



Marmora Clean Energy Hub Project

Initial Project Description Summary

H369550-0000-840-066-0014
May 1, 2023

HATCH

Report

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1. General Information

Northland Power Inc. (NPI) and Ontario Power Generation (OPG) are proposing a \$2.0 billion investment for electricity system infrastructure that has the potential to provide a major electricity system asset and economic development engine for eastern Ontario. As one of Canada’s first closed-loop pumped (hydroelectric) storage facilities, the “Marmora Clean Energy Hub Project” (“Clean Energy Hub” or “the Project”) is projected to generate an economic impact of up to \$32 million per year in the Municipality of Marmora and Lake, in Hastings County, Ontario. The Project Location is shown in Figure 1-1 (see end of this summary report for figures). The proposed Project’s component layout is shown in Figure 1-2. The Project Location is proposed on privately held lands, solely within the Province of Ontario, with no Provincial or Federal Crown lands located within the Project Location nor the immediate vicinity of the Project. NPI/OPG currently have a purchase option agreement in place with Aecon pending progression of the Project. Generally, the Project Location surrounds the Open Pit located on PIN 40177-0361 and located at 44.474 N; 77.673 W, with the proposed interconnection occurring (exact location dependant on final alternatives and land agreements) generally expected to occur between 44.548 N; 77.668 W (eastern extent) and 44.532 N; 77.696 W (western extent) along the existing 230-kV Hydro One transmission corridor. The Project will repurpose the Marmoraton abandoned open pit (“Open Pit”) mine and inactive mining lands into a 400 megawatt (MW) closed-loop pumped storage hydroelectric facility, complemented by approximately 30 MW of ground-mounted solar. Currently, there is consideration for an additional 70 MW of potential additional power to be included in the Project’s production capacity, either as storage or generation, increasing the total potential capacity to 500 MW. The Project will also utilize a transmission line design that is comprised of two 230-kV, 3-phase circuits connecting the pumped storage/solar facility transformer station to a switching station.

Table 1-1: Proponent Information and Project Contacts

Proponent	Project Contact
Northland Power Inc. 30 St. Clair Avenue West, 12th Floor Toronto, Ontario, Canada, M4V 3A1	Patrick Godfrey Project Development Manager Patrick.Godfrey@northlandpower.com
Ontario Power Generation 700 University Avenue Toronto, Ontario, Canada, M5G 1X6	Andrea Brown Director of Business Development & Strategic Initiatives Andrea.Brown@opg.com

Project information and general inquiry submissions can be accessed through the Project website, at www.marmorapumpedstorage.com.

NPI and OPG have taken a staged approach to consultation to characterize existing constraints and refine the Project design prior to engaging area municipalities, agencies and other project stakeholders. NPI and OPG kicked off its public consultation in late 2022 with an

open house at the Royal Canadian Legion in Marmora. The Project has also been endorsed by several municipal councils and political leaders in the eastern region. Informal consultations have occurred with agency officials, federal and provincial officials, community members and organizations and interested Indigenous communities and rightsholders. For Indigenous communities that will be engaged, the Project team intends to implement a multi-tiered approach, looking to Alderville First Nation (AFN) as the lead for consultation and engagement with the Williams Treaty First Nations (WTFN). Further consultation with these agencies, and others, are anticipated to continue.

These engagements aim to inform interested parties about NPI's and OPG's desire to construct and operate a Clean Energy Hub at the proposed location. The frequency of engagement and communication releases may increase at certain times over the course of the Project development process to best facilitate input during specific planning and decision-making points. The Project notification was first introduced in 2011, although a viable market for this type of energy service did not become available until 2022. Should the Project move forward, construction is expected to begin as early as 2025.

1.1 Relevant Regional Studies, Plans and Assessments

No relevant regional studies or plans, nor Regional Assessments carried out under the Impact Assessment (IA) or by any other jurisdiction are known to be available.

1.2 Strategic Assessments

The following strategic assessment, relevant to the Project, has been carried out under section 95 of the Impact Assessment Act. This assessment will enable consistent, predictable, efficient and transparent consideration of climate change throughout the impact assessment process:

- Environment and Climate Change Canada (ECCC), 2020. Strategic Assessment of Climate Change. Available online at: <https://www.strategicassessmentclimatechange.ca/>. Revised October 2020

2. Federal Impact Assessment and Provincial Environmental Assessment

2.1 Impact Assessment Act

The Project is a “designated project” under the Canadian Impact Assessment Act (S.C. 2019), as it is expected to meet the definition of “the construction, operation, decommissioning and abandonment of a new hydroelectric generating facility with a production capacity of 200 megawatts or more;” per Section 42(a) of the Physical Activities Regulation (SOR/2019-285).

As part of the planning phase of the Impact Assessment (IA) process, a draft of the Initial Project Description (IPD) was submitted to the Impact Assessment Agency of Canada (“IAAC”) on December 21, 2022. This report describes the Project in relation to the

requirements of the Impact Assessment Act (“IAA”), 2019. As the planning phase progresses, a Detailed Project Description (DPD) will be submitted as part of the IA process.

2.2 Environmental Assessment Act

The Electricity Projects Regulation (O. Reg. 116/01) of the Ontario Environmental Assessment Act states that new waterpower projects greater than 200 MW in capacity must undergo an Individual Environmental Assessment (EA). The Project will have a nameplate capacity of 400 MW and, therefore, must undergo an Individual EA.

As specified in the Ontario Guide to Environmental Assessment Requirements for Electricity Projects, the Project’s associated 230-kV, approximate 10-km transmission line that is proposed to run from the pumped storage/solar facility to the switching station on the east side of Quinn Road would trigger the need for an Environmental Screening per O. Reg 116/01. However, as a component of a Category C electricity project, the transmission line would be assessed under the Individual EA process described above.

The draft IPD was also shared with the Ontario Ministry of Environment, Conservation and Parks (MECP) and other provincial agencies on December 21, 2022. Under the environmental assessment process, a Terms of Reference (ToR) will be prepared for the Project and submitted to the MECP for review and stakeholder input.

The Project will be subject to federal and provincial regulatory approval requirements to ensure impacts are mitigated appropriately to offset negative impacts. Studies are ongoing to investigate the Project’s localized, potential adverse effects on surface water quality and existing groundwater inputs. These will be mitigated through design considerations, water quality management and monitoring programs and assessments to minimize impacts to existing hydrology and fish habitat. The Project will be subject to review and approvals by the Department of Fisheries and Oceans (DFO) to ensure impacts are mitigated appropriately and proposed enhancement measures offset serious harm to fish, should any occur. An Environmental Compliance Approval (ECA) for industrial sewage and air and noise disturbance as well as a Renewable Energy Approval (REA) for the solar works are required and enforced by the MECP.

3. Project Information

The Project will transform the Marmoraton mine, which ceased production and closed in 1978, into an energy storage facility that will store energy from the grid before returning it during periods of high electricity demand. The 400-MW, closed-loop pumped storage hydroelectric facility will connect to an existing 230-kV Hydro One transmission corridor that is the main electric transmission corridor running from the two largest demand centers in the province, the Greater Toronto Area (GTA) to Ottawa.

