WESTCHESTER WIND PROJECT

ADDENDUM TO THE ENVIRONMENTAL ASSESSMENT REGISTRATION DOCUMENT

December 15, 2022

Natural Forces Developments LP

1801 Hollis St Suite 1205
Halifax, NS B3J 3N4
naturalforces.ca

Candace Quinn
Environmental Assessment Officer
Environmental Assessment Branch
Nova Scotia Environment and Climate Change
Suite 2085, 1903 Barrington St
Halifax, NS
B3J 2P8

Re: Additional Information Request Submission for the Westchester Wind Project

December 15, 2022

To Ms. Candace Quinn,

Natural Forces Developments Limited Partnership (Natural Forces) is presenting an addendum and associated appendices to the Environmental Assessment Registration Document registered on February 23, 2022 for the proposed Westchester Wind Project (Project). The Project is being developed in partnership with Wskijnu'k Mtmo'taqnuow Agency Limited (the Agency), a corporate body wholly owned by the 13 Mi'kmaw bands in Nova Scotia. Together, Natural Forces and the Agency are developing the Project and will co-own and operate the Project.

This document addresses the Minister's request for additional information issued on April 14, 2022. To facilitate the review, Section 1.2 presents a table of concordance as a guidance through the six points of further clarification the Minister requested. This submission also identifies and describes any minor changes and updates to the proposed Project. All documentation is being provided in hard copy and electronically. The electronic version is divided into separate documents to ensure clarity while satisfying the requirement that each document be no larger than 10 MB. A bank draft in the amount of the fee of $5,573.20 as prescribed under the *Environment Act* has also been provided with this submission.

Thank you for your time in reviewing the additional documentation. Please do not hesitate to contact me if further information is required or the reviewers have any questions.

Sincerely,

Megan MacIsaac, B.Sc.
Project Developer
Natural Forces Developments Limited Partnership

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List of Acronyms

28T layout	Layout of all 28 proposed turbine locations with associated infrastructure, of which only 12 turbines and associated infrastructure are being proposed for construction
12T layout	Representative 12 turbine locations with associated infrastructure
AC CDC	Atlantic Canada Conservation Data Centre
agl	Above ground level
AIR	Additional Information Required
AMP	Adaptive Management Plan
ARIA	Archaeological resource impact assessment
ATV	All-terrain vehicles
CCME	Canadian Council of Ministers of the Environment
CMM	Confederacy of Mainland Mi'kmaq
COWESIC	Committee on the Status of Endangered Wildlife
CWS	Canadian Wildlife Services
dbh	Diameter at breast height
DO	Dissolved oxygen
DFO	Fisheries and Oceans Canada
DWA	Deer Wintering Area
DWC	Diurnal Watch Count
EA	Environmental Assessment
EA branch	Environmental Assessment Branch
EARD	Environmental Assessment Registration Document
ECCC	Environment and Climate Change Canada
ELC	Ecological Land Classification
EMPP	Environmental Management and Protection Plan
ESA	Environmentally Sensitive Areas
GIS	Geographic Information System
ha	Hectares
IBA	Important Bird Area
IBoF	Inner Bay of Fundy
IEC*	International Electrotechnical Commission
LAA	Local Assessment Area
MET	Meteorological tower
NSESA	Nova Scotia Endangered Species Act
NSDLF	Nova Scotia Department of Lands and Forestry
NSDNRR	Nova Scotia Department of Natural Resources and Renewables
NSDNRR-LAD	Nova Scotia Natural Resources and Renewables Land Administration Division
NSECC	Nova Scotia Environment and Climate Change
NSESA	Nova Scotia Endangered Species Act
NSL	Nocturnal Survey Locations
PDA	Potential Development Area

PPP	Power purchase agreement
SAR	Species at Risk
SARA	Species at Risk Act
SCADA	Supervisory control and data acquisition
SoCC	Species of Conservation Concern
VEC	Valued environmental component
WAM	Wet areas mapping
WESP-AC	Wetland Ecosystems Services Protocol for Atlantic Canada
WMZ	Wildlife Management Zones
WSS	Wetland of special significance
WTG	Wind turbine generator

1 Introduction

The Westchester Wind Project (the Project or the Undertaking) is being developed by Natural Forces Developments Limited Partnership (the Proponent or Natural Forces) on behalf of the Westchester Wind Limited Partnership, a partnership between the Proponent and Wskijnu'k Mtmo'taqnuow Agency Limited, a corporate body wholly owned by the 13 Mi'kmaw bands in Nova Scotia. The purpose of the proposed Undertaking is to construct up to 12 wind turbine generators (WTGs) with an installed capacity of up to 50 MW and their associated infrastructure in Cumberland County.

An Environmental Assessment Registration Document (the EARD) for the Project was submitted on February 23, 2022 to the Minister of Environment and Climate Change in Nova Scotia (the Minister). In conclusion to the thorough review of the EARD, the Minister issued a decision on April 14, 2022 of Additional Information Required (the AIR).

This document is an Addendum to the EARD (the Addendum), in response to the AIR issued by the Minister. As such, this Addendum provides responses to each information request listed in the AIR, including additional studies to evaluate the potential environmental impacts caused by the Project.

This Addendum outlines the additional information requested by the Minister and is aligned with discussions and feedback from regulatory stakeholders. Relevant information from the EARD pertaining to the AIR has been included in this Addendum to facilitate review.

1.1 Proponent Description

Name of Project	Westchester Wind Project
Name of Proponent	Natural Forces Developments Limited Partnership
Joint Registry of Stocks Full Name of Proponent	Natural Forces Developments GP LTD., Natural Forces Technologies Inc., 3261507 Nova Scotia Limited, Natural Forces Wind Inc., and Natural Forces Assets Limited Partnership, carrying on business as Natural Forces Developments Limited Partnership
Joint Registry of Stocks ID Number	3324453
Mailing and Street Address of Proponent	1205-1801 Hollis Street, Halifax, NS, B3J 3N4
Director – Canadian Developments	Amy Pellerin
Proponent's Contact Person for the purposes of this EA Registration	Megan MacIsaac Project Developer at Natural Forces mmacisaac@naturalforces.ca (902) 422-9663 (Phone) (902-422-9780) (Fax) naturalforces.ca

Signed by Amy Pellerin

On behalf of Natural Forces Developments Limited Partnership in acceptance the contents of the Addendum to the Environmental Assessment Registration Document

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1.2 Concordance – Minister's AIR

The Minister's AIR included a list of requests for additional information all of which are answered within this Addendum. To facilitate review of the Addendum, a table of concordance, **Table 1** below, details the sections within this Addendum where each request for information included in the AIR is addressed.

In addition to addressing the AIR, the Proponent has provided responses the comments from the regulator that informed throughout the Addendum.

To understand the details of how the specific regulator comments were addressed within the Addendum, a secondary table of concordance is included in **Appendix A**.

The methods, results and mitigation measures presented in this Addendum were prepared in consultation with the corresponding regulators.

TABLE 1: CONCORDANCE

#	Information Requested	Addendum Section
1.	In consultation with Natural Resources and Renewables (NSDNRR) Wildlife Branch, and Environment and Climate Change Canada, Canadian Wildlife Service provide:	----
a.	Additional details for all flora and fauna surveys including but not limited to methodology, timing and duration, coverage, weather conditions, equipment used, and incidental species observances, particularly for Species at Risk (SAR).	3.1.1 Terrestrial Habitats and Vegetation 3.1.2 Terrestrial Wildlife 3.1.2.3 Mainland Moose Field Assessment 3.1.3 Wetlands 3.1.4.1 Watercourses and Fish Habitat 3.1.4.2 Turtles and Turtle Habitat 3.1.5 Birds and Bird Habitat 3.1.6 Bats and Bat Habitat 3.1.7 Species at Risk Appendix B – Vegetation and Lichen Appendix C – Wildlife Appendix D – Wetlands Appendix E – Watercourses and Fish Habitat Appendix F – Turtles and Turtle Habitat Appendix G – Birds and Bird Habitat Appendix H – Radar and Acoustic Monitoring Appendix I – Bats and Bat Habitat Appendix J– Mainland Moose Appendix K – AC CDC Reports
b.	Details and results of additional flora and fauna surveys, if required.	3.1.1 Terrestrial Habitats and Vegetation 3.1.2 Terrestrial Wildlife 3.1.2.3 Mainland Moose Field Assessment 3.1.3 Wetlands 3.1.4.1 Watercourses and Fish Habitat 3.1.4.2 Turtles and Turtle Habitat

#	Information Requested	Addendum Section
		3.1.5 Birds and Bird Habitat 3.1.6 Bats and Bat Habitat 3.1.7 Species at Risk Appendix B – Vegetation and Lichen Appendix C – Wildlife Appendix D – Wetlands Appendix E – Watercourses and Fish Habitat Appendix F – Turtles and Turtle Habitat Appendix G – Birds and Bird Habitat Appendix H – Radar and Acoustic Monitoring Appendix I – Bats and Bat Habitat Appendix J– Mainland Moose Appendix K – AC CDC Reports
c.	Assessment of potential impacts to terrestrial and aquatic habitats and wildlife, including SAR, that may be impacted by the project and include proposed mitigation measures.	3.2.2 Terrestrial Habitats and Vegetation 3.2.3 Terrestrial Wildlife 3.2.3.1 Mainland Moose 3.2.4 Wetlands 3.2.5.1 Watercourses and Fish Habitat 3.2.5.2 Turtles and Turtle Habitat 3.2.6 Birds and Bird Habitat 3.2.7 Bats and Bat Habitat 3.2.8 Species at Risk Appendix N – Adaptive Management Plan Appendix O – Environmental Management and Protection Plan
2.	In consultation with ECC Wetland Specialist provide:	----
a.	Functional assessments for wetlands in the project boundary and information to determine Wetlands of Special Significance.	3.1.3 Wetlands Appendix D – Wetlands
b.	Details of each wetland in the project boundary in relation to project infrastructure, including details of any proposed wetland alterations	2.2.1 Spatial Boundaries 3.1.3 Wetlands Appendix D – Wetlands
c.	Proposed mitigation and monitoring for wetlands.	3.2.4 Wetlands
3.	In consultation with Fisheries and Oceans Canada provide fish and fish habitat surveys for watercourses and wetlands in the project area. Provide details of each watercourse and wetland in the project boundary in relation to project infrastructure, including any proposed watercourse and wetland alterations.	2.2.1 Spatial Boundaries 3.1.3 Wetlands 3.1.4.1 Watercourses and Fish Habitat 3.2.4 Wetlands 3.2.5.1 Watercourses and Fish Habitat 3.1.7 Species at Risk Appendix D – Wetlands Appendix E – Watercourses and Fish Habitat
4.	Provide justification for the noise assessment methodology used and how the modelling software addresses these larger scale commercial wind-turbines (5 MW) and their	4.1 Sound Level Assessments 4.2 Potential Interactions and Mitigations Appendix L – Sound Level Assessment

