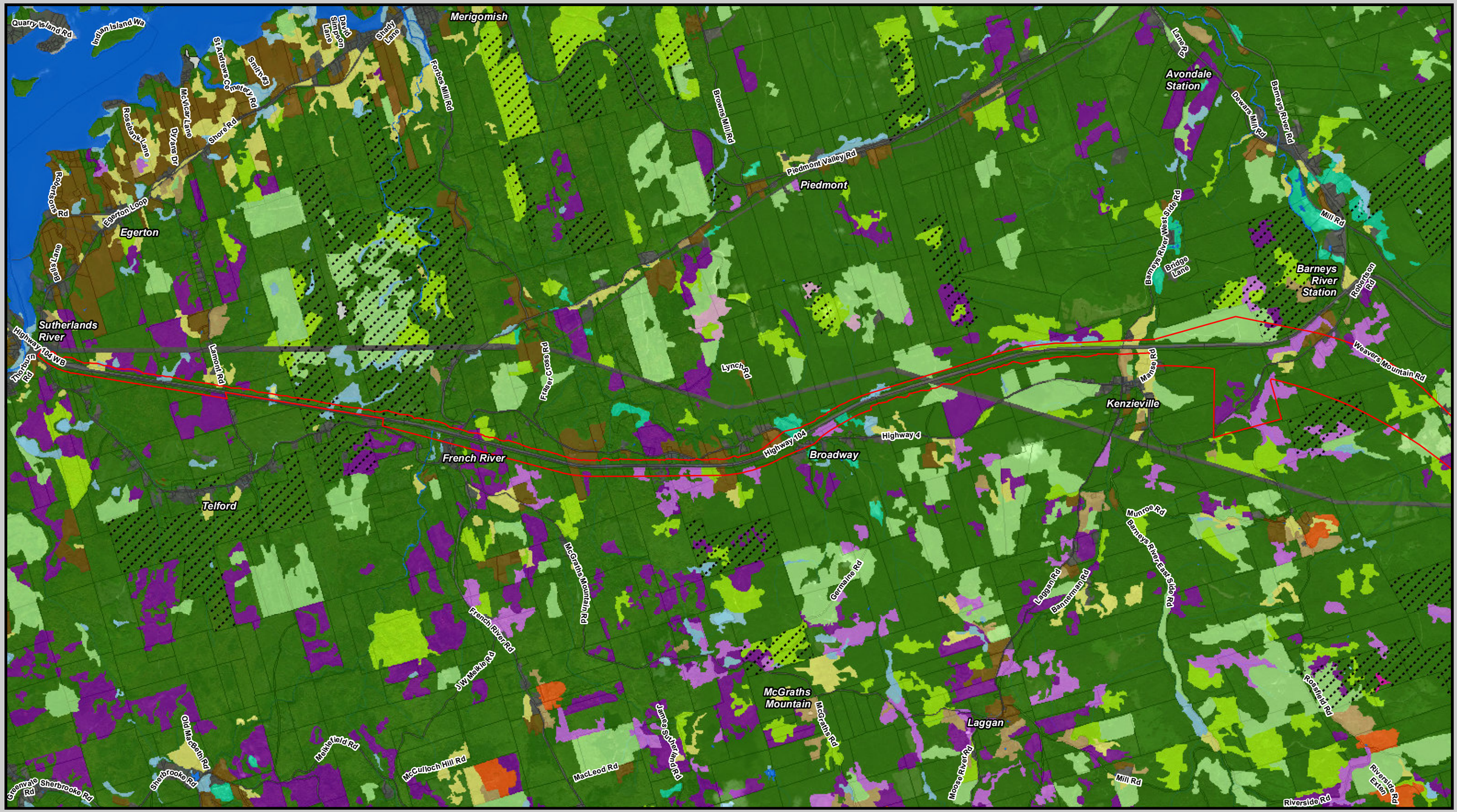

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Land Cover
- Wetalnds
- Brush
- Barren
- Open Water
- Cliffs, Dunes or Coastel Rocks

Agriculture
- Agriculture
- Old Field
- Blueberries

Forest
- Natural Stand
- Treated Stand
- Plantation
- Clear Cut
- Dead Stand
- Wind Throw

Urban/ Infrastructure
- Urban/ Infrastructure
- Gravel Pit

- Misc.
- Local Assessment Area
- NSGC - 1:10,000 Waterbodies
- NSGC - 1:10,000 Rivers/ Streams
- NSGC - Property Lines
- Crown Lands

Environmental Assessment
HIGHWAY 104 - Sutherlands River to Antigonish

FIGURE 5.18
Agriculture and Forestry Within the Regional Assessment Area
Sheet 1 of 2

0 0.5 1 1.5 2 km

Scale @ 11"x17" - 1:50,000

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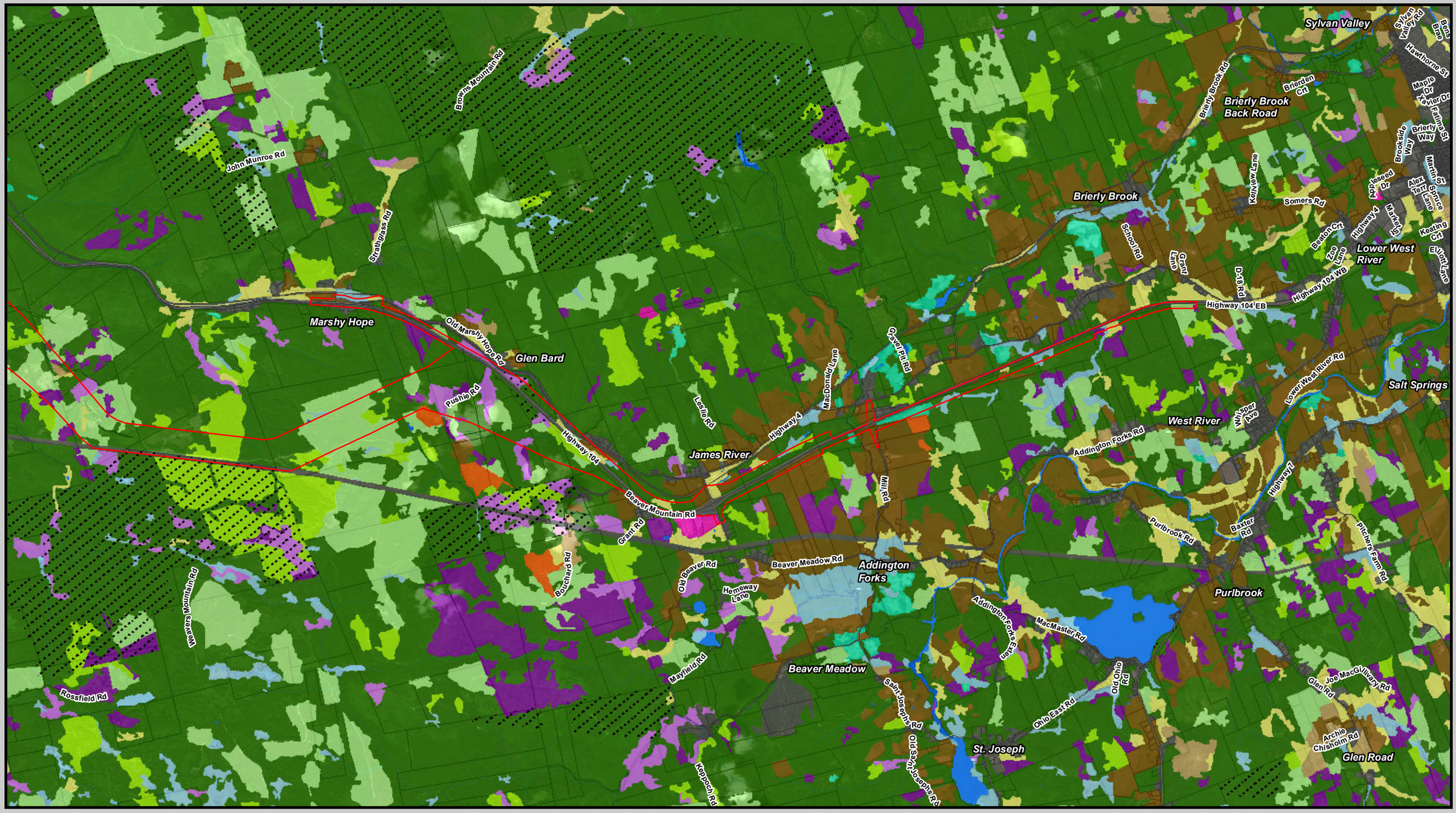