The Project will provide clean energy to the grid during higher demand periods and draw power from the grid during lower demand periods to optimize the use of Ontario’s nuclear and

hydroelectric baseload generation and intermittent renewable generation in order to better support the growing capacity needs of the province. Pumped storage offers reliability and increased efficiency compared to many alternative renewable energy solutions.

With a targeted in-service date of 2029, the Project would be available to support the growing capacity needs that emerge in the mid-2020s and grow into the 2030s with clean, reliable electricity generation and the commitment to a flexible, decarbonized system.

The Project will utilize the Open Pit (approximately 33 hectares in size and 220 m deep), located to the southeast of the downtown area of Marmora and Lake, to create the Lower Reservoir of the pumped storage system. The Lower Reservoir will have a full storage capacity of 4.48 million m³ of water. The Upper Reservoir is proposed to be constructed on the northeast portion of the existing non-reclaimed broken rock pile to function as an upper water storage pond. Construction of an upper perimeter containment berm with a water-tight liner will be required, with the on-site materials being utilized to the extent possible. Currently, a 20-m deep reservoir with a length of 840 m and bottom elevation of 225 metres above sea level (masl) in the northern part of the rock pile is envisioned.

The powerhouse has been proposed to be located below ground level between the Upper and Lower Reservoirs with the main step-up transformers and control room located above surface directly over the powerhouse. The powerhouse will produce energy during peak demand hours (turbine mode) and will refill the upper reservoir during hours of low demand (pumping mode). Each of the two turbine generators are designed with a rated capacity of 200 MW for a total combined installed capacity of 400 MW.

The Project's preliminary preferred transmission line design is comprised of two 230-kV, 3-phase circuits connecting the pumped storage and solar facility transformer station to a new Hydro One switching station, located adjacent the main Hydro One transmission corridor approximately 10 km north of the Project.

A proposed preliminary layout of the Project components is shown in Figure 1-2.

3.1 **Activities, Infrastructure, Structures and Physical Works**

Descriptions of the Project components are presented in the following sections. It should be noted that these components are subject to change as designs becomes more defined and could be influenced by the environmental and engineering scopes of work.

3.1.1 **Lower Reservoir**

The Open Pit will be utilized to create the Lower Reservoir. Current concepts indicate that the water level within the Open Pit will have a live storage capacity of 4.42 million m³, adequate for 5 hours of daily peaking, yielding 2 gigawatt hours (GWh) per day of peak period generation.

3.1.2 **Upper Reservoir**

The Upper Reservoir is proposed to be constructed west of the Open Pit, on the northeast portion of the existing non-reclaimed broken rock pile. A containment dam with an impervious liner will be constructed, utilizing on-site materials to the extent possible. Several considerations will contribute to the selection of a preferred layout for the Upper Reservoir, including but not limited to reservoir location and shape, natural sloping and drainage characteristics, rock properties and bedrock profile and permeability and liner requirements. Currently, a 20-m deep reservoir with a length of 840 m is envisioned.

3.1.3 **230-kV Transmission Line**

The Project's preliminary preferred transmission corridor is comprised of two 230-kV, 3-phase circuits connecting the pumped storage/solar facility transformer station to a switching station located near Quinn Road. The preliminary preferred transmission line would travel aboveground from the on-site Marmora transformer station to Marmora Mine Road. The line would go underground at Marmora Mine Road and continue north on Marmora Mine Road to Highway 7, where it would then cross and continue north on Goat Hill Road and Centre Line Road, until it reaches Beaver Creek Road (refer to Figure 1-2). Upon reaching Beaver Creek Road, the line may travel westward until Quinn Road, turning north on Quinn Road for approximately 250 m before reaching the first of four parallel existing transmission lines. The above-noted switching station is to be located near the four transmission lines with the most northern line being approximately 520 m north of Beaver Creek Road.

3.1.4 **Ground-Mounted Solar Facility**

The Project intends to include an approximately 90-ha solar facility with approximately 30 MW of ground-mounted solar infrastructure to partially offset the off-peak pumping of the pumped storage facility. The proposed locations of the solar infrastructure within the Project Location are former mine, non-reclaimed lands.

Other Project components will include:

- powerhouse and power intake
- water conveyance system (headgates, penstock, tailrace tunnel)
- control/operations buildings
- on-site transformer station
- maintenance building
- equipment laydown areas
- new access roads.

3.2 Project Phases

3.2.1 Preliminary Environmental Investigations

The following preliminary environmental investigations have been completed or scheduled as part of the ongoing baseline study phase of the Project:

- geology, hydrogeology and hydrology
- water quality
- natural heritage (aquatic, terrestrial and Species at Risk)
- archaeology
- built heritage and cultural landscape
- air, noise and vibration.

3.2.2 Detailed Design

The following activities are anticipated during detailed design:

- land acquisition/agreements
- initiation and completion of engineering studies
- development of environmental protection and monitoring plans
- receipt of environmental permits and approvals
- hiring and procurement.

3.2.3 Construction

The following activities are anticipated to occur during construction:

- site earthworks (e.g., clearing, grubbing, grading services and utilities)
- foundation development (seismically designed piles and foundations)
- drilling, blasting and excavation (earth moving, rock excavation, tunnel boring machine)
- construction of permanent water intake and discharge structure(s) and water crossings
- construction of provisional settling ponds/diversions, dewatering as needed
- use of existing local roads during construction
- upgrades to existing local roads (as needed)
- construction and use of new access roads (as needed)
- construction and inundation of upper reservoir

- installation/upgrades of water, potable water and sewage services (from point of connection with existing facility to on-site)
- installation of electrical transmission lines (from point of connection with existing facility to on-site; and from on-site to off-site switching station)
- construction of off-site switchyard and electrical power systems (transformers, emergency power)
- installation/upgrades of ancillary facilities on site (offices, control room, transformer station, maintenance building)
- horizontal and/or vertical tunneling for powerhouse shafts, access tunnels and penstock
- installation of fencing and security systems
- construction and use of temporary laydown area(s), including for stockpiles as needed
- on-site storage of equipment, material, components and supplies
- construction equipment operation
- Open Pit dewatering (see below).

Concepts indicate that in order to adequately utilize the Open Pit for the pumped storage facility, the water level within the Open Pit will require lowering. Currently, the preliminary preferred alternative is to dewater the Open Pit during the construction phase of the Project following the Minister's decision and any subsequent potential permits and approvals (e.g., MECP Permit To Take Water [PTTW], Conservation Authority Approvals, etc.).

3.2.4 Operation

The following activities are anticipated to occur during operation:

- turbine operation (start-up, operation and shutdown)
- electrical power systems (transformers, emergency power)
- ventilation
- personnel/administration offices
- use of existing/new local access roads during operation
- safety and security systems
- waste and hazardous materials management (conventional waste and recycling; secondary containment)
- equipment servicing workshop
- emissions and effluent monitoring

- operational maintenance
- landscaping/vegetation maintenance
- discharge of surplus water accumulated through seepage and precipitation.

