



Henvey Inlet Wind LP

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Henvey Inlet Wind Energy Centre

Stage 1 Archaeological Assessment

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Stage 1 Archaeological Assessment – Henvey Inlet Wind Energy Centre (HIWEC)

Henvey Inlet First Nation Indian Reserve No. 2 in the District of Parry Sound, Ontario

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July 2015

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Executive Summary

AECOM Canada Ltd. (AECOM) was contracted by Henvey Inlet Wind LP (HIW) to conduct a Stage 1 archaeological assessment for a proposed 300 megawatt wind energy generation centre located in central Ontario. This background study was undertaken by AECOM on behalf of HIW as a best practise exercise in advance of construction of the Henvey Inlet Wind Energy Centre (HIWEC) on Henvey Inlet First Nation Reserve No. 2 (HIFN I.R. #2). The HIWEC is not subject to provincial regulations due its location entirely on Federal Reserve land; however, at the request of HIW this archaeological assessment has been conducted to meet the requirements of the HIFN EA Guidance Document. Additionally, the HIWEC is not subject to the *Ontario Heritage Act* (Ontario Government 1990a) or the *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011b) yet the Stage 1 archaeological background research assessment has been conducted to fulfill the requirements of these regulations.

The HIWEC study area is located on HIFN I.R. #2, which is a parcel of Federal Crown land on the east shore of Georgian Bay approximately 80 km north of Parry Sound, Ontario (**Figure 1** and **Figure 2**). It is held by the Crown subject to the Aboriginal title of and for the benefit of HIFN. HIFN has broad authority to manage and protect its Reserve lands. This authority comes from the *First Nations Land Management Act* (Canada Government 2015), related instruments, and the HIFN Land Code. HIFN I.R. #2 has been in active use by HIFN for habitation, hunting, fishing, cultural gathering, burial and, traditional use. In recent times, HIFN has used these lands for a variety of purposes including forestry, aggregate, waste management, and recreation. Overall, the HIWEC will include approximately 100 to 120 wind turbine generators with a footprint of approximately 758 ha within the 9,232.86 ha that constitutes HIFN I.R. #2. Access to the study area was granted by HIFN and HIW and a member of HIFN accompanied the archaeologists at all times.

The Stage 1 archaeological assessment determined that there are areas within the HIWEC study area that have the potential to retain archaeological resources. The potential for pre-contact archaeological resources within the HIWEC study area is considered high within 50 m of modern watercourses, within 300 m of previously identified areas of cultural significance, and within 150 m of well-drained soil in close proximity to marshes, wetlands or watercourses and judge the potential for contact period archaeological resources to be high within 100 m of historic transportation routes and 300 m of areas of early settlement and industry (Ontario Government 2011b: Section 1.4). The features that contribute to archaeological potential within the HIWEC include natural environmental features, Bekanon Road, identified burial grounds, previous settlements and areas identified as being of heritage significance (see Figure 3).

Furthermore, this study has shown that there is the potential for archaeological resources that are not in the ground such as pictographs and quarry sites to exist in the HIWEC land. In addition to watercourses, historic transportation routes, early settlements, early industry, well-drained soil and proximity to archaeological features, areas that could support pictograph or quarry sites should also be considered to retain archaeological potential. Areas of archaeological potential that will be impacted by the construction of the HIWEC infrastructure must be subject to additional Stage 2 archaeological field investigation prior to any development activities.

The Stage 2 archaeological assessment should be conducted by the standard test pit assessment method at an interval of 5 m in areas identified as having archaeological potential and where soil overburden allows. The HIWEC is situated on Canadian Shield terrain and the following recommended strategy for Stage 2 assessment is based off Section 2.1.5 of the *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011b). In addition, due to the complex combination of land conditions in the Study Area there may be small areas of archaeological potential intermixed with areas of low potential and Section 2.1.6 must be followed during the Stage 2 archaeological assessment (Ontario Government 2011b). The test pits should be excavated 5 mm into subsoil or at bedrock, with all soil sifted through 6 mm screen and any cultural material recovered bagged by provenience and retained for laboratory analysis. In areas of archaeological potential where there is no soil overburden the exposed bedrock surface should be visually examined for archaeology. This visual inspection should also be conducted at a 5 m interval.

1. Project Context

1.1 Development Context

AECOM Canada Ltd. (AECOM) was contracted by Henvey Inlet Wind LP (HIW) to conduct a Stage 1 archaeological assessment for a proposed 300 megawatt wind energy generation centre located in central Ontario. This background study was undertaken by AECOM on behalf of HIW as a best practise exercise in advance of construction of the Henvey Inlet Wind Energy Centre (HIWEC) on Henvey Inlet First Nation Reserve No. 2 (HIFN I.R. #2). The HIWEC is not subject to provincial regulations due its location entirely on Federal Reserve land; however, at the request of HIW this archaeological assessment has been conducted to meet the requirements of the HIFN EA Guidance Document. Additionally, the HIWEC is not subject to the *Ontario Heritage Act* (Ontario Government 1990a) or the *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011b) yet the Stage 1 archaeological background research assessment has been conducted to fulfill the requirements of these regulations.

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1.1.1 Objectives

The objectives of the Stage 1 overview/background study were to:

- Provide information about the HIWEC study area's geography, history, previous archaeological field work and current land condition;
- Identify and map archaeological potential and features of archeological potential on land within the HIWEC study area limits;
- Determine whether Stage 2 survey is required for all or parts of the HIWEC study area; and
- Recommend appropriate strategies for Stage 2 survey.

1.2 Historical Context

The HIWEC study area consists of a footprint of land in two separate parcels along the north and south side of Henvey Inlet. During the planning stages HIFN identified areas of cultural importance as part of a Traditional Land use Study (URS 2013) and excluded those areas from any development impacts (**Figure 3**).

1.2.1 Pre-Contact Aboriginal Settlement History

Archaeological research in central Ontario has been fairly limited in comparison to southern Ontario and northern New York State, which has resulted in a limited understanding of the pre-contact settlement history of this part of the province in relation to other areas. While not as numerous, there are studies that have informed our understanding of human occupation in this area.

Table 1 provides a breakdown of the pre-contact cultural and temporal history of past occupations of central Ontario.

Table 1. Pre-contact Settlement Chronology

Archaeological Period	Culture	Time Period	Comments
Paleo	Plano	8,000 – 4,500 BC	<ul style="list-style-type: none"> ▪ Lanceolate biface tools ▪ Big game hunters on relic lake shores north of Upper Great Lake
Archaic	Shield	5,400 – 250 BC	<ul style="list-style-type: none"> ▪ Slight reduction in territory size ▪ Introduction of copper tools ▪ Broad spectrum seasonal resource exploitation ▪ Highly mobile ▪ Introduction of bow ▪ Domestication of dog
Middle Woodland	Laurel	550 BC – AD 950	<ul style="list-style-type: none"> ▪ Introduction of pottery ▪ Horticultural production ▪ Large earthen mounds
Late Woodland	Blackduck Selkirk	AD 750 - 1650	<ul style="list-style-type: none"> ▪ Diverse ceramics – out-flaring vessel rims, textile impressions, punctates ▪ Communal burials
Contact Aboriginal	Northern Ojibway	AD 1650-1875	<ul style="list-style-type: none"> ▪ Early written records and treaties ▪ European trade
Euro-Canadian		AD 1749-present	<ul style="list-style-type: none"> ▪ European settlement

Note: taken from Dawson, 1984; Wright, 1981

The first human settlement in this area can be traced back 10,000 years as the glaciers receded from the land. These earliest well-documented groups are referred to as Paleo, which literally translates to old or ancient. The tool assemblage is dominated by finely made lanceolate-shaped, sometimes fluted, projectile points, or spear tips. Paleo-Indian people were non-agriculturalists who depended on hunting and gathering of wild food stuffs. They would have moved their encampments on a regular basis to be in the locations where these resources naturally became available and the size of the groups occupying any particular location would vary depending on the nature and size of the available food resources (Ellis and Deller, 1990; Wright 1974). The retreat of the glaciers allowed for Spruce dominated boreal forests to move quickly north, occupying the once open tundra (Hinshelwood, 2004; Phillips 1993). By 10,000 years ago the closed Spruce forest gave way to the rapid introduction of Jack Pine and White Birch as a result of the increasingly warm, dry and windy environment (Julig 1994; Phillips 1993; Wright 1974). Raw materials obtained from bedrock outcrops were used in the production of tools such as distinctive unfluted, ribbon flaked, lanceolate spear points and knives. The picture that has emerged for early and late Paleo-Indian people is of groups at low population densities who were residentially mobile and made use of large territories during annual cycles of resource exploitation (Ellis and Deller, 1990; Julig 1994).

The next major cultural period following the Paleo-Indian is termed the Archaic, where a change in technological and stylistic representations of the projectile points occurred in the archaeological record marking the beginning of the Archaic Period (Dawson 1983b). Wright (1972) referred to it as the Shield Archaic to indicate a long-lived tradition that encompassed much of the Canadian Shield from northern Quebec to southwest Northwest Territories.

Dawson (1983) also refers to the Shield Archaic as a northern expression of the Archaic Tradition within the Precambrian Shield. The Archaic period in Northern Ontario is defined by notched projectile points, the use of native copper, and more frequent recovery of woodworking tools such as wedges and adzes (Dawson 1983; Fox 1977; Hinshelwood 2004). There is much debate on how the term Archaic is employed; general practice bases the designation off assemblage content as there are marked differences in artifact suites from the preceding Paleo-Indian and subsequent Woodland periods. As Ellis *et al.* (1990) note, from an artifact and site characteristic perspective, the Archaic is simply used to refer to non-Paleo-Indian manifestations that pre-date the introduction of ceramics.

The Archaic occupation is poorly understood in central and northern Ontario because of the underrepresentation of Archaic sites. This is a result of the complex timing for the transition from late Paleo-Indian to Archaic that occurred when lake levels in the Great Lakes Basin were lower than they are today. As lake levels rose this caused the destruction of any shoreline sites, as they have been submerged or are present under sediments deposited post-8,000 years ago (Hinshelwood 2004). Another contributing factor to the underrepresentation of Archaic sites in central and northern Ontario is the degree of difficulty in determining between Archaic and Woodland period lithics. Throughout the Archaic period the natural environment warmed and vegetation changed from closed conifer-dominated vegetation cover, to mixed coniferous and deciduous forest to the mixed coniferous and deciduous forest in the north and deciduous vegetation we see in Ontario today (Ellis *et al.*, 1990). During the Archaic period there are indications of increasing populations and decreasing size of territories exploited during annual rounds; fewer moves of residential camps throughout the year and longer occupations at seasonal campsites; continuous use of certain locations on a seasonal basis over many years; increasing attention to ritual associated with the deceased; and, long range exchange and trade systems for the purpose of obtaining valued and geographically localized resources (Ellis *et al.*, 1990; Hinshelwood 2004).

The Woodland period is distinguished from the Late Archaic period primarily by the addition of ceramic technology, which provides a useful demarcation point for archaeologists, but is expected to have made less difference in the lives of the Woodland peoples. Unlike southern Ontario where the Woodland period is divided into three distinct phases, the Woodland period of central and northern Ontario observes only two distinct phases, the Middle and Late Woodland periods. The introduction of pottery is believed to have made its way into central and northern Ontario cultures from the southwest and east, creating the Laurel culture within the Boreal Shield stretching from Saskatchewan to Northern Quebec. Laurel ceramics are dominated by conical styled, tapered base pottery manufactured using the coil method adorned with decoration across the upper portion of the vessel's exterior surface.

Along with the introduction of pottery, the bow and arrow appears as the dominant hunting tool in the Middle Woodland period. This resulted in an increase in projectile points and scrapers developed using stone chipped technology (Wright 1995:272, 274). During the Middle Woodland groups would come together into large macro-bands through the spring-summer at lakeshore or marshland areas to take advantage of spawning fish; in the fall inland river valleys were occupied for deer and nut harvesting and groups split into small micro-bands for winter survival (Spence *et al.*, 1990).

The Late Woodland period in central Ontario differed significantly from the settlement and subsistence shift that occurred in southern Ontario with the increasing reliance on maize horticulture. The climate and landscape of the Canadian Shield prohibited the agricultural shift occurring in the south, and consisted of continued reliance on fish and large game as in previous periods. Population growth was also restricted by the Canadian Shield environment and settlement patterns were similar to those of the Middle Woodland with large summer camps located close to fish resources and typically located on level, well drained ground with access to canoe landing beaches. Throughout the entirety of occupation in central and northern Ontario First Nations people utilized the many rivers and lakes as transportation routes, using birch bark canoes in the warmer seasons and as trails when frozen in the winter.

Within the Late Woodland period two distinct cultures arise; the Blackduck complex and the Selkirk complex. The Blackduck culture is identified by contrasting pottery tradition to the Laurel. Pottery vessels were large globular and were created using the paddle and anvil technique with decoration being horizontal and/or oblique lines along with circular indentations or punctates found on the neck, rim and inner rim. The Blackduck culture is considered to occur through central Ontario.

The Selkirk culture is defined by its pottery style as well, with manufacturing technique similar to that of the Blackduck culture but with a distinct variation in decoration. The Selkirk style of pottery, if decorated, was simple with a single row of punctates or impressed with a cord wrapped stick (Dawson 1983). Selkirk pottery is found predominantly in the north portion of Northern Ontario close to Manitoba.

In the 17th century two major language families, Algonquian and Iroquoian, were represented by the diverse people of North America. Iroquoian speaking people were found in Southern Ontario and New York State, with related dialects spoken in the mid-Atlantic and interior North Carolina, while Algonquian speaking peoples were located along the mid-Atlantic coast into the Maritimes, throughout the Canadian Shield of Ontario and Quebec and much of the central Great Lakes region (Ellis *et al.*, 1990). Linguists and anthropologists have attempted to trace the origin and development of these two language groups and usually place their genesis during the Archaic (Ellis *et al.*, 1990).

1.2.1.1 Anishinabek Creation Story

There is more than one Creation Story for Indigenous peoples in North America, including more than one story for each nation, which are often similar versions generally adapted by the people in different areas. The version the Creation Story HIFN has chosen to adapt comes from Darlene Johnston, a Professor of Law at the University of Toronto, in a report prepared for the Ipperwash Commission of Inquiry; “*Connecting People to Place: Great Lakes Aboriginal History in Cultural Context*”. Below is the story told on the HIFN website (n.d.).

The birds, animals and fish were created before human beings. Human beings were created after the big flood. While the earth was flooded, the land animals floated upon a large wooden raft. The leader, the Great Hare “Michabous”, knew there was land somewhere under the water, and the animals needed it if they were to survive. Michabous asks many animals to dive into the water to bring up only a little soil. He promises that if he can get but a small grain, he will be able to make enough land to support all the animals.

First, Beaver is asked to dive for the sand, after a long time, he comes up empty-handed. Next Otter is called upon. Otter is also unsuccessful. Finally, Muskrat volunteers to dive down for sand. Since Beaver and Otter are strong and failed, the other animals don’t have much faith in Muskrat.

Muskrat dives, and stays under water for a whole day, and finally shows up at the edge of the raft, nearly drowned. The animals pull him onto the raft, and open all his tightly closed paws. In the last paw they find a grain of sand.

