The Atlantic Spaceport Complex

Environmental Assessment Registration Document

Prepared for: NordSpace Atlantic Corporation

strum CONSULTING

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EXECUTIVE SUMMARY

NordSpace Atlantic Corporation ("NordSpace") is proposing to develop, construct and operate the Atlantic Spaceport Complex (the "Project") near the Town of St. Lawrence on the Burin Peninsula, Newfoundland and Labrador (NL). The total Project Area is approximately 60 ha.

The primary orbital site, approximately 37 ha located at Sauker Head, serves as the Launch Complex (SLC-01) and houses two orbital-class launch pads, vehicle assembly hangars, fuel and oxidizer storage tanks, and a high-capacity water deluge and runoff containment system designed for noise and heat suppression and environmental protection. This site also features a 5-kilometre gravel access road connecting it to Hwy 220. The Launch Complex is situated on a coastal plateau overlooking the open Atlantic Ocean, selected for its remote uninhabited geography, flat terrain, and unobstructed ocean exposure allowing safe, south-eastward launch trajectories between 136- and 195-degrees true headings.

The support and control site, located on 11 ha at Middle Head, is designated as Mission Control Centre (SLC-02). It includes mission operations facilities, customer and visitor centre, and the ground tracking and communication infrastructure necessary for launch command, telemetry, and range safety management. Three ground station antenna dishes and a radar array provide real-time communication and tracking of launch vehicles and orbital satellites. Water, wastewater, power, and telecommunications utilities are integrated into the site to facilitate continuous operations and ensure self-sufficiency.

Construction activities for both sites will proceed under a staged approach, beginning with access road and utilities installation, followed by pad and facility construction. All phases will adhere to provincial permitting and environmental protection standards. Environmental control and personnel safety measures will ensure compliance with federal and provincial regulations.

Once operational, the spaceport will support a regular cadence of small-lift orbital and suborbital launches, advancing Canada's sovereign access to space and presenting new job creation, tourism, and technology opportunities for the Burin Peninsula. The Atlantic Spaceport Complex integrates environmental stewardship, operational safety, and community partnership, serving as a model for sustainable space infrastructure and long-term socioeconomic growth throughout Newfoundland and Labrador.

Next steps

NordSpace is committed to working with the local community and Government regulators through the upcoming steps of the EA and permitting processes. NordSpace has completed relevant project designs to inform potential interactions with receptors and has detailed the appropriate measures within this EAR to avoid or mitigate potential environmental impact.

The Atlantic Spaceport Complex is a prime opportunity for Newfoundland and Labrador to position itself as the province leading this industry growth. The project will benefit many key economic priorities of the province, including advanced manufacturing growth, skilled trades & workforce development, novel technology & intellectual property generation, and community economic development. Globally, this would also strengthen Canada's positioning with our foreign allies as a capable technology exporter in the commercial space and national defence industries.

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1.0 INTRODUCTION

NordSpace Atlantic Corporation ("NordSpace") is proposing to develop, construct, and operate "the Atlantic Spaceport Complex" (the "Project") on the Burin Peninsula, Newfoundland and Labrador. The Project components consist of a launch complex, 5-km access road, and mission control centre.

The Burin Peninsula is located on the south coast of the island of Newfoundland in the province of Newfoundland and Labrador (NL). It extends to the southwest from the main island of Newfoundland, separating Fortune Bay to the west from Placentia Bay to the east. The Project components are within 8 km of the town of St. Lawrence [population 1,115 residents; (Statistics Canada, 2023)] and 5 km of the local service district of Little St. Lawrence (Drawing 1, Appendix A).

This Project is being registered with the Newfoundland and Labrador Department of Environment Conservation and Climate Change (NLECCC) pursuant with the Newfoundland and Labrador *Environmental Protection Act* (NL EPA) (2002) and its associated Environmental Assessment (EA) Regulations (2003). NLECCC has identified that Sections 35.1(b), 36.2(e) and 46 apply to this Project. Part 35.1 (b) indicates that projects involving the construction of roads more than 500 m from an existing right-of-way shall be registered. Section 36.2(e) identifies the development of a service depot, and Section 46 identifies the establishment and operation of a permanent airport also requires registration. This Project is considered an airport based on regulatory consultation completed, and this Project will have a road longer than 500m from an existing right of way. Registration is done through the submission of a formal Environmental Assessment Registration (EAR) Document.

