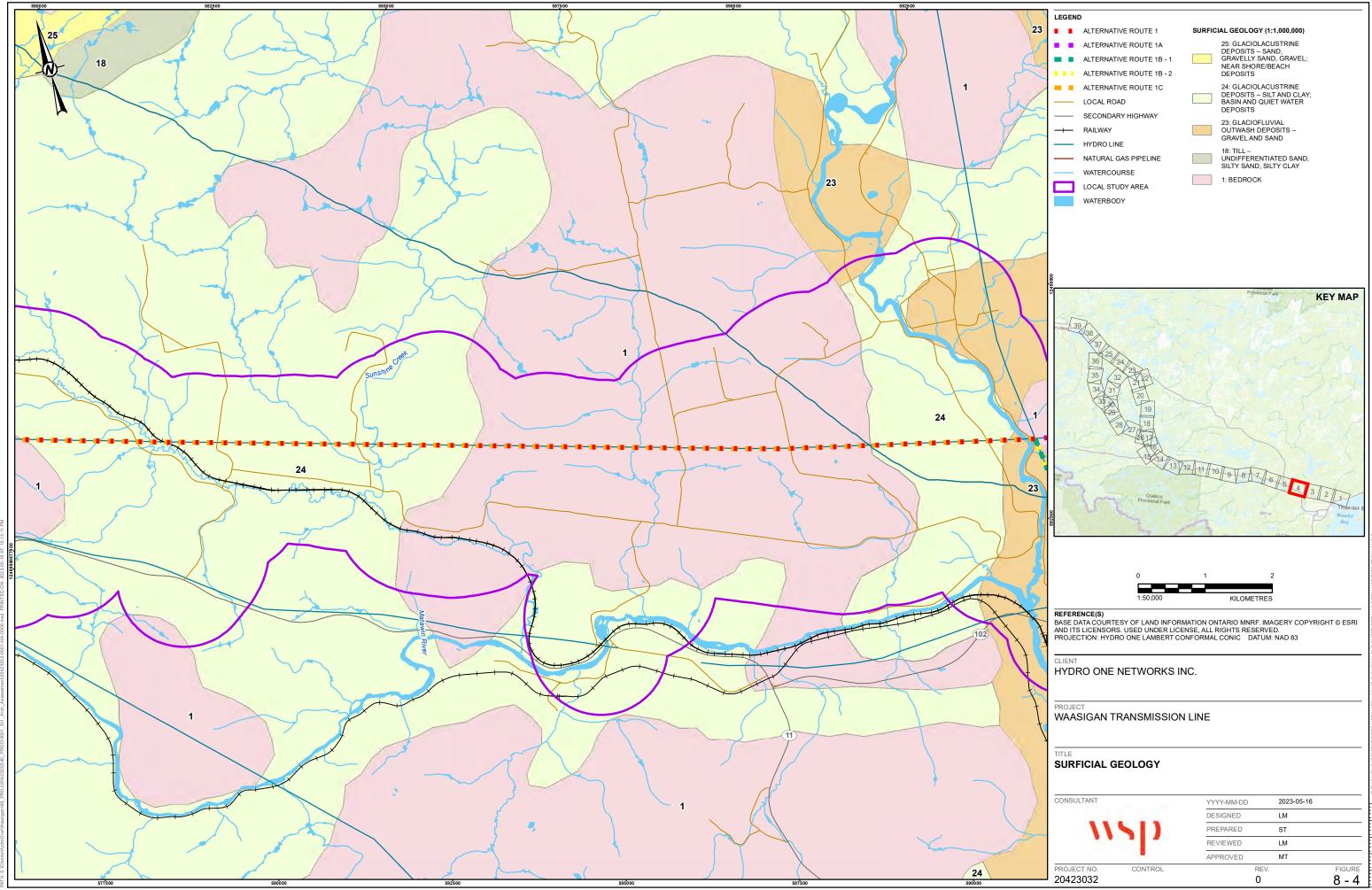


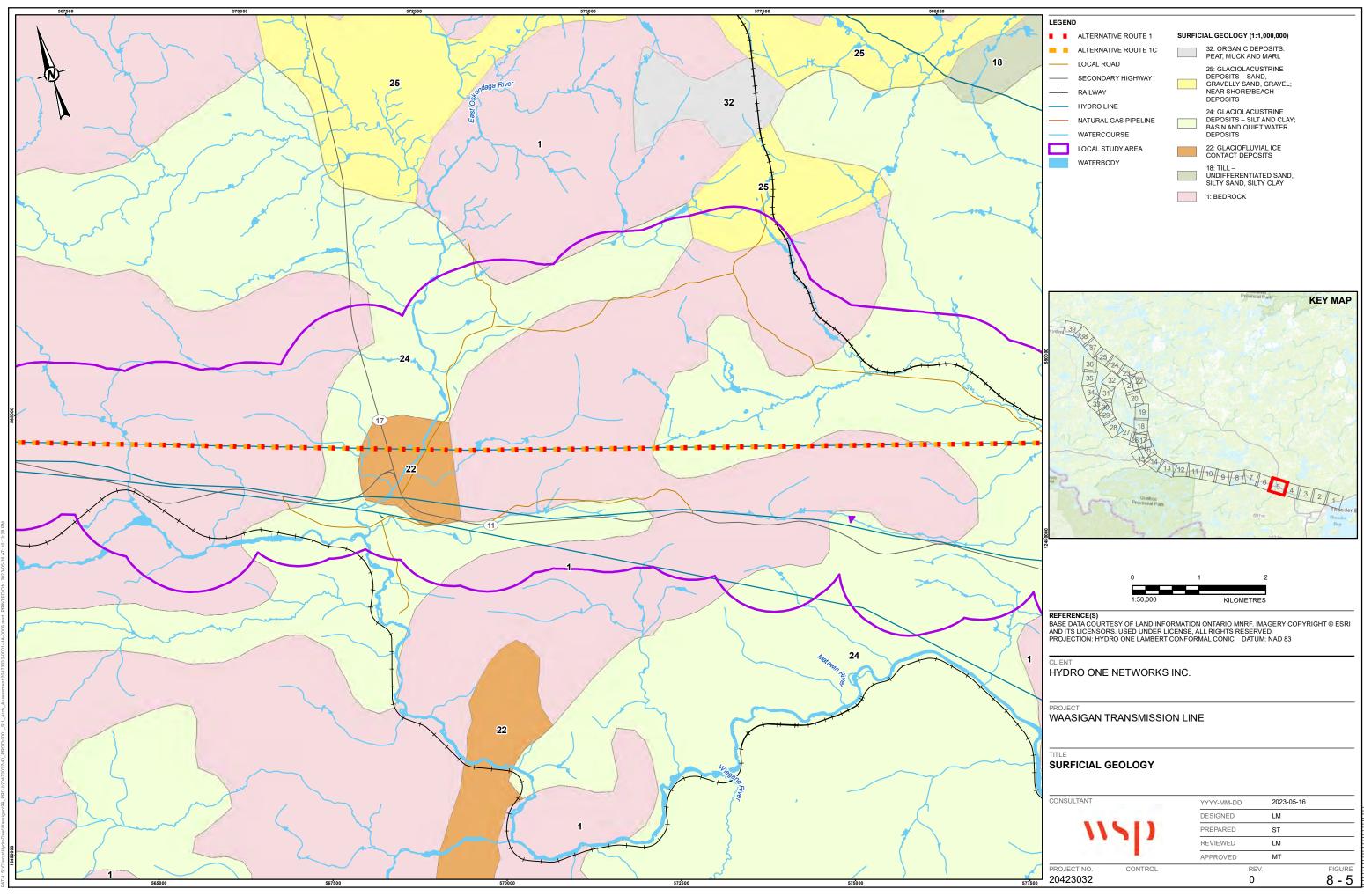


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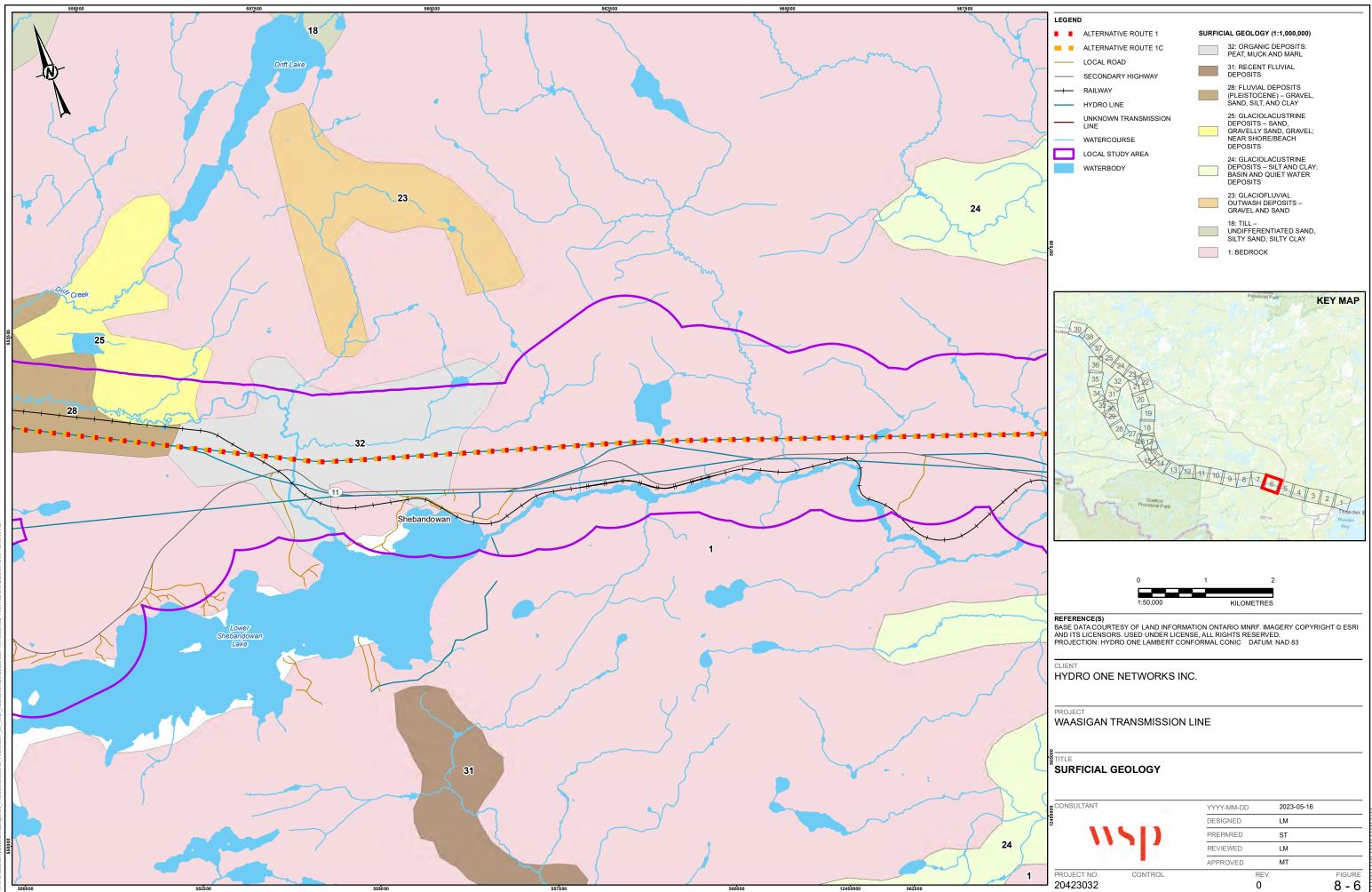


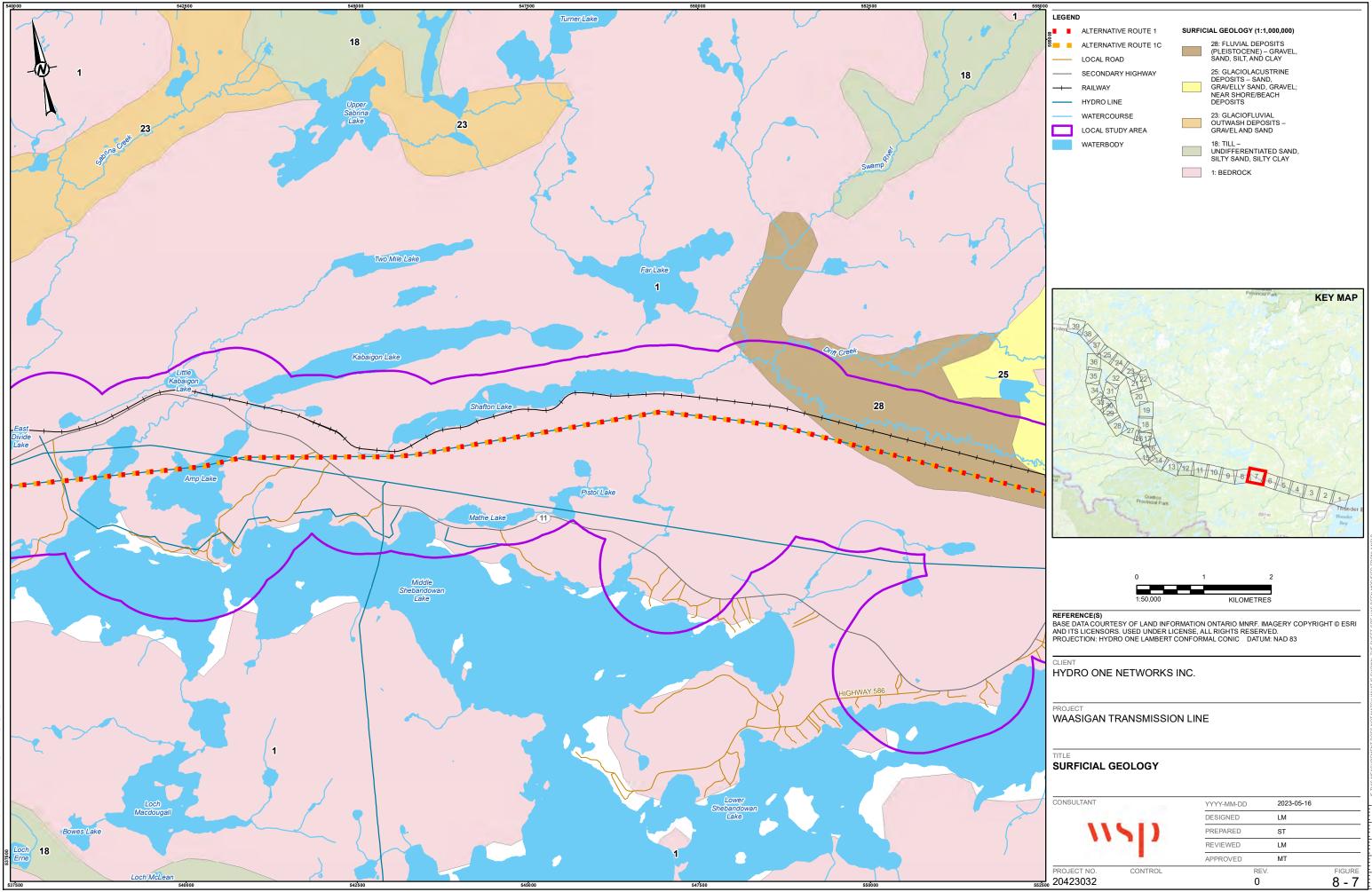




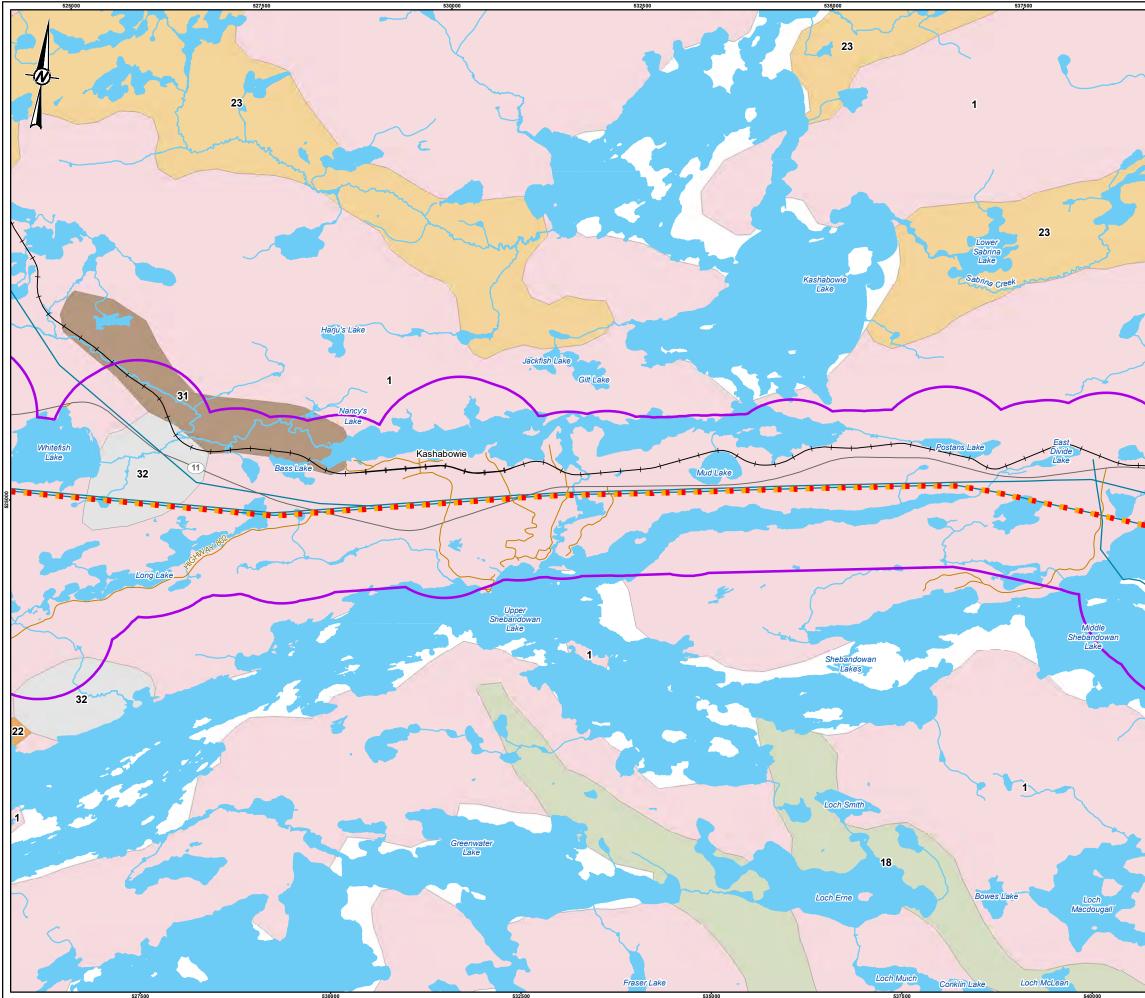


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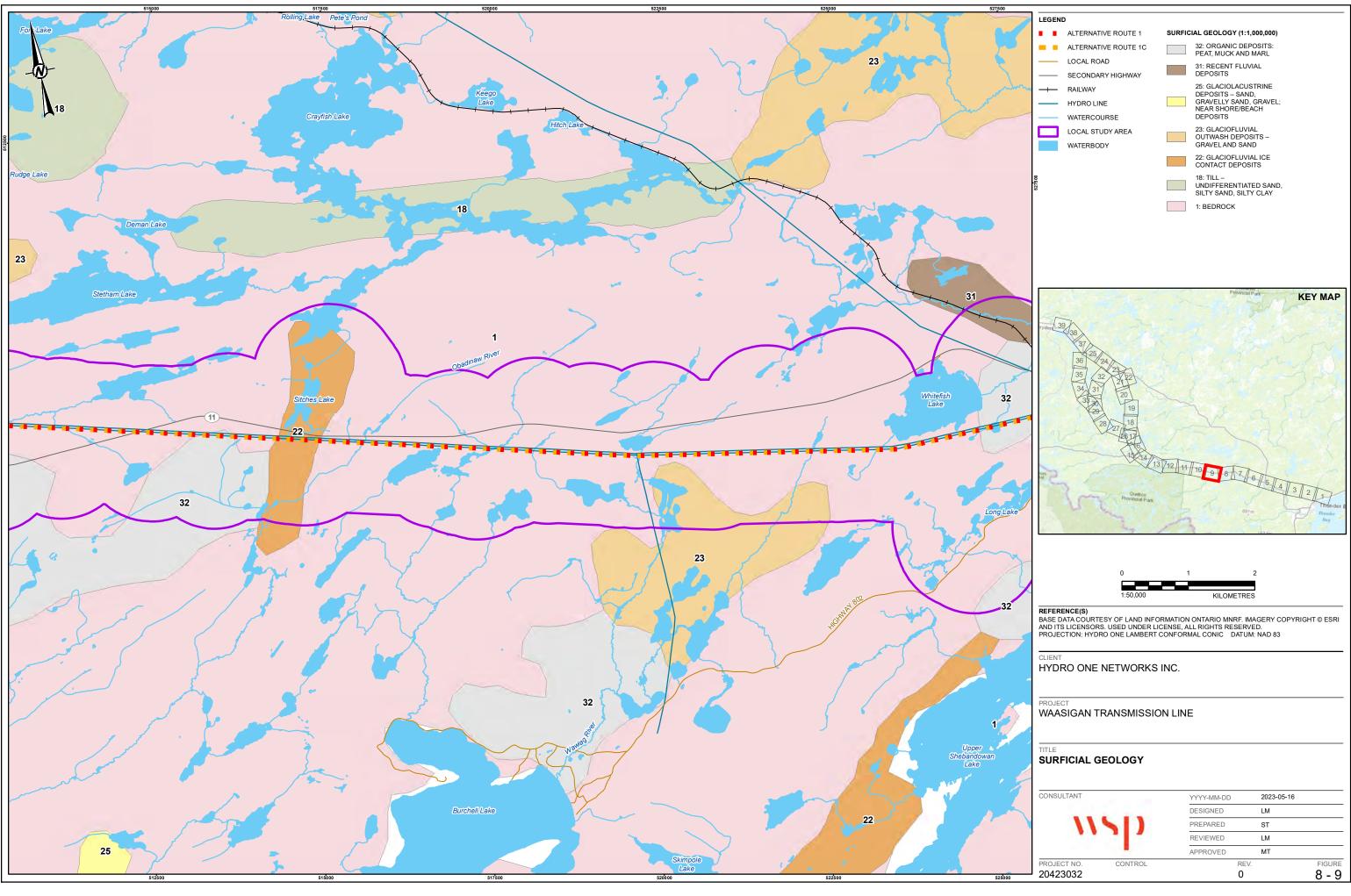


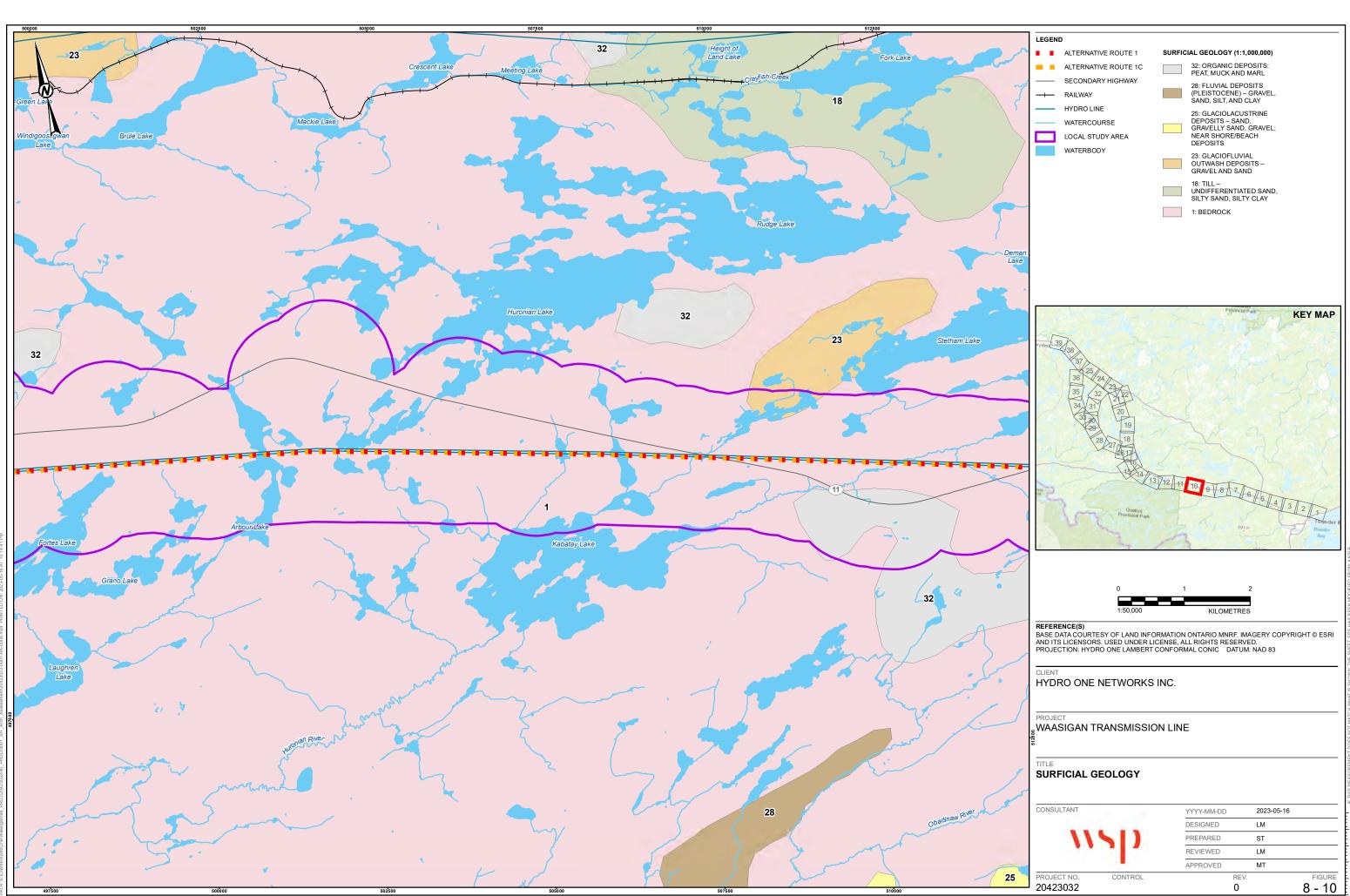
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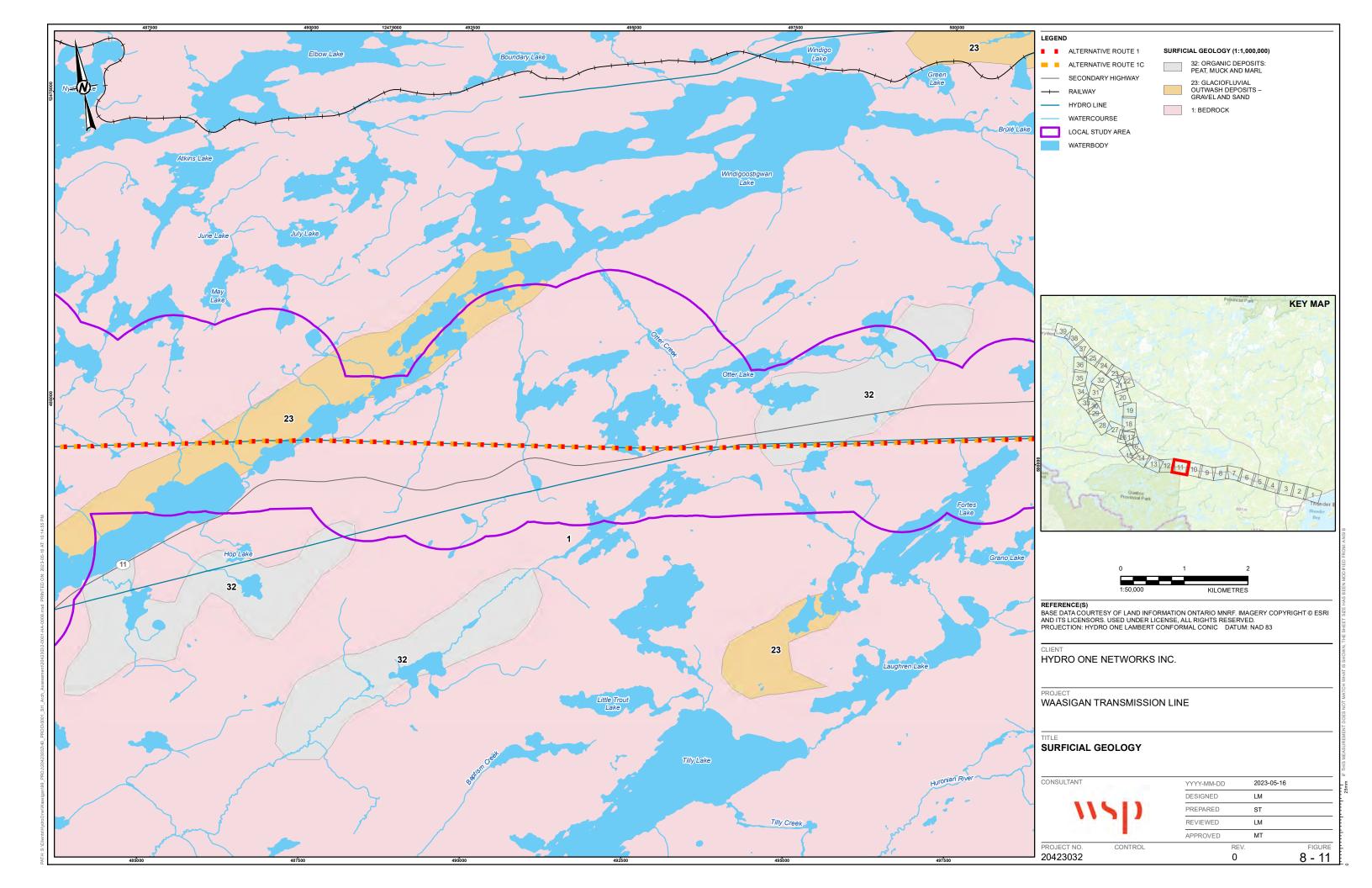


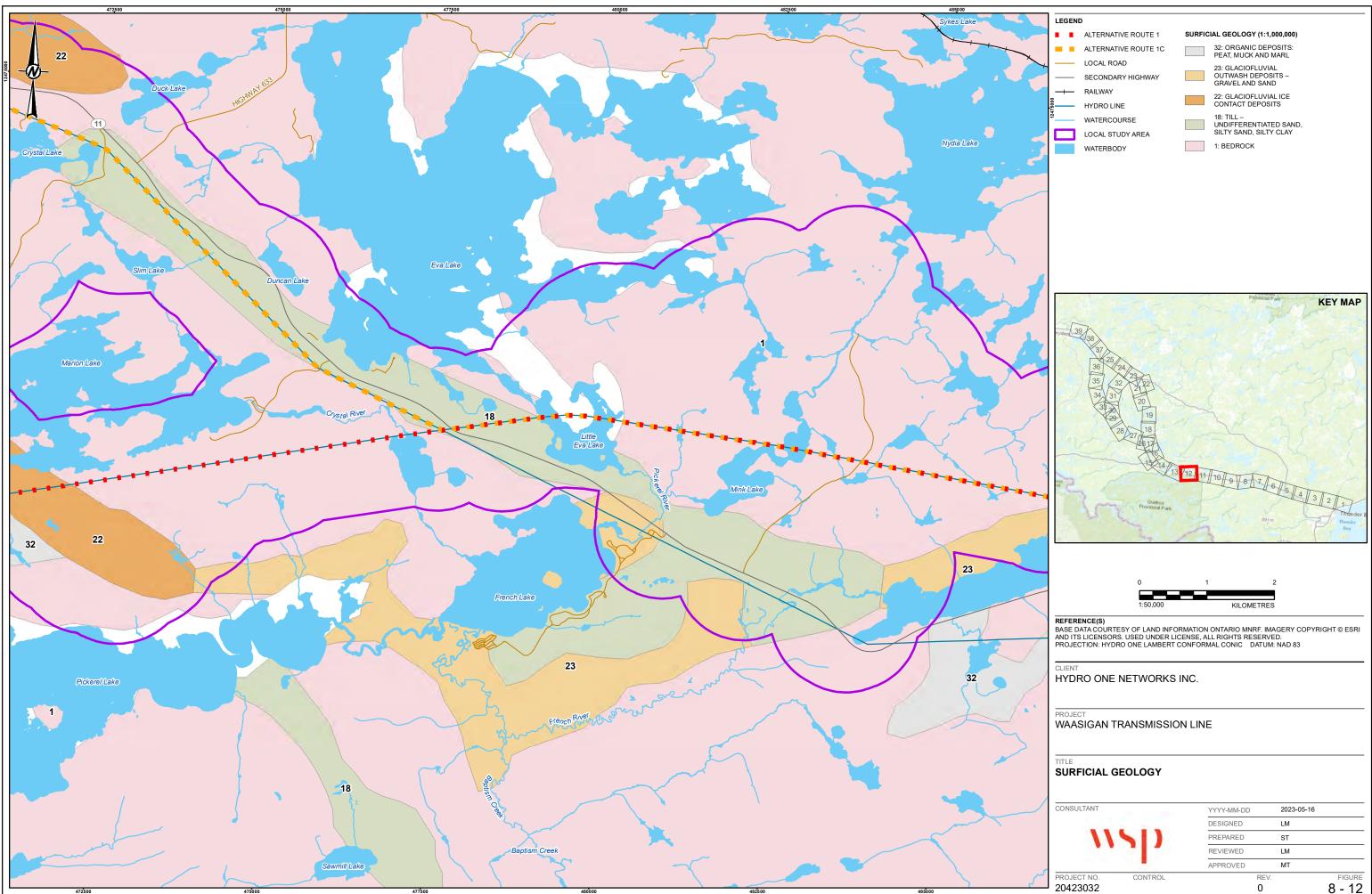
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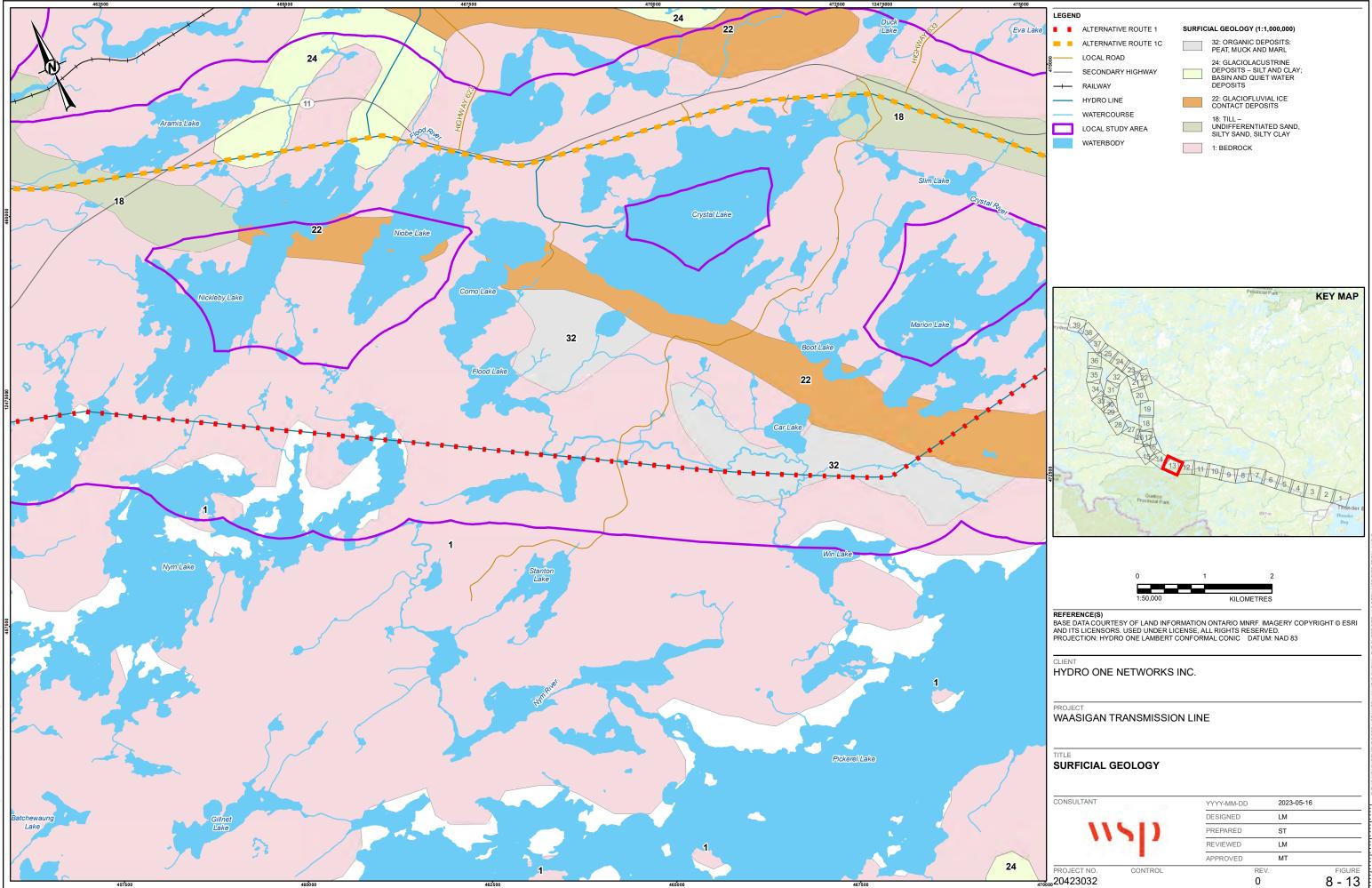




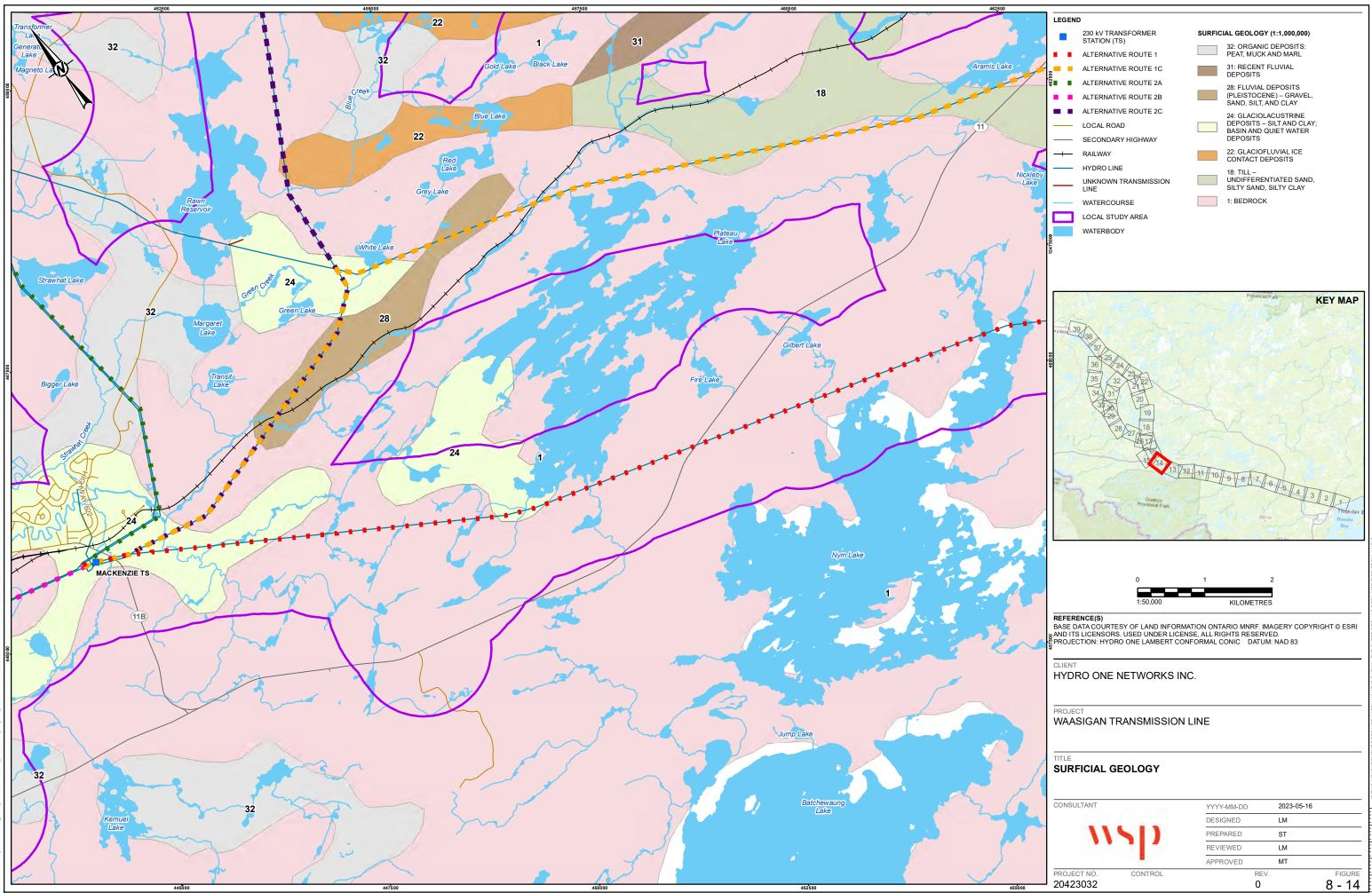
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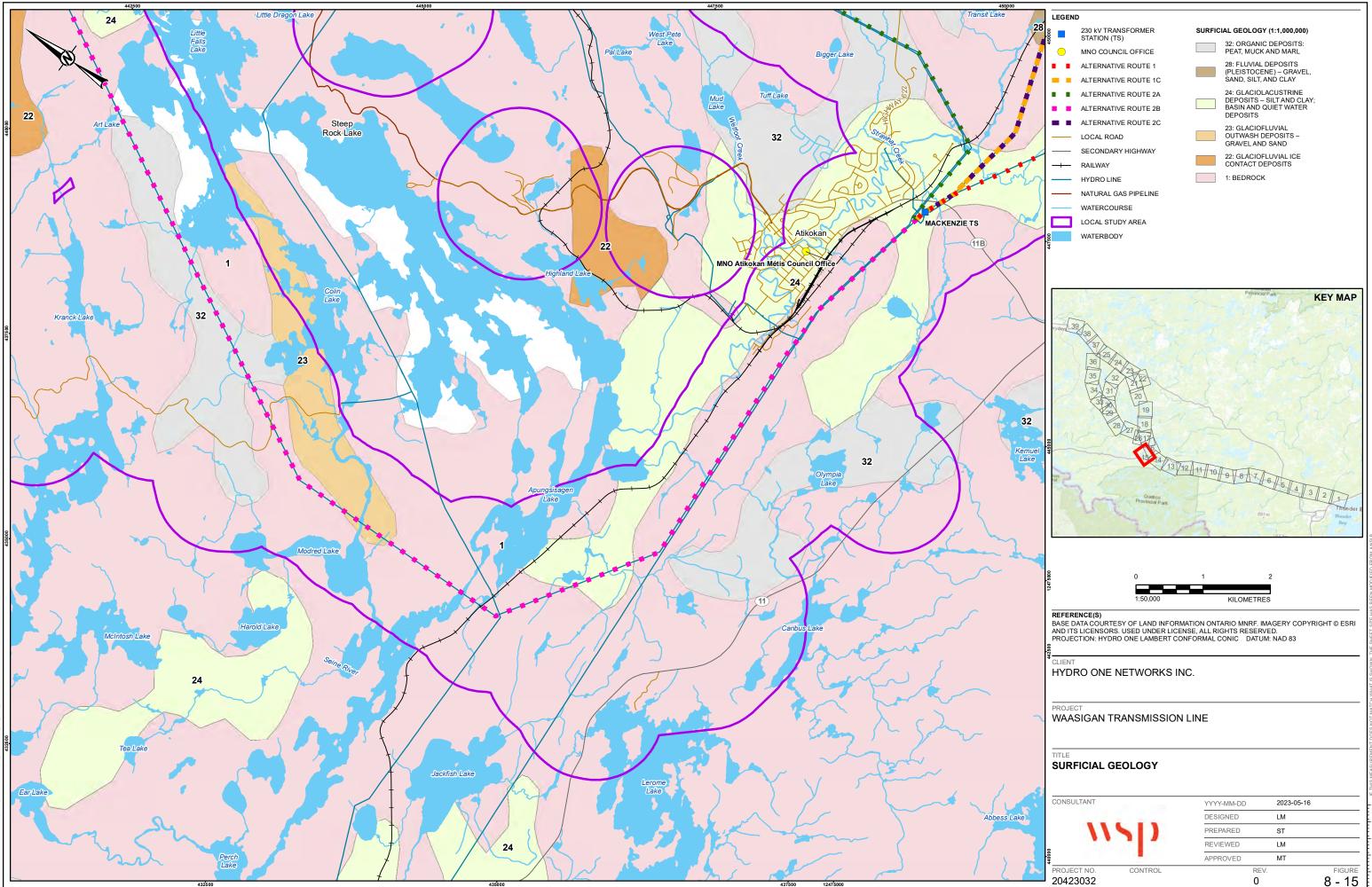


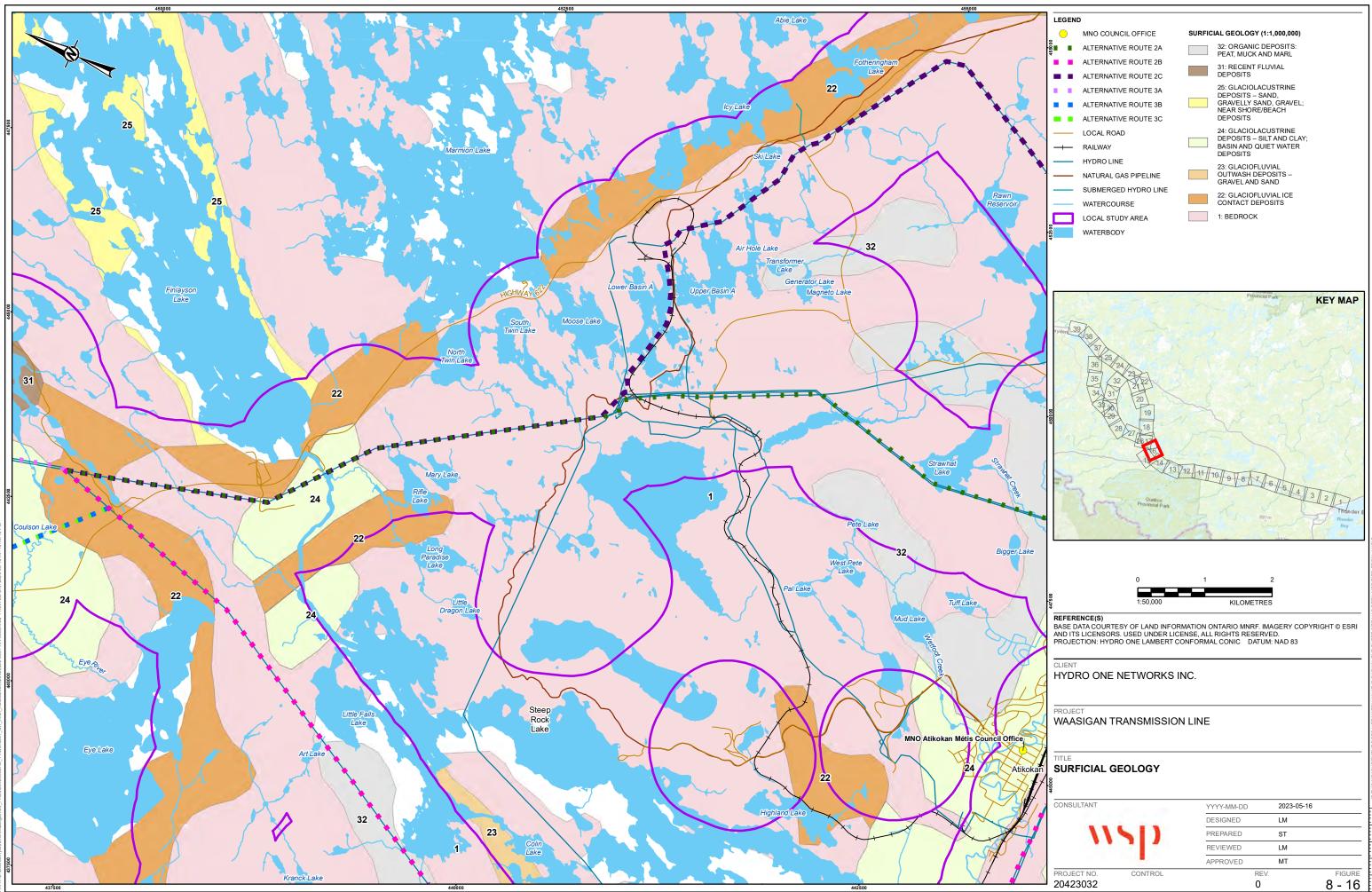


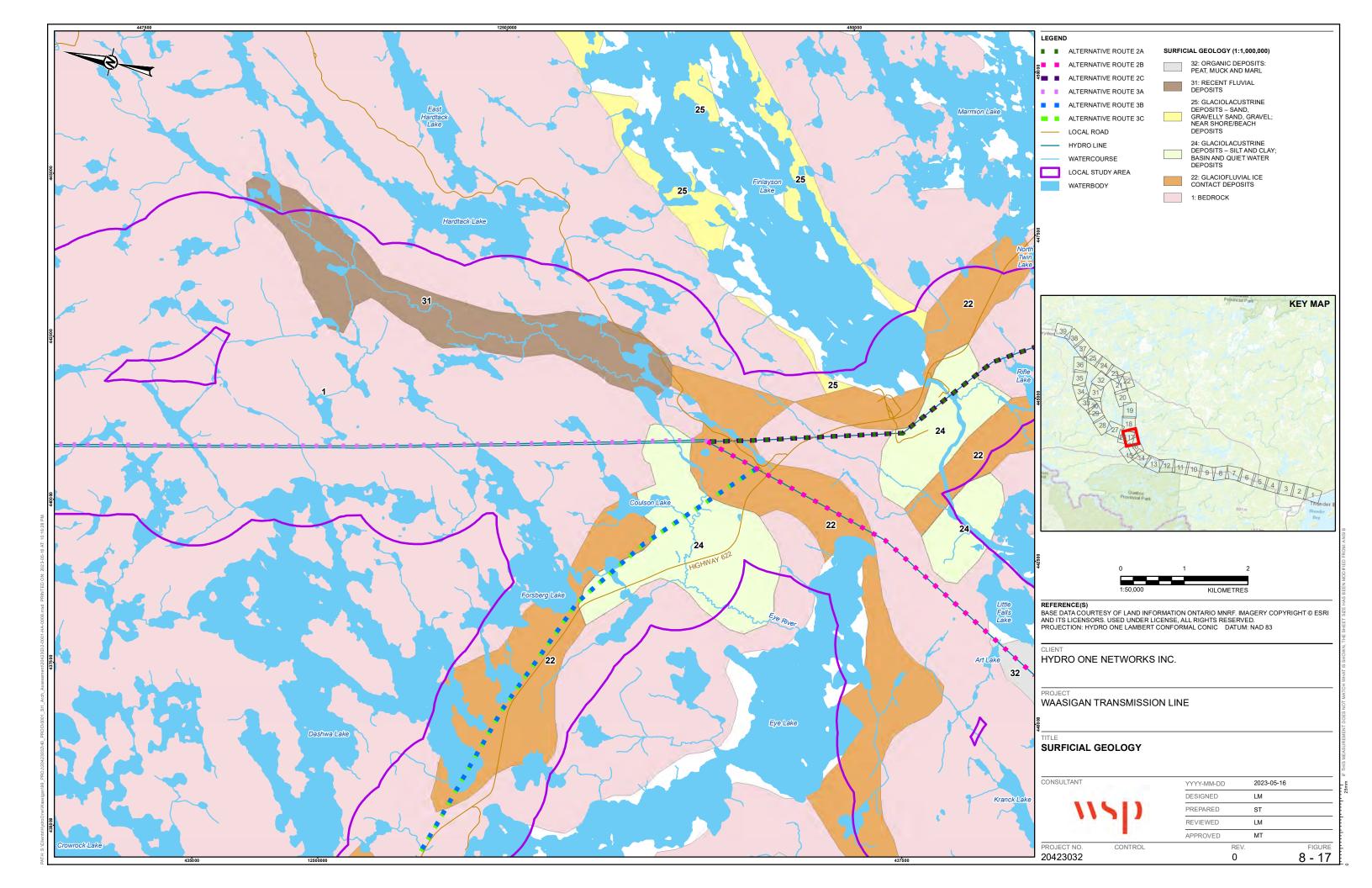


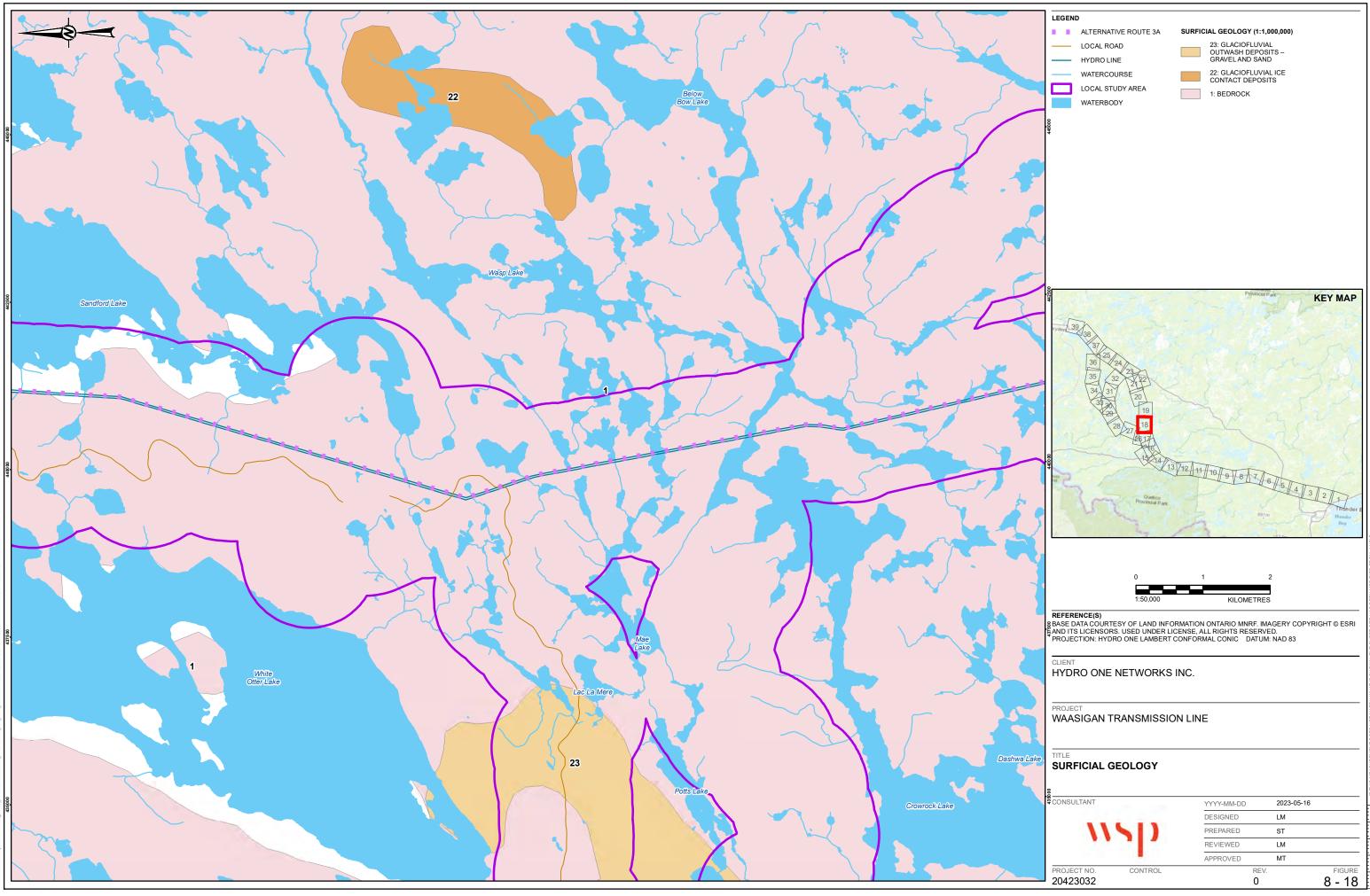
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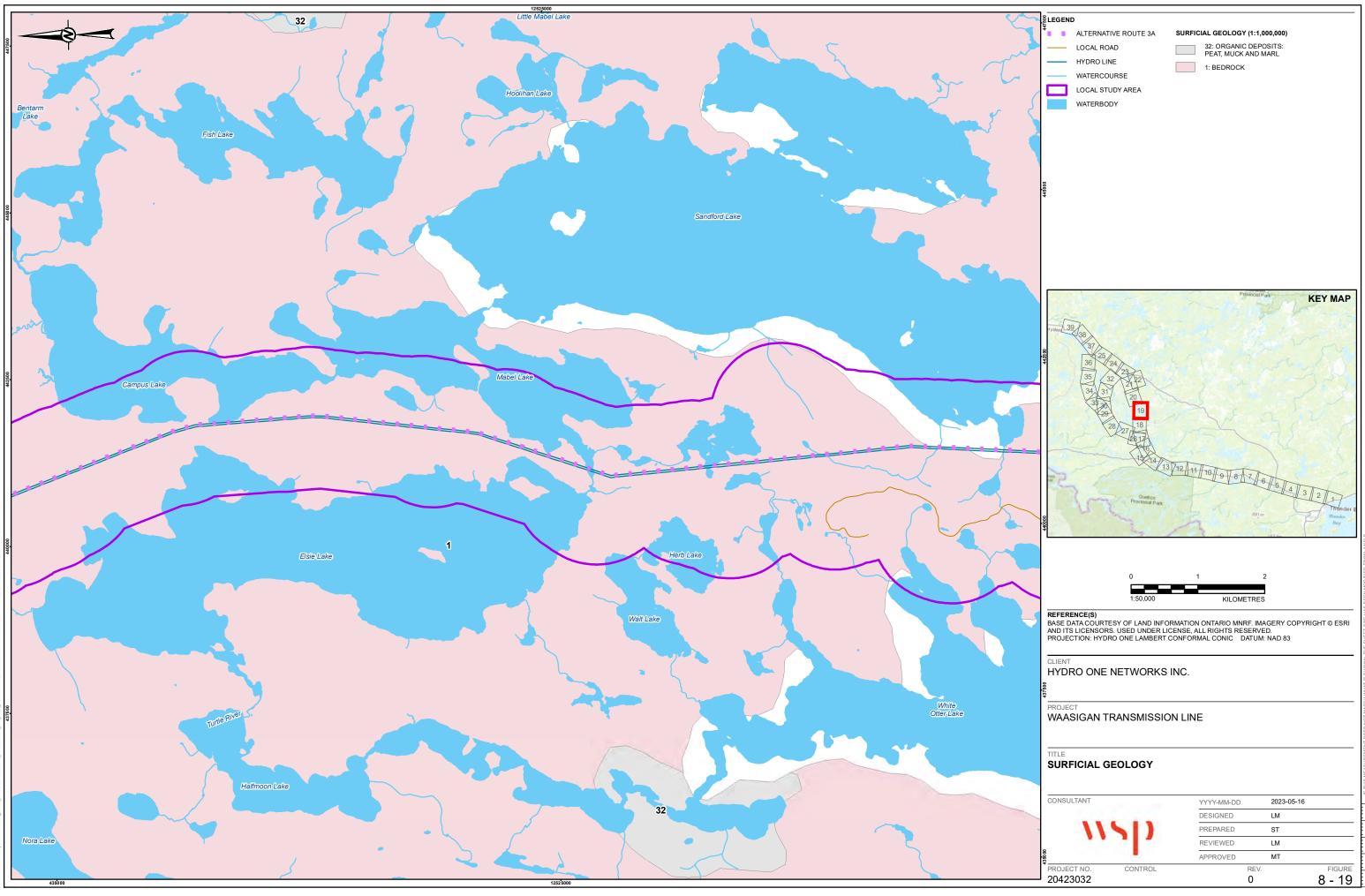