NOVA SCOTIA
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Land Cover
- Wetalnds
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- Misc.
- Local Assessment Area
- NSGC - 1:10,000 Waterbodies
- NSGC - 1:10,000 Rivers/ Streams
- NSGC - Property Lines
- Crown Lands

Environmental Assessment
HIGHWAY 104 - Sutherlands River to Antigonish

FIGURE 5.18
Agriculture and Forestry Within the Regional Assessment Area
Sheet 2 of 2

0 0.5 1 1.5 2 km

Scale @ 11"x17" - 1:50,000

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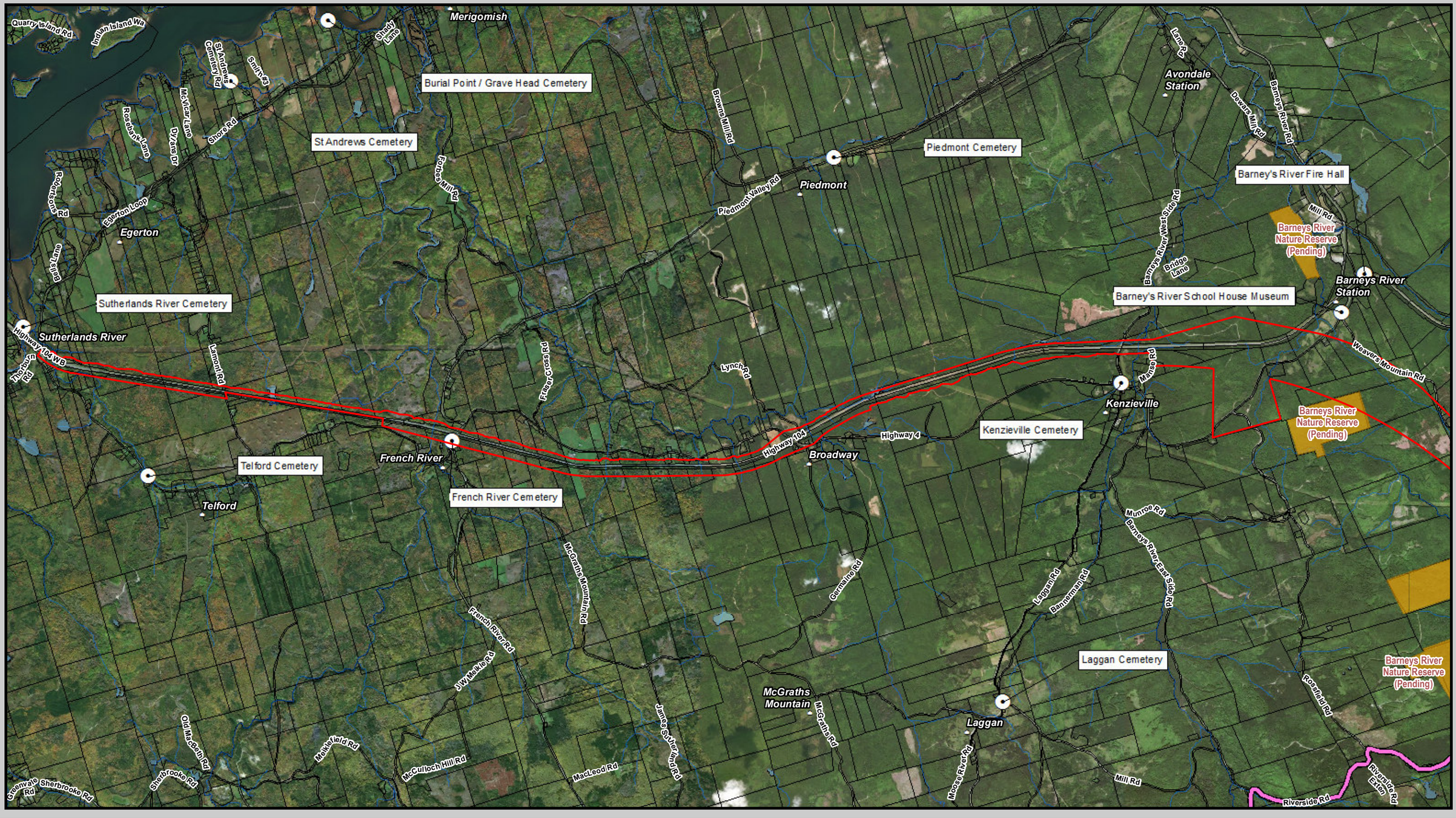

NOVA SCOTIA
Transportation and Infrastructure Renewal

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Environmental Assessment
HIGHWAY 104 - Sutherlands River to Antigonish

FIGURE 5.19
Urban and Recreational Land Use Within the Regional Assessment Area
Sheet 1 of 2

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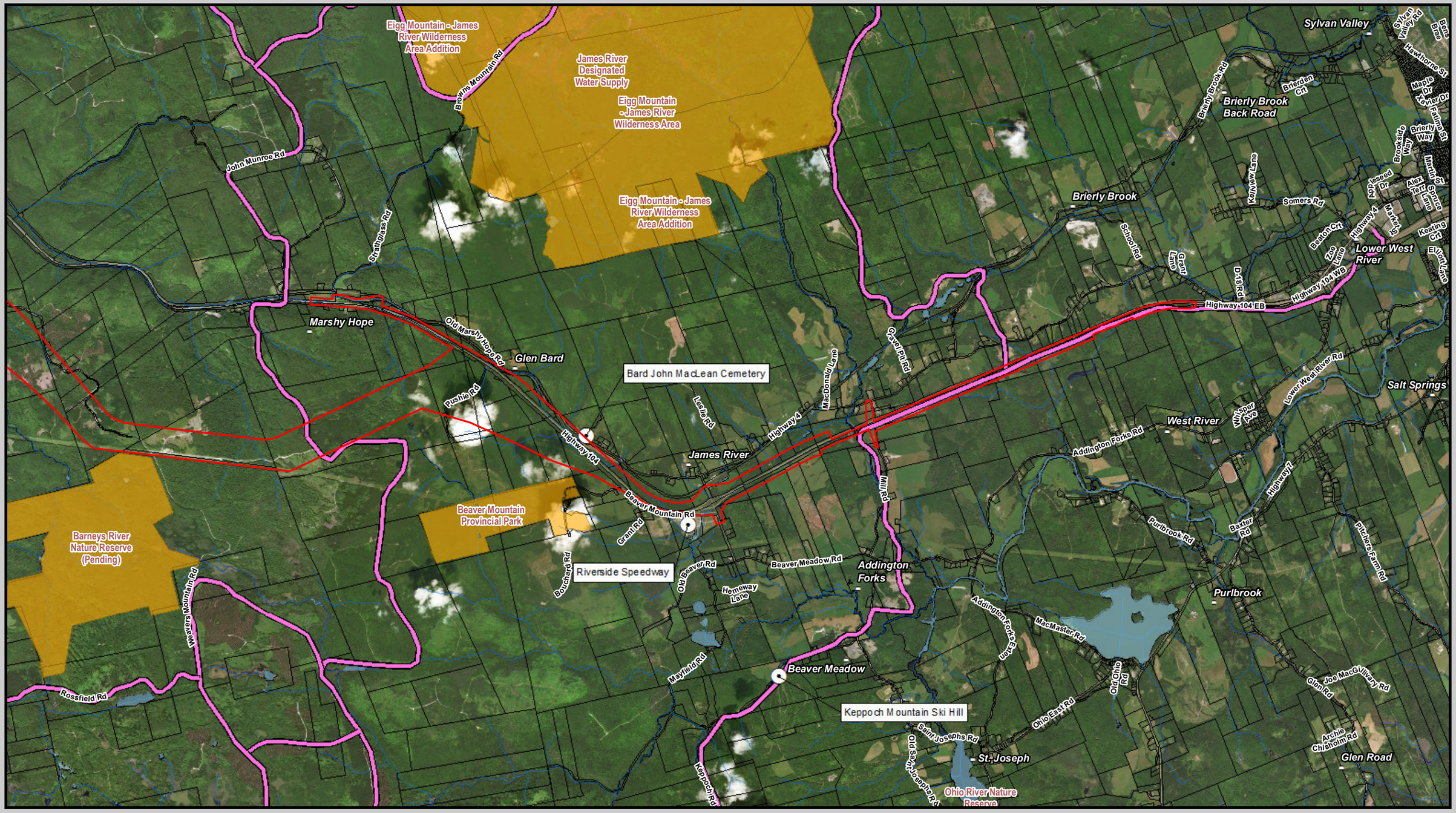