NordSpace Atlantic Corporation has retained Strum Consulting (Strum, the "Consultant") to support the development and submission of an EAR for the Project. Strum is an independent, multidisciplinary team with extensive experience submitting EARs in Atlantic Canada. This EAR was led by Strum's Newfoundland and Labrador team.

1.1 Proponent Overview

NordSpace Corporation is a privately-owned, Canadian advanced manufacturing and aerospace research company based in Markham, Ontario (Table 1.1). Founded in 2022, their mission is to lead Canada into a new era of space exploration and innovation. The company maintains three vertically integrated divisions with the first focused on the development of orbital-class rocket launch vehicles, "Tundra". Tundra vehicles are small-lift segment launch vehicles (i.e., maximum payload to Low Earth Orbit weighing less than 2000 kg) that range from 16 to 30 m in length.

Tundra will be the first orbital-class launch vehicles to be developed in Canada. In parallel with Tundra's development, NordSpace Atlantic Corporation (a Newfoundland and Labrador subsidiary of NordSpace Corporation), is proposing the Atlantic Spaceport Complex project (the Project) near St. Lawrence, NL, to host the safe and secure launch of its vehicles to low earth orbit. With the capacity to manufacture, launch and operate space missions, NordSpace aims to advance Canadian space sovereignty and national security while providing seamless solutions to a growing global market of end-users.

Table 1.1: Applicant and Consultant Information Summary

Applicant	
Name of Corporate Body	NordSpace Atlantic Corporation
Chief Executive Officer (CEO)	Rahul Goel
Address	13 Water St E., PO Box 236, St. Lawrence, NL, A0E 2V0
Website	www.nordspace.com
Applicant Contact of Environmental Assessment	
Name	Derrik Chow
Official Title	Director of Operations
E-mail	derrick@nordspace.com
Consultant Contact	
Name	Casidhe Dyke – Strum Consulting
Title	Project Manager, Senior Environmental Scientist
Address	#E120-120 Torbay Road, St. John's, NL, A1A 2G8
Telephone	709.738.8478
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E-mail	cdyke@strum.ca

1.2 Overview of the Undertaking

The Project is proposing to develop, construct, and operate a spaceport, "the Atlantic Spaceport Complex", to host the launch and operation of small lift rocket launch vehicles. The spaceport represents a critical piece of infrastructure that will benefit key areas of life for Canadians, including national security, public safety, and environmental monitoring. The Project has an estimated $15 million lifetime investment (est. $9.8 Million capital expense), 5-year development that will position NL as the gateway to Canada's growing space economy.

Project facilities will be located on two parcels of leased Crown Land on the Burin Peninsula, totaling approximately 60 hectares. The Project consists of three main components: the Atlantic Spaceport Complex (i) launch complex, (ii) launch complex access road, and (iii) mission control centre.

1.2.1 Rationale for the Undertaking

The Project will be the first operational orbital-class spaceport developed in Canada, providing new domestic launch capabilities and reducing reliance on foreign launch services. Its development will help secure Canada's sovereign access to space and will create new opportunities for economic investment in the growing commercial space economy. The payloads NordSpace plans to fly are geared towards environmental monitoring (earth observation satellites to monitor wildlife, oceans, wildfires, weather, greenhouse gases, and climate change), remote broadband connectivity, national security, and public safety.

The development of the Project is a prime opportunity for NL to position itself as a leader in Canada's space industry. The Project will benefit many of the key economic priorities of the province, including growth in advanced manufacturing, skilled trades and workforce development, novel technology and intellectual property generation, and community economic development.

NordSpace selected the Burin Peninsula as a location for the Project based on the suitability of its geographic characteristics and regional population base. The physical position of the launch complex offers access to the widest range of launch azimuths from 136°to 195° over the open Atlantic Ocean. Being situated along the southeast coast of the Peninsula will facilitate the ocean recovery and refurbishment of stage one boosters released after launch. Finally, by constructing the launch complex and mission control centre in separate locations on adjacent headlands, the Project can ensure safe and secure launch events in an unpopulated area while offering opportunities for the public to experience launch near the town of St. Lawrence.