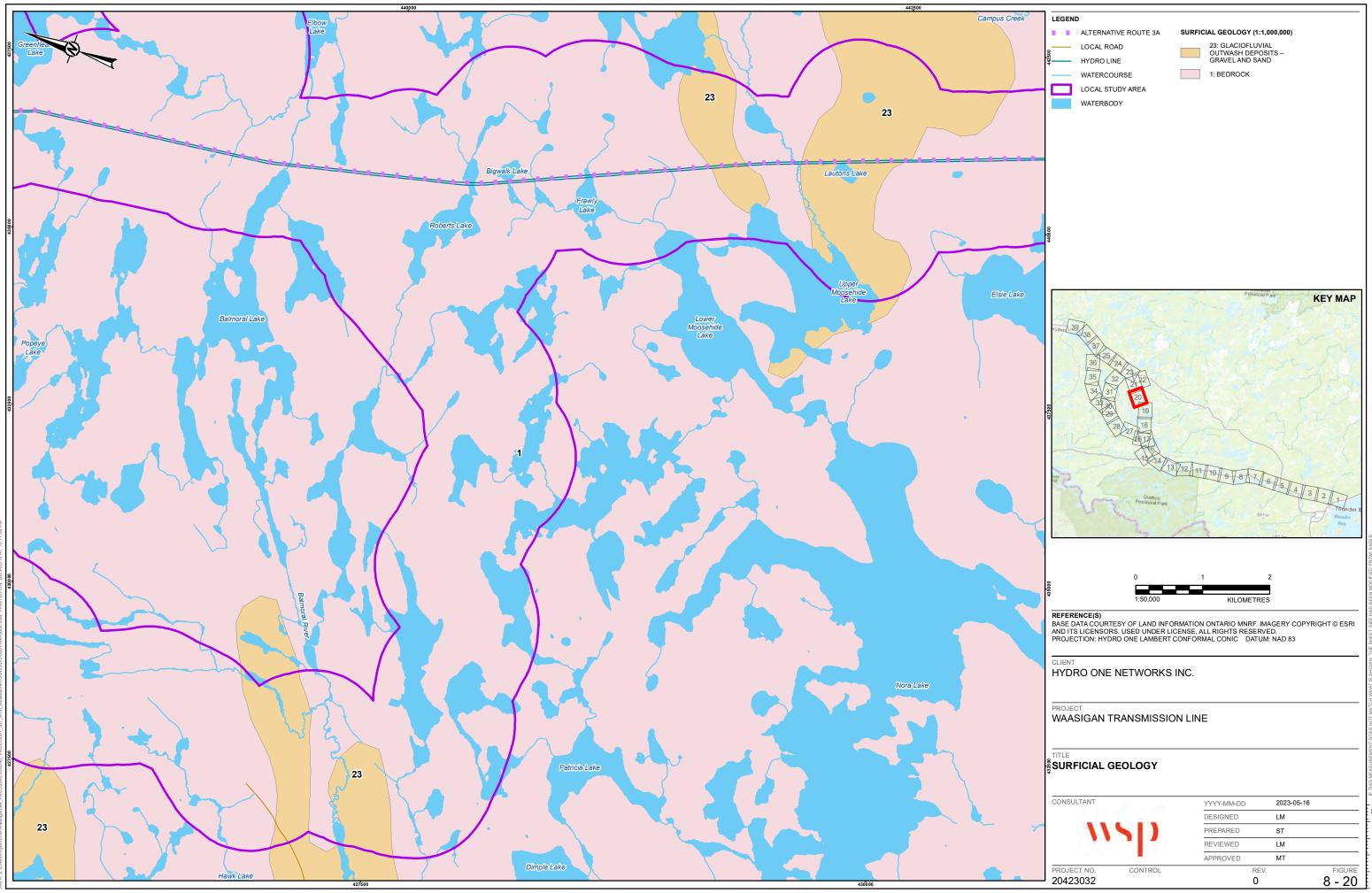


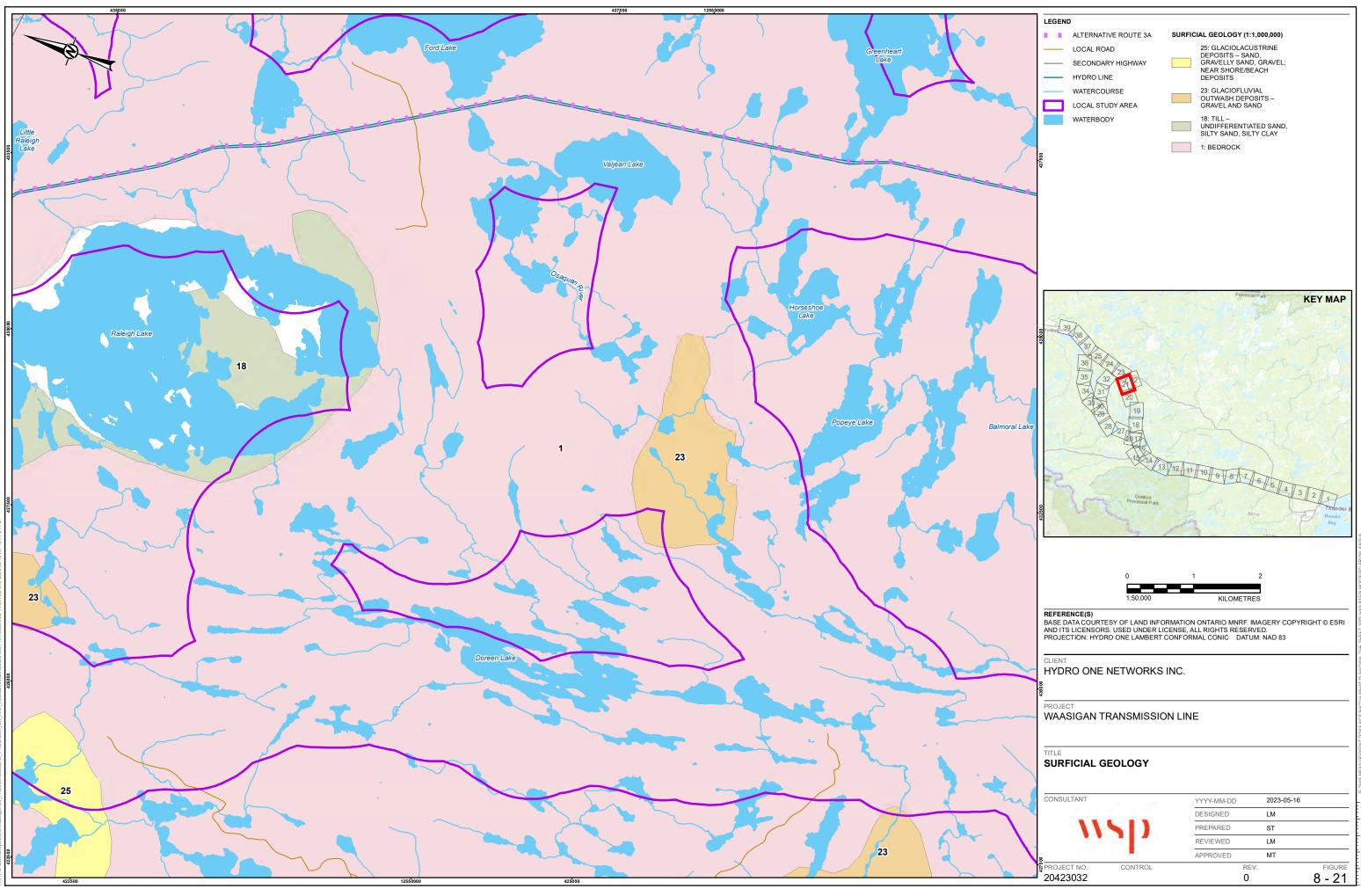




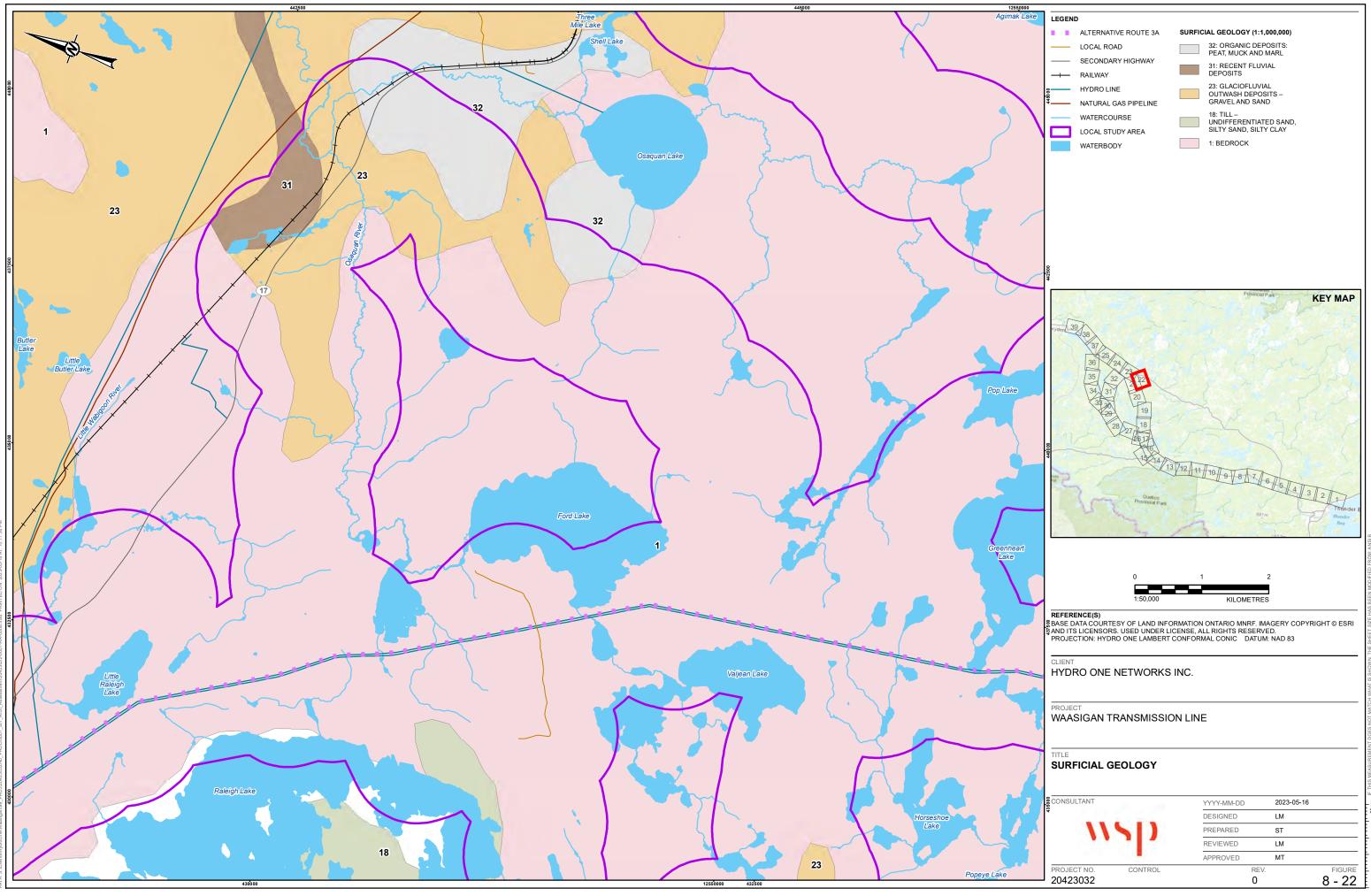
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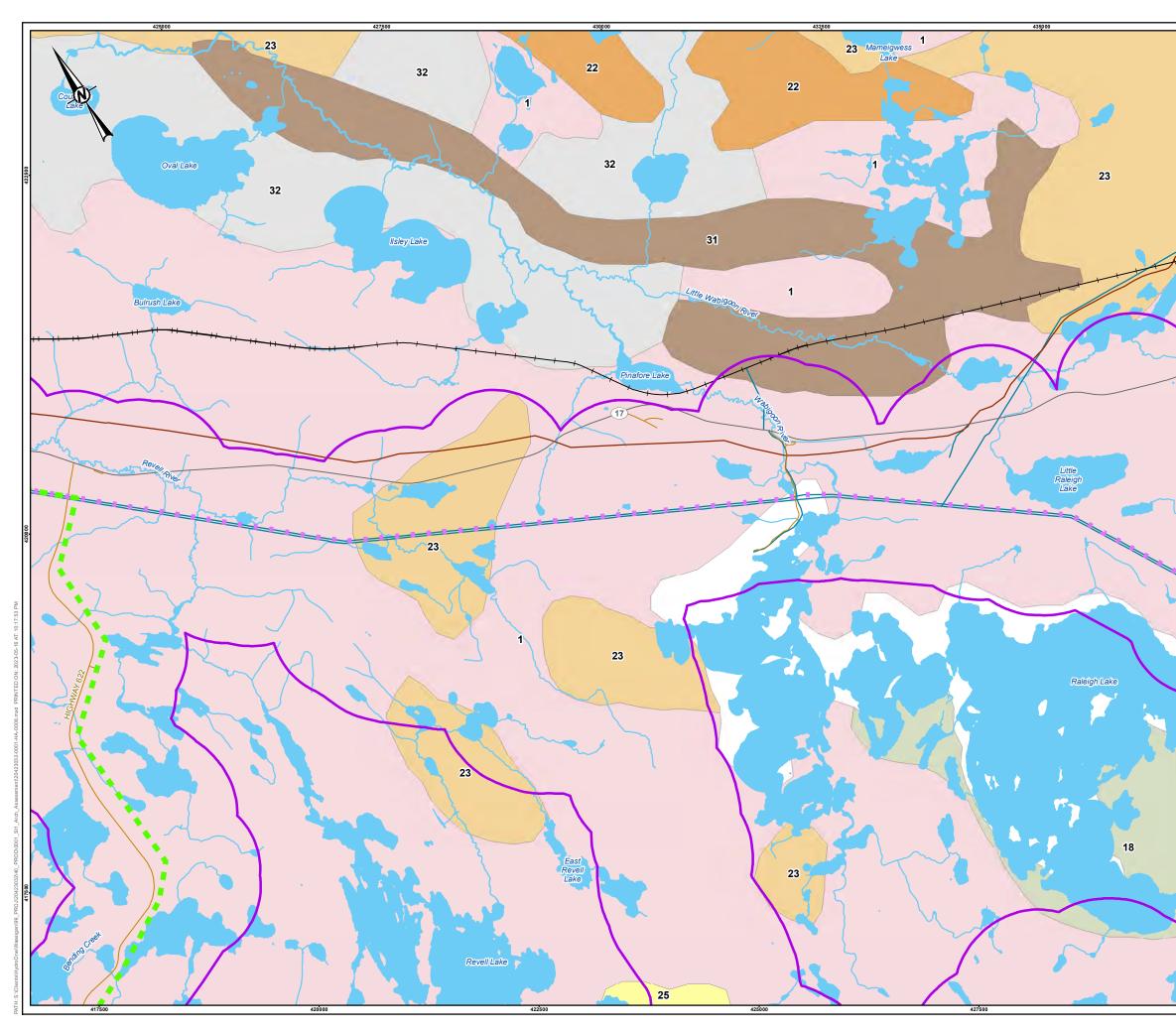


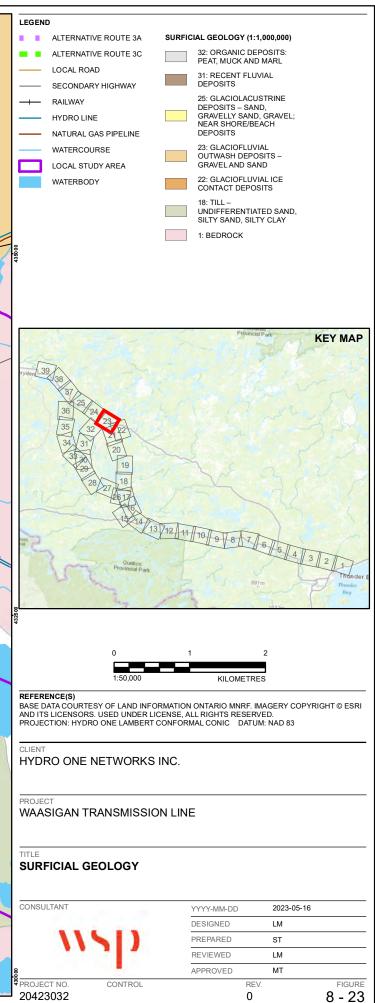


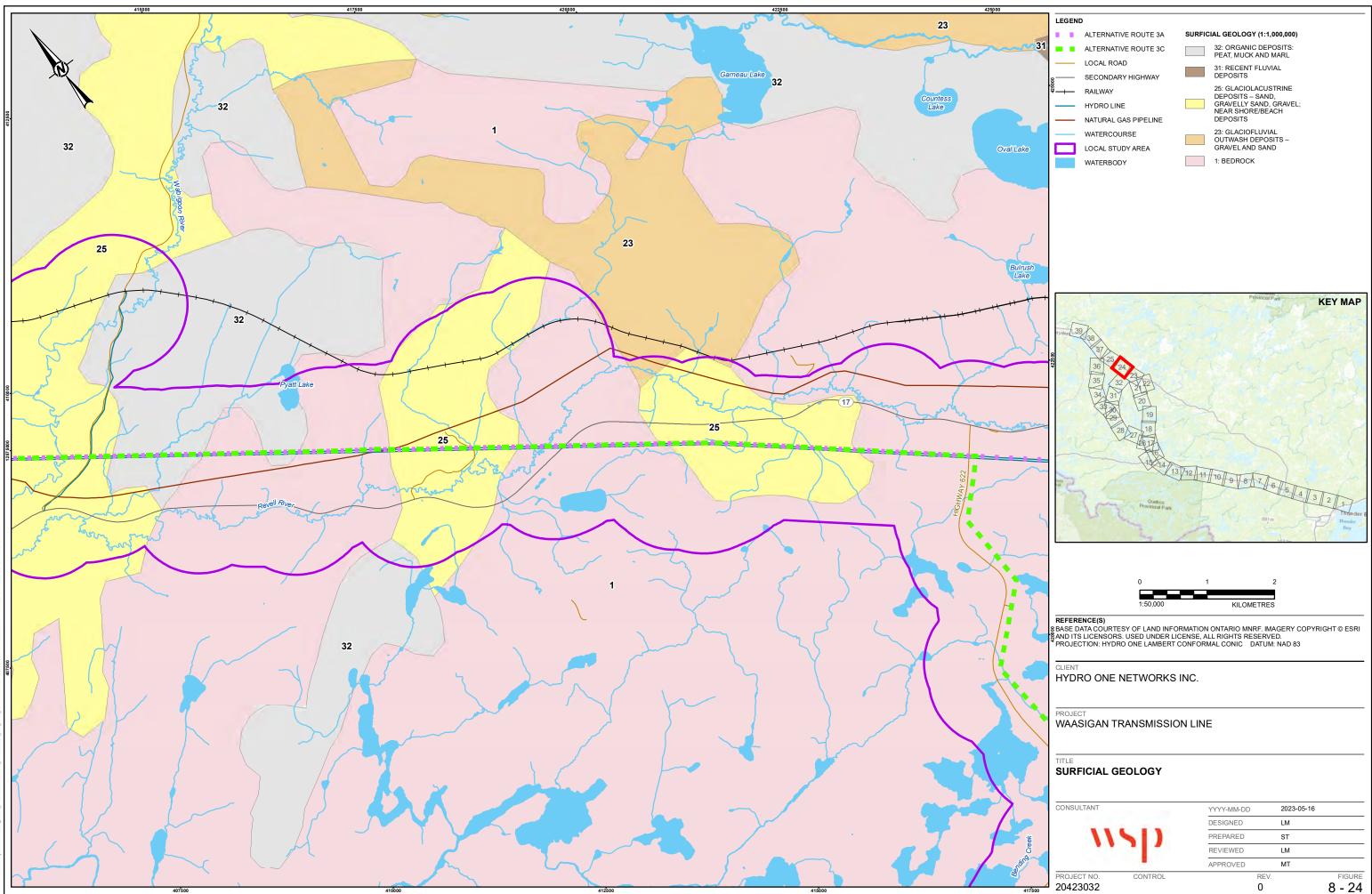


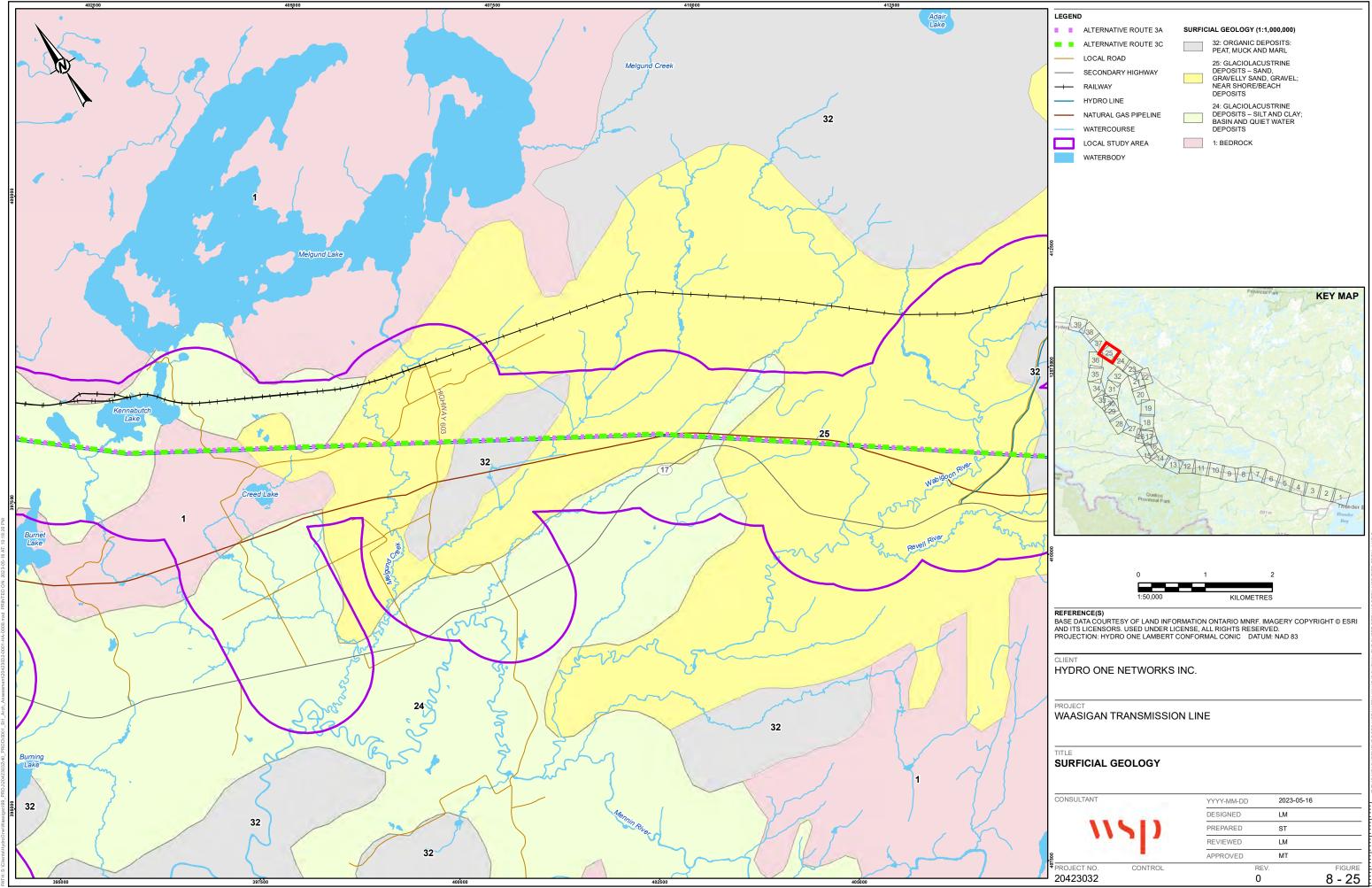
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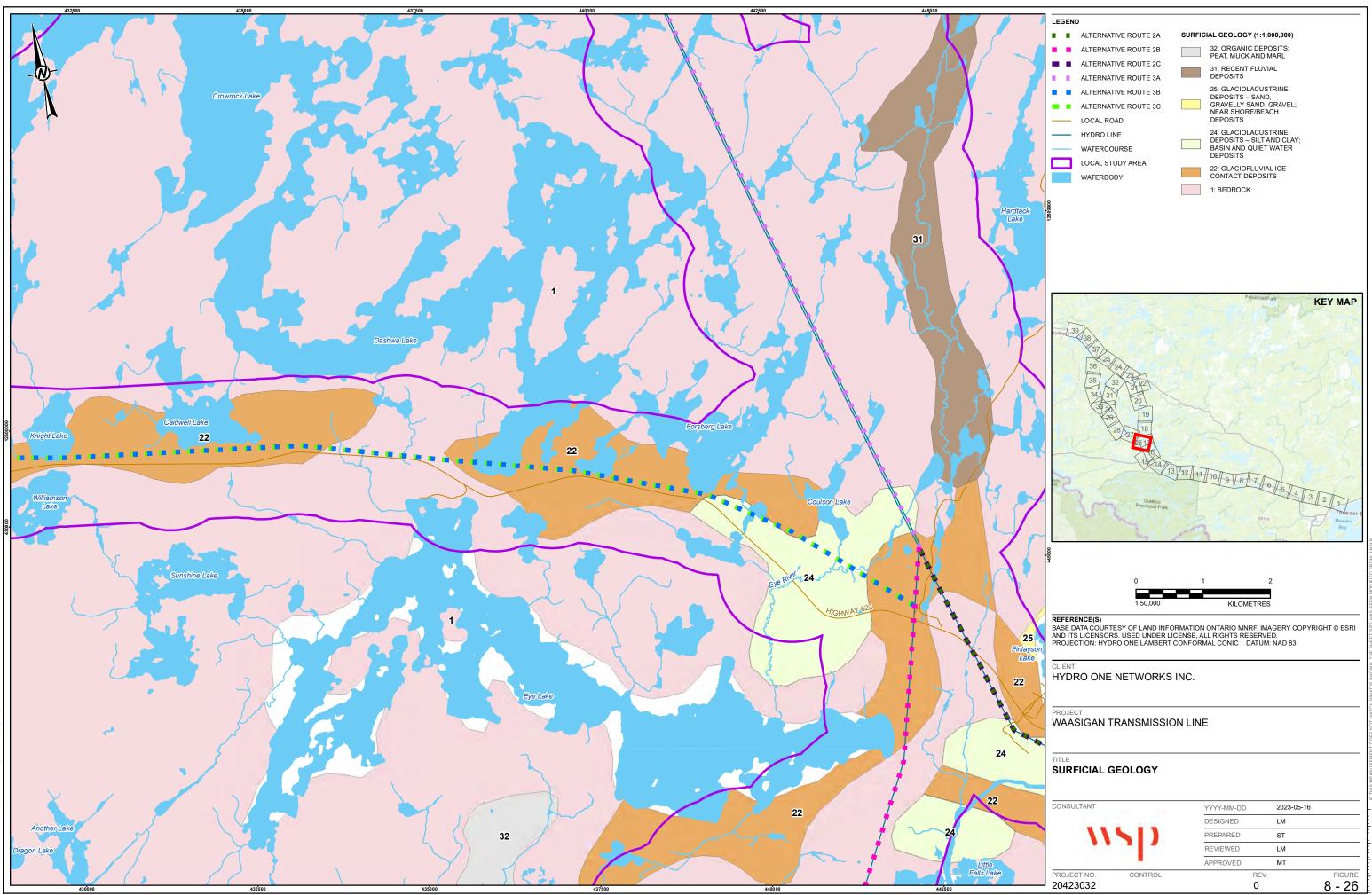


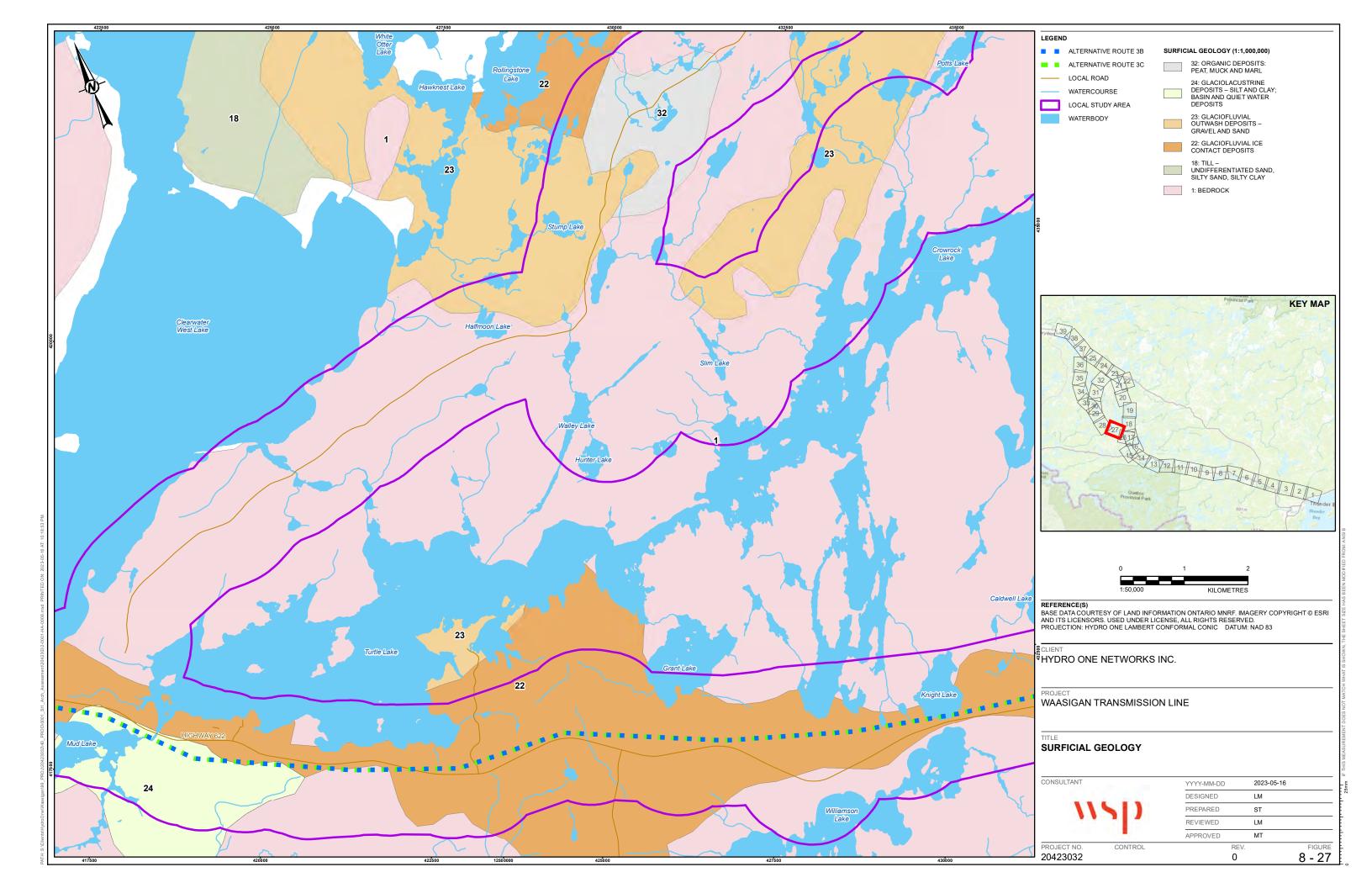


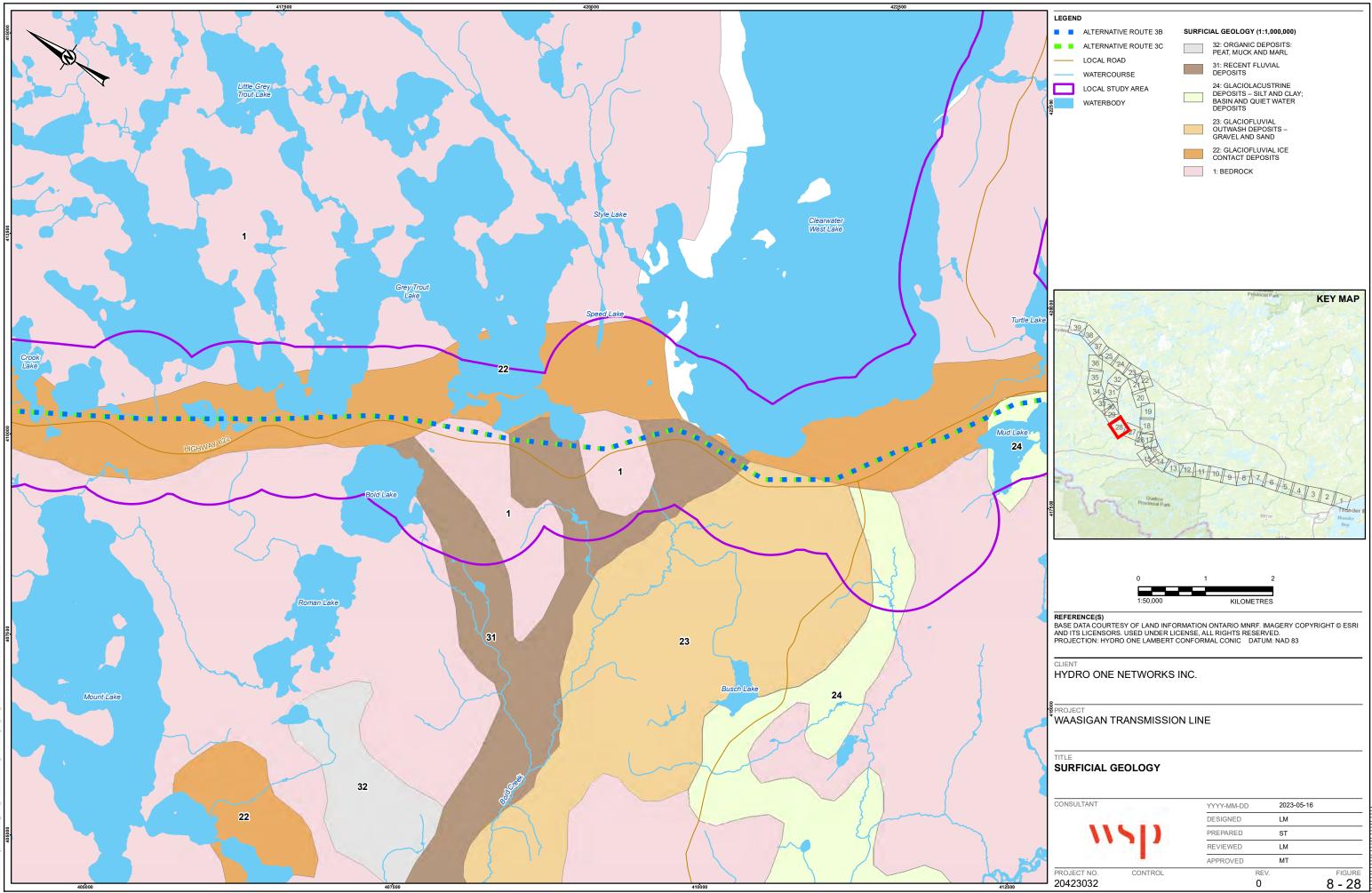


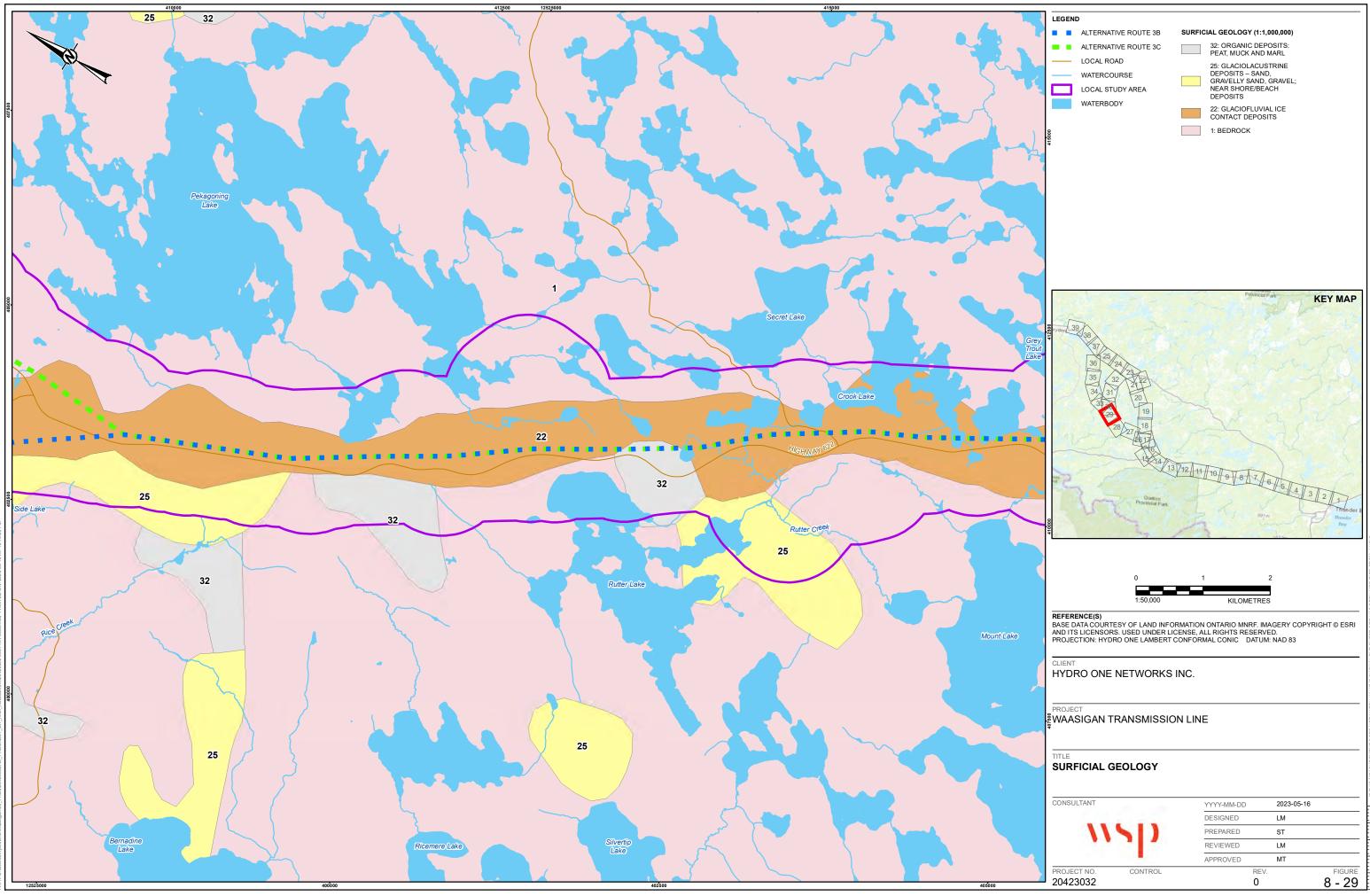




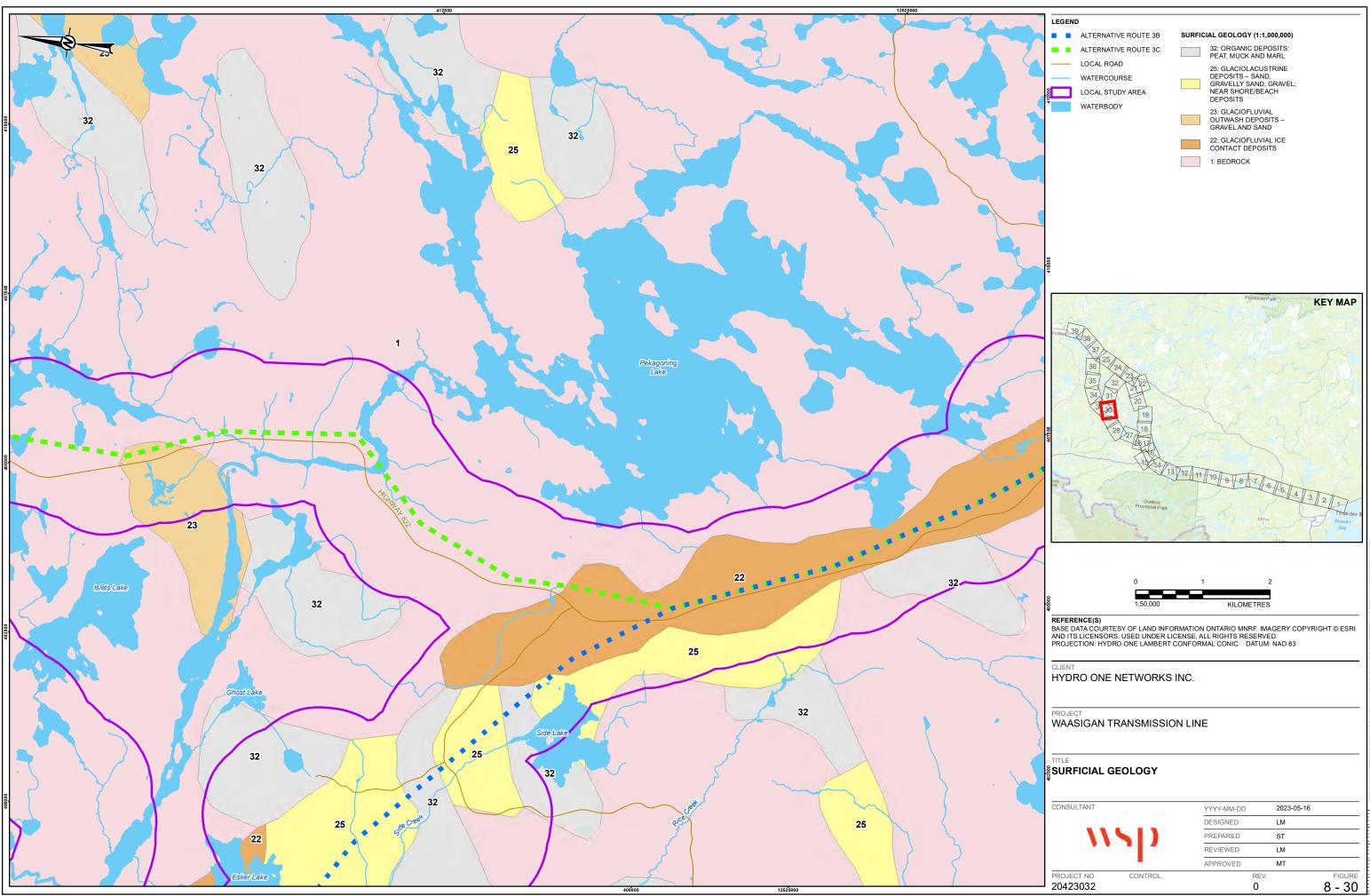


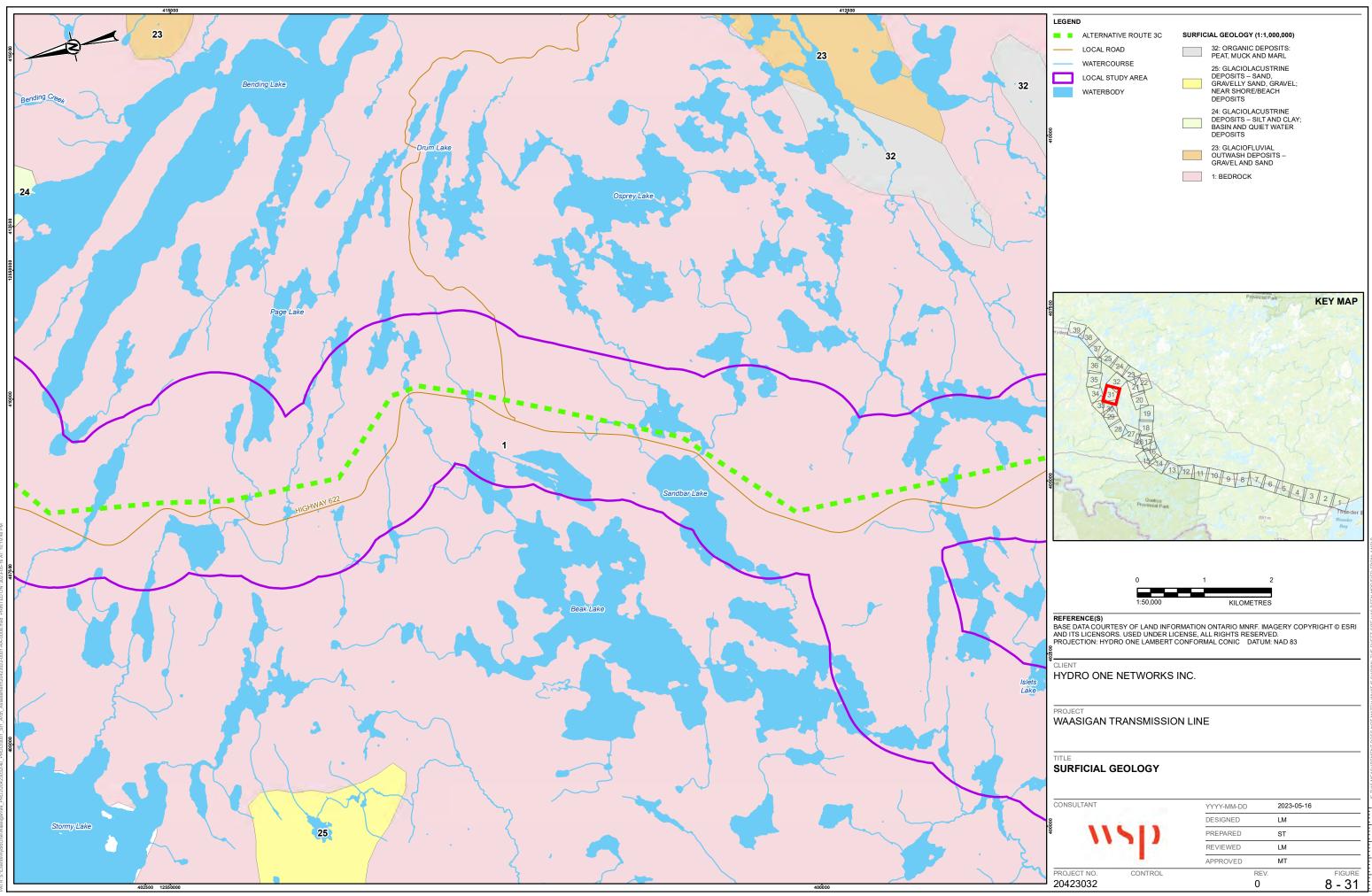




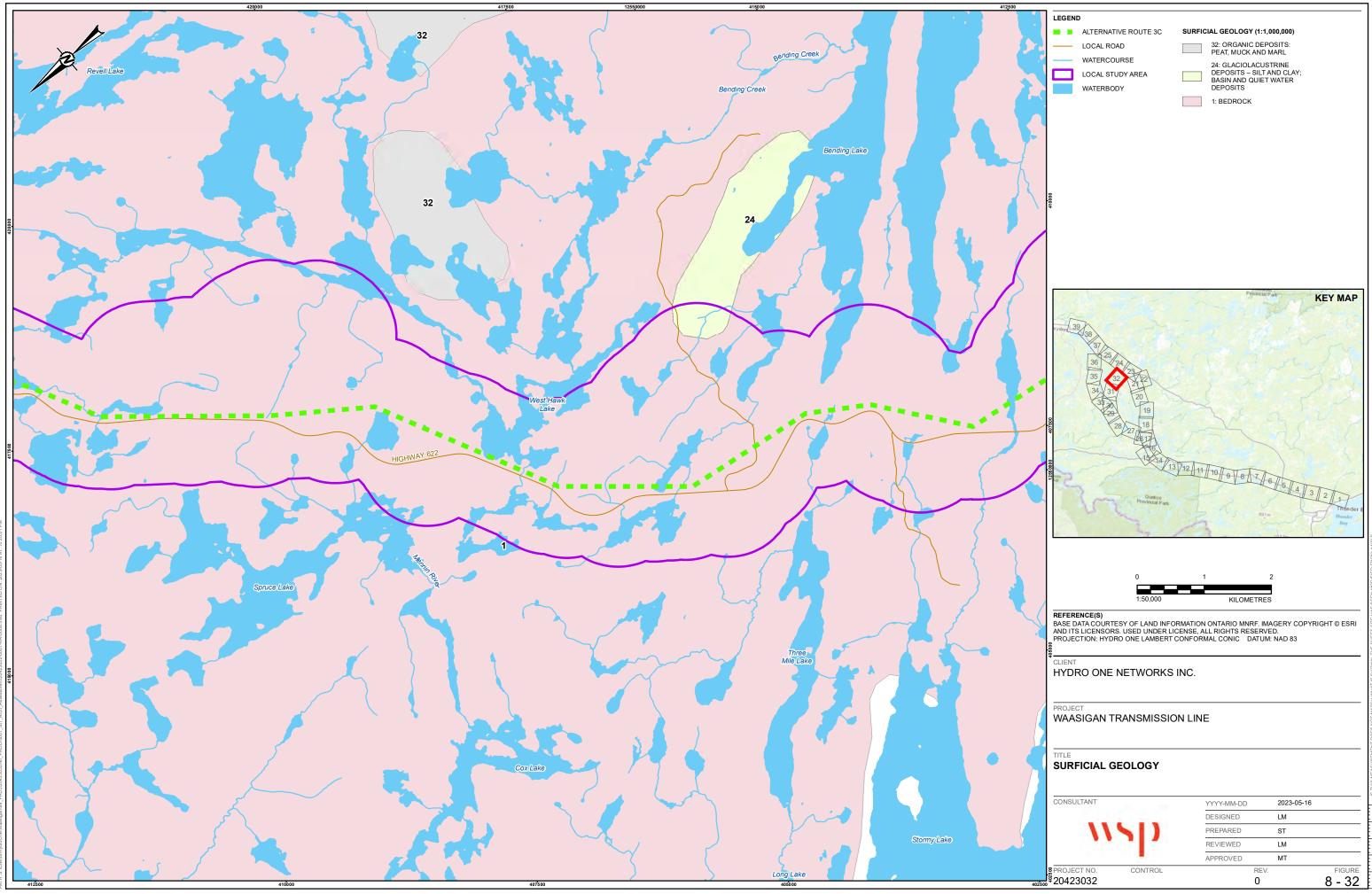


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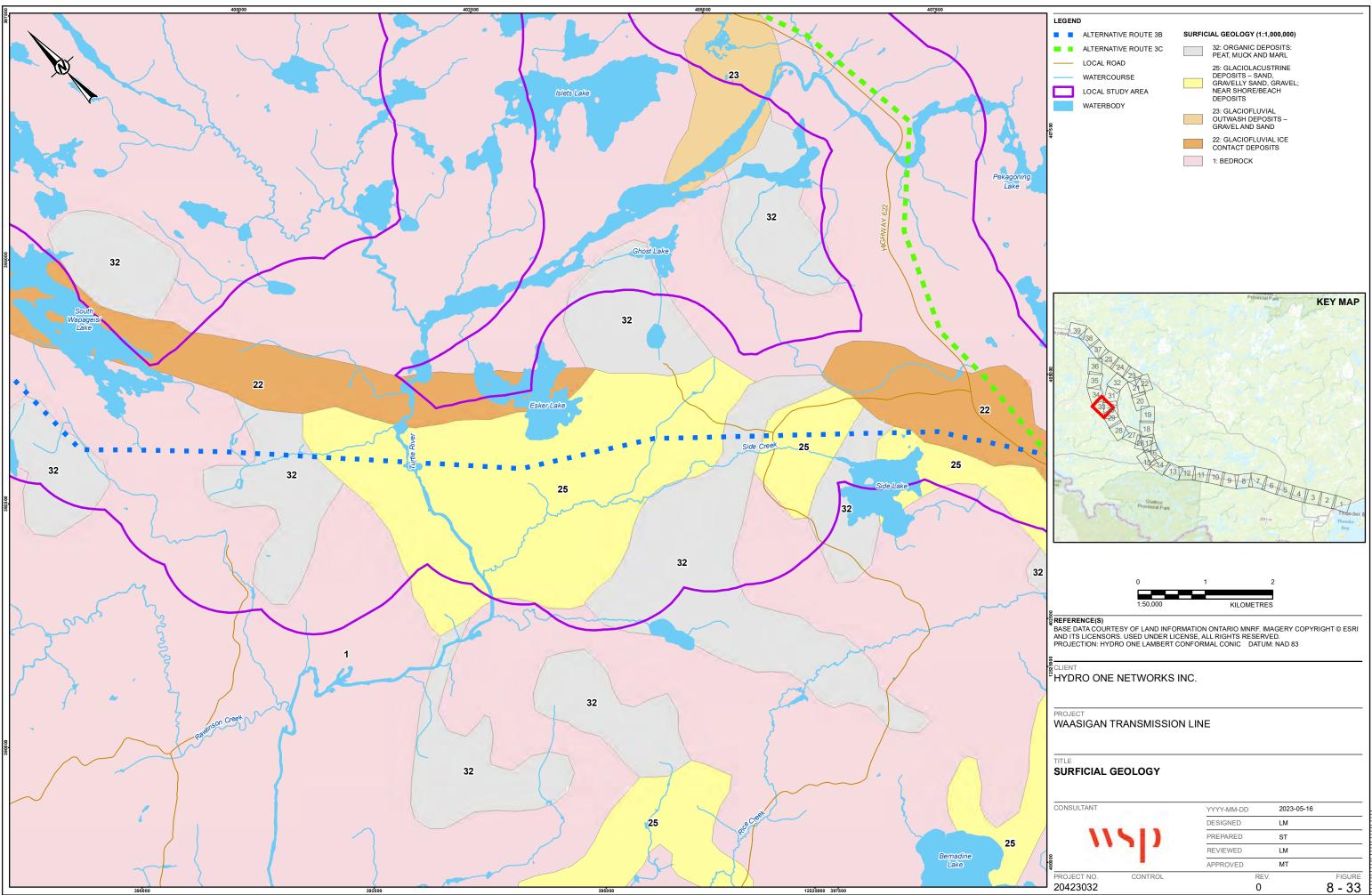