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- Local Assessment Area
- NSGC - 1:10,000 Waterbodies
- NSGC - 1:10,000 Rivers/ Streams
- NSGC - Property Lines
- Snowmobile Trails
- Protected Areas
- Points of Interest

Environmental Assessment
HIGHWAY 104 - Sutherlands River to Antigonish

FIGURE 5.19
Urban and Recreational Land Use Within the Regional Assessment Area
Sheet 2 of 2

0 0.5 1 1.5 2 km

Scale @ 11"x17" - 1:50,000

Z:\151046.14 - NSTIR CORRIDOR 4 EA\20 CAD\08 GIS\151046.14 - FIG 5.19 - MXD-007 EA FIGURES- LANDUSE - RECREATION.mxd | Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere | Drawn: BH | Checked: MR | Approved: IB | Date: 04/10/2018

Table 5.36 Existing Cemeteries within the Regional Assessment Area

Name	Distance from Project Area
Sutherlands River	400 m Northwest
St. Andrews	4,230 North
Telford	1,240 m South
Dewar	5,920 m South
French River	110 m South
Piedmont	3,460 North
Laggen	4,680 South
Kenzieville	430 m South
Bard John Maclean	30 m North

5.8.2.4 Protected and Designated Areas

The James River Watershed Protected Area is contained within the James River Wilderness Area (Figure 5.19) and is managed by the Town of Antigonish. Watershed Protected Area covers approximately 40 km^2 and supplies water to approximately 5,000 people. The watershed protection area has three management zones and is designated as a protected water area, which has stricter regulations than the wilderness area, including restricted vehicle access, a ban on swimming and bathing, and restricted forestry practices (Province of Nova Scotia, 2009). The James River Dam built for the reservoir is located four km north of the Project (Figure 5.19) in Zone 1 of the watershed protected area, which has the strictest regulations of the three protection zones. The dam structure, consisting of earth-filled concrete, is approximately 60 m wide with an overflow spillway which is 13.5 m high (Town of Antigonish, 2018).

The Barneys River Nature Preserve is proposed to cover a total of 563 ha, divided among three parcels surrounding Barneys River Station. The status of this nature preserve is 'pending' and under the authority of NSDNR. The proposed area would protect mature tolerant hardwood forests and rich floodplains along Barneys River. It would also protect habitat for mainland moose and support recreational uses such as hiking and bird watching (Province of Nova Scotia, 2013a). The nature preserve is divided into three parcels around Barneys River Station; 0.5 km north of the existing highway, 1.2 km south of the existing highway and 2.5 km south of the existing highway (Figure 5.19). The LAA intersects with the parcels located 1.2 km and 2.5 km south of the existing highway; however, Project-related work is not expected to take place within these parcels.

Beaver Mountain Provincial Park is located less than a kilometre south of the existing highway between Glen Bard and James River (Figure 5.19). This is a 136 ha area that is designated as a protected provincial park, and is administered by NSDNR. The LAA intersects with a small portion of the north east corner of the park; however, Project-related work is not expected to take place within the park boundaries.

The Eigg Mountain – James River Wilderness Area is located approximately two kilometers north of the Project at Glen Bard and covers 7,645 ha (Figure 5.19). It protects the largest remaining area of contiguous forest in northeastern Nova Scotia and conserves habitat for endangered species such as mainland moose. The area is jointly managed by Nova Scotia Environment and the Town of Antigonish.

The wilderness area is protected and also encompasses most of James River watershed which supplies drinking water for Antigonish. The Project does not intersect with the Wilderness area.

The Ohio River nature preserve is located 6 km south of the Project at Addington Forks in Antigonish County (Figure 5.19). The nature preserve consists of 28 ha of floodplain shrubland and meadow, along with adjacent upland forest. This river-side habitat includes a deer wintering area and provides habitat for sensitive plants and wood turtles. The proposed Project does not encroach upon this site.

5.8.2.5 Recreational Use

The proposed Project is in close proximity to a number of areas that are used for recreation. The Riverside Speedway is located approximately 40 m south of the Project in James River, near exit 31. This speedway holds events from June through September and frequently draws large crowds. The Project was designed to avoid the speedway, though it is located directly adjacent to it (Figure 5.19). It is anticipated that the Project may make result in improvements to access and circulation around the speedway, through improvements to the interchange design at exit 31.

Snowmobile and ATV use are both very common in Pictou and Antigonish counties and the Snowmobilers Association of Nova Scotia (SANS) has maintained trails within the area (SANS, 2014). The Project will intersect with these trails in two locations and will completely envelop a section of the trail from Beaver Meadow to Lower West River, as the trail runs parallel to the existing highway (Figure 5.19). As the trail mapping provided by SANS only depicts well-established trails, there is potential for other less established, or ad-hoc local trails to be affected by the Project. The eventual project design will accommodate the ongoing usage of ATVs and snowmobiles in the area by providing underpass structures at key locations along the Project corridor.

Beaver Mountain Provincial Park supports hiking, cross-country skiing and snowshoeing (Province of Nova Scotia, 2013c), while the Eigg Mountain – James River Wilderness Area is used for hiking, nature viewing, cross-country skiing and bird watching (Province of Nova Scotia, 2017b). These areas also identified in Section 5.8.2.4 - Protected and Designated Areas.

Keppoch Mountain is four season facility that provides cycling and hiking in the spring, summer and fall, as well as snowshoeing in the winter months. It was previously an alpine ski hill now hosting many events throughout the year as an all season facility. There are 40 km of multiuse non-motorized trails and 15 km of mountain bike trails. Keppoch Mountain is located 3 km south of the Project at James River.

5.8.2.6 Mi’kmaq Traditional Knowledge

No First Nations communities have been identified within the LAA (Government of Canada, 2012); however, the region is known to have a history of Mi’kmaq settlements and is in close proximity to historical and current use areas. The rivers of Pictou and Antigonish County served an important role to the Mi’kmaq as they were used for fishing and transportation via canoe (Nash and Stewart, 1986).

Mi’kmaq Knowledge Studies (MKS) and Mi’kmaq Ecological Knowledge Studies (MEKS) have historically been completed in the RAA for other projects (ShearWind, 2009; Shearwind, 2011), and there is a

previously executed MEKS for the Sutherlands River to Antigonish twinning route (Mi'kmaq Environmental Services, 2004). It is acknowledged that the latter report is outdated, and does not address the proposed four-lane realignment of the Highway 104 corridor. NSTIR has commissioned Membertou Geomatics to prepare this MEKS, which is anticipated to be a condition of approval of the Environmental Assessment, required prior to Site Preparation and Construction activities. Field surveys are scheduled for May and June of 2019, with the report to be completed in summer 2019.

MEKS studies typically address the following items which include both historic and current uses:

- Identification of historic and current Mi'kmaq land and resource use;
- Evaluation of potential effects of a Project on Mi'kmaq use and occupation and constitutionally based rights;
- Assessment of the potential effects significance; and
- Recommendation, such as mitigation measures, additional study requirement, or consultation with Mi'kmaq First Nations Groups.