2.0 REGULATORY FRAMEWORK

Projects in NL are evaluated through both federal and provincial EA legislation to determine the applicability of the *Impact Assessment Act* (IAA) and the NL EPA to the proposed project. Additionally, once through the applicable EA processes, projects are required to obtain federal, provincial, and municipal permits prior to the commencement of construction.

The federal IAA includes the Physical Activities Regulations (SOR/2019-285, 2019) known as the "Project List", which define projects and activities subject to the IAA. Activities occurring on federal lands and certain industries such as mining, nuclear, offshore wind development, and oil and gas are included on the Project List. While Section 46 does cover the construction of aerodromes and runways, the Project does not include these physical activities, and as such is deemed to not be on the Project List.

The Project is required to be registered with NLECCC and evaluated through the provincial EA process pursuant with the NL EPA (2002) and its associated EA Regulations (2003). NLECCC has identified that Sections 35.1(b), 36.2(e) and 46 apply to this Project. Section 35.1 (b) indicates that projects involving the construction of roads more than 500 m from an existing right-of-way shall be registered. Section 36.2(e) identifies the development of a service depot, and Section 46 identifies the establishment and operation of a permanent airport also requires registration. Registration is done through the submission of a formal EAR document.

2.1 Permitting

Various approvals are required from the federal, provincial, and/or municipal regulators to construct and operate the Project. Additionally, NordSpace will evaluate the requirements for any municipal permitting in instances where infrastructure is located within municipal boundaries. Summaries of the potential federal, provincial, and municipal regulatory permits, and approvals that may be required for the Project are provided in Table 2.1, along with the associated regulatory body and a preliminary evaluation of applicability and approach.

Table 2.1: Non-Exhaustive List of Potential Governmental Regulatory Requirements

Requirement	Regulatory Body	Status/Comments
Federal		
Level of Service Study	NAV Canada	To be submitted following detailed design phase.
Commercial Space Launch Authorization	Transport Canada	To be submitted following detailed design phase.
Aeronautical Assessment Form	Transport Canada	To be submitted following detailed design phase as part of Transport Canada aeronautical assessment, including lighting plan
Canadian Navigable Water Act, R.S.C., 1985, c. N-22	Transport Canada	If, during the detailed design phase, the Project is determined to have the potential to impact navigable waters the Proponent will submit the required documentation to Transport Canada
Fisheries Act, R.S.C., 1985, c. F-14	Fisheries and Oceans Canada (DFO)	If, during the detailed design phase, the Project is determined to have the potential to impact fish or fish habitat, the Proponent will submit a Request for Project Review to DFO
Species at Risk Act, S.C. 2002, c. 29 (SARA)	Environment and Climate Change Canada (ECCC), DFO	Compliance legislation – there is no expectation that a SARA permit will be required
Migratory Birds Convention Act (MBCA)	ECCC	Compliance legislation – permits will be applied for should they be required during monitoring programs
Canadian Environmental Protection Act, S.C., 1999, c. 33	ECCC	Compliance legislation – permits will be applied for as required for construction and operations

Requirement	Regulatory Body	Status/Comments
Provincial		
Body of Water Alteration Permit	NLECCC, Water Resources Management Division	Alteration applications, if required, will be submitted to NLECCC following EA approval
Water Use Licence	NLECCC, Water Resources Management Division	Water use licence application will be submitted to NLECCC following EA approval, for supply of freshwater to the launch complex
Certificate of Approval	NLECCC, Pollution Prevention Division	An application for a Certificate of Approval will be submitted to NLECCC following release from EA for all stages of the Project
Storage and Handling of Gasoline and Associated Products Regulations, 2003	NLECCC, Pollution Prevention Division	Compliance legislation – permits will be applied for as required for construction and operations
Endangered Species Act (ESA)	NL Forestry, Agriculture and Lands (NLFAL)	Compliance legislation – permits will be applied for should they be required during monitoring programs
Use of Crown lands	NLFAL	Application submitted. In progress.
Commercial Cutting Permit	NLFAL	Application for permits will be made on an as-needed basis
Operating Permit	NLFAL	Permits will be applied for throughout the Project with consideration given to all applicable operations during fire season
Permit to Control Nuisance Wildlife	NLFAL	Application for permits will be made on an as-needed basis
Archaeology Research Permit	Provincial Archaeology Office	Application to be filed, if required, following a desktop review of potential Historic and Cultural recourses
Quarry Permit	NL Energy and Mines (NLEM)	Quarry permit application will be submitted to NLEM on an as needed basis
Preliminary Application to Develop Land	Government Service NL	A Preliminary Application to Develop Land will be submitted following release from EA, for construction of all accesses to Protected Roads or development within a Protected Road Zone
Wastewater or Water System Approval	Government Service NL	Wastewater and water system permit application will be submitted to Government Modernization and Service Delivery NL following release from EA
Urban and Rural Planning Act, SNL2000, c. U-8	Government Service NL	Permit application will be submitted for development under the Protected Road Zoning Regulations, 996/96 within the building control lines of a protected road