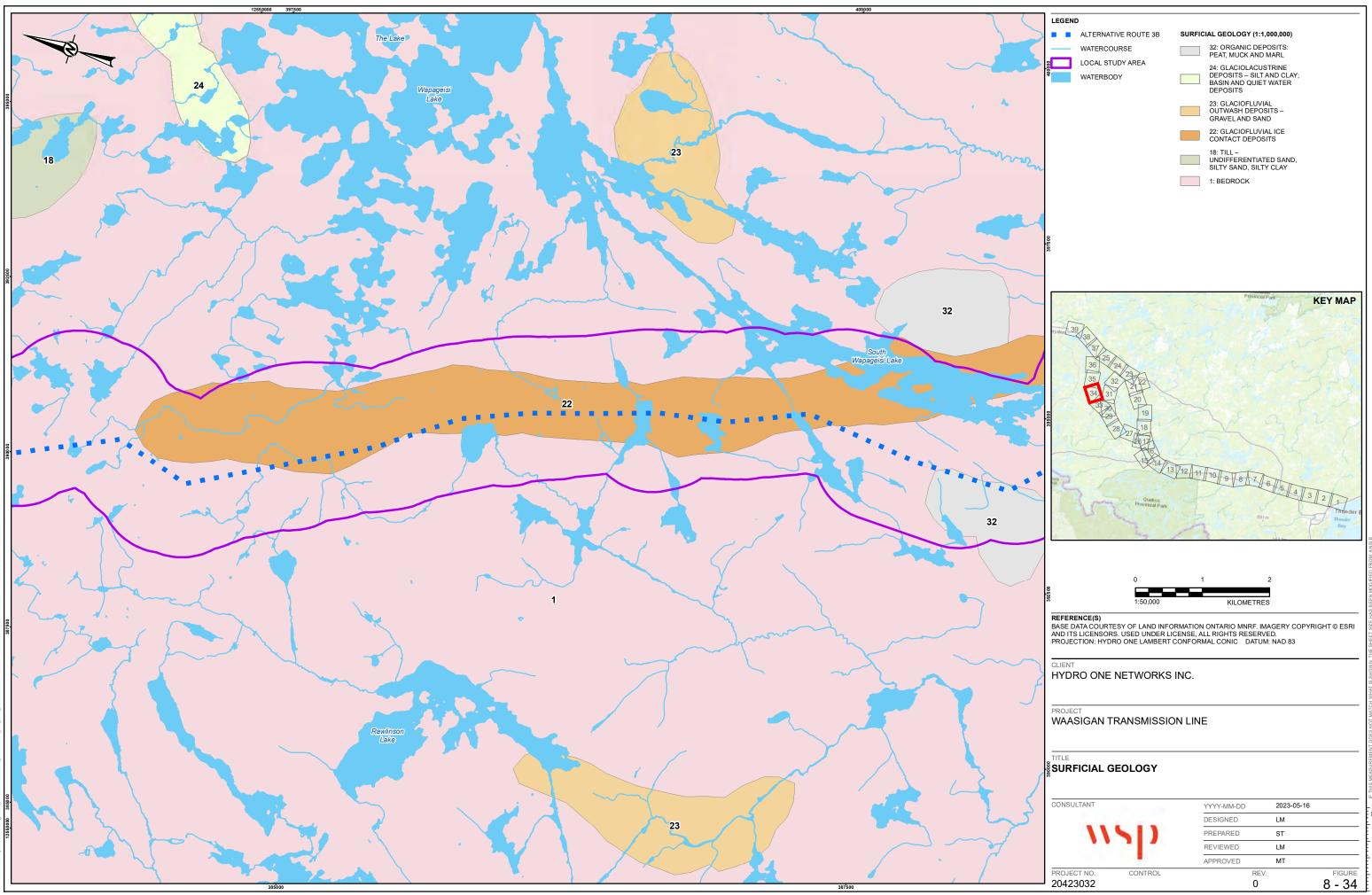


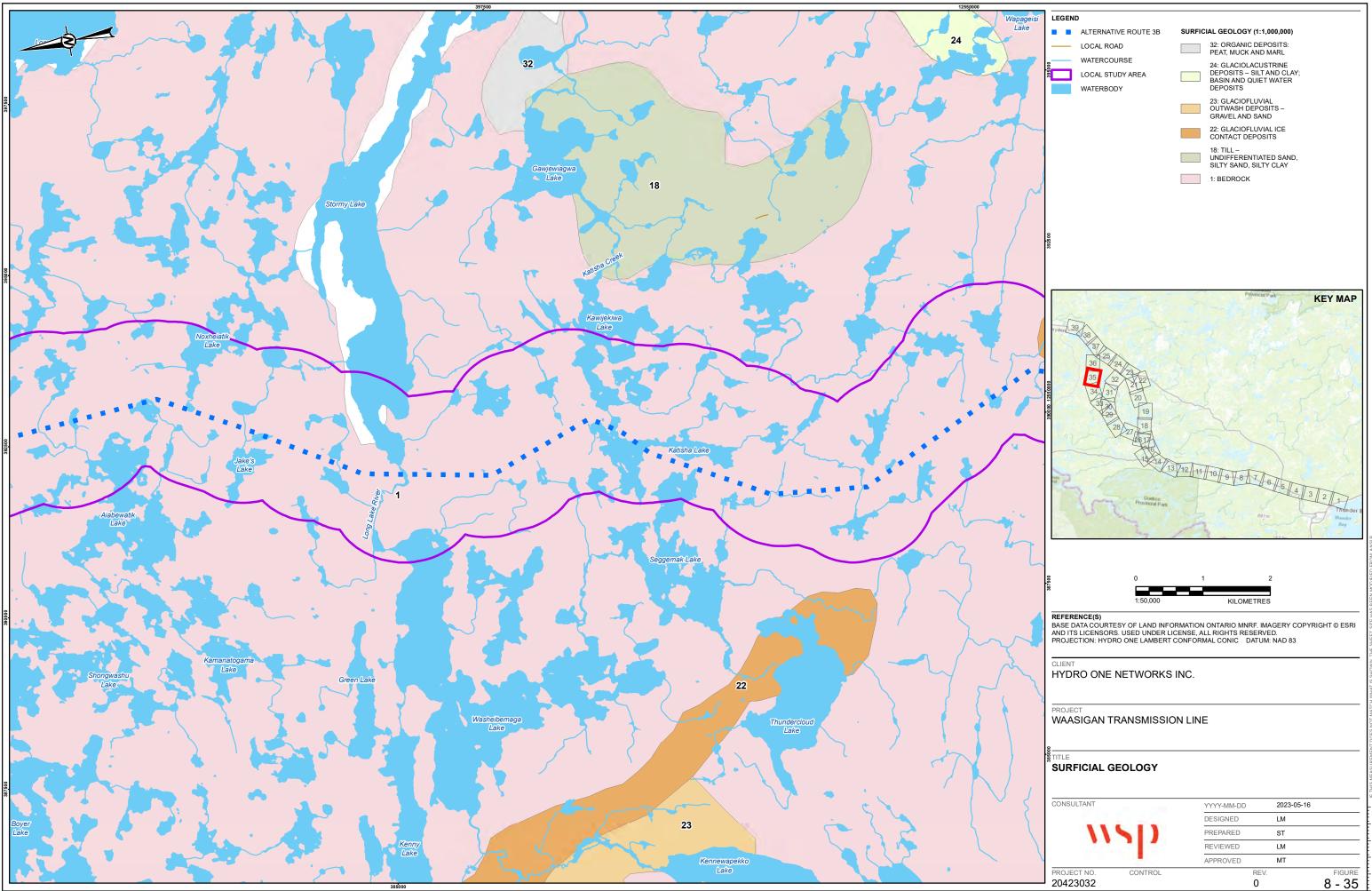
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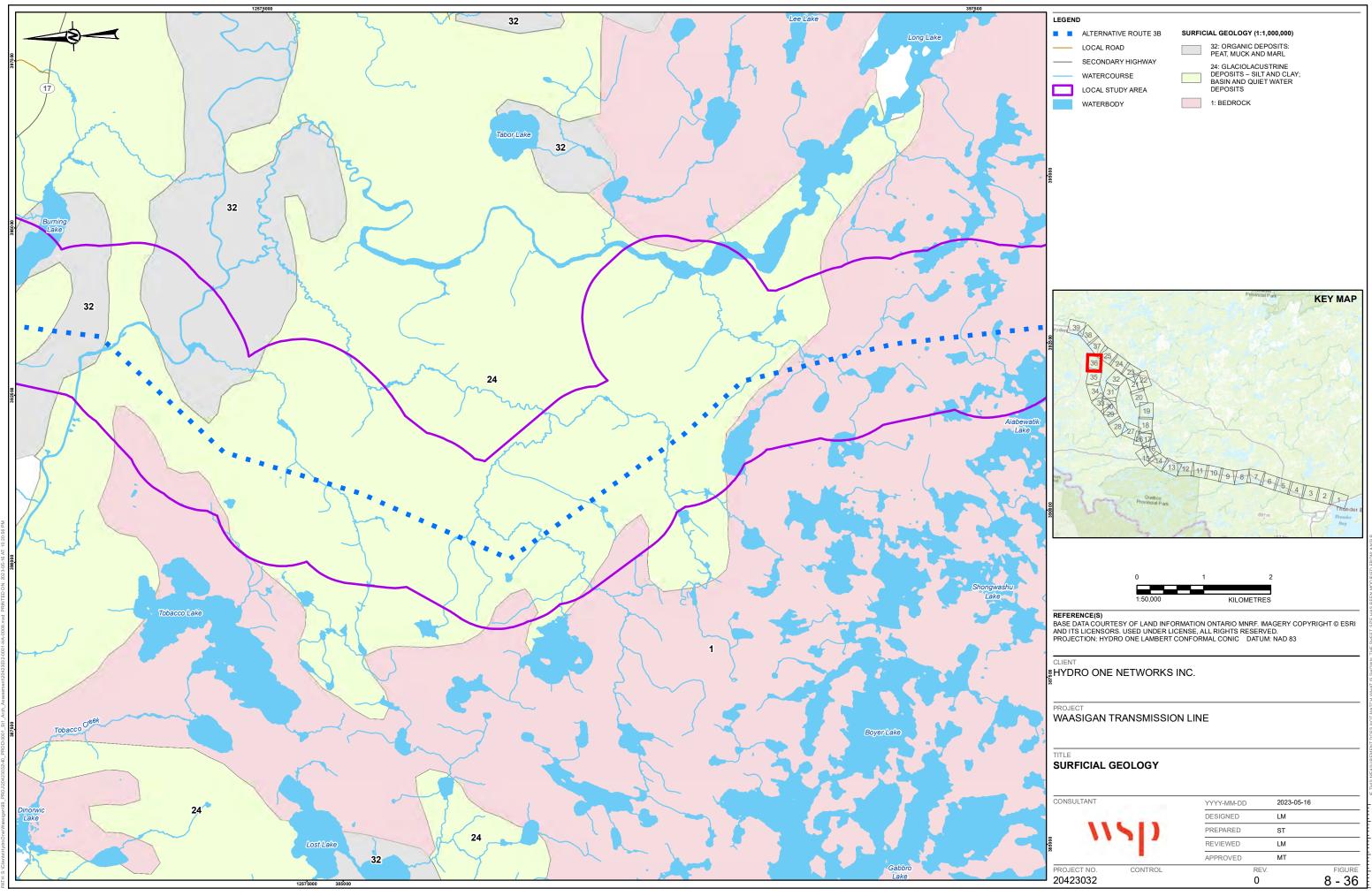


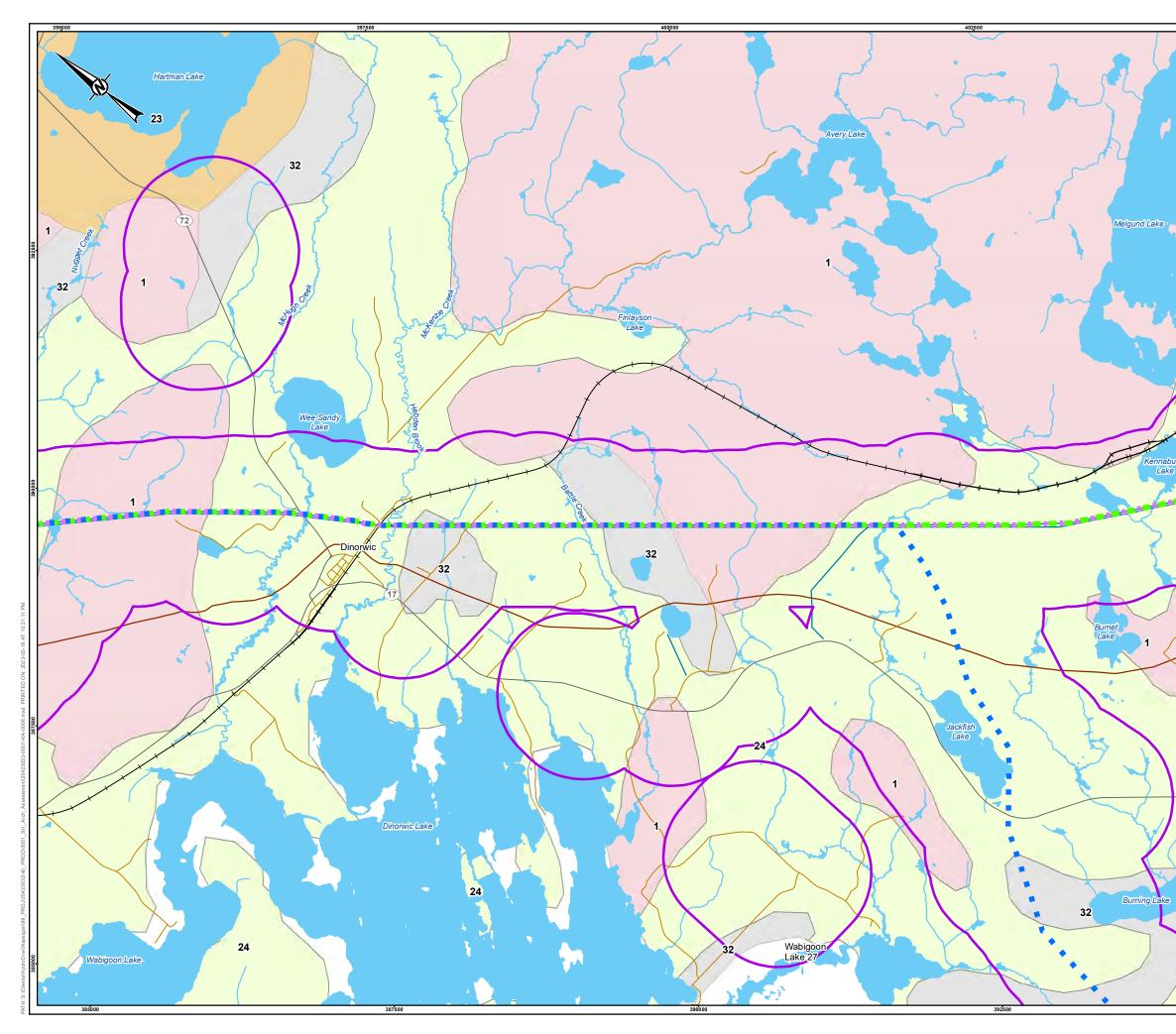
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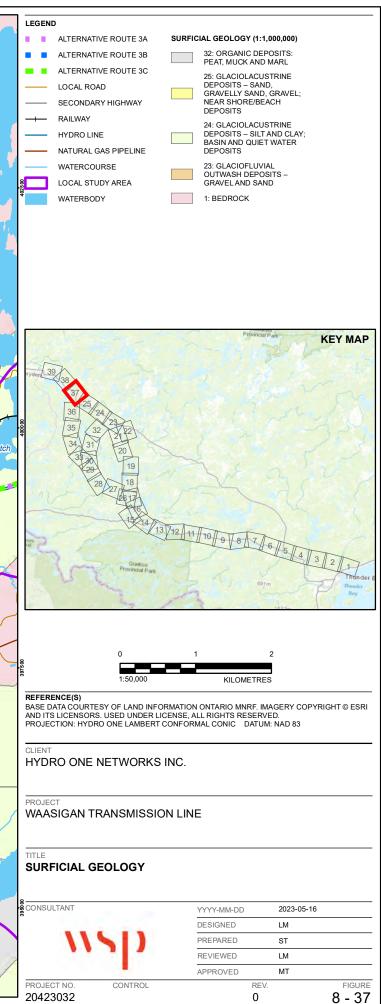






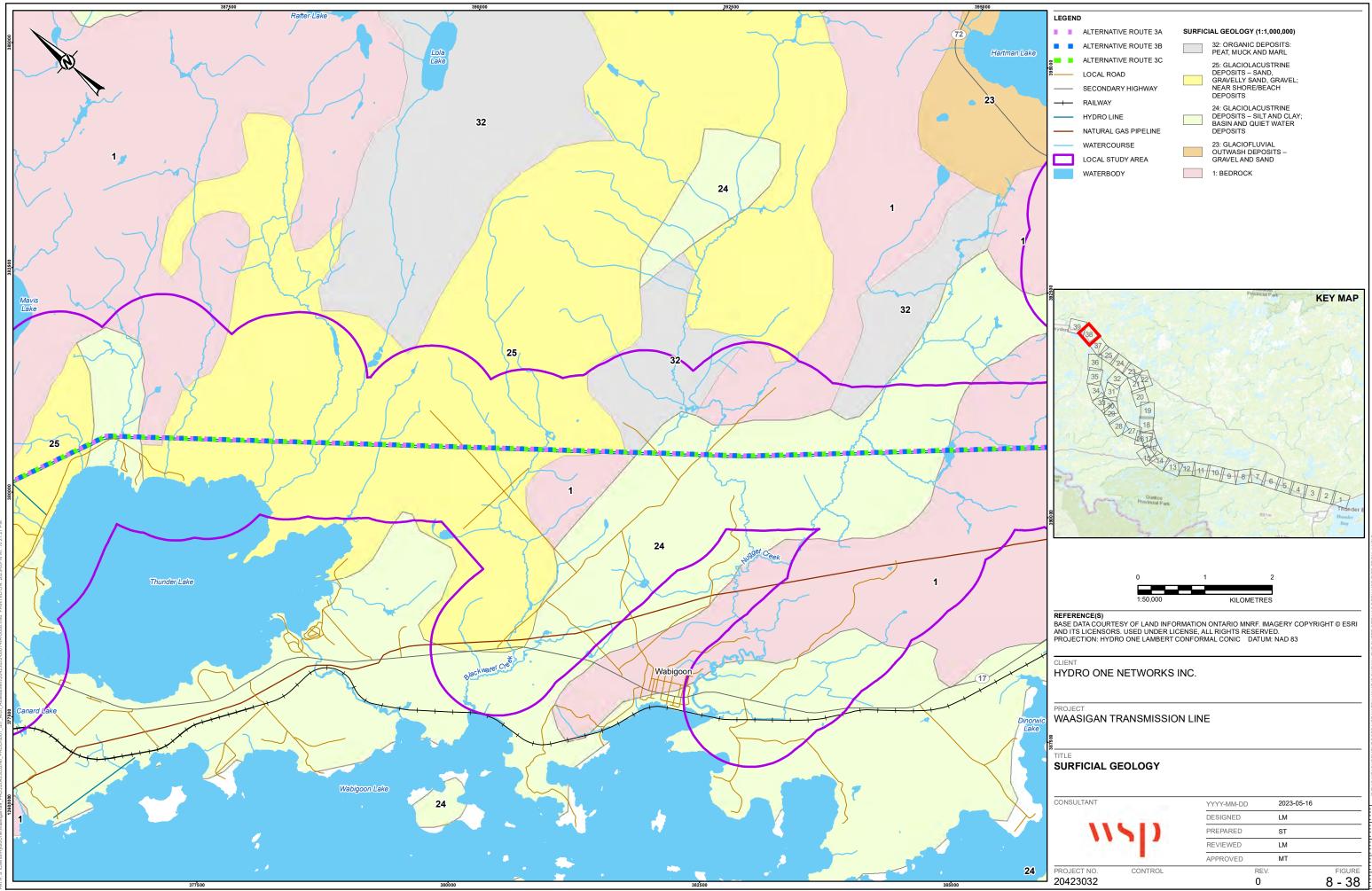




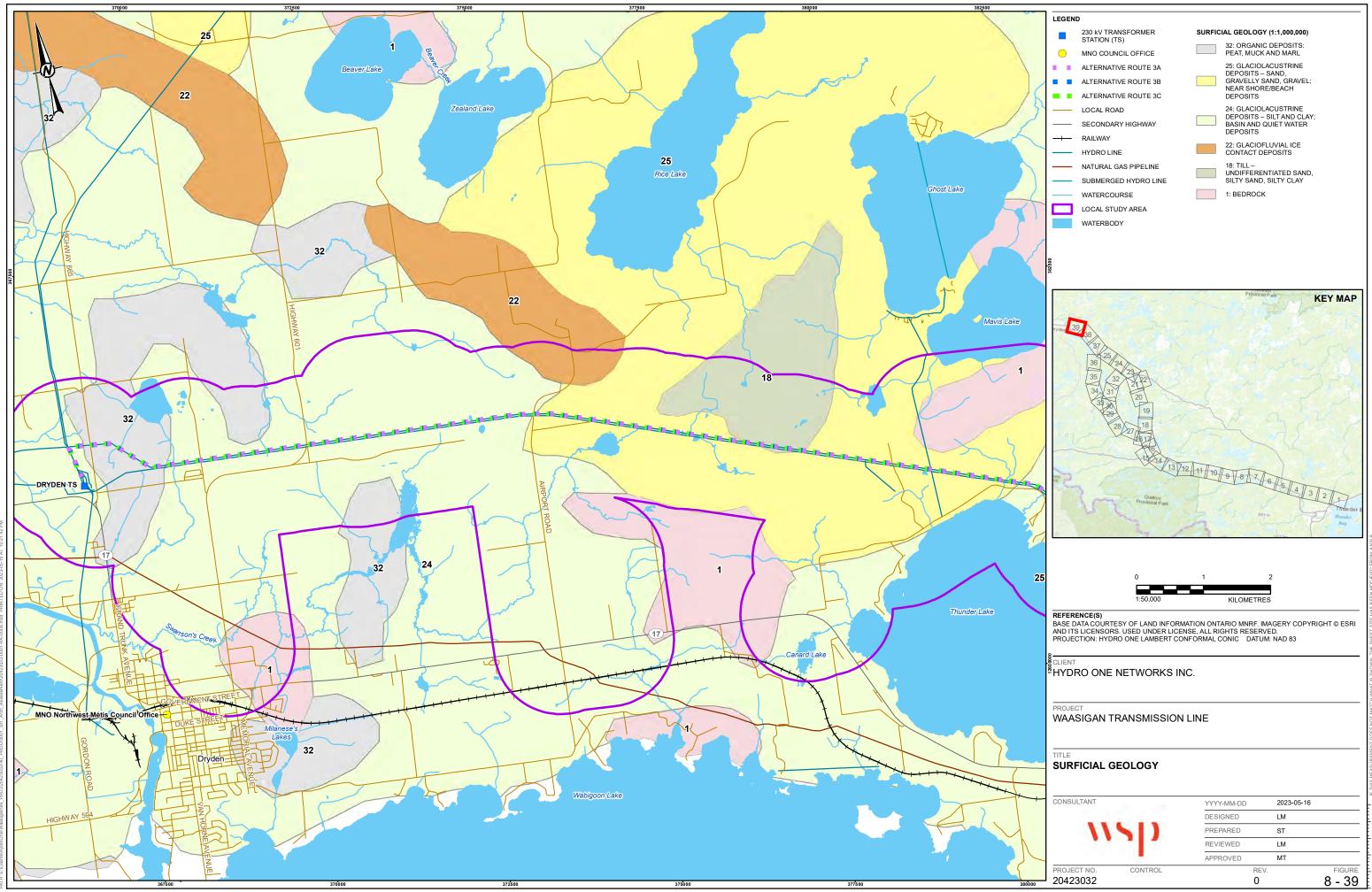


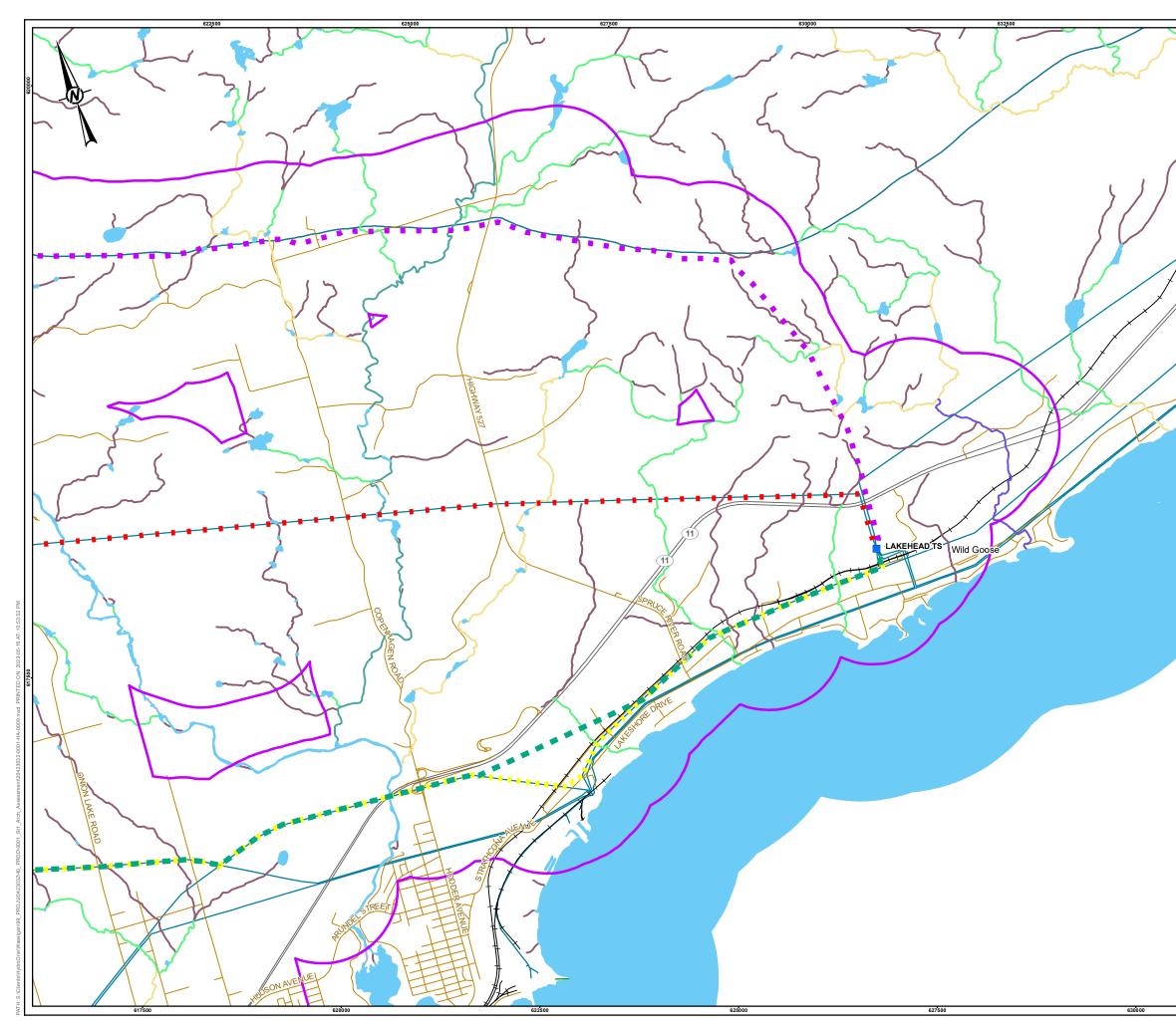
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>	LEGEN	D	
		230 kV TRANSFORMER STATION (TS)	STREAM ORDER
	• •	ALTERNATIVE ROUTE 1	2
	• •	ALTERNATIVE ROUTE 1A	3
	•	ALTERNATIVE ROUTE 1B - 1	4
		ALTERNATIVE ROUTE 1B - 2	5
		LOCAL ROAD	6
,		SECONDARY HIGHWAY	7
		RAILWAY	
		HYDRO LINE	
		NATURAL GAS PIPELINE	
		WATER PIPELINE	
		LOCAL STUDY AREA	
		WATERBODY	
1			
/			
	1 - 2	Witten Lan	Provincial Park KEY MAP



0	1	2
1:50,000		KILOMETRES

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CLIENT

HYDRO ONE NETWORKS INC.

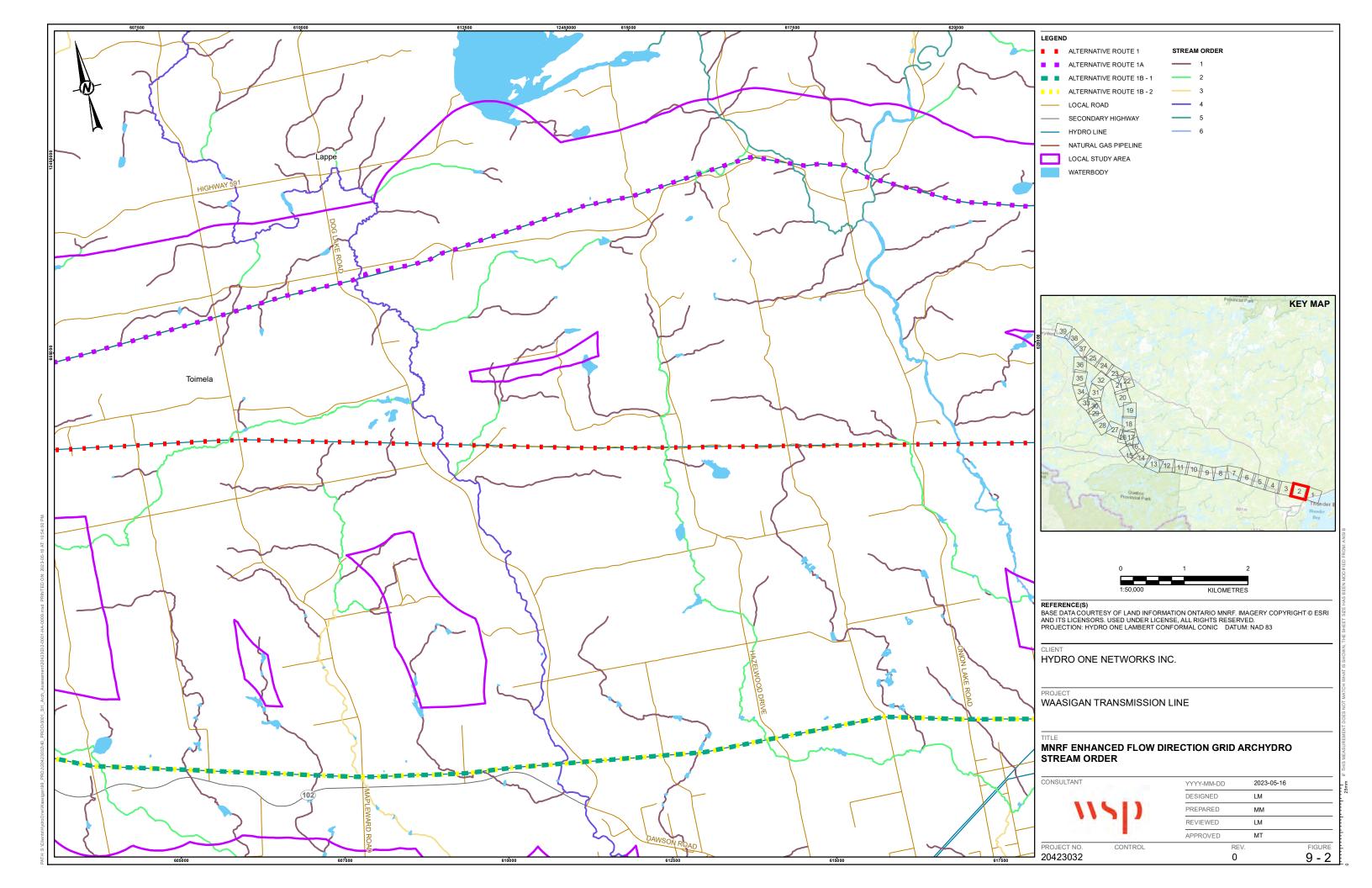
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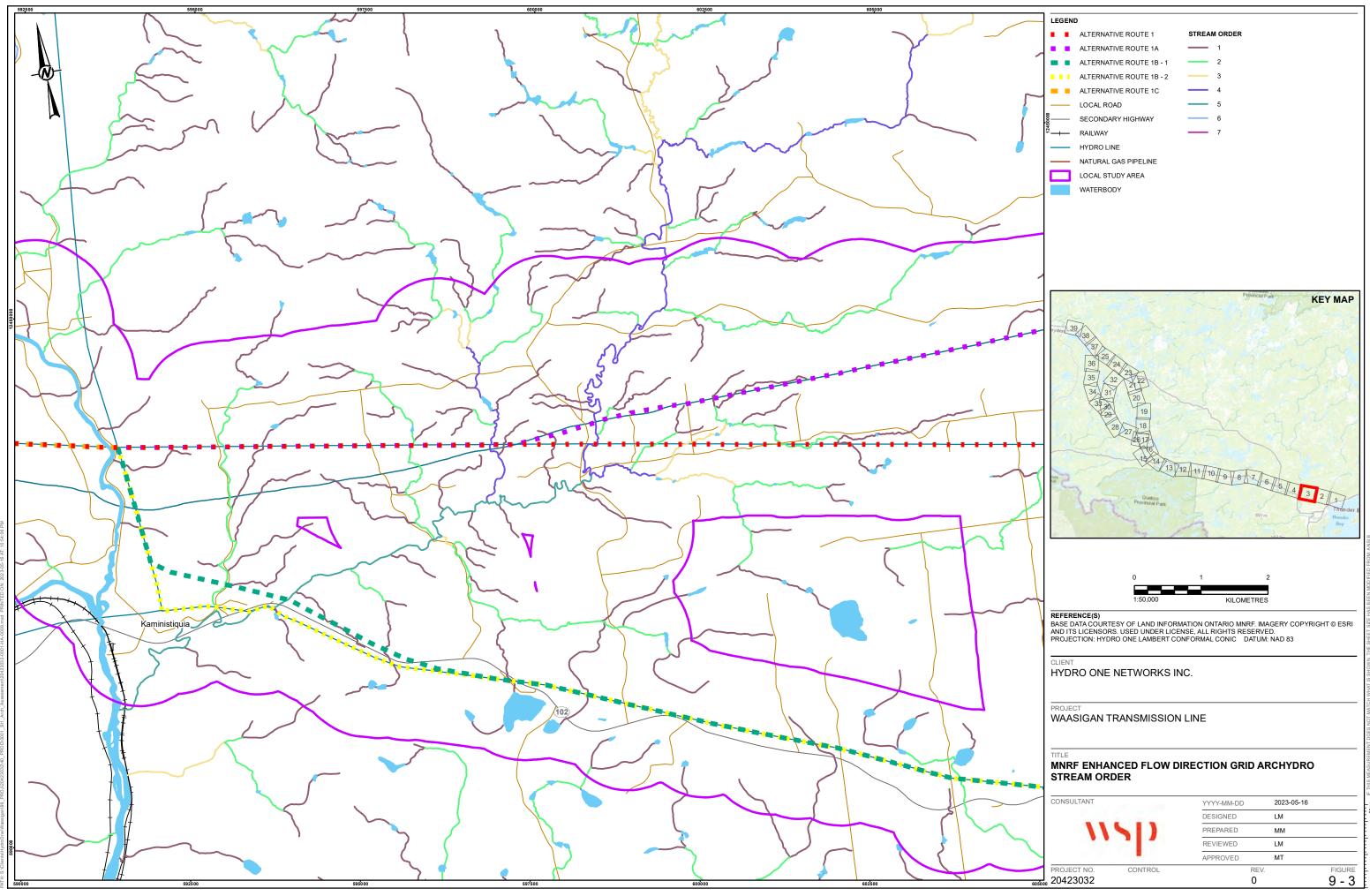
TITLE MNRF ENHANCED FLOW DIRECTION GRID ARCHYDRO STREAM ORDER

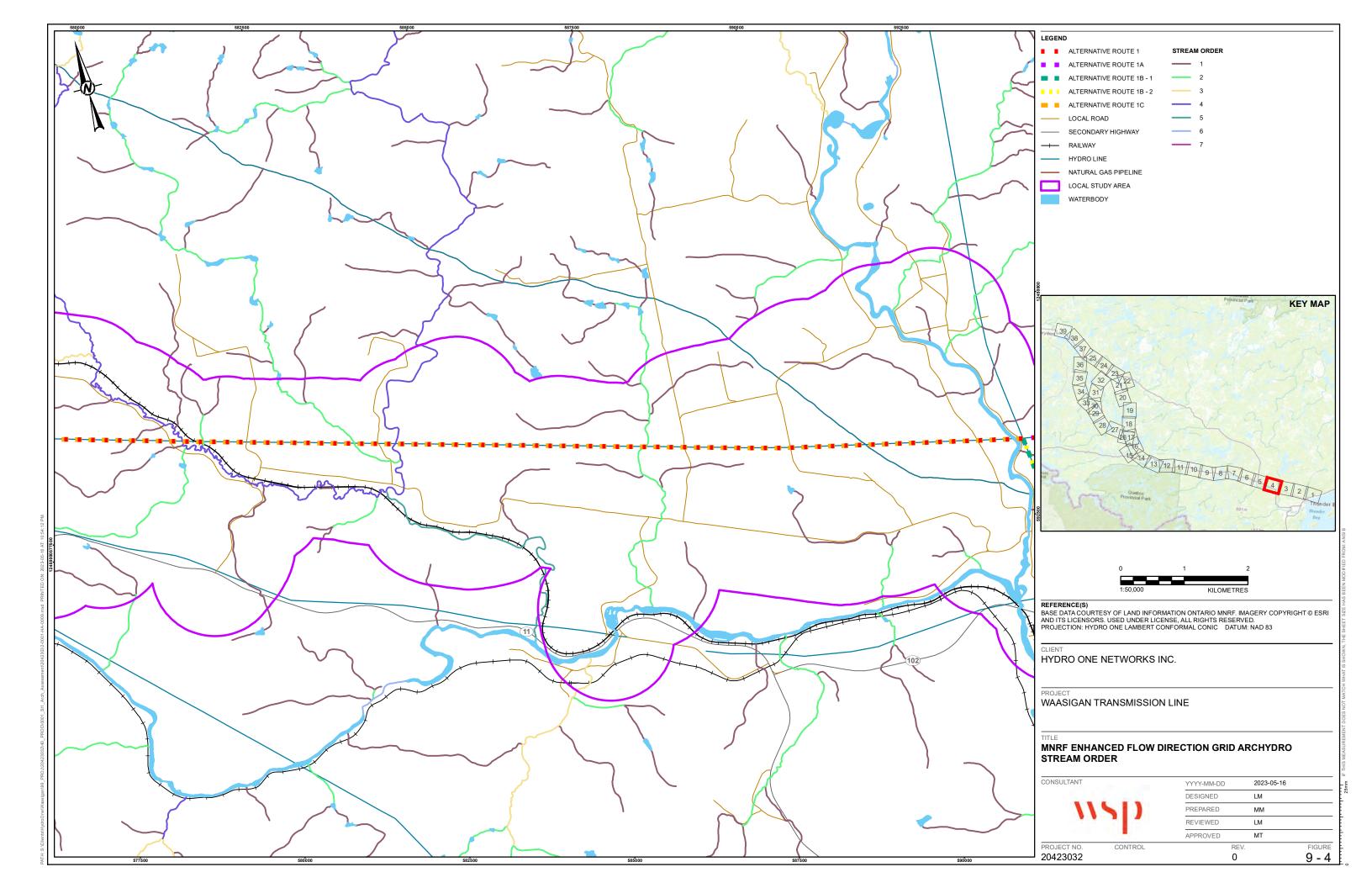
CONSULTANT

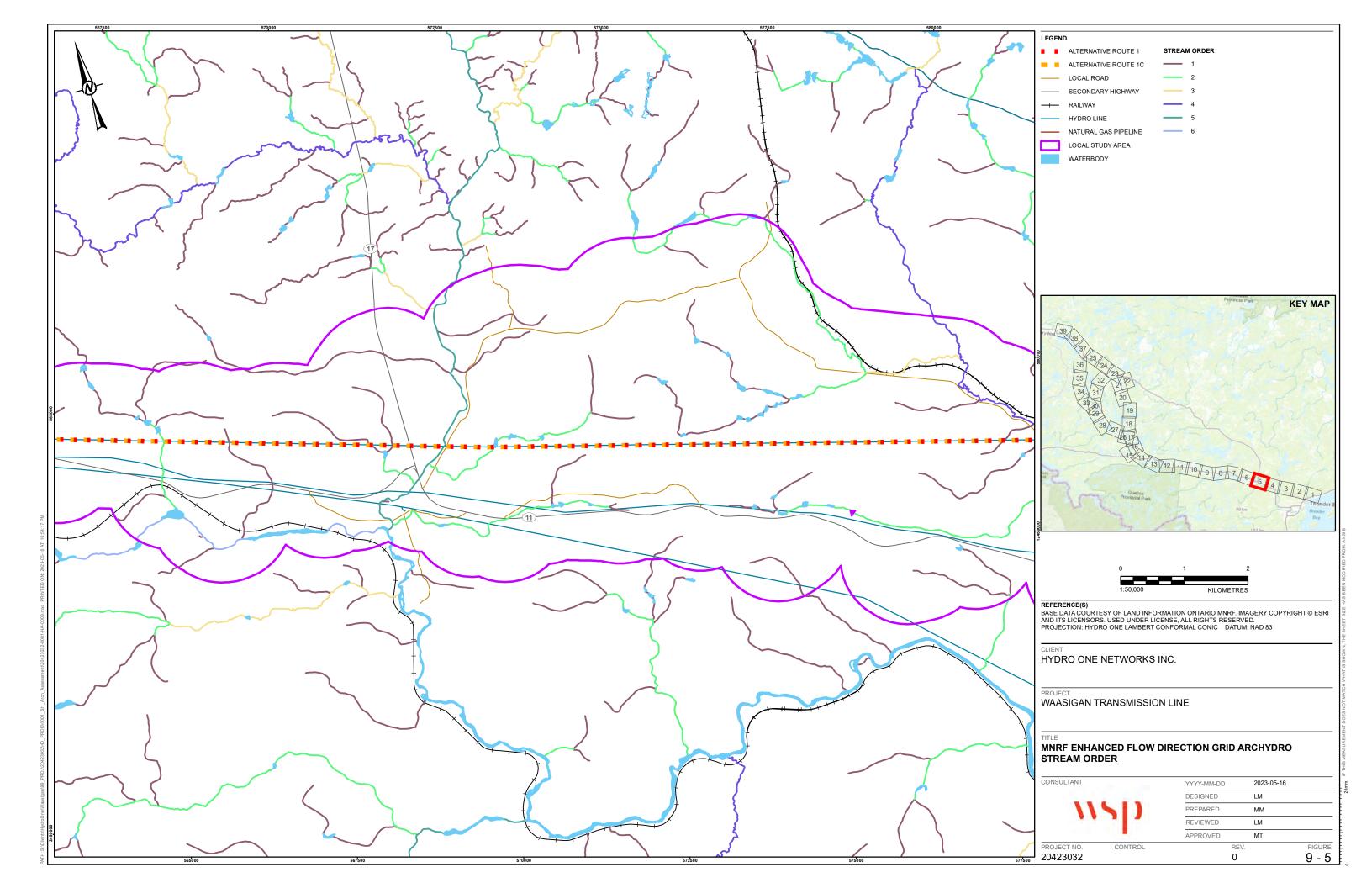
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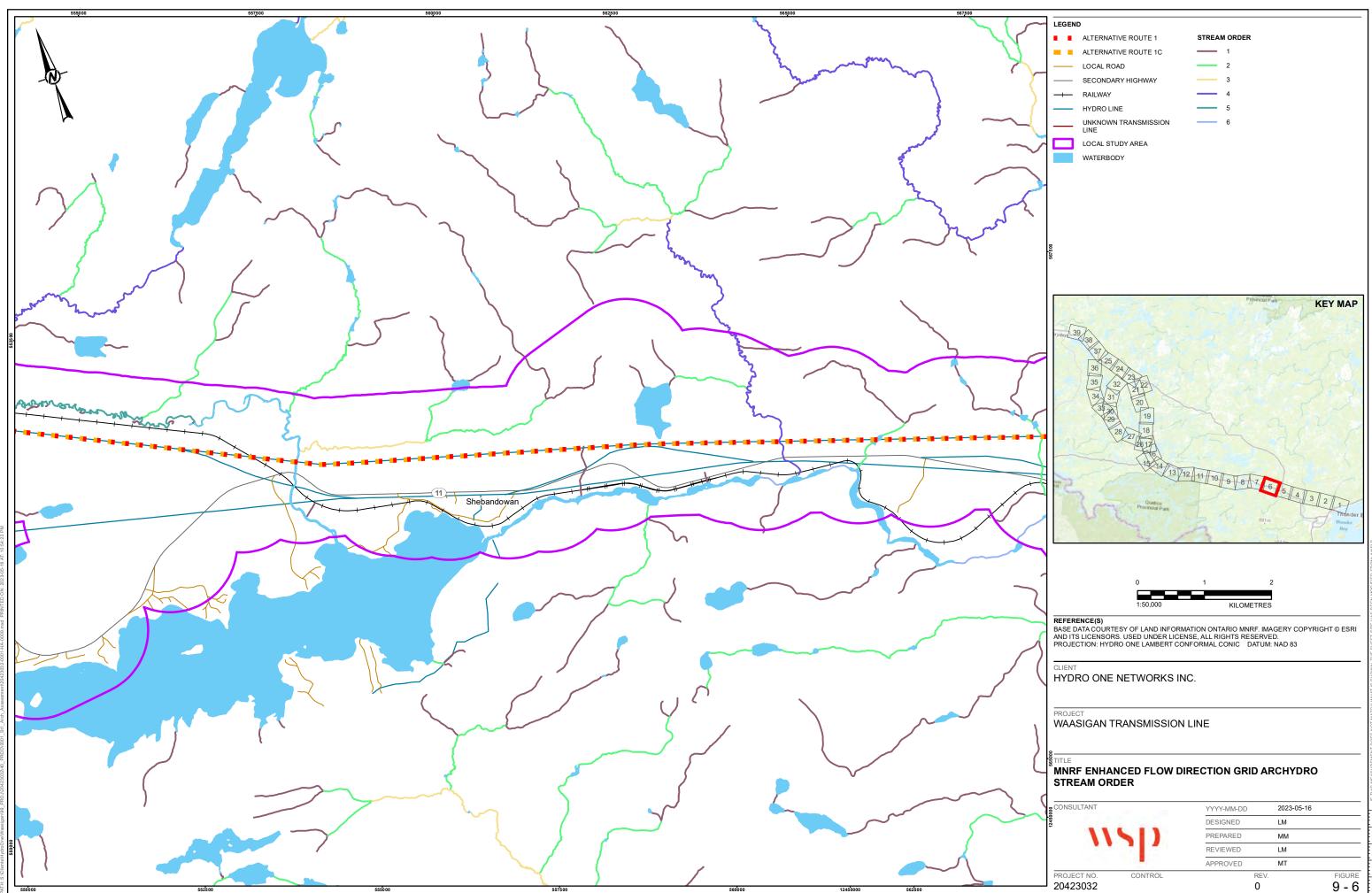
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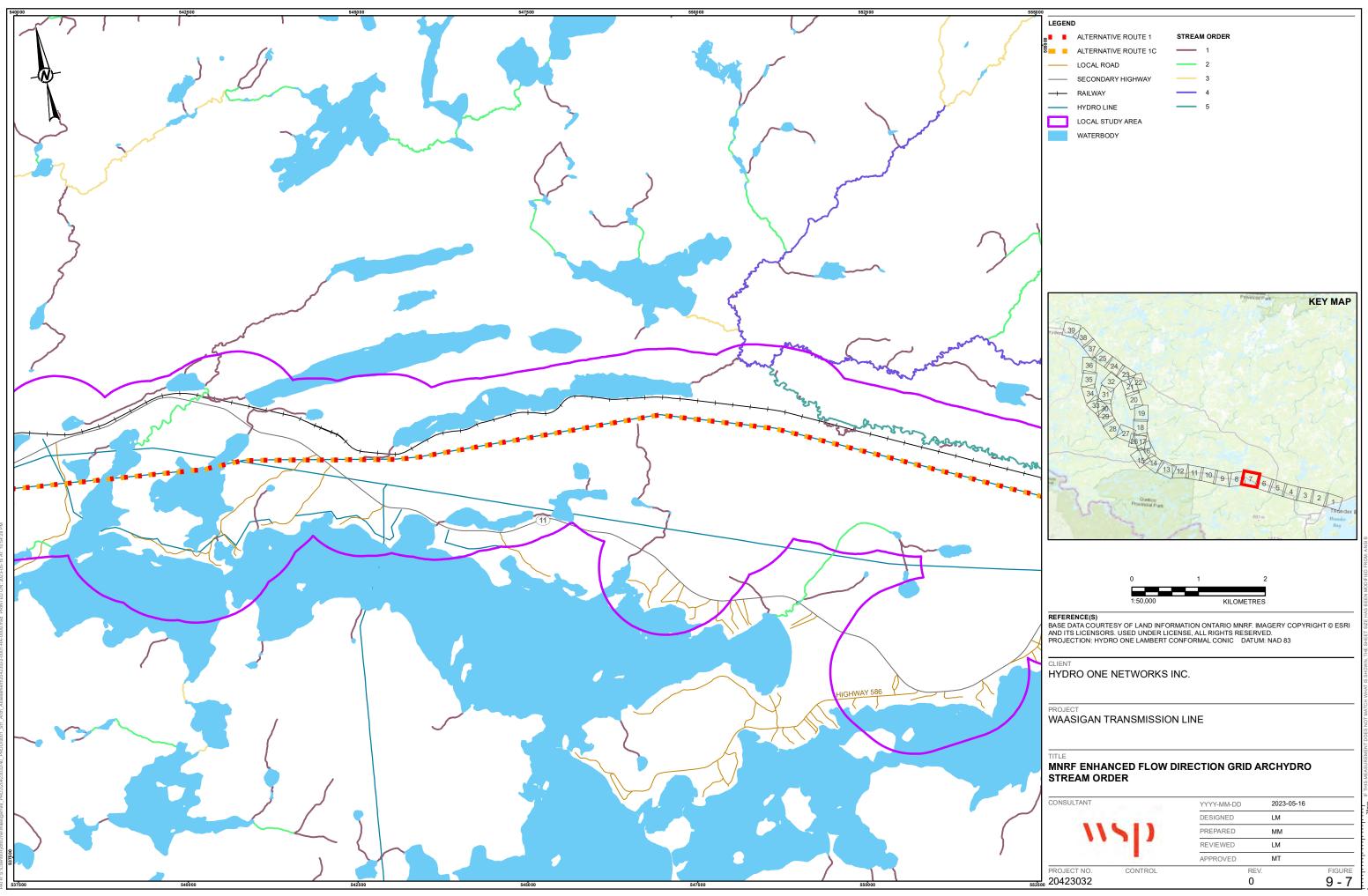