Good to his promise, Michabous, took the grain of sand, and let it fall on the raft, where it grew in size. Once it began to grow, the Great Hare took more grains from there, and scattered them about, which caused the mass of soil to grow larger and larger. It grew to the size of a mountain, and Michabous walked around it to enlarge it still. When he thought it large enough, he sent Wagosh (Fox) to inspect the work, with power to enlarge it more, Wagosh obeyed, and found the place was large enough for him to hunt his own prey, and told Michabous the place was large enough for all the animals. Upon hearing this, the Great Hare toured his own creation and found it incomplete, and since then he hasn’t been able to trust any of the other animals, and to this day he continues to increase what he’s made and is on constant move around the earth.

After Michabous' creation of the earth, the other animals found places most favoured by them for pasture or hunting prey. When the first ones died, Michabous caused the birth of men from their carcasses. Appropriately, those early men derived their origins from a bear, others from a moose and still others from various animals. Our Clans and historical connections to the land and each other [are] revealed in the study of the Clan system, and the threads it weaves through our Band and families to this day.

Other Creation Stories are similar to the one recounted by Dr. Johnston, containing similar elements to a version by Anishinabek scholar and author Basil Johnston, of Cape Croker. For example, a flood and a grain of sand are a common thread, along with Muskrat being the successful diver of that grain of sand. The difference in Basil Johnston's story, is in the beginning, a pregnant Sky Woman lands on Giant Turtle's back, and rubs the rim of Turtle's back with the grain of sand from Muskrat, creating 'Turtle Island' or what is now, North America, where she gives birth to twins – the Anishinabek.

1.2.1.2 Pre-history of the Anishinabek (Ojibway)

The Anishinabek (Ojibway) were originally named for a group north of modern day Sault Ste. Marie. The term was then extended to include other groups in the Upper Great Lakes regions that shared the same culture and language. Congruent with Anishinabek legend, their initial origin appears to have been along the northern shores of Lakes Huron and Superior, at its centre was the major fishery at the rapids of Sault Ste. Marie (McMillan and Yellowhorn 2004). From this broad base the Anishinabek expanded their territory dramatically, as new opportunities arose. Anishinabek history originates at the centre of their Creation Story, on Michilimakinac Island between Lakes Huron and Michigan. They continued to disperse and occupy a broad range of environments, utilizing different resources. When these people first encountered European fur traders, there were many similar but politically autonomous groups. Many of the Bands or Tribes were given a confusing number of names to describe the same peoples occupying different niches in a variety of environments in various geographic regions such as Algonquin, Ojibway, Odawa, and Chippewa. Today, many Ojibway people prefer to be known as Anishinabek, a term meaning "First People", and the concept of an Anishinabek Nation now links speakers of the Ojibway language. The Odawa, or Ottawa, occupied much of the north shore of Gregorian Bay and Manitoulin Island and Bruce Peninsula, where they bordered on the settlements of the Huron and Petun (McMillan and Yellowhorn 2004). Their role as intermediaries in the trade with these Iroquoian groups gave rise to calling them 'traders'. The Algonquian inhabited the Ottawa Valley and adjacent regions in the early contact period. They are all collectively referred to as Anishinabek or Ojibwa, because linguists determined they all speak the same language albeit in different dialects (McMillan and Yellowhorn 2004; Schmalz 1991).

Anishinabek society was divided into clans, each identified by a clan symbol or totem. The clan symbols or totems reflect the Anishinabek Creation Story. The Michilimackinac Island is where the First Animals named in the Creation Story ventured out to find and transform their own Country. For instance, the story tells of Beaver, who went traveling up French River upon leaving Lake Huron, and created lakes, rapids, portages and dams along the way. During his lifetime, Beaver populated his country with many Beaver children (HIFN n.d.). During his last days, Beaver traveled to Lake Nipissing as his final resting place. Upon his death, human children emerged from his remains. Anishinabek totems are patrilineal, and the totemic identity is created in the connection between the Anishinabek peoples and the Great Lakes Landscape (Johnson n.d.). Early documents from the Jesuits in 1640 make reference to totems, including Kinounchepirini (Pike People) who were located along the Ottawa River. Between the Hurons and French River were the Ousaouarini (possibly Birch Bark People), the Outchougai (Heron people) and the Atchiligouan (possibly Black Squirrel). The Amikouai (nation of the Beaver) were located north of the French River, the Oumisagaiat the Mississagi River and the Baouichtigouian, "the nation of the people of Sault", at Sault Ste. Marie (HIFN n.d.).

Anishinabek subsistence was based on the annual round of hunting, fishing and plant collecting. The winter was devoted to the pursuit of moose, deer, bear and other large game. In spring, families would return from their hunting camps to rejoin others at their major fishing sites. Pickerel, pike and suckers could be caught throughout the summer, and autumn spawning brought whitefish, trout and sturgeon close to shore. The Anishinabek netted or speared large quantities of fish, and the fisheries became centres of community life and cultural interaction. From writings of the Jesuits, it was documented during the mid-17th century that up to 2,000 individuals might converge at the rapids of Sault Ste. Marie (McMillan and Yellowhorn 2004). Plant foods have always played an important role in Anishinabek economy; maples were tapped, berries collected, and wild rice harvested from the shallow waters of nearby lakes. In order to transport food stuffs and travel between different resource areas Anishinabek people utilized birch bark canoes. These canoes were tough, but lightweight, which allowed for easy portage between waterways (McMillan and Yellowhorn 2004).

Living quarters consisted of dome-shaped structures, referred to by the Algonquin term, wigwams. Sheets of birchbark covered the structure, layered in a way to allow for moss in between acting as insulation. Conical or tipi-shaped structures were also not uncommon (McMillan and Yellowhorn 2004; Schmalz 1991). Hides were utilized for clothing, stitched together using sinew. Social interaction was essential to the survival of the peoples, in which activities included feasting, dancing, lacrosse and gambling with bone dice. Storytelling was at the heart of many social gatherings. Rich oral traditions consisted of Anishinabek mythology designed to both entertain and instruct, filled with powerful supernatural humans and animals (McMillan and Yellowhorn 2004). Every animal, bird, plant, or inanimate object had a power that could either help or hinder humans. The Anishinabek were widely respected for their shamanic abilities to cure illness, see spirits at work, and provide blessings for numerous activities.

1.2.2 Contact Period Settlement History

Etienne Brule and Samuel de Champlain were the first Europeans to come to the region, travelling the French River into Georgian Bay from the Ottawa River in 1610 and 1613 respectively. At the time of European contact, the Jesuits recorded a multitude of tribes in the Canadian Shield who spoke the Algonquin language (Thwaites 1896-1901). The Anishinabek seasonal cycle involved travel over large regions to exploit resources for food, tools, medicines and ceremonial use, with large groups congregating at summer camps and dispersing into small winter hunting groups (Allen 2002).

The first European to describe the Ojibway who were located near the mouth of the French River and Georgian Bay was Samuel de Champlain:

We met with three hundred men of a tribe named by us the Cheveau releves or 'High Hairs', (Ojibwa?) because they had them elevated and arranged very high and better combed than our courtiers, and there is no comparison in spite of the irons and methods these have at their disposal. This, seems to give them a fine appearance. They wear no breech cloths, and are much carved about the body in divisions of various patterns. They paint their faces with different colours and have their nostrils pierced and their ears fringed with beads. When they leave their homes, they carry a club. I visited them and gained some slight acquaintance and made friends with them. I gave a hatchet to their chief who was as happy and pleased with it as if I had made him some rich gift and, entering into conversation with him, I asked him about his country, which he drew for me with charcoal on a piece of tree-bark. He gave me to understand that they had come to this place to dry the fruit called blueberries to serve them as manna in the winter when they can no longer find anything. For arms they have only the bow and arrow.

Schmalz 1991: 14-15

The fur trade in Canada provided the principal motivation and economic base for the exploration by Europeans of the Canadian interior. During the period between 1670 and 1713, French traders began to leave established

settlements and construct trading posts that enabled traders to make direct contact with the people living in the interior. The Nipissings, Odawa and Anishinabek in Northern Canada were referred to as the ‘middlemen’ of the trade all the way north to James Bay (Hunt 1940: 35, 45; Pollock 1999). An examination of the Atlas of Canada’s map “Posts of the Canadian Fur Trade, 1600-1870” indicates the presence of three Fur Trade Posts in close proximity to HIFN I.R. #2 (**Figure 4**). The Hudson’s Bay Co. (HBC) had a post at the mouth of the French River, and one south of the HIWEC study area called Shawinaga, near Pointe au Baril. There were multiple Independent Canadian posts in the surrounding area, but a large number of them were located around Lake Nipissing to the northeast. The French River post was occupied in 1827 for an unknown length of time, but was a major stop for 20 to 50 years because of the significance of the French River. The Shawinaga post was also occupied in 1827 for an unknown amount of time, but represents a lengthy occupation also. The Independent Canadian post located along the south shore of Lake Nipissing at the mouth of the French River was occupied in 1825, but appears to have only been operational for 1-3 years. This could have been the result of multiple posts operating around Lake Nipissing, which facilitated access to the Great Lakes from the Ottawa River.

French explorers allied with the Huron and Ojibway people and participated in raids on Iroquoian settlements. So by 1615 the French-Huron alliance was cemented, contact had been made with the Nipissing, Odawa and Petun, and the geography of the eastern Great Lakes was roughly known (Heidenreich 1990). After 1615 the fur trade gained momentum with the Hurons playing a major role, utilizing existing trade routes between the Huron agriculturalists in the south and Ojibway bands to the north. In 1649 the Hurons experienced an Iroquoian attack on the Huron town of St. Ignace, as intertribal Indian wars for control of the fur trade came to a head (Hunt 1940: 92; Pollock 1999). The Henvey Inlet ancestors in this area felt the repercussions of the collapse of the Huronia, and temporarily relocated to other areas due to the recurring raids of the Iroquois between 1650 and 1660 only to return after 1667 (Day 1978: 789; Pollock 1999). As a result, the northern coasts of Georgian Bay and Lake Huron may have served as a transition zone or buffer between the Anishinabek and Iroquois, as it was sparsely occupied until the return of the Ojibway along the Georgian Bay and Lake Huron in the 1700s (Pollock 1999). After this time, until the fall of New France in 1759, the Anishinabek found themselves in a position of relative control of the fur trade, as French and British encouraged the trade of the coveted furs from northern Ontario, for profit but also to secure First Nation allies (Schmalz 1991: 35; Pollock 1999).

Conflict again arose in the early 1800s, this time with the Canadian Government regarding mining rights along the northern shores of Lakes Superior and Huron. These areas were to be surrendered to the Government in order to prepare for European settlement, to enforce British jurisdiction against American incursions in the region, and the Provincial Governments desire to encourage mineral exploration without making a treaty (Morrison 1995; Pollock 1999). As a result, the Robinson-Huron Treaty was signed in 1850, and included Chief Louis Mishequanga’s band at Pickerel River (HIFN I.R. #13) and Chief Wagamake’s band at the mouth of Henvey Inlet on Georgian Bay (HIFN I.R. #2). The Robinson Huron treaty made on September 9th, 1850 between:

...the Honourable William Benjamin Robinson and the Principal Men of the Ojibwa Indians, inhabiting and claiming the eastern and northern shores of Lake Huron from Penetanguishene to Sault Ste. Marie, and thence to Batchewanaung Bay on the northern shore of Lake Superior, together within the Islands in the said lakes, opposite to the shores thereof and inland to the height of land which separates the territory covered by the Charter of the Honourable the Hudsons Bay Company from Canada, as well as all unconceded lands within the limits of Canada West, to which they have any just claim of the other part...

Morris 1943:30

Robinson made an offer of £4000 in cash and a perpetual annuity of £1000 for the entire region, ensuring the bands would continue to enjoy their hunting and fishing rights because extensive settlement in the perceived “barren” regions of the Canadian Shield was considered unlikely. Hunting and fishing was to continue in the region for the bands, unlike the eastern regions of Upper Canada, where those activities had been hampered by extensive

development (Surtees 1986). The two agreements for the lands bordering Lake Superior and Lake Huron were signed in Sault Ste. Marie referred to as the Robinson-Superior and Robinson-Huron Treaties respectively. The Robinson-Superior Treaty contained 16,700 square miles of territory and was occupied by 1422 people. The Robinson-Huron Treaty contained 35,700 square miles of land with 1240 people living within its boundaries. The treaties also offered significant differences from other treaties developed in Ontario; a schedule of reserves chosen by the chiefs and clauses regarding features of First Nation – Euro-Canadian relations (Surtees 1986). The reserves agreed upon consisted of three on Lake Superior and twenty-one under the Robinson-Huron agreement. The clauses stated that the reserves could not be sold or leased without the consent of the Chief Superintendent of Indian Affairs; First Nations would refrain from interfering with mineral activities in the ceded areas, though mineral rights on the reserves belonged to them; the rights of Métis who could declare whether they were First Nations or not; and hunting and fishing rights where First Nations were to have “the full and free privilege to hunt over the territory now ceded by them and to fish in the waters thereof as they have heretofore been in the habit of doing” (Surtees 1971: 149-152; Surtees 1986).

The Pickerel River band is now part of HIFN, and was first surveyed in May of 1853 by John Stoughten Dennis (Dennis 1851). HIFN I.R. #2 was surveyed in October and November of 1851 by Dennis, who met Chief Wagemake on the reserve “at their village for the purposes of pointing out the limits of their reserve” (Dennis 1851). The Band had chosen to reserve this location because of the valuable fisheries, the presence of an existing village on the south shore of the Inlet, a productive cornfield, and a sugar bush on the portage between the Key River and Henvey Inlet (Pollock 1999). HIFN I.R. #2 had been described in the Treaty text as: “... a tract of Land to commence at a place called Nekickshegeshing [Ojibway for ‘place for otters’] six miles from east to west by three miles in depth” (Morrison 1995). Through discussions between Dennis and Chief Wagemake at the village site, it was evident the band wanted a reserve twelve miles by six miles, however Dennis could not authorize this extension (Dennis 1851). Dennis returned the following year, accompanied by J. William Keating, a former Assistant Indian Superintendent, to meet with Chief Wagemake and his band to try and resolve the boundary disagreement. The reason Chief Wagemake gave to J.W. Keating in the summer of 1852 for wanting more lands was in order to relocate his village because the rattlesnakes had rendered the log huts inhabitable. The adjustment was made to the reserve lands, and is so reflected in the Treaty text, from 18 square miles (11,520 ac) to 41 square miles (26,000 ac) (Morrison, 1995: 109). **Figure 5** illustrates the land surveyed by Dennis in 1851 and 1852 from his Field notebook. The two reserves are currently described as follows:

- **HIFN I.R. #2** is located on the Northeast shore of Georgian Bay, approximately 90 km south of Sudbury on the west side of Highway 69 and 71 km north of Parry Sound, at approximately 40 degrees 50’ North latitude and 80 degrees 40’ west longitude.
- **French River Reserve No.13**, which is located 11 km north of the HIFN I.R. #2, is east of Highway 69 on Pickerel River, and approximately 45 degrees 58’ North latitude and 80 degrees 30’ West longitude. French River reserve No. 13 is the location for the community’s main village. This village is located on Pickerel River Road. The community notes that Cantin Island is part of this Reserve, and the Island is located north of the mainland portion and separated by the Pickerel River and the French River on the north side.