Requirement	Regulatory Body	Status/Comments
Municipal		
Town and Local Services District Act, SNL2023, c T-6.2	Municipalities	Permit applications will be submitted following detailed design and will be updated following release from EA
Urban and Rural Planning Act, SNL2000, c. U-8	Municipalities	Permit applications will be submitted for any municipality with a planning area in effect following detailed design and will be updated following release from EA

3.0 PROPOSED UNDERTAKING

3.1 Geographic Location

The Project components are located within 8 km of the town of St. Lawrence on the southeast coast of the Burin Peninsula. The administrative and remote operations portion of the Project will be located near Middle Head, approximately 3.5 km southeast of St. Lawrence, and the launch facility will be located at Sauker Head, approximately 8 km from the town (Drawing 1, Appendix A).

3.2 Assessment Areas

3.2.1 Project Area

The Project Area is the broad geographic area where all Project components (launch complex, launch complex access road, and mission control centre) will be situated. It is intended to encompass all direct environmental impacts associated with the construction of the Project. The Project Area under evaluation as part of this EA totals approximately 60 ha, including the area associated with the launch complex access road (5 km long with 20 m buffer). Only a portion of the Project Area will be occupied by the components of the Project (i.e., the "Project Footprint, Drawing 1, Table 3.1).

Table 3.1: Estimated Project Area and Footprint associated with the Project components

Project Component	Associated Project Area	Actual Estimated Area
Launch Complex	37.3 ha	6.8 ha[1]
Access Road	10 ha	4.5 ha
Mission Control Centre	10.8 ha	<1 ha

[1]Includes total area for both Launch Pads A & B

3.2.2 Study Area

For the purposes of the EAR a Study Area has been defined to evaluate the existing environment. The Study Area has been defined as a 10 km radius from the centre of the proposed Launch Complex (46.9049283° N, 55.3018176° W). The intent of this broader scale Study Area is to evaluate the potential for project interactions beyond those identified at the Project Area scale, based on operational factors such as sound and air emissions.

3.3 Physical Components

The Project consists of three main components: the Atlantic Spaceport Complex (i) launch complex, (ii) launch complex access road, and (iii) mission control centre.

3.3.1 Launch Complex

The launch complex will be located approximately 8 km southeast of the town of St. Lawrence at Sauker Head (Drawing 1, Appendix A). The complex will include two launch pads (Launch Pad A & Launch Pad B, each approximately 625 m^2 in size (Drawing 2, Appendix A). Launch pad infrastructure includes launch towers and mounts. An additional 10 ha around the launch pads (i.e., the approximate size of the Crown Land lease at Sauker Head) is required for safety clearance during launch events. For the purposes of this EAR, the launch pads and adjacent infrastructure are identical for both Pads A and B. As such, the description of launch pad construction and operation is provided based on a singular pad description but can functionally be considered identical for both pads.

Adjacent to the launch pad, two assembly hangars with a total of 1,200 m^2 interior area will be constructed to house clean labs and launch vehicle staging areas for conducting customer payload assembly, integration, and testing operations. Building 1 will have a drilled groundwater well for supply of potable water (< 4546 L per day) and associated septic field. Exterior ground equipment will include electricity generators (750 kW) and the associated diesel fuel tank. The fuel tank for power generation will be located adjacent to the assembly hangars while fuel, liquid oxygen, water, and inert gas tanks used in launch operations will be located adjacent to the launch pad.