3.2.5 **Decommissioning**

Waterpower projects are designed for long life spans, typically in excess of 100 years with ongoing maintenance, repair and upgrade programs. As such, decommissioning of the facility is highly unlikely to happen in less than 100 years. Once the facility has reached the end of its service life, additional redevelopment, rather than decommissioning, would be an option that should be considered again to further extend the life of the facility.

It is anticipated that the solar facility will have a useful lifetime of at least 25 years, which can be extended with proper maintenance, component replacement and repowering. Upon decommissioning, the following activities would be anticipated during decommissioning of the solar facility:

- equipment dismantling and removal
- waste (conventional waste and recycling) and hazardous materials management
- site restoration.

The table below provides a preliminary schedule of the Project's high-level activities.

Table 3-1: Preliminary Project Schedule

Activity	Preliminary Project Schedule
Construction (inclusive of Open Pit dewatering)	2025 to 2029
Commercial Operations	2029
Decommissioning/Re-contracting	2054

4. **Alternatives**

Alternatives to the Project include renewable energy generation and energy storage alternatives. The IPD describes an overview of these options including a review of wind, solar, traditional hydroelectricity based on energy production, demand management, water resource, land use, and environmental considerations. Advantages and disadvantages to technology alternatives to pumped storage include compressed air energy, thermal, battery energy storage systems and hydrogen.

Alternative methods are being considered for key project components including:

- underground access
- overburden management

- watercourse crossings
- aggregate supply
- ground-mount solar
- preliminary transmission corridor
- dewatering
- solid waste management
- access roads
- site closure.

The Project location information presented in Section 5 provides a summary of the results of the initial considerations for these alternative methods of undertaking the Project.

5. Project Location Information

The Project is located in the Municipality of Marmora and Lake, between the towns of Madoc and Havelock in Hastings County, Ontario, Canada. The Marmora municipality receives the designation of “urban” and is part of the South Hastings Market Area which is characterized by its agricultural lands, larger settlement areas and rural non-farm residential developments. The Open Pit is located approximately 1.5 km southeast of the village of Marmora, roughly bounded by Highway 7 to the north, Regional Road 14 (Forsyth Street) to the west and south, and a trail that was formerly a Canadian National Railway and Canadian Pacific Railway lines to the east.

The Project location is proposed on privately held lands (owned by Aecon); however, a purchase option agreement has been secured.

The geographic coordinates (latitude/longitude) of the Project components are provided below.

Table 5-1: Preliminary Project Component Locations

Project Component	Latitude/Longitude
Open Pit (proposed lower reservoir)	44.478 N; 77.657 W
Non-reclaimed broken rock pile (proposed upper reservoir)	44.475 N; 77.664 W
Transformer station	44.475 N; 77.659 W
Switching station	44.539 N; 77.685 W
Ground-mount solar	44.479 N; 77.645 W
	44.469 N; 77.646 W
	44.471 N; 77.656 W

The electric transmission corridor study area currently consists of an area approximately 40 km². This study area surrounds the Open Pit and fans out towards the existing Hydro One transmission line, located approximately 7 km north of the Open Pit. The study area extends approximately 150 m south of the Open Pit, east of the Open Pit to Hastings Heritage Trail, fanning northeast to the end of Lajoie Road, and continuing to the transmission line. The study area extends west of the Open Pit to Forsyth Street, and northwest along the Crowe River to Cordova Road before reaching the transmission line. The study area is shown in Figure 1-2. The Project has secured a municipal road use agreement for underground transmission corridors. The areas along the preliminary, preferred transmission line corridor are primarily dominated by forest and woodland communities as well as active agricultural fields typically consisting of hay and corn. Tributaries of Beaver Creek also cross the preliminary, preferred transmission line corridor, several of which are also associated with adjacent wetland environments such as swamps, meadow marshes and open water marshes.

As described in Section 3, alternative methods for Project components, including the transmission corridor route, will be evaluated. Criteria used to assess the preferred transmission corridor route will include but not be limited to route length, natural environment interactions, socio-economic interactions (such as number of businesses and residences on the route), and cultural heritage and archaeological potential of lands along the route.

6. Environmental Features

Key environmental features within the area of the proposed Project location, include, but are not limited to, wetlands, watercourses and waterbodies, wildlife areas and natural heritage areas.

6.1 Physiography, Geology and Climate Summary

Generally, the areas surrounding the Open Pit are mostly within Limestone Plains, within the Dummer Moraines physiographic region. The northern portions of the proposed Project Location along the preliminary preferred transmission route are consistent with various landforms including kame moraines, peat and muck, eskers, till moraines, and shallow till and rock ridges, and also overlap with the Georgian Bay Fringe physiographic region.

Bedrock geology within the majority of the proposed Project Location has been described as limestone, dolostone, shale, arkose and sandstone. The overburden thickness within the mine site has been described as 4 m, underlain by a 44-m thick horizontally bedded sedimentary formation (SNC Lavalin, 2018) followed by Precambrian rock. Permeability within the Precambrian rock is considered to be low, whereas the sedimentary formation is noted to have low to medium permeability, with the contact between the two having higher permeability. Several areas surrounding the Provincially Significant Wetland (PSW) complexes are mapped as organic deposits containing peat, muck and marl, consistent with the soil sampling results found in the Wetland Evaluation Reports obtained from the Ministry

of Natural Resources and Forestry (MNRF). Some areas within the proposed Project Location also are consistent with till, particularly stony, sandy silt to silty sand textured till on Paleozoic Terrain. Lastly, an esker overlaps the area of the proposed switching station near Quinn Road and is comprised of soils consistent with ice-contact stratified deposits such as sand and gravel, minor silt, clay and till.

Climate data (1981 to 2010) from the Peterborough Station (ID 6166418), indicate a daily minimum temperatures range from -13.7°C to 12.8°C in January and July, respectively, with daily maximum temperatures ranging from -3.2°C to 26.4°C for the same months. November is generally the month with the most precipitation, while February has the least 86.4 mm and 51.4 mm, respectively.

6.2 Aquatic, Surface Water and Groundwater Environment Summary

Several tributaries of Beaver Creek extend towards and into the proposed Project location from the west with water crossings along Center Line Road, Quinn Road and Goat Hill Road within the area of the preliminary preferred transmission corridor and switching station. In total, nine water crossings are expected to exist within the footprint of the preliminary preferred transmission line route. The Beaver Creek Provincially Significant Wetland (PSW) is located 3.6 km north of the former Marmora mine immediately west of Center Line Road and includes several tributaries of Beaver Creek. The PSW complex is comprised of one wetland, approximately 203 ha in size with an additional 10.34 ha of riverine/upland areas situated within the complex. The PSW consists of two wetland types (marsh and swamp).