#	Information Requested	Addendum Section
	sound level outputs at the nearest receptor locations. Refer to Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise (Health Canada, 2017) as necessary. The noise assessment should also ensure the modulation of sounds from operations, low frequency noise, proposed mitigation and monitoring.	
5.	In consultation with ECC Protected Areas and Ecosystems Division provide an analysis of potential impacts to biodiversity values and land-scape scale ecological connectivity from habitat fragmentation. Identify any associated mitigation measures.	3.1.2.1 Mainland Moose Field Assessment 3.1.7 Species at Risk 3.2.3.1 Mainland Moose 3.2.8 Species at Risk 5 Biodiversity Values and Ecological Connectivity Appendix J – Mainland Moose Appendix K – AC CDC Reports
6.	Provide the final Archaeological Resource Impact Assessment, reviewed and approved by Nova Scotia Communities, Culture, Tourism and Heritage.	6.1 Archaeological Resource Impact Assessment 6.2 Potential Interactions and Mitigations Appendix M – Archaeological Resource Impact Assessment

1.3 Project Layout Updates

The EARD submitted in February 2022 proposed 16 potential turbine locations of which 12 locations would ultimately be selected for construction. These turbine locations were selected to allow flexibility within the Project's design once the Project moved into its pre-construction phase.

Since then, a number of additional potential turbine locations have been identified within the Project site beyond the 16 original turbine locations to add further flexibility to determining the final layout. These additional potential turbine locations are included in this Addendum. It remains that only 12 of the proposed turbine locations and associated infrastructure will be selected for construction.

These layout changes were presented to the Nova Scotia Environment and Climate Change's Environmental Assessment Branch (EA branch) in a letter submitted by the Proponent on August 29, 2022 detailing the Project layout updates. Additionally, the Proponent then met with the EA branch on September 15, 2022 to further discuss the layout changes and updates.

All the turbine locations in the Project layout were studied by means of environmental surveys in 2022 as per the AIR. Results of the environmental surveys are included in this Addendum. The proposed Undertaking includes the construction of up to 12 WTGs, which will be selected from a total of 28 proposed locations as described in the Addendum, and the associated infrastructure. The 28 proposed turbine locations include the 16 potential turbine

locations included in the EARD. This approach allows flexibility in determining which locations would be most suitable to develop while balancing varying constraints including, but not limited to, impacts to cultural, social and environmental features, site constructability, and wind resource.

All 28 turbine locations and their associated infrastructure presented as Project updates are located within the original Project Site as described in the EARD. All turbine locations are in very similar habitats to the areas studied in 2021. Seven of the 12 additional proposed turbine locations and their associated infrastructure are adjacent to turbines presented in the EARD. The remaining five additional proposed turbine locations are on forested lands owned by an active forestry company, close to turbines presented in the EARD. All the turbine locations are setback at least 1 km from all residences. None of the additional proposed turbines are closer to any residences than the 16 proposed turbine locations presented in the EARD.

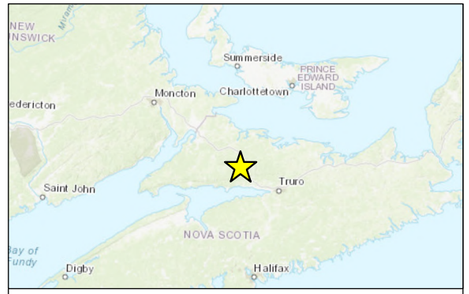
Figure 1 is a map showing the 28 proposed turbine locations and associated infrastructure (the 28T Layout).

To ensure realistic data are presented in this Addendum, 12 of the proposed 28 turbine locations being assessed have been selected as the "Representative 12T Layout", shown in **Figure 2**. The 12T Layout was used for all models and calculations that required a specific representation of the total Project footprint. However, it remains that all 28 proposed turbine locations are being permitted in order to allow for flexibility in which locations will be constructed. All field studies were carried out considering the 28T Layout. For clarity throughout the Addendum, the following terms are defined below:

- 28T layout = The layout of all 28 proposed turbine locations with associated infrastructure, of which only 12 turbines and associated infrastructure would be constructed.
- Representative 12T layout = representative 12 turbine locations with associated infrastructure.

Westchester Wind Project Addendum

Project Layout



Legend

- Proposed Turbine Locations
- Proposed Substation Location
- Roads to be Upgraded
- Proposed Access Roads
- Proposed Interconnection Line
- Proposed Collector Network
- Transmission Line
- Property Lines
- Proposed Easement on Crown Land Parcel 25089210
- Highway
- Watercourse
- Waterbody

Notes

1. 28 turbine locations are being considered for the project. Only up to 12 turbine locations and their associated infrastructure would be developed as part of the Project.
2. All field studies were carried out considering the 28T Layout.
3. Final layout subject to change based on remaining permitting processes in discussion with NSECC and other applicable regulators.
4. Turbine markers are not to scale.

Sources

- Basedata provided by the Province of Nova Scotia
- Basemap: ESRI World Topo Map

N

0 500 1,000 1,500

Metres

Scale: 1:25,000

Spatial Reference: NAD 1983 UTM Zone 20N

Page Size: 11" x 17"

Production Date: Dec 13, 2022	Prepared By: Alex Torrealba

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Westchester Wind Project Addendum

Representative Project Layout

T1 T2 T3 T4 T5 T6 T7 T8 T9 T10 T11 T12

Legend

- Proposed Turbine Location
- Proposed Substation Location
- Roads to be Upgraded
- Proposed Access Roads
- Proposed Collector Network
- Proposed Interconnection Line
- Transmission Line
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Notes

1. To ensure realistic data are presented in this Addendum, 12 of the proposed 28 turbine locations being assessed have been selected as the "Representative 12T Layout. It remains that all 28 proposed turbine locations are being permitted in order to allow for flexibility in which locations will be constructed.
2. Final layout subject to change based on remaining permitting processes in discussion with NSECC and other applicable regulators.
3. Turbine markers are not to scale.

Sources

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1.4 Project Description

1.4.1 Geographical Location

The Project is located in Cumberland County near the community of Westchester Station. It is situated on privately owned lands used for blueberry farming, forestry, maple groves, and recreation (i.e. snowmobile trails) save for a small portion of road location on Crown Land.

The blueberry farming lands spread across rolling hills covered in wild blueberries which are harvested on a bi-annual cycle. The forestry activities include previously forested land at varying stages of regeneration, as well as undeveloped forested lands owned by forestry companies. There is a maple grove on the lands however the grove will not be impacted by the Project layout. A small portion of provincial Crown Land will be required for the Project limited to a 300 m easement to allow for the use of an existing road.

The Project site was selected due to the existing mixed anthropogenic land uses and impacts over these areas, in order to minimize impacts to undeveloped lands as much as feasible.

1.4.2 Physical Components of the Project

The footprint of the representative 12T layout for the Project is detailed in **Figure 2**. Once the Project is constructed, all temporary works will be removed and the lands used specifically for construction activities will be restored, which will reduce the footprint for the operational life of the Project. **Table 2** is a summary of the Project footprint by phase assuming the representative 12 turbine layout (**Figure 2**). The 12T Project footprint is estimated to be approximately 74 ha during construction and approximately 47 ha for the operational life of the Project.

TABLE 2: FOOTPRINT SIZES OF PROJECT PHYSICAL COMPONENTS FOR THE REPRESENTATIVE 12T LAYOUT

Infrastructure	Construction Footprint (ha)	Operational Footprint (ha)	Infrastructure Length (km)
New roads without collector lines (6 m)	7.56	2.16	3.6
New roads without collector lines (12 m)	6.64	2.44	2.21
Existing roads without collector lines (6 m)	0.84	0.28	0.46
New roads with collector lines (12 m)	26.71	16.69	6.68
Existing roads with collector lines (6 m)	5.90	3.93	1.97
Cross country collector line	7.89	5.91	3.94
Transmission line	5.95	2.97	1.98
Turbine foundations	12.00	12.00	
Substation	1.00	1.00	-
Total	74.48	47.38	-

1.4.2.1 Access Roads

As described above, the access roads for the Project will range from 6 to 12 m wide with a maximum width of 15 m in areas to facilitate moving large turbine components (i.e., to

navigate turning radii on turns). The access roads will be used to move workers and equipment about the site during construction, operation and decommissioning phases.

New Access Roads

The new access roads are anticipated to involve the removal of soil to a depth of between 0.25 and 1.0 m (depending on the ground conditions encountered during the geotechnical investigations) and placing layers of crushed stone. The stone is usually compacted, with a finished construction depth between 0.25 and 0.5 m, again dependent on the strength of the underlying ground formation. The internal site roads will be maintained in good condition during construction and throughout the lifetime of the Project to facilitate maintenance and ongoing environmental studies. The Proponent will work with landowners to determine if the roads will be left in place following the eventual decommissioning of the Project.

The removed topsoil would be stored in accordance with best practice guidelines, and later used for site restoration. Soil needed for backfill would be stored temporarily in low bunds adjacent to the excavations until needed. Any remaining excavated material would be shaped into fill slopes in the roadbed or removed from site to an approved landfill or disposed of appropriately.

Existing Access Roads to be Upgraded

The Project has many existing roads currently used for agricultural, forestry, and recreational purposes. It is anticipated that approximately 6 km of existing roads can be used with minor upgrades (based on the 28T layout). However, portions of existing roads may need to be widened to support large truck and material movements and turning radii of the turbine components. The process for upgrading roads is similar to that of constructing new roads, however, clearing and grading is only required where roads need to be widened, which will minimize the area of new disturbance from the Project.

Transmission Line Access Roads

In addition to the main Project access roads that will be used to transport WTG parts and used by construction crews, there is also a need for access routes into the new proposed transmission line. Roads into the transmission line corridor would be temporary for gaining access during construction and would be approximately 6 m in width. A road approximately 4 m wide along the new transmission line corridor may be maintained during the lifetime of the project to facilitate maintenance.

1.4.2.2 Crane Pads

The installation of the WTGs will require crane pads that will be approximately 70 m by 70 m in size. The crane pad is required to safely accommodate the weight of the large crane necessary for turbine installation and maintenance. Each WTG location will be designed to support the arrangement of the crane pad and the turbine foundation on the topographical constraints of the Project site.