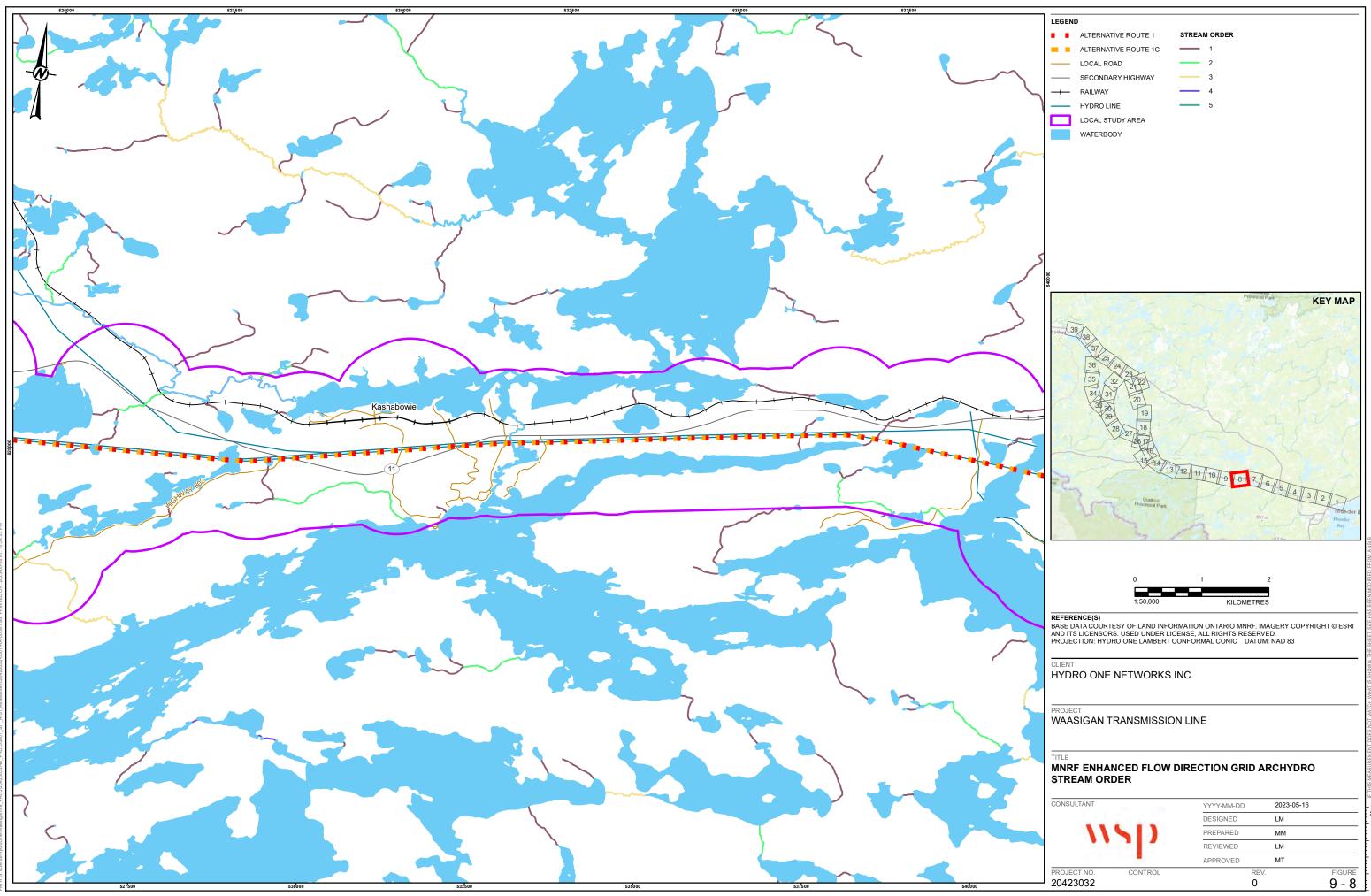




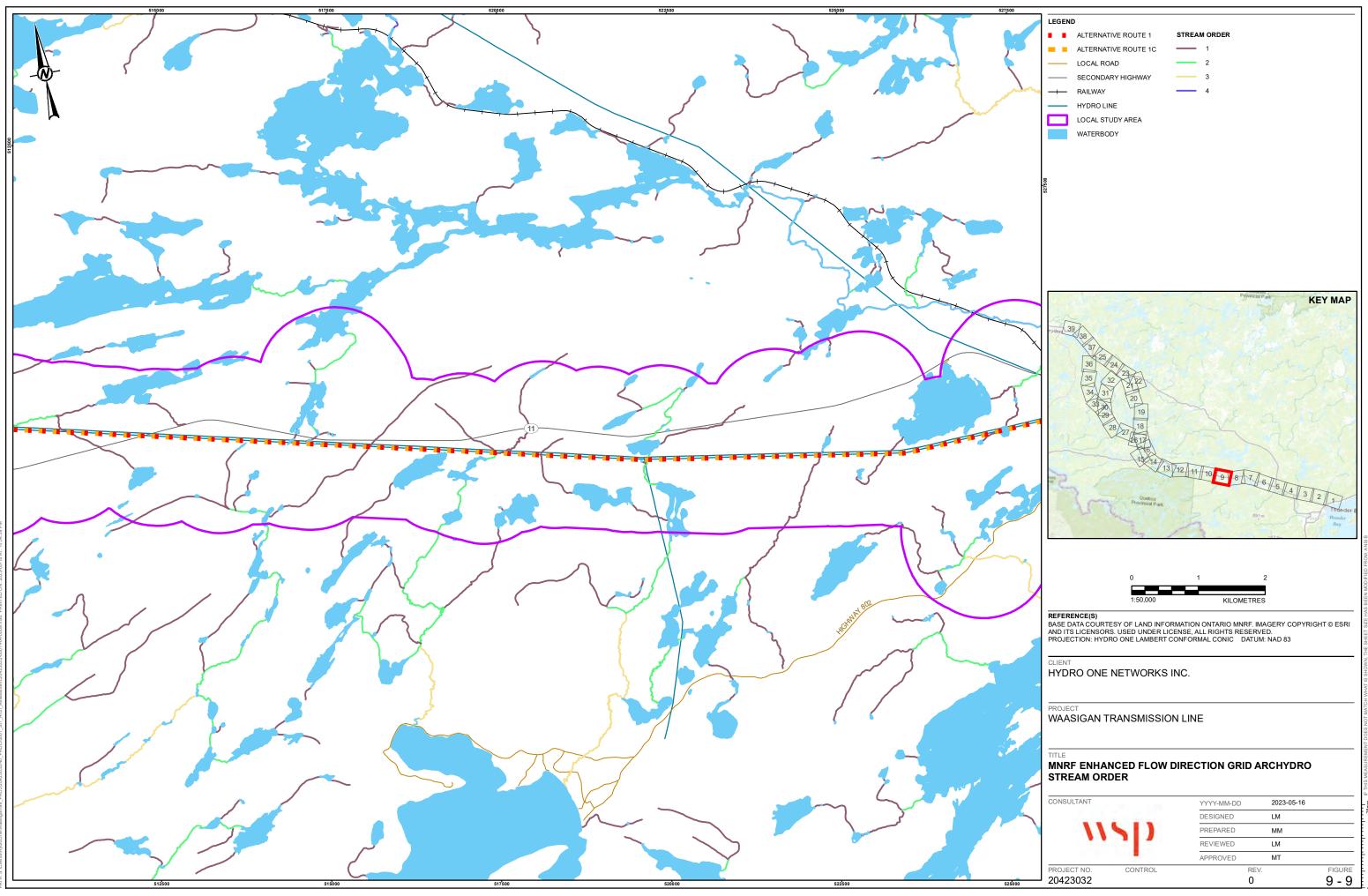


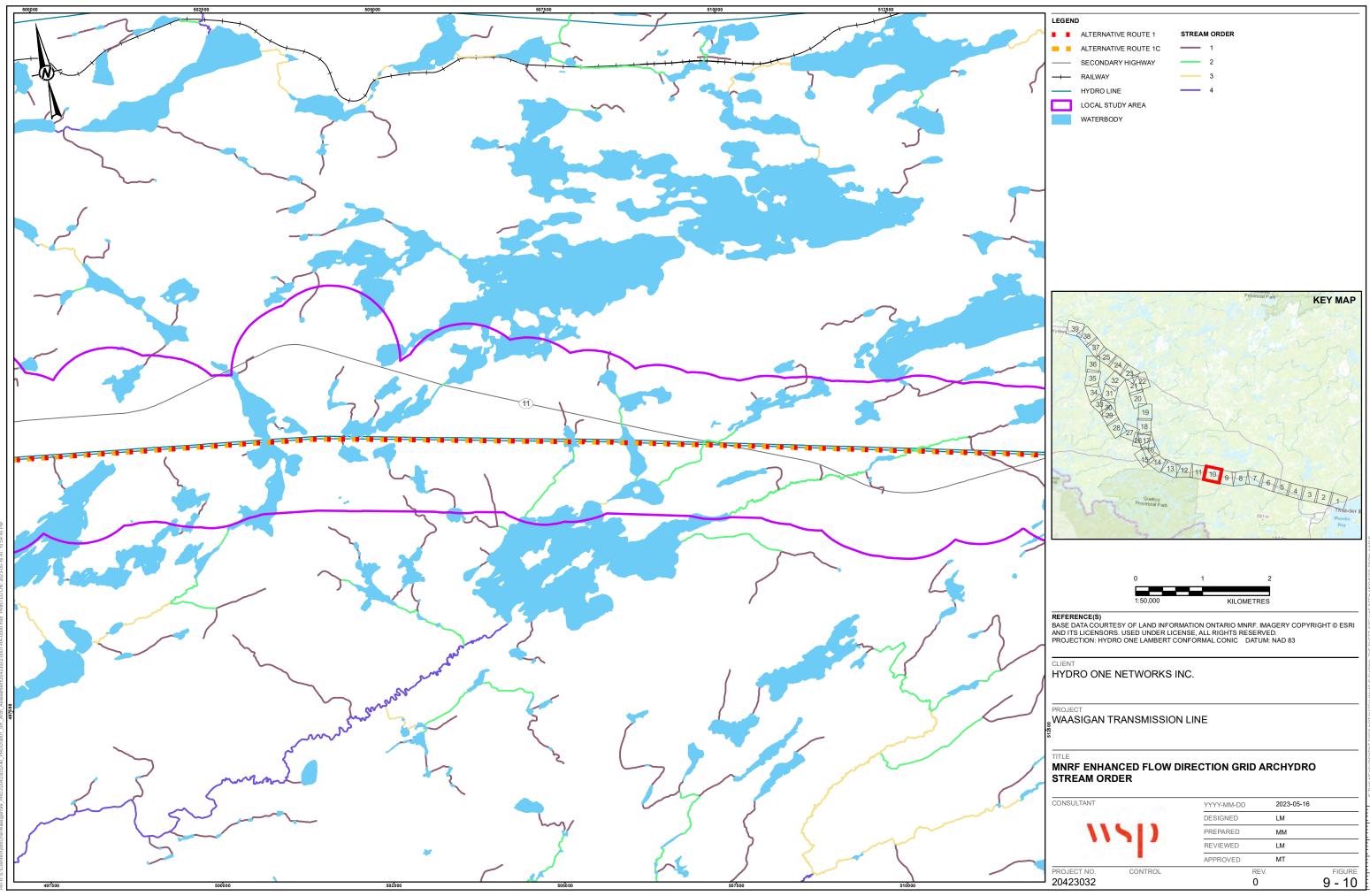




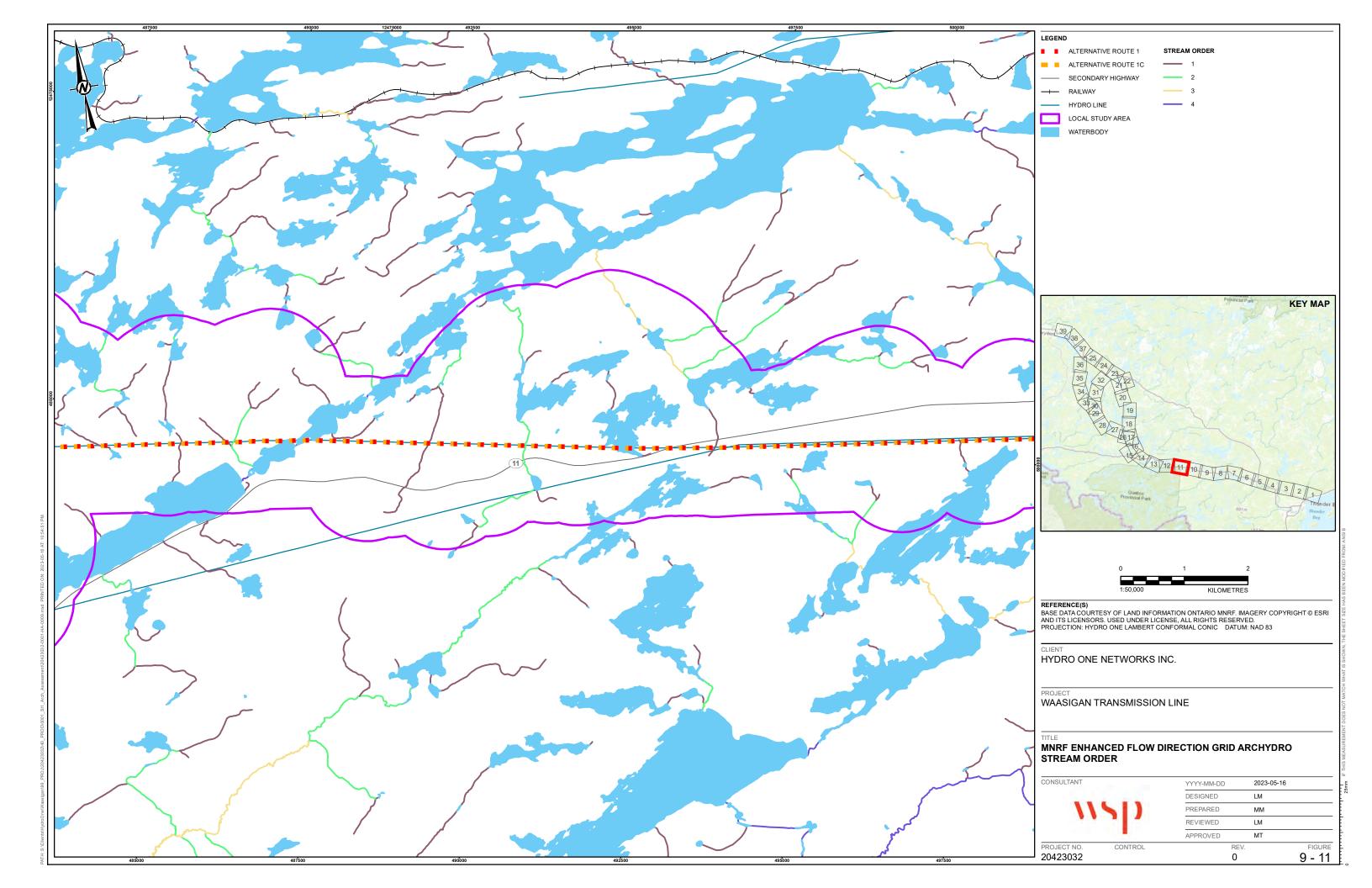


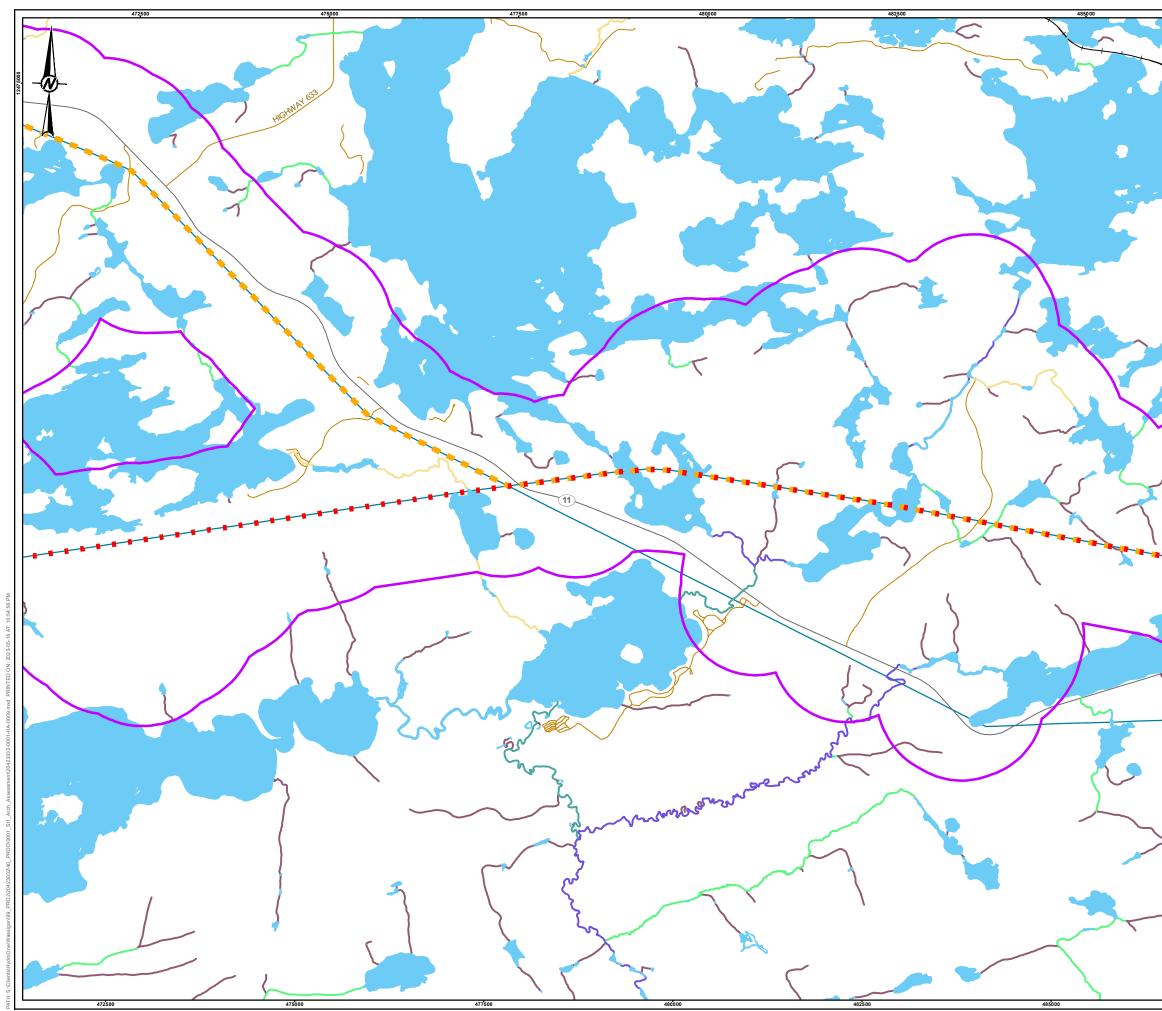
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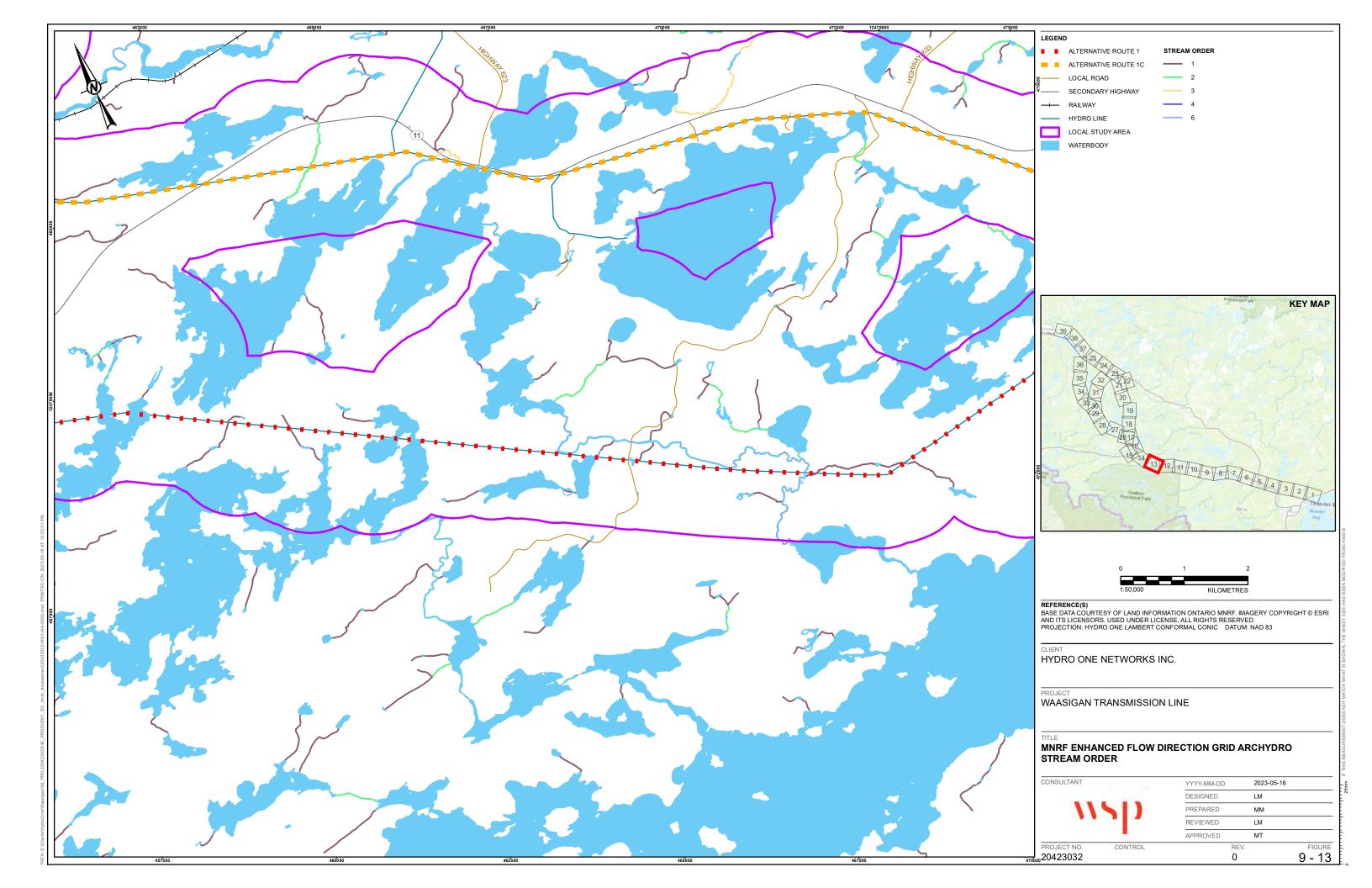


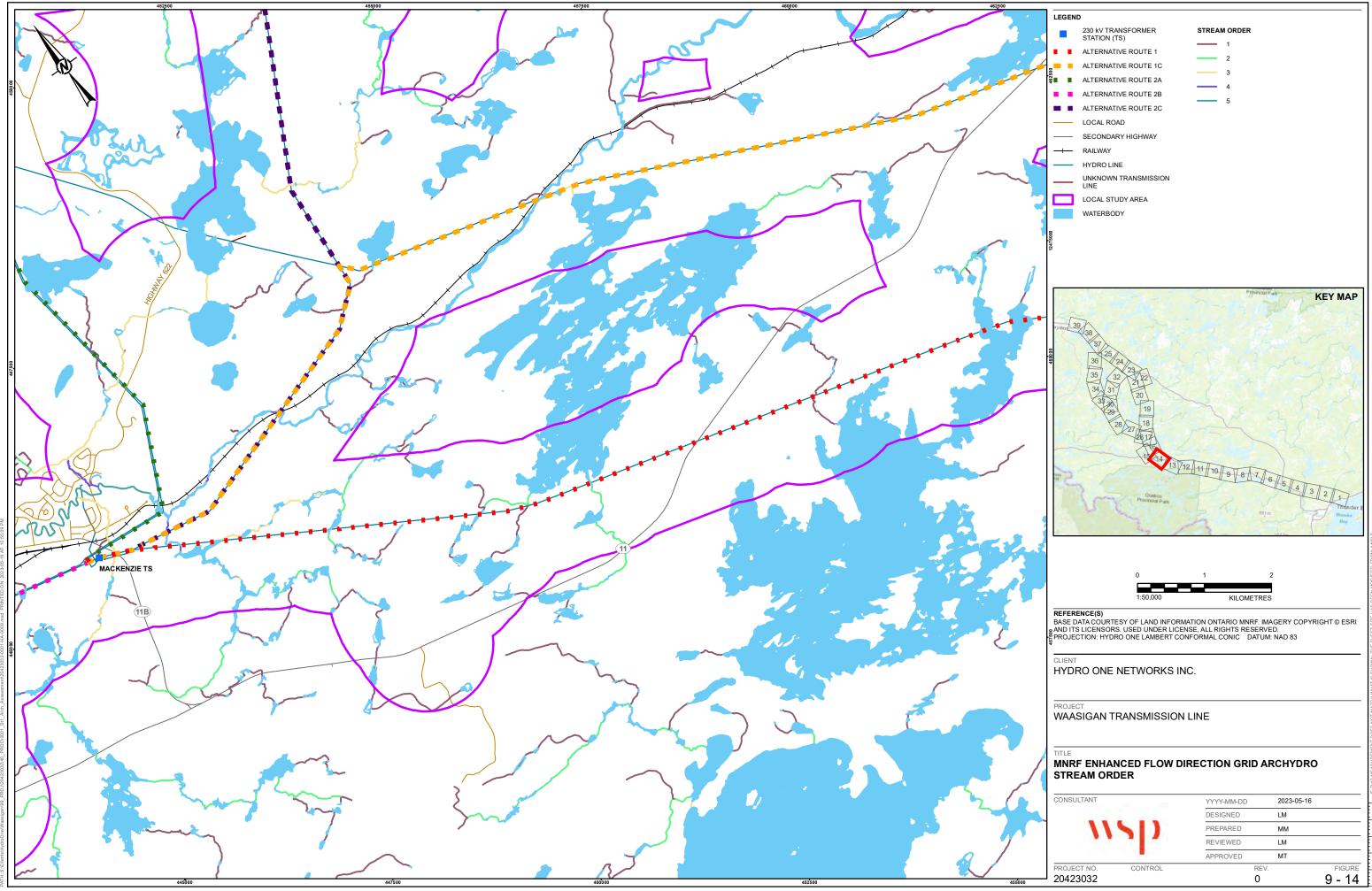
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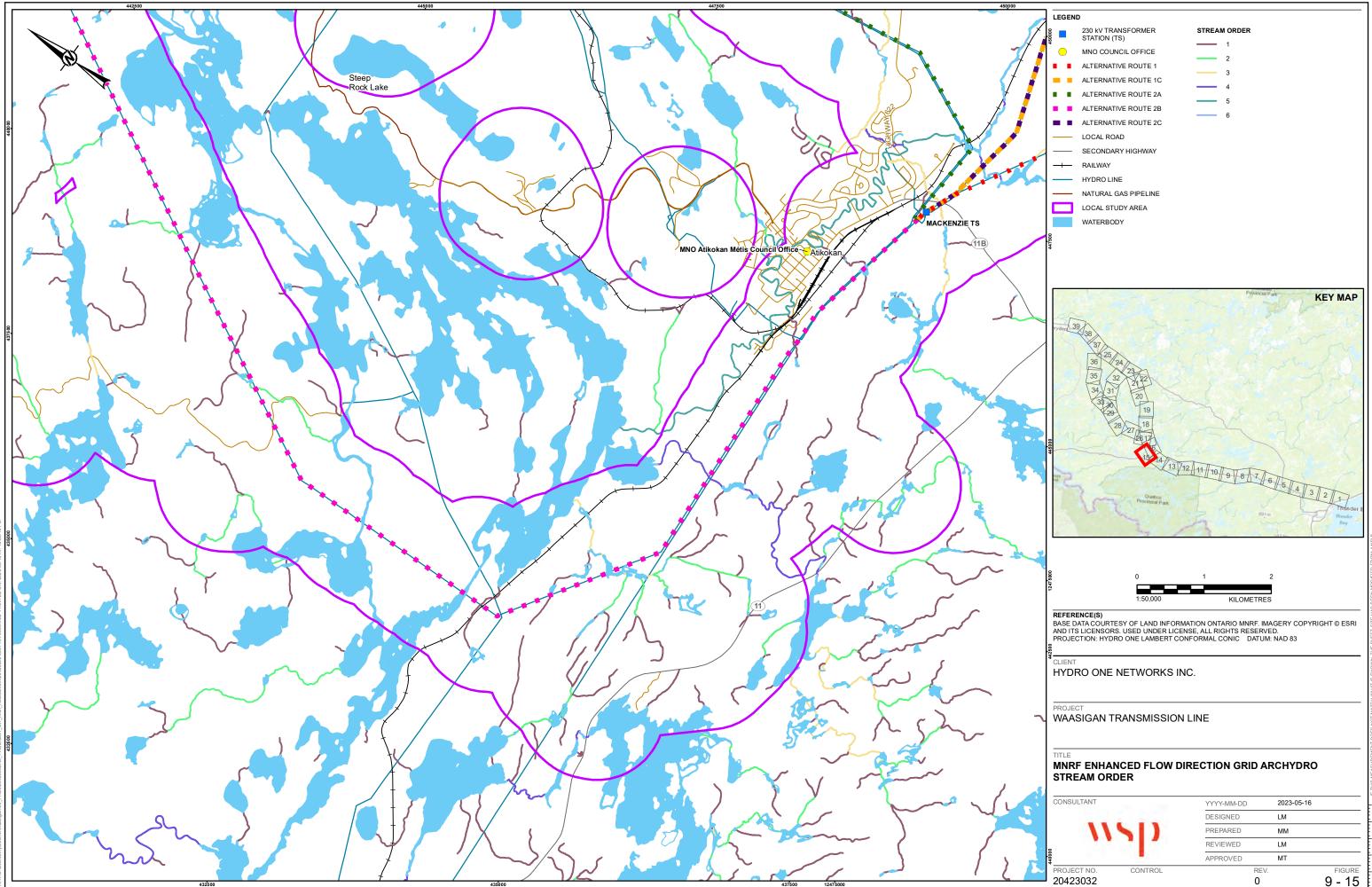


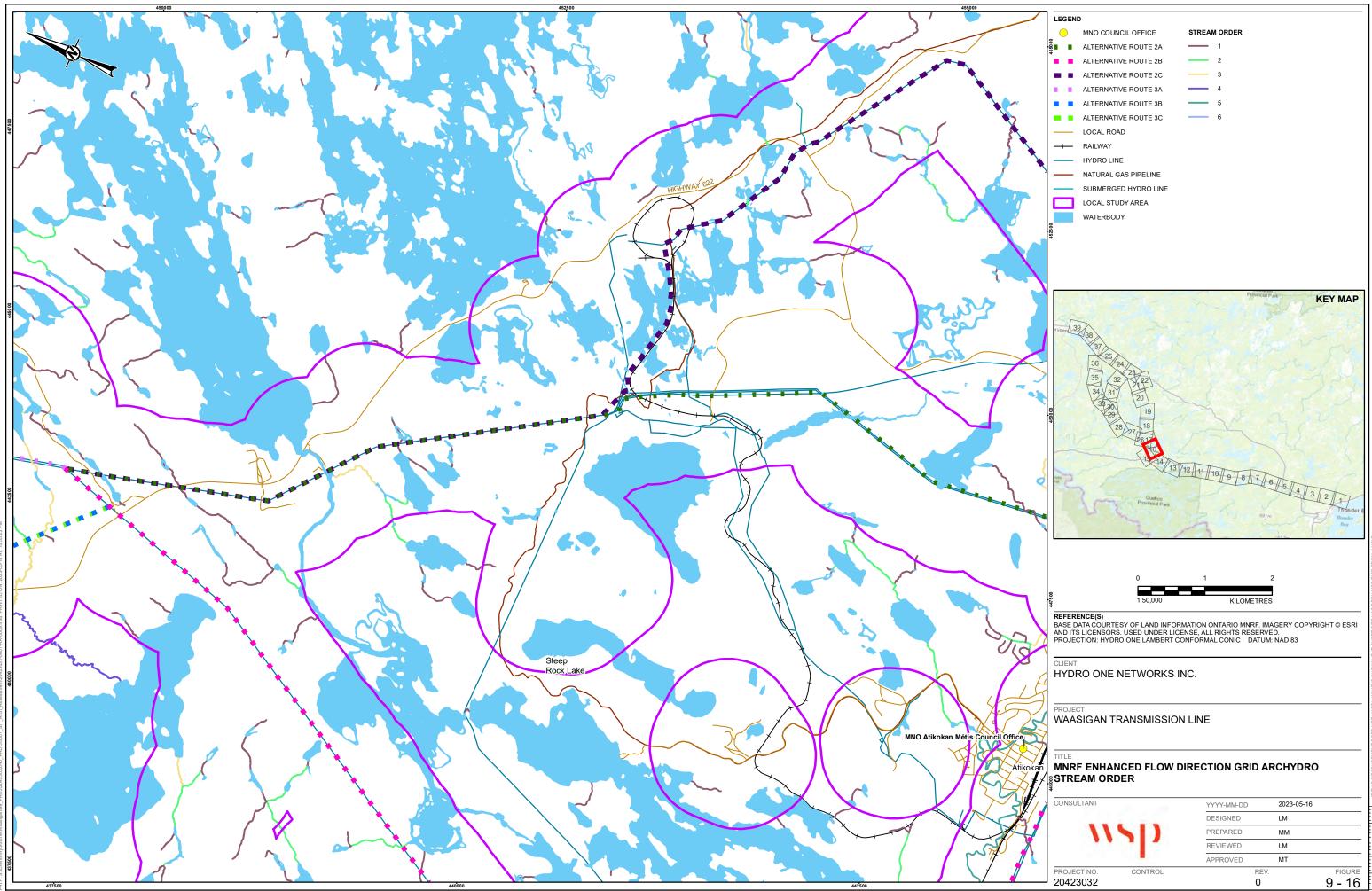


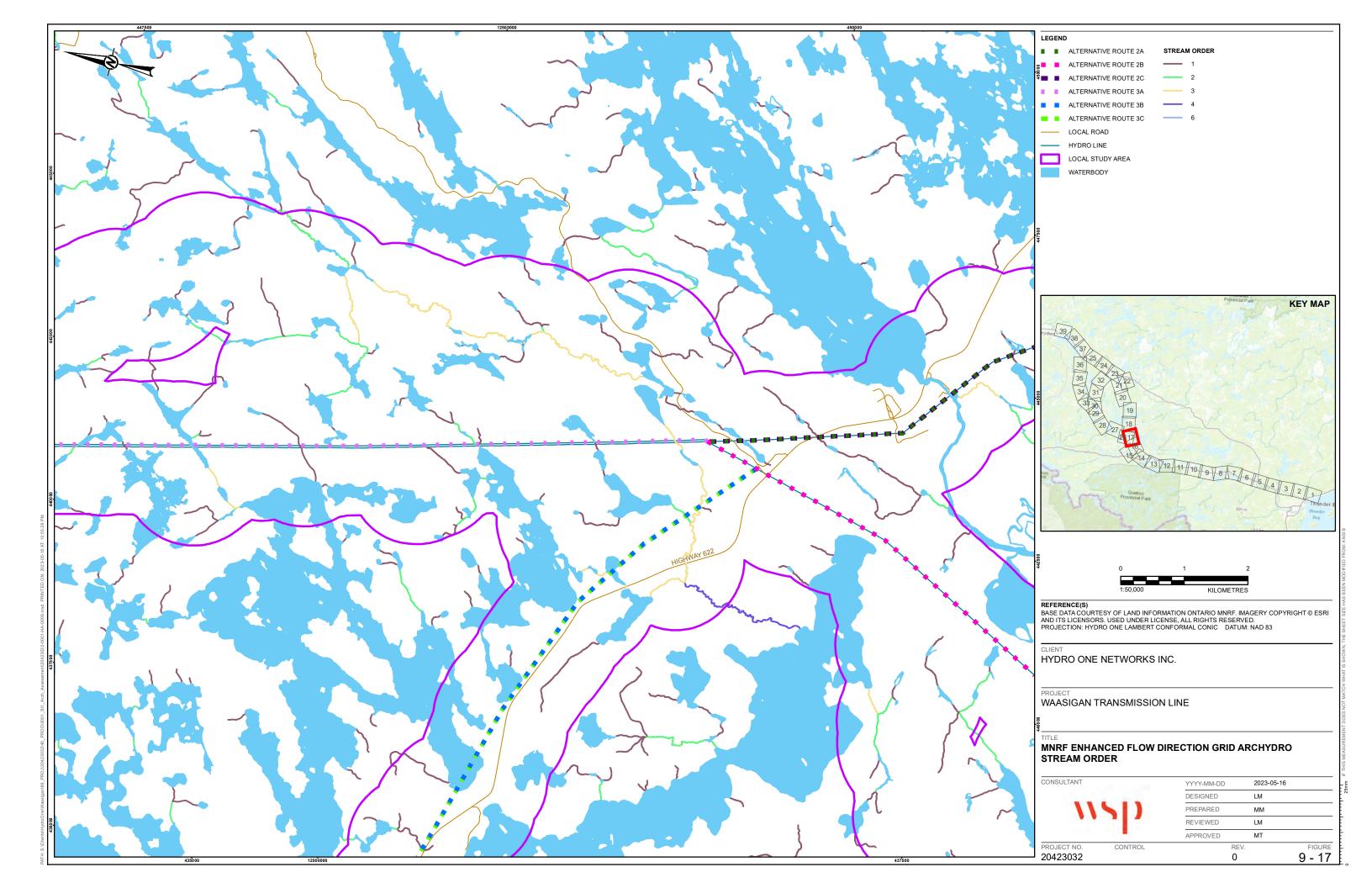
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	Provincial Park		1022	
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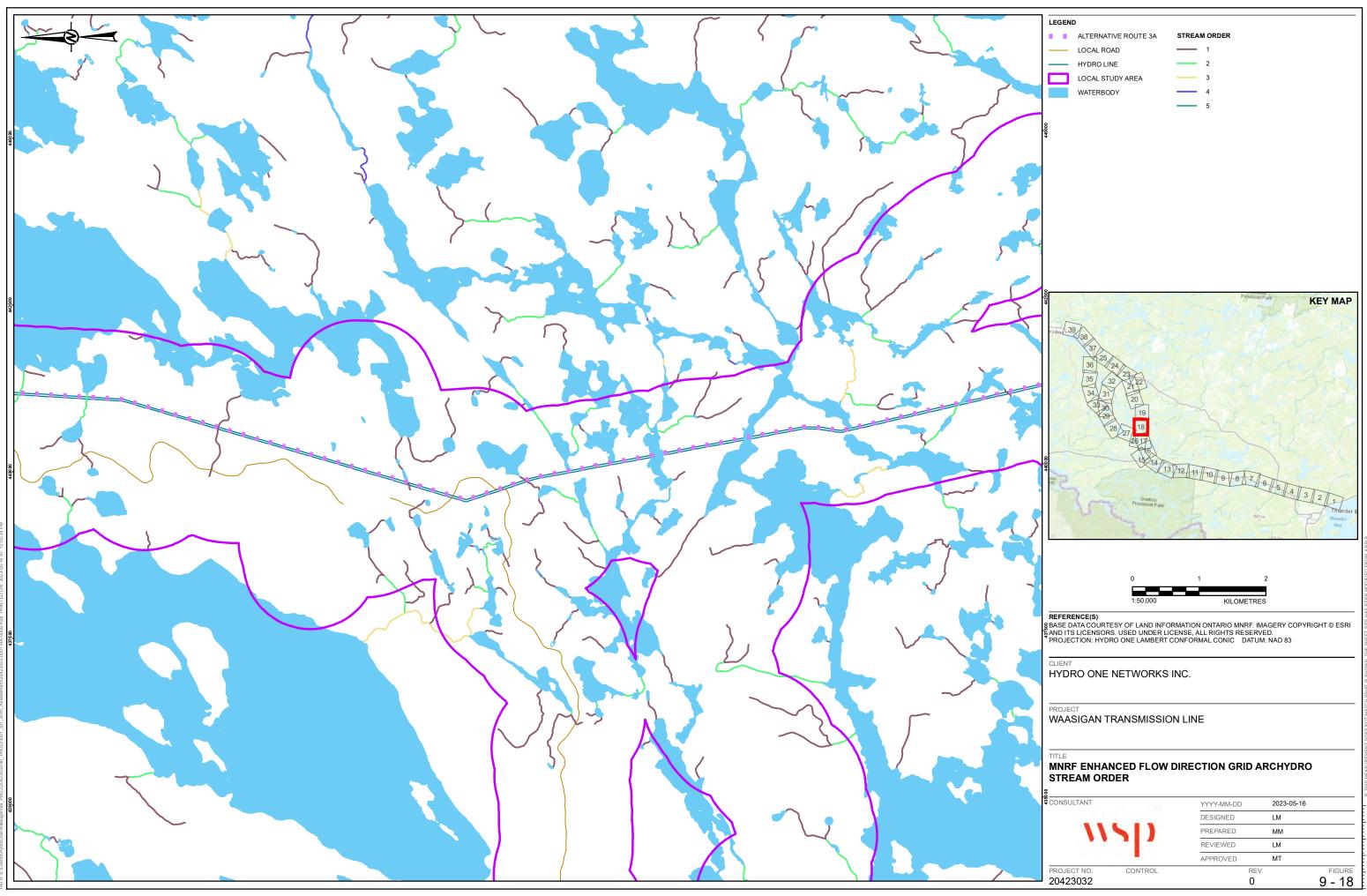