Crowe River originates in Paudash Lake approximately 60 km north of the proposed Project location and traverses south through several other lakes (Cordova Lake and Belmont Lake) prior to draining into Crowe Lake (located approximately 4 km west of the Open Pit). The river outflows from Crowe Lake on the eastern side, where it takes on flows from Beaver Creek and its tributaries, before reaching the Marmora Dam located slightly north of Highway 7. The river continues southward through the Crowe River PSW located along and immediately adjacent of the Crowe River, approximately 1.3 km directly west of the Open Pit and downstream of Highway 7. The complex comprises three separate diverse wetlands, culminating to 124.8 ha and the total size of the upstream detention areas within the catchment is approximately 38,125 ha. Downstream of the Crowe River PSW, the Crowe River flows over Callaghan's Rapids which consist of two approximately 1-m high limestone falls that are approximately 40 m to 60 m long, respectively. The falls themselves are expected to be upstream barriers to fish movement; however, a side channel located to the east may provide passage around the rapids/falls. Immediately downstream of Callaghan's Rapids, the Crowe River discharges into Rylstone Lake. Rylstone Lake is the result of water impounded by the Allan Mills Dam, located immediately downstream of Rylstone Road Bridge. Allan Mills Dam consists of an approximately 2-m high overflow weir approximately 60 m long and approximately 20 m of operable dam. Both the weir and operating portions of the dam are expected to be upstream barrier to fish and other aquatic organisms. From there the river continues southward flowing beneath the Crowe Bridge prior to flowing over the

Crowe Lake weir and entering the Trent River. In total, 31 fish species were found to utilize Crowe Lake/River during the records review. Notably, no SAR are expected within the reach between Crowe Lake and Trent River.

Moira River originates approximately 50 km northeast of the former Marmora mine prior to flowing south through, most notably, Wolf Lake. A small headwater branch of the Moira River begins from the Marmora Mine Wetland and Mud Lake complex. This channel drains northeast along Highway 7 where it eventually confluences with the main branch of the Moira River southeast of the proposed Project location. The river then flows to the east and outlets into Moira Lake approximately 14 km downstream, before flowing into Stoco Lake and eventually the Bay of Quinte on the north shore of Lake Ontario.

In total, 33 species of fish were found to be inhabit the Moira River through records review. Notably, the main channel of the Moira River has been listed as Critical Habitat for Channel Darter (*Percina copelandi*), listed on Schedule 1 of the Species at Risk Act as an Endangered Species. Additionally, habitat types available throughout the main branch of the Moira River may provide several species spawning habitat opportunity.

The Marmora Open Pit is located southeast of the downtown area of Marmora, along the watershed divide of the Moira and Crowe rivers and is approximately 33 ha in size and 220 m deep. The Open Pit is artificially created and is offline (not connected) from adjacent waterbodies. Anecdotal reports suggested it may support some species of fish placed there by locals. Hatch completed an eDNA investigation to confirm whether fish DNA existed within the Open Pit waters. Results suggest that fish DNA does exist within the surface waters of the Open Pit; however, the source or species of the DNA is still unconfirmed. Very little to no fish DNA was detected at 100 m in depth or the Open Pit bottom depth. Based on site observations and available bathymetry information, the main section of the Open Pit follows a standard terraced structure with elevation drops at regular intervals between Open Pit top and bottom. Minimal in water structure exists within the main body of the Open Pit. A small area of shallow water exists on the south and southeast edge of the Open Pit supporting some riparian vegetation previously used to access the Open Pit prior to it filling with groundwater seepage and precipitation. Groundwater in the Marmora area resides mainly in the underlying limestone bedrock and is anticipated to flow in the southwest direction towards Lake Ontario, although local groundwater flow is likely to be influenced by the presence of subsurface features such as the Open Pit and local streams, rivers and wetlands. A detailed geotechnical groundwater modelling exercise is underway to accurately assess any potential groundwater recharge/discharge effects, effects to nearby aquifers and to a lesser extent groundwater quality. As per the Ontario Source Water Protection Atlas, several Significant Groundwater Recharge Areas exist within the area around Crowe River/Crowe Lake, with several smaller areas also visible within the area of the proposed switching station near Quinn Road, immediately north of the Beaver Creek PSW. Accordingly, most of the proposed Project Location is also located within a Highly Vulnerable Aquifer. Several active and decommissioned wells have been identified within the vicinity of the Project Location.

6.3 Terrestrial Environment Summary

In total, preliminary characterization of the site resulted in 82 different community vegetation compartments identified, consisting of 18 different general habitat types. Invasive plant species have colonized throughout the existing mine site, as they are especially prolific on disturbed land.

Vegetation removal due to Project activities presents the potential for habitat fragmentation and the alteration of current forest edge boundaries, which may alter wildlife movement and behavior. Destruction of bird nests and other wildlife habitat during tree clearing and site preparation activities (outside of Bird Migratory window) is possible. Of the 176 bird, amphibian, reptile and mammal species identified via desktop that have the potential to be present within the Project Location, 28 were identified as provincially or federally listed Species At Risk (SAR) and an additional four bat species were included due to the high likelihood of bat habitat within the surrounding woodlands and talus environments. NPI and OPG intend to minimize terrestrial footprints by utilizing existing disturbed areas, roadways and corridors and reclaim various existing mine rock areas. There is also a likelihood that a long-term net benefit could be achieved for each species through the revegetation of native species.

The Marmora Mines PSW is located to the east of the Open Pit and consists of a several vegetation communities that surround the Moira River in proximity to the proposed Project location. The wetland complex is composed of two wetland types (swamp, marsh) and also contains the open water area known locally as Mud Lake. Areas of deposited rock like those areas surrounding the Open Pit are also present, with historical encroachment now forming the edge of the PSW. Forest and woodland communities are also found to the southwest of the mine beyond the areas of rock deposits, with some agricultural fields also visible on aerial imagery. The catchment area of the PSW is approximately 1430 ha; however, six detention areas including Mud Lake were noted, totaling 1571 ha.

6.4 Social, Economic and Health Contexts

The Municipality of Marmora and Lake is one of 14 municipalities within Hastings County. Marmora and Lake is designated as “urban” as is situated within the South Hastings Market Area. This area is characterized by its agricultural lands, larger settlement areas and rural non-farm residential developments (Hastings County Planning Department, 2017).

The Municipality of Marmora and Lake, covers an area of 557 km² with a total population of 4,267 and density of 7.1 people per square kilometre as per the 2021 Census (Statistics Canada, 2021). According to the Census, the area is predominantly (98%) English, with an average of 2.2 people per household. The median age of the township was of 56 with 58% of the population between the ages of 15 to 64, and 32% of the population over age 65.

Demographics outlined in the Marmora and Lake Strategic Plan 2020 identified majority of towns occupants (78%) identifying as residents, with 16% as cottagers. Residences within

the area are predominantly rural (35%), followed by waterfront (32%), urban (28%) and farm (5%).

The 2016 and 2021 census outlined the total labour force population (citizens ≥ 15 years old), is composed of 53% male and 48% are females. The median income of an individual in the labour force was \$32,000 while the median income of an economic family was \$78,000.

Generally, the employment rate in Marmora and Lake is shown to be declining between 2001 and 2016 at rate of 0.33% per year. The labour force sectors are predominantly made up of construction and retail (28%), healthcare and social assistance (9%), accommodation and food services (9%), and manufacturing (9%). Whereas the labour force of the town represented by occupation is made up primarily by trades and transport (29%), sales and service (22%), followed by manufacturing and utilities, health, education, law and government making up 6% each.