The post-contact Aboriginal occupation of Ontario was heavily influenced by European diseases and population movements. As Iroquoian speaking peoples, such as the Huron, Petun and Neutral were dispersed by the New York State Confederacy of Iroquois, Algonquian speaking groups from Northern Ontario moved southerly into the land now abandoned. The Ojibwa of Southern Ontario date from about 1701 and occupied the territory between Lakes Huron, Erie and Ontario (Schmalz 1991). This is also the period in which the Mississaugas are known to have moved back into Southern Ontario and the Great Lakes watersheds (Konrad 1981) while at the same time the members of the Three Fires Confederacy, the Chippewa, Ottawa and Potawatomi were immigrating from Ohio and Michigan (Feest and Feest 1978). As European settlers encroached on their territory the nature of Aboriginal

population distribution, settlement size and material culture changed. Despite these changes it is possible to correlate historically recorded villages with archaeological manifestations and the similarity of those sites to more ancient sites reveals an antiquity to documented cultural expressions that confirms a long historical continuity to systems of ideology and thought (Ferris 1009).

1.2.3 Recent History of Henvey Inlet

The eastern shore of Georgian Bay was considered a desolate and difficult place, originally thought to simply function as a hunting area for Huron, Ojibwa and Algonquin people. Initial survey consisted of efforts confined to canoe through rivers and water ways. The Northern and Pacific Junction Railway was constructed in the 1880s to connect the railways of Southern Ontario to the new transcontinental line of the Canadian Pacific Railway. Communities like Britt and Key Harbour survived as CNR ports to unload coal and oil off tankers that were coming from Lake Superior and Lake Huron (Campbell 2005). The Northern and Pacific Junction Railway became part of the Grand Trunk railroad system which opened up Parry Sound and Muskoka's isolation.

The area remained relatively untouched until the Muskoka and Parry Sound Districts were surveyed between 1866 and 1870 (Campbell 2005). Despite the surveyors reporting that the land was unfit for farming, the wealth in timber was deemed highly profitable. Communities on Georgian Bay, i.e., Killarney, Byng Inlet/Britt, Parry Sound, developed not as service centres for surrounding farmlands, which was the case in Southern Ontario, but as isolated ports, railway stops, or company mill towns (Campbell 2005). Roads were not considered the main option for travel because of the intense difficulties in building and upkeep required in the rugged Canadian Shield environment. The small communities that appeared as a result of forestry or mineral exploration relied on the Bay and later the railway, as primary routes for communication and transportation (Campbell 2005). As interest in the forestry and mineral exploration grew roads became a necessity. These 'Colonization Roads' served to increase access to logging, but also to provide a way north for early settlers. The network of roads provided access between the Ottawa Valley and Georgian Bay (known as the Ottawa–Huron Tract). The government built over 1,600 kilometres of roads over two decades. The Great North Road extended from Parry Sound northeast to Lake Nipissing. By 1955 the modern day Highway 69 connected Parry Sound and the Trans-Canada Highway (Hwy 17) at Sudbury.

The main village on the French River Reserve No. 13 experienced industry growth while the French River was the main water artery from the St. Lawrence River to the Great Lakes from 1600 to the mid-1800s. The area prospered within the fur trade, as well as commercial logging and fishing. The French River Village eventually was developed in the late 1880s as a result of the extensive logging industry. Timber cutting, logging and lumber mills sprang up in the area in 1873 and boomed till the 1930s. A major catalyst for the logging industry occurred after the major fire in Chicago, Illinois. The logs were floated down the French River and the Wahnipitae River to aid in rebuilding the city. Today, many of the sunken logs still dot the rivers and are referred to as "dead heads" (HIFN n.d.).

The HIFN community relocated near Highway 69 in the fall of 1953, when the Chief was Henry Ashawasegai, now deceased. With the assistance of the Department of Indian Affairs, bunk houses were erected, as was a school. Originally the community was known as the Lower French River Indian Reserve #13 and located within the French River Reserve No. 13 is Pickerel Village. This was one of the first permanent settlements that sprang up along the tributary of the French River. The Pine Lake Lumber Company purchased the mill in the town of French River in 1910. The first store and post office in the area were located at the Wanikewin Lodge, situated on the north shore of Pickerel River along the CPR line (HIFN n.d.). Population then began to increase with the commercial development of the area by Martin Henry Fenton. In 1911 the post office was converted to a permanent office, and remained in operation until 1918 when Pickerel Village opened its own post office. It was operated by e.g., William until 1929, and was subsequently relocated many times to different store locations after that. Pickerel Village expanded along spur lines of the CPR, growing outward to include many different sites scattered over a long distance, consisting of a variety of houses, various businesses, churches, barns, wharfs, schools and boarding houses. In 1922, the water towers stood east of the CPR. However, the forestry industry in the area began to fall,

as easier access was made to northeastern Ontario. The Tie & Lumber Co was the first to close its mill in 1928, followed in 1930 by the Pine Lake mill as a result of a fire and was never rebuilt. The Trottier Mill was built in 1941 and was operational until 1950. With the increased development of transportation routes, the area saw an influx of tourists and seasonal residences (HIFN n.d.).

Pickerel Village's population declined steadily during the depression years, but it was never totally abandoned. Today it continues to support a small population and enjoys a summer boom. A few original structures still remain, along with extensive foundations from the mill (HIFN n.d.). In the early 1960s, the Ontario Government closed the area for further development making it part of the North Georgian Bay Recreation Reserve. In 1986 French River was designated Canada's first Heritage River.

The main HIFN village is on the French River Reserve No. 13, along Pickerel River Road, which is where the HIFN Band Office is located. At the present time there are 50 houses; most have been built within the last 10 to 15 years. More housing is in the planning stages for along the Pickerel River Road and in the subdivision, should population continue to increase. There is a small population of permanent and semi-permanent dwellings in HIFN I.R. #2 (HIFN n.d.).

HIFN had negotiated a land claim for HIFN I.R. #2 for eleven hundred and twelve acres at the northwest corner of the reserve south of the Key River. Those lands were expropriated in 1907 for railway purposes. After five years of non-use by the James Bay Railroad, the lands should have been returned to the First Nation's status, of which Canada has admitted to this breach of its fiduciary obligations. It was not returned to First Nation's status, but sold or leased out as private patent land. HIFN successfully won the land claim, however it was decided to leave the private lands in exchange for lands granted by the Crown in a different location (Ken Noble, pers comm. 2014).

1.3 Archaeological Context

1.3.1 Natural Environment

This part of Ontario consists of bedrock that is Precambrian in age (Dredge and Cowan 1983; Teller and Thorleifson 1983). The Canadian Shield is united by two distinctive characteristics, the mixed forest of coniferous and deciduous trees and the ancient bedrock of the southern edge of the Canadian Shield. The Hudson Bay Lowlands are found further to the north, and consist of Devonian and Silurian bedrock mantled by poorly drained marine (Tyrrell Sea) sediments. The Boreal Forest mantles the Shield, but with the southern edge containing the mixed wood Great Lakes-St. Lawrence Forest. The land consists of knobby wooded hills incised by rivers and streams, often backed up by numerous beaver dams and rocky ledges, and dotted with thousands of lakes. Extensive areas of exposed bedrock are common, much of it having been scraped clean by glacial movement; while in other areas deposits left by glacial river meltwater soften the relief (Zoltai 1965). Glacial action contributed deposits of till in moraines or drumlins. Subsequent glacial lakes left beds of clay in some valleys, while sand deposits mark where the rivers met the lakes.

The complex history of deglaciation and meltwater lake formation and drainage in Northern Ontario is not completely understood, although there is extensive literature presenting interpretations and hypotheses (Dyke 2004; Larson and Schaetzl 2001; Leverington and Teller 2003; Lowell *et al.*, 2009; Teller 1995; Zoltai 1965). The complex formation processes and subsequent drainage of the glacial lakes, in combination with many geomorphic processes, had a profound effect on the surrounding topography and distribution of early archaeological sites in Central and Northern Ontario. Through a complex lake history, the intense convergence of water from Glacial Lake Agassiz in Manitoba and the Tyrell Lake over modern day Hudson's Bay, resulted in the erosion of a moranic barrier between Nadoway Point, Michigan and Gross Cap, Ontario that controlled the post-Minong levels of the Lake Superior Basin and Glacial Lake Algonquin levels over Lake Huron (Slatterly *et al.*, 2007; Farrand and Drexler 1985; Yu *et al.*, 2010; Booth 2002; Lewis 2007).

Glacial Lake Algonquin encompassed the modern Lake Michigan basin, the modern Lake Huron basin and the southeastern Lake Superior basin ~11,200 to 10,400 years ago (Jackson *et al.*, 2000). It extended inland from modern Georgian Bay to the area surrounding the current Lake Simcoe basin (Karrow 1975). As the glaciers retreated, isostatic rebound resulted in the draining of the lake east through the Ottawa River into the St. Lawrence River. By approximately 10,000 years ago, water levels had dropped dramatically to much below those of modern times forming Lakes Stanley and Hough in the modern Huron and Georgian Bay basins, respectively (Jackson *et al.*, 2000). These lake fluctuations resulted in the creation of moraines and beach ridges that became attractive to Paleo-Indian people. The glacial lake levels of all of the early Great Lakes are complex and inter-related; each affecting the other in various ways as ice retreated and melted. The lake levels rose and fell accordingly thereby creating the deposits observed within the existing topography. The HIWEC study area would have been under the Laurentian ice sheet until the glacier receded. After the recession of the ice sheet, the HIWEC study area would have been completely inundated by Glacial Lake Algonquin until this lake receded (**Figure 6**).

As the glaciers and glacial lakes receded, forests spread into Central Ontario approximately 10,000 years ago and, through the analysis of pollen, vegetation associations can be determined. **Table 2** provides details on the post-glacial vegetation of this part of Ontario.

Table 2. Post Glacial Vegetation History of Central Ontario

Time	Forest Characteristics
>8600 BC	Open Spruce forest in dwarf-shrub tundra. Spruce (<i>Picea</i>) dominant, with Willow (<i>Salix</i>) and Pine (<i>Pinus</i>); weeds: Wormwood and Ragweed (<i>Ambrosia</i>)
8600 – 5500 BC	Climate changing from cold to cool and dry. Open Pine forest. Pine dominant, declining spruce, modestly increasing Oak (<i>Quercus</i>).
5500 – 2700 BC	Climate changing from cool and dry to warm and wet. Mixed coniferous-deciduous forest. Moving towards Hemlock (<i>Tsuga</i>) dominance, with decreasing Pine, rise of Basswood (<i>Tilia</i>) and Hickory (<i>Carya</i>)
2700 – 1000 BC	Decline of Hemlock and rise of Birch (<i>Betula</i>)
1000 BC – AD 1800	Recovery of Hemlock. Hemlock dominance, increasing Beech (<i>Fagus</i>), Elm (<i>Ulmus</i>) and Birch; declining Pine and Oak.
1800 – present	Deforestation stage. Post-settlement vegetation. Increasing non-arboreal (not from trees) pollen, e.g., Ragweed denoting time transgressive onset of impacts of lumbering, mining, and agriculture 1880 CE: Chestnut decline 1930 CE: Elm decline

Taken from Schoch and Rowsell (2015)

The HIWEC study area is characterized by undeveloped forest with numerous lakes, streams and bedrock outcrops. The topography and drainage of the area is controlled entirely by the bedrock. It is located on the Georgian Bay Fringe as defined by Chapman and Putnam (1984). The Georgian Bay Fringe area is approximately 334,000 ha in size and covers most of the District of Parry Sound. The area is characterized by very shallow soil with exposed rock knobs and ridges. The thin till cover was removed from the rock outcrops by the wave action within glacial Lake Algonquin. The physiography of the area is described as Shallow Till and Rock Ridges (Chapman and Putnam 1984).

The surficial geology is characterized by six main stratigraphic units: bedrock, bedrock drift, ice contact deposits, glaciolacustrine deposits, alluvium and organic deposits. The most prominent unit is also the most obvious, the bedrock, consisting of ridges and knobs of granite (i.e., unsubdivided granitic to mafic migmatite and gneiss (Neegan Burnside 2011). The bedrock drift areas contain thin deposits of sand and gravel overlie the bedrock. Pockets of organic deposits and alluvium are localized throughout, commonly associated with low-laying, poorly drained areas between bedrock knobs. The alluvium located in those areas consists of sand, silt, and organics, and the glaciolacustrine deposits consist of sand, silt, and clay, which were both deposited from the outwash of glacial meltwaters (Neegan Burnside 2011). **Figure 7** illustrates the current surficial geology within HIFN I.R. #2.

The HIWEC study area is part of the Georgian Bay watershed and includes numerous lakes, rivers, creeks and streams the shorelines of which retain potential for archaeological resources. The French River was a major artery connecting Georgian Bay and the Great Lakes to Ottawa, Montreal and the St. Lawrence River system. This route was utilized by early Aboriginal groups, and became increasingly significant during the fur trade after 1650 (Campbell 1992). The Key River was traveled to get back east towards Lake Nipissing, as an alternative to the French River. Canoeing up the French was more difficult and was quite congested. The Key River provided a gentle, rapid-free ride back to Lake Nipissing, and got its name from being the “Key to the East” (Joe Herbert, pers. com. 2014). The village of Key Harbour once existed on the north shore of the Key River at the mouth of Georgian Bay. In 1908 the Canadian National Railway (CNR) built a spur line to Key Harbour in order to transport large quantities of ore from Sudbury to the United States. The Key Harbour was utilized to facilitate the transfer of ore pellets from rail cars to tanker ships. Key Harbour was decommissioned in 1920 as larger quantities of ore were being shipped out of Depot Harbour near Parry Sound. During the 1920s and early 1930s, Key Harbour was used to ship coal north to Sudbury. After 1938 the docks were abandoned and the tracks were mainly used by jitneys for bringing in cottagers and sending out frozen packed fish from Gauthier’s fishery station, also located at Key Harbour. In 1960 the spur line was torn up and sold for scrap. The ruins of the old generating plant and rotting dock supports still remain in the Key River.

In addition to these sources of potable water and transportation are wetlands which were a source of rich natural resources related to hunting and plant collecting. Camps associated with wetlands would be located on well drained areas in close proximity, or on ridges that extend into the wetlands areas, the shorelines of wetlands alone do not retain archaeological potential.

1.3.2 Previous Archaeological Assessments

A Traditional Land use Study was conducted by HIFN to identify areas of cultural concern, including previous settlements, sacred burial locations, significant hunting and fishing areas, plant gathering, travel routes and archaeological sites. This was completed through interviews with community and council members, and was conducted by HIFN Chief and Council, led primarily by Community Co-ordinator Crystal DeLeskie (URS 2013). This study was conducted to identify and document the historical and current practices and values of HIFN people relative to the resources and landscapes that they have and continue to utilize across their traditional territory. The information collected from this exercise provided the community with a document containing the collective traditional knowledge of HIFN, and is a valuable resource for current and future generations.

Multiple archaeological assessments have been conducted along Highway 69 as part of an Environmental Assessment during the road widening process. A Stage 1 archaeological assessment was conducted by Woodland Heritage Services Ltd. (WHS) in 2004 for a portion of Highway 69 that was to be widened, and identified a number of areas that required further work. WHS completed Stage 2 assessments in 2005 and 2007 and found no archaeological sites or material. As the design of the highway changed, URS was contracted by the Ministry of Transportation (MTO) to conduct Stage 2 assessments of lands included in the new designs. The Stage 2 was conducted between 2010 and 2013, and one archaeological site was identified (URS 2014). This site was previously registered as the Wagamake site (BIHd-2) by a local avocational archaeologist. URS conducted a Stage 3 of the Wagamake site (BIHd-2) in 2013, which included of large piles of antiquated, but intentionally constructed piles of stone east of HIFN near Bekanon Road. The Stage 3 consisted of systematically excavating the piles of stone, but no archaeological materials were recovered (URS 2013). Upon further research, URS noted that similar stone piles elsewhere in central Ontario were the result of small-scale 19th to 20th century quarrying by landowners in order to sell building materials for road or railway construction, or for use in barn foundations (URS 2013:7). New Directions Archaeology Ltd. (New Directions) conducted the Stage 1 for the remainder of the road widening in 2004 from Six Mile Lake south to the portion of the current highway that is already been divided, north of Nobel. Stage 2 investigations were conducted within the proposed ROW in areas within 50 m of major water sources in 2004. The Shawanaga Site (BjHb-1) was discovered and the Stage 3 investigation (New Directions 2006) was followed by Stage 4 mitigation in 2006 (New Directions 2007). This site represented a campsite that yielded hundreds of lithic flakes and tools.