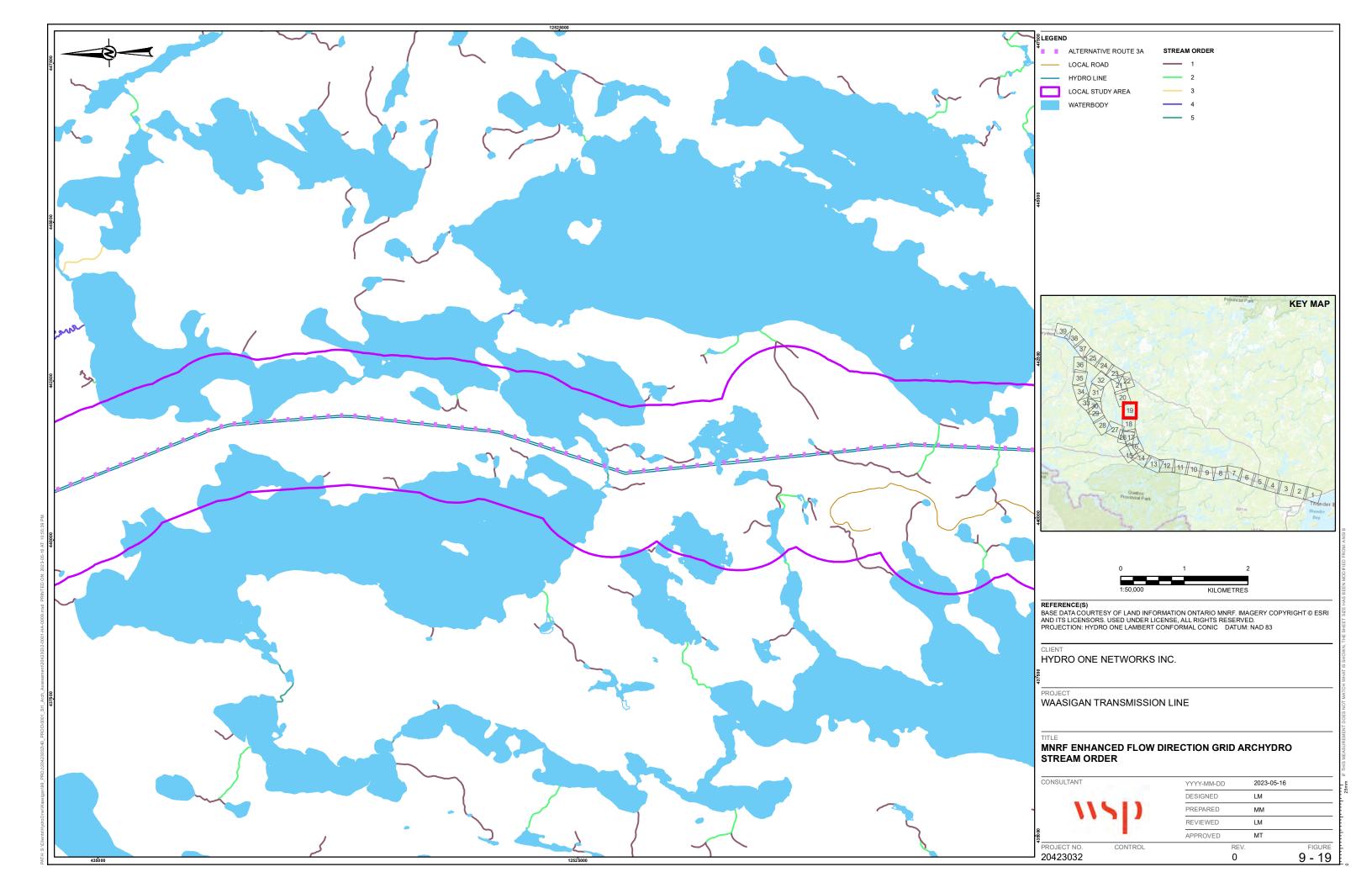


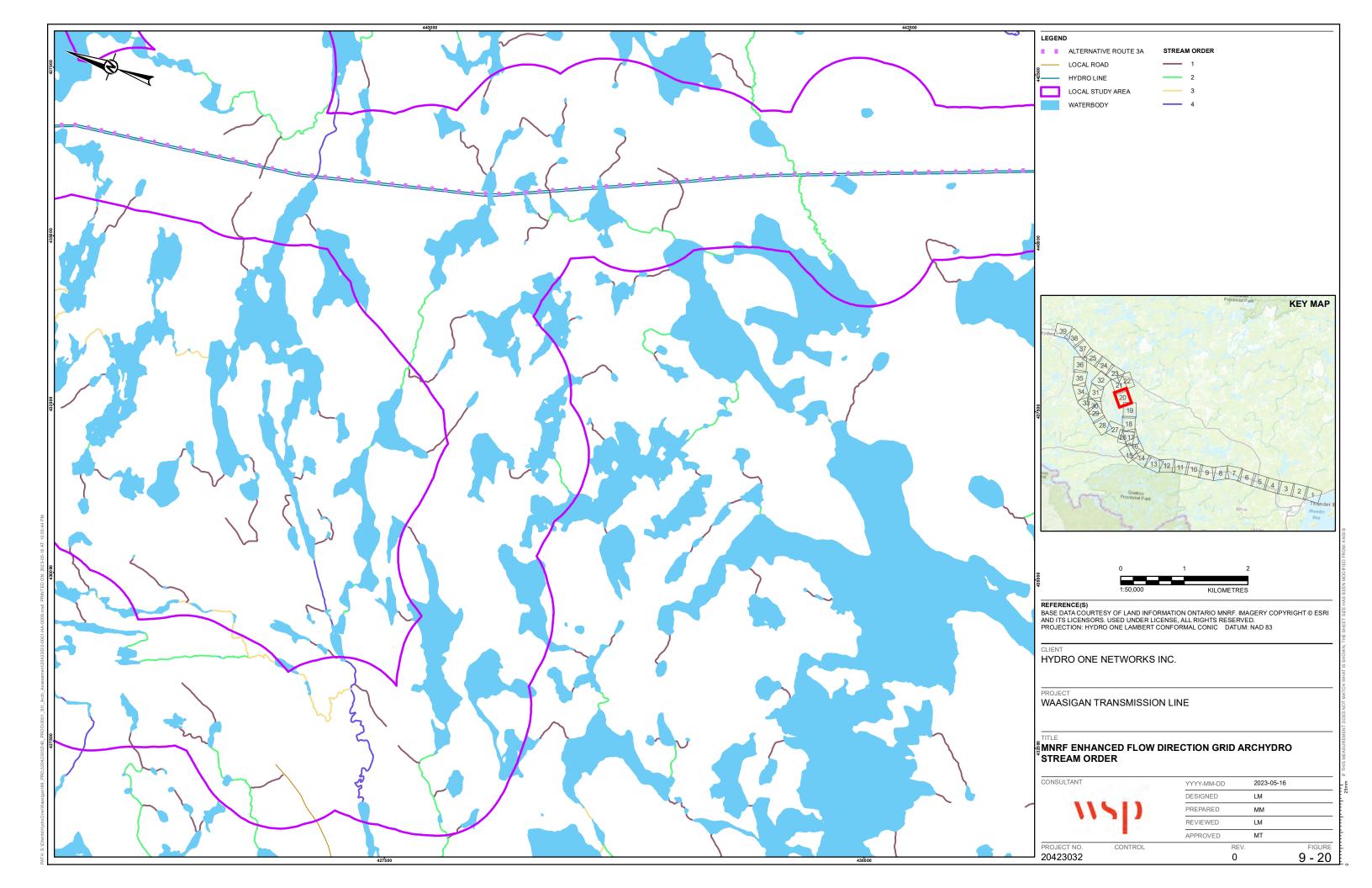


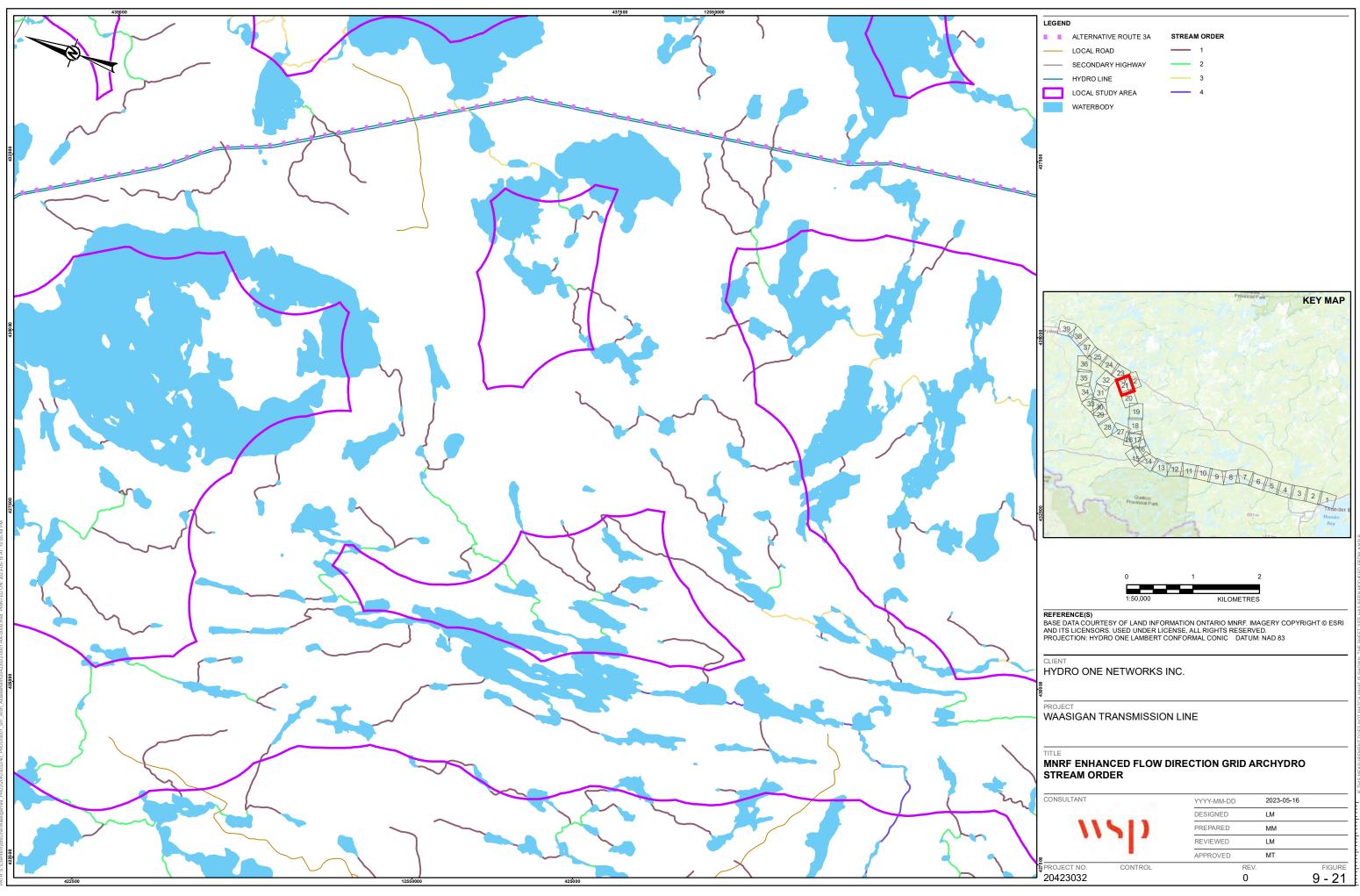


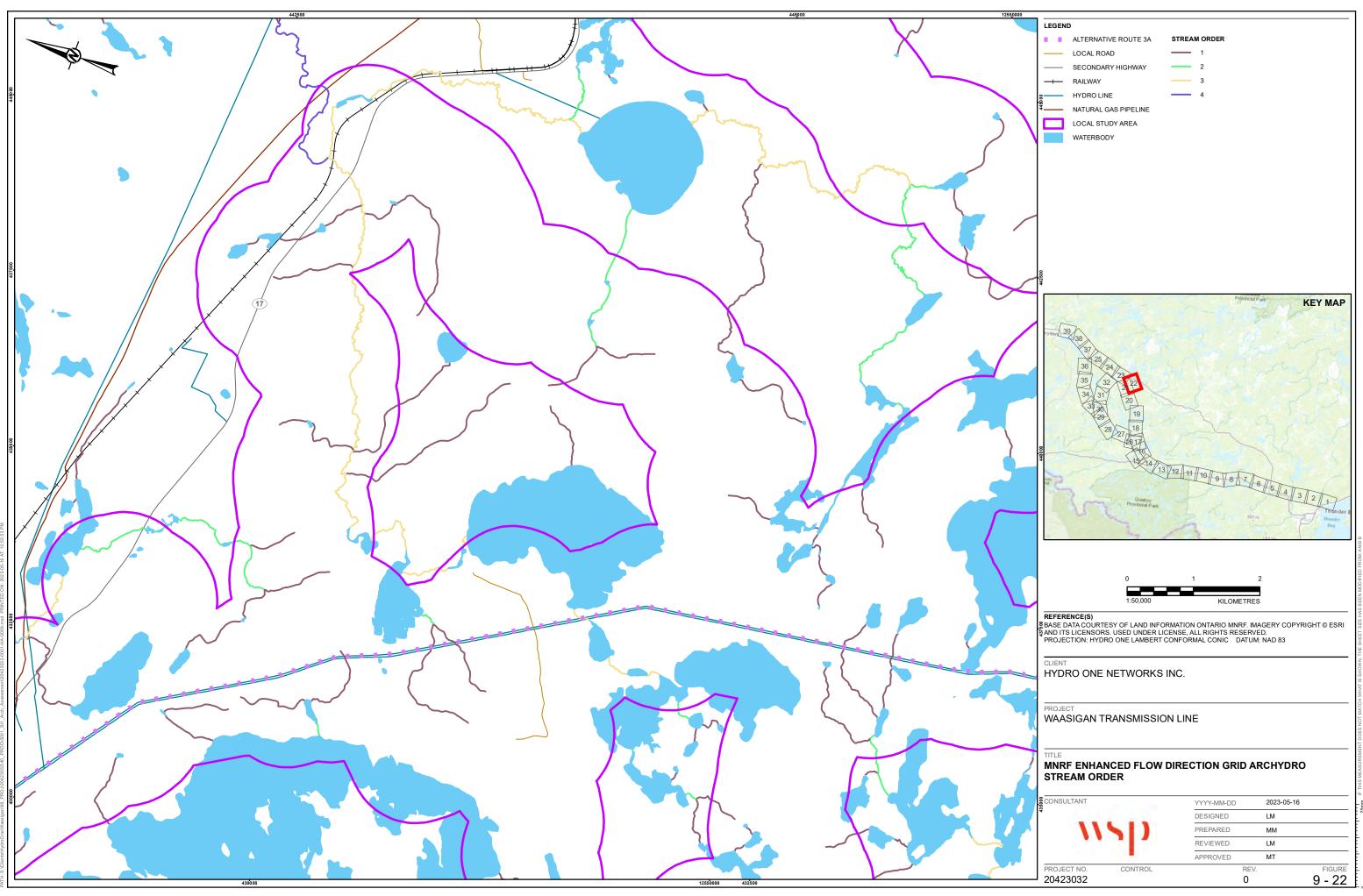


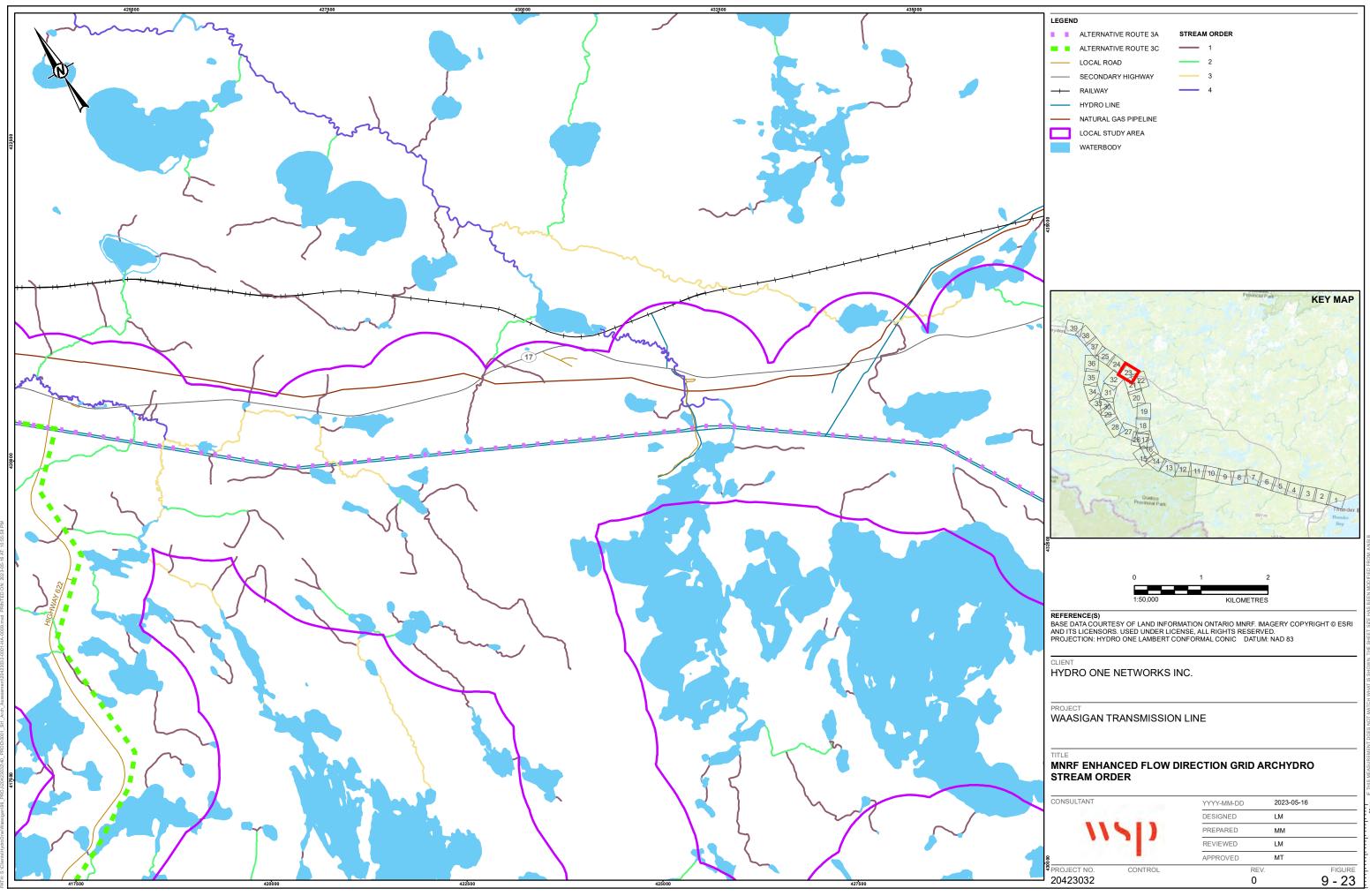


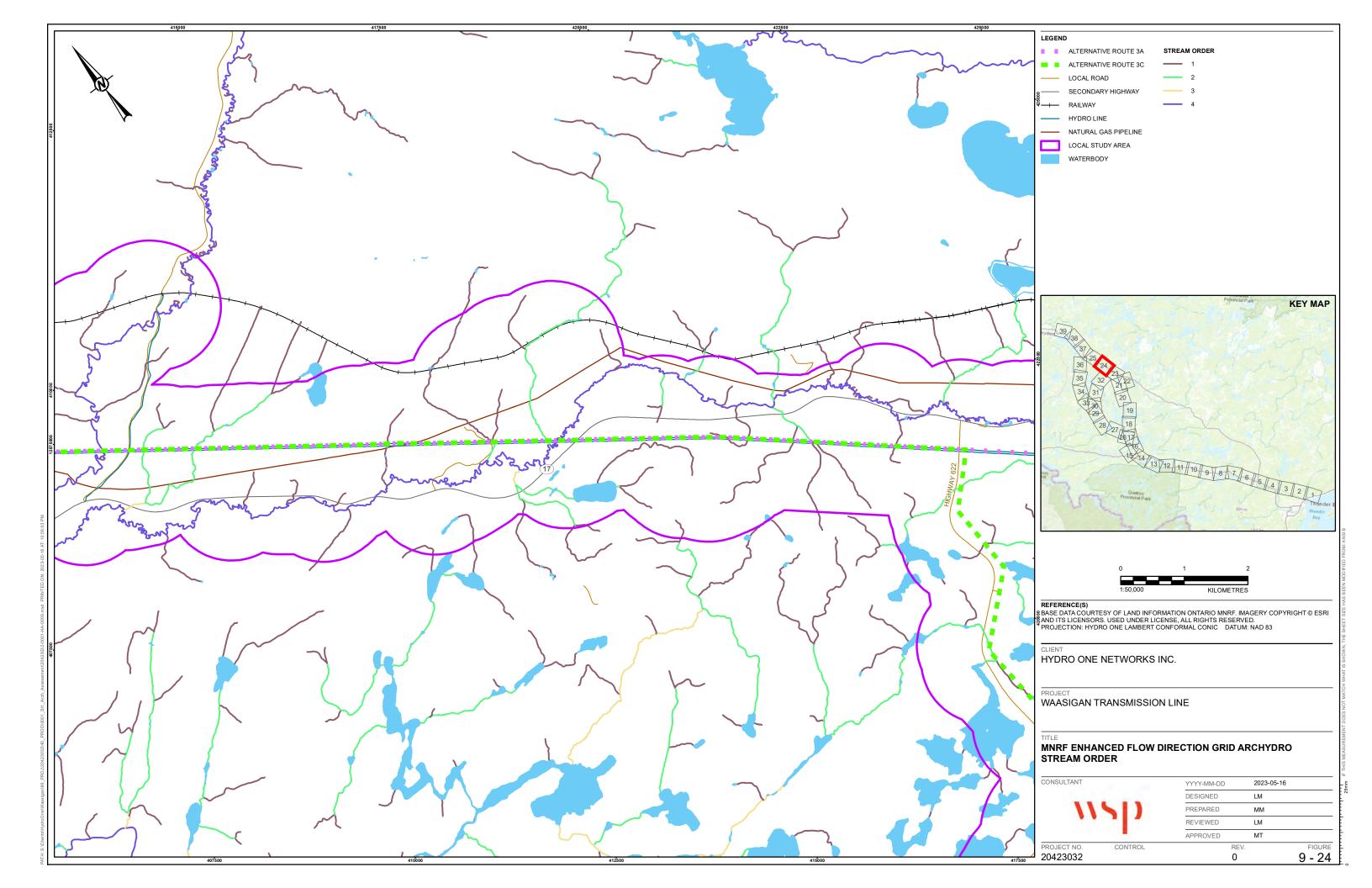


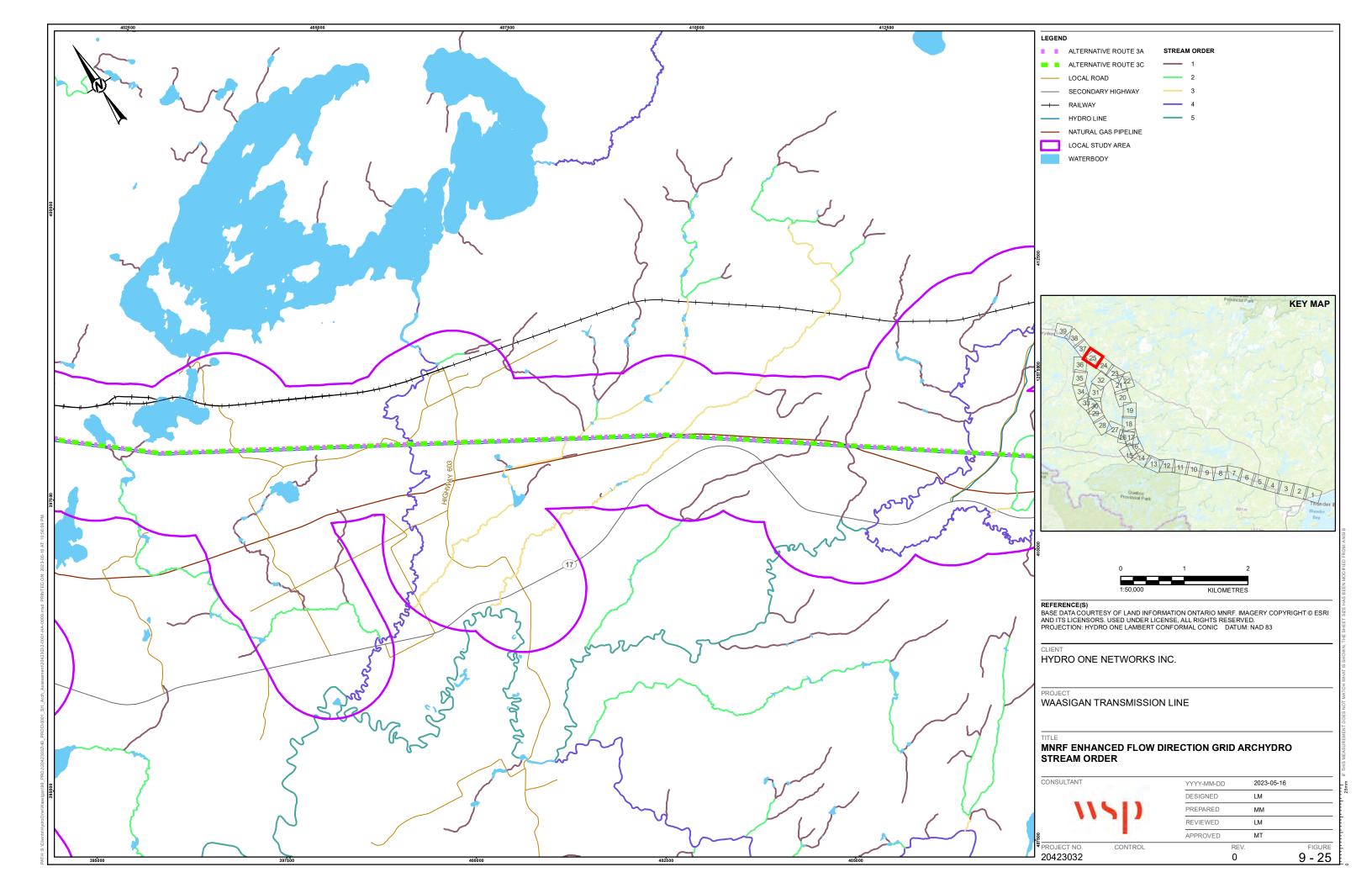


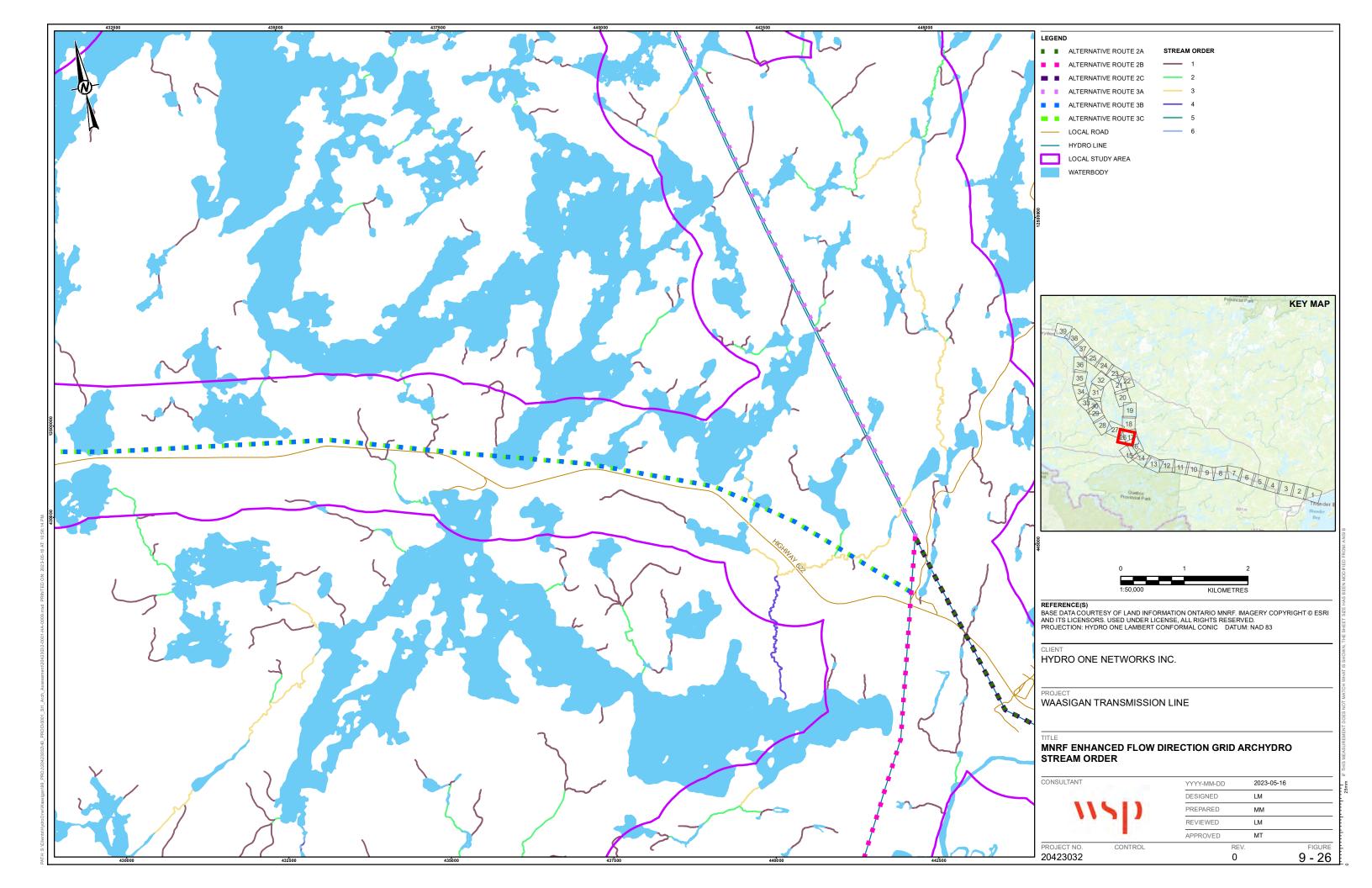


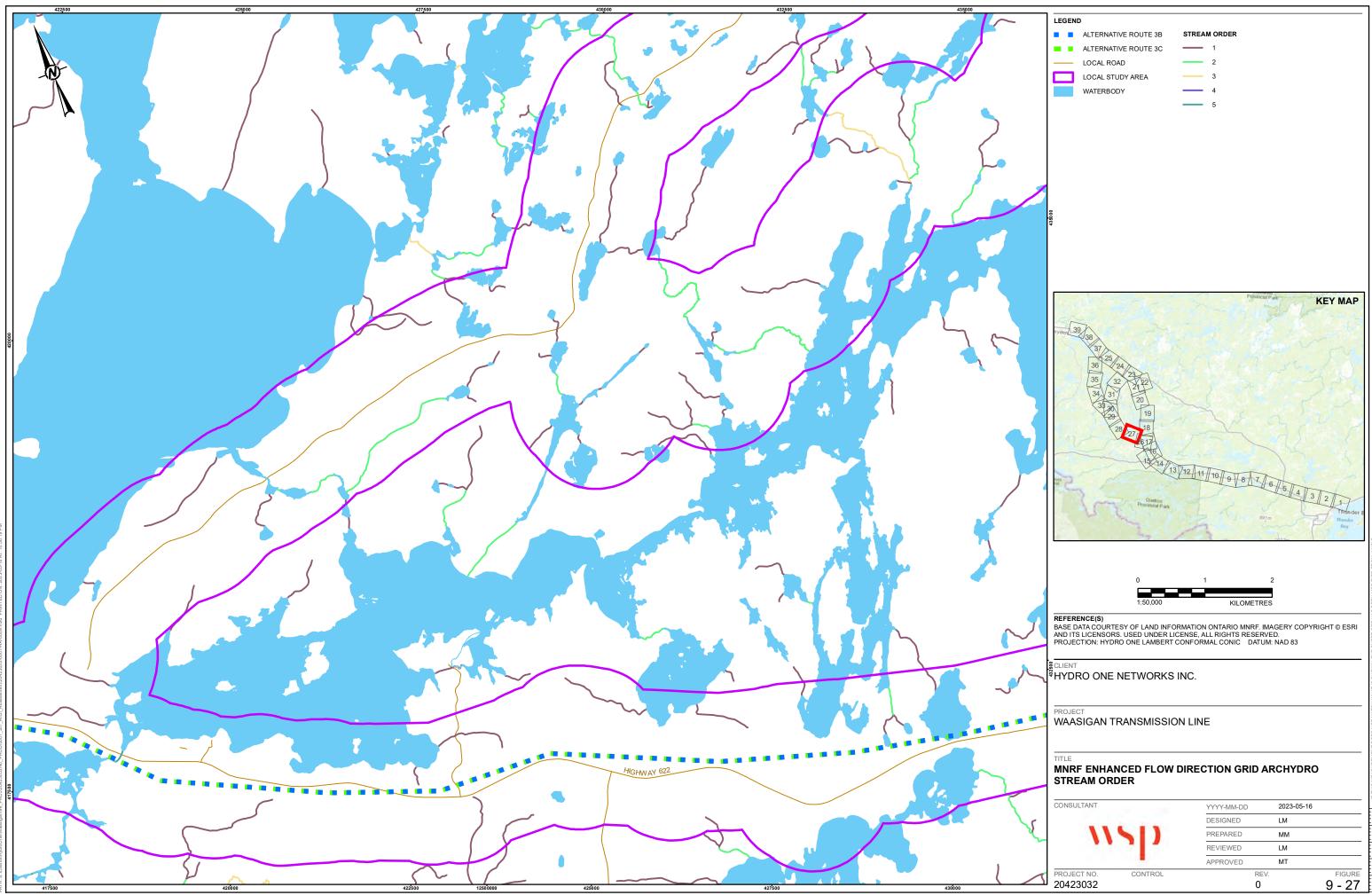




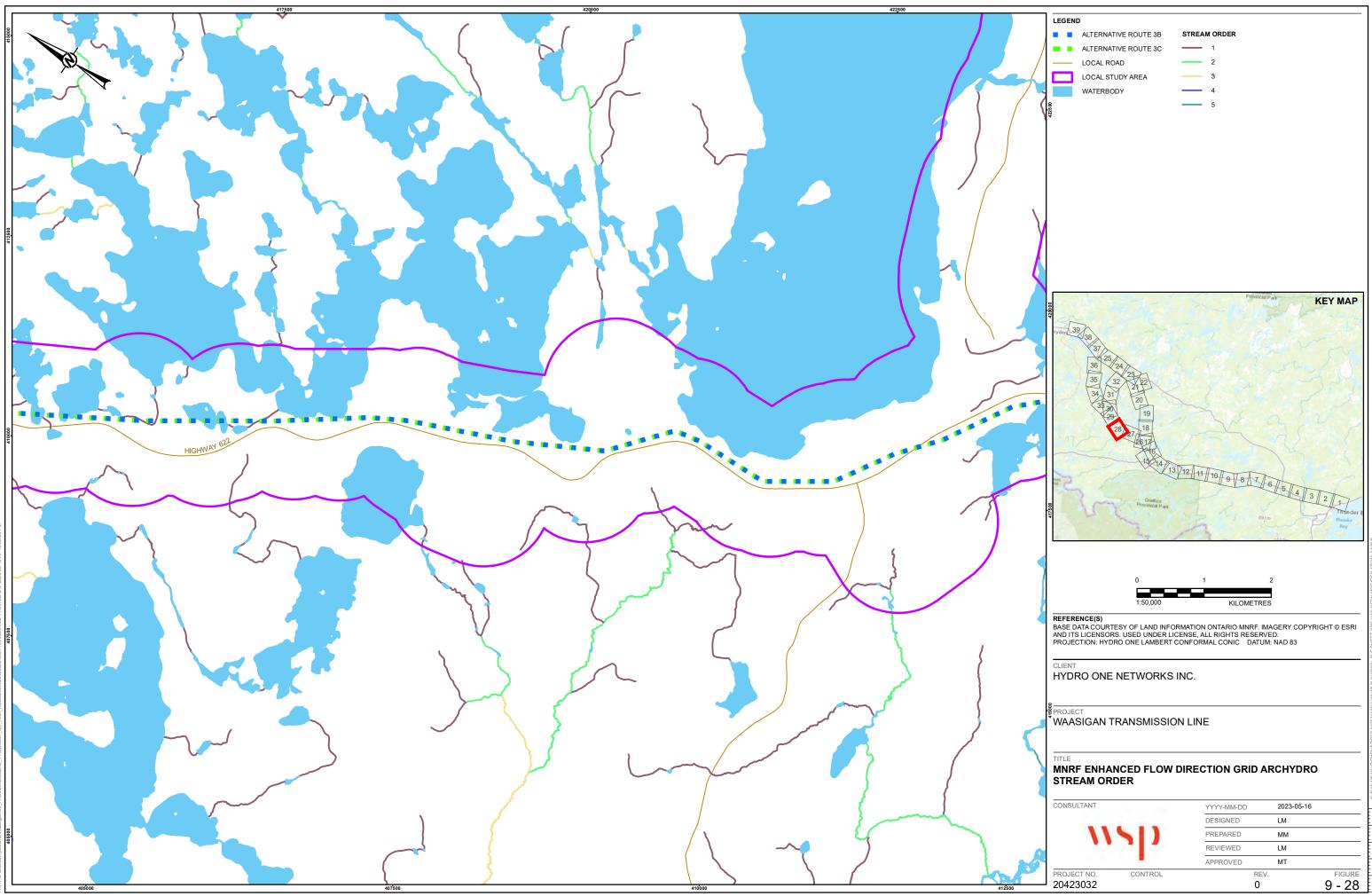




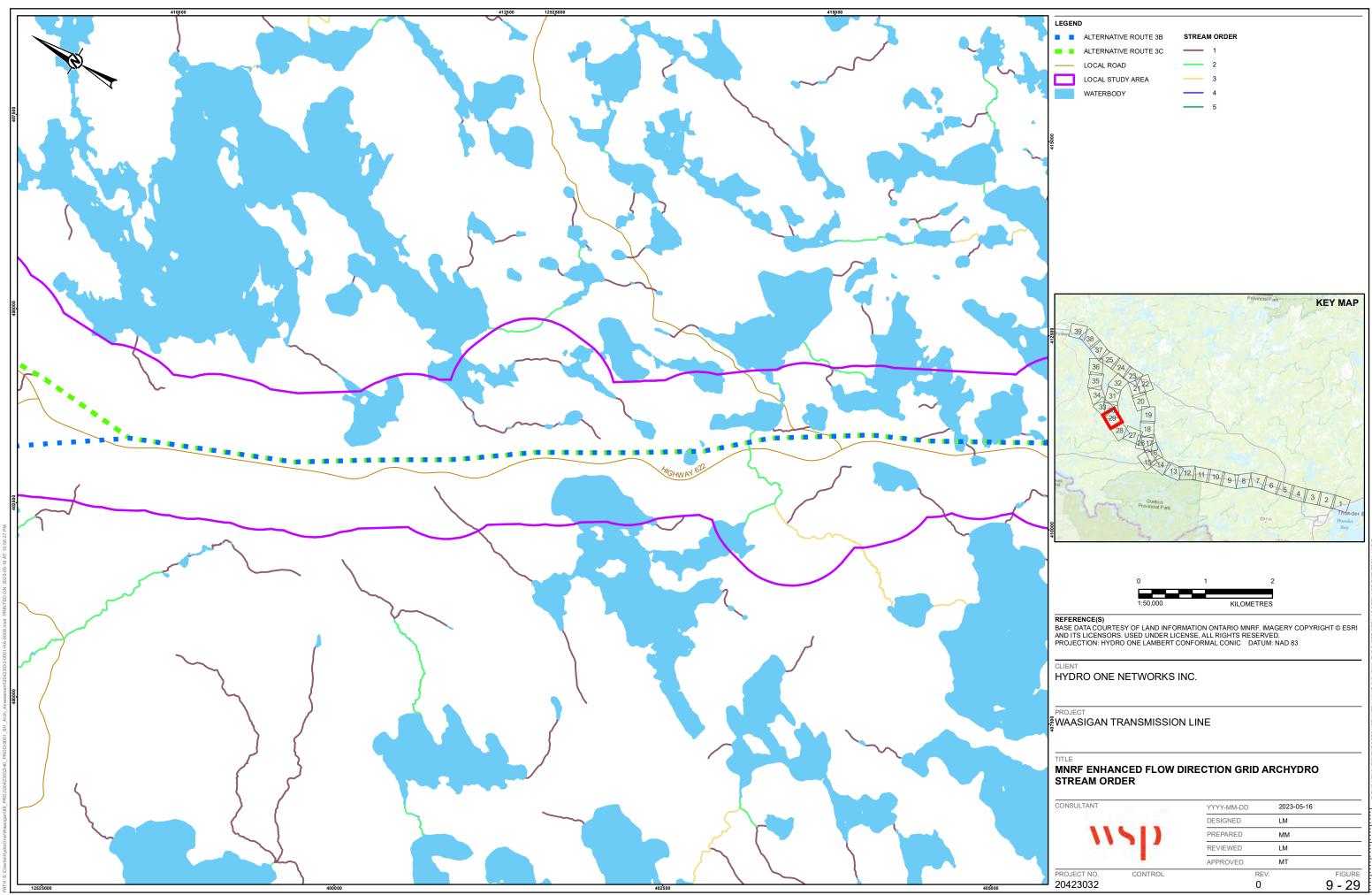




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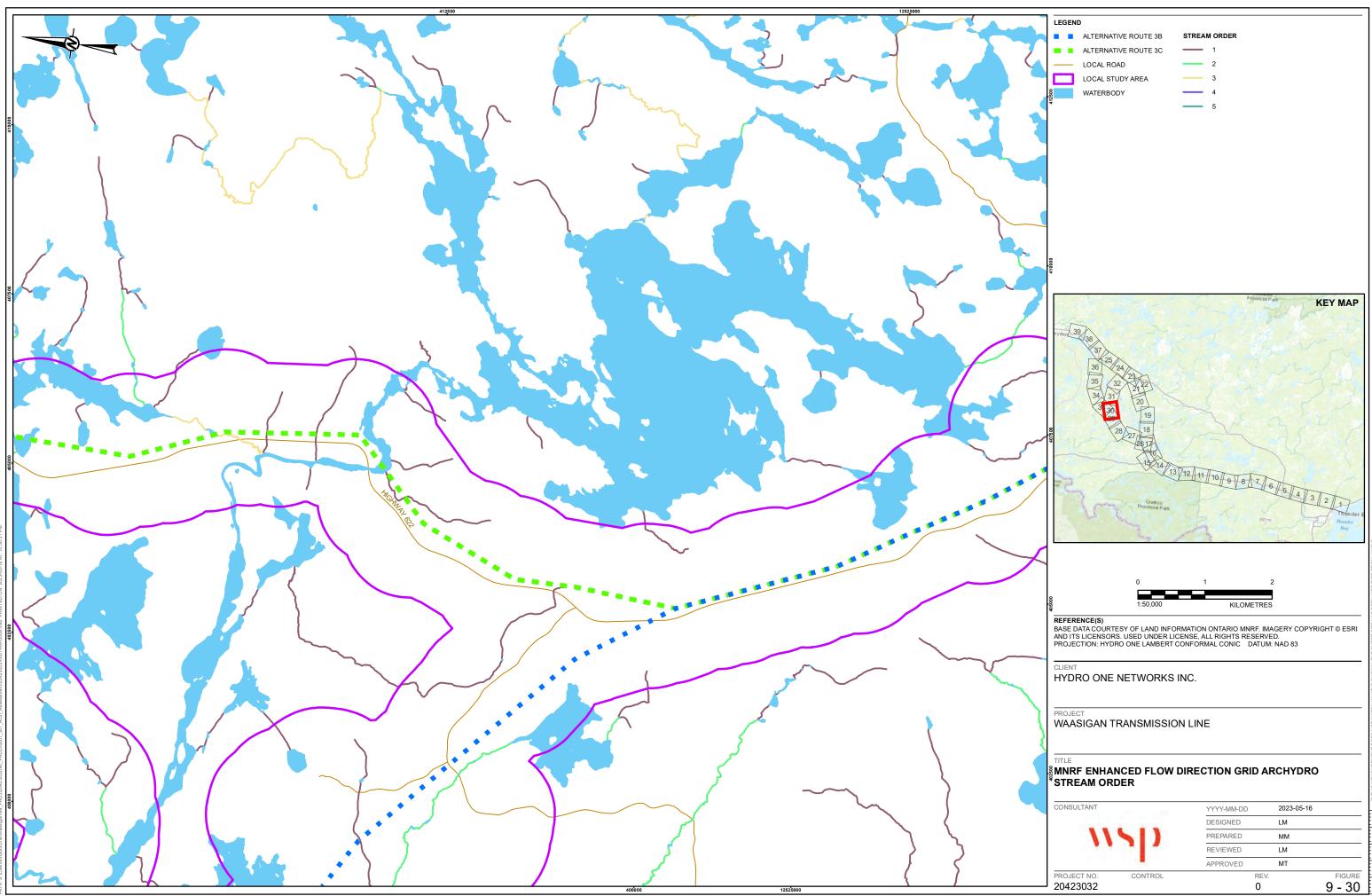


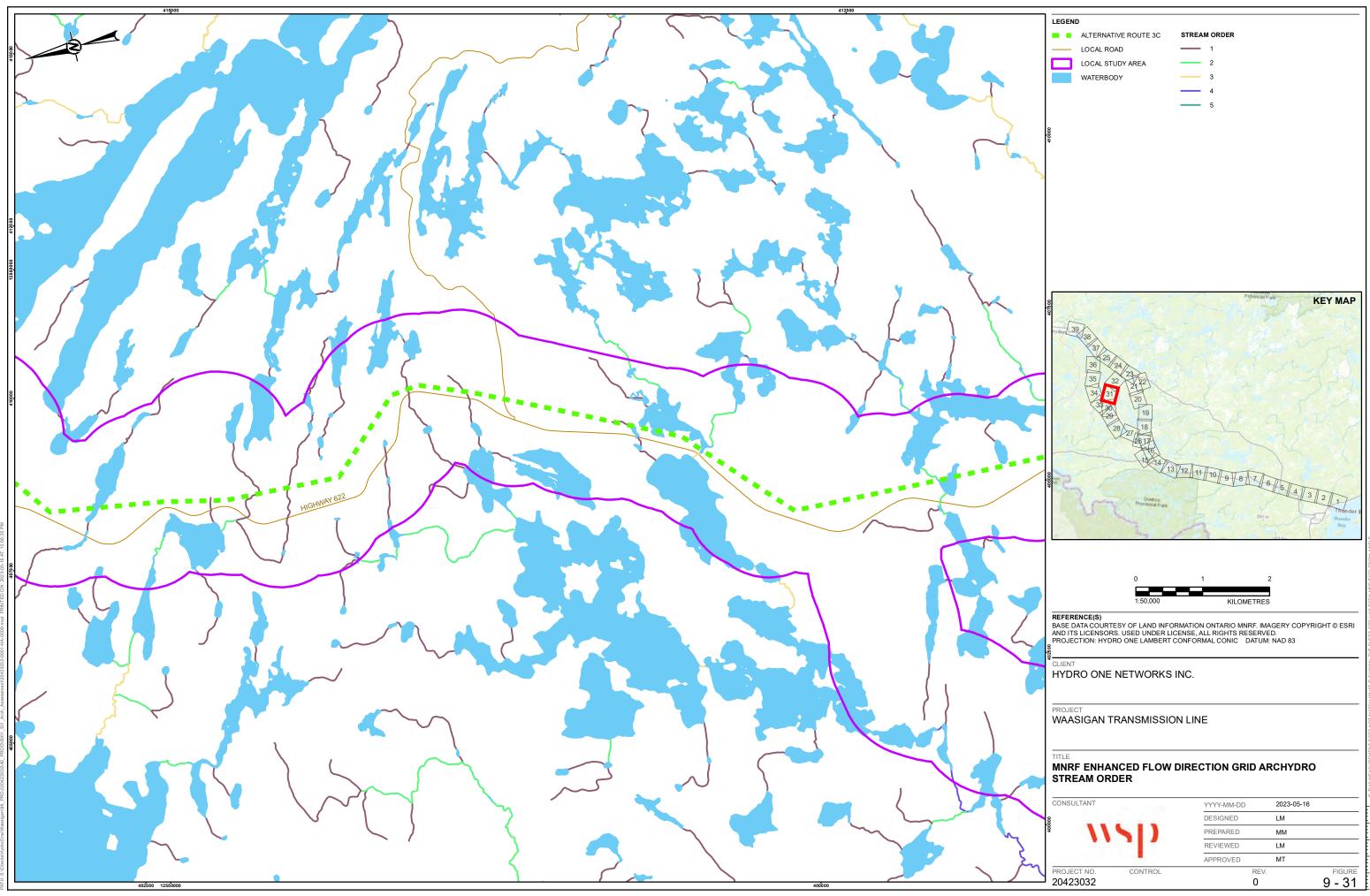
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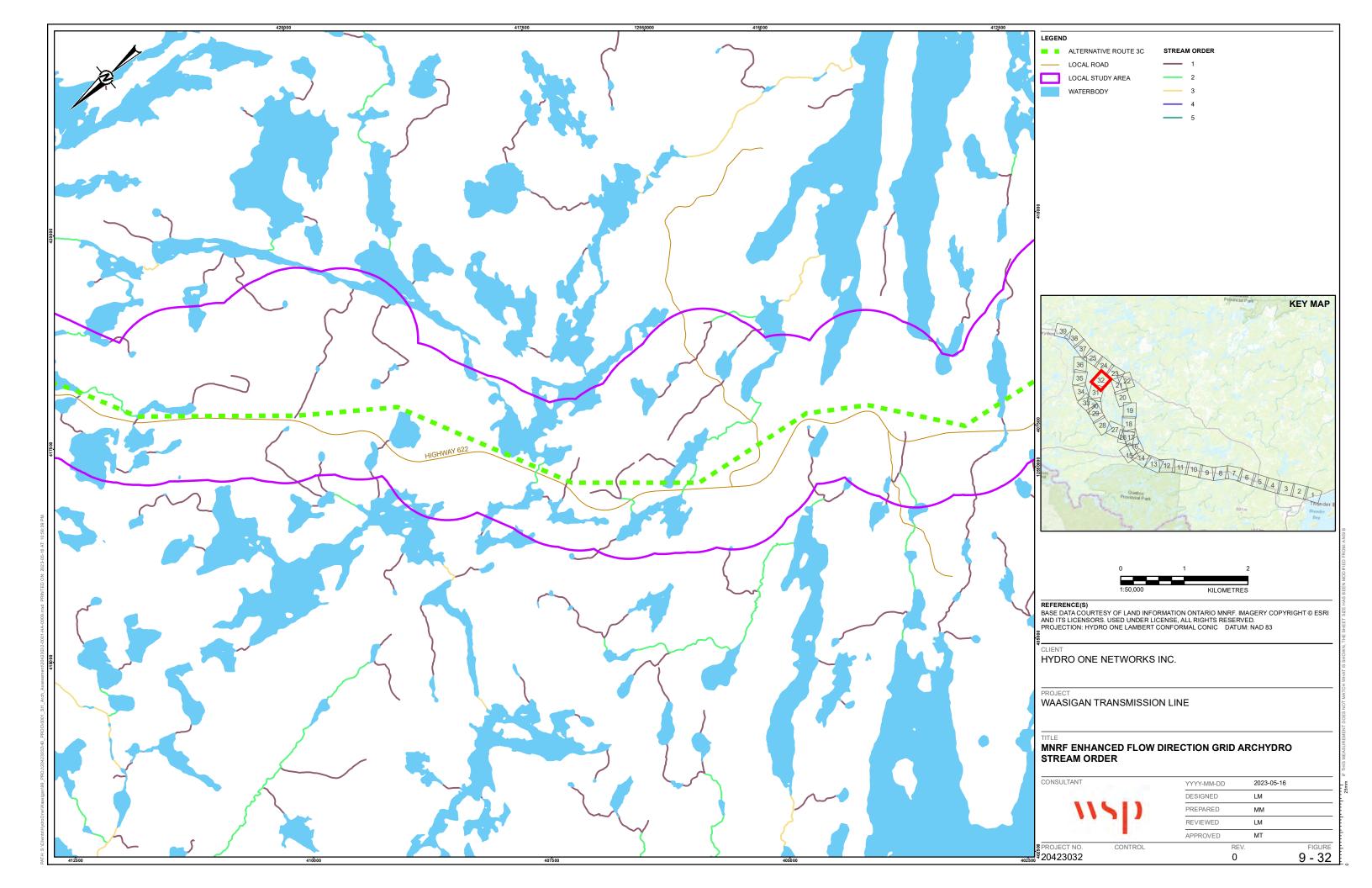
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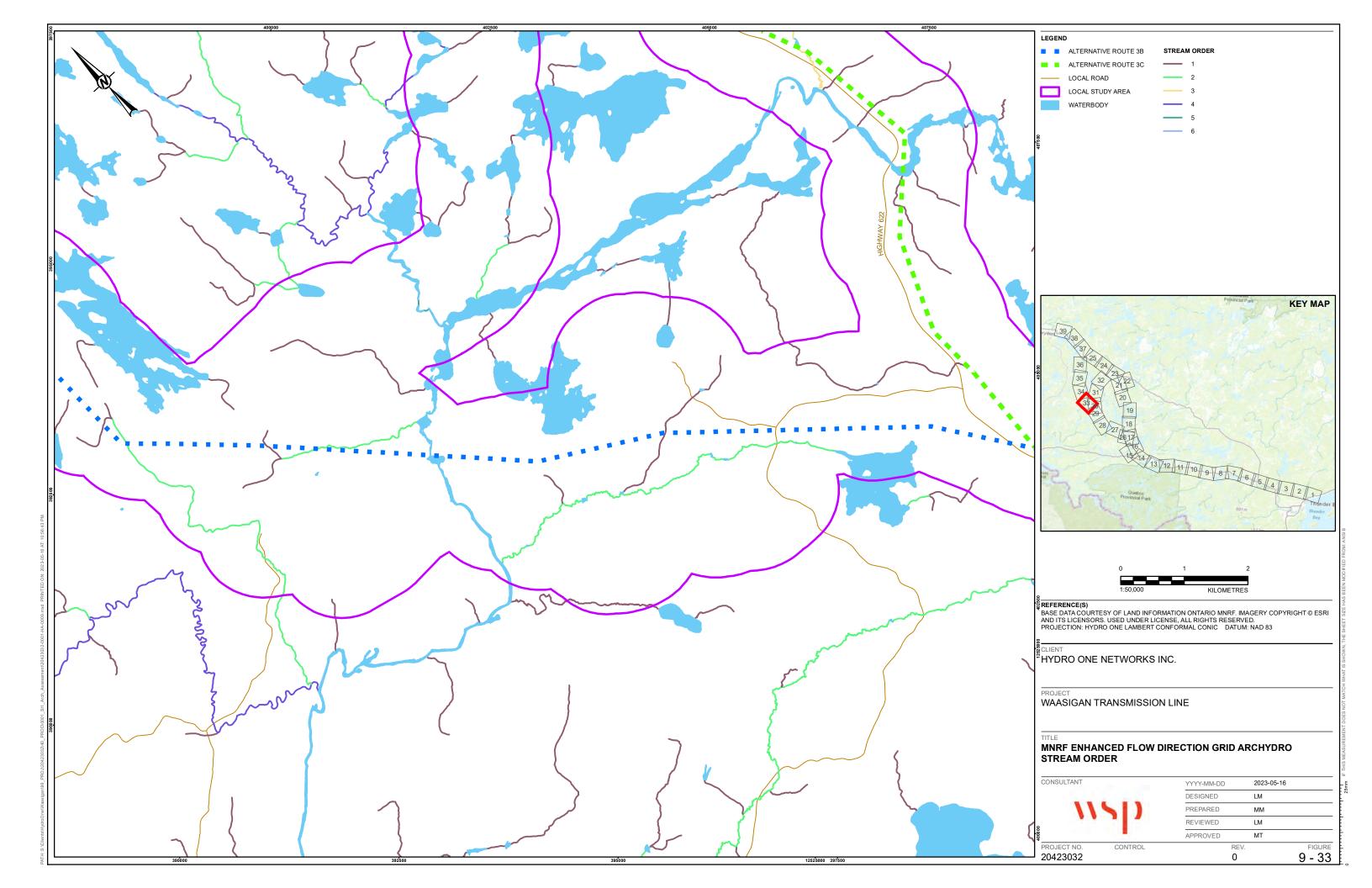
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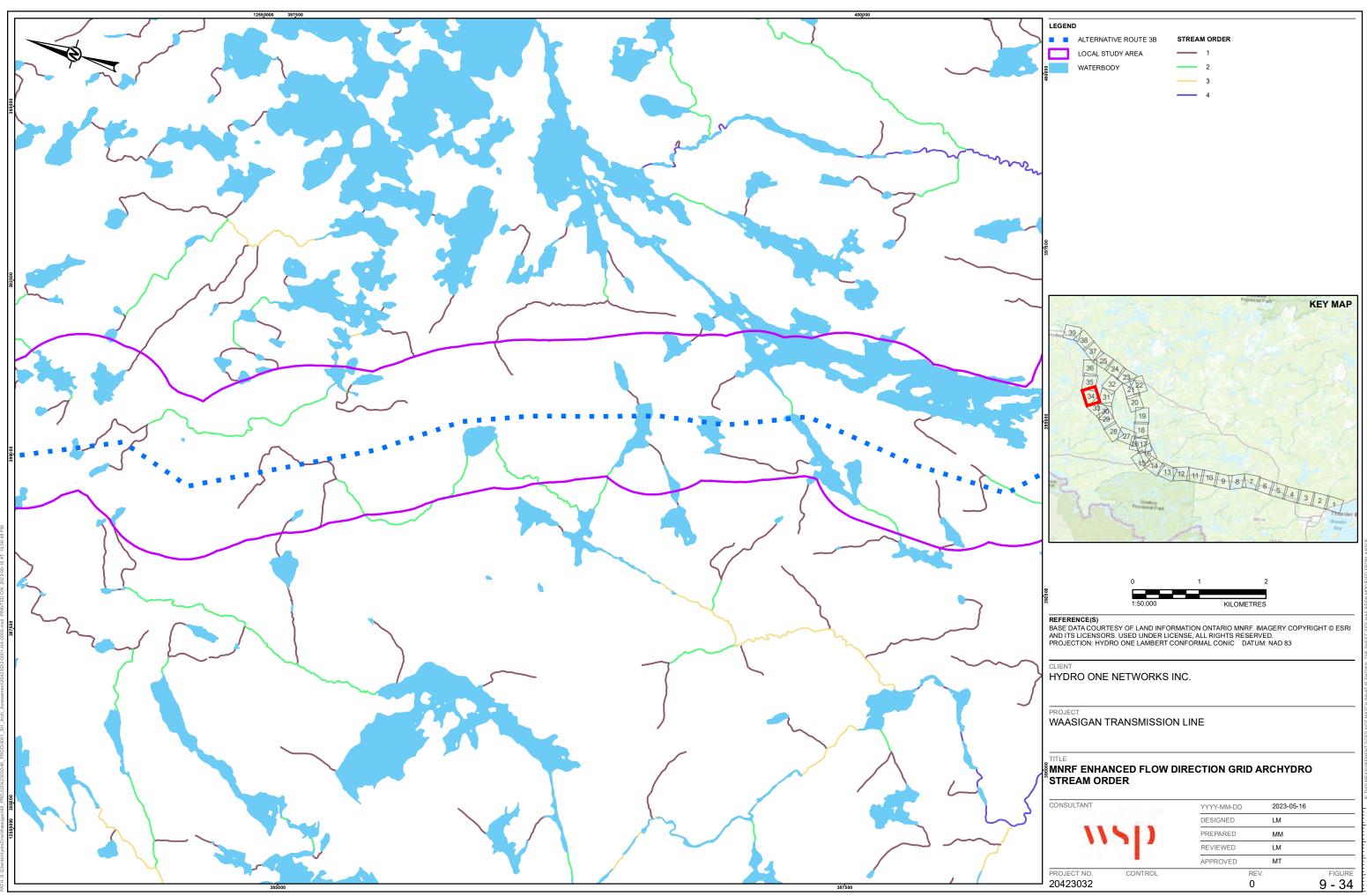




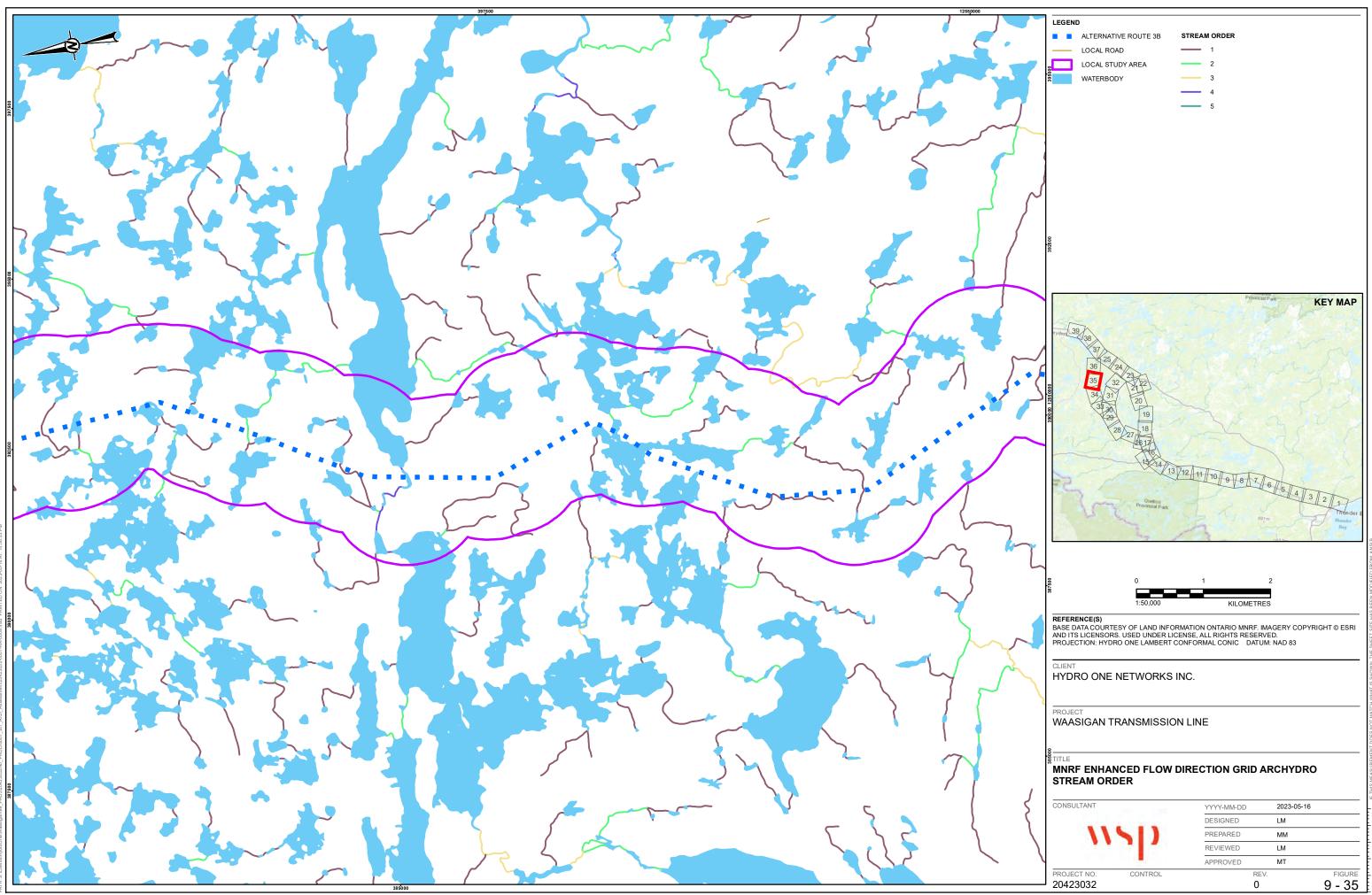
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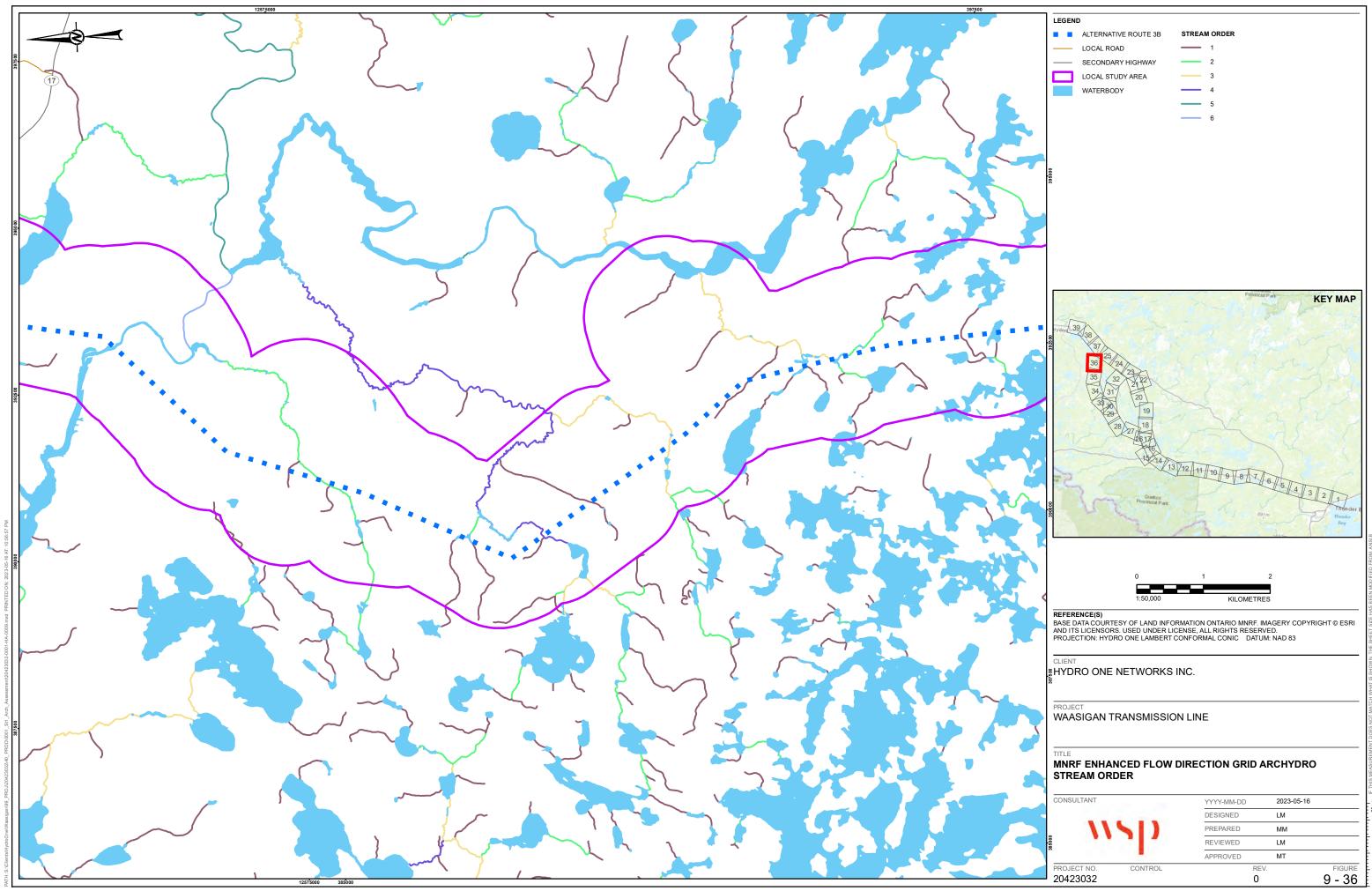


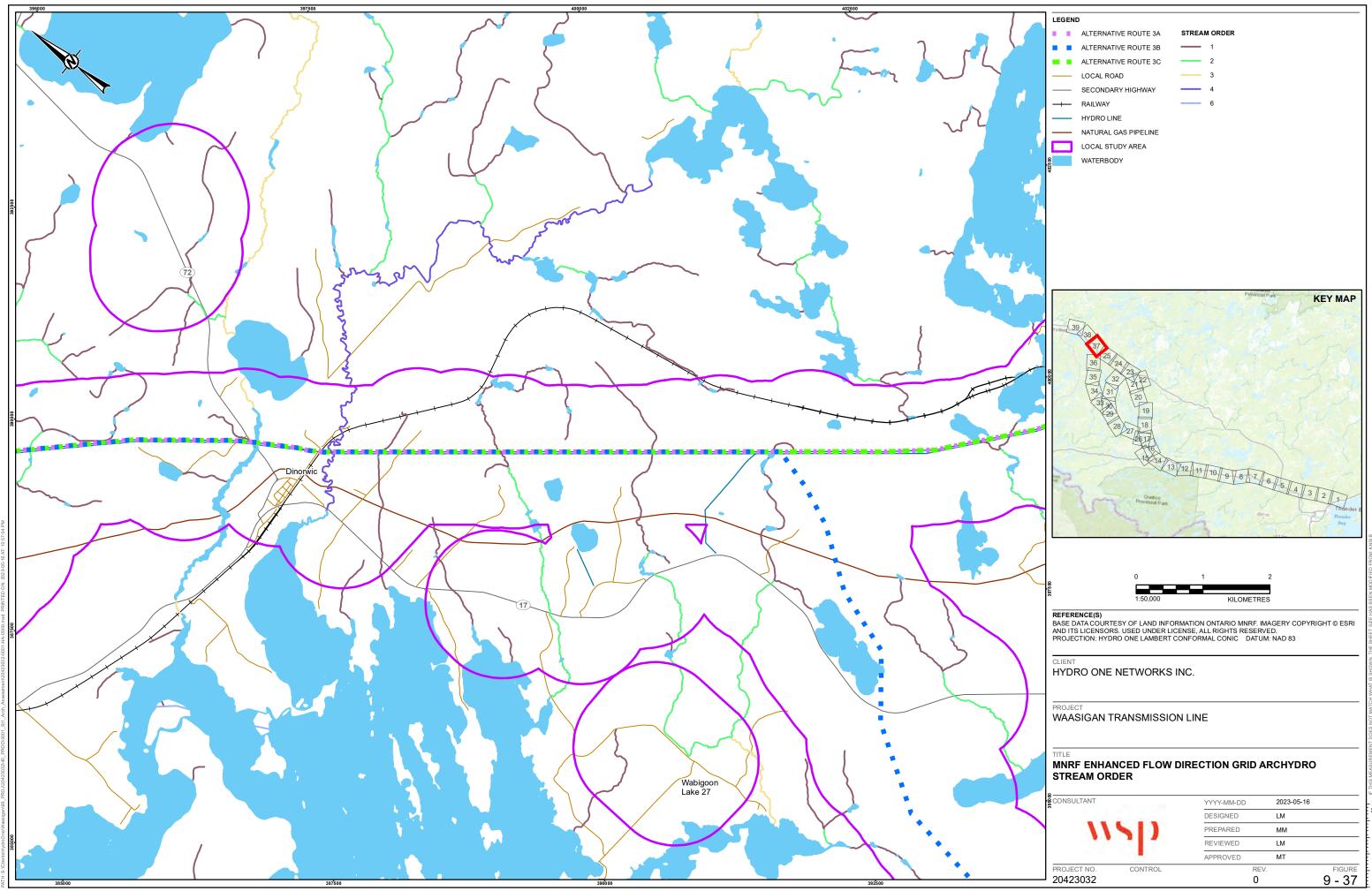


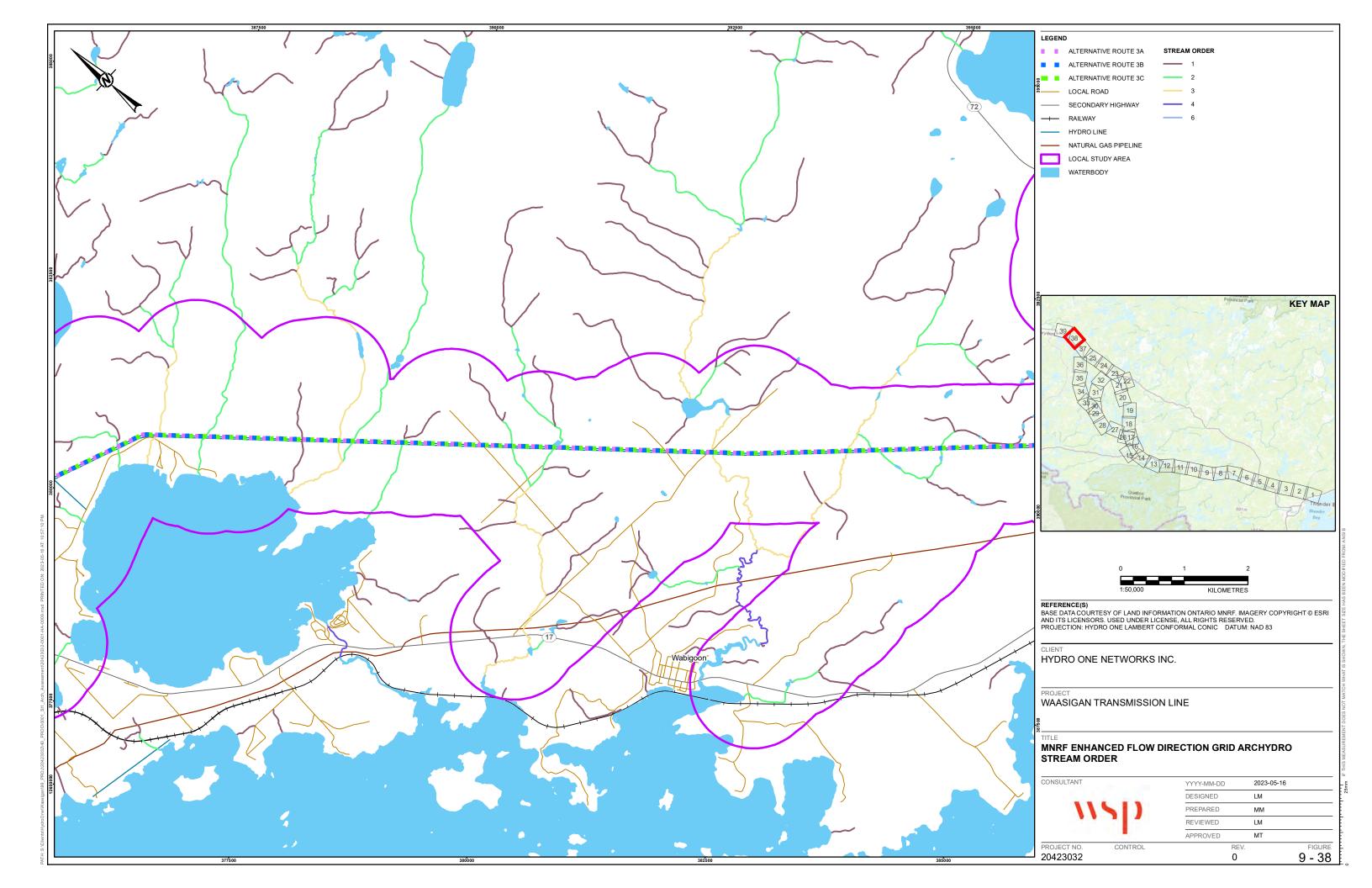
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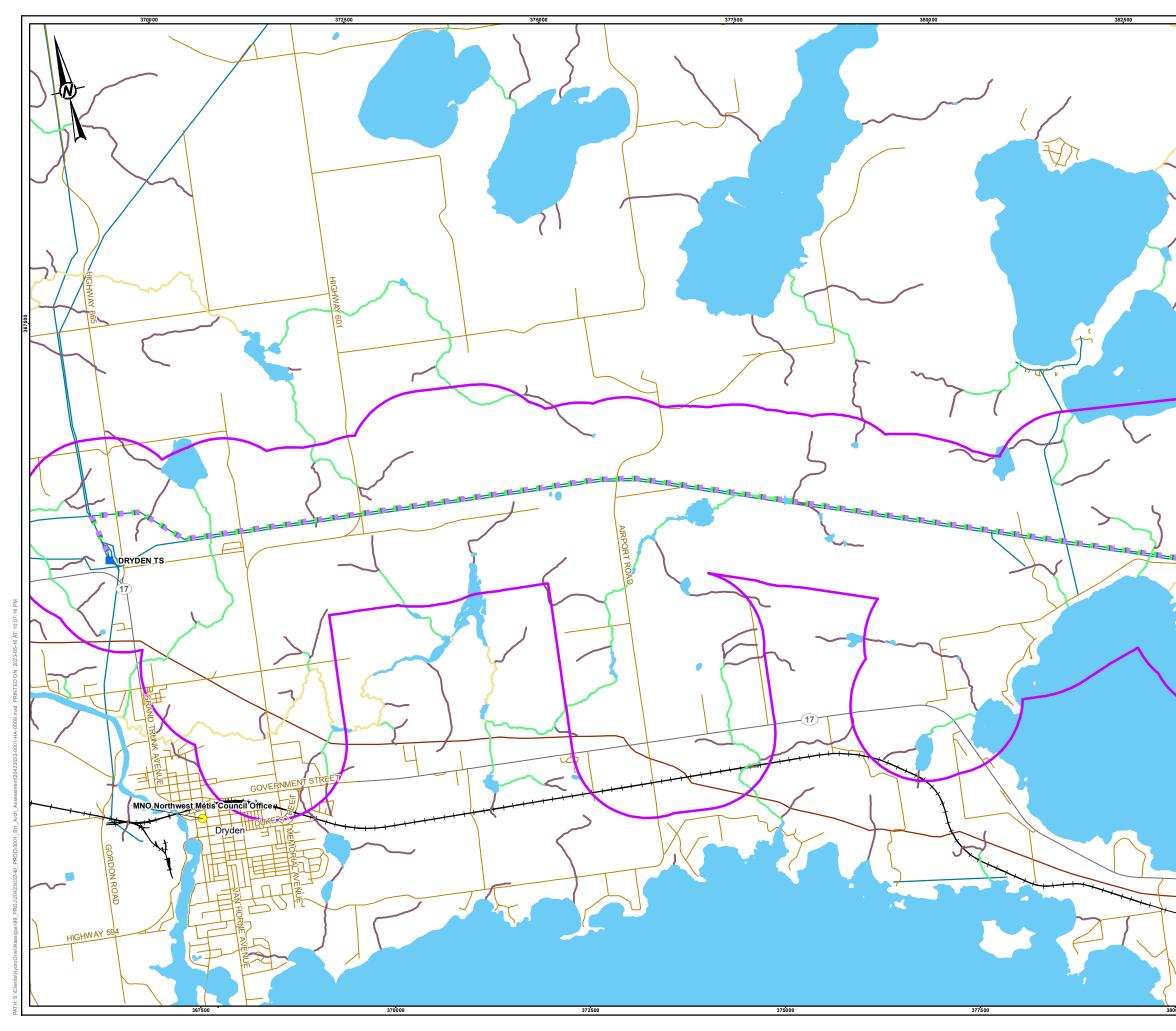