The labour force commuting statistics show 61% of working people commute to work within the region and 39% commute to a work destination outside of it. With approximately 52% of commuters spending 30 minutes or longer to reach their destination. With respect to living quarters and according to the 2021 Census, Marmora and Lake has a total of 2,578 private dwellings of which 1,885 are occupied by "usual residents" which permanently reside there. Approximately 82% of the homes are owned, while 18% are rented; note there are currently no dwellings in Marmora and Lake provided by the local government, First Nations or Indian Band (Statistics Canada, 2021). Marmora and Lake has a local medical center that focuses on family and community health, with larger hospitals located in the proximal town of Campbellford (30 km), city of Belleville (50 km), and city of Peterborough (55 km). Marmora and Lake has a centrally located fire hall, equipped with six fire units, one of which one is intended as a first response vehicle. The nearest police centers are the Ontario Provincial Police Centre Hastings located in Madoc (16 km), the Stirling Police Department in Stirling (24 km) and the Ontario Provincial Police - Campbellford building in Campbellford (31 km).

The Central Hastings County has a Community Safety and Well-Being (CSWB) Plan to direct local efforts into social development, prevention and risk mitigation within the community. The Plan's outlined goal is "a sustainable community, where everyone is safer, has a sense of belonging and opportunity to participate, and where they can meet their needs for education, health, food, housing, income, and social and cultural expression". Information regarding community safety and well-being or social determinants of health was not publicly available.

7. Environmental Effects

Potential environmental effects of the Project will be mitigated through the implementation of various measures to be employed during construction and operation of the Clean Energy Hub.

7.1 Potential Changes to Fish and Fish Habitat, Aquatic Plants and Migratory Birds

Dewatering of the Open Pit during construction has the potential to alter Ogden's Pondweed habitat and the flow regime in Channel Darter Habitat (Moirra River), flagged as aquatic SAR habitat. These activities may also produce disturbance (noise, light, vibration) and potentially impact the local hydrology, fish and benthic fauna habitat and water avian species.

Baseline studies and consultation activities are being conducted in support of the dewatering alternatives assessment. As part of the provincial (stream) water quality monitoring network, baseline water quality sampling routinely occurs within the Moira and Crowe rivers near the proposed potential discharge locations. The Open Pit as well as the surrounding watercourses and waterbodies are currently being sampled on a seasonal basis. The Open Pit sampling program consists of collecting approximately eight samples ranging from the surface to approximately 180-m depth. Understanding the stratification cycle of the Open Pit will guide dewatering strategies, and ultimately minimize effects on receiving waters as well as the organism living within them (e.g., fish and fish habitat, aquatic SAR).

All water quality parameters will be compared to the Ontario Provincial Water Quality Objectives (PWQO) and the Canadian Environmental Quality Guidelines (CEQGs) for the Protection of Aquatic Life. The following table provides a summary of the potential changes, and relevant governing federal legislation, that may occur as a result of various Project phases. Relevant federal governing legislation for this Project is somewhat reduced due to no federal lands being impacted or needed for the Project.

It should be noted that the options for dewatering can manage quantity and quality of discharge from the site in a manner not to negatively affect fish and fish habitat downstream. Currently the preliminary preferred receiving waters are the Crowe River. Working through the alternatives assessment process, Crowe River is preferred due to higher base/summer flows, being controlled/regulated by upstream and downstream dams, no known SAR fish, favourable land ownership, and use of existing trails/easements.

Table 7-1: Preliminary List of Changes to the Environment Under Federal Jurisdiction

Environmental Component	Project Phase	Source of Potential Effect	Potential Change to Environment	Area of Influence	Considerations and Mitigation Measures
Fish and fish habitat, as defined in subsection 2(1) of the <i>Fisheries Act</i>	Construction	Dewatering Installation of temporary and permanent infrastructure (e.g., pumps)	Change to the natural surface water flow pattern Surface water quality alteration (suspended solids, water temperature) Alteration, disruption and destruction of fish and benthic fauna habitat Erosion and sedimentation	Discharge location(s) and criteria Characteristics of discharged water (e.g., temperature, velocity)	MECP and CCME effluent frameworks and guidance to be used to ensure quality and flows meet Industry standards. Industry standard erosion and sediment control measures can mitigate potential effects. Open Pit is not thought to be considered fish habitat. As per DFO's Project near water website; isolated quarries, aggregate, privately owned or commercially owned ponds do not require review by DFO.
	Construction	Site preparation Installation of temporary and permanent infrastructure Transport and traffic Use and maintenance of equipment Waste rock management	Change to the natural surface water flow pattern Surface water quality alteration (suspended solids, accidental spills, water temperature) Alteration, disruption and destruction of fish and benthic fauna habitat Erosion and sedimentation	Project footprint	Seasonal water quality and volumes of Open Pit and natural waters will inform which receiving water(s) are selected for discharge as part of the alternatives assessment. Dewatering flow rates, diffusion and treatment (if needed) will be explored as needed following MECP's most recent guidance (e.g., <i>B-1-5 Deriving Receiving Water Based Point Source Effluent Requirements for Ontario Waters</i>), as well as CCME quality standards with CCME's <i>Environmental Risk Management: Framework</i> informing the effluent discharge objectives.
	Operation	Transport and traffic	N/A	N/A	
	Decommissioning	Dismantling of equipment and infrastructure Transport and traffic	Surface water quality alteration (suspended solids, accidental spills)	Project footprint	Offsite discharges of water will be approved through an MECP Environmental Compliance Approval and/or through conditions within the PTTW. Water quality discharge will be evaluated and provided to DFO as part of the request for review process under the <i>Fisheries Act</i> .

Environmental Component	Project Phase	Source of Potential Effect	Potential Change to Environment	Area of Influence	Considerations and Mitigation Measures
Aquatic SAR, as defined in subsection 2(1) of the <i>Species at Risk Act</i>	Construction	Dewatering	Change to Ogden's Pondweed habitat Change to flow regime in Channel Darter Habitat (Moirra River)	Discharge location(s) and criteria	<p>Impacts to SARA fish within Moira River heavily weighted during alternatives assessments, helping to determine the Crowe River as the preliminary preferred discharge location for Open Pit dewatering.</p> <p>Quinte Conservation has noted a possible overall benefit of dewatering to Moira watercourse, wetland and river. As a result operational water being discharged to the system will be evaluated moving forward and include any potential beneficial or adverse impacts to SARA fish as well as general SARA wildlife.</p> <p>During construction and operations (when applicable), the Project will abide by mitigative timing windows wherever possible and understands that some Project areas or components may have conflicting timing windows based on baseline investigation outcomes. A Project component/location specific mitigation plan will be developed in conjunction with Indigenous communities (i.e., Williams Treaty First Nations [WTFN]) and MECF.</p>
Migratory birds, as defined in subsection 2(1) of the <i>Migratory Birds Convention Act, 1994</i>	Construction	Dewatering	Disturbance (noise, light, vibration) Change to hydrology impacting wetlands and waterway nests	Project footprint	Timing considerations, work phasing, and isolation can manage potential effects during construction and operations.
	Construction	Tree clearing Installation of temporary and permanent infrastructure	Habitat loss Disturbance (noise, light, vibration) Increased risk of collision or mortality	Project footprint	
	Operation	Facility operation Additional vehicle traffic	Disturbance (noise, vibration)	Project footprint	
	Decommissioning	Dismantling of equipment and infrastructure	Disturbance (noise, vibration)	Project footprint	

7.2 Potential Effects on Physical and Cultural Heritage

Cultural heritage and archaeological assessments are currently being undertaken for the Project. The results of a Cultural Heritage Evaluation Report for the Marmoraton Mine site suggest that the property has cultural heritage value in addition to historical and contextual value. The report will be submitted to planning staff at the Municipality of Marmora and Lake, the MCM and other interested stakeholders for further review and feedback. A Heritage Impact Assessment will identify impacts on the cultural heritage value of the mine site. No previously registered archaeological sites were identified within the mine area during the Stage 1 archaeological assessment; however, adjacent areas that have not been previously disturbed by mining activities exhibit archaeological potential and will require further Stage 2 assessments (e.g., test pitting) where appropriate.