Barneys River and West River are classified as current Mi'kmaq land and resource use sites and were identified as having historical influence in Merigomish (MES, 2004). The activities that may have occurred at the sites include (MEK, 2004; CMM, 2011):

- Kill/hunting, for example species such as fox, beaver, muskrat, coyote, otter, porcupine, duck, goose, rabbit, partridge, raccoon, deer, salmon, trout, eel, striped bass, gaspereau, smelt, mackerel, and perch, or traplines;
- Burial/birth, for example burial sites;
- Ceremonial, for example sacred sites or ceremony sites;
- Gathering food/medicinal, for example food plants, berries, wild fruit, eggs, medicinal plants, sweet grass, fire wood, speciality wood, feathers, stone, and clay; and
- Occupation/habitation, for example canoe routes, overnight sites, or group campsites.

Plant species of significance are species that were historically or are currently used by Mi'kmaq, they can be classified into three categories; medicinal, food, and craft. No plants of significance were identified along the existing Highway 104 Alignment from Sutherlands River to Addington Fork (MES, 2004); however, this did not include an assessment along the new four-lane alignment south of the existing highway. Two areas supporting plant species of significance were identified outside the LAA at Brierly Brook, in an area located immediately south of the existing highway, and outside the western boundary of the LAA in Sutherlands River. Additional assessment completed within the LAA for other development projects, identified 74 and 94 plants of significance to Mi'kmaq in the spring and fall respectively, between Barneys River and James River within the new four-lane alignment south of the existing highway (CMM, 2011). The surveyed areas of this study were limited; however, and it is recognized that significant plant species have potential to occur in additional locations within the Project Area.

The general forest type throughout much of the Project Area is varied. Conifer forests are found in the lowlands, supporting species such as white pine, eastern hemlock, balsam fir, and white, red, and black spruce. On the upper slopes and ridges, deciduous hardwood forests dominate, with species such as yellow and white birch, sugar and red maple, beech and trembling aspen also occurring. Hardwood species have been important to Mi'kmaq historically: maple for bows, birch for wigwams and canoes,

and ash for baskets, snowshoes and handles (Nash and Stewart, 1986; MES, 2004). One of these species, black ash is ranked as S1S2 ('Critically Imperiled'/ 'Imperiled') and in Nova Scotia is protected under the *Endangered Species Act* (Province of NS, 2013b).

5.8.2.7 Small Businesses and Non-Profit Organizations

The new highway alignment will divert from the original highway near exit 31 at Barneys River Station. There is a maintenance shop called Robertson's Garage located 830 m north of the Project. The Barneys River Station School Museum is located 370 m north of the Project on Highway 4. The building is pre-Confederation; it houses scrapbooks and albums containing community and Church history, as well as collectibles and school artefacts. There is also a fire hall located in Barneys River Station 980 m north of the Project. The hall is run by volunteer firefighters that are usually the first responders to traffic incidents in this area.

5.8.3 Human Health and Safety

In addition to linking the existing twinned highway, one of the primary needs for the proposed Project is to improve the level of safety performance within this corridor. NSTIR collects collision data for the Highway 104 and Trunk 4. A total of 444 collisions, involving 625 vehicles, were recorded for the Highway 104 sections from Exit 27 A (Trunk 4 at Sutherlands River) to Exit 31 (James Street) (Sections: 245, 250, 252, 255, 260, 270, 275) during a 9 year period, 2007 to 2015 (Section 7.4). These included 299 property damage only (PDO) collisions, 11 fatal collisions, 133 injury collisions, and 1 other. The collision rates ranged from 20.4 to 50.9 (number of collisions per HMVK) annually, and the average of the period was calculated to be 38.6 (Table 1.1, Appendix A).

During 2001 to 2005, the average rate of fatal collisions on this segment of Highway 104 was 1.4 collisions per 100 million-vehicle-km (HMVK). In comparison, the provincial average on divided highways is 0.3 collisions per HMVK (Opus, 2015).

During the period of 2007 to 2015, of the 444 collisions recorded, 97 collisions were noted as having an animal in the roadway. Of the 625 vehicles involved in the collisions, 81 vehicles hit a deer and 9 hit another animal (Table 1.2; Appendix A). NSDNR Wildlife Division collects information on vehicle - wildlife interactions. From 2003 to 2018, 184 animals were identified as being involved in a collision or wildlife strike within 1,500 m of the LAA. Species reported as included in the vehicle - wildlife interactions within this area in Antigonish or Pictou County included the following species, reported within 1,500 m of the LAA:

- American black bear;
- Eastern Cougar*;
- Coyote;
- Bald Eagle;
- Racoon;
- Common snapping turtle; and
- White-tailed deer.

* Presence and status of this species in the Province remains unconfirmed as the animal was not recovered. DNA testing was to be completed; however, results were not available at the time of this report.

Further information on collisions are provided in Section 1.2, Section 7.4, and Section 7.5.

5.9 Heritage and Archaeological Resources

Heritage and archaeological resources have been identified as a VEC which may exist within the LAA and may interact with the proposed Project. Heritage and archaeological resources are physical remnants, found either atop or below the ground surface, associated with and which provide information on past human use and interaction with the physical environment. These remnants may include both built and depositional resources ranging from the period of earliest human occupation to the relatively recent past. Heritage resources typically encompass historic sites, such as cemeteries, heritage buildings and sites, monuments, and areas of significance to Aboriginal (i.e., Mi'kmaq) communities or other groups (such as resource extraction sites and encampment sites). Paleontological (fossil) resources are also included as part of this VEC.

All archaeological and paleontological sites and associated resources are protected under the *Special Places Protection Act*, which is administered by the Nova Scotia Department of Communities, Culture and Heritage (NSCCH). Under this Act, it is an offence to disturb or remove any objects from an archaeological site without approval of a Heritage Research Permit.

To determine the presence of heritage and archaeological sites and resources within the proposed highway corridor between Sutherland's River and Antigonish, Davis MacIntyre & Associates Limited was contracted by CBCL on behalf of NSTIR to conduct an archaeological resource impact assessment (ARIA) as part of the environmental assessment process. The assessment was conducted under a Category C (Archaeological Resource Impact Assessment) Heritage Research Permit A2018NS005 issued by NSCCH.

The ARIA included desktop review and field reconnaissance of the LAA, including all areas to be impacted. Details, including methodology and results, of the desktop review and field reconnaissance are described in the following subsections.

5.9.1 Desktop Review

A desktop review of the Study area and adjacent lands was conducted by Davis MacIntyre & Associates Ltd. in January, 2018. This review entailed research on the Palaeoecology of Nova Scotia, historical background of the area and surrounding communities, and consultation with the Maritime Archaeological Resource Inventory, and a review of previous archaeological assessments conducted in the vicinity of the proposed highway corridor.

Results for these desktop studies are discussed below. Further details of these investigations and information on land use and archaeological resources found during each study were provided in the ARIA report (Davis Macintyre & Associates, 2018).

5.9.1.1 Paleoecology of Nova Scotia

Understanding the changing ecology of the early Holocene is paramount to understanding the archaeological record and the course of human history in a given region. Subsequently, information on the palaeoecology of Nova Scotia was collected using historical maps, manuscripts, and published literature accessed both online and at the Nova Scotia Archives, in order to understand events which may have influenced the archaeological record in a particular area.

Deglaciation in the Atlantic Provinces began in earnest by 20 ka BP. Glaciers were largely land-bound by 13 ka BP, and reduction continued through melting and climatic conditions. In the wake of retreating glaciers a mixed spruce woodland consisting of sedge, spruce, birch, and pine migrated northwards into Nova Scotia and created an environment suitable for large herds of migratory caribou, and it is believed Paleoindian tribes followed these herds into the region by at least 10,900 BP (Davis and Browne, 1996). Glaciers, harried towards high elevations, remained a prominent feature in the landscape, and may have held a special significance to both human and caribou populations living in their shadow.