Construction of the main crane pads will involve the removal of soil to a depth of between 0.25 – 0.5 m, depending on the ground condition encountered during the geotechnical

investigation. The subsoil will be covered by layers of graded crushed stone. Total construction depth is between 0.25 and 0.5 m, dependent on the characteristics of the underlying geological formations.

The crane pads will be retained throughout the operation and decommissioning phases of the Project to allow for periodic WTG maintenance, and to accommodate any crane necessary should any large components require replacement. The crane pads may also be utilized during the decommissioning phase of the Project.

1.4.2.3 Turbine Foundations

It is anticipated that concrete foundations approximately 20 m in diameter will be required for each WTG. A detailed geotechnical investigation will be undertaken at each WTG location to evaluate the nature of the soil and substrate characteristics. A registered Professional Engineer will design the foundations in accordance to the specific geological conditions of the turbine locations.

The construction of the reinforced concrete foundations will include excavation to a depth of approximately 3 meters, the placement of concrete forms and steel reinforcement, and the pouring of concrete within the forms. The upper surface of the base will lie approximately 1 m below ground level. Rock chipping and blasting is anticipated to be required to facilitate excavation. A concrete batch plant on site may also be required during the construction of turbine foundations.

The central support pedestal for each foundation would extend 0.20 m above existing ground level to receive the bolted bottom tower section. Suitable excavated material would be compacted in layers on top of the concrete foundation to terminate in line with the existing ground level, leaving room to allow sufficient topsoil reinstatement for vegetation growth. The foundations will be regularly inspected for any signs of deterioration during the operational phase.

The soils removed will be stored in accordance with provincial regulations and best practice guidelines. They will not be stored within 30 m of streams or wetlands, and will be replaced during the restoration phase. Soil material needed for backfill will be stored temporarily in a designated area adjacent to the excavation location until needed. Any remaining excavated material will likely be recycled to another site needing clean fill material or graded into the natural slope of the surrounding site.

1.4.2.4 Wind Turbine Generators

As previously described, Natural Forces is proposing 28 potential turbine locations for the Project, with the intent to construct up to 12 of these locations. Turbine locations will be finalized by balancing varying constraints including, but not limited to, impacts to cultural, social and environmental features, site constructability, and wind resource.

Each WTG has an individual generating capacity of 4.2-6.2 MW for a total Project capacity of up to 50 MW. There are a variety of turbine models being considered for the Project. The specification range for features of models under consideration, which are designed and certified according to the latest international standards, are summarized in **Table 3**. Currently the basis for design is the International Electrotechnical Commission (IEC)

standards of the IEC - 61400 series. From base to blade tip, the WTGs under consideration have maximum heights of 200 m.

TABLE 3:TURBINE SPECIFICATIONS

Feature	Range Under Consideration
Rotor diameter	138 – 170 m
Swept area	15,000 – 23,000 m^2
Rotations per minute	Up to 12 rpm
Cut out wind speed	Up to 32 m/s
Hub height	100 – 131 m
Maximum sound pressure level	Up to 107.6 dB(A)
Tower material	Steel or concrete
Colour	White

All turbines will be monitored remotely 24/7 in real-time by a team of operators from the manufacturer. Natural Forces' operations team will also monitor the turbines from Halifax, Nova Scotia. The operators will have the ability to remotely shut off the turbines should they observe conditions that could pose a risk to the turbines' proper functioning or risk to people or wildlife near the turbines. Ice may form on the rotor blades of WTGs in specific weather conditions. The ice build-up poses the risk of ice fragments detaching and creating safety hazards to the surrounding area. All turbines considered will be equipped with a reliable ice detection system. Once ice has been detected, the turbine rotor stops spinning, and will remain stopped until the ice has been melted, which will occur either passively through a natural melting process based on climatic conditions or actively with a de-icing system that heats and melts the ice on the WTG blade. This effectively reduces the risk of ice throw.

1.4.2.5 Lighting

A Lighting Plan for the turbines will be developed and approved by Transport Canada and shared with Canadian Wildlife Services (CWS) to minimize impacts on migrating birds while ensuring aviation safety. The lighting plan will comply with Transport Canada recommendations and Standard 621 – Obstruction Marking and Lighting - Canadian Aviation Regulations (Transport Canada 2021). Chapter 12 of the standard outlines regulations for wind turbines greater than 150 m. The current standard requires two CL-864 (medium intensity, flashing red – 20-40 flashes per minute) lights installed on the nacelle with one operating and one as a back-up. At least three CL-810 (low intensity, flashing red in sequence with nacelle) lights are also required mid-way up the tower (half of the nacelle height) and are to be visible in all directions. These types of lights are likely to be used for the Project but will be adjusted as per Transport Canada recommendations.

The standard that requires lighting midway up the tower came into effect in 2016 and follows European practices for tall structures. This standard has been improved from the European practice by implementing flashing, instead of steady burning lights. This change was recommended from the Federal Aviation Administration's technical report on Evaluation of New Obstruction Lighting Techniques to Reduce Avian Fatalities (Patterson 2012).

1.4.2.6 Electrical Works

The electricity produced from the WTGs will be stepped-up from 34.5 kV to 138 kV at the substation via the main step-up transformer(s). Each wind turbine has a small pad mount transformer located inside the tower that initially steps up the voltage to 34.5 kV. A bare copper earthing (grounding) cable will be laid alongside the WTG foundation for lightning protection; grounding will also be installed at other areas as determined by the electrical design. The electrical, communications and grounding cables will leave the WTG foundations below grade. This will be installed according to the design engineer's specification. Typical design will require the cables to be installed by the direct buried method consisting of excavation of a trench with a minimum depth of 1.2 m, placement of a layer of sand, then the collection system cables, earthing and fibre optic cable which are then covered by another layer of sand. Clean aggregate, as specified by the design engineer, will then be placed on top of the sand as the trench is filled back in.

Caution tape, stating "Danger Underground Electrical Cable" will be placed along the full length of the trench at approximately 0.15 m below the finish grade. Any buried electrical cable will likely be marked with permanent safety signs to warn of potential hazards from excavation. The size, type and location of the marker signs will be determined in consultation with the Land Services Branch and be in accordance with applicable safety standards.

1.4.2.7 Interconnection to Grid

The Project will be connected to the existing Nova Scotia Power 138 kV transmission line as determined feasible by Nova Scotia Power through the completion of their feasibility study. The planned interconnection will require up to approximately 2 km of new 138 kV line and a single-breaker switching substation. The substation will include one 138 kV circuit breaker and associated switches, a small control building and protection system, and communications and control between the point of interconnection switching substation and the Nova Scotia Power supervisory control and data acquisition (SCADA) system.

1.4.2.8 Turbine Installation

The main WTG components include the tower sections, nacelle, generator, stator, hub and blades. Towers are typically delivered in six large sections, sometimes divided into small panels and assembled on site, if using conventional steel towers or numerous smaller sections if using the pre-cast concrete variety. Once delivered, the tower sections will be erected in sequence on the WTG foundations using a 110 tonne assist crane, 500 tonne base and mid-tower install crane and a large 600 tonne main lift crane. The 500 tonne crane will erect the base and lower midsection of the towers and the main crane will erect the upper-midsection, the tower top section, the nacelle, generator, stator, hub and the blades. Pre-assembly activities will involve the use of a couple small 60 tonne cranes. The blades are attached one at a time on the hub which will already be installed on the nacelle.

1.4.3 Setbacks and Separation Distances

The Project layout allots for the following setbacks from all proposed WTG locations:

- >30 m from wetlands and watercourses;
- > 1 km from all residential dwellings and cabins;

- 16 km to nearest Important Bird Area (IBA) Cobequid Bay;
- 15.8 km to the nearest Provincial Park (Wentworth Provincial Park);
- > 12 km to Provincially Protected Nature Reserves (Montrose Nature Reserve and Steepbank Brook Nature Reserve);
- > 1 km to the nearest Wilderness Area (Portapique River Wilderness Area);
- > 1 km to nearest Special Management Practice Zone (1.8 km from the nearest deer wintering area);
- > 1 km nearest mapped significant habitat (i.e., 1.8 km from the nearest deer wintering area and 1.7 km to critical habitat for a species at risk); and
- > 5 km to known bat hibernacula.

1.4.4 Schedule

The approximate proposed schedule for the construction activities is presented in **Table 4**. Preconstruction activities and clearing could begin as early as Q2 2023 with operation of the Project in Q4 2024.

After the initial tree and land clearing and earth works activities for the construction of the Project are complete the following main construction activities will occur:

- Construction of access roads, crane pads and lay down areas;
- Construction of the turbine and substation foundations;
- Installation of electrical infrastructure (i.e., power poles, power lines and underground electrical, transmission lines and substation);
- Turbine installation;
- Commissioning of the WTGs; and
- Removal of all temporary works and restoration of the site.

Construction activities will be limited to daytime hours when feasible. The overall erection process for the WTGs will take approximately six to eight days each, depending on the wind conditions, and will not start until suitable wind conditions prevail. Turbines cannot be erected when wind speeds exceed approximately 8 m/s, and the optimal time for assembly often occurs during the early evening. As a result, some construction in the early evening and night is possible during this stage of construction, however, it will be minimized to the extent possible.

TABLE 4: PROJECT SCHEDULE

Phase	Activity Start Date
Phase I - Planning, Site Preparation and Construction, Site Restoration	
- Clearing and Grubbing	Q2 2023
- Civil Works	Q2 2023
- Turbine Foundation	Q4 2023
- Electrical Works	Q4 2023
- Turbine Installation	Q4 2023
- Commissioning	Q1 2024
- Removal of all temporary works and restoration of the site	Q2 2024 Q4 2024
Phase II - Operation and Maintenance	
- Turbine Operation	Q4 2024
- Inspection and Maintenance	Q4 2024
Phase III - Decommissioning, Infrastructure Removal and Site Reclamation - Infrastructure Removal - Site reclamation	25+ years after commissioning

1.4.5 Planning, Site Preparation and Construction

Site Access

The main site access is from Westchester Road off Highway 104. The majority of the access roads will make use of existing designated roadways and private roads but may require upgrades to support oversized vehicle movements. An easement over an approximately 300m section of existing road on provincial crown land will be required, for which an application has already been submitted. Using existing roads allows the Project to significantly minimize its footprint and potential impacts to the environment. Minor temporary road widening may be required along specific portions of provincially maintained roads allowing for wider turn widths. This road widening will be coordinated with Nova Scotia Public Works, the Municipality of Cumberland Public Works Department, and Nova Scotia Natural Resources and Renewables Land Administration Division (NSDNRR-LAD), and necessary permits will be acquired before commencing work. Westchester Road will mainly be the entry point for all workers, construction equipment and WTG components for the duration of the construction phase (Error! Reference source not found.).