The preliminary preferred transmission corridor is planned to be located within the municipal right-of-way to the extent possible; therefore, effects are expected to be minimal. The results of the cultural heritage and archaeological assessments on the preliminary preferred route indicated five built heritage resources and eight cultural heritage landscapes that need to be considered moving forward. These findings will be used to inform the criteria used in the alternatives assessments as the IA progresses. Centre Line Road Cemetery and the Hamilton-Irwin Family Plot Cemetery exhibit archaeological potential and may require Stage 3 cemetery investigations. Other areas along the preliminary preferred route will require a Stage 2 archaeological assessment (e.g., pedestrian surveys) where appropriate.

7.3 Potential Effects on Current Use of Lands for Traditional Purposes

Consultation with Indigenous peoples is ongoing and is further described in Section 8. From engagement to date, topics of interest raised by community members have included (but were not limited to) considerations for dewatering regarding quantity and quality of downstream water, Wild Rice harvesting on Crowe River, and traditional use within treaty areas for hunting, fishing, and trapping (wetlands being crucial).

Any minimal changes in water level and water quality from dewatering activities will abide by MECP discharge criteria, with traditional use and values being considered during the various evaluations required through the IA and subsequent approvals (e.g., MECP PTTW, DFO Request for Review etc.). A water sampling program is ongoing to determine the quality of the Open Pit water stratum as well as the potential receiving waters. Currently, there are no plans for dewatering to occur during the spring restrictive fish window. Proposed mitigation measures including (but not limited to) appropriate scheduling, discharge quality requirements/limitations and discharge flow control/limitations will avoid or reduce potential impacts to aquatic life, users and/or navigation.

A 2013 MNRF wetland evaluation mapped Wild Rice between the two most upper potential discharge locations on the Crowe River (the proximity of which is ~100 m from the proposed Project Location). These Wild Rice locations, as well as any new discharge location considerations along Crowe River, will be confirmed during 2023 baseline investigations.

NPI and OPG are committed to maintaining and where possible improving land-use and available resources to Indigenous peoples. The Project offers a unique opportunity with over 1,500 acres of land and private access to wetlands, lakes, agricultural lands and general green space that could potentially be used by Indigenous peoples through suitable access agreements or other arrangements.

As a result, no anticipated effects to traditional use or values are anticipated as result of the Project. Through engagement with Indigenous peoples, land-use has been and will continue to be taken into consideration during the alternatives assessment and overall Project planning.

7.4 Potential Effects on Health, Social or Economic Conditions of Indigenous Peoples

Through consultation with Indigenous peoples (e.g., WTFN), topics of interest raised by community members have included (but were not limited to) interest in economic opportunities. Economic opportunities for Indigenous communities will continue to be considered as the IA progresses. NPI/OPG are committed to providing beneficial economic opportunities (which could include training, apprenticeships, procurement, etc.) as an extension of engagement agreements to date. Overall, from the discussions with Indigenous communities to date, there have been no concerns raised related to social, economic or health effects as a result of the Project.

Negative impacts to health are not anticipated as a result of the Project. The quantity and quality of downstream water should not be affected, and harvesting activities on nearby lands and waters can continue uninterrupted through proper planning, mitigations, communication, and scheduling considerations. NPI and OPG are open to discussing land agreements that could potentially see an increase in available lands for harvesting, fishing, and collection of traditional plants. NPI and OPG are very much cognizant of the opportunities a Project of this nature can provide to Indigenous peoples through participation in the environmental planning phase as well as the opportunities during the construction and operational phases.

Health, social or economic conditions of Indigenous peoples are not expected to be negatively impacted by the Project. The Project offers the opportunity for a variety of benefits to both Indigenous and non-Indigenous peoples through economic development, employment and procurement, with opportunities for benefits to the tourism, recreation, education and training sectors.

7.5 Greenhouse Gas Emissions

The Project is expected to reduce greenhouse gas (GHG) emissions from the Ontario electricity system by 70,000 to 140,000 tonnes of carbon dioxide equivalent (tCO_{2e}) per year; however, short-term moderate effects on localized air quality are expected through the release of carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O) and other GHGs to the atmosphere during all phases of the Project via combustion of diesel fuel. GHG quantification studies will continue as the Project progresses. Direct and indirect GHG emissions for

construction have been estimated at 39,871 tCO₂e per year for 5 years, totaling 199,357 tCO₂e. Operational Project GHG emissions are expected to be negligible. In accordance with the Tailored Impact Statement Guidelines (TISG) Template for Designated Projects Subject, the list of sensitive receptors associated with both the construction and operation of the Project will be compiled.

7.6 Wastes and Emissions

The Project is expected to generate non-hazardous and hazardous waste, although the hazardous waste contained on site will be minimal. Hazardous waste may be generated or used mainly during construction; however, some can also be expected to occur to a lesser extent when the transmission line is in operation. A waste and hazardous materials management plan will be developed and submitted in the Environmental Protection Plan to provide preventative measures. Waste will be handled in accordance with applicable legislation and standards.

Minimal quantities of oil, lubricants and chemical are expected to be used on the site. Appropriate oil containment mechanisms will be implemented and regularly maintained. Additionally, in accordance with O. Reg. 224/07 under the Environmental Protection Act, a Spill Prevention Protocol and Countermeasures Plan will be issued to provide guidance and requirements for spill prevention and contingency plans.

No emissions in water or soil are expected. Standard construction site best management practices to minimize emissions due to exhaust and dust will be applied. Refueling and maintenance best practices will be following throughout the duration of construction.

8. Engagement With Indigenous Communities

The Project is proposed within two historical First Nation treaties; the northern portion lies in Treaty 27/Treaty 27½, and the southern portion lies in the Crawford Purchase. Both treaties and the Crawford Purchase, are the traditional and treaty territory of Alderville First Nation (AFN) and territory covered by the Williams Treaties settlement agreement. NPI and OPG are pursuing discussions with AFN and other WTFN to support meaningful engagement and consultations throughout the development of the proposed Project. NPI and OPG are also committed to developing mutually beneficial outcomes and opportunities with other potentially interested Indigenous communities and rightsholders.