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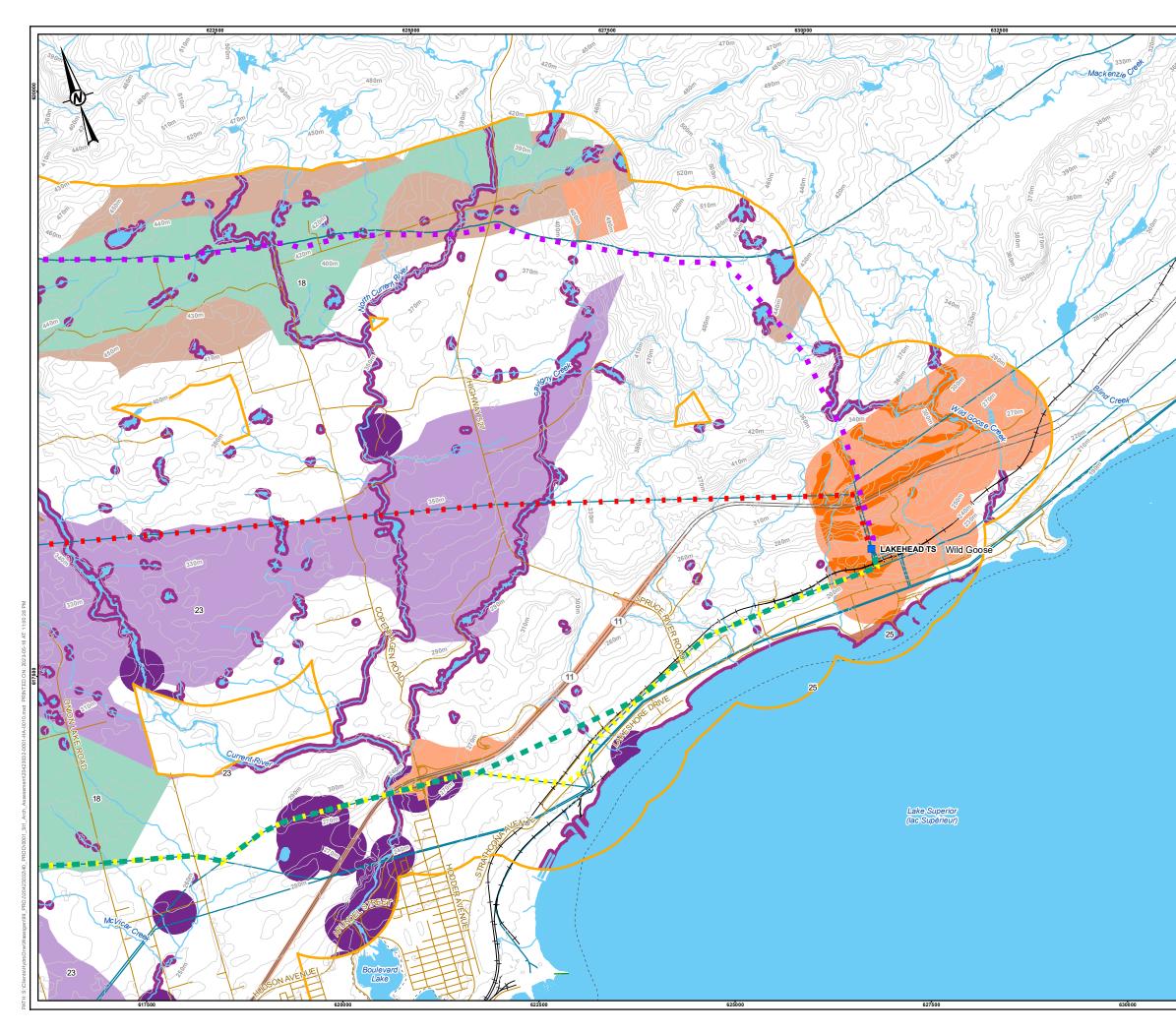
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ALTERNA	TIVE ROUTE 3B	4	
ALTERNA	TIVE ROUTE 3C	6	
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SECONDA	ARY HIGHWAY		
HYDROLI	INE		
	. GAS PIPELINE		
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PROJECT NO. 20423032

CONTROL

FIGURE 9 - 39

REV. 0



LEGEN	D	
	230 kV TRANSFORMER STATION (TS)	WATERBODY
• •	ALTERNATIVE ROUTE 1	PREVIOUSLY ASSESSED – NO FURTHER ARCHAEOLOGICAL
• •	ALTERNATIVE ROUTE 1A	ASSESSMENT REQUIRED PREVIOUSLY ASSESSED – HIGH
•••	ALTERNATIVE ROUTE 1B - 2	ARCHAEOLOGICAL POTENTIAL - RECOMMENDED FOR STAGE 2
	ALTERNATIVE ROUTE 1B - 1	ARCHAEOLOGICAL ASSESSMENT
	SECONDARY HIGHWAY	AREA RECOMMENDED FOR STAGE 2 ARCHAEOLOGICAL
	RAILWAY	ASSESSMENT – REGISTERED ARCHAEOLOGICAL SITE
	TRAIL	AREA RECOMMENDED FOR STAGE 2 ARCHAEOLOGICAL
	HYDRO LINE NATURAL GAS PIPELINE	ASSESSMENT – MAJOR WATER SOURCE
	WATER PIPELINE	AREA RECOMMENDED FOR STAGE 2 ARCHAEOLOGICAL ASSESSMENT –
	WATERCOURSE	GEOLOGICAL FEATURE
	CONTOUR (10 m INTERVAL)	18: TILL – UNDIFFERENTIATED SAND, SILTY SAND, SILTY CLAY
	LOCAL STUDY AREA	23: GLACIOFLUVIAL OUTWASH DEPOSITS – GRAVEL AND SAND
		25: GLACIOLACUSTRINE DEPOSITS – SAND, GRAVELLY SAND, GRAVEL, NEAR SHORE/BEACH DEPOSITS
		ESKER
ryden 3	9 38 37	KEY MAR



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CLIENT

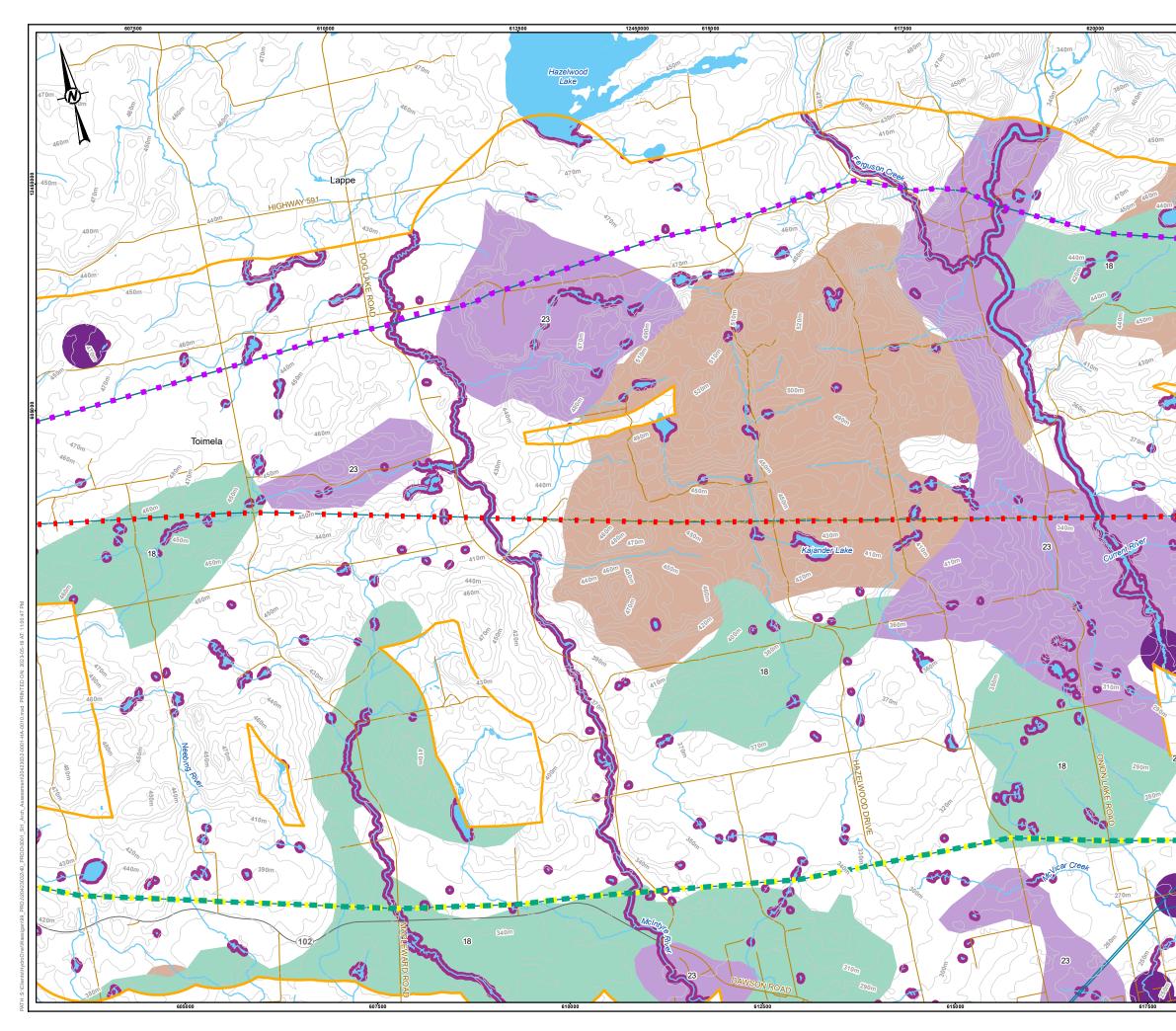
HYDRO ONE NETWORKS INC.

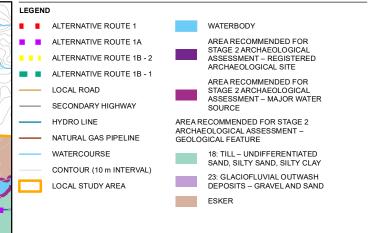
PROJECT WAASIGAN TRANSMISSION LINE

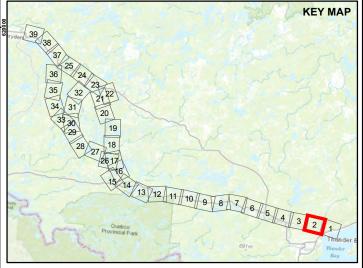
TITLE

AREAS REQUIRING STAGE 2 ARCHAEOLOGICAL ASSESSMENT

CONSULTANT 2023-05-16 YYYY-MM-DD DESIGNED LM PREPARED ST REVIEWED LM APPROVED MT FIGURE **10 - 1** PROJECT NO. CONTROL REV. 0 20423032







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CLIENT HYDRO ONE NETWORKS INC.

PROJECT

WAASIGAN TRANSMISSION LINE

TITLE

AREAS REQUIRING STAGE 2 ARCHAEOLOGICAL ASSESSMENT

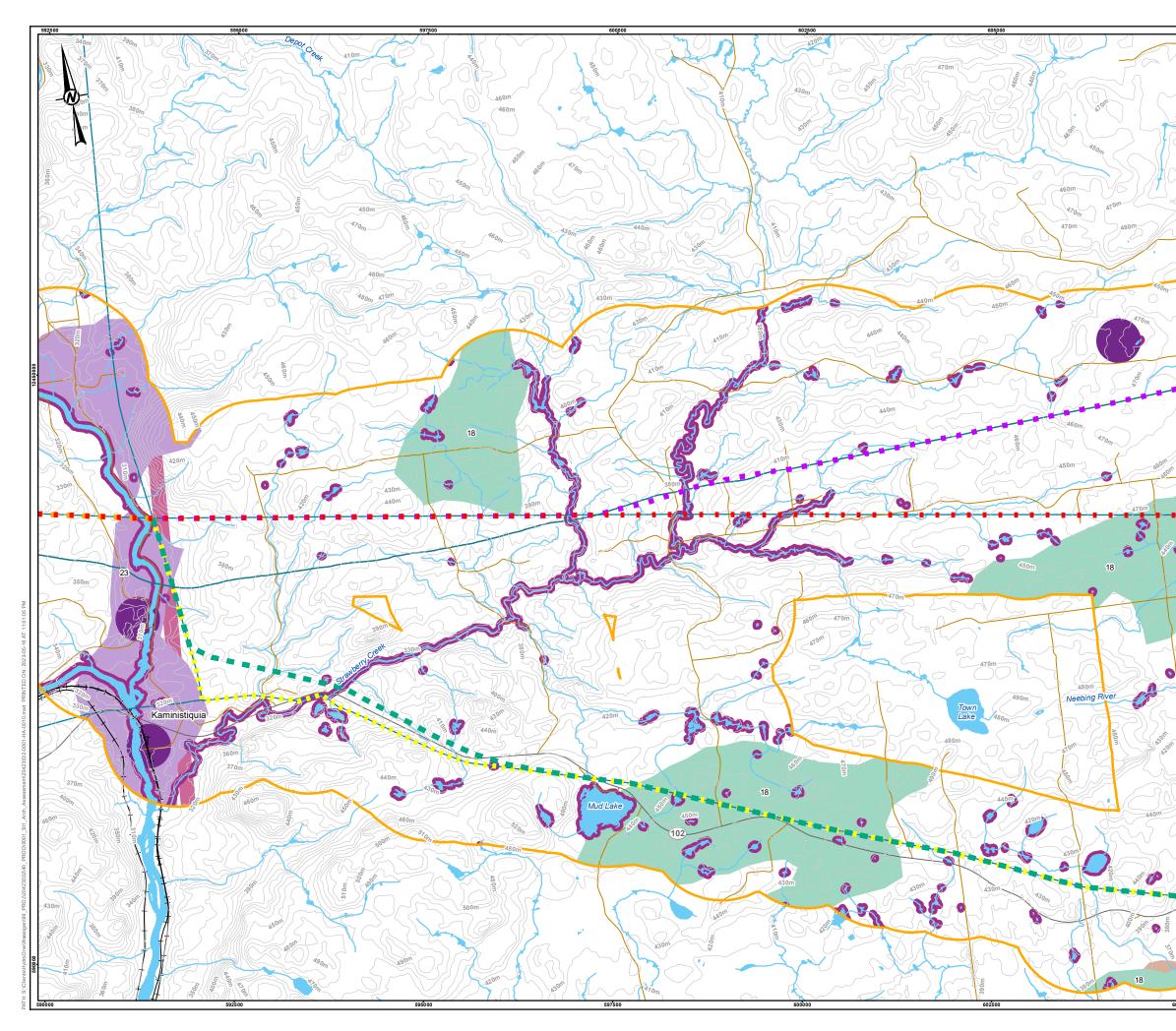
CONSULTANT

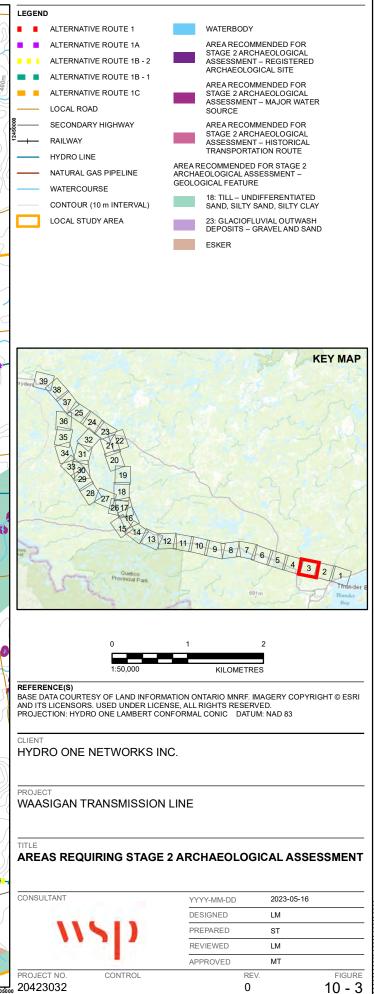
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PROJECT NO. CONTROL

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REVIEWED	LM	
APPROVED	MT	
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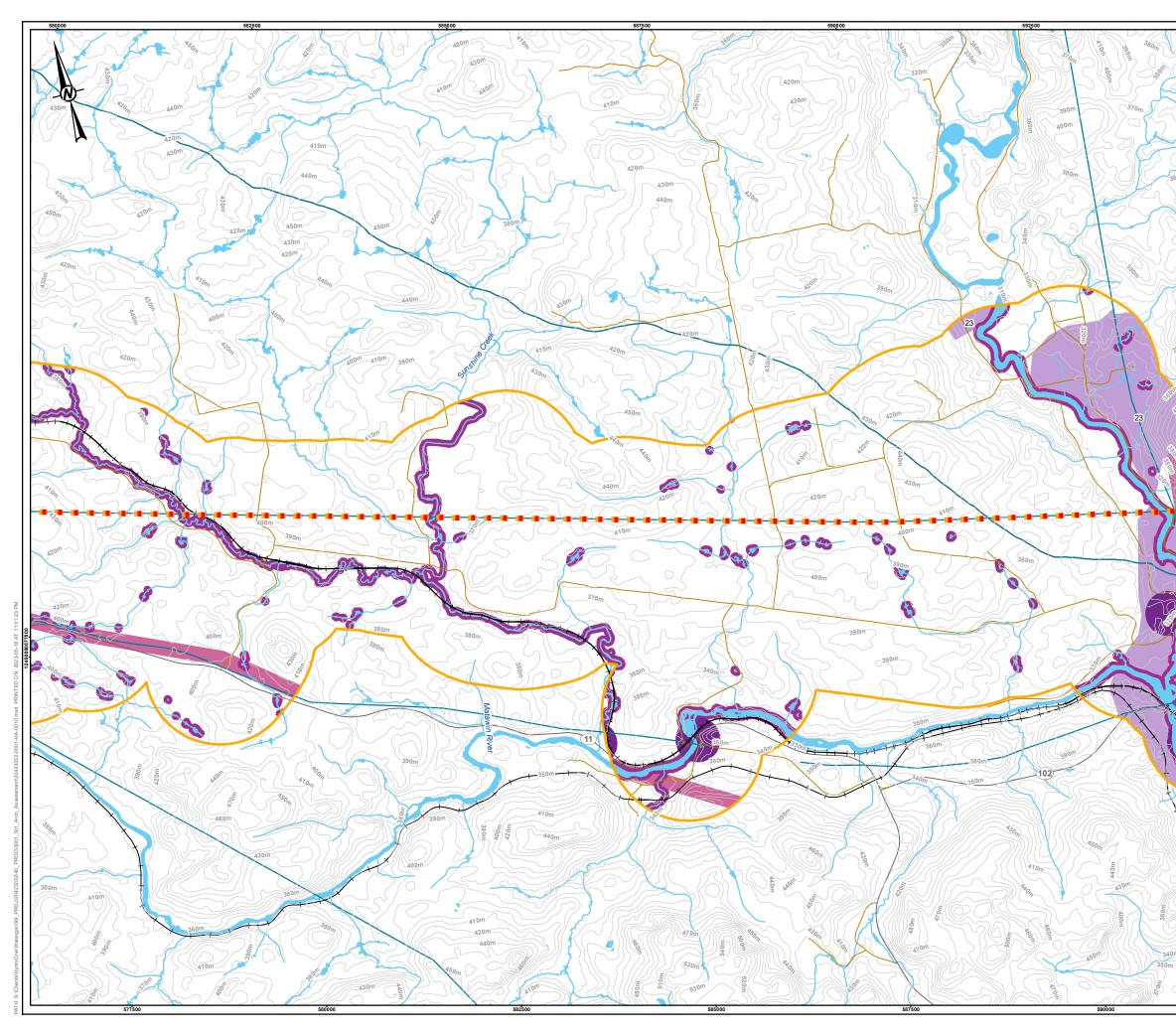
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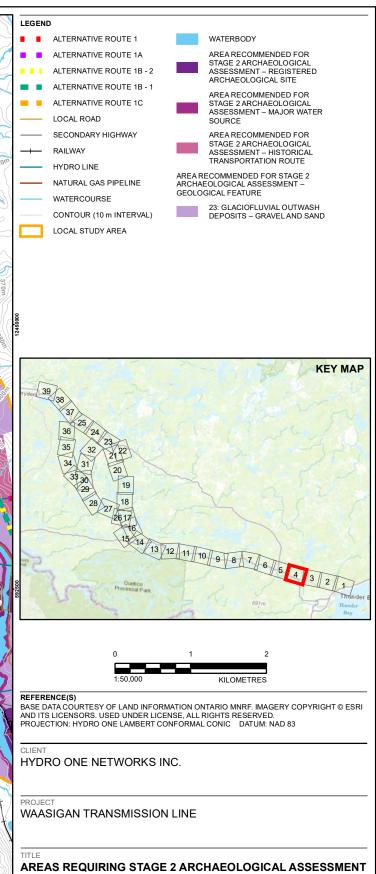




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PROJECT NO. 20423032

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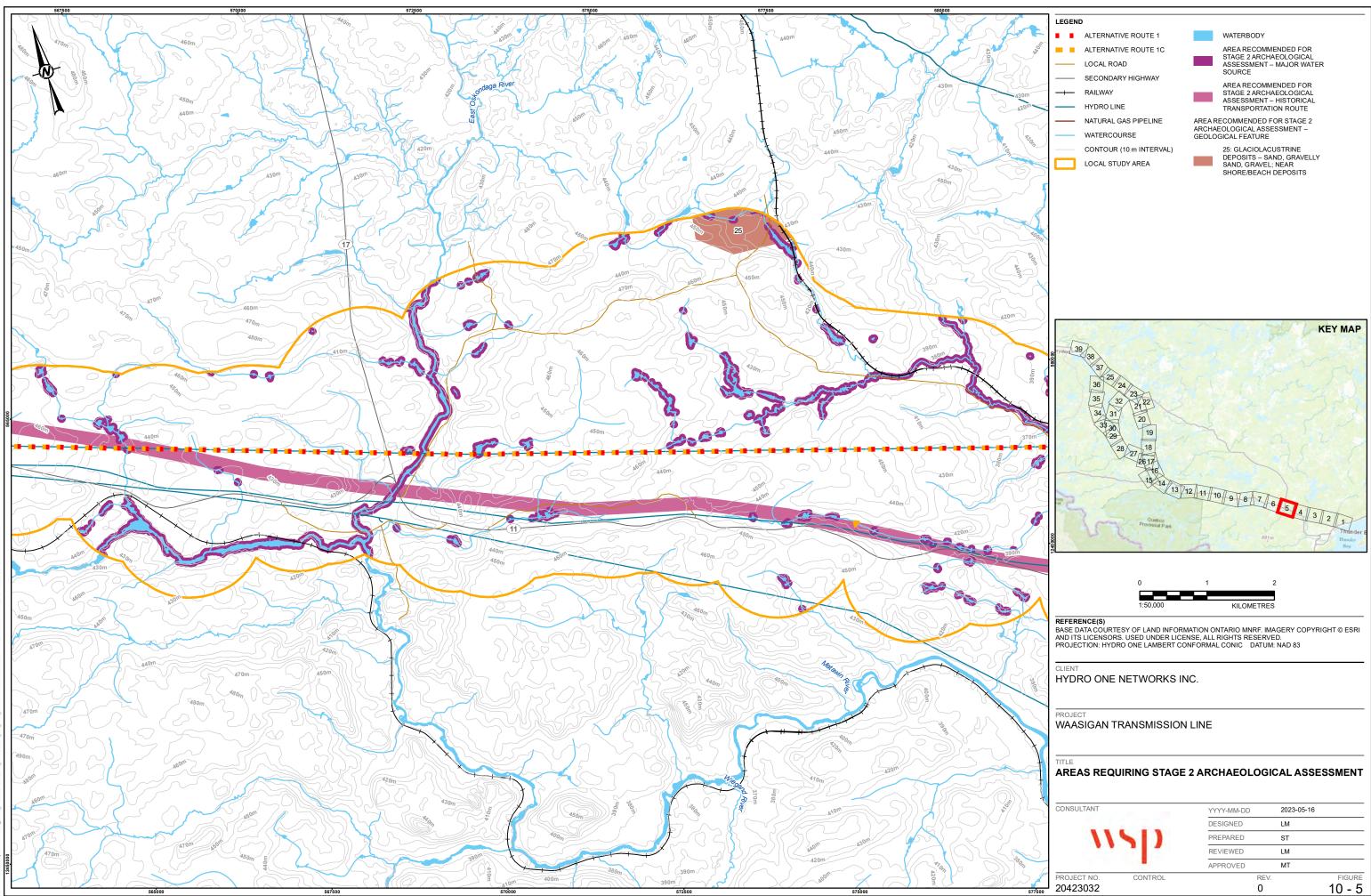
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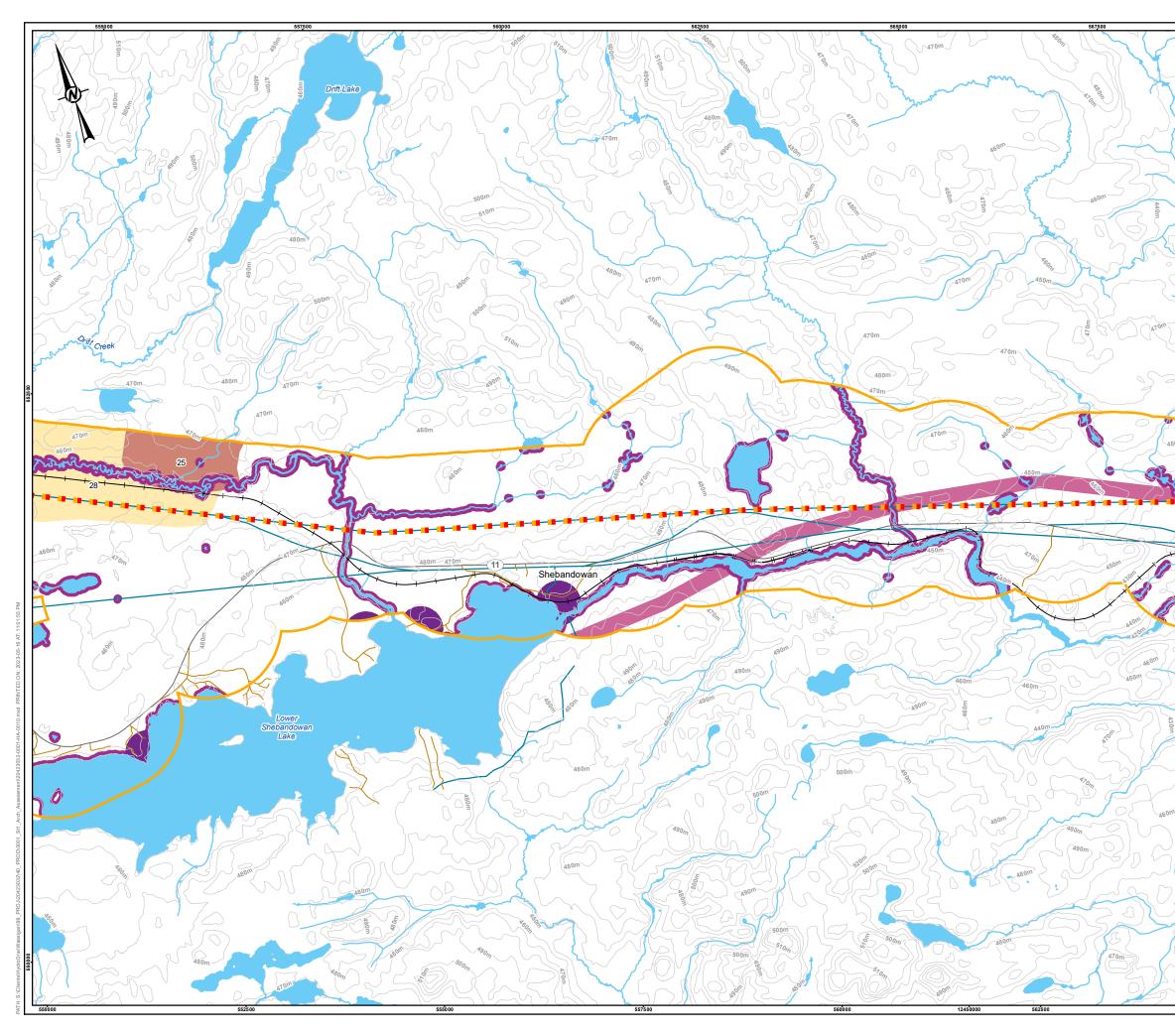
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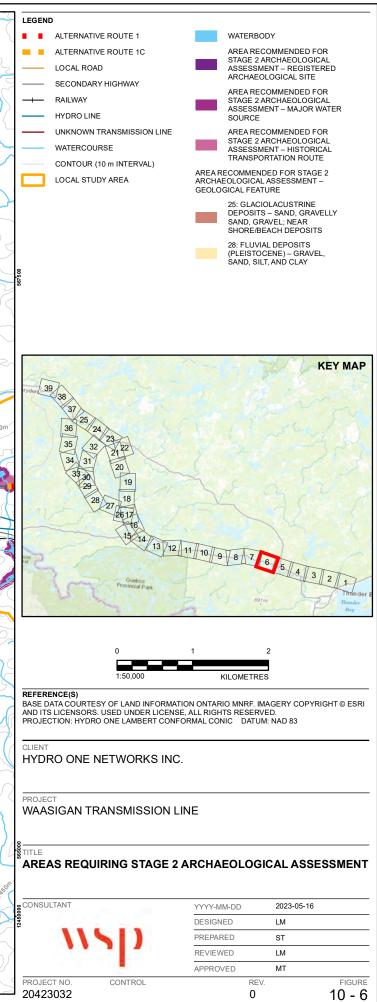
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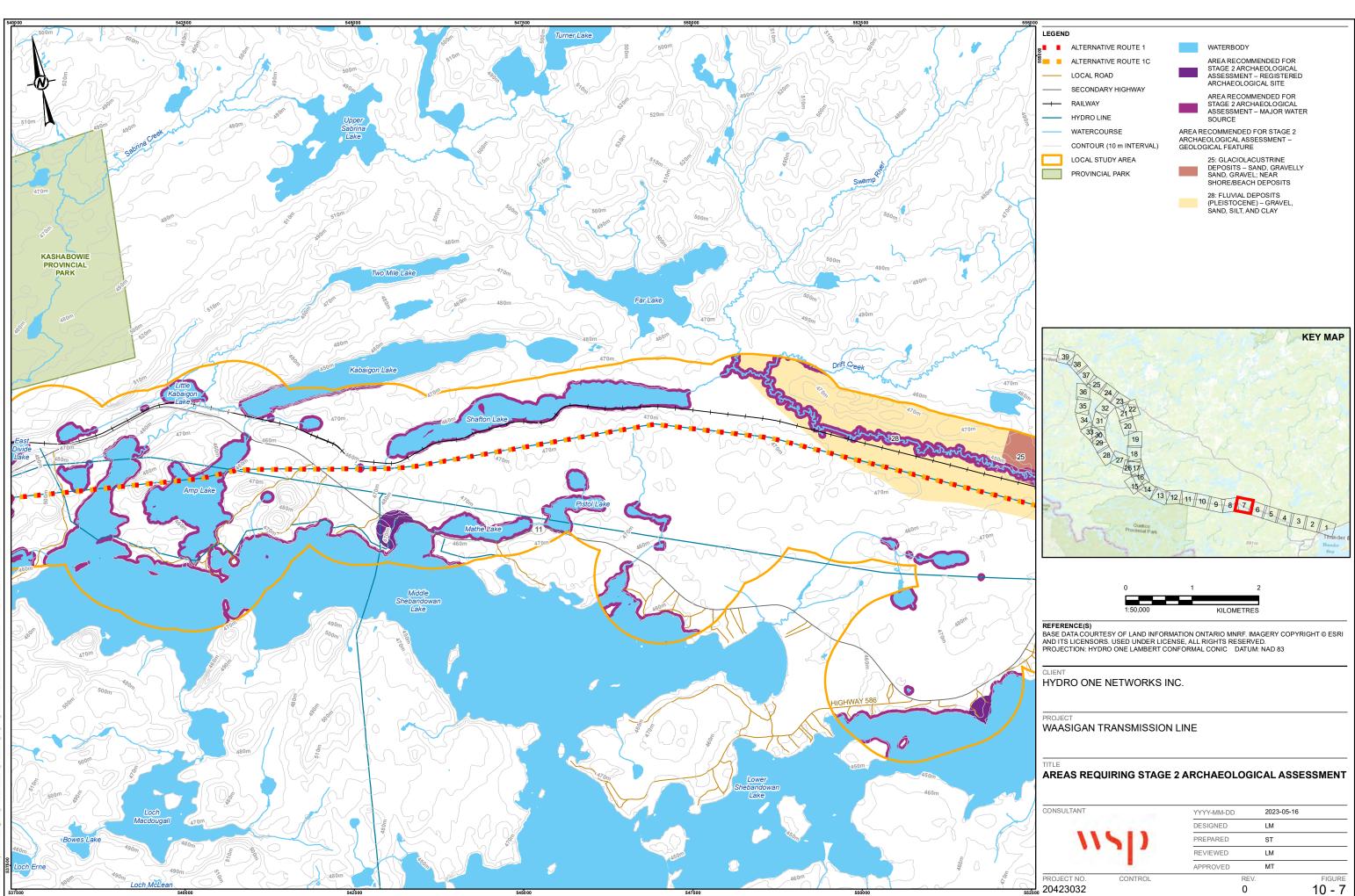
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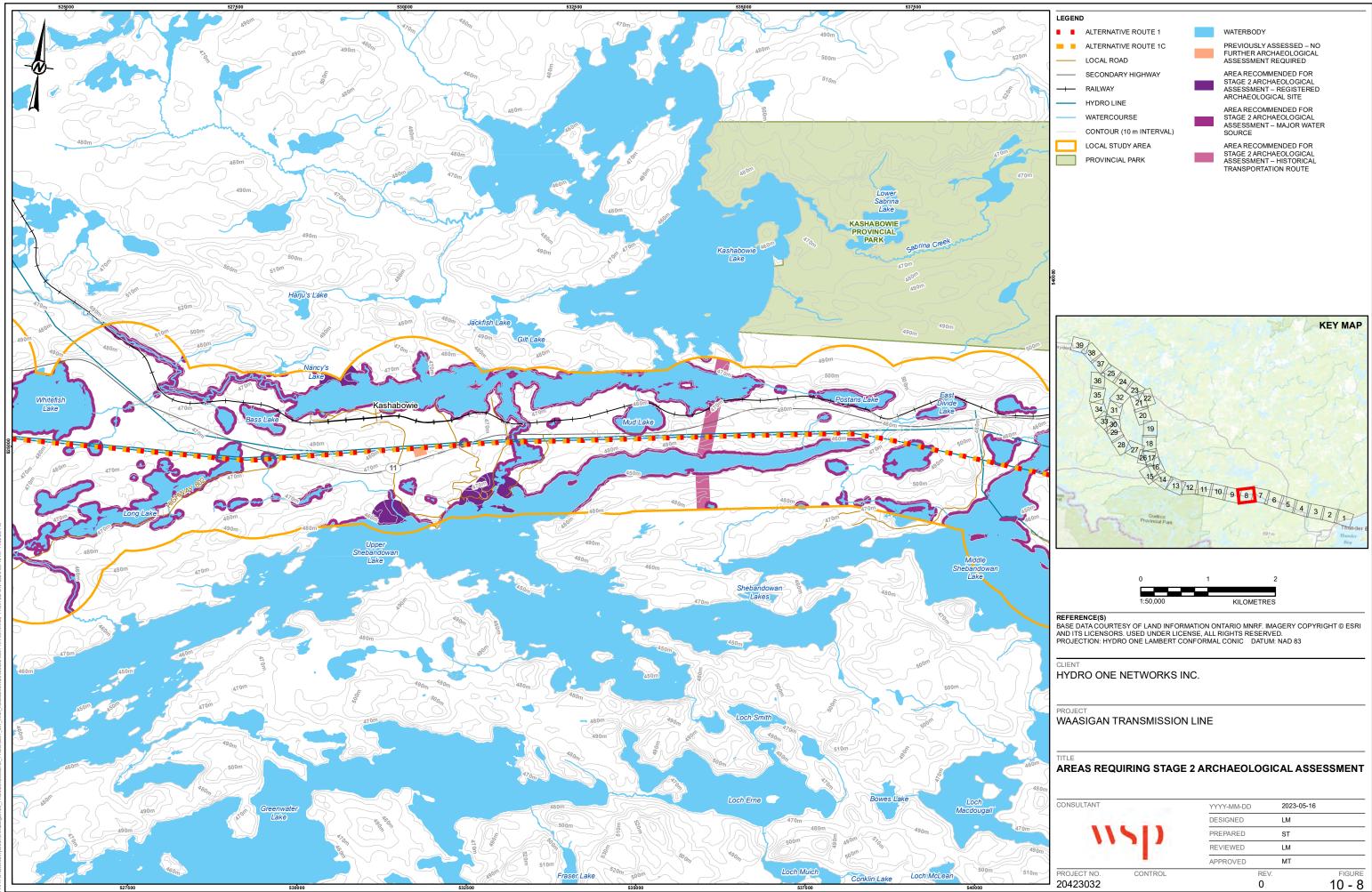


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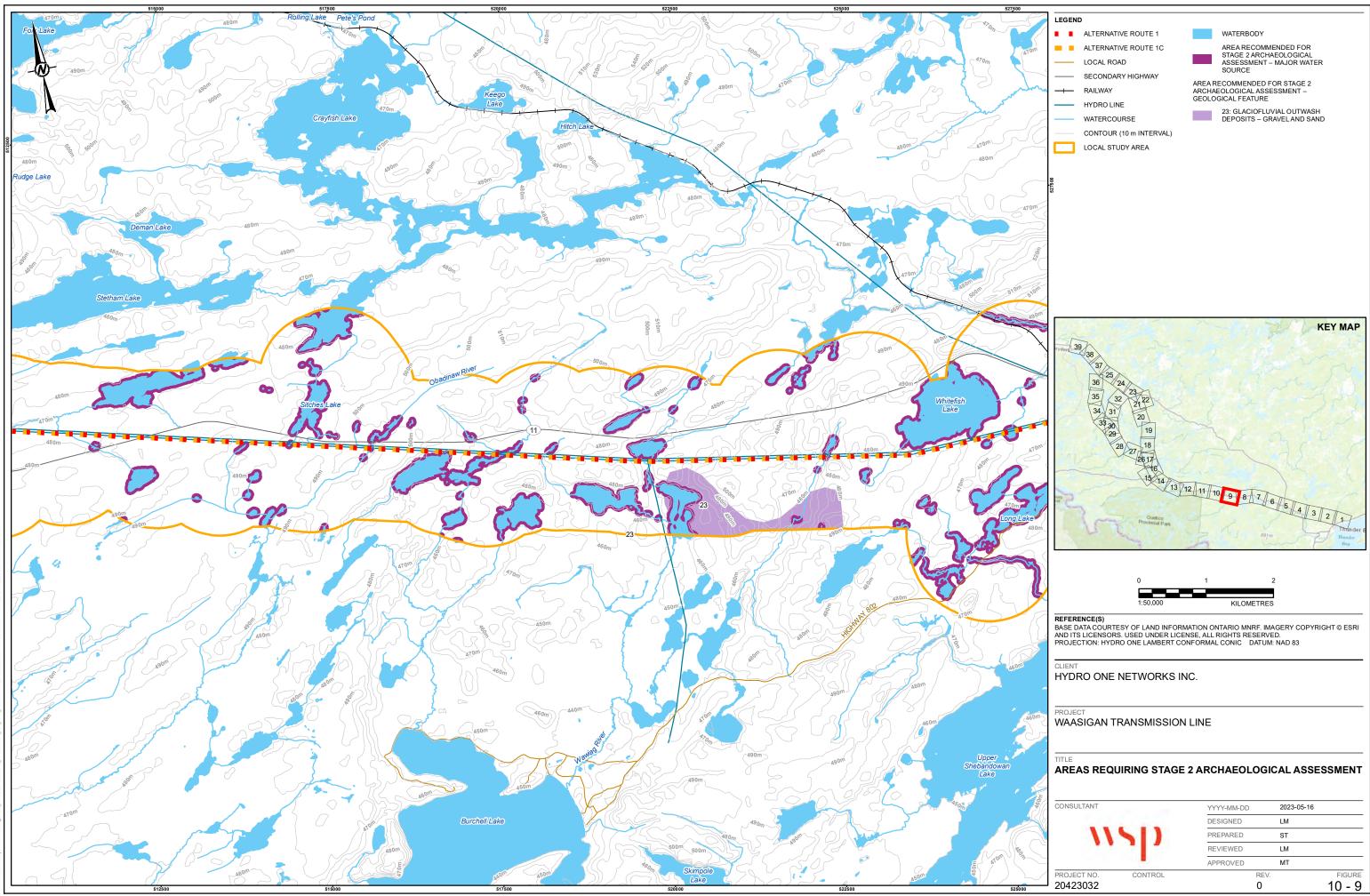


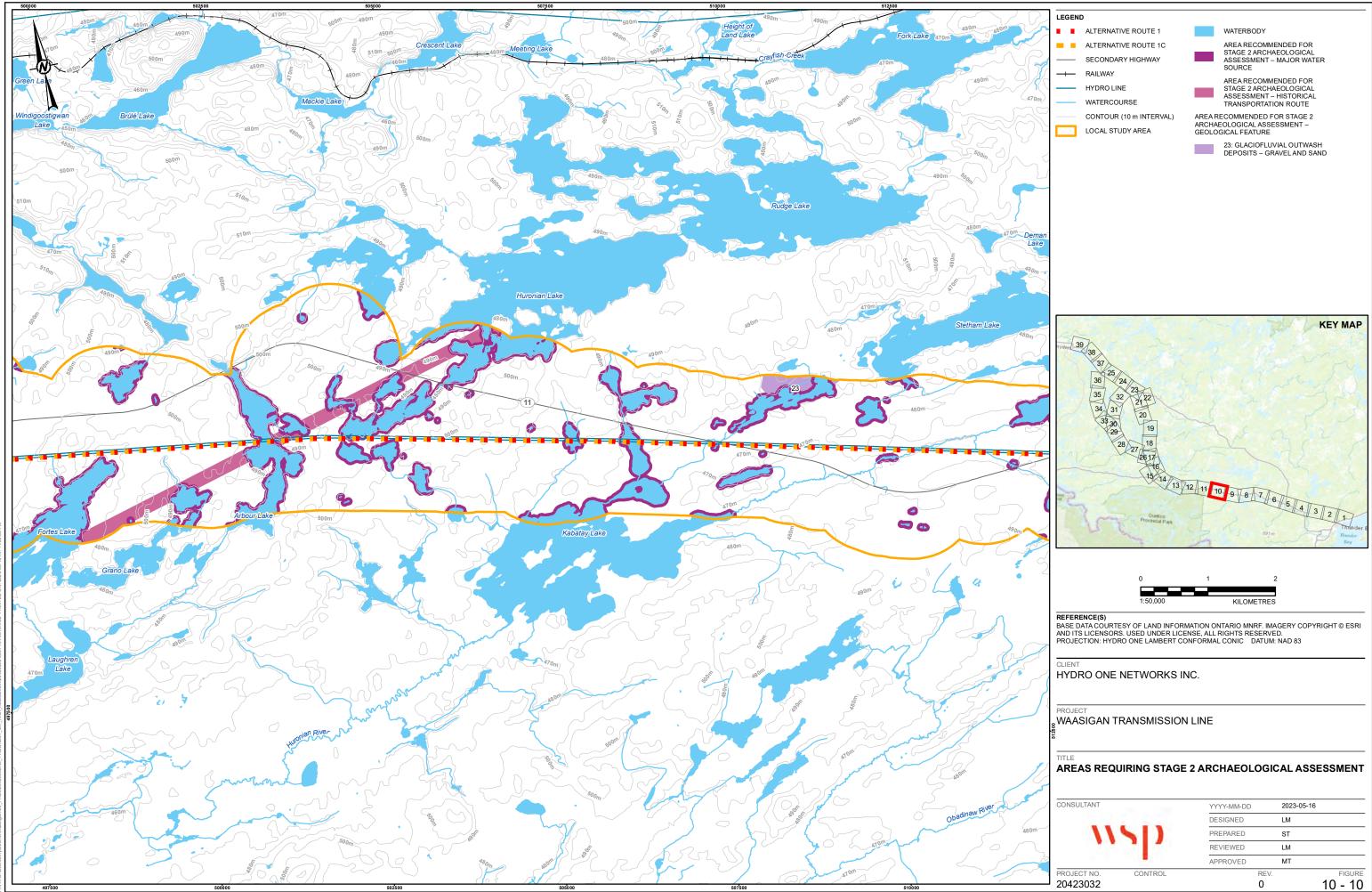


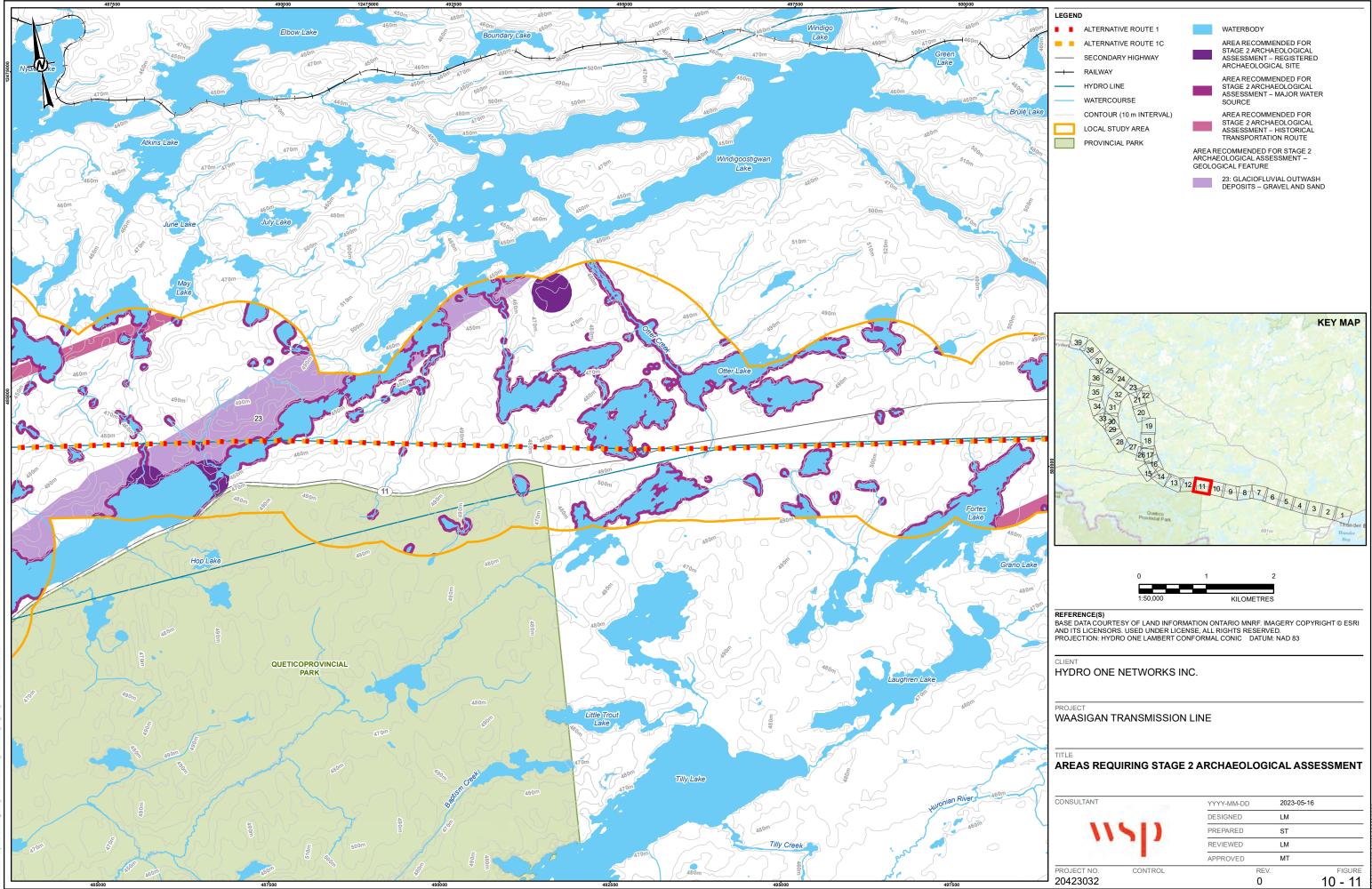




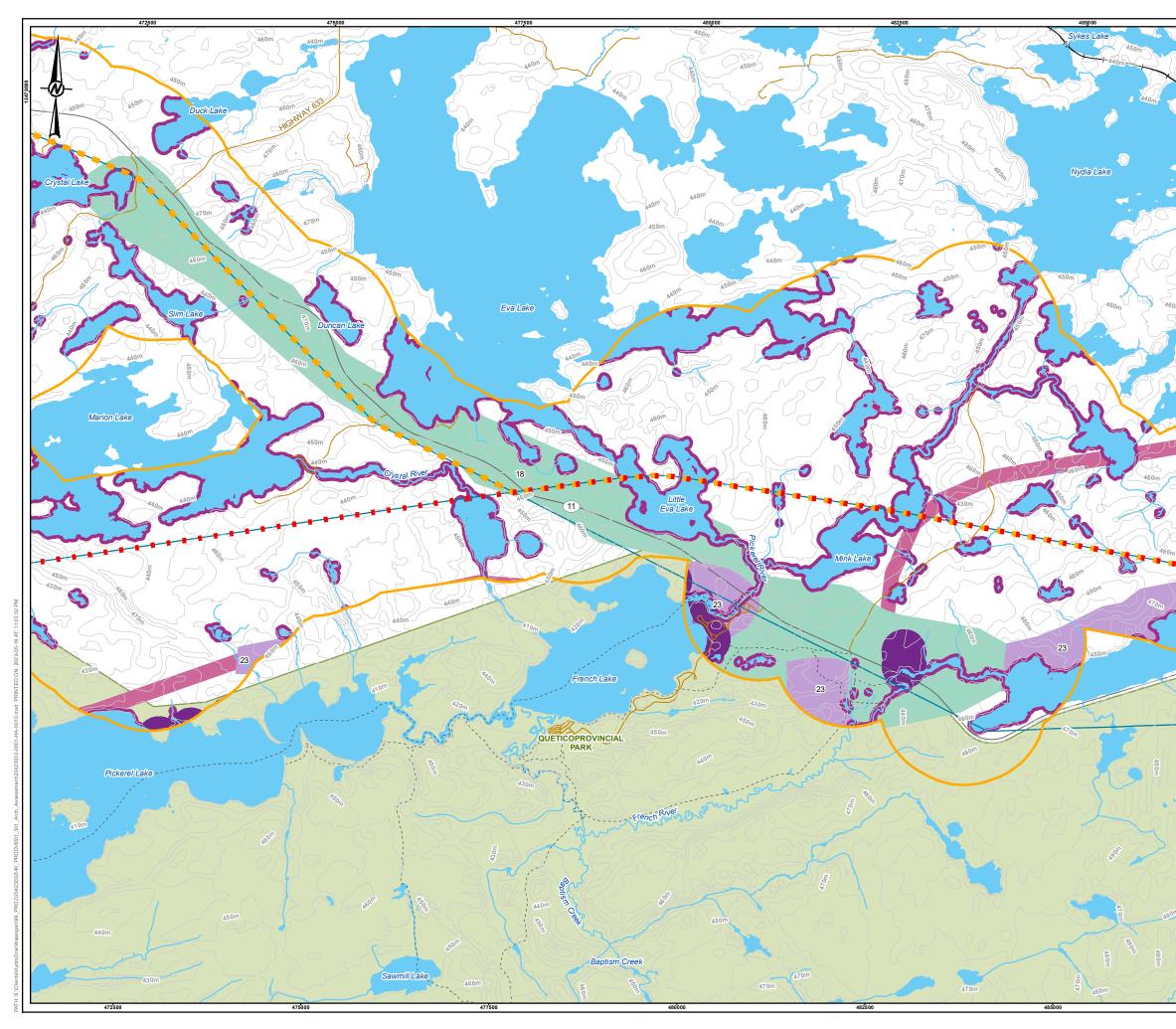
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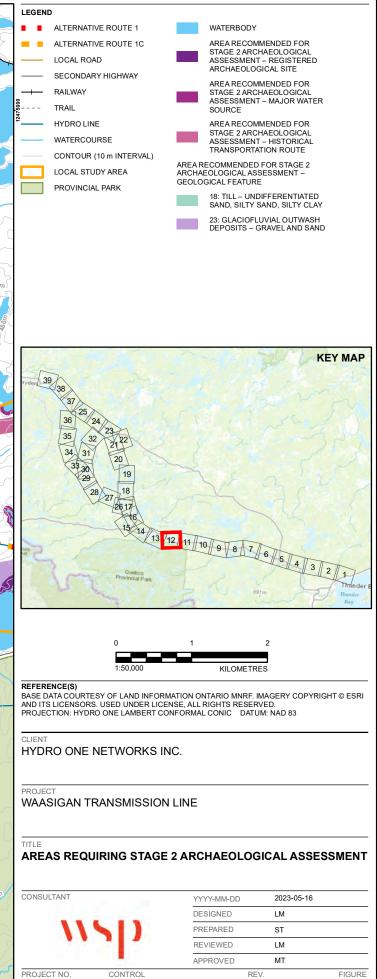