Clearing, Grubbing and Earth Works

Clearing, grubbing and earth works activities will be planned to occur outside of the breeding bird season where possible. If clearing is required during the breeding bird season, a qualified biologist will be onsite prior to starting the activities to conduct monitoring to identify possible breeding birds in the area and their active nests. These monitoring efforts will follow Environment and Climate Change Canada's (ECCC) specific considerations related to determining the presence of nests. A biologist will observe the bird species in the area and

determine if there is presence of suitable nesting habitat within the proposed clearing area. As well, they will observe bird behaviour including, but not limited to, territorial males and individuals carrying food to determine the potential for active nests in the area.

Additionally, the results of the bird surveys completed as part of this assessment will be reviewed to identify species of ground nesters that have been observed at the Project. A large portion of the Project lands has been previously cleared during forestry activity and should ground nesters be found to reside in the Project area during the construction phase, daily nest searches will be conducted prior to construction activities that may impact ground nesters.

Fill Material

Fill material will likely be sourced on site based on desktop geotechnical information and site visits and will be coordinated by the Project's construction manager and civil contractor. Should wetland crossings be required during the construction of access roads, the Proponent will engage in ongoing consultation with the Nova Scotia Environment and Climate Change (NSECC) to determine the proper alteration applications required and applicable wetland compensation. The Proponent is committed to following the proper measures as indicated by NSECC.

Traffic Control

Traffic on site roads will need to be managed if forestry and agricultural activities are still ongoing along the internal site roads throughout the duration of all phases of the Project. Traffic control signs (such as stop and yield) will be installed at the access road intersections. A speed limit of 30 km/h will be posted at site access locations.

Site Restoration

After construction, turbine erection, and commissioning are completed and the Project is in the operation phase, all temporary works will be removed and the land re-graded. The stored topsoil will be replaced, graded and given an aesthetically pleasing appearance. In consultation with the landowners, any revegetation of a reclaimed site will be either naturally occurring or use native local vegetation to minimize the potential for habitat loss and invasive species spread.

1.4.6 Operation and Maintenance

Site Access and Traffic

Once the Project is operational, minimal vehicle activity will be required. The internal site roads will be used for periodic maintenance and safety checks. A SCADA system will be installed within the turbines for remote monitoring and control of the wind turbines, which will minimize the need for on-site personnel. The SCADA system ensures safe efficient operation of the turbines and of the overall Project site.

Project Safety Signs

Project signage will be located at the entrance to the site. These signs will provide essential safety information such as emergency contacts and telephone numbers. As well, the signs will provide information about the Project and the companies involved in the Project. Safety signs and information will also be installed throughout the Project Site as required. These signs will be maintained throughout the operational life of the Project.

Inspection and Maintenance

Scheduled maintenance work will be carried out several times each year throughout the operational phase in addition to routine site visits. Unscheduled maintenance is anticipated to be minimal, as the SCADA system allows 24/7 monitoring of the turbines by the manufacturer and the operations team at Natural Forces. Maintenance procedures may require the use of small or large cranes for brief periods of time, for replacement of blades or other turbine components.

Vegetation Management

Minor vegetation management will be required during operation. This management will be minimal beyond vegetation that threatens safe operation of the Project, such as any trees close to the overhead collector lines or within the WTG footing/crane pad area. Herbicides will not be used to manage vegetation on site.

1.4.7 Decommissioning

The Project will be in operation for approximately 25 years, depending on the length of the power purchase agreement (PPA) with Nova Scotia Power. There is the potential to extend the operational period if an extension to the PPA is granted, or new PPA is negotiated, and extended land agreements are secured. If an extension to the PPA is not obtained, the Project will be decommissioned by removing the infrastructure and reclaiming the site.

Infrastructure Removal and Site Reclamation

Decommissioning will commence within six to nine months after the PPA has been terminated. The decommissioning phase will require considerably lower vehicular support than during the construction phase. The following four steps are anticipated in the decommissioning phase:

1. The WTGs will be dismantled and removed from the site for scrap or resale. Based on landowner agreements, the foundation may be removed to below plough depth and/or covered over with overburden. The stockpiled topsoil will be releveled so that the land may be returned to its former use.

2. The internal site roads and site entrance may be removed if required. After removal, the land will be returned to its former use.

3. The underground cables will be below plough depth and contain no harmful substances. They may be recovered if economically attractive or left in the ground. Terminal connections will be cut back below plough depth.

4. All other equipment, including overhead collector lines and the substation, will be dismantled and removed, and the land will be returned to its former use.

Site Restoration

After the turbines have been decommissioned, all worksite infrastructure will be removed and the land re-graded for site restoration in consultation with the landowners. Site restoration, aiming to have the decommissioned site resemble the natural and/or former state of the site, will be initiated. In consultation with the landowners, any revegetation of a reclaimed site will be either naturally occurring or use native local vegetation to minimize the potential for habitat loss and invasive species spread.

1.4.8 Future Modifications or Extensions

The Proponent will sign a PPA with Nova Scotia Power, or some other entity, for approximately 25 years, which is consistent with the WTGs life expectancy. There are no future phases planned for the Project at this time. Prior to the end of the PPA, decommissioning and site reclamation plans will begin, or a new PPA may be signed with necessary maintenance occurring to extend the life of the Project. Should the life of the Project be extended beyond 25 years, the Proponent will re-engage with regulatory authorities at that time.

2 Addendum Scope and Methodology

Details of the scope of the assessment and the methods used to prepare this Addendum are provided in the sections below. Descriptions of the scope and methodology include the characterization of factors to be considered and details of the assessment of each valued environmental component (VEC). The scope and methods of the studies undertaken in 2022 were developed based on the requests made in the AIR and the comments made by the regulators regarding the EARD. Spatial and temporal boundaries have also been updated in consequence of the changes in the Project layout as submitted to the EA Branch further discussed in meetings with regulators.

2.1 Selection of Valued Environmental Components

VECs are those components of the physical, biophysical and socioeconomic environments that are of value or interest to regulatory agencies, the public, other stakeholders, and Indigenous peoples. The Project has the potential to interact with these VECs in positive and negative ways at different phases of the Project timeline.

For this Addendum, VECs were selected based on the topics included in the AIR as needing to be further expanded upon and/or needing additional studies. The VECs evaluated in the Addendum are listed in **Table 5**.

Within the following sections, the relevant excerpt from the AIR is included as part of the introduction to the VEC at the beginning of the associated section to facilitate review. Note that these sections are ordered to match the AIR items as presented by the Minister. This order does not follow the order within the original EARD.

TABLE 5: IDENTIFIED VALUED ENVIRONMENTAL COMPONENTS FOR THIS ADDENDUM

Biophysical VECs	Physical VECs	Cultural and Heritage VECs
• **Terrestrial Habitats and Vegetation** • **Terrestrial Wildlife** • **Wetlands** • **Aquatic Habitat** Including watercourses, and fish and turtle habitat • **Birds and Bird Habitat** • **Bats and Bat Habitat** • **Species at Risk** Includes potential habitat for species at risk and important ecological areas • **Biodiversity Values and Ecological Connectivity**	• **Atmospheric Environment** (Ambient Sound Levels)	• **Archaeological and Cultural Resources**

2.2 Spatial and Temporal Boundaries

2.2.1 Spatial Boundaries

The spatial boundaries of the assessment are typically based on the natural system boundaries for physical and biophysical VECs, or administrative/political boundaries for socioeconomic VECs. The assessment of potential environmental interactions with the VECs encompasses two spatial boundaries: the Potential Development Area (PDA) and the relevant local assessment area (LAA). All spatial boundaries presented in the EARD have been updated accordingly based on the AIR and the proposed updates to the Project.

Potential Development Area

The current proposed PDA consists of the assessment of the 28T layout with the intention of only constructing up to 12 of those turbines and their associated infrastructure.

The PDA is defined as the extent of all anticipated areas that could undergo physical disturbance associated with the Project. As illustrated on **Figure 3**, the PDA is defined as the area encompassed by:

- 15 m on either side of the Project roadways, both existing and new;
- 15 m on either side of the Project collector lines and transmission line;

- 75 m radius around the base of each turbine location; and,
- A 100 m x 100 m area representing the substation.

The PDA is the same for all VECs discussed within this Addendum.

Local Assessment Area

The relevant LAA for each VEC is defined as the zone of influence of the Project phases on each VEC, where environmental interactions can be predicted and measured with a reasonable degree of accuracy and confidence. The LAAs, which vary by VEC, are presented in **Table 6**. The table also specifies if the LAA has been studied through desktop research or fieldwork activities. Sources and justification (i.e., expert advice, report, or peer-reviewed research) that supports the use of LAA boundaries for biophysical VECs are also included.

The PDA and most LAAs presented here are for the 28T layout of which only 12 turbines will be constructed as part of this Undertaking. Therefore, this Addendum follows a conservative approach by overestimating the spatial boundaries for the Project, while remaining realistic when it comes to the Atmospheric Environment by using an LAA defined by the representative 12T layout.