Deglaciation was not a unilinear process, as climate variables caused glaciers to retreat at different rates at different times. The Younger Dryas Cooling event took place between 10,900 and 10,600 BP (or 12,900 – 11,600 cal BP) and had a profound effect on vegetation (Fader, 2005; Lothrop et al., 2011). Land-bound glaciers reactivated and the advance of forested regions was reversed, with areas of open shrub tundra expanding southwards (Newby et al., 2005). This cooling period may have led to the deterioration of suitable Paleoindian environments, and instigated either emigration or cultural adaptation (Ellis, 2004). A rapid warming period followed the Younger Dryas, and with it, the environment changed again to a more closed, mixed deciduous forest of oak and pine (Deal et al., 2006) Large, long-distance caribou herds likely moved northwards for good with this change, though this new closed woodland environment would have been amendable to smaller caribou herds and large solitary cervids like moose and deer (Lothrop et al., 2011).

5.9.1.2 Historic Background of the Local Assessment Area

Historical information on the Precontact and European Settlement Periods in the area between Sutherlands River and Antigonish can provide insight into areas of high potential for heritage and archaeological resources. The Precontact and European Settlement Periods are discussed in the following subsections in relation to the LAA.

Precontact Period

There are four Mi'kmaw and Archaeological periods which comprise the Precontact Period (see Table 5.37). The Paleo-Indian period was associated with the changing ecology following deglaciation which, as previously discussed, allowed the entrance of large herds of migratory caribou into Nova Scotia, followed by Paleoindian groups from the south. The Archaic period was associated with a more maritime subsistence and settlement was primarily focused on coastal and riverine areas. Known woodland/ceramic sites of the Woodland/Ceramic period were concentrated along coasts, shorelines and navigable watercourses. Archaeological resources associated with this period include shell-middens. The Contact Period, characterized by trade and European settlement, introduced changes to traditional First Nation life.

Table 5.37 Mi'kmaw and Archaeological Cultural Periods

Mi'kmaw Period	Archaeological Period	Years
Sa'qewe'l L'nu'k (the Ancient People)	Paleo-Indian	11,500 – 9,000 BP
Mu Awsami Kejihaw'k L'nu'k (the Not so Recent People)	Archaic	9,000 – 3,000 BP
Kejihawek L'nu'k (the Recent People)	Woodland/Ceramic Period	3,000 – 500 BP
Kiskukewe'k L'nu'k (Today's People)	Contact	500 BP – present

Historical research has indicated that the LAA is located within the region known as Piktuk or Piwktuk, meaning "the exploding place". Historically, the chief Mi'kmaw encampment in this area was said to be at the "foot" of Barneys River on the east side where they had some clearings on which they raised Indian corn and beans. During the 2011 archaeological assessment of the proposed Glen Dhu South Wind Farm, a local source reported an additional Mi'kmaw encampment along Bailey's Brook in the mid-twentieth century. The Mi'kmaw at that time were known for making axe handles to sell. The small settlement was located in a valley, where the brook bends northwards from a confluence at its eastern extent, outside the LAA (Williams, 2011 *in* Davis MacIntyre & Associates, 2011).

In 1800, there were 136 Mi'kmaq listed in the census for the district of Pictou, though follow-up correspondence on the matter suggests that the numbers may not be accurate as some of those listed may have actually been residents of Antigonish who frequently moved about the two settlements (Commissioner of Public Records, 1800). A year later, the census for the district listed 128 Mi'kmaw persons (Commissioner of Public Records, 1801). The 1891 census of Mi'kmaw peoples in Nova Scotia shows fifteen individuals living in the Barneys River Subdistrict of Pictou County (Nova Scotia Mi'kmaq Census Records, 1891 *in* Acadian & French-Canadian Ancestral Home, n.d.).

European Settlement and Later

Some of the earliest known European settlers to Pictou County were the French Acadians. Most known Acadian settlement centered around tidal marshland, which they converted to fertile farmland using dykes and sluice-gates known as aboiteaux. Later English settlers, following the Acadian deportation of the mid-eighteenth century, reported the remains of French dwellings on Merigomish Island. Other French settlements have been reported at the head of French River, at Little Harbour, and at Caribou, all seeming to relate to a strong relationship to fishing (Patterson, 1877).

The earliest known Euro-Canadian settler in the area of Broadway was Donald Cameron in 1809. Other Scottish immigrant settlers followed in the second decade of the 19th century, and a school had been built by 1822. Historic maps indicate settlement throughout the area from Sutherlands River to Antigonish at least as early as the mid-19th century. The majority of this settlement appears to be first or second generation Scottish immigrants.

5.9.1.3 Previous Archaeological Assessments

Davis MacIntyre &Associates determined that the following archaeological assessments had previously been conducted in the vicinity of the proposed highway corridor. These included:

- Highway 104 Twinning, Sutherlands River Crossing;
- Highway 104 Twinning, New Glasgow to Sutherlands River;
- Glen Dhu South Wind Farm;
- Sutherlands River Bridge (PIC 010) Replacement; and
- Archaeological and Ethnographic Research, Merigomish.

Relevant details from these assessments were included in the full report (Davis MacIntyre & Associates, 2018).

5.9.1.4 Maritime Archaeological Resources Inventory

The Maritime Archaeological Resource Inventory was consulted to determine if known archaeological resources existed within or near the LAA. There are 15 archaeological sites registered within a 5 km radius of the LAA. These sites represent a variety of pre-contact and historic activities. None of the 15 archaeological sites appear to intersect the LAA. The relative scarcity of reported sites within the vicinity of the LAA is likely due to lack of previous archaeological research conducted in the area as opposed to a lack of archaeological sites.

5.9.2 Field Reconnaissance Surveys

Field reconnaissance surveys were completed by archaeologists in late April and early May, 2018 and again in late August and early September, 2018. Field reconnaissance was conducted by two teams of two archaeologists over the course of 12 days in late April and early May, 2018, with additional coverage in late August and early September 2018. Each team was assisted by a hand-held GPS unit, and detailed notes and photographs were taken. In addition to historic resources and areas of elevated archaeological potential, many locations showing signs of modern activity were observed and recorded in an effort to better understand cultural use of the study area.

A total of 30 suspected or confirmed historic sites representing archaeological sites or parts of sites were identified within the LAA. These features were mostly related to historic farming and domestic occupation, including, but not limited to orchards, old roads, cellars and stone piles. Modern (mid-late twentieth century) cultural features (e.g., pet grave, hunting blind, dump, gravel pit) and natural features (i.e., watercourses) were also documented within the Study area, as were areas of elevated potential for archaeological resources. In total, 72 areas of elevated archaeological potential were identified in the LAA between Sutherlands River and Antigonish. These included:

- 4 areas of elevated potential for historic resources;
- 8 areas of low to moderate archaeological potential;
- 56 areas of moderate archaeological potential; and 4 areas of high potential for First Nations archaeological resources.

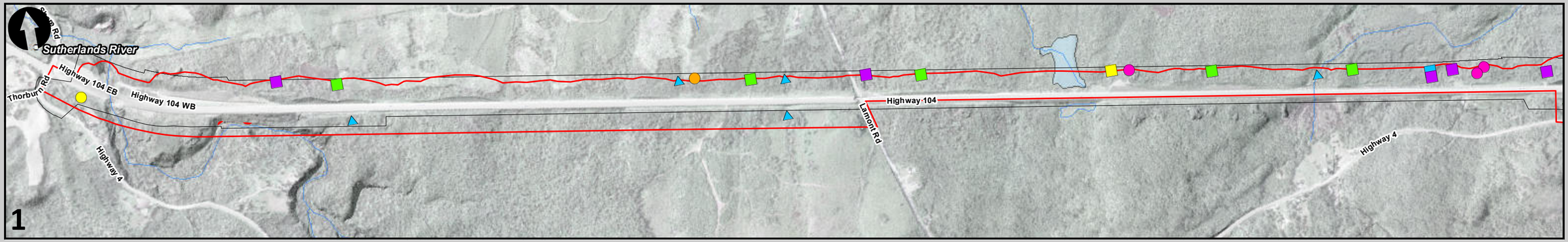
The presence of the French River Cemetery within the LAA is worth noting, as it represents both historic and modern (ongoing) burials. As with all historic cemeteries, it must not be assumed that all burials have been correctly or clearly marked. Markers in the nineteenth century could be made of inexpensive