1.3.3 Registered Archaeological Sites

A request was made to Archaeology Data Co-ordinator Robert von Bitter of the MTCS on February 4, 2015 for information on registered archaeological sites surrounding the HIWEC study area from the provincial Archaeological Sites Database (ASDB). The database search resulted in the identification of three registered archaeological sites located on HIFN I.R. #2, and two located within 1 km of the study area, listed in **Table 3** below.

Table 3. Registered Archaeological Sites within 1 km of HIWEC Study Area

Borden #	Site Name	Cultural Affiliation	Site Type/Feature	Researcher
BIHd-2	Wagamake	Historic	Rock Formations	URS 2013
BIHd-1	Percy Currie Site	Aboriginal	Campsite	ASI 1999, 2007
BIHd-3	Nekickshegeshine Wabanong	Aboriginal	Village	Allen 2008
BIHe-2	Nekickshegeshing	Contact Aboriginal	Village	Allen 2008
BIHe-3	Amikwa	Multi-Component	Campsite?	Allen 2008

Note: *Sites in bold are within HIFN I.R. #2

The Percy Currie Site (BIHd-1) was first identified by Archaeological Services Inc. (ASI) in 1999, where a known 20th century burial existed. In addition to the burial 12 artifacts were discovered, including four ceramic vessel fragments, one scraper, one bladelet, and modern garbage (ASI 1999). It was further explored in 2007 by ASI, which yielded positive Stage 2 test pits that contained Late Archaic lithics, and Middle Woodland pottery. Further Stage 3 work was recommended for that area, and in 2008 ASI identified two loci of pre-contact Aboriginal activity representing a minimum of three cultural affiliations (2008: 16). Further Stage 4 work is recommended for the area should any development impact it. The three remaining sites, (BIHd-3, BIHe-2 and BIHe-3) are all located on HIFN I.R. #2 lands. All three registered sites represent old village sites that yielded a small sample of pottery, ceramics, glass and nails. These areas were all identified in the Traditional Land Use Study completed by HIFN and URS in 2013, and the areas were completely removed from potential impact from the HIWEC footprint.

Though the ASDB only yielded five registered archaeological sites, other notable sites have been discovered in the surrounding region, beyond of the 1 km buffer the MTCS provides in their records. These are listed in **Table 4** below, and consist primarily of findspots located by J.V Wright in 1961. Unfortunately, the original document containing the descriptions of these finds could not be located so much of the information is missing.

Table 4. Registered Archaeological Sites Beyond 1 km of HIWEC Study Area

Borden #	Site Name	Cultural Affiliation	Site Type/Feature	Researcher
CaHe-1	CNR Upstream	N/A	Findspot	J.V. Wright 1961
CaHe-2	Upriver From Flowerpot Bay	N/A	Findspot	J.V. Wright 1961
CaHe-5	Potvin Island	N/A	Findspot	J.V. Wright 1961
CaHe-6	Main Outlet	N/A	Findspot	J.V. Wright 1961
CaHe-7	Pickrel 2	N/A	Undetermined	J.V. Wright 1961
CaHe-11	Ox Bay Pictographs	Woodland	Pictograph	Thor Conway 1974
CaHd-4	Golf Course	N/A	Findspot	J.V. Wright 1961
CaHd-6	First Rapids	N/A	Findspot	J.V. Wright 1961
CaHd-7	West Dry Pine Bay	N/A	Findspot	J.V. Wright 1961
CaHd-11	Recollet Falls Pictograph	Pre-contact	Pictograph	Dewdney 1981
CaHd-12	French River Pictograph	Pre-contact	Pictograph	Thor Conway 1981
CaHd-14	Recollet Falls	Multi-Component	Campsite	Thor Conway 1981
BIHe-1	Pickrel River Pictograph	Woodland	Pictograph	Thor Conway 1975

Note: * Sites identified in Pollock 1999

Archaeological assessments are few and far between for this part of Ontario. When they have been done in the past, it was not necessarily to the same standards as archaeological information is collected today. The majority of the information is published in obscure grey literature that is generally inaccessible, either because it is not digitized, or it is simply so old that original copies could not be located. Early assessments began in the early 1900s by Emmerson Greenman in the vicinity of Killarney (Greenman 1951; 1966). Modern archaeological surveys began along the east coast of Georgian Bay in the 1960s to 1980s by J.V. Wright. Simultaneously, south of the study area, near Parry Sound, Bruce Emerson conducted work in the Blackstone Harbour Provincial Park, where he located thirty-three sites (Ontario 1974; Pollock 1999). Other sites have been confirmed in the area, the majority coming from archaeological surveys of Highway 69 four lane expansions, north of the French River towards Sudbury (Pollock 1999).

Wright (1965) provides a summary of the archaeological sites discovered in the Upper Great Lakes area. The Shebeshekong site is situated on Georgian Bay near the mouth of the Shebeshekong River. The site was excavated in 1955, unearthing two components; one post-contact and one pre-contact (Wright 1965). Features were limited to several large pits associated with the pre-contact component. The post-contact component consisted of artifacts from the 17-18th centuries. The artifact assemblage included trade beads, gunflints, clay pipe bowls, ceramics including Huron-Petun and Blackduck), stone tools such as wedges, scrapers, projectile points, and copper (Wright 1965). The Frank Bay site which was excavated in 1954 by Frank Ridley, is located along the south shore of Lake Nipissing near the mouth of the French River. The occupation dates back to 1,000 BC and contains Huron-Petun ceramics and some linear stamped pottery common to northern Michigan, all associated with 17th century European trade goods (Ridley 1954; Wright 1965). Six dog burials were also present, believed to represent the ceremonial butcher and/or sacrifice sometime in the 11th century (Brizinski and Savage 1983). Much remains unclear surrounding this social ritual of butchering and binding dog remains; it could possibly have some relation to the historic Nipissing Feast of the Dead ceremony, as documented by the Jesuits(1896-1701).

Further south, work was done by Norman Emerson in the Blackstone Harbour area near Parry Sound during the early 1970s. Numerous pre-contact sites ranging from quartz quarry locations to small occupation sites are located close to major lakes and rivers, while quartz acquisition sites are often located at a greater distance from water, where a suitable seam of toolstone quality quartz was accessible at the surface (Archaeologix 2004; AFBY Archaeological & Heritage Consultants 2001). A single puckasaw pit was also recorded (Ontario 1974: 11).

Of note, is the proximity of the HIWEC study area to the best known Paleo-Indian quarry site which is on Manitoulin Island, called Sheguiandah. Here, Paleo-Indians and later peoples obtained fine grained quartzite which they chipped into their distinctive tools, leaving the ground strewn with waste flakes, broken artifacts and other debris (Julig 2002).

1.3.4 Current Conditions

The typical natural environment of the HIWEC study area consists of forested hills, dominated by exposed Canadian Shield bedrock with rivers, lakes, streams and extensive wetlands cutting through it. This is a rural setting with a sparse population of small dwellings along Henvey Inlet, with a small community of permanent dwellings concentrated along Bekanon Road west of Highway 69. Current industry includes forestry, aggregate, waste management, and recreation activities.

Major roads in the area include Highway 69 which is part of the Trans-Canada Highway, linking Sudbury to Parry Sound. This highway is fairly modern, and does not represent a historic road route. Bekanon Road is the only road within the HIWEC study area, which begins west of Highway 69 and terminates at the Henvey Inlet boat launch. The existing Canadian Pacific Rail line is located east of the HIWEC study area.

2. Property Inspection

The proposed HIWEC study area is quite extensive, and to assist in the evaluation of this large area, a portion of the study area was inspected. Though not subject to MTCS approval, the property inspection was conducted in accordance with provincial regulations (Ontario Government 2011b). The inspection included areas previously identified by the community as retaining cultural significance, as well as some of the land that would be impacted by the HIWEC footprint. Multiple site visits were conducted between October 21 and November 12, 2014. During the majority of the site visit, the weather conditions permitted good visibility of land features. However, on the morning of November 11 it snowed on HIFN I.R. #2, which obscured any land features. As a result, archaeological assessment was not possible that day. The rest of the weather during the site visit ranged from cool to warm with a temperature range between 18 and 0 degrees Celsius.

Generally the HIWEC study area was found to consist primarily of wetlands and exposed bedrock. There are a small number of modern residences, located along Henvey Inlet and along Bekanon Road. Small roads are located away from water sources that consist of logging and ATV trails. Photographs were taken of typical landscape features and current conditions within the HIWEC study area and are provided in **Section 6** of this report. **Figure 8** provides the location and direction of each photograph that was taken.

3. Analysis and Conclusions

3.1 Archaeological Potential Analysis

Archaeological potential is established by determining the likelihood that archaeological resources may be present on a subject property. Criteria commonly used by archaeologists in Ontario to determine areas of archaeological potential include:

- Proximity to previously identified archaeological sites;
- Distance to various types of water sources;
- Soil texture and drainage;
- Glacial geomorphology, elevated topography and the general topographic variability of the area;
- Resource areas including food or medicinal plants, scarce raw materials and early Euro-Canadian industry;
- Areas of early Euro-Canadian settlement and early transportation routes;
- Properties listed on municipal register of properties designated under the *Ontario Heritage Act* (Government of Ontario 1990b);
- Properties that local histories or informants have identified with possible archaeological sites, historical events, activities or occupants; and
- Historic landmarks or sites.

Certain features indicate that archaeological potential has been removed, such as land that has been subject to extensive and intensive deep land alterations that have severely damaged the integrity of any archaeological resources. This includes landscaping that involves grading below the topsoil level, building footprints, quarrying, sewage and infrastructure development.

3.1.1 Known Archaeological Sites

After consulting the ASDB, it was determined that there are five registered archaeological sites situated within 1 km of the HIWEC study area. While only few archaeological sites have been registered within close proximity to the HIWEC study area, it is important to note that this is not because archaeological sites do not exist, but rather because there have been very few development activities that would have triggered an archaeological assessment that would identify them.

Previously identified areas of cultural significance exist within the HIWEC study area boundaries, as indicated in the Traditional Land Use Study conducted by the community, with technical support from URS Canada in 2012 and 2013. They identified multiple areas of cultural significance, including archaeological sites, previous settlements, sacred burial grounds, specific hunting and fishing grounds, plant gathering areas, current and former travel routes, and other significant landscape features (URS 2013). The findings of the Traditional Land Use Study are being incorporated into the final design of the HIWEC to ensure any impacts to traditional land use or culturally significant areas are avoided or minimized. However, the archaeological potential is elevated in proximity to the culturally significant areas identified and this is reflected in the archaeological potential mapping provided. All land within 300 m of a registered archaeological site must be subject to Stage 2 archaeological assessment.

It is also important to note that archaeological potential exists in and around areas other than in the ground. More than 400 rock art paintings adorn the cliff faces of the Canadian Shield that date back to over 2,000 years ago

(Dewdney and Kidd 1962; Rajnovich 1998). These paintings are a legacy of the Algonquian-speaking First Nations of the Canadian Shield, who traditionally put picture writing onto birch bark, copper, wooden objects, and stone. Four registered Pictograph sites are present in close proximity to the current study area, including Ox Bay Pictographs (CaHe-11), Recollet Falls Pictograph (CaHd-11), French River Pictograph (CaHd-12), and Pickerel River Pictograph (BIHe-1), which clearly demonstrates the importance of this area to First Nations people. Section 4.2.7 of the *Standards and Guidelines for the Conservation of Historic Places in Canada* recommends that rock art be documented using non-invasive methods, and that it be preserved and stabilized *in situ* (Government of Canada, 2010).

Raw material quarrying of quartz has been identified in the surrounding regions at other archaeological sites along the east coast of Georgian Bay (AFBY Archaeological & Heritage Consultants 2001). Bedrock outcrops should not only be examined for potential rock art, but also for areas where quarrying activities for the purposes of raw material acquisition to create stone tools, such as spear tips. Quartz spear tips have been found in close proximity to the HIWEC study area, and are currently on display in French River Provincial Park (Joe Herbert, pers comm 2014). However, quartz is a notoriously difficult material to analyze (Knight 1991), therefore caution should be exercised when/if it is encountered.

3.1.2 Natural Environment Features

The evaluation of archaeological potential based off the proximity of the HIWEC study area to water sources must take into account a number of factors. A basic example would be the difference between an accessible shoreline versus an inaccessible shoreline as the potential for archaeological sites to be present is elevated in areas where there is easy access to water. Archaeological site locations and site types are affected in varying degrees by proximity to different types of water sources and shorelines. Primary sources of water such as lakes, rivers, streams and creeks are reliable sources of drinking water and transportation routes, while secondary water sources such as seasonal streams and creeks, springs, marshes and swamps are intermittent sources of potable water. Features indicating past water sources, for example glacial lake shorelines, relic river or stream channels and shorelines of drained lakes or marshes are archaeologically significant features that indicate archaeological potential.

In the HIWEC study area there is an overabundance of water sources, as attested by the extensive wetlands and small streams and lakes, specifically the Henvey Inlet and Key River would have been major access routes to these resource rich areas. Lakes and large rivers are probably the most important foci of pre-contact settlement as well as substantial rivers and streams as fishing was a significant source of food.

An evaluation was made of modern water sources as well as glacial shorelines that would indicate archaeological potential. The shoreline of glacial Lake Algonquin is located outside the HIWEC study area limits to the east and no other glacial or historic shorelines were identified during the course of this assessment. Other relic shorelines are currently located below the modern day lake level as a result of the complex deglaciation and lake level fluctuations. If archaeological sites existed below the modern day lake during previous times of low water levels in Lake Huron and Georgian Bay, they would currently be situated under water. The HIWEC study area is situated entirely on Canadian Shield with elevated, densely forested topography between the various watercourses that transect the land.

3.2 Conclusions

The small number of archaeological assessments in the area has resulted in a limited understanding of pre-contact occupation practices in this part of the Province; therefore, the evaluation of areas with archaeological potential is based off typical criteria used in the province.

3.2.1 Areas of Archaeological Potential

The potential for pre-contact archaeological resources within the HIWEC study area is considered high within 50 m of modern watercourses, within 300 m of previously identified areas of cultural significance, and within 150 m of well-drained soil in close proximity to marshes, wetlands or watercourses and judge the potential for contact period archaeological resources to be high within 100 m of historic transportation routes and 300 m of areas of early settlement and industry (Ontario Government 2011b: Section 1.4). The features that contribute to archaeological potential within the HIWEC include natural environmental features, Bekanon Road, identified burial grounds, previous settlements and areas identified as being of heritage significance (see Figure 3).

Furthermore, this study has shown that there is the potential for archaeological resources that are not in the ground such as pictographs and quarry sites to exist in the HIWEC land. In addition to watercourses, historic transportation routes, early settlements, early industry, well-drained soil and proximity to archaeological features, areas that could support pictograph or quarry sites should also be considered to retain archaeological potential.