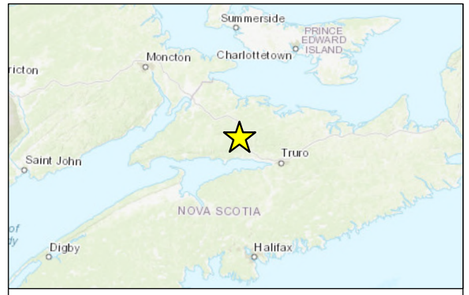
TABLE 6: LOCAL ASSESSMENT AREAS FOR BIOPHYSICAL VALUED ENVIRONMENTAL COMPONENTS

Biophysical VEC	Local Assessment Area	Justification
Terrestrial Habitat and Vegetation	2021 and 2022 – Field LAA - 50 m along either side of Project access roads and powerline corridors. - 150 m radius around turbine bases, substations and ancillary equipment.	It encompassed terrestrial habitats located adjacent to the PDA for the assessment of vegetation and lichen species that are most likely to be impacted by the Project. A larger buffer around turbine bases, substations and ancillary equipment was included to assess current disturbances and understand the potential effects of the Project on terrestrial habitats.
Terrestrial Wildlife	2021 and 2022 Field LAA - 50 m along either side of Project access roads and powerline corridors. - 150 m radius around turbine bases, substations and ancillary equipment.	It encompassed terrestrial habitats located adjacent to the PDA for the assessment of vegetation and lichen species that are most likely to be impacted by the Project. A larger buffer around turbine bases, substations and ancillary equipment was included to assess current disturbances and understand the potential effects of the Project on terrestrial habitats.
Mainland moose	2021 – Field LAA - 50 m along either side of Project access roads and powerline corridors. - 150 m radius around turbine bases, substations and ancillary	The spatial boundaries for the assessment took into consideration the large home range required by Mainland Moose, which is estimated to be 30-55 square kilometres (km2) (Snaith and Beazley 2004) and that moose, depending on the season, age, and

Biophysical VEC	Local Assessment Area	Justification
	equipment. 2022 – Field LAA 1000 m radius surrounding the proposed turbine locations, substation, roads and collector lines.	gender, travel daily an average of 0.5 km to 1.4 km daily (AAM 2022).
Wetlands	2021 and 2022 Field LAA - 500 m radius around the PDA Study area: Wetlands located within 30 m of the PDA.	Predicted wetlands were modelled within the LAA. For the study area, a 30 m wide protective buffer of natural, undisturbed vegetation around a wetland is encouraged to protect wetlands from the impact of outside threats, and serves as important habitat for wildlife (NBDELG 2002).
Watercourses and Fish Habitat **Turtle and Turtle Habitat**	2021 – Field LAA - 100 m upstream and downstream of watercourses that intersect with the PDA. 2022 – Field LAA - Watercourse crossings within 30 m of the PDA and their associated tributaries or distributaries. Study Area: 50 m upstream to 100 m downstream for watercourse crossings within 30 m of the PDA.	The LAA included watercourses that have the potential for direct and indirect impacts and the watercourses downstream of those crossings. For the study area, a buffer of 30 m was selected to include watercourses that are adjacent to the PDA and could be impacted by Project activities within their riparian zone.
Birds and Bird Habitat	2021 and 2022 – Field LAA 500 m radius around the PDA.	The CWS (2007b) recommends selecting survey locations within representative habitats likely to be used by songbirds in the region and spacing the survey locations at least 250 m apart in forest, or 500 m apart in open habitat.
Bats and Bat Habitat	2021 – Field LAA 250 m buffer around the PDA. 2022 – Field LAA - 120 m radius around the site access roads and powerline corridors. - 1000 m radius around each proposed WTG location.	The LAA was defined to align with the OMNR advice to identify bat habitat components that may extend to or within 120 m of a project location, and in recognition that confirmed habitat can extend as much as 1000 m beyond an identified point location (OMNR 2011).
Species at Risk and Species of Conservation Concern	2021 and 2022 Desktop LAA 10 km radius around the Project's centre	The LAA followed how historical observations of SAR and SoCC were reported in the AC CDC report. A more comprehensive list, covering 100 km radius from the Project's centre is also included in **Appendix K**.

Westchester Wind Project Addendum

Potential Development Area



Legend

Potential Development Area

Notes

1. 28 turbine locations are being considered for the project. Only up to 12 turbine locations and their associated infrastructure would be developed as part of the Project.
2. All field studies were carried out considering the 28T Layout.
3. Final layout subject to change based on remaining permitting processes in discussion with NSECC and other applicable regulators.
4. Turbine markers are not to scale.

Sources

- Basedata provided by the Province of Nova Scotia
- Basemap: ESRI World Topo Map

N

0 500 1,000 1,500

Metres

Scale: 1:25,000

Spatial Reference: NAD 1983 UTM Zone 20N

Page Size: 11" x 17"

Production Date: Dec 13, 2022	Prepared By: Alex Torrealba

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2.2.2 Temporal Boundaries

Temporal boundaries vary according to the different Project phases and associated potential effects. Typically, the Planning, Site Preparation and Construction phase is short-term (for example, effects related to the use of laydown areas for construction activities) due to the short duration of the activities. The temporal boundaries for the Project generally correspond to the timing duration of the Project phases and are outlined below in **Table 7**. Temporal boundaries have been updated in this Addendum based on the Project timeline changes. The temporal boundaries below are approximate based on earliest start of site preparation following permitting approvals.

TABLE 7: TEMPORAL BOUNDARY FOR PROJECT PHASES

Phase	Activity Start Date
Planning, Site Preparation and Construction, Site Restoration	Q2 2023 – Q4-2024
Operation and Maintenance	Q4 2024 – Operations end (estimated 25+ years after commissioning)
Decommissioning, Infrastructure Removal and Site Reclamation	Estimated 25+ years after commissioning

3 Flora and fauna surveys

This section details each of the biophysical VECs studied as part of this Addendum. It serves to fulfill the following request from the Minister's AIR:

1. In consultation with Natural Resources and Renewables (NSDNRR) Wildlife Branch, and Environment and Climate Change Canada, Canadian Wildlife Service provide:

> *a. Additional details for all flora and fauna surveys including but not limited to methodology, timing and duration, coverage, weather conditions, equipment used, and incidental species observances, particularly for Species at Risk (SAR).*
>
> *b. Details and results of additional flora and fauna surveys, if required.*
>
> *c. Assessment of potential impacts to terrestrial and aquatic habitats and wildlife, including SAR, that may be impacted by the project and include proposed mitigation measures.*

2. In consultation with ECC Wetland Specialist provide:

> *a. Functional assessments for wetlands in the project boundary and information to determine Wetlands of Special Significance.*
>
> *b. Details of each wetland in the project boundary in relation to project infrastructure, including details of any proposed wetland alterations.*

c. Proposed mitigation and monitoring for wetlands.

3. In consultation with Fisheries and Oceans Canada provide fish and fish habitat surveys for watercourses and wetlands in the project area. Provide details of each watercourse and wetland in the project boundary in relation to project infrastructure, including any proposed watercourse and wetland alterations.

Dillon Consulting limited was retained during 2021 and 2022 to conduct all desktop and field assessments included in the following sections. Ausenco Limited was also retained for both years to conduct independent radar and acoustic monitoring studies included in **Section 3.1.5**.

3.1 Biophysical VECs

3.1.1 Terrestrial Habitats and Vegetation

Scope of VEC

Vegetation was selected as a VEC due to their inherent biophysical value and contributions to local biodiversity, as well as its relationship with species at risk, migratory birds, bats and other wildlife and wildlife habitat, and other biological and physical components addressed as VECs in this Addendum.

The LAA for terrestrial habitats and vegetation covered a 50 m buffer on either side of roads required to access turbine sites during construction and operation and along powerline easements. It also encompassed a 150 m radius buffer around turbine bases, substations and ancillary equipment as shown on **Figure 4.** It encompassed the terrestrial habitats located adjacent to the PDA for the assessment of vegetation and lichen species that are most likely to be impacted by the Project. A larger buffer (i.e., 150 m) around turbine bases, substations and ancillary equipment was included to assess current disturbances and understand the potential effects of the Project on terrestrial habitats.

3.1.1.1 Desktop Habitat Assessment

Approach and Methodology

Prior to completing the field assessments for vegetation and lichens, Dillon conducted a desktop review to evaluate the potential for vegetation and lichen species within the LAA and to assist in scoping the field program. The information was reviewed, along with information on habitats present in the general area of the Project to determine potential for at risk flora species and/or their critical habitat. Dillon completed a review of available resources prior to completing the field surveys, which included the following:

- AC CDC reports for a list of historical observations of rare fauna and flora within 10 km of the Project centre (AC CDC 2021; 2022; **Appendix K**);
- Publicly available GIS map layers (e.g., ecological land classification, forest and non-forest inventory, wetland inventory, Protected Natural Areas, Wildlife Management Zones); and
- Google Earth satellite imagery.

Available mapping through the NSDNRR was reviewed to identify forest types, general land use, and habitats within the LAA. Observations gathered during the biophysical assessments carried out for this Addendum and aided by Google Satellite imagery were used to confirm the existing site conditions within the PDA. A GIS map was generated to show the existing habitat and land use features within the PDA and calculate the area of potential disturbance within each type (**Figure 5**).

Results

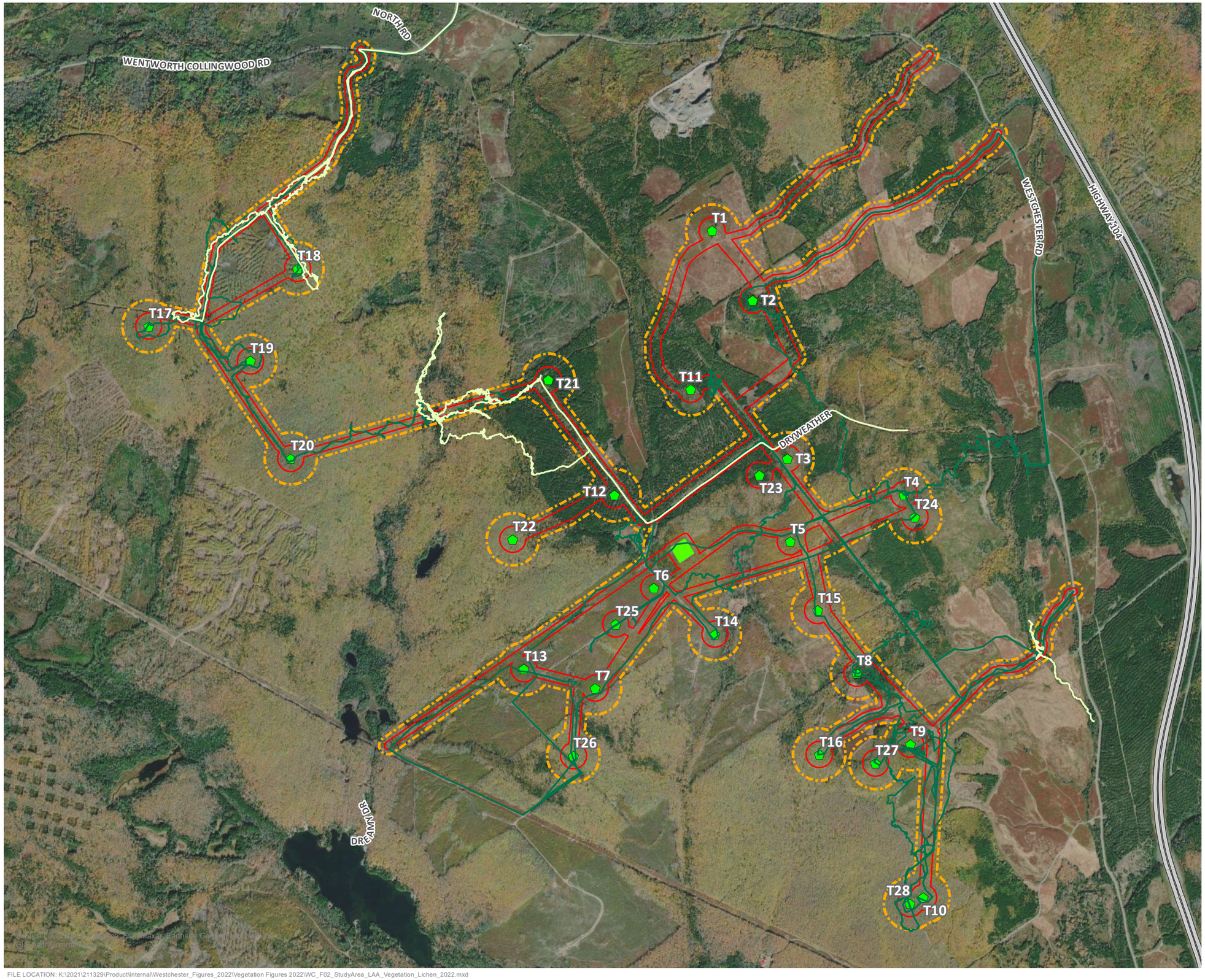
The area and percentage covered by each habitat or land use type within the PDA were determined and are listed in **Table 8**. This data is based on available mapping and Google Satellite imagery. Although the Project layout was designed to minimize the disturbance of naturalized areas as well as prioritizing development in areas with existing anthropogenic disturbance, some areas within the proposed footprint for the Project will extend through less disturbed habitat types, including areas with mature trees, wetlands, and watercourses. Approximately 57% of the PDA is located within areas that have been previously disturbed by forestry, agriculture, recreational trails, and access roads.