The Project continues to have positive engagement with AFN. The Project team has met with AFN regarding the Project on various occasions since 2013. Currently, weekly touchpoint meetings with AFN occur to discuss any Project and/or consultation updates. These meetings have exemplified NPI's and OPG's commitment to engaging in meaningful consultation early, often and throughout the life of the proposed Project with the goal of mitigation and accommodation.

The following preliminary key comments and concerns have been expressed by AFN from engagement activities to date:

- potential for legacy pollution/contamination of the Open Pit water from historic mining activities
- potential effects on groundwater levels and water wells of nearby residents
- inability to use the Open Pit for swimming and potential hunting/harvesting
- potential effects on significant species habitat from construction
- consideration of Wild Rice harvest for timing of dewatering to Crowe River
- consideration of traditional use within treaty areas for hunting, fishing and trapping, wetlands being crucial
- interest in opportunities for training, apprenticeship, employment and procurement, specifically for trades and heavy equipment operation.

Additionally, NPI and OPG has initiated consultation with the following Indigenous communities, recommended by IAAC and MECP to be engaged with regards to the Project:

- Métis Nation of Ontario – Region 6
- Algonquins of Ontario
- Kawartha Nishnawbe Community
- Huron-Wendat Nation
- Mohawks of the Bay of Quinte First Nation.

NPI/OPG will continue to work with the above communities to understand the capacity in which they wish to be engaged regarding the Project.

9. Engagement With Agencies, the Public and Other Stakeholders

Stakeholders identified by NPI and OPG who may be potentially affected by and/or have an interest in the Project are listed below.

Federal Government	Canadian Council of Ministers of the Environment (CCME)
	Canada Energy Regulator (CER)
	Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)
	Environment and Climate Change Canada (ECCC)
	Fisheries and Oceans Canada (DFO)
	Health Canada (HC)

	Indigenous Services Canada (ISC)
	Innovation, Science and Economic Development Canada (ISED)
	Parks Canada Agency (PCA)
	Natural Resources Canada (NRCan)
	Public Services and Procurement Canada (PSPC)
	Transport Canada (TC)
Provincial Government	Ministry of Agriculture, Food and Rural Affairs (OMAFRA)
	Ministry of Community and Social Services (MCSS)
	Ministry of Energy (MOE)
	Ministry of Environment, Conservation and Parks (MECP)
	Ministry of Health (MOH)
	Ministry of Indigenous Affairs
	Ministry of Infrastructure (MOI)
	Ministry of Mines
	Ministry of Municipal Affairs and Housing (MMAH)
	Ministry of Natural Resources and Forestry (MNRF)
	Ministry of Public and Business Service Delivery (MPBSD)
	Ministry of Tourism, Culture and Sport (MTCS)
	Ministry of Citizenship and Multiculturalism (MCM)
	Ministry of Transportation (MTO)
Ontario Energy Board (OEB)	
Municipal Government	Hastings Highland
	Madoc & District Chamber of Commerce
	Municipality of Centre Hastings
	Municipality of Marmora and Lake
	Municipality of Tweed
	Town of Bancroft
	Town of Deseronto
	Township of Carlow/Mayo
	Township of Faraday
	Township of Havelock-Belmont-Methuen
	Township of Limerick
	Township of Madoc
	Township of Sterling-Rawdon
	Township of Tudor and Cashel
	Township of Tyendinaga
Counties (Eastern Ontario Warden's Caucus)	City of Kawartha Lakes
	County of Frontenac
	County of Haliburton

	County of Hastings
	County of Lanark
	County of Lennox and Addington
	County of Northumberland
	County of Peterborough
	County of Prince Edward
	County of Renfrew
	United Counties of Leeds and Grenville
	United Counties of Prescott and Russell
	United Counties of Stormont, Dundas and Glengarry
Conservation Authorities	Crowe River Conservation Authority (CRCA)
	Quinte Conservation Authority (QCA)
Other Potentially Interested Parties	Crowe Lake Waterway Association
	Fleming College
	Havelock & District Snowmobile Club
	Hydro One
	Independent Electricity System Operator (IESO)
	Loyalist College
	Marmora Tourism Centre
	Nogojwanong Friendship Centre
	Ontario Federation of Anglers and Hunters
	Ontario Sustainable Energy Association
	Ontario Waterpower Association
	PTBO (Peterborough) Trails ATV Club
	Trent Source Protection Coalition
	Trent University
Utility Companies	

Previous engagement with community members and locally elected officials has included council presentations, open houses, and site tours, which have provided a platform for information sharing. The Project continues to garner support from the Municipality of Marmora, including community members, associations and businesses, Hastings County, and the Eastern Ontario Wardens' Caucus.

Members of the public, agencies and other interested parties will be kept informed of all outcomes, decisions and opportunities for input as they arise. Reporting will be offered in various formats to ensure information remains transparent and easily accessible. Information regarding the Project was disseminated to various stakeholders and the public through the following means:

- project website (www.marmorapumpedstorage.com) re-launched November 2022
- email
- e-newsletter (bi-annual)
- social media
- open houses (bi-annual)
- community meetings
- site tours
- community event participation
- roundtable discussions
- focus groups newspaper
- radio
- media releases.

The Project hosted a Community Information Session in Marmora and Lake on December 15, 2022. An all-agency meeting (including federal, provincial and municipal agencies, and conservation authorities) was held on February 24, 2023. These sessions provided an opportunity to discuss the Project background, history, pumped storage, dewatering, alternatives considered, the preliminary preferred transmission route, environmental features, ongoing and planned investigation programs, permits and approvals and project benefits.

The following preliminary key comments and concerns have been expressed by the stakeholders who have been consulted to date:

- Conservation authorities: consideration for hydrology within their watersheds as well as thermal considerations should Open Pit waters differ from the receiving waters.
- Community members: potential for impacts to water wells and surface water, upper reservoir design and safety, job opportunities, noise and light pollution.

10. Next Steps

An Indigenous Engagement Plan, Community Engagement Plan and Agency Engagement Plan have been prepared to outline the strategy for engagement activities as the Project progresses. NPI/OPG plans to perform a social impact assessment that will consider Indigenous perspectives, including traditional knowledge.

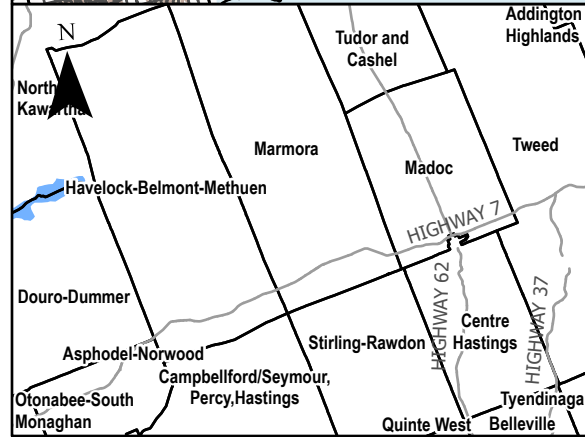
Future engagement with Indigenous communities may include:

- assistance with baseline investigations and building Indigenous values into site investigations
- incorporating Indigenous knowledge into the baseline characterizations
- a site tour in Summer 2023.