3.2.2 Areas Retaining No Archaeological Potential

Areas of steep slope, exposed bedrock and poor drainage are not considered to have archaeological potential and may be excluded from further assessment regardless of proximity to archaeological features. However, exceptions should be made for any areas of steep slope containing exposed bedrock cliff faces. These areas should be examined for rock art given the identification of pictograph sites in close proximity to the current study area. Exposed bedrock may also contain areas where previous quartz quarrying activities have been conducted, based on the proximity of the HIWEC study area to similar locations along the eastern shore of Georgian Bay where these activities have been documented. These areas should be examined for evidence of potential quarrying activities. The numerous wetlands scattered across the HIWEC study area do not retain archaeological potential and do not require further assessment; however, the presence of wetlands or marshes can elevate the potential for archaeological resources to be present on adjoining land if there are well drained areas of elevated topography adjacent to them.

4. Recommendations

The Stage 1 archaeological assessment determined that there are areas within the HIWEC study area that have the potential to retain archaeological resources. Areas of archaeological potential that will be impacted by the construction of the HIWEC infrastructure must be subject to additional Stage 2 archaeological field investigation prior to any development activities. The HIWEC is not subject to provincial regulations due its location entirely on Federal Reserve land; however, at the request of HIW this archaeological assessment has been conducted to meet the requirements of the HIFN EA Guidance Document. Additionally, the HIWEC is not subject to the *Ontario Heritage Act* (Ontario Government 1990a) or the *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011b) yet the Stage 1 archaeological background research assessment has been conducted to fulfill the requirements of these regulations.

The HIWEC is situated on Canadian Shield terrain and the following recommended strategy for Stage 2 assessment is based off Section 2.1.5 of the *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011b). In addition, due to the complex combination of land conditions in the Study Area there may be small areas of archaeological potential intermixed with areas of low potential and Section 2.1.6 must be followed during the Stage 2 archaeological assessment (Ontario Government 2011b).

The Stage 2 archaeological assessment should be conducted by the standard test pit assessment method at an interval of 5 m in areas identified as having archaeological potential and where soil overburden allows. The test pits should be excavated 5 mm into subsoil or at bedrock, with all soil sifted through 6 mm screen and any cultural material recovered bagged by provenience and retained for laboratory analysis. In areas of archaeological potential where there is no soil overburden the exposed bedrock surface should be visually examined for archaeology. This visual inspection should also be conducted at a 5 m interval.

The test pit survey intervals for areas identified as requiring Stage 2 archaeological assessment are adjusted according to proximity to features of archaeological potential as follows:

- When the feature of archaeological potential is a modern water source the Stage 2 assessment should consist of a test pit assessment at a 5 m interval in the area between 0 to 50 m of the modern water source.
- When the feature of archaeological potential is an early transportation route, area of early settlement or industry the Stage 2 assessment should consist of a test pit assessment at a 5 m interval in the area between 0 to 50 m of the early Euro-Canadian transportation route and at a 10 m interval between 50 to 150 m of the early Euro-Canadian transportation route.
- When the feature of archaeological potential is a previously identified archaeological site, burial ground, previous settlement or other heritage areas the Stage 2 assessment should consist of a test pit assessment at a 5 m interval in the area between 0 to 50 m of the archaeological site, and at a 10 m interval between 50 m to 150 m.
- The archaeologist conducting the Stage 2 assessment should maintain survey grids as close as possible; however, intervals may vary from the standard survey grids as necessary due to complex combinations of archaeological potential and based on professional judgement. If regular survey grids are not maintained, any variations should be documented and explained in the Stage 2 report.

Land outside the distances stated above does not require further archaeological assessment. Additional areas exempt from Stage 2 archaeological assessment include: areas of steep slope, poor drainage, and previous disturbance due to roads and aggregate activities.

Exceptions must be made for any areas of steep slope containing exposed bedrock cliff faces, which should be assessed and photo documented for the potential presence of rock art given the identification of multiple pictograph sites in close proximity to the current study area. The exposed bedrock may also contain areas where previous quarrying activities have been conducted, based on the proximity of the HIWEC study area to similar locations along the eastern shore of Georgian Bay where these activities have been documented. These areas must be assessed and photo documented with the aim of identifying any potential quarrying sites.

5. Bibliography and Sources

ABFY Archaeological & Heritage Consultants, 2001:

Stage 1 Cultural Heritage Assessment: O'Donnel Point Nature Reserve, The Massasauga Provincial Park, and Killbear Provincial Park. Prepared for Ontario Parks, Ministry of Natural Resources.

Allen, W.A., 2002:

"Wa-nant-git-che-ang: Canoe Route to Lake Huron through Southern Algonquia". Ontario Archaeology 73: 38-68.

Anishnabek News, 2012:

Williams Treaty: Crown Concedes some Hunting Rights. Volume 24, Issue 10.

Archaeological Services Inc. (ASI), 2006:

Stage 1 AA. Former Junior Ranger Camp, NMR Work Centre and OPP Residences on Portage Lake, Part of Broken Lots 32 and 33, Concessions 13 and 14, Township of Mowat, District of Parry Sound, Ontario. On file with the Ministry of Tourism, Culture and Sport, Toronto.

Archaeological Services Inc. (ASI), 2007:

Stage 2 AA. Former Junior Ranger Camp, NMR Work Centre and OPP Residences on Portage Lake, Part of Broken Lots 32 and 33, Concessions 13 and 14, Township of Mowat, District of Parry Sound, Ontario. On file with the Ministry of Tourism, Culture and Sport, Toronto.

Archaeological Services Inc. (ASI), 2008:

Stage 3 AA. Percy Currie Site (BIHd-1), NMR Work Centre, Portage Lake, Township of Mowat, District of Parry Sound, Ontario. On file with the Ministry of Tourism, Culture and Sport, Toronto.

Archaeologix Inc., 2004:

Archaeological Assessment (Stage 1) of the McDougall Waste Disposal Solution, Environmental Assessment, Municipality of McDougall, Parry Sound District, Ontario. On file with the Ministry of Tourism, Culture and Sport, Toronto.

Campbell, C.E., 2005:

Shaped by the West Wind: Nature and History in Georgian Bay. UBC Press

Campbell, W.A., 1992:

The French and Pickereel Rivers: Their history and their people. Self-Published.

Canada Government, 2009:

Introduction to National Park System Plan. Canadian Heritage, Parks Canada. Electronic document: <http://www.pc.gc.ca/docs/v-g/nation/sec3/nation53.aspx> Last accessed May 13, 2013

Canada Government, 2015:

First Nations Land Management Act (S.C. 1999, c. 24). Retrieved on February 6, 2015 from <http://laws-lois.justice.gc.ca/eng/acts/F-11.8/>

Chapman and Putnam, 1984:

The Physiography of Southern Ontario (Third Edition). Ontario Research Foundation, University of Toronto Press.

Day, G., 1978:

Nipissing. In Bruce Trigger (ed.), Northeast, Volume 15 of Handbook of North American Indians. Washington: Smithsonian Institution: 787-791.

Dennis, J.S., 1851:

Report Diary & Field Notes, Survey of the Indian Reserves on Lake Huron. Vol.1. On file with the Ministry of Natural Resources and Forestry.

Ellis, C.J., I.T. Kenyon and M.W. Spence, 1990:

The Archaic. In Chris J. Ellis and Neal Ferris (eds.), The Archaeology of Southern Ontario to A.D. 1650. Occasional Publication of the London Chapter, OAS Number 5.

Ellis, C.J. and D.B. Deller, 1990:

Paleo-Indians. In Chris J. Ellis and Neal Ferris (eds.), The Archaeology of Southern Ontario to A.D. 1650. Occasional Publication of the London Chapter, OAS Number 5.

Ellis, C.J. and N. Ferris (editors), 1990:

The Archaeology of Southern Ontario to AD 1650, Eds. Christopher Ellis and Neal Ferris, Occasional Publication of the London Chapter, Ontario Archaeological Society, Number 5.

Ferris, N., 2009:

The Archaeology of Native-lived Colonialism: Challenging History in the Great Lakes. University of Arizona Press, Tucson.

Feest, J.E. and C.F. Feest, 1978:

Ottawa. In B.G. Trigger (ed.), Handbook of North American Indians. Vol.15 Northeast, pp.772-786. Washington: Smithsonian Institute.

Fox, W.A., 1990:

The Middle to Late Woodland Transition. In In Chris J. Ellis and Neal Ferris (eds.), The Archaeology of Southern Ontario to A.D. 1650. Occasional Publication of the London Chapter, OAS Number 5.

Fox, W.A., 1990b:

The Odawa. In In Chris J. Ellis and Neal Ferris (eds.), The Archaeology of Southern Ontario to A.D. 1650. Occasional Publication of the London Chapter, OAS Number 5.

Granger, J.E., 1978:

Meadowood Phase Settlement Pattern in the Niagara Frontier Region of Western New York State. Museum of Anthropology, University of Michigan, Anthropological Papers No.65.

Greenman, E.F., 1951:

Old Birch Island Cemetery and the Early Historic Trade Route, Georgian Bay, Ontario. University of Michigan Press.

Greenman, E.F., 1966:

Chronology of sites at Killarney, Canada. American Antiquity 31(4): 540-551.

Heidenreich, C.E., 1990:

History of the St. Lawrence - Great Lakes Area to AD 1650. In In Chris J. Ellis and Neal Ferris (eds.), The Archaeology of Southern Ontario to A.D. 1650. Occasional Publication of the London Chapter, OAS Number 5.

Henvey Inlet First Nation (HIFN), n.d.:

The Anishinabek Creation Story. In *Emerging History*. Retrieved February 6, 2015, from http://www.hifn.ca/?page_id=301

Hinshelwood, A., 2004:

Archaic Reoccupation of Late Paleo-Indian Sites in Northwestern Ontario. In Lawrence J. Jackson, and Andrew Hinshelwood (eds.), *The Late Palaeo-Indian Great Lakes*, Vol 165, Mercury Series, pp 225-250. Canadian Museum of History.

Hunt, G.T., 1940:

The Wars of the Iroquois. University of Wisconsin Press.

Johnson, D., n.d.:

Connecting People to Place: Great Lakes Aboriginal History in Cultural Context. Report prepared for the Ipperwash Commission of Inquiry.

Julig, P.J. (editor), 2002:

The Sheguiandah Site: archaeological, geological and paleobotanical studies at a Paleoindian site on Manitoulin Island, Ontario. Mercury Series, Archaeological Survey of Canada, Paper 161, Canadian Museum of Civilization, Hull, Quebec.

Karrow, P.F. and B.G. Warner., 1990:

The Geological and Biological Environment for Human Occupation in Southern Ontario In Chris J. Ellis and Neal Ferris (eds.), *The Archaeology of Southern Ontario to A.D. 1650*. Occasional Publication of the London Chapter, OAS Number 5.

Knight, J., 1991:

Vein Quartz. *Lithics: The Newsletter of the Lithic Studies Society*, No 12: 37-56.

Konrad, V., 1981:

An Iroquois Frontier: the North Shore of Lake Ontario during the Late Seventeenth Century. *Journal of Historical Geography* 7(2).

McMillan, A.D. and E. Yellowhorn, 2004:

First Peoples in Canada, 3rd Edition. Douglas & McIntyre: Toronto.

Miller, M.G., J. Bucovetsky and E. Sisam, 1978:

Straight lines in curved space: colonization roads in eastern Ontario. Ontario Ministry of Culture and Recreation, Historical Planning and Research Branch.

Morris, J.L., 1943:

Indians of Ontario. Ontario Department of Lands and Forests.

Morrison, J., 1995:

Whitefish Lake Indian Reserve No 6 Boundary Reconstruction Study. Prepared for the Indian Commission of Ontario on behalf of Whitefish Lake First Nation and Ontario Native Affairs Secretariat.

Murphy, C. and N. Ferris., 1990:

The Late Woodland Western Basin Tradition of Southwestern Ontario. In Chris J. Ellis and Neal Ferris (eds.), *The Archaeology of Southern Ontario to A.D. 1650*. Occasional Publication of the London Chapter, OAS Number 5.

- Neegan Burnside Ltd., 2011:
Nigig Power Corp/Henvey Inlet Wind Project, Preliminary Environmental Constraints Analysis.
- New Directions Archaeology Ltd. (New Directions), 2006:
Stage 1-3 Archaeological Assessment of Highway 69, From 3.5 km North of Highway 559 to Six Mile Lake, District of Parry Sound (W.P. 5377-02-00). P018-056 & P018-093
- New Directions Archaeology Ltd. (New Directions), 2007:
Stage 4 Archaeological Assessment of the Shawanaga Site (BjHb-1), District of Parry Sound (W.P. 5377-02-00). P018-174-2006
- Ontario Government, 1990a:
Environmental Protection Act. R.S.O. 1990, CHAPTER E.19 Last amendment: 2010, c. 16, Sched. 7, s. 2. Retrieved on May 13, 2013 from http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_90o18_e.htm.
- Ontario Government, 1990b:
Ontario Heritage Act, R.S.O. 1990, CHAPTER O.18. Last amendment: 2009, c. 33, Sched. 11, s. 6. Retrieved on May 13, 2013 from http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_90o18_e.htm.
- Ontario Government, 1999:
Fewer Municipal Politicians Act, 37:1 Bill 25. Retrieved on June 24, 2013 from http://www.ontla.on.ca/web/bills/bills_detail.do?locale=en&BillID=732&isCurrent=false&detailPage=bills_detail_about
- Ontario Government, 2006:
Provincial Parks and Conservation Reserves Act, 2006, Ontario Regulation 347/07. Last amendment: O. Reg. 22/11. Retrieved on May 13, 2013 from http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_070347_e.htm.
- Ontario Government, 2011a:
Ontario Regulation 359/09: Renewable Energy Approval Under Part V.0.1 of the Environmental Protection Act. Retrieved on May 13, 2013 from http://www.e-laws.gov.on.ca/html/source/regs/english/2009/elaws_src_regs_r09359_e.htm.
- Ontario Government, 2011b:
Standards and Guidelines for Consultant Archaeologists. Ministry of Tourism, Culture and Sport, Toronto.
- Ontario Government, n.d.:
Archaeological Sites Database (ASDB) Files. Culture Services Unit, Ministry of Tourism, Culture and Sport, Toronto.
- Ontario Ministry of Natural Resources, 1974:
Historical Sites Branch Annual Review: Research 1973-74, edited by Donald G. McLeod.
- Payette, P., 2012:
Canadian Forts, Ontario. In North American Forts. Retrieved February 6, 2015 from <http://www.northamericanforts.com/Canada/on.html>