TABLE 8: HABITATS WITHIN THE POTENTIAL DEVELOPMENT AREA

Habitat	Area within PDA (ha)[1]	Percentage of the PDA[2]
Softwood Forest	32	18%
Mixedwood Forest	15	9%
Hardwood Forest	28	16%
Total Non-Disturbed Areas[3]	**75**	**43%**
Recently Cut Areas or Regenerating Wood Lot	24	14%
Agriculture (Including Blueberry Fields)	9	5%
Powerline and Access Road Corridors	65	38%
Total Area with Existing Disturbance	**98**	**57%**

Notes

1. *Area calculations are estimates and are based on NSDNRR mapping and observations recorded at the site during the 2021 and 2022 biophysical surveys.*
2. *As previously described, the PDA encompasses the footprint of all of the proposed 28 turbines locations and their associated infrastructure. However, the Project would consist of only up to 12 of those locations and their associated infrastructure.*
3. *Non-disturbed habitats include treated and un-cut forestry stands and plantations.*



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WESTCHESTER WIND PROJECT

STUDY AREA AND LOCAL ASSESSMENT AREA FOR VEGETATION AND LICHENS
FIGURE 4

- Proposed Turbine Location
- Proposed Substation Location
- Potential Development Area (PDA)
- Local Assessment Area
- Highway
- Plant Survey Tracks
- Lichen Survey Tracks

0 0.25 0.5 1 km

N W E S

SCALE 1:21,000

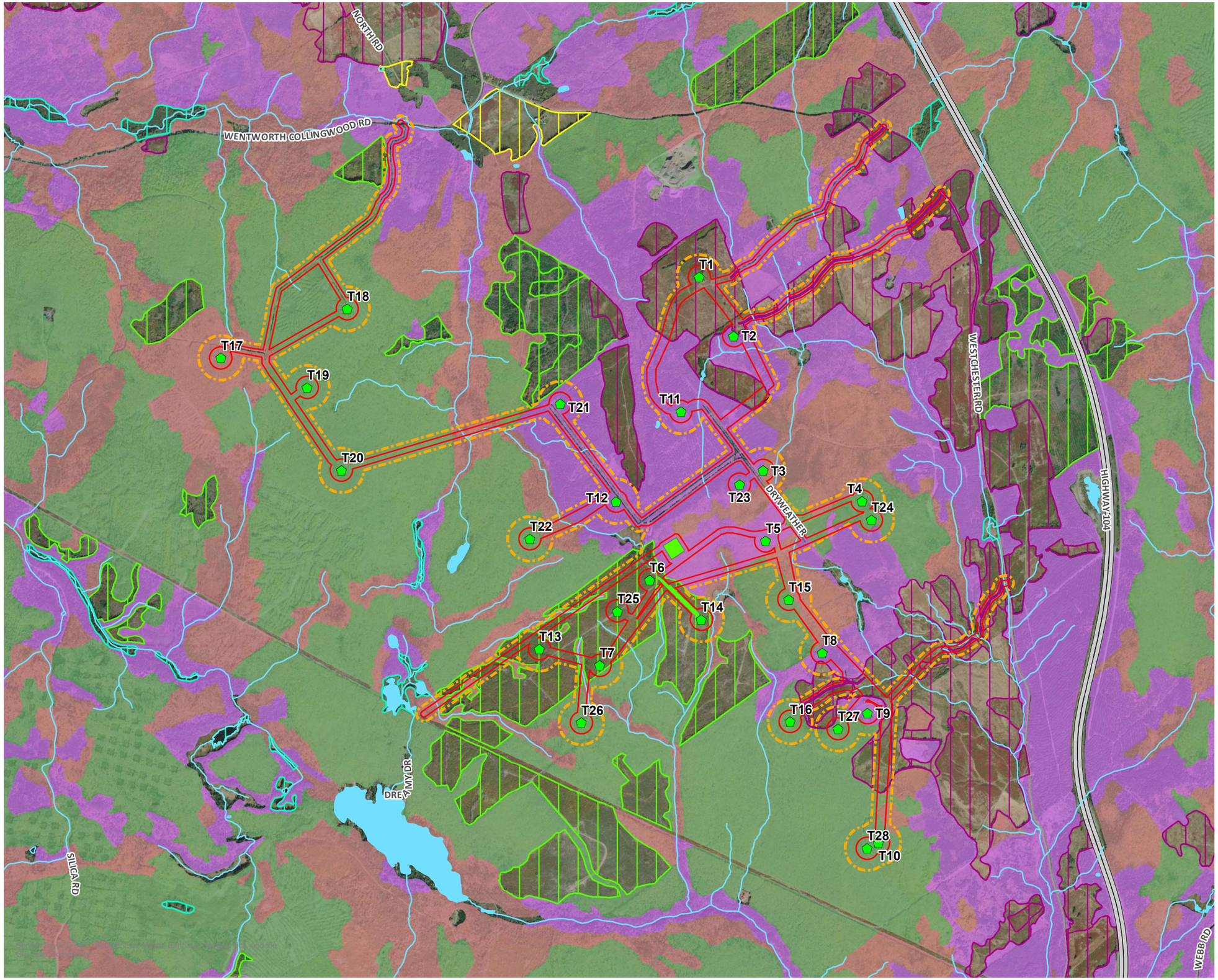
MAP DRAWING INFORMATION:
DATA PROVIDED BY DILLON CONSULTING, GEONB, NATURAL FORCES

MAP CREATED BY: DU
MAP CHECKED BY: KB
MAP PROJECTION: NAD 1983 UTM ZONE 20N

DILLON CONSULTING

PROJECT: 21-1329
STATUS: DRAFT
DATE: 2022-12-08

FILE LOCATION: K:\2021\211329\Product\Internal\Westchester_Figures_2022\Vegetation Figures 2022\WC_F02_StudyArea_LAA_Vegetation_Lichen_2022.mxd



Natural Forces

WESTCHESTER WIND PROJECT

VEGETATION AND LICHEN HABITAT ASSESSMENT

FIGURE 5

- Proposed Turbine Location
- Proposed Substation
- Potential Development Area (PDA)
- Local Assessment
- Highway
- Watercourse
- Waterbody
- Wetland

Habitat Type

- Softwood - Dominant Forest
- Mixedwood - Dominant Forest (including managed sugarbush forest)
- Hardwood - Dominant Forest

Anthropologic Land Use Type

- Recently Cut Area or Regenerating Woodlot
- Agricultural Field
- Blueberry Field

0 0.25 0.5 1 km

N W E S

SCALE 1:25,000

MAP DRAWING INFORMATION:
DATA PROVIDED BY DILLON CONSULTING, NSDNRR, NATURAL FORCES

MAP CREATED BY: MEC
MAP CHECKED BY: KB
MAP PROJECTION: NAD 1983 UTM ZONE 20N

DILLON CONSULTING

PROJECT: 21-1329
STATUS: DRAFT
DATE: 2022-12-10

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3.1.1.2 Vegetation Field Assessment

Approach and Methodology

Field vegetation assessments were completed in 2021 and 2022 to identify and target the major habitat types within the vegetation LAA. Representative areas of the 2022 PDA were surveyed for vegetation and lichens in 2022. Dedicated vegetation surveys were conducted between July 27 and 28, 2021 and between May and August 2022 (May 5, July 13-14, July 28-29, and August 10) by experienced plant identification specialists. GPS locations and tracks of the random meander paths of the plant specialists were recorded and are presented on **Figure 4**.

At the discretion of the professionals conducting the plant and lichen assessments, the search areas were expanded beyond the LAA boundary to incorporate adjacent suitable vegetation or lichen habitat or for ease of access between segments of the LAA. Additionally, terrestrial habitats and observations of rare vegetation were reported on an incidental basis in concert with other targeted field surveys (i.e., wetlands, watercourses, and wildlife and wildlife habitat) throughout 2021 and 2022. A summary of the dedicated plant field surveys, including surveyed area and survey lead are included in **Appendix B**.

Results

Plant communities were inventoried in the field by Dillon biologists skilled in the identification of common and rare plant species of Nova Scotia. The vascular plant inventory for the LAA was completed during the site visits during the growing seasons of 2021 and 2022. Additionally, a characterization of land cover was derived from the field inventories and then further refined during the compilation of plant species lists. Over 300 plant species were identified during the 2021 and 2022 field surveys, and are compiled in **Appendix B**. The general vegetation within each habitat type is described as follows:

Hardwood-dominated Forest

Hardwood forests are characterized by temperate trees and understory flora, high species richness, diverse stand structures, and by generally rich and well drained soils (NSDFL 2021). The hardwood forest habitat encountered during the 2021 and 2022 vegetation surveys was dominated by maples and included a diverse understory of mostly herbaceous plants. American beech (*Fagus grandifolia*) and small round-leaved orchid (*Platanthera orbiculata*) were identified within hardwood forests within the LAA (**Figure 26**). Further details on SAR and SoCC flora are discussed in **Section 3.1.7.1.** No vegetation SAR were identified within the hardwood-dominant forests during the 2021 or 2022 surveys. Several plants that are known to be of cultural significance to the Mi'kmaq were identified within assessed areas of hardwood forest habitat and are listed below in **Section 3.1.1.5**. Dominant vegetation within the hardwood dominated forest habitats of the terrestrial LAA included:

- A diverse herbaceous understory with ferns, flowering plants (e.g., asters, lilies), sedges, and ferns; and
- Hardwood trees such as maples (i.e., red, striped, sugar and mountain), American beech, and paper and yellow birch.