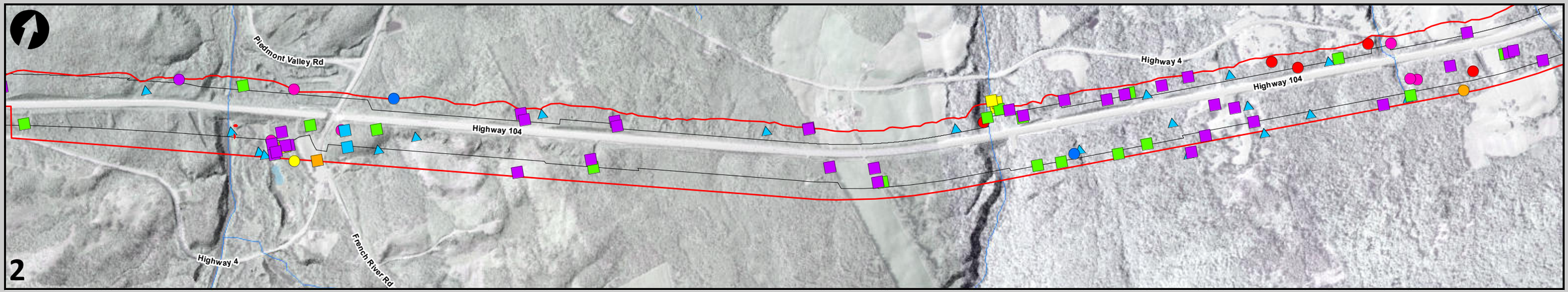
wood rather than permanent stone, and where markers do exist, a nineteenth and twentieth century tendency to make cemeteries more “tidy” by realigning or moving headstones mean that those stones that are present may not correctly mark graves. Three areas appeared, based upon historic mapping, to represent elevated potential for archaeological resources (building foundations), but due to forest cover (dense growth, blow-down, or clear-cutting detritus), no resources were identified during the reconnaissance. As such, it is recommended that these sites be re-visited by a professional archaeologist after removal of vegetation and prior to grubbing, if this is possible. These include the area west of Lamont Road and south of the existing highway, extending approximately 250 m west from Lamont Road; a section approximately 350 m long along the south side of the existing highway around Stone Wall_12, east of Browning Book; and a section approximately 350m long along the south side of the existing highway around Stone Wall_13, east of Browning Brook.

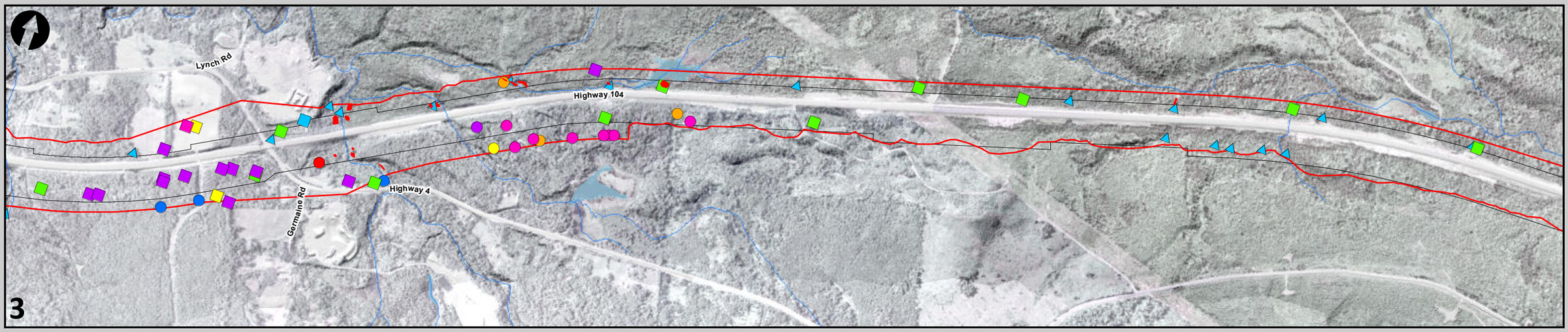
A small portion of Sutherland’s River (adjacent to “Low-Moderate Potential_1” and ‘2”) could not be assessed due to the steep and dangerous nature of accessing the river form the north side of Highway 104. If the riverbanks are to be impacted in this area, a follow-up reconnaissance should be conducted via an alternate access system.

The location of feature types (i.e., historic, modern, natural, and areas of elevated but unconfirmed potential for archaeological resources) are depicted on Figure 5.20.

All areas of elevated archaeological potential were located within the proposed Project Area. The location of these areas and features types (i.e., historic, modern, natural) are depicted in Figure 5.20.







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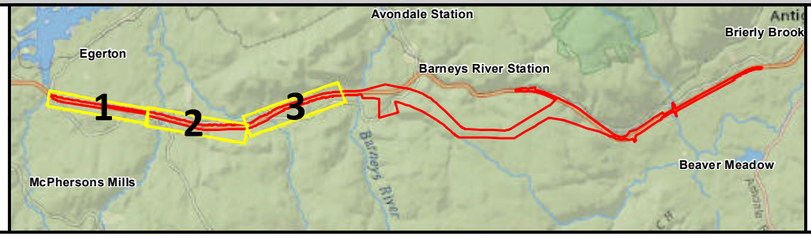
Historic Features
- Building
- Cemetery
- Farming
- Other
- Road
- Well

Modern Features
- Cemetery
- Dumped Material
- Farming
- Hunting
- Other
- Recreation/Camping
- Quarry
- Road or Trail

Non-Cultural Features
- Animal Activity
- Geological
- Invasive Plant
- Watercourse

- Elevated Potential
- Local Assessment Area
- Project Area
- NSGC - 1:10,000 Waterbodies
- NSGC - 1:10,000 Rivers/ Streams