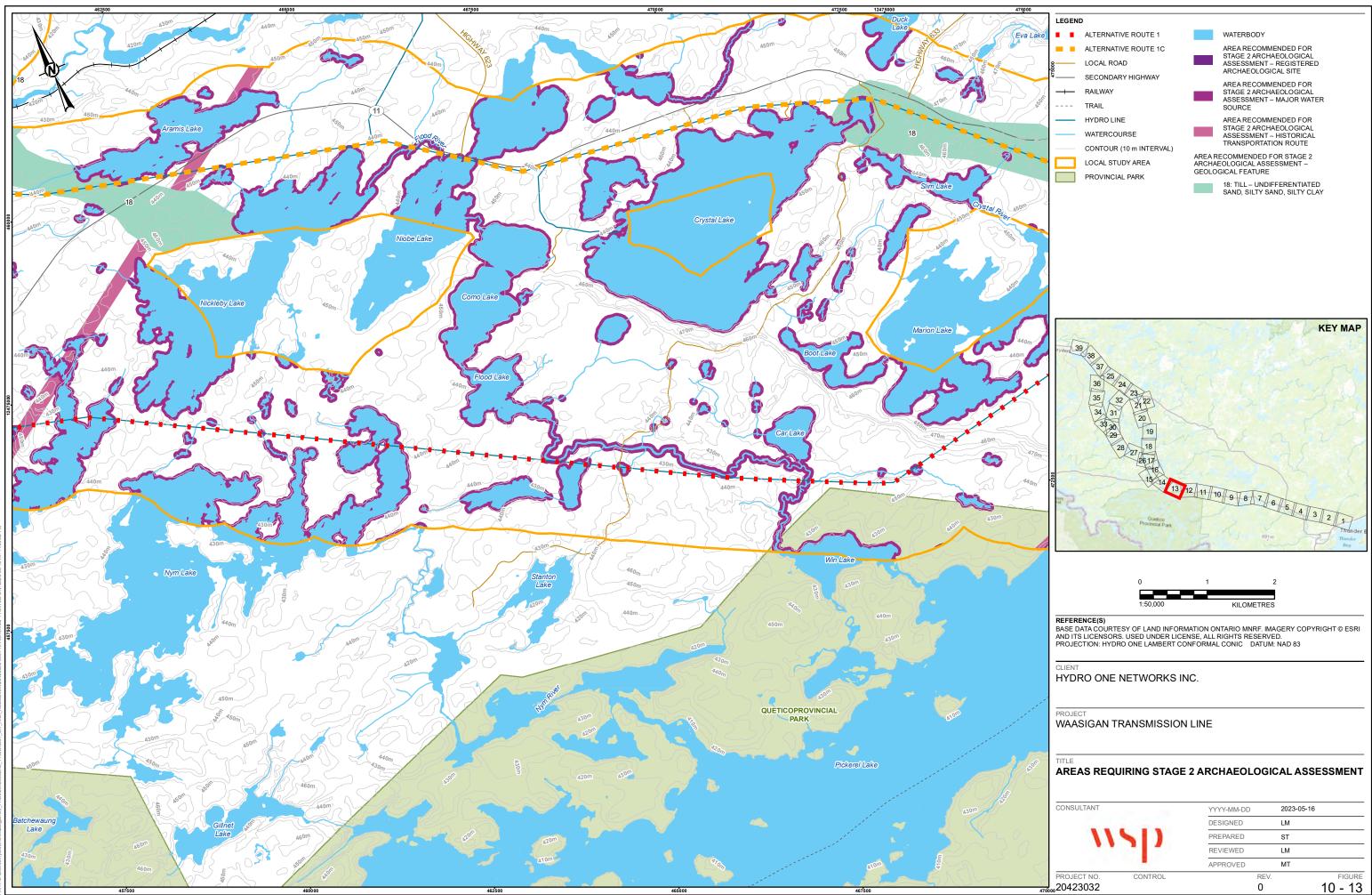


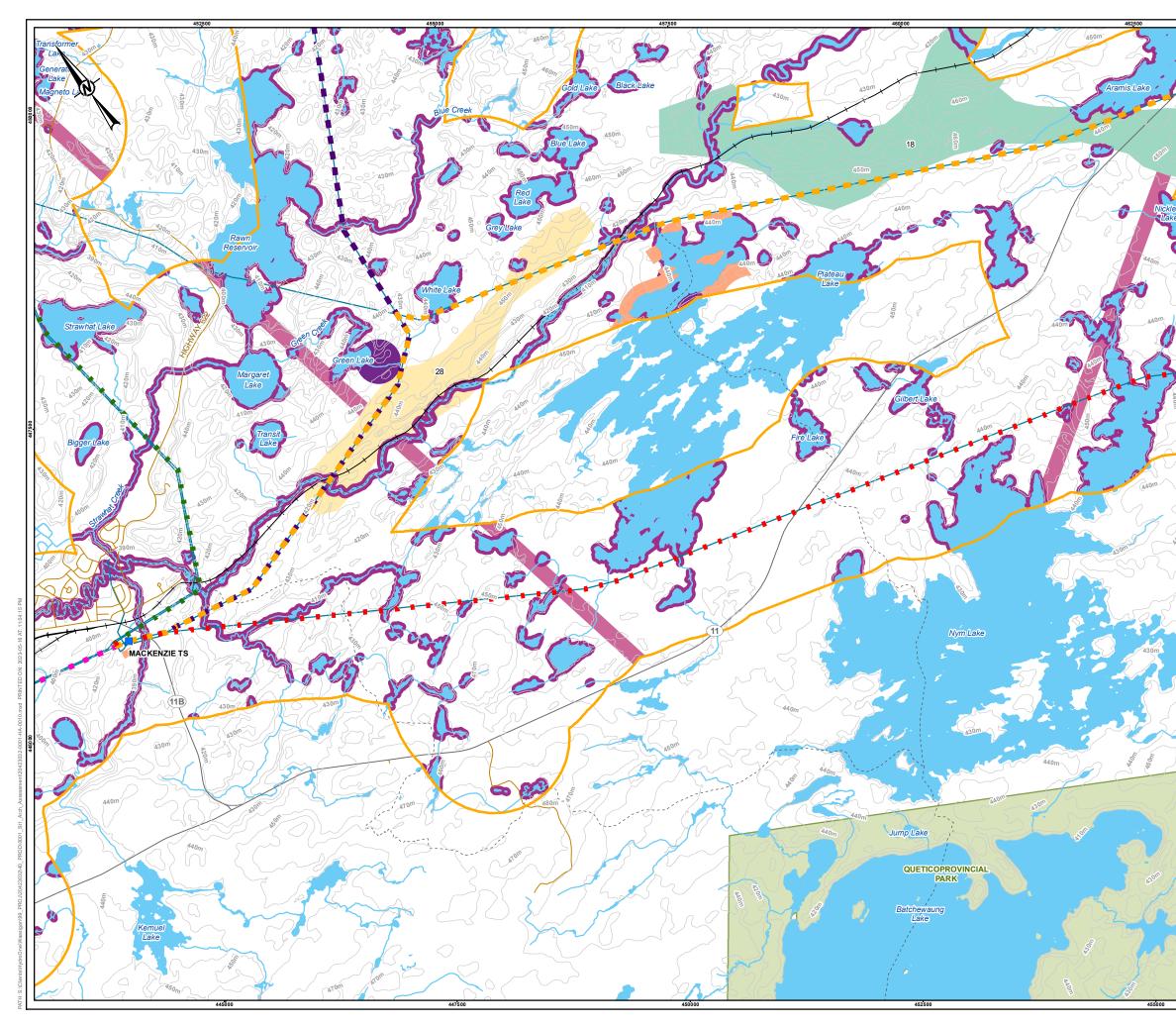
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		ALTERNATIVE ROUTE 1C		ASSESSMENT REQUIRED
	46250(ALTERNATIVE ROUTE 2A		AREA RECOMMENDED FOR STAGE 2 ARCHAEOLOGICAL
\mathcal{U}	• •	ALTERNATIVE ROUTE 2B		ASSESSMENT – REGISTERED ARCHAEOLOGICAL SITE
$\overline{}$		ALTERNATIVE ROUTE 2C		AREA RECOMMENDED FOR
~		LOCAL ROAD		STAGE 2 ARCHAEOLOGICAL ASSESSMENT – MAJOR WATER
		SECONDARY HIGHWAY		SOURCE
~	——	RAILWAY		AREA RECOMMENDED FOR STAGE 2 ARCHAEOLOGICAL
eby		TRAIL		ASSESSMENT – HISTORICAL TRANSPORTATION ROUTE
e	—	HYDRO LINE		ECOMMENDED FOR STAGE 2
-	—	UNKNOWN TRANSMISSION LINE		EOLOGICAL ASSESSMENT – GICAL FEATURE
Ç		WATERCOURSE		18: TILL – UNDIFFERENTIATED SAND, SILTY SAND, SILTY CLAY
S		CONTOUR (10 m INTERVAL)		28: FLUVIAL DEPOSITS
		LOCAL STUDY AREA		(PLEISTOCENE) – GRAVEL, SAND, SILT, AND CLAY
Ś		PROVINCIAL PARK		SAND, SILI, AND CLAT
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CLIENT HYDRO ONE NETWORKS INC.

PROJECT WAASIGAN TRANSMISSION LINE

CONTROL

TITLE

AREAS REQUIRING STAGE 2 ARCHAEOLOGICAL ASSESSMENT

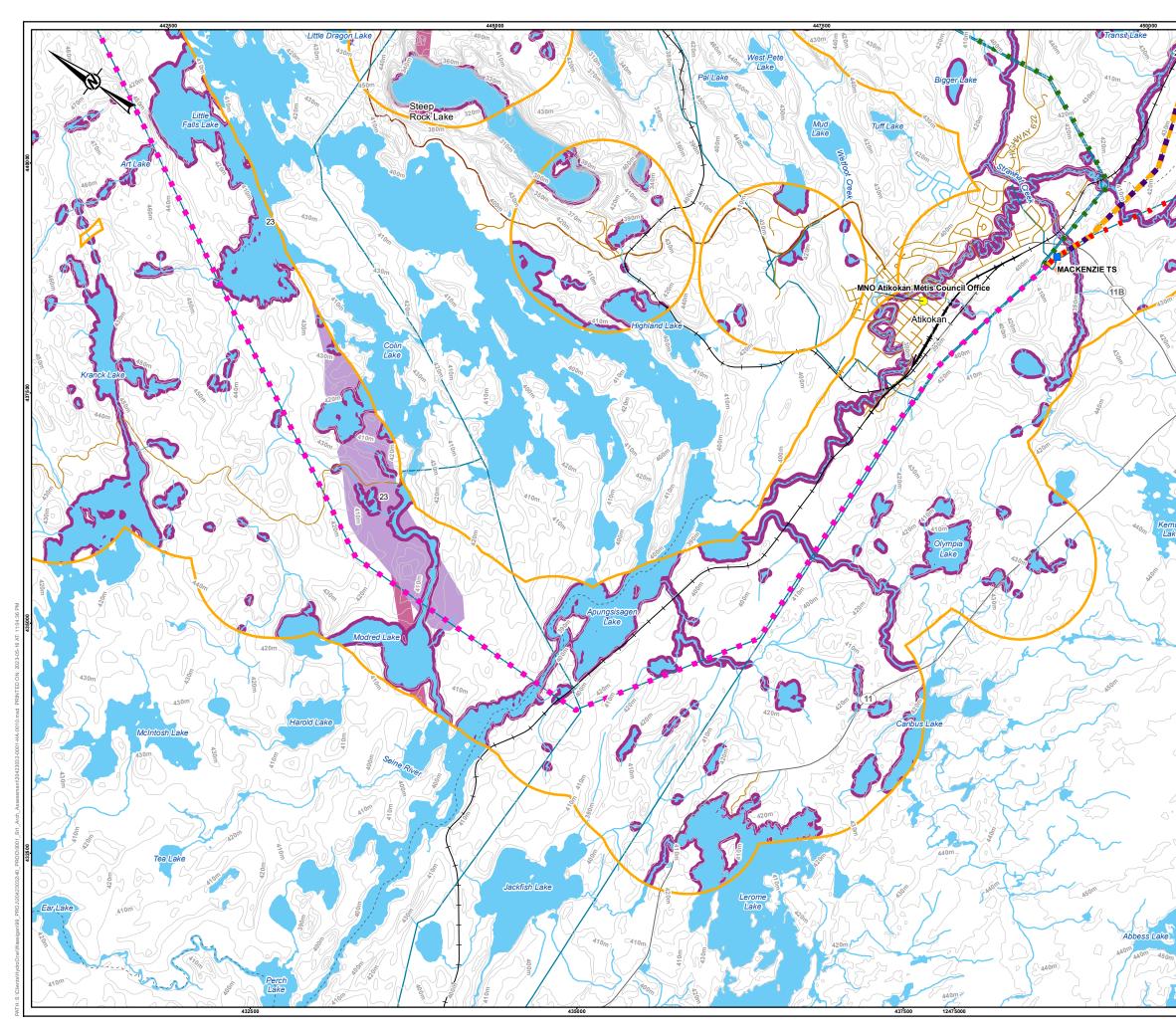
CONSULTANT

PROJECT NO.

20423032

YYYY-MM-DD 2023-05-16 DESIGNED LM PREPARED ST REVIEWED LM APPROVED MT REV. 0 FIGURE 10 - 14

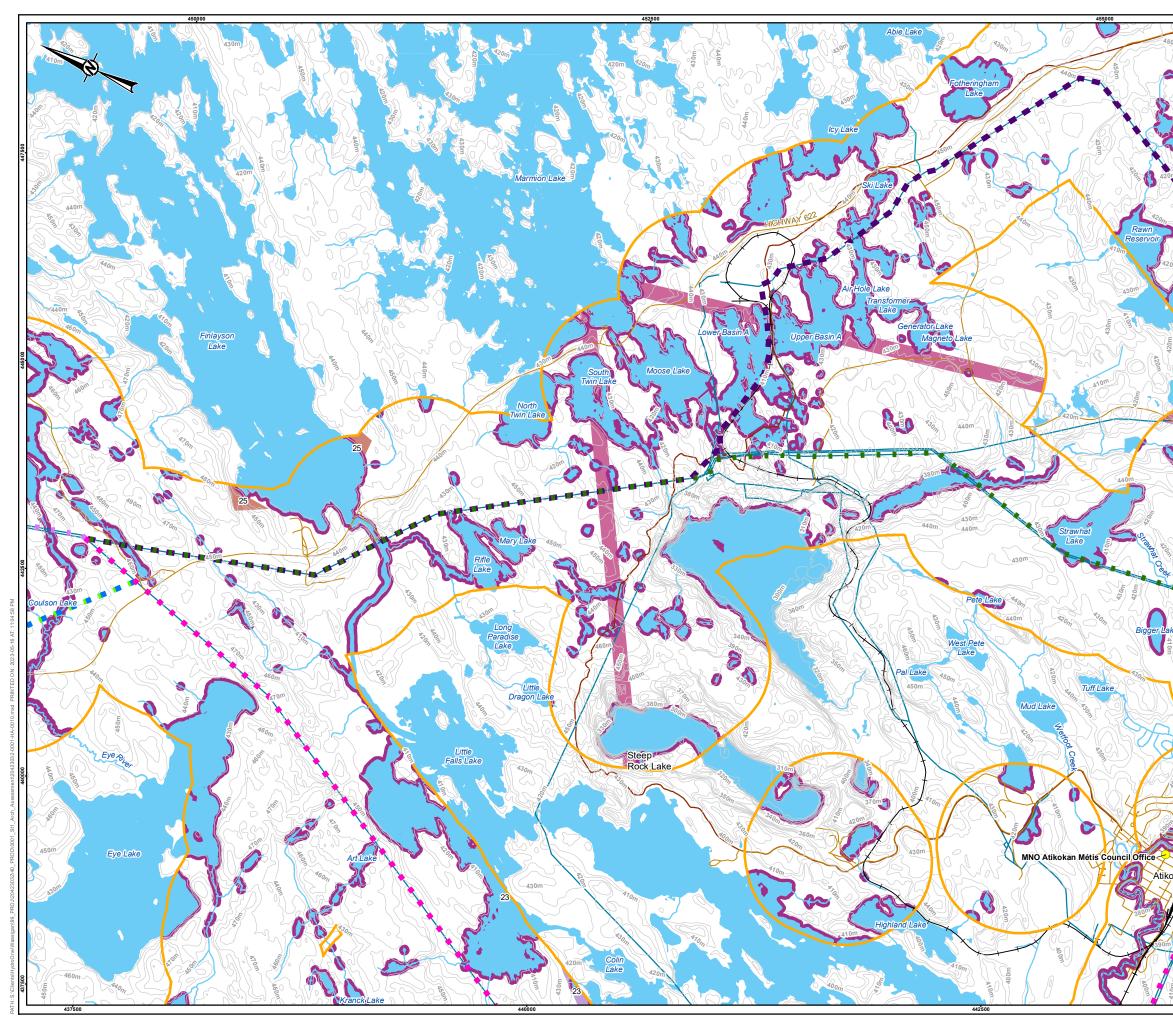
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		OUTE 1 OUTE 1C OUTE 2A OUTE 2B OUTE 2C GHWAY PIPELINE	WATERBODY PREVIOUSLY ASSESSED – NO FURTHER ARCHAEOLOGICAL ASSESSMENT REQUIRED AREA RECOMMENDED FOR STAGE 2 ARCHAEOLOGICAL ASSESSMENT – MAJOR WATER SOURCE AREA RECOMMENDED FOR STAGE 2 ARCHAEOLOGICAL ASSESSMENT – HISTORICAL TRANSPORTATION ROUTE AREA RECOMMENDED FOR STAGE 2 ARCHAEOLOGICAL ASSESSMENT – GEOLOGICAL FEATURE 23: GLACIOFLUVIAL OUTWASH DEPOSITS – GRAVEL, SAND, SILT, AND CLAY
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CONSULTANT 2023-05-16 YYYY-MM-DD DESIGNED LM PREPARED ST REVIEWED LM APPROVED MT PROJECT NO. 20423032 REV. 0 CONTROL FIGURE 10 - 15

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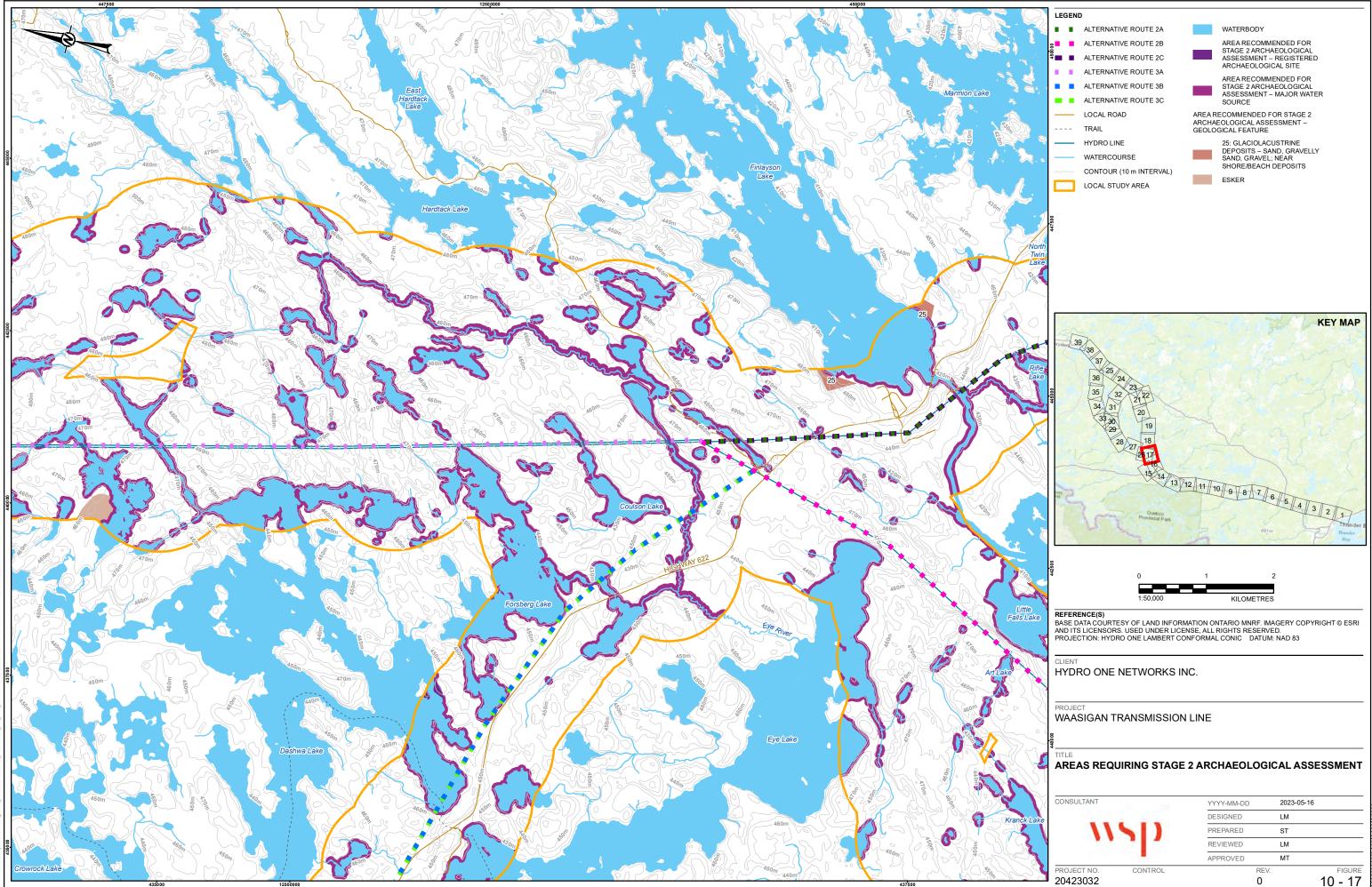
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	ALTERNATIVE ROUTE 2B	ASSESSMENT REQUIRED
	ALTERNATIVE ROUTE 2C	AREA RECOMMENDED FOR STAGE 2 ARCHAEOLOGICAL
	ALTERNATIVE ROUTE 3A	ASSESSMENT – MAJOR WATER SOURCE
	ALTERNATIVE ROUTE 3B	
	ALTERNATIVE ROUTE 3C	STAGE 2 ARCHAEOLOGICAL ASSESSMENT – HISTORICAL
	LOCAL ROAD	TRANSPORTATION ROUTE
	RAILWAY	AREA RECOMMENDED FOR STAGE 2 ARCHAEOLOGICAL ASSESSMENT –
	TRAIL	GEOLOGICAL FEATURE
	HYDRO LINE	23: GLACIOFLUVIAL OUTWASH DEPOSITS – GRAVEL AND SAND
	NATURAL GAS PIPELINE	
	SUBMERGED HYDRO LINE WATERCOURSE	DEPOSITS – SAND, GRAVELLY SAND, GRAVEL; NEAR
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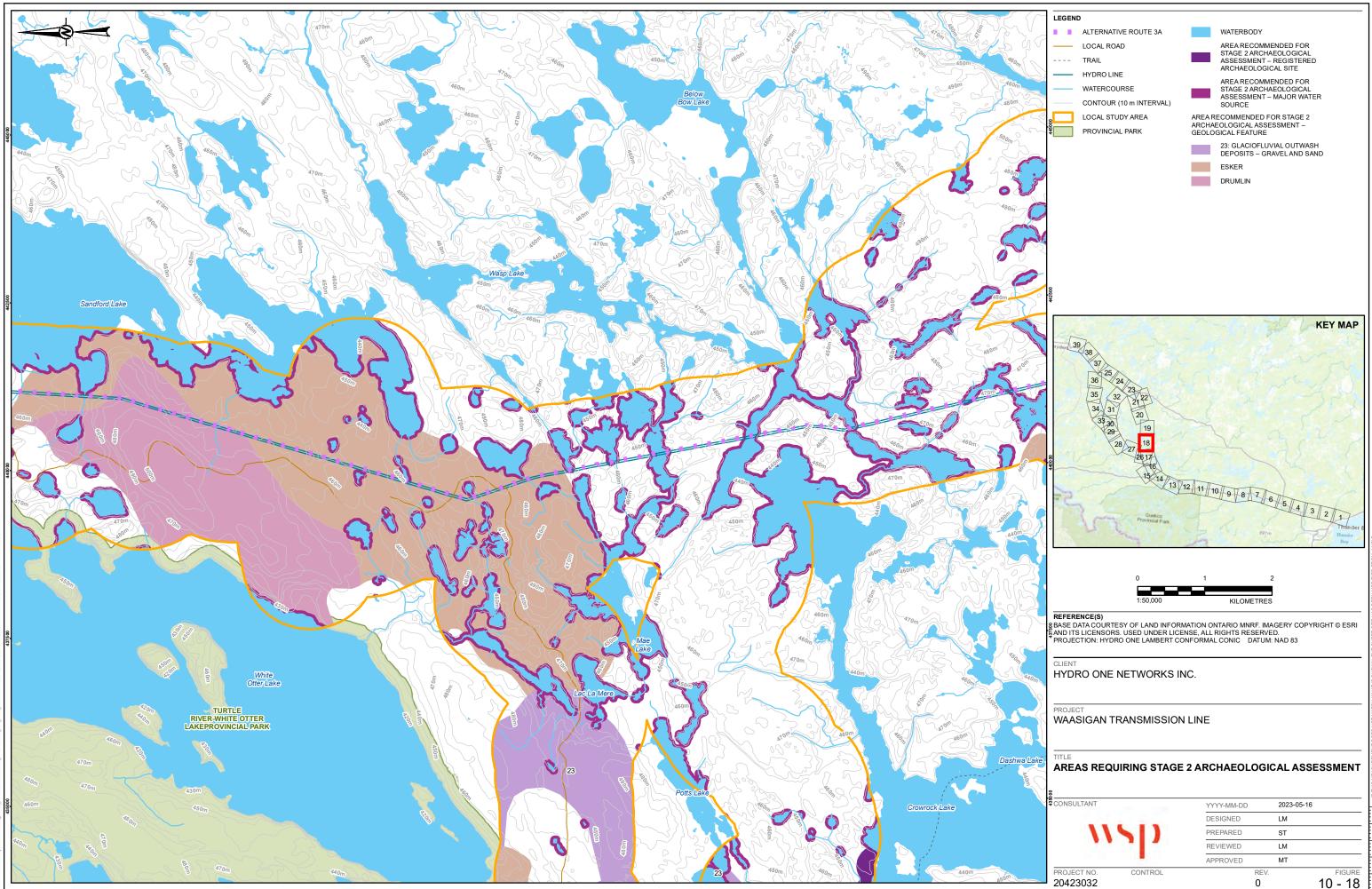
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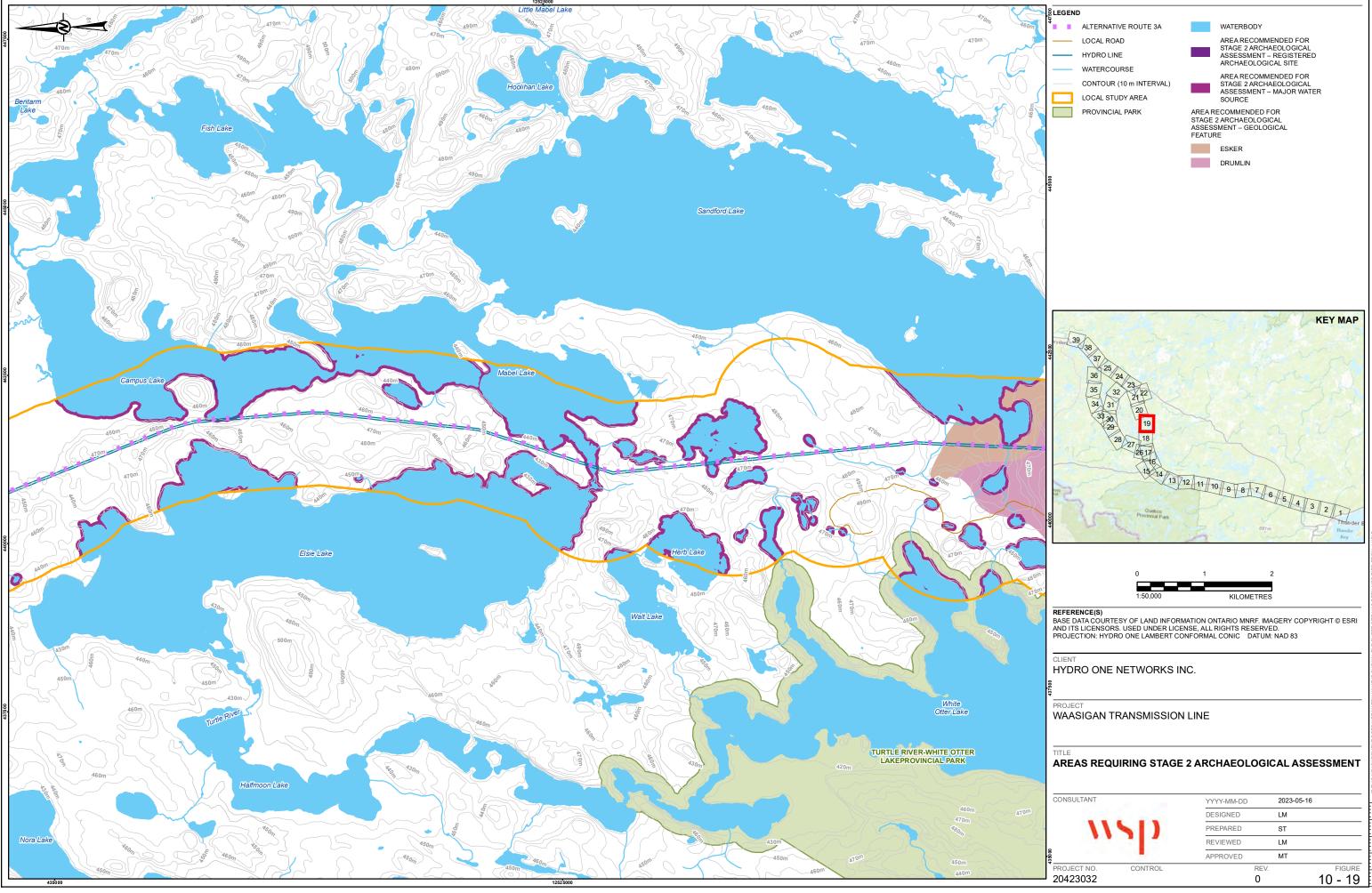
2023-05-16 YYYY-MM-DD DESIGNED LM PREPARED ST REVIEWED LM APPROVED MT REV. 0 FIGURE 10 - 16

PROJECT NO. 20423032

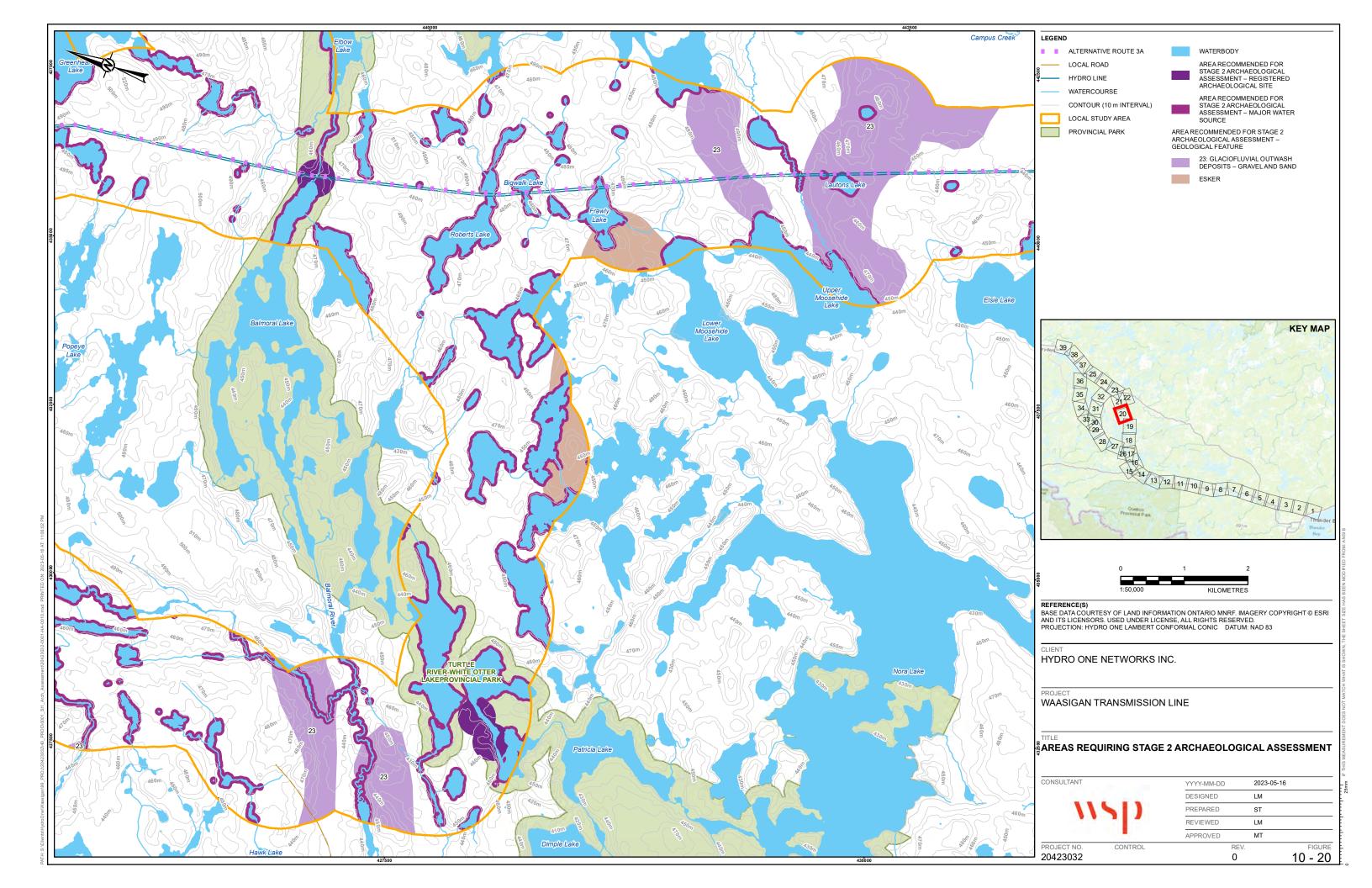
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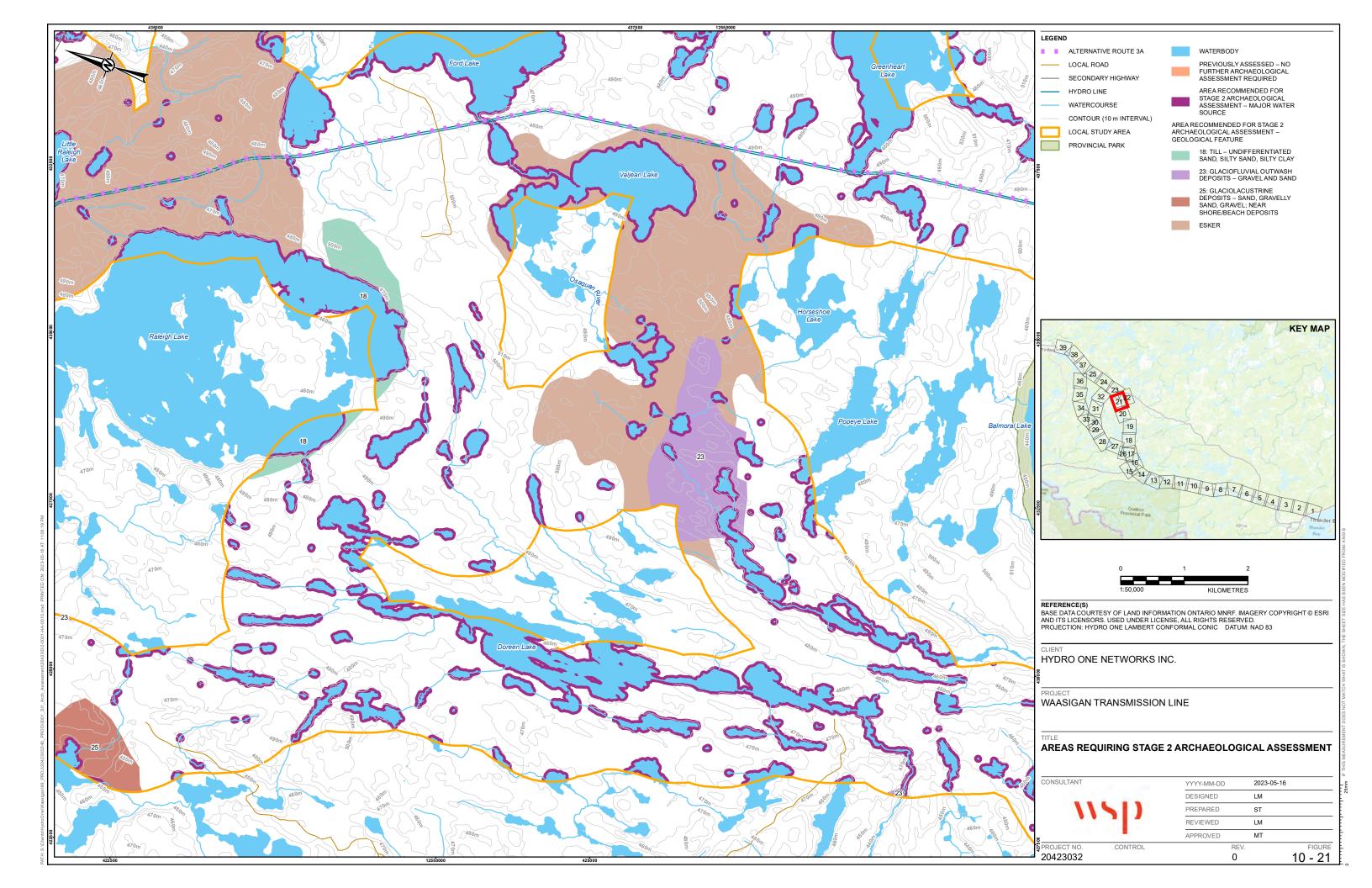


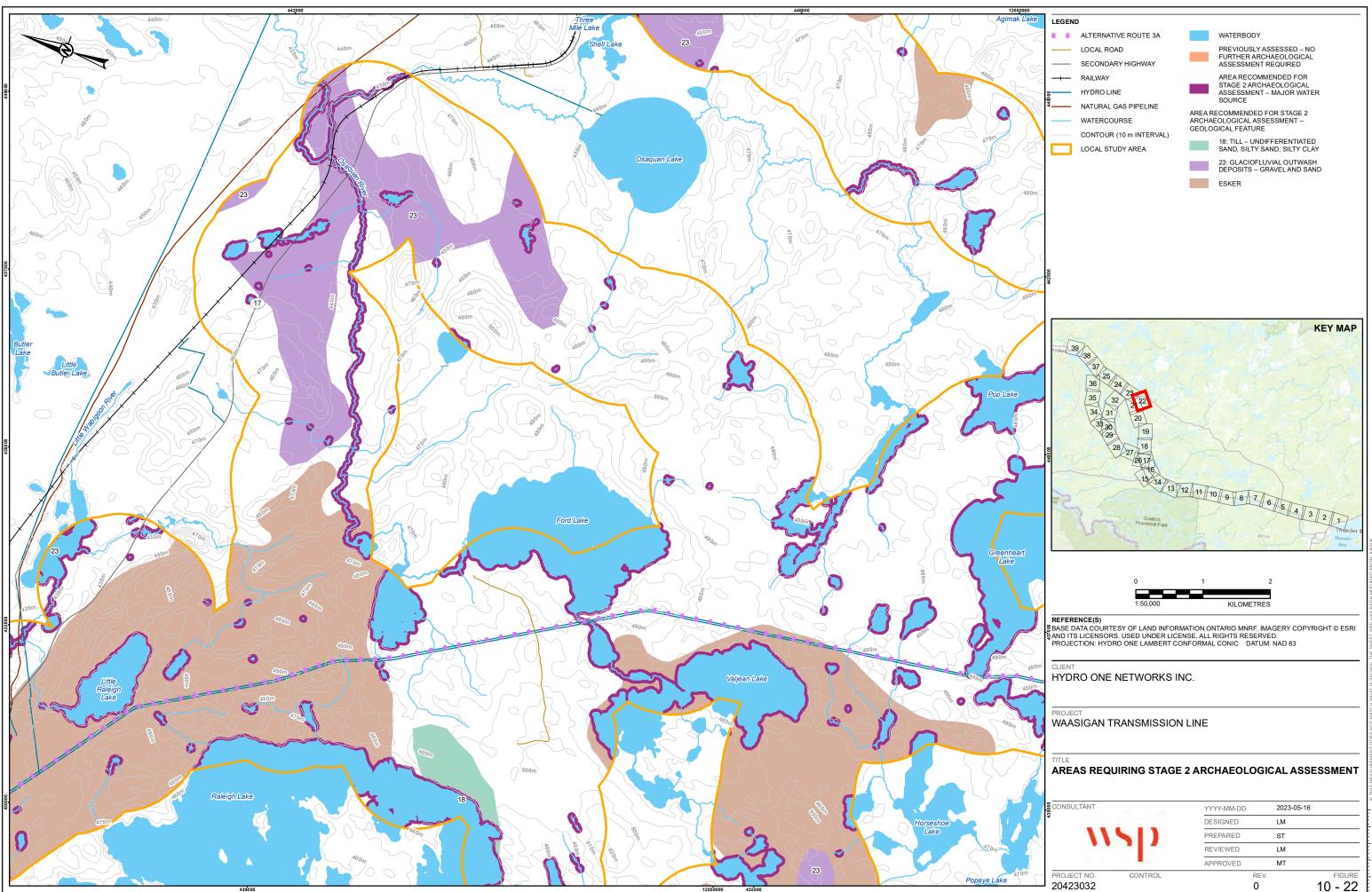


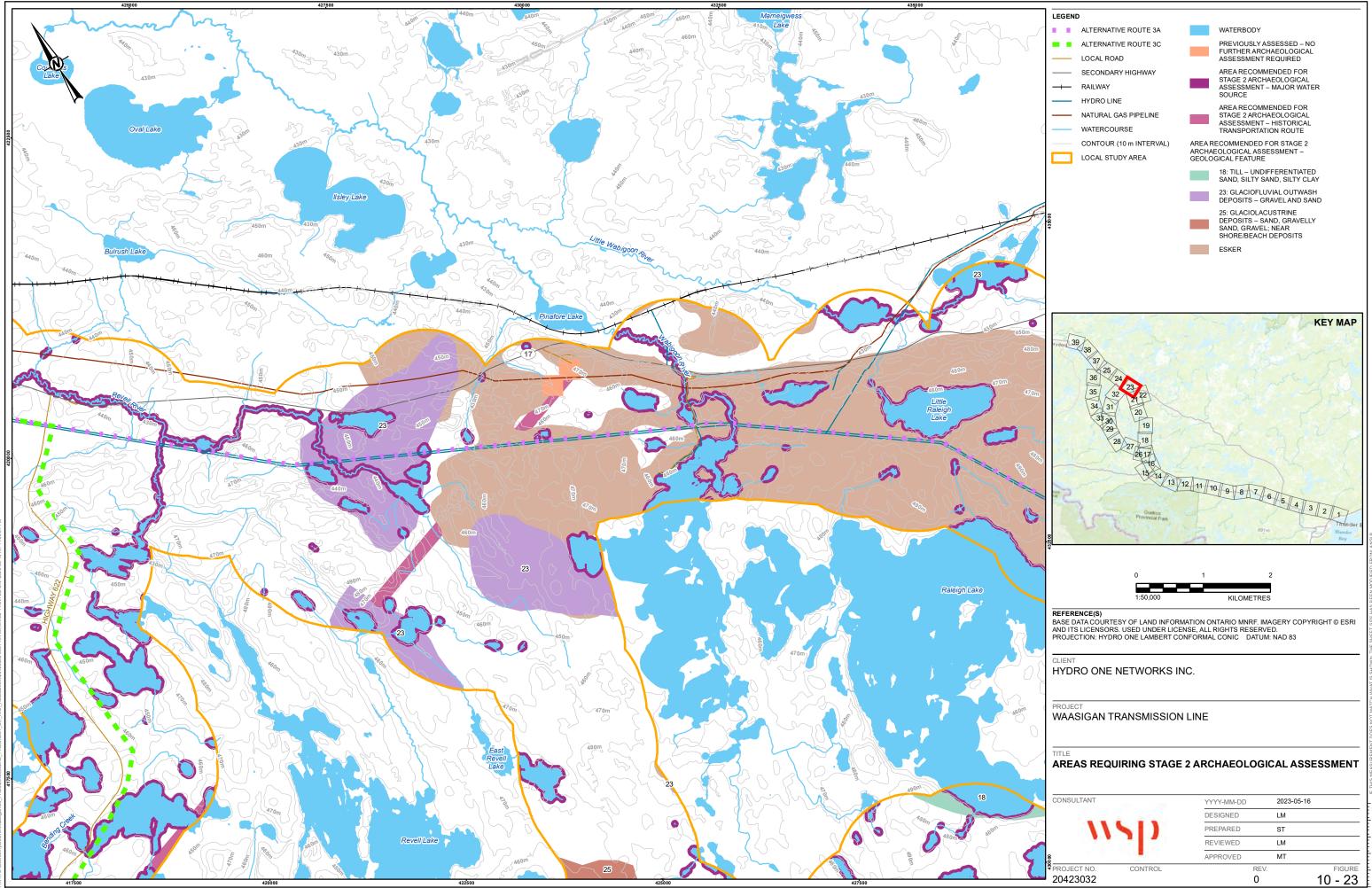


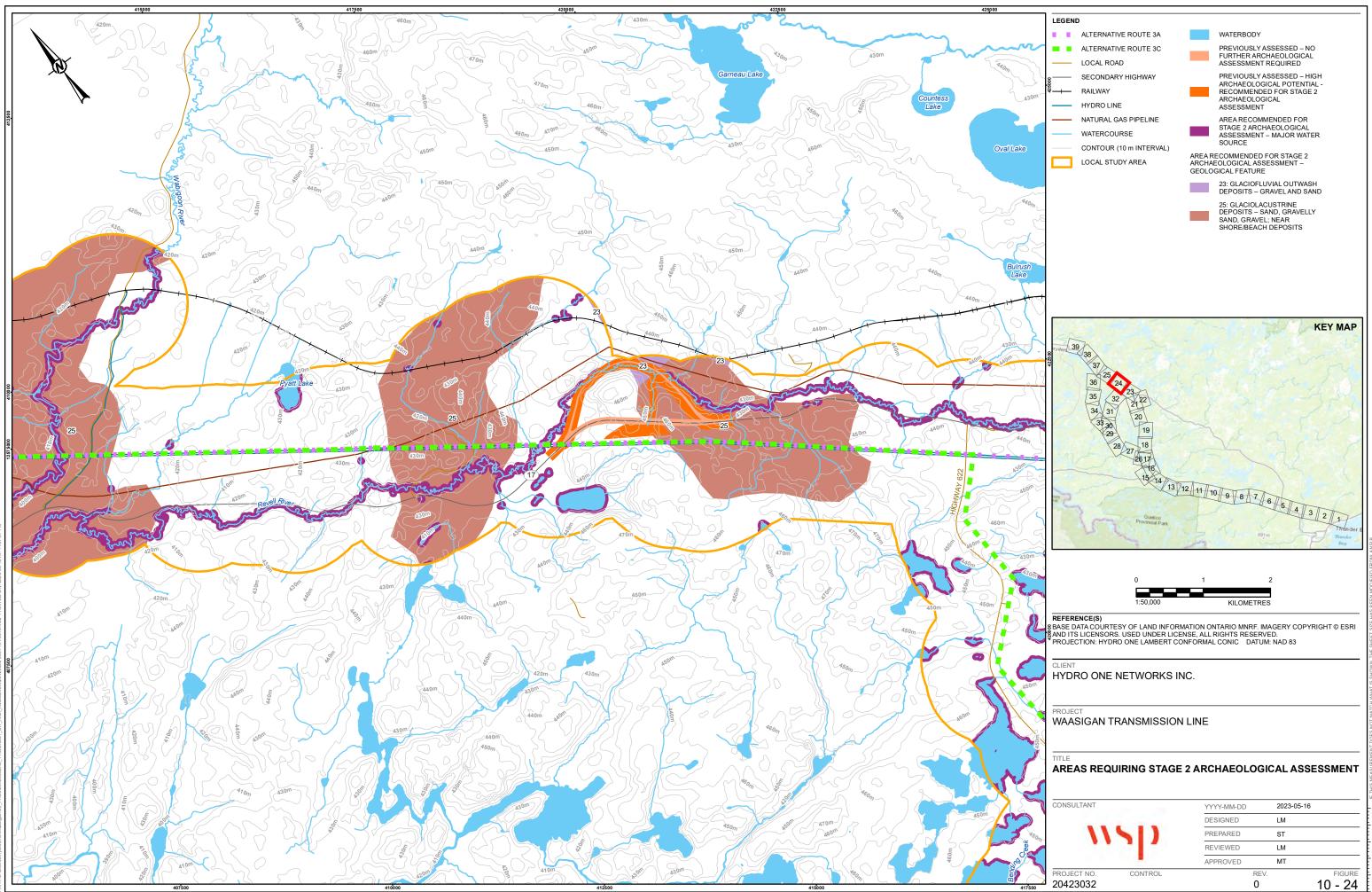
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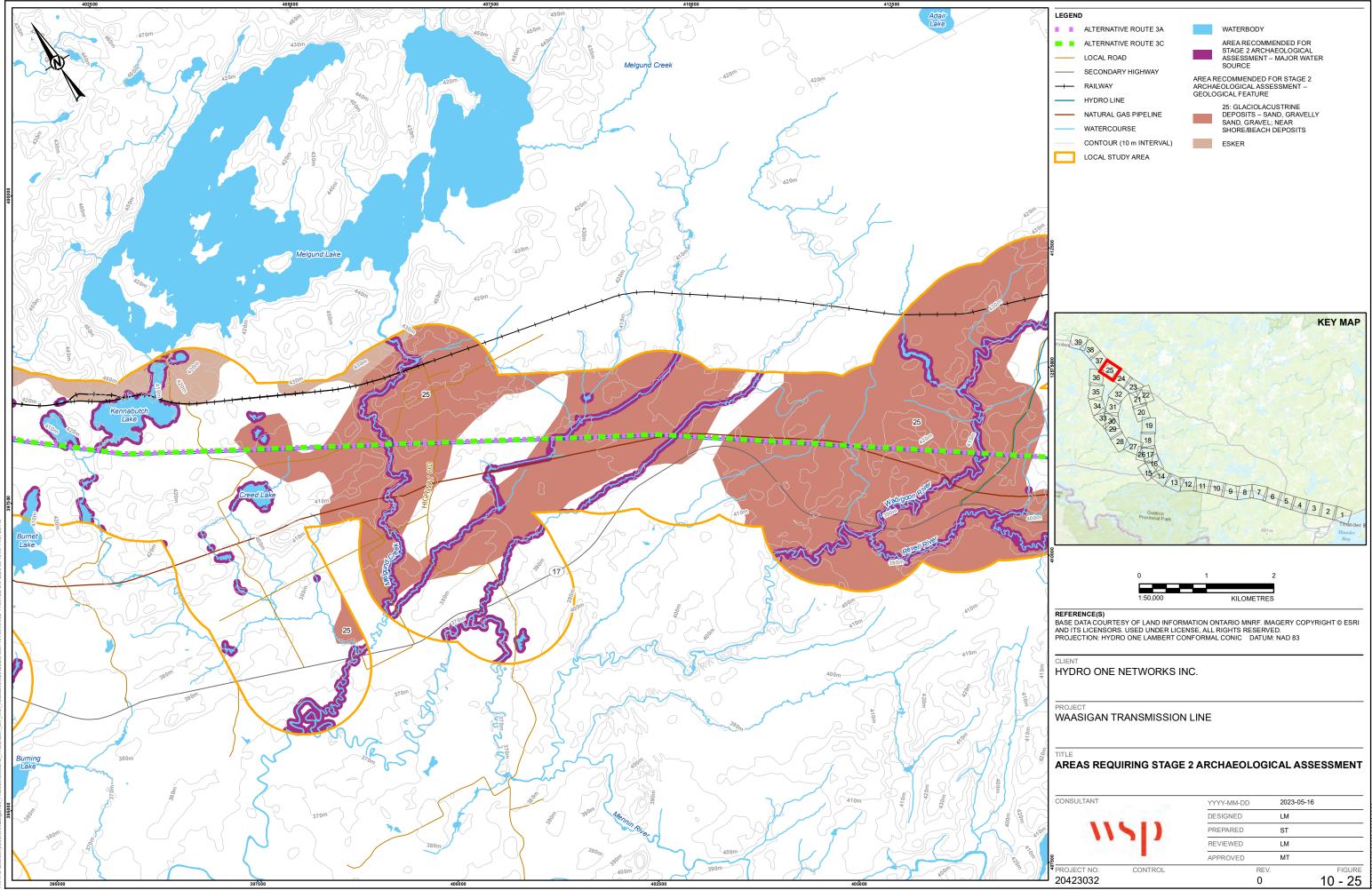