Mixed-wood and Managed Sugar-bush Forests

Mixed-wood forests are tree-dominated landscapes that contain both coniferous and deciduous trees (NSDLF 2021a). Within this habitat, some areas were being used as a managed sugar-bush forest. Sugar-bush forests are manicured forested landscapes that are dominated by sugar maple trees (*Acer saccharum*) and where there is active sap collection (i.e., a network of tapped trees and associated tubing). No vegetation SAR or SoCC were identified within the mixed-wood forests during the 2021 or 2022 surveys. Several plant species that are known to be of cultural significance to the Mi'kmaq were identified within the mixed-wood and sugar bush forest habitat within the assessed area and are listed below in **Section 3.1.1.5**. Dominant vegetation within mixed-wood and managed sugar-bush forest habitat of the terrestrial LAA included:

- An over story canopy dominated by sugar maple, but with occasional American beech and yellow birch;
- A dense understory consisting mostly of striped maple, hobblebush, and mountain maple (in areas where there are no networks of sap collection tubing); and
- A relatively sparse herbaceous layer consisting mostly of common ferns, sedges, and a few hardy flowering forbs.

Conifer-dominated Forests and Managed Conifer Plantations

Conifer-dominant forests are common in areas previously disturbed by fire or windthrow (NSDFL 2021), or, in the case of this site, forestry activities. A typical spruce and pine forest in Nova Scotia consists of an overstory of black spruce and pines (white, red, jack), a shrub layer dominated by ericaceous species (i.e., lambkill, blueberry and huckleberry), along with black spruce regeneration, and a herb cover that may be present but is dependent on the amount of light reaching the ground (NSDFL 2021). Managed conifer plantations typically consist of only one or two species of native or non-native conifers, often planted in linear rows, and usually of one age class. These plantations generally lack any deciduous understory as they are routinely treated with an herbicide to remove competition from the planted conifers. Understory plants found in this habitat type tend to be hardy, fast-growing, pioneer species capable of seeding and growing in between applications of herbicide. No vegetation SAR or SoCC were identified within this habitat type during the 2021 or 2022 field and vegetation surveys. Several culturally significant plants were identified and are listed below in **Section 3.1.1.5**. Dominant vegetation observed within conifer-dominated forests and plantations included the following:

- Conifer trees (e.g., red and Norway spruce);
- Woody shrubs (e.g., blueberry, smooth service berry); and
- Understory of fern, grasses and asters, and other hardy flowering plants (i.e., northern starflower, wild sarsaparilla), dependent on the presence of open spaces and time since last herbicide application.

Fields, Clear Cuts and Disturbed Areas

This category includes managed blueberry fields, abandoned pastures, road sides, and other cleared or recently regenerating habitat. Several plants that are considered to be exotic or invasive were identified within disturbed habitats. Refer to **Section 3.1.1.1** (Invasive Vegetation) for more information regarding invasive plants found within the terrestrial LAA. No vegetation SAR or SoCC were identified within disturbed areas within the assessed areas during. In 2022, a SoCC, woodland strawberry (*Fragaria vesca*) was identified around the edges of the row cuts in hardwoods located near the northeastern corner of the LAA (**Figure 26**). Further details on SAR and SoCC flora are discussed in **Section 3.1.7.1.** Several culturally significant plants were identified within disturbed habitat and are listed below in **Section 3.1.1.5**.

Wetlands

Swamps and fens were the main classes of wetland identified within the LAA. Swamps are wetland types with mineral soils and are not typically dominated by peatlands (NSE 2021). Swamp vegetation is often dominated by trees and shrubs, but also contain grasses, sedges ferns and rushes in open areas. Fens typically consist of peatlands saturated with water. Vegetation of fens is more diverse than in bogs and generally consists of sedges and mosses and shrubby trees (NSE 2021). As previously mentioned, eastern waterfan (*Peltigera hydrothyria*), an aquatic lichen SAR, was observed at two locations along Gleason Brook near wetlands during the 2021 field studies. One plant SoCC was observed within two swamps in the LAA (i.e., large purple fringed orchid). Large purple fringed orchid (*Platanthera grandiflora*) is ranked by the AC CDC as S3 for vulnerable in Nova Scotia. Further details on SAR and SoCC flora are discussed in **Section 3.1.7.1,** and the locations where they were observed are shown on Error! Reference source not found.. Several culturally significant plants were identified within the hardwood forest habitat and are listed below in **Section 3.1.1.5**. Dominant vegetation within wetlands included the following:

- Woody shrubs (including speckled alder, mountain holly, Canada yew, rhodora, creeping snowberry, and red raspberry);
- Herbaceous plants (including white meadow sweet, asters grasses, Virginia St. John's-wort, and several ferns, grasses, and sedges); and
- Trees (when present) included conifers (i.e., white spruce, and balsam fir) and hardwood trees (e.g., red maple and yellow birch).

3.1.1.3 Lichen Field Assessment

Approach and Methodology

Eastern waterfan *(Peltigera hydrothyria*), a SAR lichen, was identified incidentally at two locations within Gleason Brook during 2021 aquatic habitat field surveys. Targeted area searches of brooks that flow through forested upland and have a rock bottom were conducted in July 2022 and October 2022. Gleason Brook and Mountain Brook were identified as having the potential to support eastern waterfan within the PDA. As such, 50 m upstream

and 100 m downstream of proposed crossings with the PDA shown above on **Figure 4**, were surveyed by a lichen specialist in July 2022 and October 2022 when the watercourses were at a relatively low stage.

Targeted terrestrial lichen surveys were conducted in areas with available epiphytic lichen habitat (e.g., forested wetlands with mature trees and upland habitats with mature hardwood trees) between April 27 and May 5, 2021, and in August 2022 by a NSDNNR approved specialist at Dillon, experienced with lichen identification. An additional lichen search was conducted in October 2022 for high priority sites for lichens near the PDA when visibility is increased due to fern die back and falling of deciduous leaves.

Similar to the vegetation surveys, GPS locations and tracks of the random meander paths of the lichen specialists were tracked throughout the surveys. Additionally, terrestrial habitats and observations of rare lichens were reported on an incidental basis in concert with other targeted field surveys (i.e., wetlands, watercourses, and wildlife and wildlife habitat) throughout 2021 and 2022.

Results

Lichen communities were inventoried in the field by Dillon biologists skilled in the identification of common and rare lichen species of Nova Scotia. As mentioned above, 46 lichen species were inventoried over the two years of biophysical surveys, including one SAR* and four SoCC (**Figure 26**):

- Eastern waterfan* (*Peltigera hydrothyria*);
- Acadian Jellyskin Lichen (*Leptogium acadinse*);
- Fringe Lichen (*Heterodermia neglecta*);
- Powered Fringe Lichen (*Heterodermia speciosa*); and
- Shaggy Fringed Lichen (Anaptychia palmulata).

Further details of SAR and SoCC lichens are discussed in **Section 3.1.7.1**. No rare aquatic lichens were observed within 50 m upstream or 100 m downstream of the PDA in 2022.

A targeted lichen survey of mature forest habitat within the LAA for lichens was conducted in October 2022. The lichen species identified during the flora and other biophysical surveys conducted between 2021 and 2022 are compiled in **Appendix B**.

3.1.1.4 Invasive Vegetation

Approach and Methodology

Plant specialists documented the presence of invasive species that were encountered during the vegetation surveys and other biophysical surveys conducted between 2021 and 2022 for the proposed Project. For this assessment, invasive species are species that have been introduced into areas beyond their native range and negatively impact the environment, the economy, or society (Nova Scotia Invasive Species Council 2021).

Results

A summary of the invasive species found in the terrestrial LAA during the 2021 and 2022 field surveys is presented in **Table 9**. Numerous species of exotic plants that are typically considered weeds and are common in Nova Scotia were identified within the LAA, particularly in disturbed areas and along road sides. It is important to note that not all exotic plant species in Nova Scotia are anticipated to take over natural habitat areas.

TABLE 9: INVASIVE VEGETATION SPECIES FOUND WITHIN THE TERRESTRIAL LAA IN 2021 AND 2022

Common Name (*Scientific Name*)	Description	Habitats observed within the LAA
Black knapweed *(Centaurea nigra)*	Crowds out native species in meadows, grasslands, and roadsides.[3]	Blueberry fields and other anthropogenic disturbed areas
Bull Thistle (*Cirsium vulgare)*	Crowds out species in pastures, rangelands, and agricultural fields.[4]	Blueberry fields and other anthropogenic disturbed areas
Coltsfoot (*Tussilago farfara)*	Displaces native species in moist, open, disturbed areas such as stream banks, ditches and fields. [5]	Anthropogenic disturbed areas
Common Hawkweed *(Hieracium lachenalia)*	Considered highly invasive in woodlands, fields, and roadsides.[7]	Conifer-dominant forest, plantation/ Blueberry fields and other anthropogenic disturbed areas
Common St. John's-Wort *(Hypericum perforatum)*	Inhabits agricultural areas, forest openings, and meadows. May poison livestock, but is of low concern.[1]	Blueberry fields and other anthropogenic disturbed areas , wetlands
Creeping Buttercup *(Ranunculus repens)*	Crowds out native species in rich, damp soil, but can be found in moist sand or gravel.[5]	Conifer-dominant forest, plantation/hardwood dominant forests/wetlands
Garden Stonecrop *(Hylotelephium telephium)*	Grows in disturbed soil in roadsides, old fields, waste places, ditches, gardens, swamp margins, and woodland edges.[6]	Conifer-dominant forests/wetlands
Heath Sedge (*Carex flacca)*	Crowds out native species in high pH bedrock, rich forests, swamps, and wet meadows.[2]	Conifer-dominant forest
Norway Spruce (*Picea abies)*	Potential concern as an invasive – can form dense evergreen canopies in deciduous forests.[1]	Conifer-dominant forest, plantation/ Blueberry fields and other anthropogenic disturbed areas

Common Name (*Scientific Name*)	Description	Habitats observed within the LAA
Oxeye Daisy *(Leucanthemum vulgare)*	Invasive – crowds out native plants in disturbed areas; of moderate concern.[1]	Blueberry fields and other anthropogenic disturbed areas

References: 1. Canadian Wildlife Federation 2022; 2. Nova Scotia Invasive Species Council 2021; 3. Fraser Valley Invasive Species Society 2022; 4. CABI 2022; 5. Invasive Plant Atlas of the United States 2018; 6. Minnesota Wildflowers 2022; 7. King County 2018.