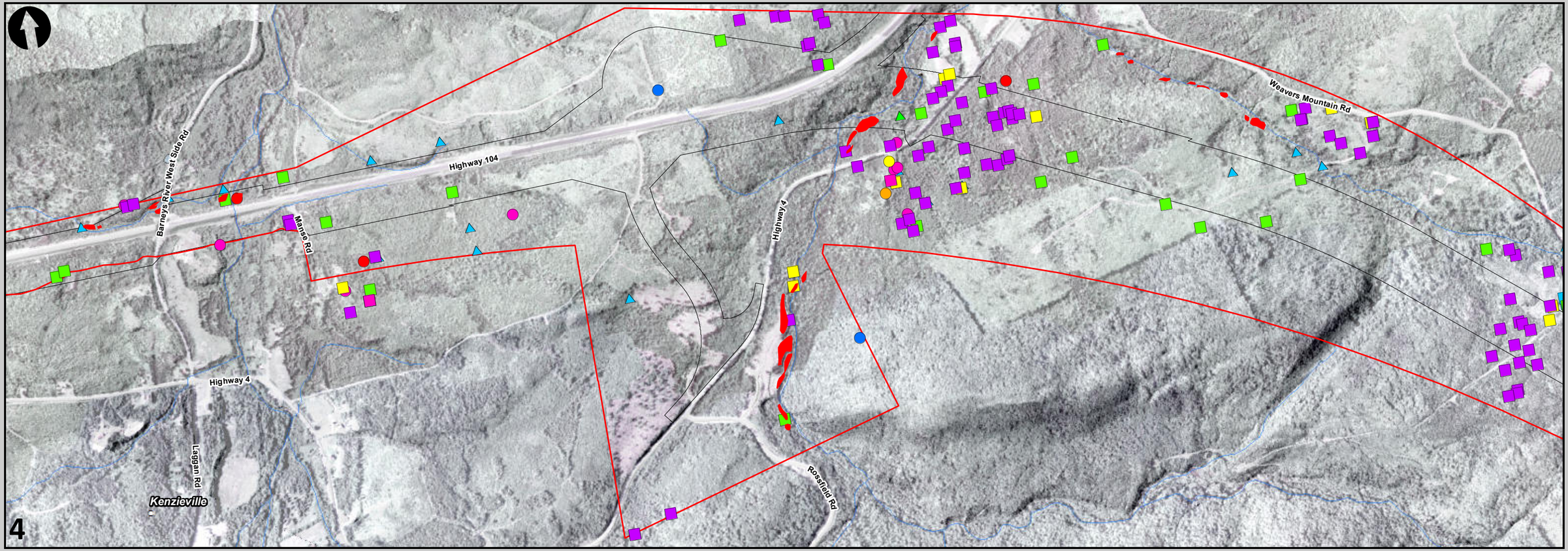


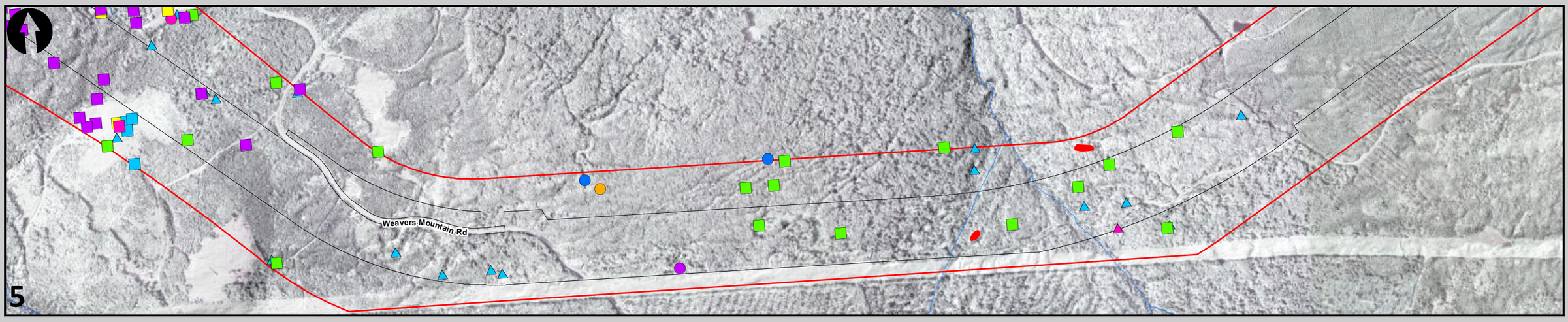
Environmental Assessment
HIGHWAY 104 - Sutherlands River to Antigonish

FIGURE 5.20
Archaeological Findings Within the Local Assessment Area
Sheet 1 of 4

0 0.5 km
Scale @ 11"x17" - 1:12,500

Z:\151046.14 - NSTIR CORRIDOR 4 EA\20 CAD\08 GIS\151046.14 - FIG 5.20 - MXD-035 EA FIGURES- ARCHAEOLOGICAL - Page1.mxd | Coordinate System: NAD 1983 UTM Zone 20N | Drawn: BH | Checked: LM | Approved: IB | Date: 14/11/2018





NOVA SCOTIA
Transportation and Infrastructure Renewal

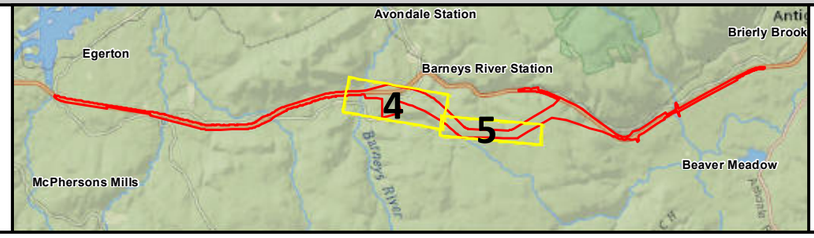
CBCL LIMITED
Consulting Engineers

Historic Features
- Building
- Cemetery
- Farming
- Other
- Road
- Well

Modern Features
- Cemetery
- Dumped Material
- Farming
- Hunting
- Other
- Recreation/Camping
- Quarry
- Road or Trail

Non-Cultural Features
- Animal Activity
- Geological
- Invasive Plant
- Watercourse

- Elevated Potential
- Local Assessment Area
- Project Area
- NSGC - 1:10,000 Waterbodies
- NSGC - 1:10,000 Rivers/ Streams

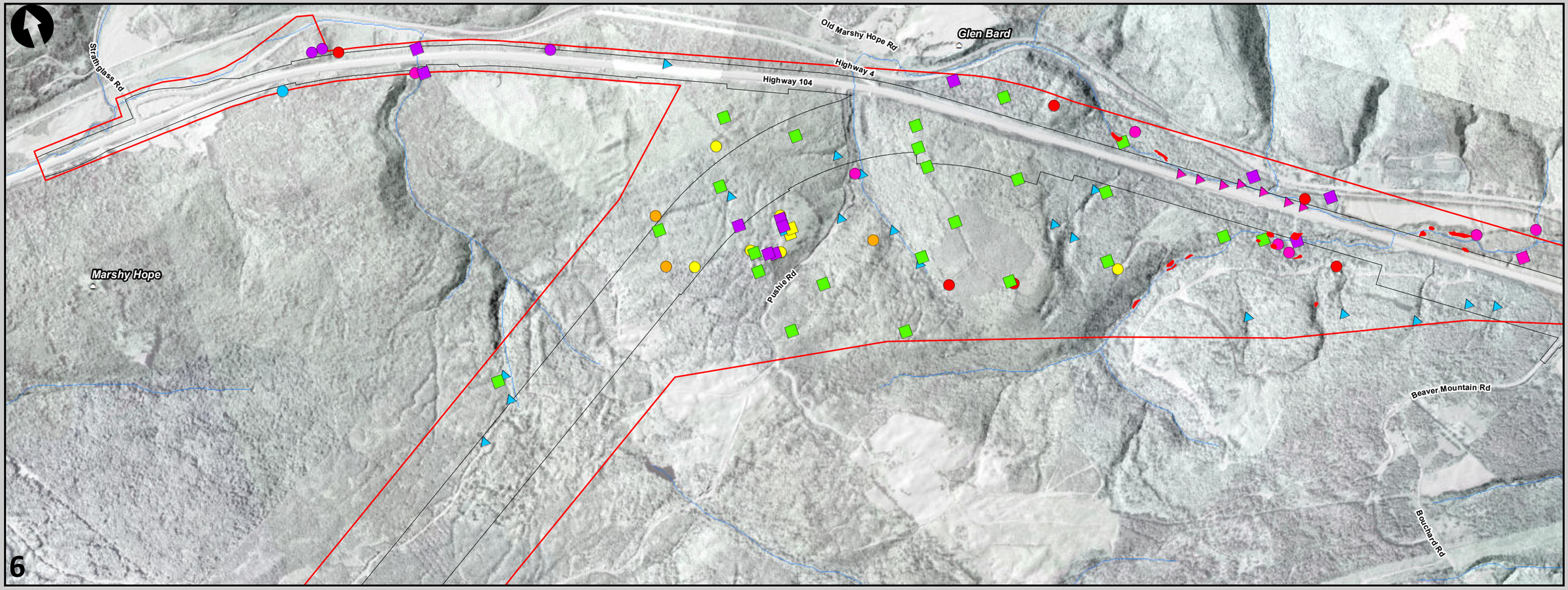


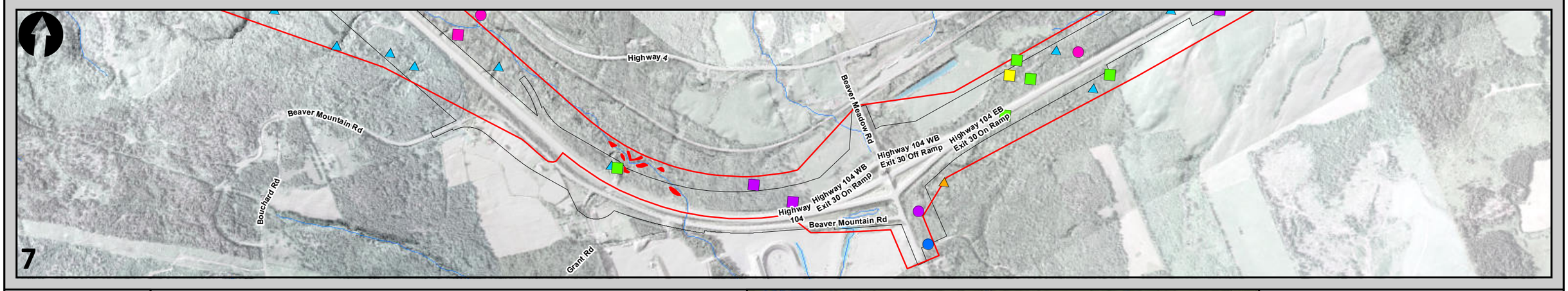
Environmental Assessment
HIGHWAY 104 - Sutherlands River to Antigonish