- Phillips, B.A.M., 1993:
A Time-Space Model for the Distribution of Shoreline Archaeological Sites in the Lake Superior Basin. *Geoarchaeology* 8(2): 87-107.
- Pollock, J., 1999:
Partial native Background Information Report for the Henvey Inlet First Nation Traditional Territory. Report prepared for Henvey Inlet First Nation.
- Ridley, F., 1954:
The Frank Bay Site, Lake Nipissing, Ontario. *American Antiquity* 20(1): 40-50.
- Schmalz, P.S., 1991:
The Ojibwa of Southern Ontario. University of Toronto Press.
- Schoch, M. and M. Rowsell, 2015:
History of Eastern Ontario's Forests. In The Glengarry Wood Fair & Wood Auction. Retrieved February 6, 2015, from http://www.woodfair.ca/index.php?option=com_content&view=article&id=58%3Ahistory-of-eastern-ontarios-forests&catid=45%3Aarticles-of-interest&Itemid=30&lang=en
- Scott, D.E., 1993:
Ontario Place Names. Toronto: Whitecap Books.
- Shragge, J. and S. Bagnato, 1984:
From Footpaths to Freeways. Ontario Ministry of Transportation and Communications, Historical Committee.
- Spence, M.W., R.H. Pihl and C.R. Murphy, 1990:
Cultural Complexes of the Early and Middle Woodland Periods. In Chris J. Ellis and Neal Ferris (eds.), *The Archaeology of Southern Ontario to A.D. 1650*. Occasional Publication of the London Chapter, OAS Number 5.
- Surtees, R., 1994:
Land Cessions, 1763-1830. In Edward S. Rogers and Donald B. Smith (eds.), *Aboriginal Ontario Historical Perspectives on the First Nations*. Ontario Historical Studies Series, Dundurn Press.
- Thwaites, R.G. (editor), 1896-1901:
The Jesuit Relations and Allied Documents, Travels and Explorations of the Jesuit Missionaries in New France 1610-1791. 73 Vols. The Burrows Brothers, Cleveland.
- URS, 2011:
Stage 2 Archaeological Assessment, Highway 69 Four Laning From 1.7 km North of Highway 529 to 3.9 km North of Highway 522, District of Parry Sound. P123-097-2010
- URS, 2013:
Stage 3 Archaeological Assessment of the Wagamake Site (BIHd-2), Concession 8, Township of Henvey (Unorganized), District of Parry Sound. P123-069-2011
- URS, 2014:
Stage 2 Archaeological Assessment, Highway 69 Four Laning, South End Transition to Existing Highway 69 (From 1.7 km north of Highway 529 to 3.9 km north of Highway 522), District of Parry Sound. P123-0199-2013

Woodland Heritage Services Ltd., 2004:

Stage One Project, Preliminary Archaeological and Cultural Heritage Resource Assessment – Highway 69 Four Laning W.P. 5377-02-00. P016-039

Woodland Heritage Services Ltd., 2005:

Stage II Archaeological Assessment, Highway 69 Four Laning, W.P. 537-02-00, MR Project #5271 – Northern Portion. P016-039

Woodland Heritage Services Ltd., 2007:

Stage II Archaeological Assessment Highway 69 Four Laning, W.P. 537-02-00, MRC Project #5271 – Northern Portion, 2007 Changes. P065-052-2006

Woodland Heritage Services Ltd., 2013:

Stage 1 Archaeological Assessment – Hwy 69 Four Laning from 5.3 km South of Highway 529 (north Junction) northerly to 2.2 km north of Highway 529 (north Junction). P065-192-2013

Wright, J.V., 1965:

A Regional Examination of Ojibwa Culture History. *Anthropologica*, New Series 7(2): 189-227.

Wright, J.V., 1994:

Before European Contact. In Edward S. Rogers and Donald B. Smith (eds.), *Aboriginal Ontario: Historic Perspectives on the First Nations*. Ontario Historical Studies Series, Dundurn Press, Toronto.

6. Images

6.1 Photographs



Photograph 1. Example of conditions on the northern side of the HIWEC study area, note bedrock, facing south



Photograph 2. Example of a pond on the northern side of Henvey Inlet, note the wetland/marsh, facing south



Photograph 3. Example of topography, along the south side of the Key River, facing southwest



Photograph 4. Example of conditions on the north side of Henvey Inlet, facing west



Photograph 5. Example of a pond located on the north side of Henvey Inlet, facing north



Photograph 6. Example of conditions on the south side of Henvey Inlet, facing north



Photograph 7. Example of conditions in wooded areas, south side of Henvey Inlet, facing southeast



Photograph 8. Example of low laying permanently wet areas, leaf litter and dense bush, facing south



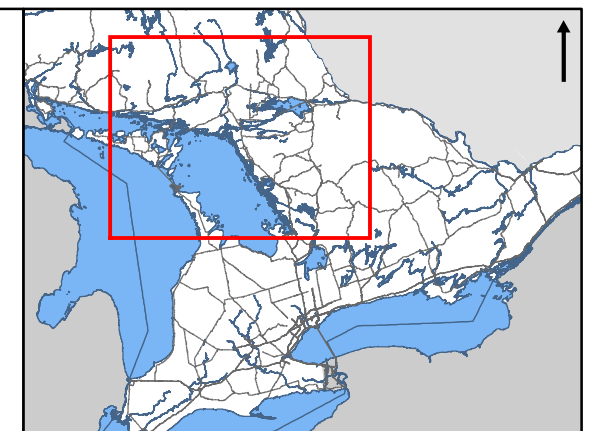
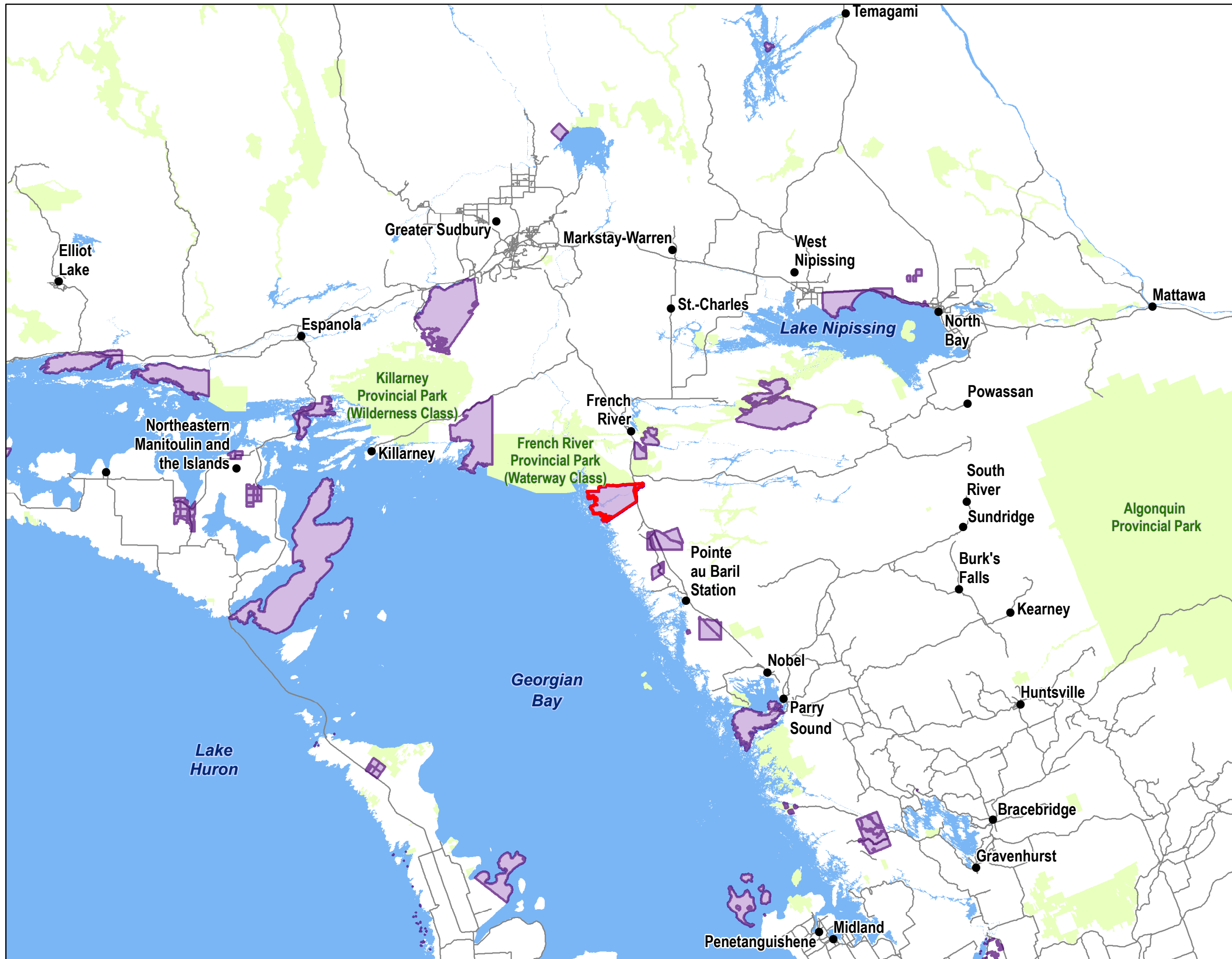
Photograph 9. Example of wetlands, note the turbine stake in the centre, facing southwest



Photograph 10. Large quartz vein within the south access road boundary, northeast of Bekanon Road, facing northwest

7. Maps

All maps for the Stage 1 archaeological assessment of the proposed Henvey Wind Energy Centre are provided on the following pages.



Legend

- Roads
- Provincial Parks
- Waterbodies
- First Nation Communities
- Wind Energy Centre Boundary

↑
N

0 10 20 40
Kilometers

Henvey Inlet Wind Energy Centre

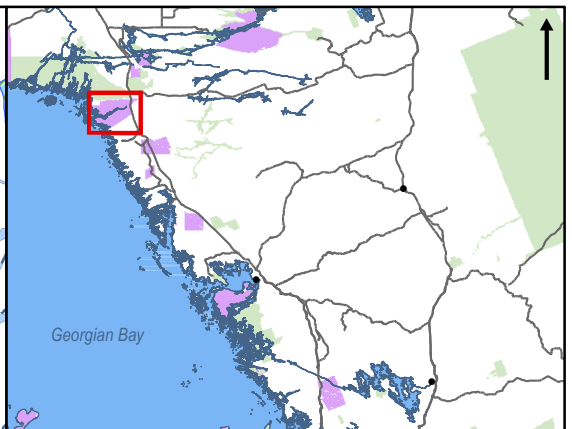
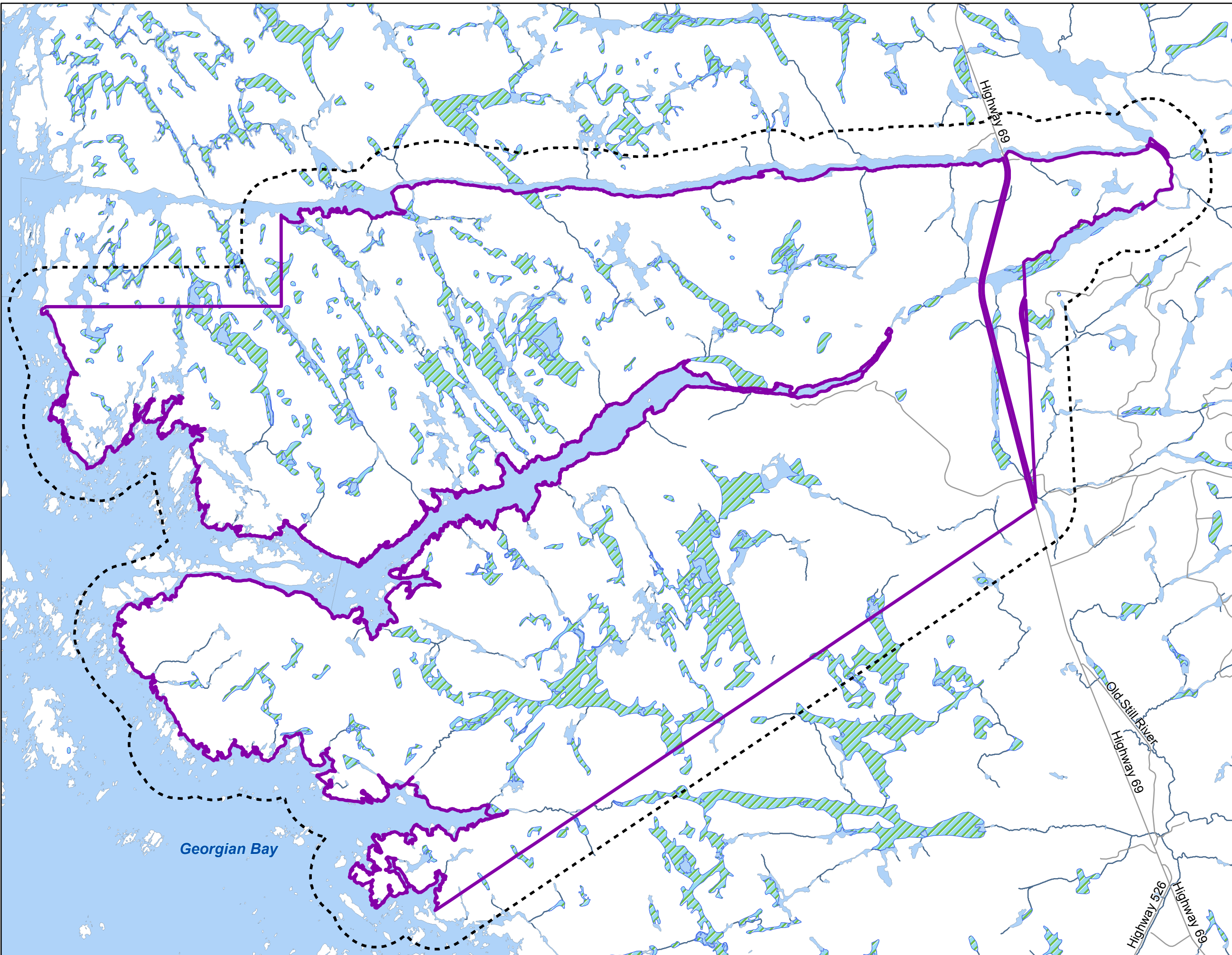
Study Area

June 2015	1:1,000,000	Datum: NAD 83, Zone 17 Source: Stantec, OBM, LIO
P#: 60333000		V#: 002

Figure 1

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Map location: C:\GIS\Projects\60333000 - HFN\GIS\Design\WEC-Arch\Baseline_Project Overview_Map_20150203.mxd
Date saved: 24/06/2015 10:47:04 AM



Legend

- Roads
- +— Railway
- Watercourses
- ▨ Unevaluated Wetlands
- Waterbodies
- ▭ Henvey Inlet Reserve No. 2
- ⋯ HIWEC Study Area