Future engagement with the public and other parties may continue to include:

- sharing updates via the Project website, emails, e-newsletters, radio, and social media
- community information sessions (Summer and Fall 2023)
- open houses, community meetings, site tours.

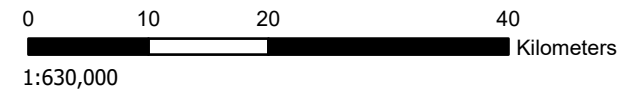
NPI/OPG continues to conduct ongoing investigations, engineering studies and engagement activities to support Project decision-making. Notices of Commencement for the Project will be issued by IAAC and MECP following submission and acceptance of the DPD (IAAC) and draft ToR (MECP).



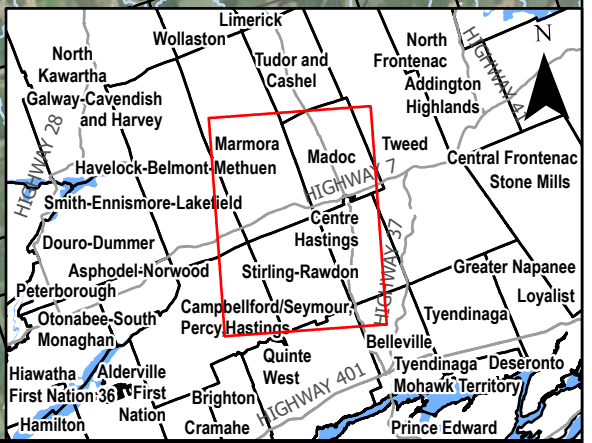
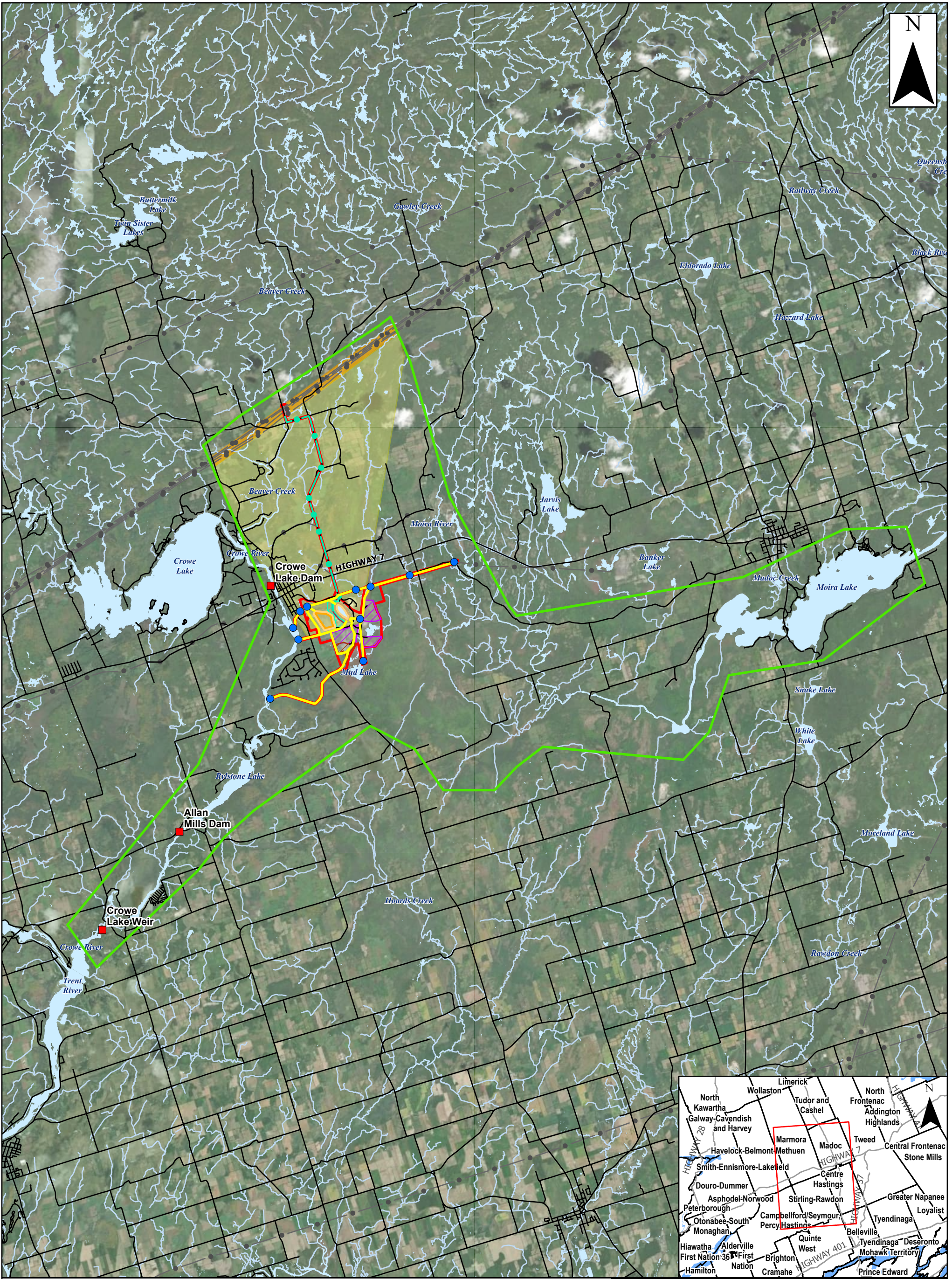
Legend

- Proposed Project Location
- Road
- Built Up Area
- Municipal Boundary
- Waterbody
- First Nations Reserve (Land Information Ontario)
- Trent-Severn Waterway - Parks Canada Agency Jurisdiction
- Canadian Forces Base Trenton

- Notes
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PROJECT: Marmora Clean Energy Hub Project				
FIGURE TITLE: Project Location, Indigenous and Federal Lands				
CLIENT: 				
DWG BY: J. VILLELLA	CHK BY: C. COUGHLIN	FIG NO.: 1-1	REV NO.: 3	PROJECT No.: H-369550
DATE: 23/04/03	PAGE: 1 of 1			



Legend

- Proposed Project Location
- Dam
- Potential Discharge Location
- Potential Water Conveyance Infrastructure
- Preliminary Preferred Transmission Line
- Road
- Operational Access Road
- Existing Transmission Line
- Watercourse
- Reservoir Location
- Construction Laydown / Facilities Area
- Proposed Operations Infrastructure & Switch Yard
- Potential Ground Mount Solar Areas
- Waterbody
- Preliminary Preferred HONI Transformer Location
- Potential Hydro One Interconnection Zone
- Potential Transmission Line Zone
- Preliminary Local Study Area

Notes

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PROJECT:

Marmora Clean Energy Hub Project

FIGURE TITLE:

Project Components Layout

CLIENT:



DWG BY:

J. VILLELLA

CHK BY:

C. COUGHLIN

FIG NO.:

1-2

REV NO.:

3

PROJECT No.:

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23/04/03

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