FIGURE 5.20
Archaeological Findings Within
the Local Assessment Area
Sheet 2 of 4

0 0.5 km
Scale @ 11"x17" - 1:12,500

Z:\151046.14 - NSTIR CORRIDOR 4 EA\20 CAD\08 GIS\151046.14 - FIG 5.20 - MXD-035 EA FIGURES- ARCHAEOLOGICAL - Page2.mxd | Coordinate System: NAD 1983 UTM Zone 20N | Drawn: BH | Checked: LM | Approved: IB | Date: 14/11/2018





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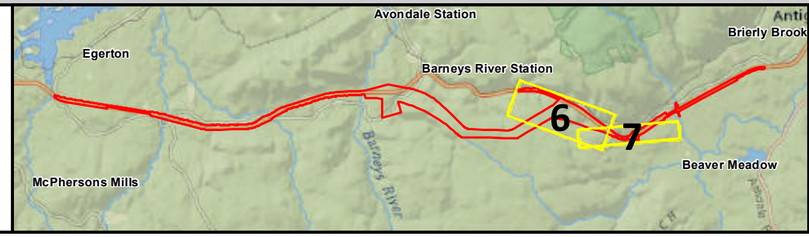
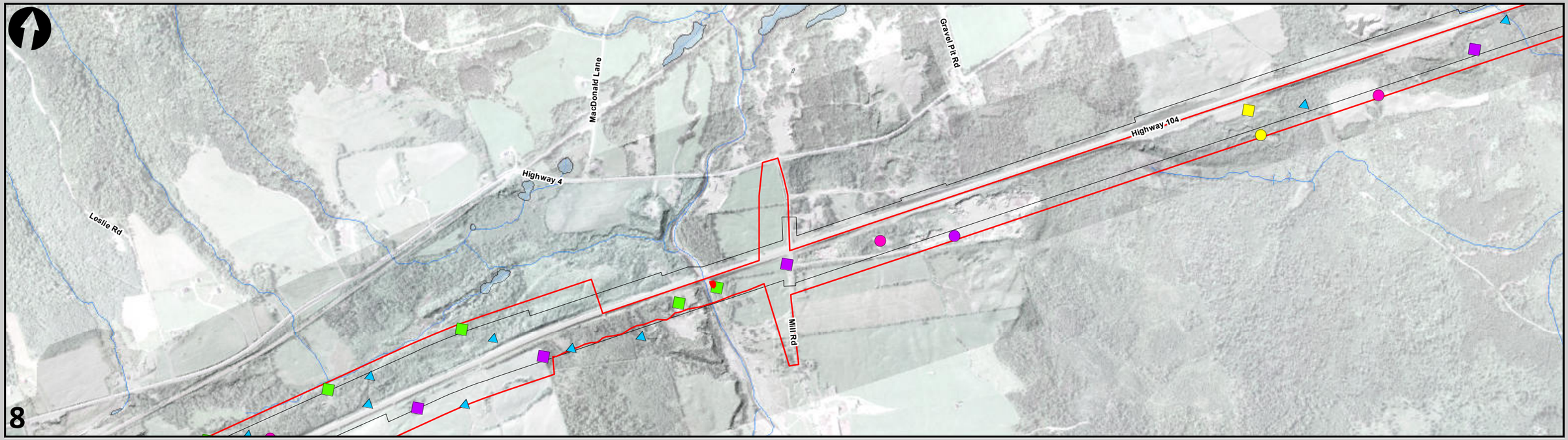


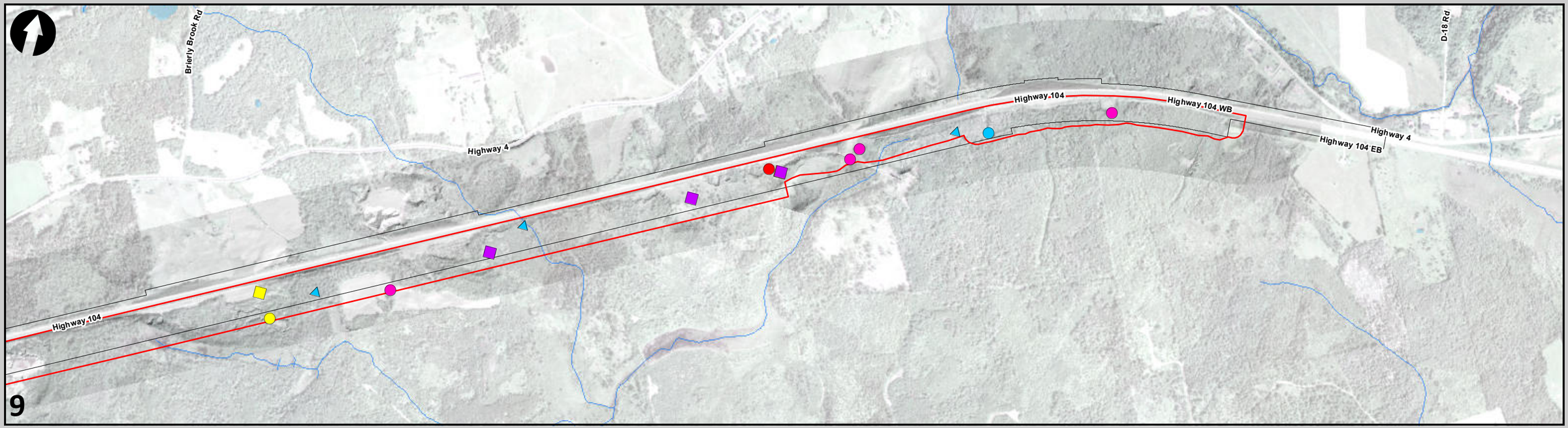
Environmental Assessment
HIGHWAY 104 - Sutherlands River to Antigonish

FIGURE 5.20
Archaeological Findings Within
the Local Assessment Area
Sheet 3 of 4

0 0.5 km
Scale @ 11"x17" - 1:12,500

Z:\151046.14 - NSTIR CORRIDOR 4 EA\20 CAD\08 GIS\151046.14 - FIG 5.20 - MXD-035 EA FIGURES- ARCHAEOLOGICAL - Page3.mxd | Coordinate System: NAD 1983 UTM Zone 20N | Drawn: BH | Checked: LM | Approved: IB | Date: 14/11/2018





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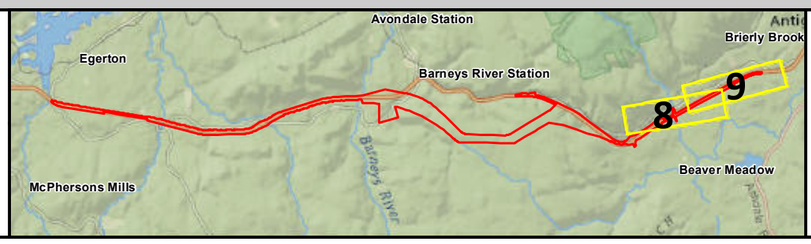

Environmental Assessment
HIGHWAY 104 - Sutherlands River to Antigonish

FIGURE 5.20
Archaeological Findings Within
the Local Assessment Area
Sheet 4 of 4

0 0.5 km
Scale @ 11"x17" - 1:12,500

Z:\151046.14 - NSTIR CORRIDOR 4 EA\20 CAD\08 GIS\151046.14 - FIG 5.20 - MXD-035 EA FIGURES- ARCHAEOLOGICAL - Page4.mxd | Coordinate System: NAD 1983 UTM Zone 20N | Drawn: BH | Checked: LM | Approved: IB | Date: 14/11/2018