0 0.5 1 2
Kilometers

Henvey Inlet Wind Energy Centre

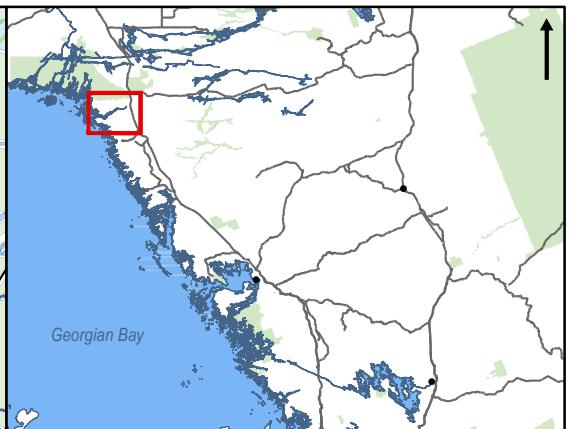
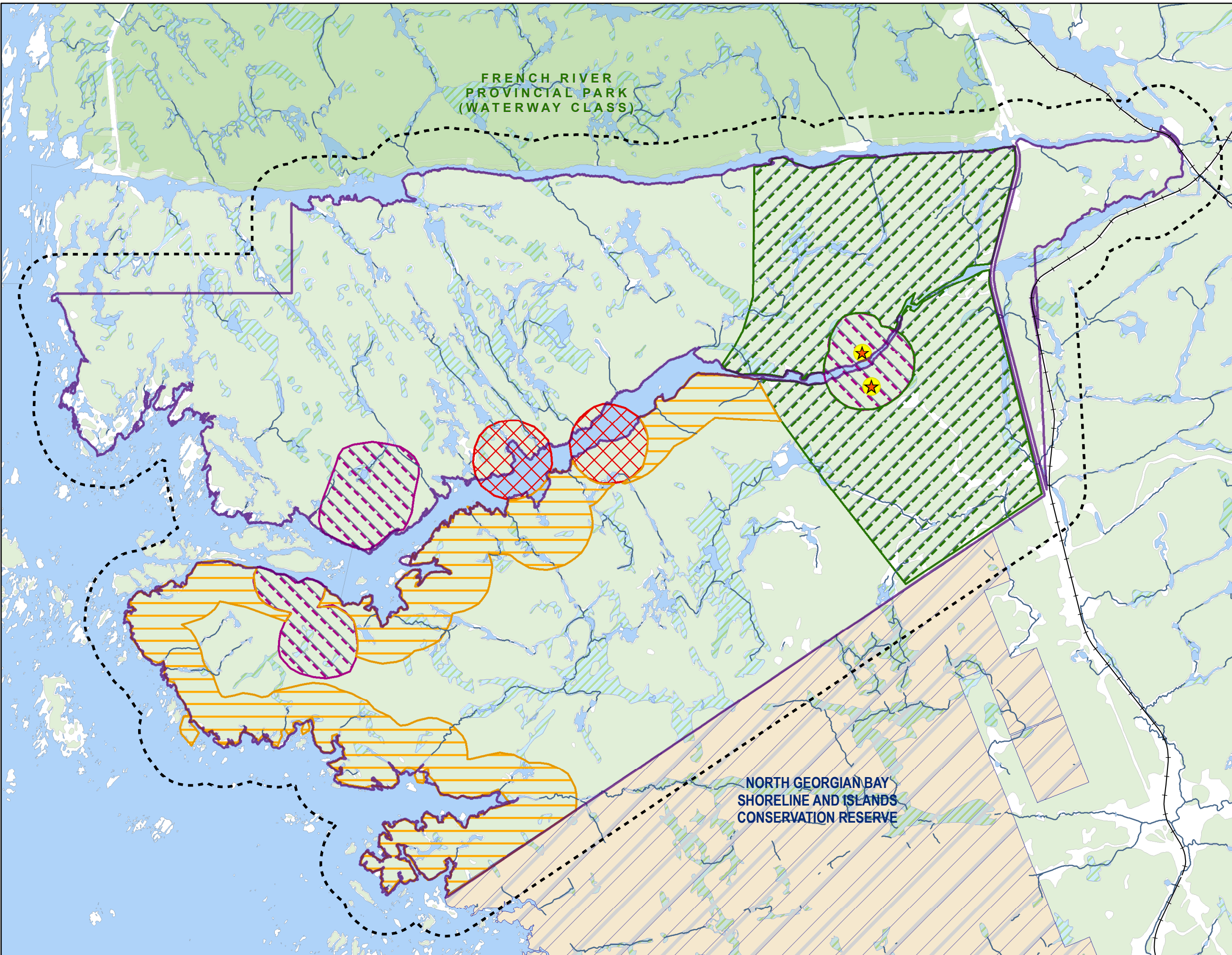
Study Area in Detail

June 2015	1:50,000	Datum: NAD 83, Zone 17 Source: Stantec, OBM, LIO
P#: 60333000		V#: 002

Figure 2	
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Map location: C:\GIS\Projects\60333000 - HF\GIS\Design\WEC-Arch\Baseline_Site Plan_20150223.mxd Date saved: 24/06/2015 2:42:40 PM



Legend

Excluded Areas

- ★ Burial Grounds
- Burial Grounds (120m)
- ▨ Development
- ▨ Heritage
- ▨ Residence
- ▨ Timber

Base Layers

- +— Railway
- Watercourses
- ▨ Wetlands
- Provincial Parks
- Wooded Areas
- Waterbodies
- ▨ Conservation Reserve
- Henvey Inlet Reserve No. 2
- HIWEC Study Area

N ↑

0 0.5 1 2
Kilometers

Henvey Inlet Wind Energy Centre

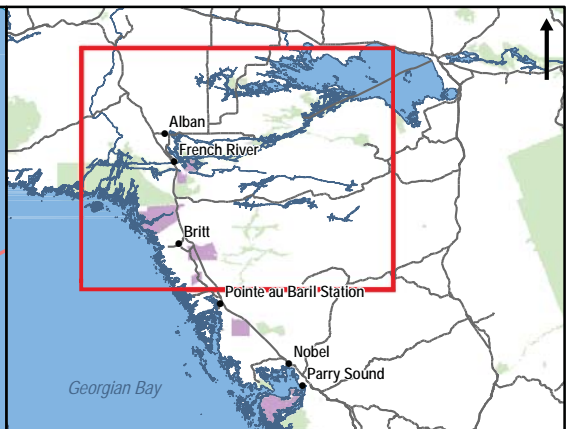
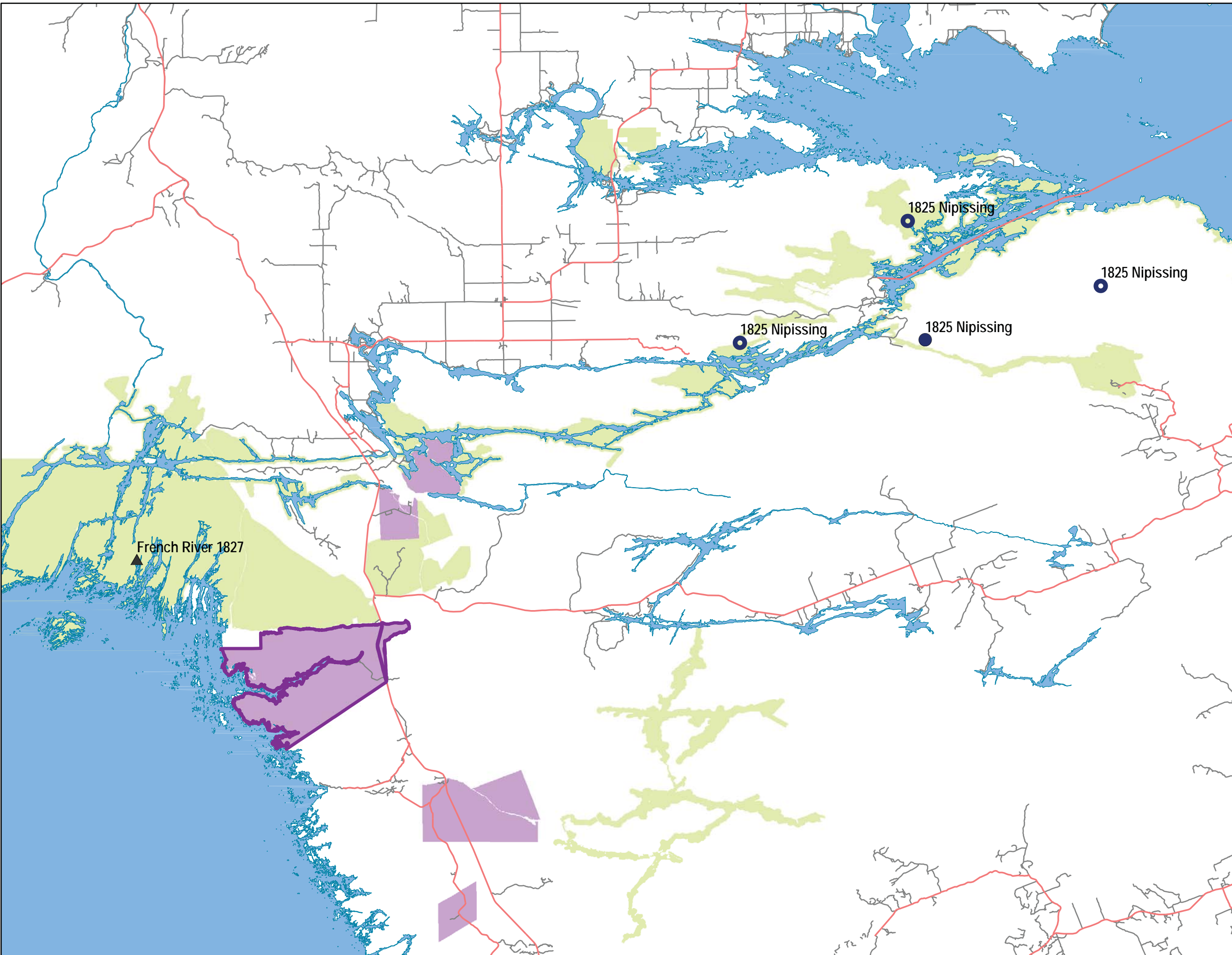
Previously Identified Culturally Significant Areas

June 2015	1:50,000	Datum: NAD 83, Zone 17 Source: Stantec, OBM, LIO, Traditional Land Use Study (URS, 2013)
#: 60333000	V#: 002	

Figure 3

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Map location: C:\GIS\Projects\60333000 - HFNIS\Design\WEC - Cultural\Significant - 20150223.mxd
Date saved: 24/06/2015 2:59:59 PM

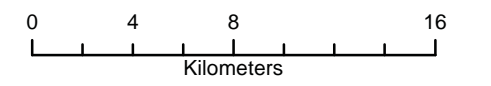


Legend

- First Known Owner of Post***
- 1-3 years Canadian Independent
 - 1-3 years Hudson Bay Company
 - ▲ 16-50 years Hudson Bay Company
 - 4-15 years Canadian Independent
 - 4-15 years Hudson Bay Company

- Base Layers**
- Major Roads
 - Minor Roads
 - Waterbodies
 - Provincial Parks
 - First Nation Communities
 - Henvey Inlet Reserve No. 2

*Atlas of Canada's "Posts of the Canadian Fur Trade, 1600 to 1870"



Henvey Inlet Wind Energy Centre

Estimated Location of Fur Trade Posts (1827-1829)

June 2015	1:300,000	Datum: NAD 83, Zone 17 Source: Stantec, OBM, LIO, Atlas of Canada (????)
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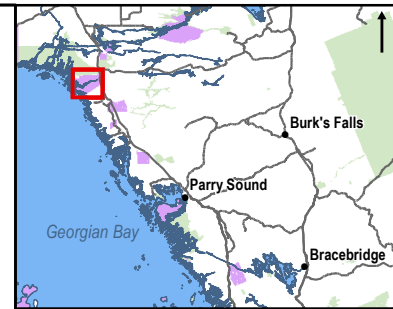
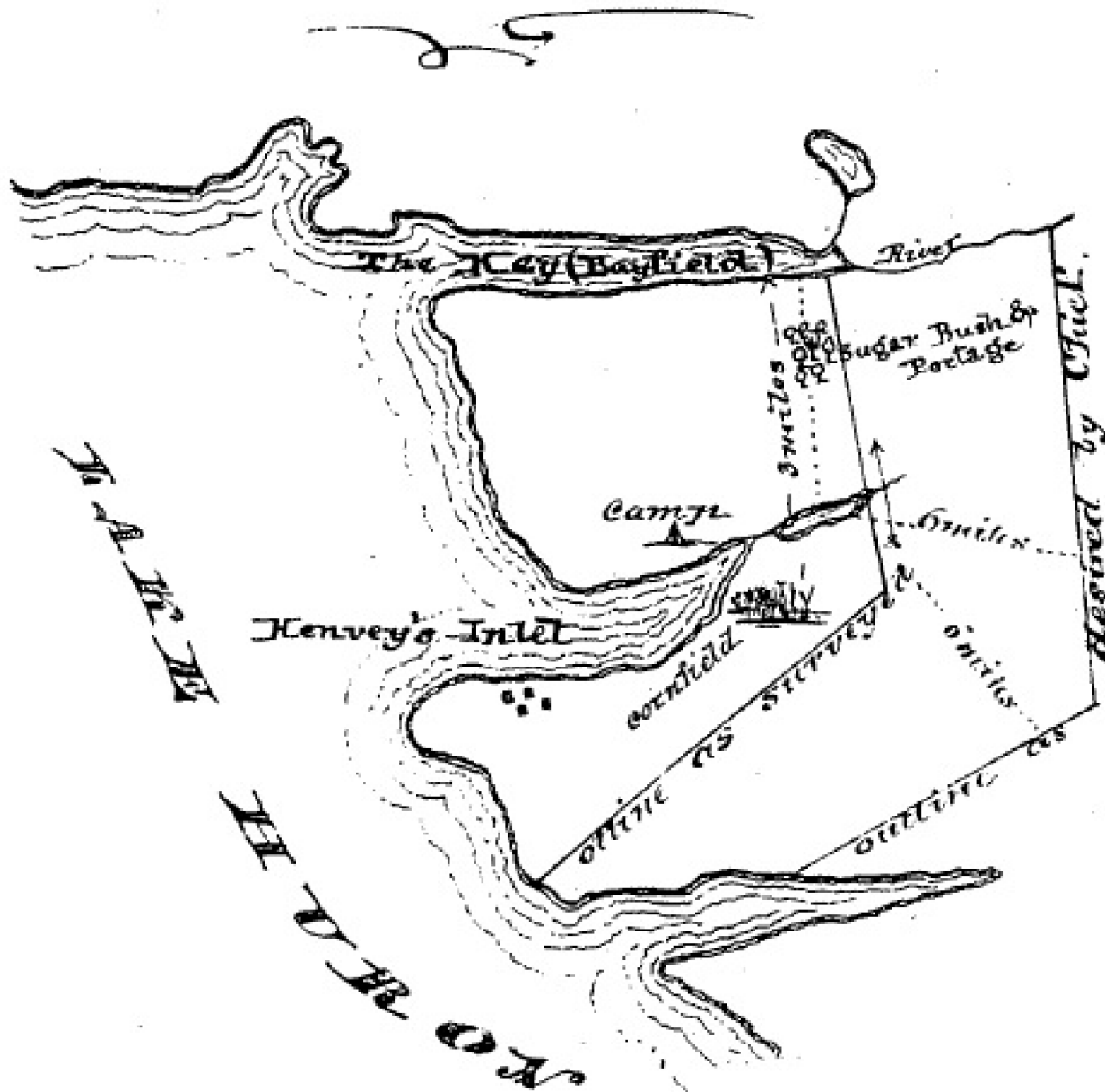
P#: 60333000	V#: 002
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Figure 4	
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Map location: C:\GIS\Projects\60333000 - HFNIS\GIS\Design\WEC-Arch\Baseline_HBCPosts_20150223.mxd Date saved: 24/06/15 2:42:20 PM