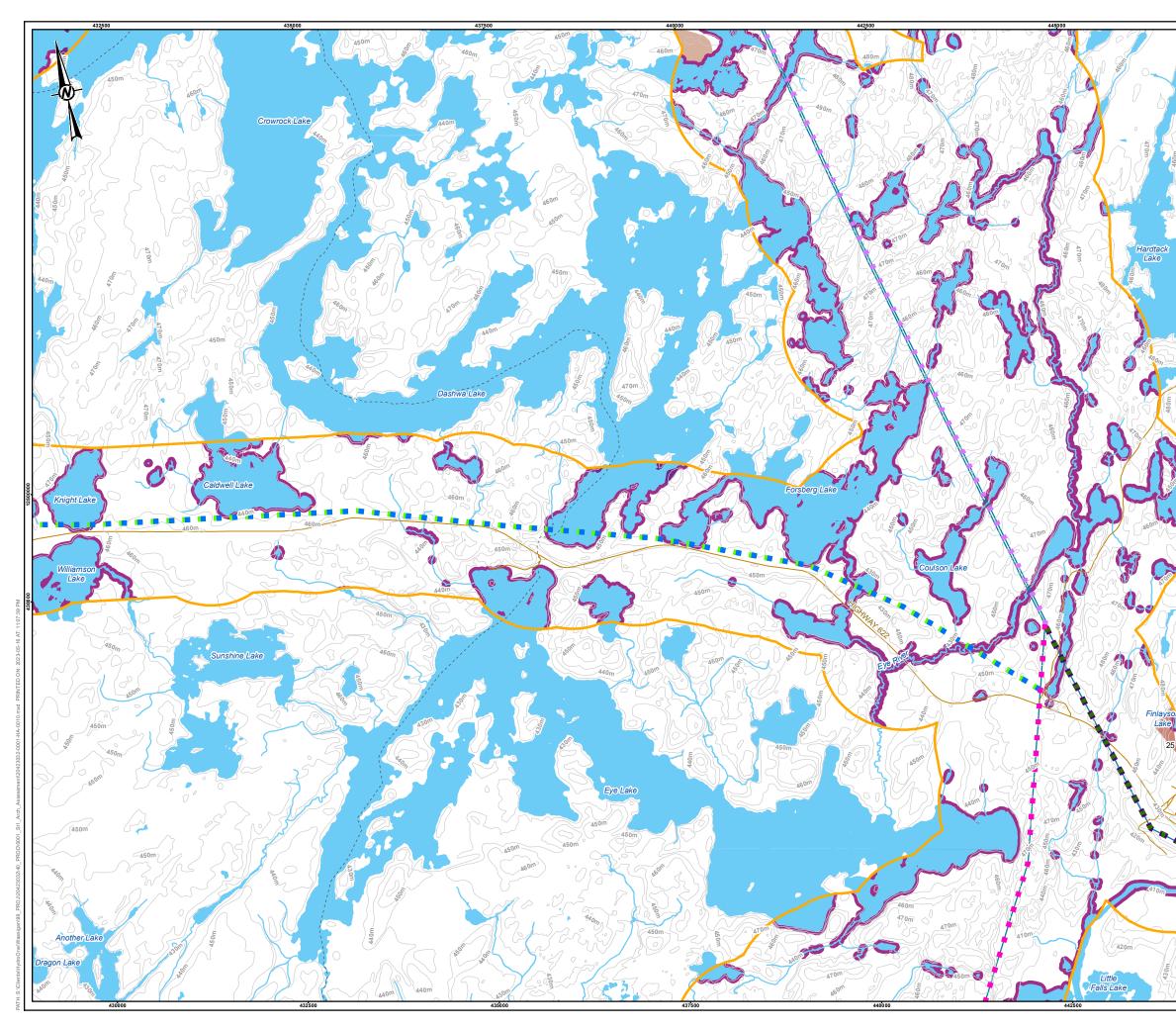


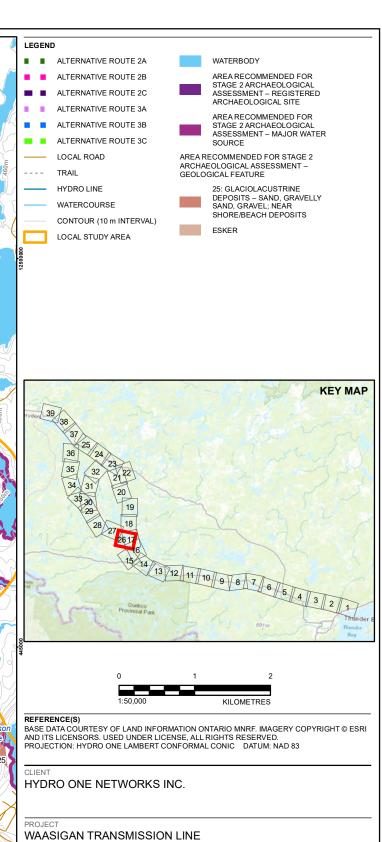






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TITLE

AREAS REQUIRING STAGE 2 ARCHAEOLOGICAL ASSESSMENT

CONSULTANT

PROJECT NO

20423032

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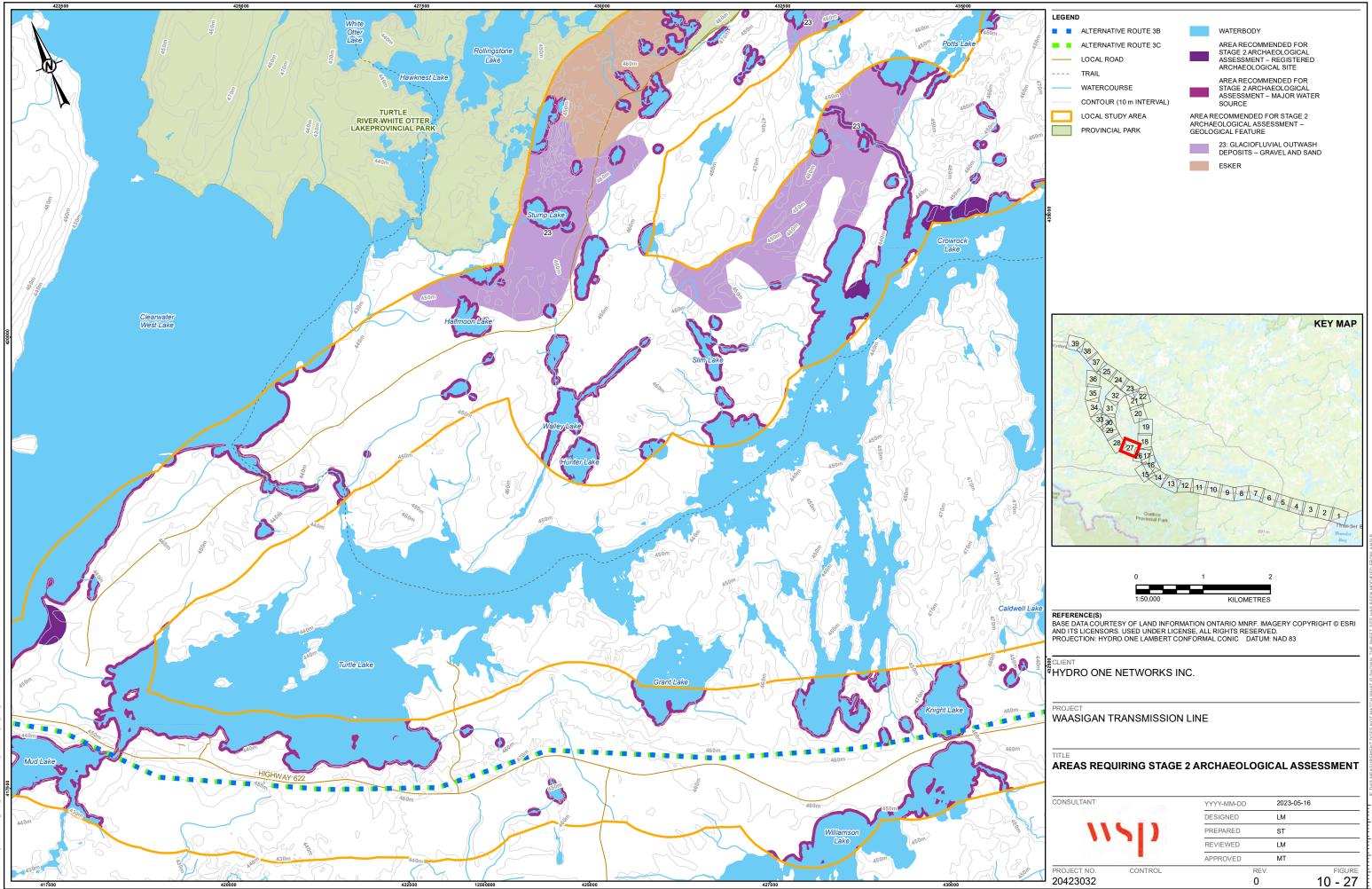
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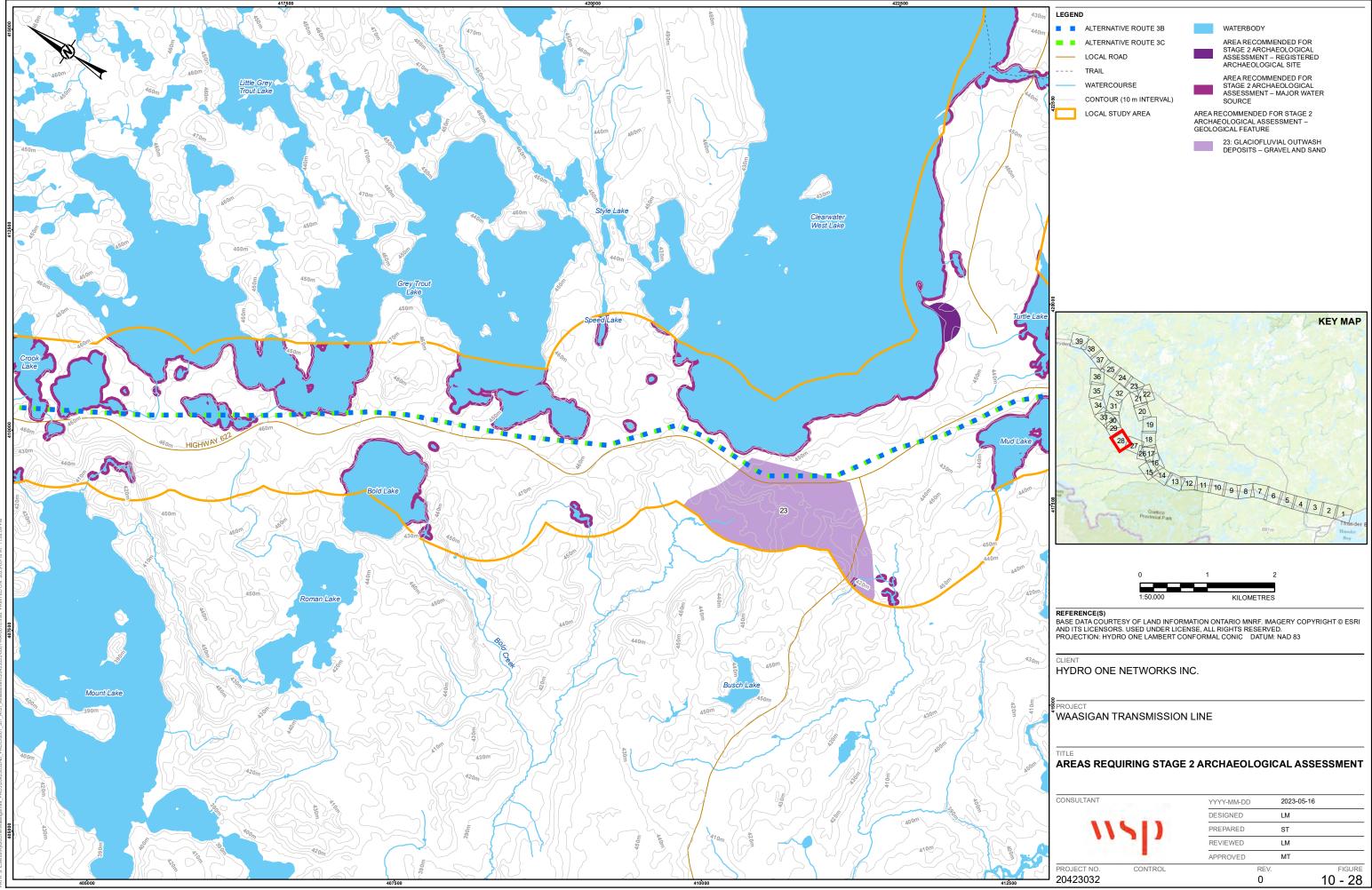
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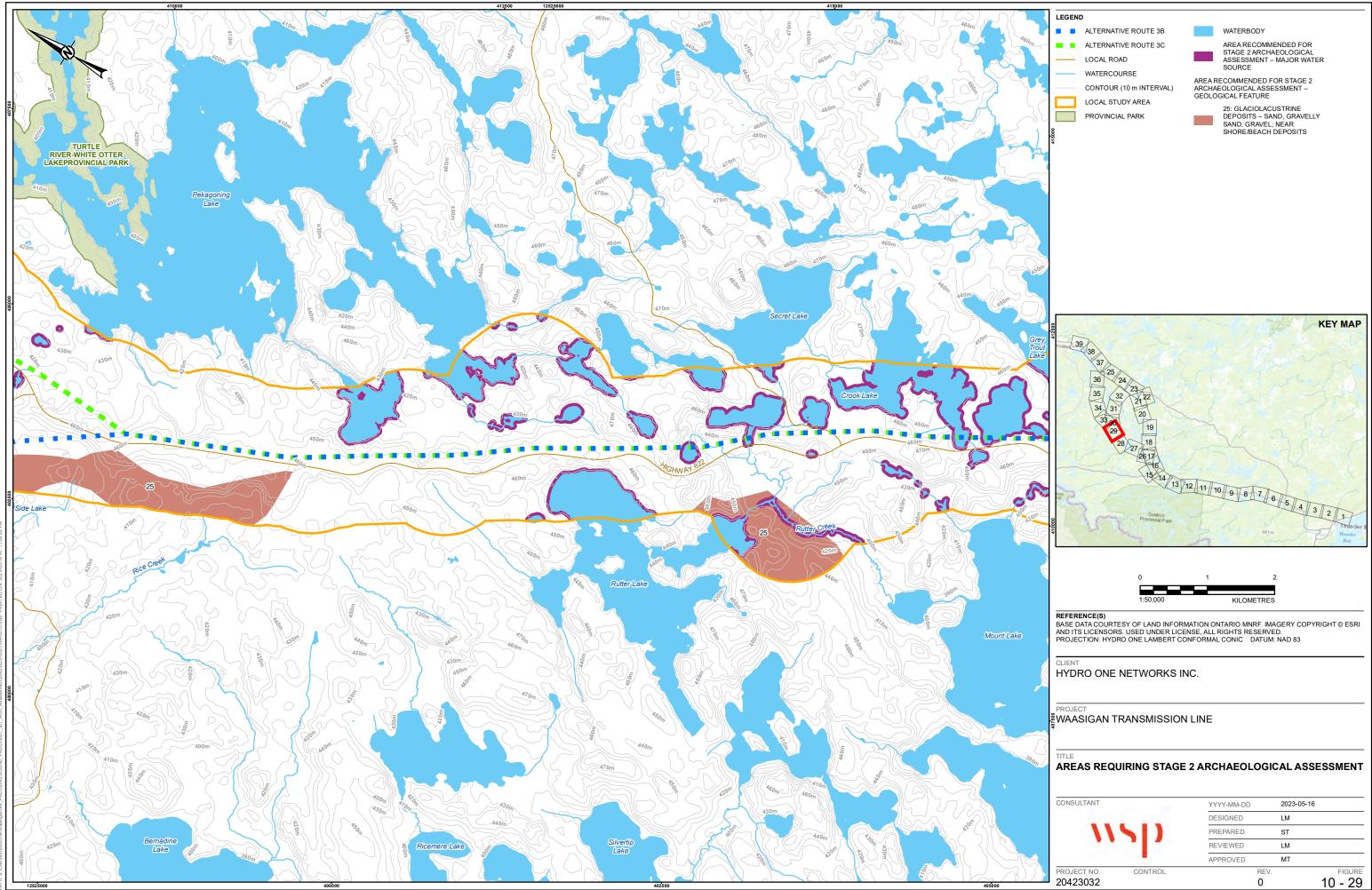
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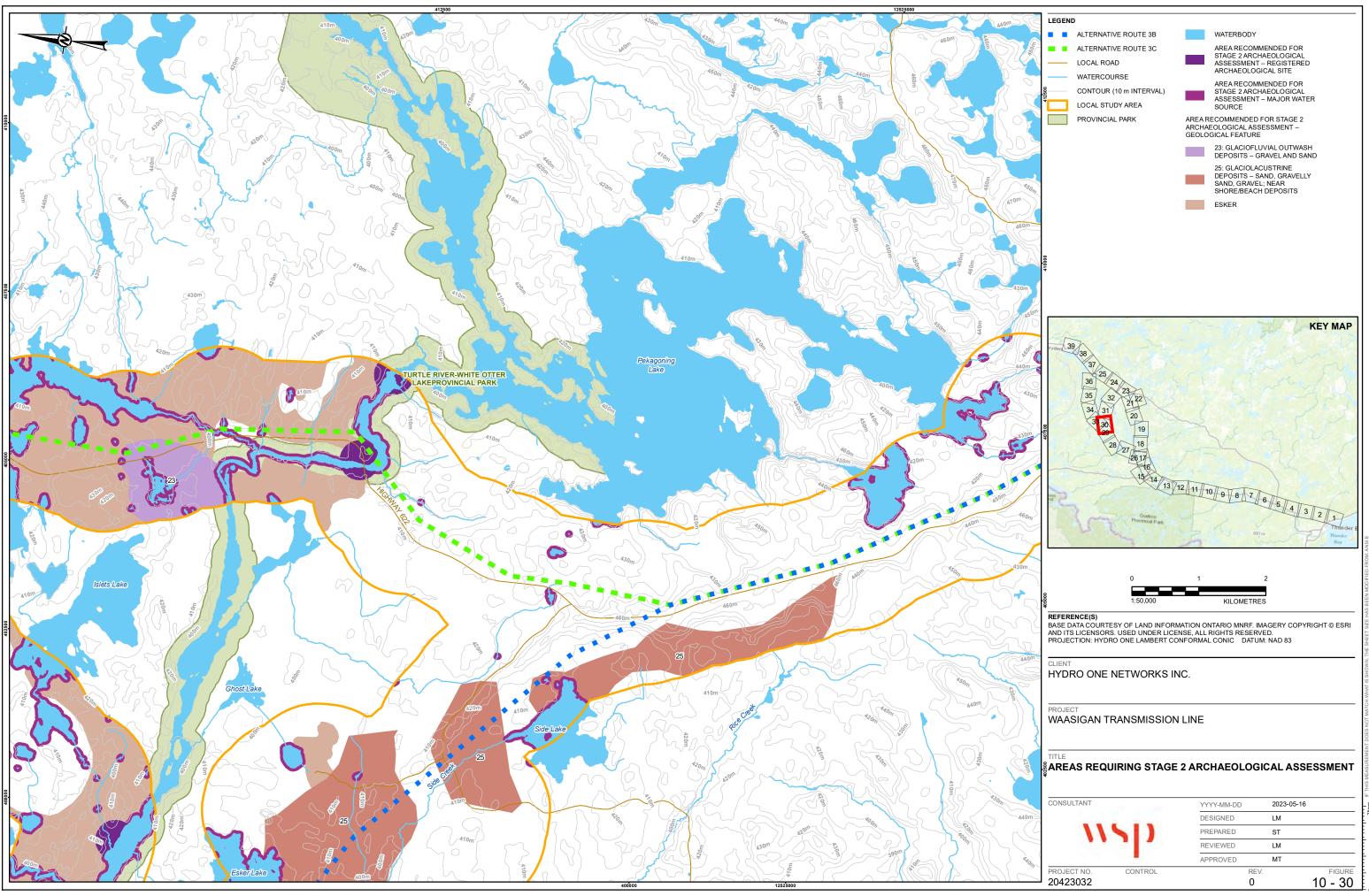
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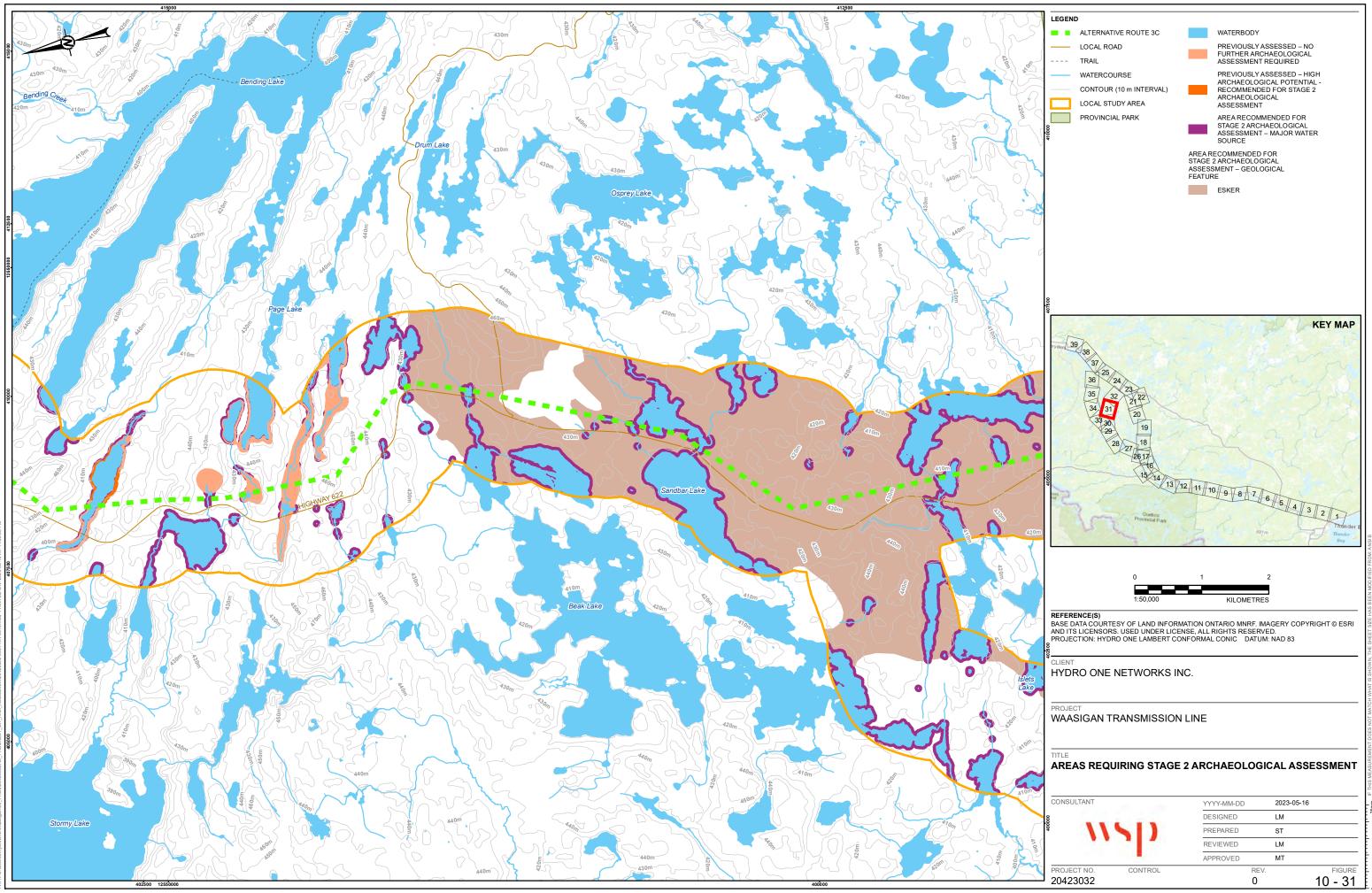


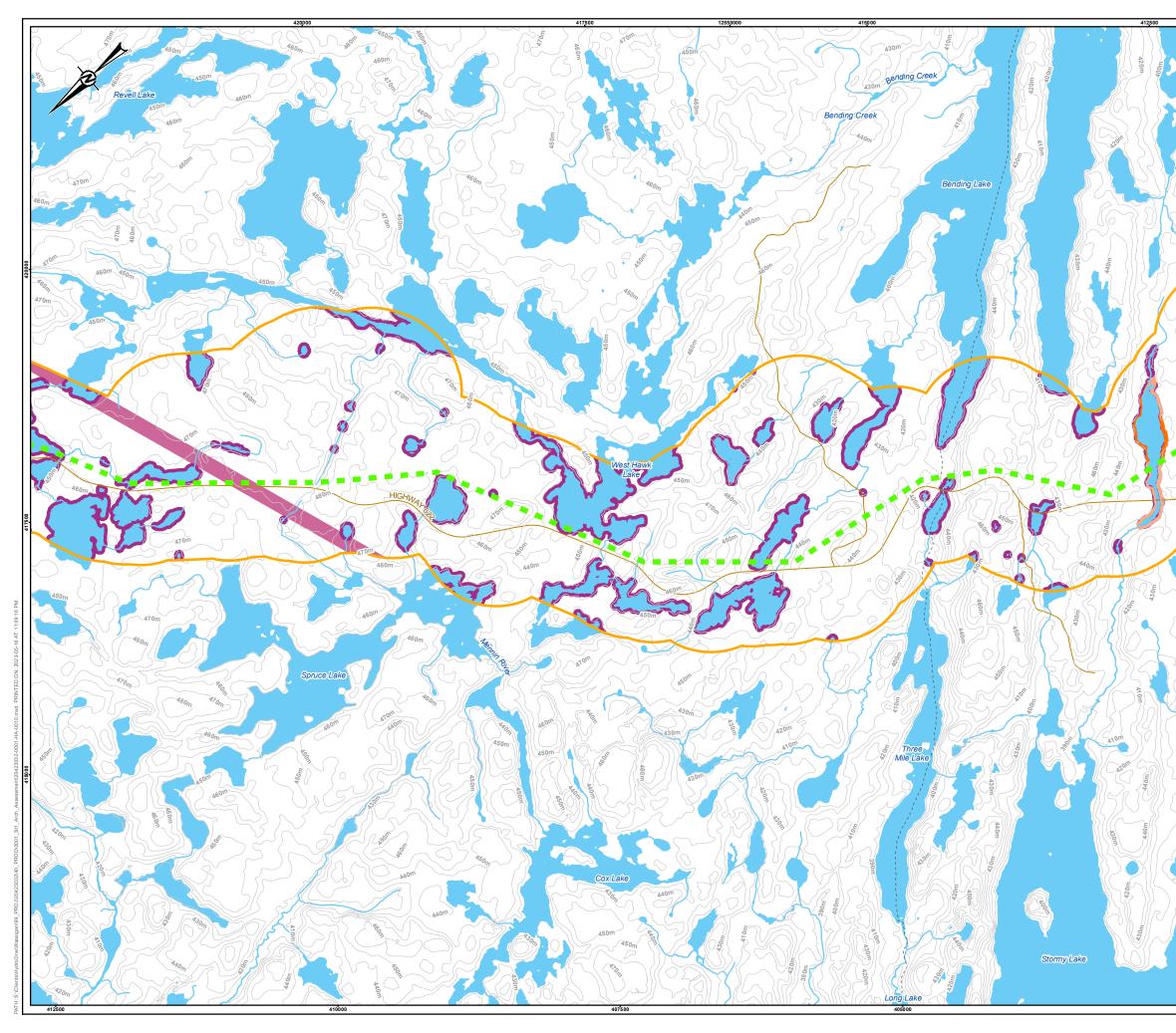


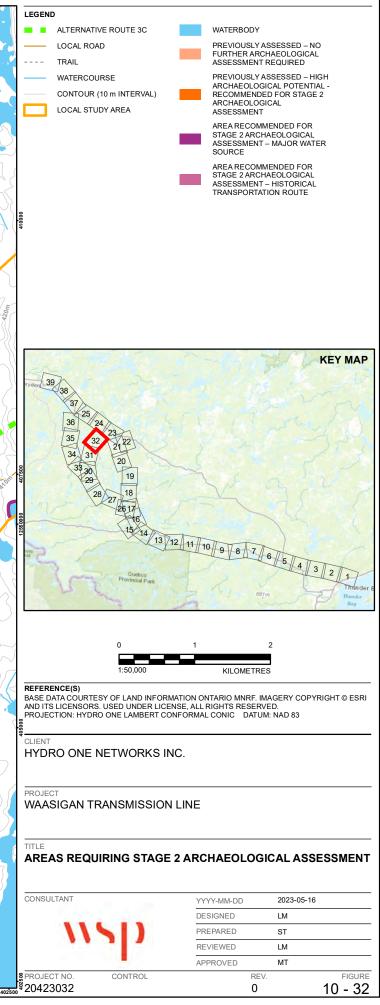


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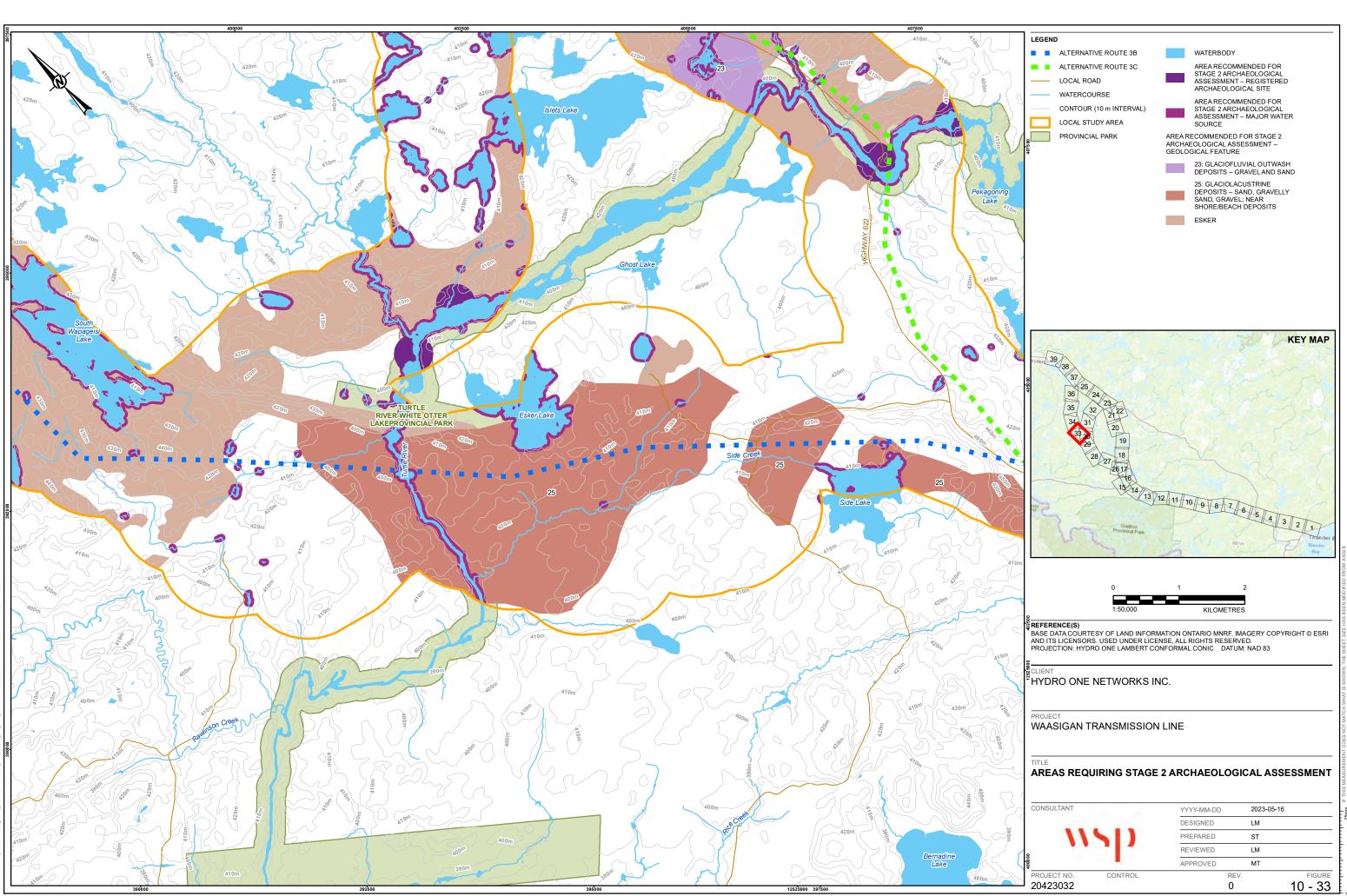


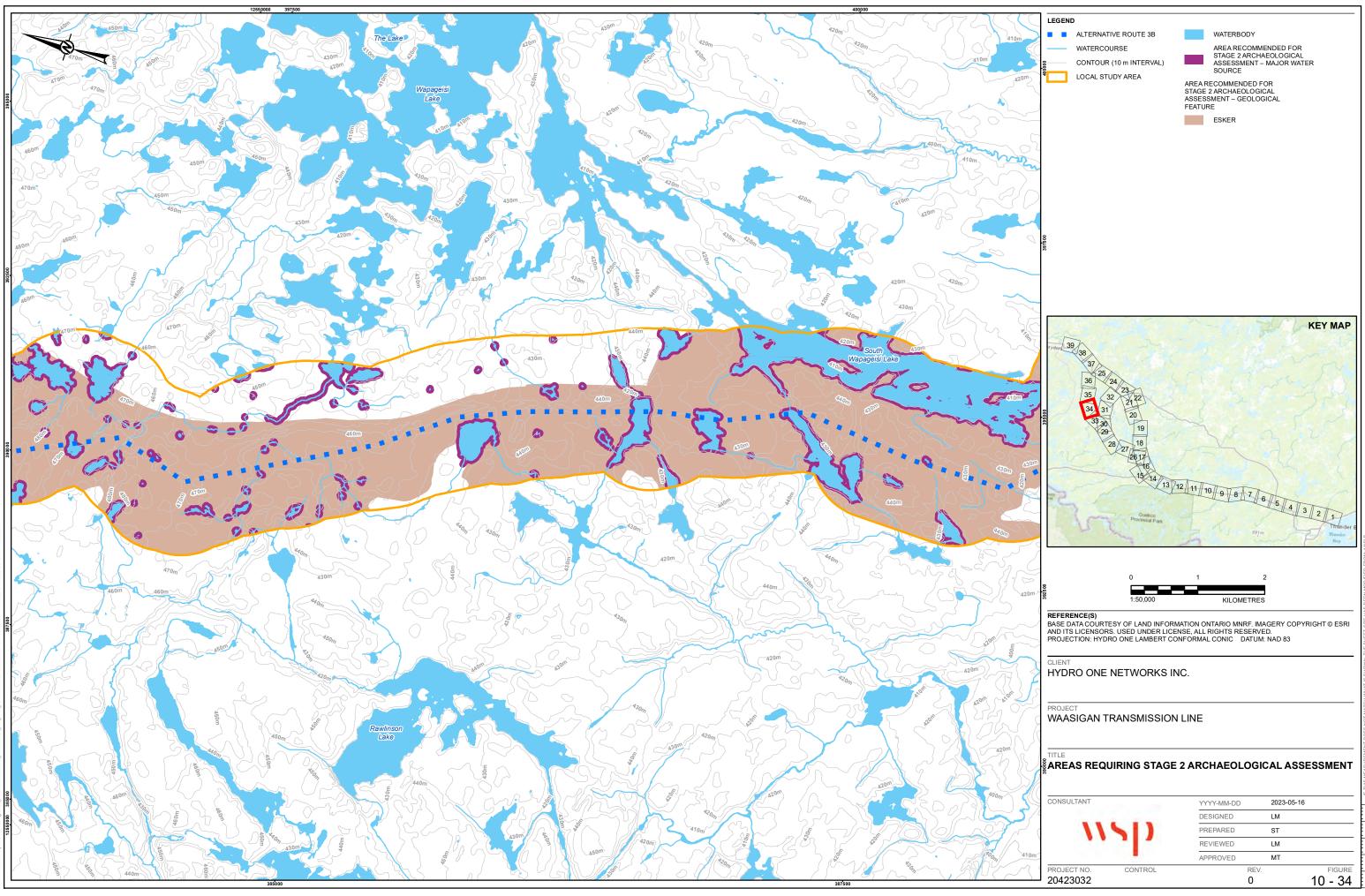




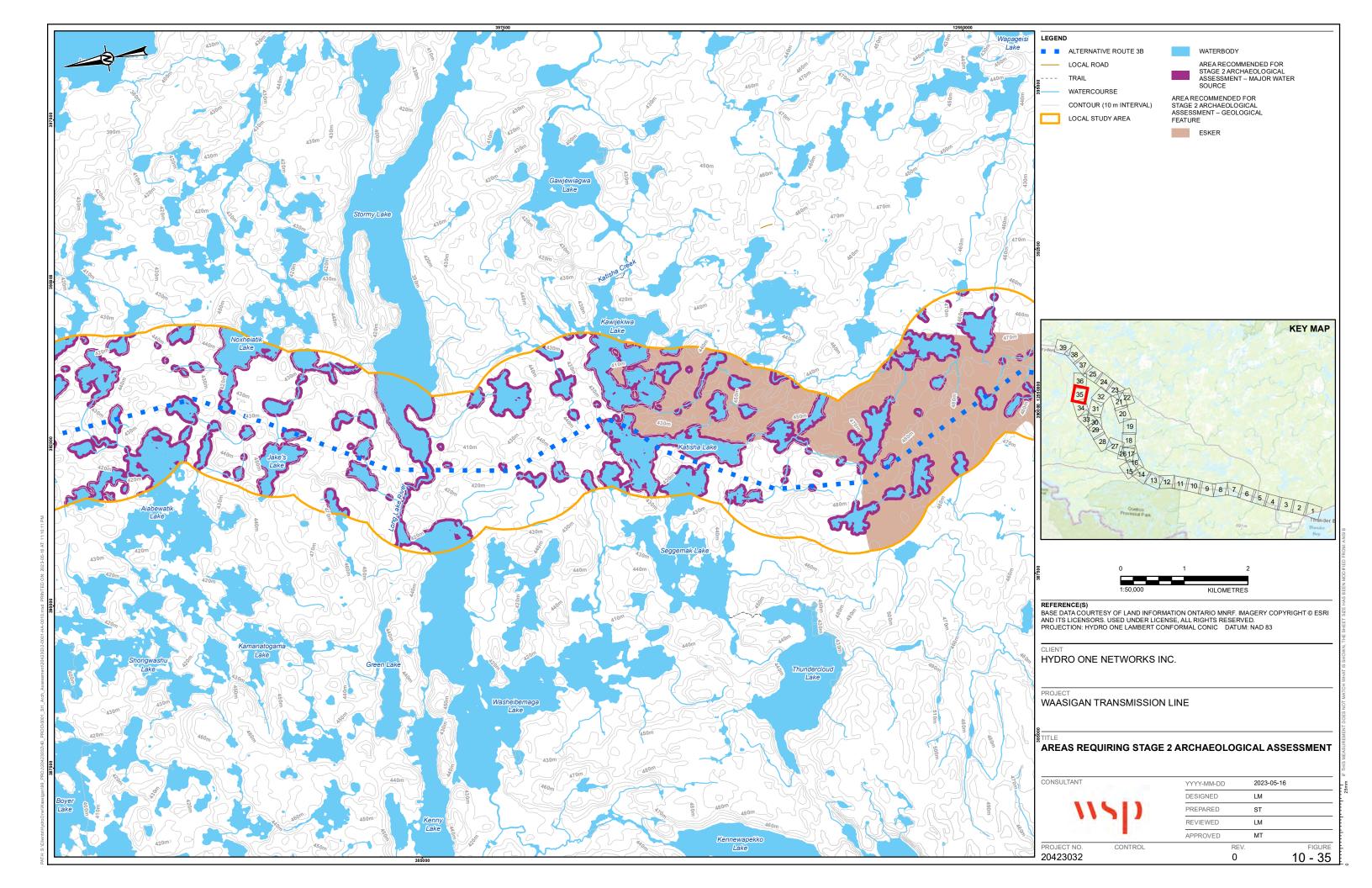


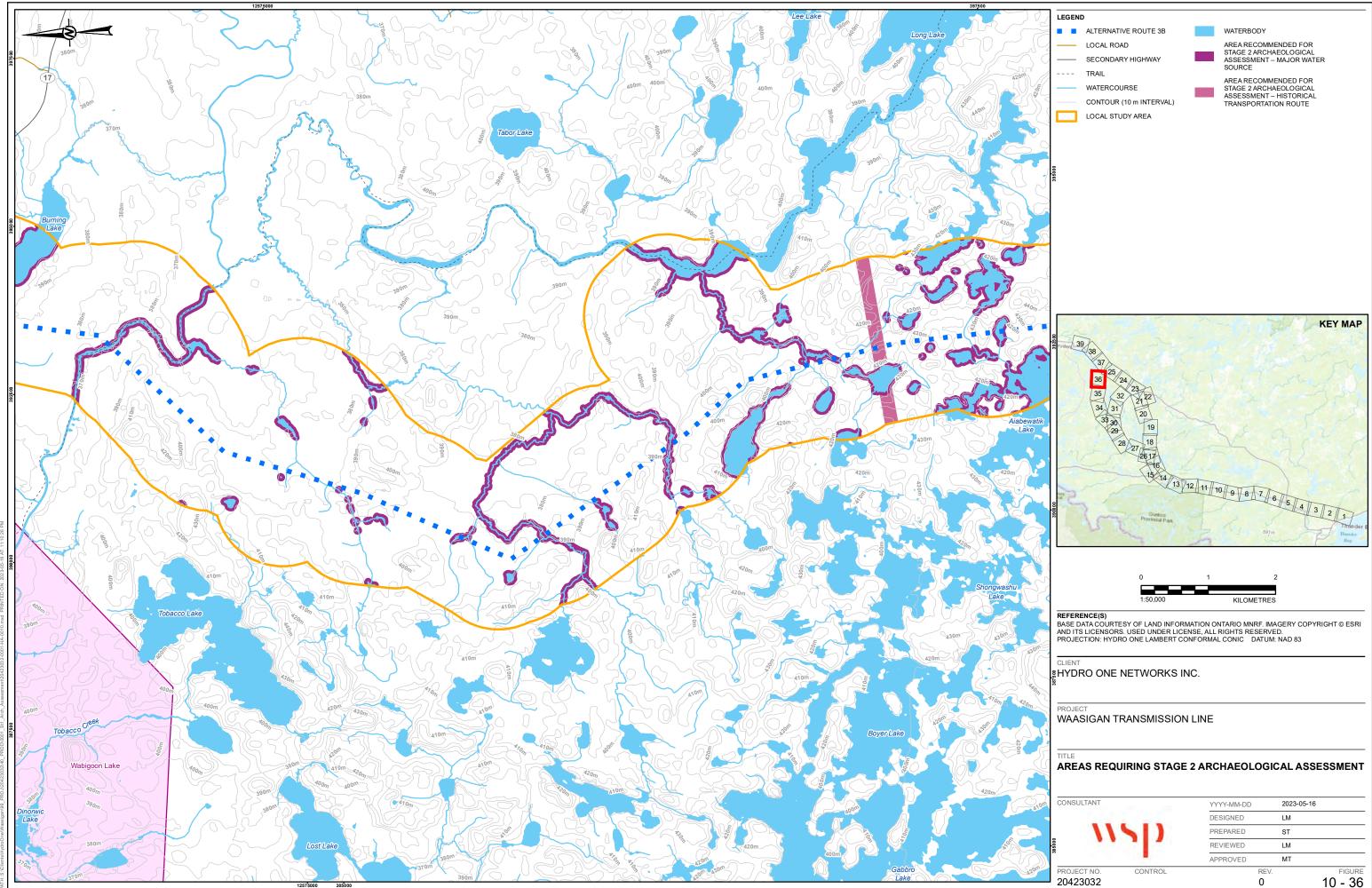
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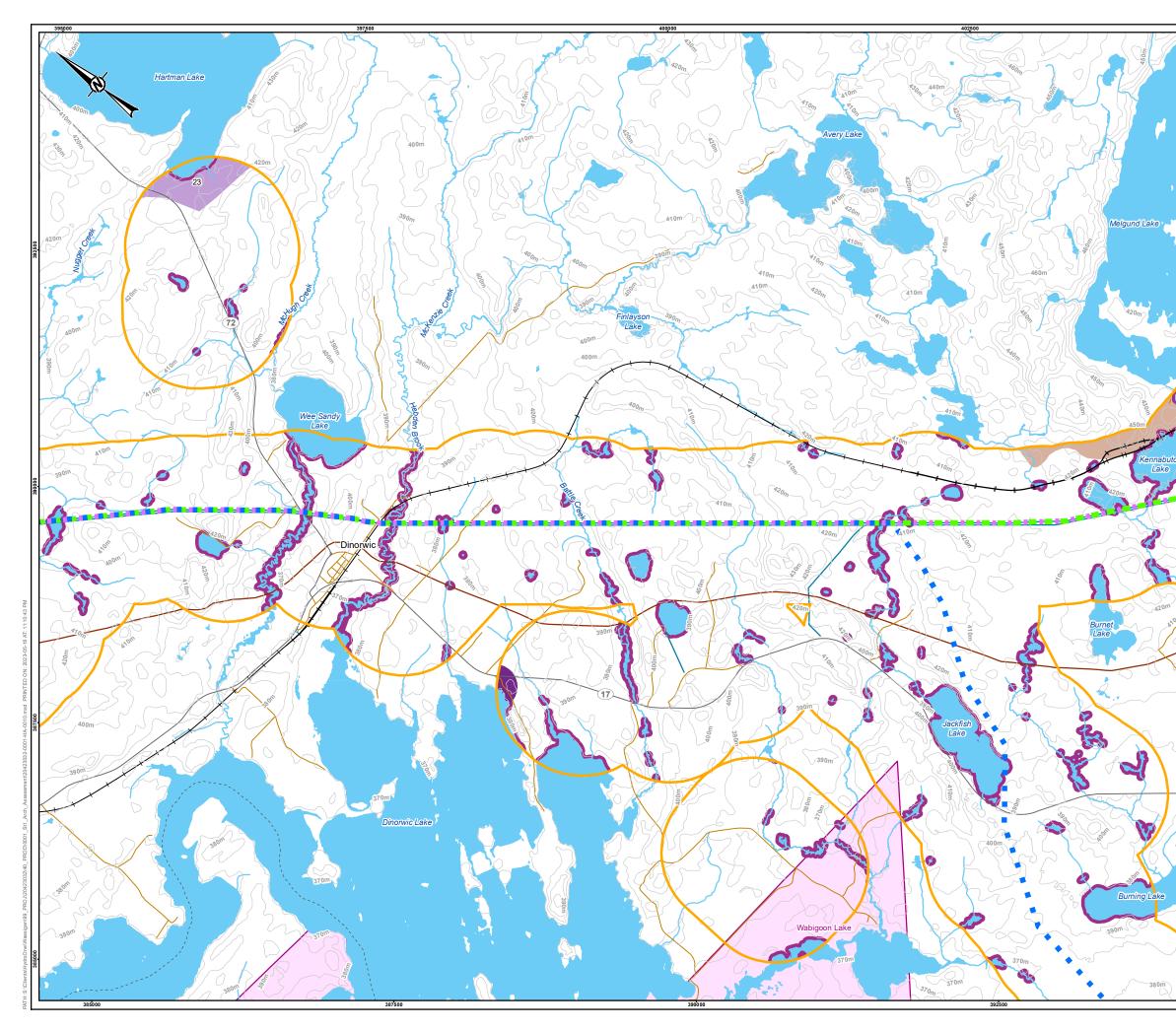
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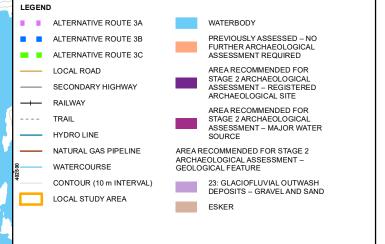


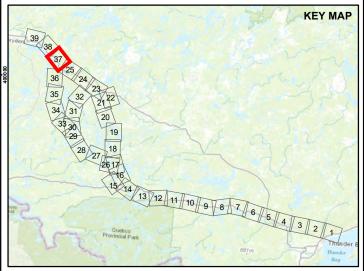


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HYDRO ONE NETWORKS INC.

PROJECT WAASIGAN TRANSMISSION LINE

TITLE

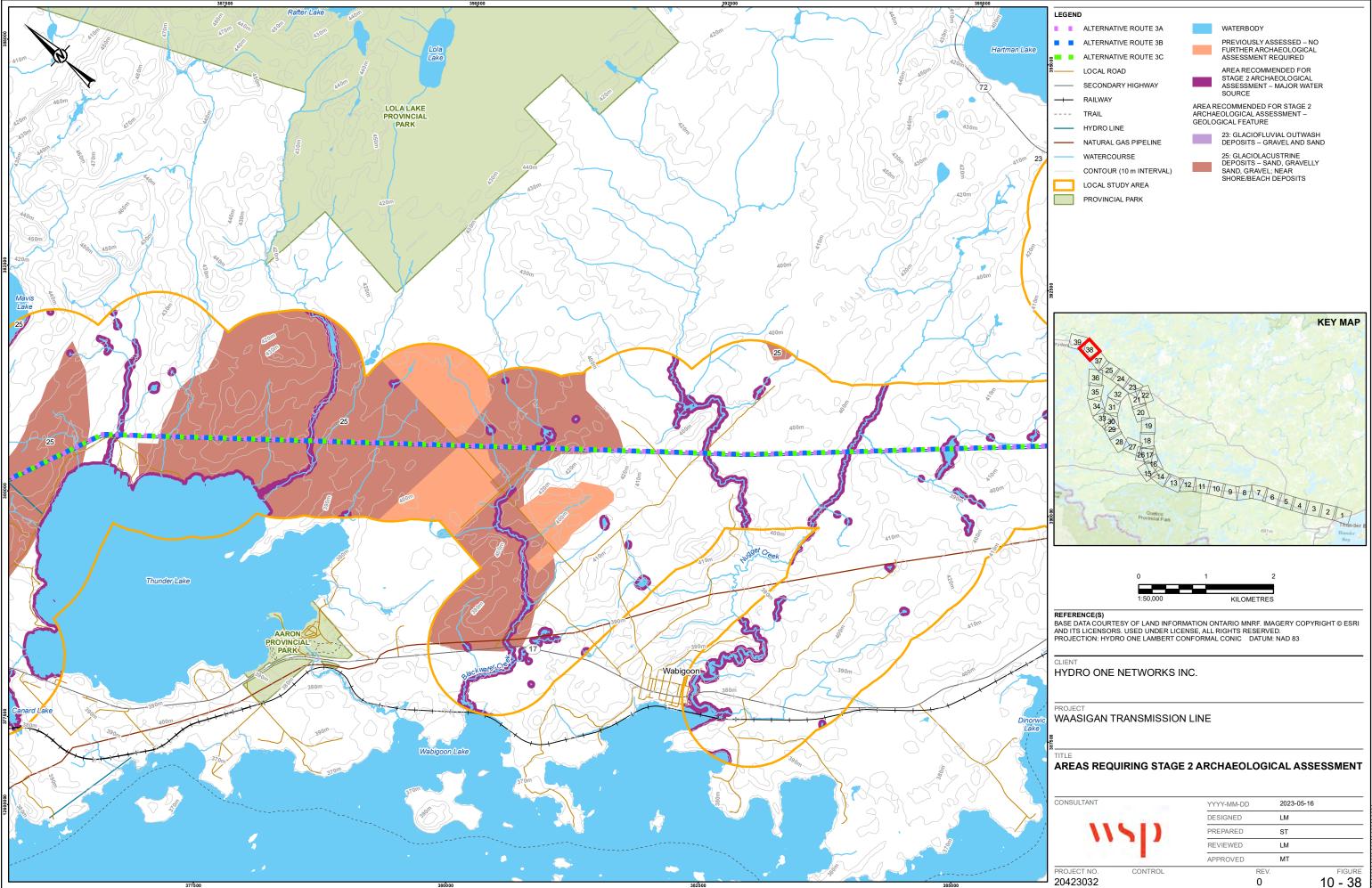
AREAS REQUIRING STAGE 2 ARCHAEOLOGICAL ASSESSMENT

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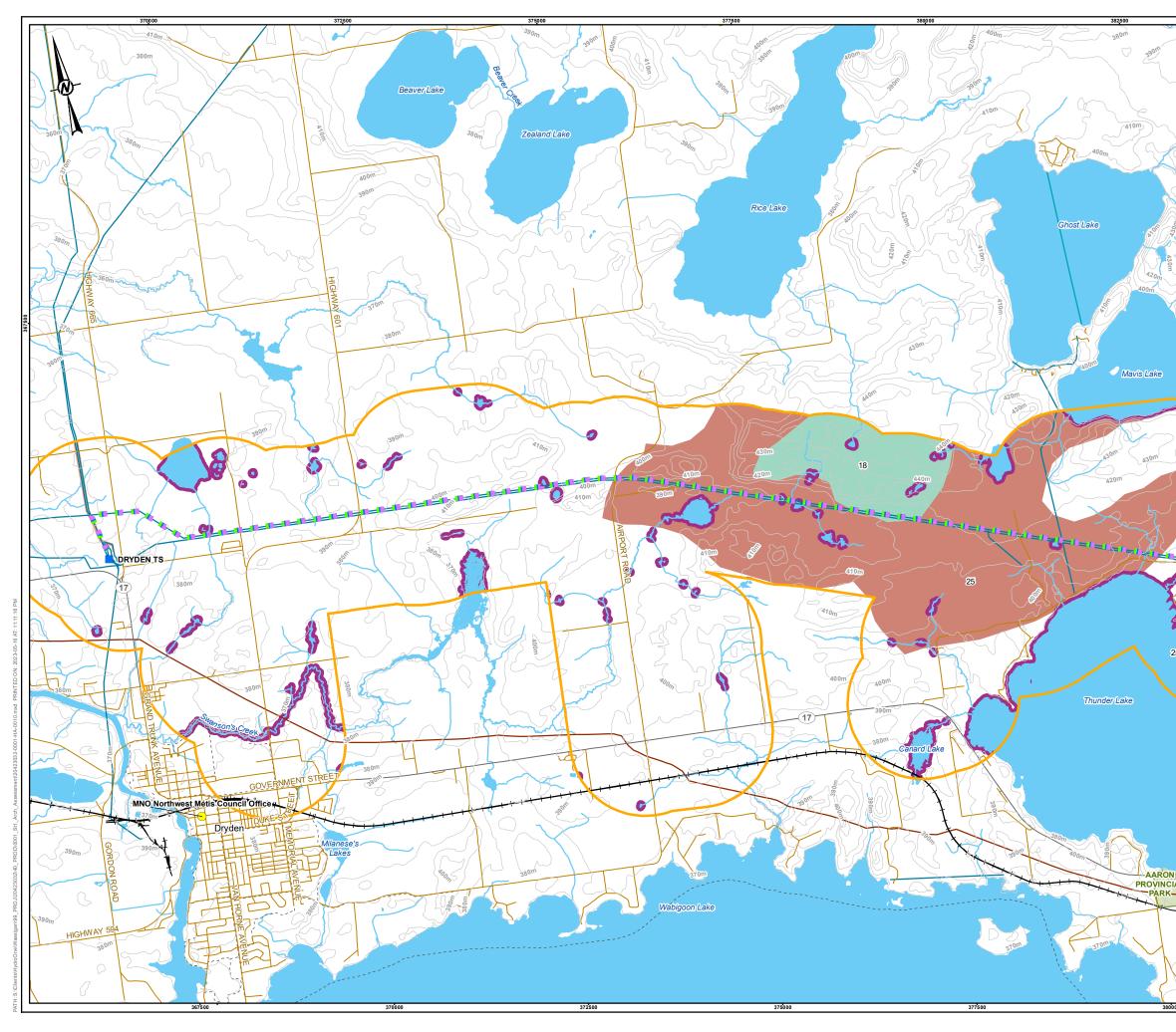
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9.0 CLOSURE

We trust that this report meets your current needs. If you have any questions, or if we may be of further assistance, please contact the undersigned.

WSP Canada Inc.

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Lafe Meicenheimer, MA Senior Archaeologist

t Tel

Michael Teal, MA Archaeology Team Lead, Ontario Earth & Environment

LCM/MT/ca

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