3.1.1.5 Culturally Significant Vegetation

Approach and Methodology

A non-exhaustive vegetation list of cultural importance for the Mi'kmaq bands in Nova Scotia was prepared by a Terrestrial Biologist from Maqamigew Anqotumeg. The list was established following a desktop analysis of the site and includes vegetation species that are culturally significant to the Mi'kmaq bands in Nova Scotia and are believed to likely be present within the terrestrial LAA of the proposed Project. The plant list compiled from surveys conducted in 2021 and 2022 was crossed referenced with this assessment to identify plants of cultural importance that are present within the PDA.

Although the Proponent was supportive of engaging an Indigenous monitor to complete a site walk-over to identify any culturally-significant vegetation species that could be impacted by the Project, a monitor could not be identified due to timing and COVID-19 health and safety considerations.

Results

Some of the plants found within the terrestrial LAA are recognized to be traditional Mi'kmaw medicinal plants or culturally significant plants. The list of culturally significant plants with the potential to occur in the area is included in **Appendix B**. A list of the flora considered to be of cultural significance to the Mi'kmaq and identified across the Project site is presented below in **Table 10**.

TABLE 10: CULTURALLY SIGNIFICANT FLORA TO THE MI'KMAQ OBSERVED DURING 2021 AND 2022 FIELDWORK

Common Name (*Scientific Name*)	Mi'kmaq Name	Habitats Observed within the LAA
Alleghaney Blackberry (*Rubus allegheniensis)*	Ajioqjimanaqsi (blackberry)	Edges of blueberry fields or other disturbed areas/wetlands
American Beech (*Fagus grandifolia)*	Suomusi	Hardwood-dominant forest/conifer-dominant forest/plantation/mixed-wood and sugar-bush forest

Common Name (*Scientific Name*)	Mi'kmaq Name	Habitats Observed within the LAA
American Mountain Ash *(Sorbus americana)*	Epsimusi	Blueberry field or other disturbed areas/hardwood-dominant forest/conifer-dominant forest/wetlands
Beaked Hazel (*Corylus cornuta)*	Mlipkanjmusi	Blueberry field/hardwood-dominant forest/conifer-dominant forest/wetlands
Bristly Black Currant (*Ribes lacustre)*	Misseminaqsi	Conifer-dominant forest/wetlands
Chokecherry (*Prunus virginiana)*	Elwimanaqsi	Fields or other disturbed areas/hardwood-dominant forest/wetlands
Common Buttercup *(Ranunculus acris)*	NA	Hardwood-dominant forest
Common Elderberry *(Sambucus canadensis)*	Pukulu'skwimanaqsi (Elderberry)	Hardwood-dominant forest/wetlands
Common Plantain (*Plantago major)*	Wijikanipkl	Blueberry field or other disturbed areas
Creeping Snowberry *(Gaultheria hispidula)*	Kna'ji'j	Wetlands
Dwarf Red Raspberry (*Rubus pubescens)*	Katomin	Hardwood-dominant forest/conifer-dominant forest/fields/wetlands
Eastern White Pin *(Pinus strobus)*	Kuow	Hardwood-dominant forest/blueberry fields
Green Alder (*Alnus alnobetula)*	Tupsi	Hardwood-dominant forest/wetlands
Harlequin Blue Flag (*Iris versicolor)*	NA	Wetlands
Inflated Lobeli *(Lobelia inflata)*	Tmawey	Blueberry fields and other disturbed areas
Late Lowbush Blueberry *(Vaccinium angustifolium)*	Pkwiman (blueberry)	Blueberry fields and other disturbed areas/conifer-forests, plantation/wetlands/hardwood-dominant forests
Marsh Blue Violet (*Viola cucullata)*	NA	Wetlands

Common Name (*Scientific Name*)	Mi'kmaq Name	Habitats Observed within the LAA
Northern Wild Raisin *(Viburnum cassinoides)*	Skinaqanmusi	Wetlands
Partridgeberry (*Mitchella repens)*	Ka'qaujumnaqsi	Hardwood-dominant forests
Pearly Everlasting (*Anaphalis margaritacea)*	Wapwasuek	Blueberry field or other disturbed areas/conifer-dominant forest, plantation/
Pin Cherry (*Prunus pensylvanica)*	Maskwe'simanaqsi	Blueberry field or other disturbed areas/conifer-dominant forest, plantation/mixed-wood and sugar-bush forest
Red Clover (*Trifolium pratense)*	NA	Blueberry field or other disturbed areas
Red Elderberry (*Sambucus racemosa)*	Pukulu'skwimanaqsi (Elderberry)	Blueberry field or other disturbed areas/hardwood-dominant forest/wetland
Red Raspberry (*Rubus idaeus)*	Klitaw	Blueberry field or other disturbed areas/wetlands/conifer-dominant forest, plantation/hardwood-dominant forest
Red Spruce (*Picea rubens)*	Mekwe'k kawatkw	Blueberry field or other disturbed areas/conifer-dominant forest, plantation/hardwood-dominant forest
Sheep Laurel (*Kalmia angustifolia)*	NA	Conifer-dominant forest, plantation/hardwood-dominant forest/ wetlands
Skunk Currant (*Ribes glandulosum)*	NA	Blueberry field or other disturbed areas/hardwood-dominant forest/wetland
Striped Maple (*Acer pensylvanicum)*	Wapoq	Blueberry field or other disturbed areas/wetlands/conifer-dominant forest, plantation/hardwood-dominant forest/mixed-wood and sugar-bush forest

Common Name (*Scientific Name*)	Mi'kmaq Name	Habitats Observed within the LAA
Sugar Maple (*Acer saccharum)*	Snaweyey	Blueberry field or other disturbed areas/conifer-dominant forest, plantation/hardwood-dominant forest/mixed-wood and sugar-bush forest
Swamp Red Currant (*Ribes triste)*	NA	Conifer-dominant forest
Sweet-Fern (*Comptonia peregrina)*	NA	Blueberry field or other disturbed areas
Velvet-Leaved Blueberry *(Vaccinium myrtilloides)*	Pkwiman (blueberry)	Blueberry field or other disturbed areas/conifer-dominant forest, plantation
Wild Sarsaparilla (*Aralia nudicaulis)*	Wopapa'kjukal	Blueberry field or other disturbed areas/conifer-dominant forest, plantation/hardwood-dominant forest/mixed-wood and sugar-bush forest
Wild Strawberry (*Fragaria virginiana)*	Atuomkominaqsi	Disturbed areas/conifer-dominant forest, plantation/hardwood-dominant forest/wetlands
Yellow Birch (*Betula alleghaniensis)*	Nimnoqn	Blueberry field or other disturbed areas/conifer-dominant forest, plantation/hardwood-dominant forest/mixed-wood and sugar-bush forest

3.1.1.6 Assessment Conclusions

One aquatic lichen SAR, eastern waterfan (*Peltigera hydrothyria*) and no vascular plant SAR were observed during the vegetation and lichen field surveys conducted over 2021 and 2022. Several SoCC plants and lichens were observed within the LAA, further detailed in **Section 3.1.7.1**. The proposed Project layout was revised following the 2021 field season and the locations where eastern waterfan was observed is >500 m downstream of the nearest crossings of Gleason Brook. In 2022, eastern waterfan was observed within Mountain Brook.

The Project has been sited to minimize the potential impact of the Project on natural landscapes and undisturbed natural habitat by selecting lands previously impacted by anthropogenic activities. In this case, the majority (i.e., approximately 57%) of the PDA is sited on lands previously or presently used for forestry activities, agricultural operations, and access roads and trails. The Project aims to benefit the area by providing an environmentally

friendly and productive source of renewable energy for Nova Scotia, while limiting potential impacts to the natural environment. Effects of the Project on terrestrial habitats and vegetation and the proposed mitigation measures are described in **Section 3.2.2**.

3.1.2 Terrestrial Wildlife

Scope of VEC

Wildlife and wildlife habitat was selected as a VEC for this Addendum because they are valued in their relationship with species at risk, vegetation, and other biological and physical components addressed as VECs in this EA. In addition, SAR are protected under federal and provincial legislation (pursuant to the federal Species at Risk Act [SARA] and the Nova Scotia Endangered Species Act [NSESA]). SAR and other rare wildlife species are considered valued, including SoCC as identified by the AC CDC as "extremely rare (S1), "rare" (S2), or "uncommon" (S3) if they are present (AC CDC 2022).

The Eastern Moose (*Alces alces americana*, herein referred to as Mainland Moose) has also been identified as one of the VECs for the Project, as they are an endangered species, and it is possible for Mainland Moose to potentially travel through the Project. Mainland Moose have complex spatial and temporal habitat requirements that include a mosaic of woodland and wetland habitat types. They require an abundance of mature forest for security and thermal cover, as well as areas of interspersed young deciduous trees and shrubs for browsing (NSDNRR 2021). Because of the sensitivity of the population (listed as Endangered by NSESA and ranked as S1 by AC CDC for Critically Imperiled in the province), this section is presented separately from other wildlife field assessments (**Section 3.1.2.3**)

Due to the complexity of the specific assessments conducted for birds and bats, details and results of those surveys are included in their dedicated sections (**Sections 3.1.5,** and **3.1.6**, respectively).

The LAA for terrestrial wildlife (excluding Mainland moose) covered a 50 m buffer on either side of roads required to access turbine sites during construction and operation and along powerline easements. It also encompassed a 150 m radius buffer around turbine bases, substations and ancillary equipment as shown on **Figure 6.** It encompassed the terrestrial habitats located adjacent to the PDA for the assessment of vegetation and lichen species that are most likely to be impacted by the Project. A larger buffer (i.e., 150 m) around turbine bases, substations and ancillary equipment was included to assess current disturbances and understand the potential effects of the Project on terrestrial habitats.

The LAA for Mainland Moose was established, which covered a 1000 m buffer surrounding the proposed turbine locations, substation, roads and collector lines. The spatial boundaries for the assessment took into consideration the large home range required by Mainland Moose, which is estimated to be 30-55 square km^2 (Snaith and Beazley 2004) and that moose, depending on the season, age, and gender, travel daily an average of 0.5 km to 1.4 km daily (AAM 2022).