Sketch of Reserve No. 2



Legend



Henvey Inlet Wind Energy Centre

Treaties & Purchases

June 2015

N.T.S

Source: JS Dennis 1851

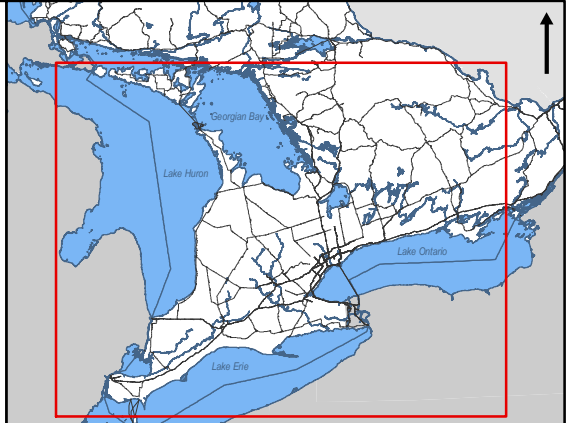
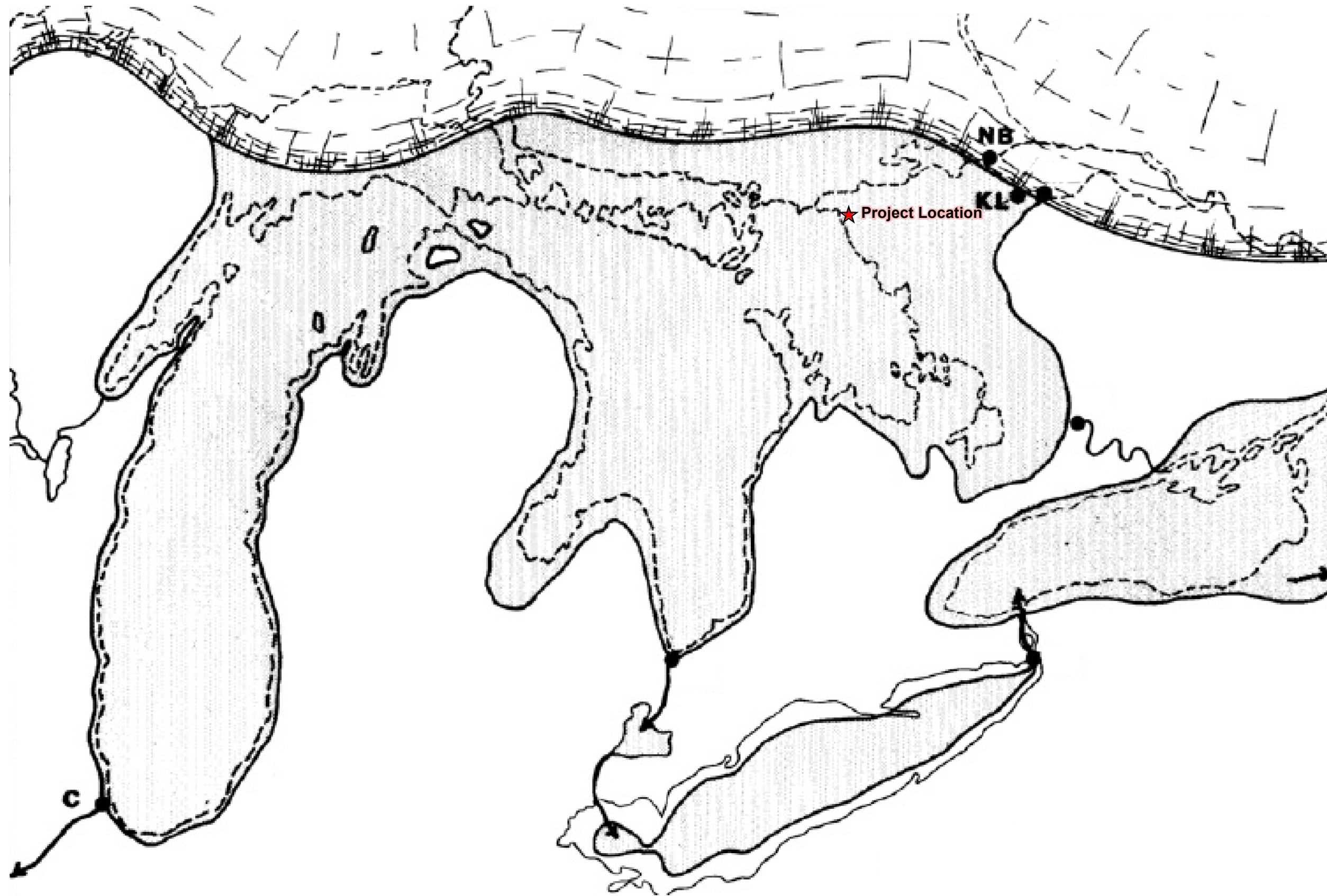
P#: 60333000

V#:




Figure 5



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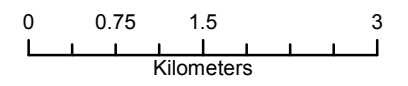


Legend

-  Glacier
-  Lake Algonquin
-  Dry Land



Source: Geological History of Glacial Lake Algonquin and the Upper Great Lakes. US geological survey bulletin 1987.
 ~Curtis E. Larsen



Henvey Inlet Wind Energy Centre

Approximate Location of Glacial Lake Algonquin to the HIWEC Study Area

June 2015	N.T.S	Datum: NAD 83, Zone 17 Source: see above
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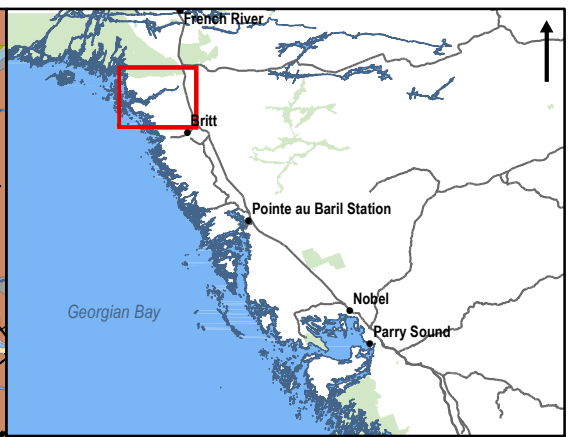
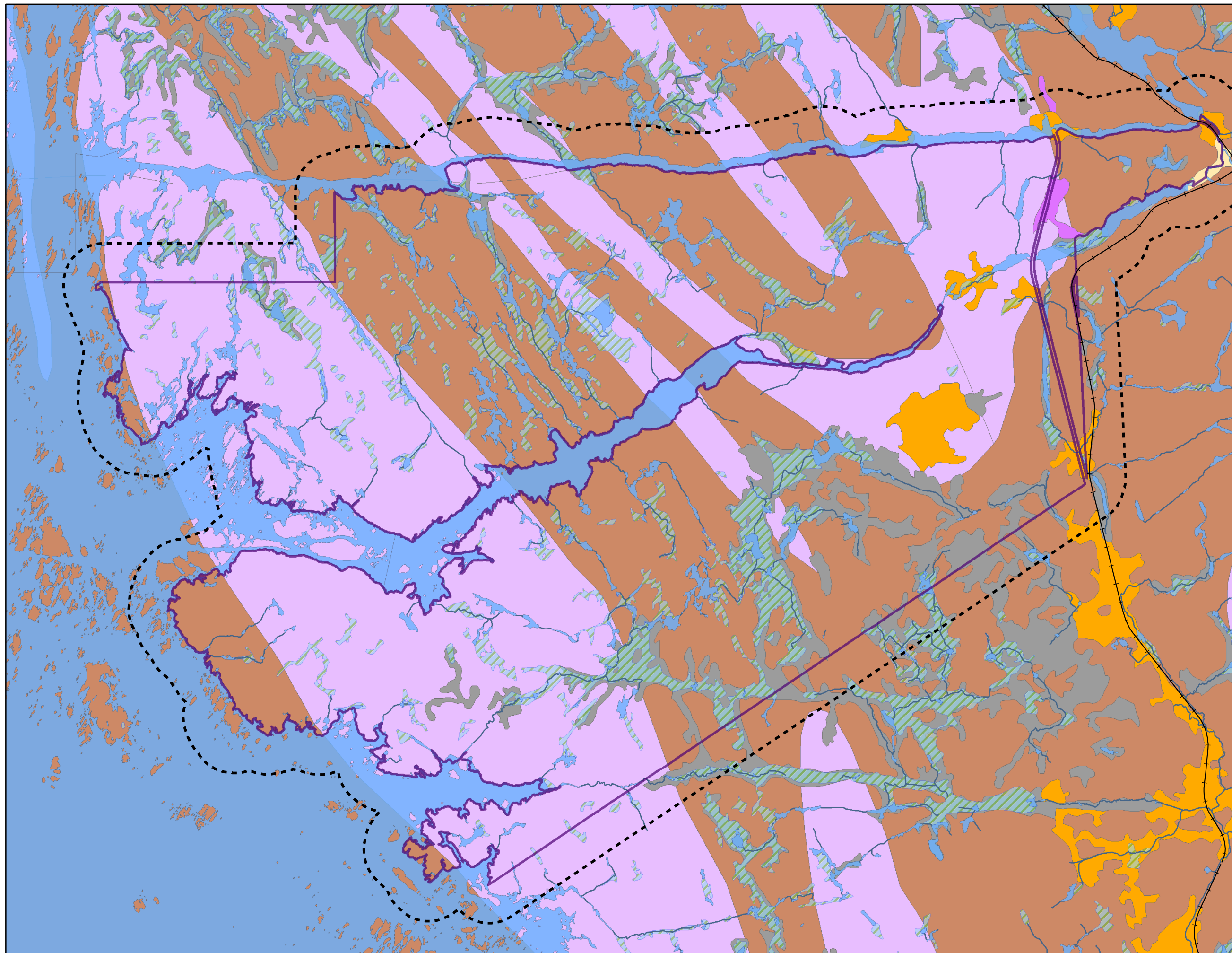
P#: 60333000 V#:

Figure 6



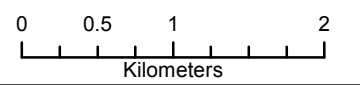
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Map location: C:\GIS\Projects\60333000 - HIWEC\GIS\Design\WEC_Arch\Baseline_GlacialLakes.mxd Date saved: 24/06/2015 10:59:53 AM



Legend

- Bedrock Geology**
- Felsic igneous rocks
 - Migmatitic rocks and gneisses of undetermined protolith
- Surficial Geology**
- Ice-contact Deposits (Sand, Gravel)
 - Glaciolacustrine Deposits (Sand, Gravel)
 - Glaciofluvial Deposits (Sand, Silt, Muck)
 - Organic Deposits (Peat, Muck)
- Base Layers**
- Railway
 - Watercourses
 - Unevaluated Wetlands
 - Waterbodies
 - Henvey Inlet Reserve No. 2
 - HIWEC Study Area



Henvey Inlet

Surficial Geology of HIFN Indian Reserve No.2

June 2015	1:50,000	Datum: NAD 83, Zone 17 Source: Stantec, OBM, LIO
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P#: 60333000

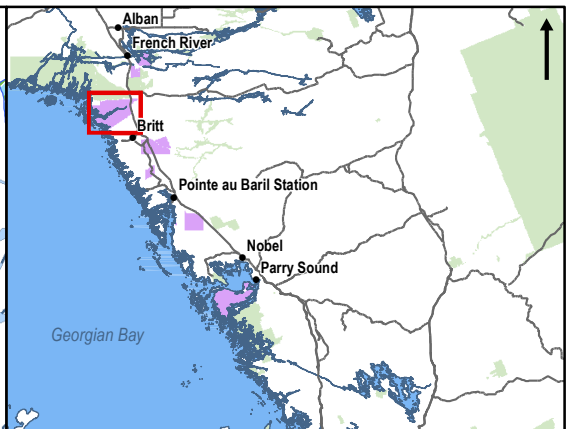
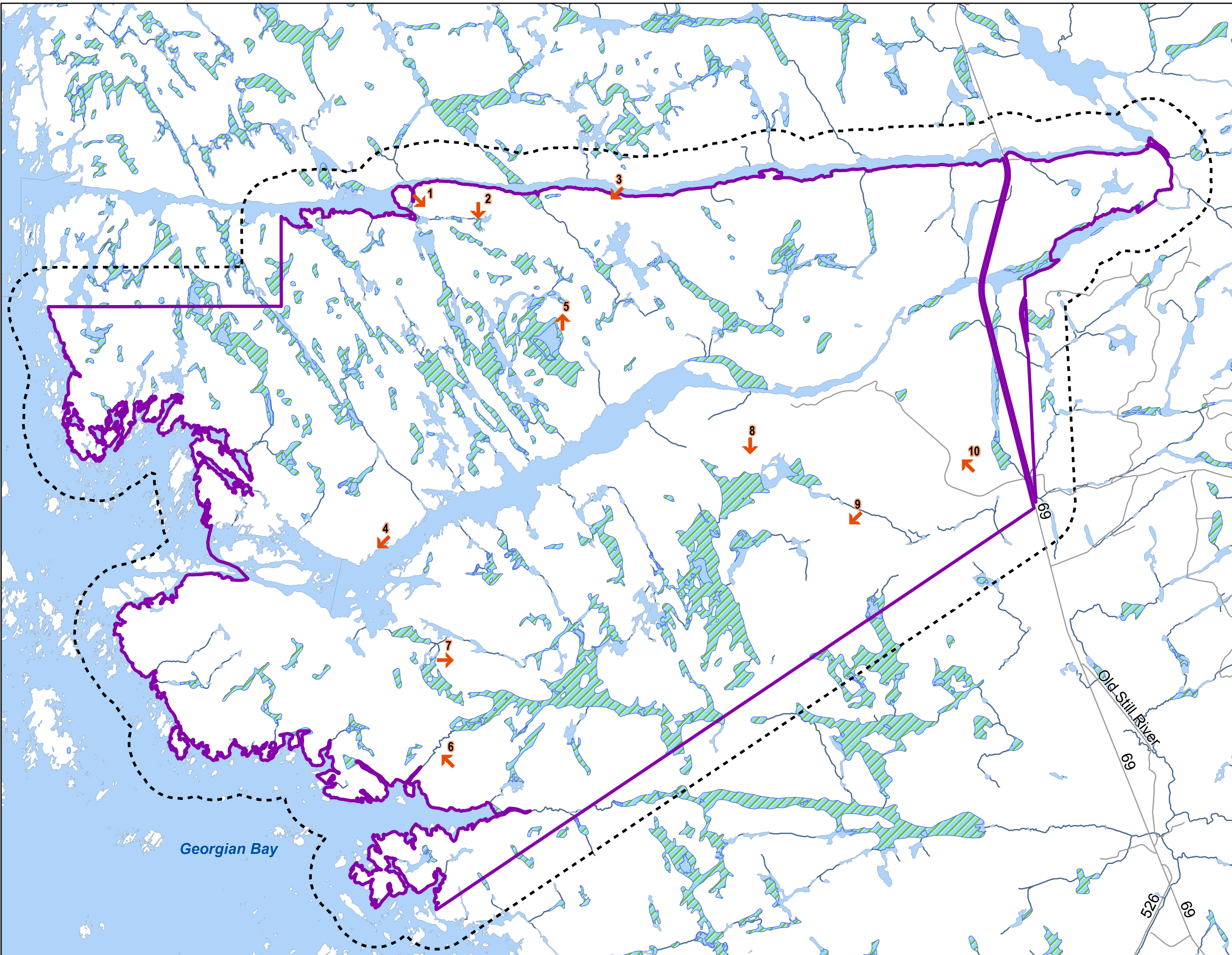
V#:

Figure 7



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Map location: C:\GIS\Projects\60333000 - HIFN\GIS\Design\WEC-Arch\Baseline_SurficialGeology.mxd
Date saved: 24/06/2015 2:06:14 PM



Legend

- Photo Locations

Base Layers

- Railway
- Watercourses
- Unevaluated Wetlands
- Waterbodies
- Henvey Inlet Reserve No. 2
- HIWEC Study Area

N ↑

0 0.5 1 2
Kilometers

Henvey Inlet

Photo Locations from the Stage 1
Property Visit

June 2015	1:50,000	Datum: NAD 83, Zone 17 Source: Stantec, OBM, LIO
P#: 60333000	V#:	

Figure 8

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Map location: C:\GIS\Projects\60333000 - HIWEC\Design\WEC-Arch\Baseline_PhotoLocation.mxd Date saved: 24/06/2015 2:37:30 PM