The launch vehicles will use kerosene as fuel for launch operations. Kerosene is stored on site in engineered aboveground certified tanks. Each storage tank or grouping is positioned within an engineered, impermeable secondary containment dyke designed to hold at least 110% of the largest single tank's capacity, or, for multiple tanks, the greater of 110% of the largest tank or 100% plus 10% of the aggregate capacity of the remaining tanks. The secondary containment system utilizes liquid-tight barriers constructed of concrete, clay, or similarly approved materials, and undergoes regular integrity inspections to ensure full compliance with provincial fuel handling and environmental protection regulations

A water deluge and collection system will be located adjacent to the launch pads to provide thermal protection to the launch pad during launch activities. This system consists of a 190,000 L water tank, pumps, piping for deluge and drainage, and a small settling pond for water collection, treatment and recirculation. The water tank is supplied from a dedicated drilled ground water well directly adjacent to the tank.

The launch pad will be an area of 25 m x 25 m and comprised of a poured concrete slab. A safety area of 25 m from the centre point of the launch pad has been established for the exclusion of any other infrastructure not directly related to the launch pad. A security gate will be constructed around the perimeter of the launch complex infrastructure.

Figure 3.1: Graphical rendering of the Launch Complex (layout not final)

3.3.2 Launch Complex Access Road

A 5-km gravel access road will be constructed to transport materials and personnel to/from the launch complex and the nearest right-of-way, Highway 220 (Drawing 1, Appendix A). A security gate will be constructed across the road at the security perimeter of the launch complex (Drawing 2, Appendix A).

3.3.3 Mission Control Centre

The mission control centre will be located at Middle Head, 3.5 km southeast of the town of St. Lawrence (Drawing 1, Appendix A). A central building (600 m^2 of interior area) will house mission and range control operations, the engineering and operations office, and the visitor centre. Ground station radio and radar antennae (three, 5 m x 5 m footprints) will be installed nearby for launch vehicle tracking and communications (Drawing 3, Appendix A). For the temporary launch facility developed in August 2025, an access road (approximately 200 m) was developed. This access road will be reused as the access road to connect the Mission Control Centre to the nearest right-of-way (Lighthouse Road).

3.4 Siting Considerations and Constraints

The locations of the Project components were selected based on the suitability of the sites for operating successful launch events while maintaining public safety (e.g., ability to secure the launch site, positioning in the launch complex in an unpopulated area near the coast). The Launch Complex is located with open, rocky barren habitat type and the nearest receptor to the launch complex are three recreational cabins 3 km to the northwest (Drawing 4). The final location of the Access Road, Launch Complex, and Mission Control Centre will be determined following detailed design and will be selected with the prioritization of avoidance of environmentally sensitive features in mind.

3.5 Construction

A unique aspect of NordSpace's approach to space exploration is its reduced physical footprint relative to most spaceport operations. Tundra launch vehicles are among the smallest orbital-class vehicles in the world, meaning that they consume less fuel, have a lower acoustic impact, and require a relatively small land-base for launch.

Table 3.2 outlines the proposed construction schedule for the Project.

Table 3.2: Proposed construction schedule for the three Project components

Phase	Component	Approximate Start Timeline
Site preparation / Preconstruction	All	Q4 2025
Construction	Access roads and utilities	Q4 2025
Construction	Launch Complex – Assembly Hangars	Q2 2026
Construction	Launch Pad A	Q2 2026
Construction	Mission Control Centre	Q2 2026
Site preparation / Construction	Launch Pad B	Q2 2028

3.5.1 Launch Complex Access Road

Access to the Launch Complex will comprise of a gravel access road approximately 5 km in long, with access on route 220. The route represented of Drawing 1 has been used for the purposes of this EA; however, final location, distance and route of this road is subject to change following detailed design and engineering, including environmental constraints analysis.

The access road will be constructed using a ditch/cut and fill method where in-situ soils will be compacted to form the base of the roadbed following removal of surface material. Where suitable material is available, local aggregates may be sourced directly from within the road alignment, from nearby borrow pits, or from excavations adjacent to the roadway that have been assessed and authorized by the relevant regulatory authorities. All holes or borrow pits will be filled in with grubbing materials following completion. In instances where insufficient material can be located at or adjacent to the limits of the roadway excavation, material will be trucked to site from the closest available quarry. Material excavated from ditches that are not suitable for roadway fill will be deposited in flat waste banks.

Road construction will follow the Construction Standards for Resource Access Roads in Newfoundland and Labrador (NLFFA, 2018). Currently no paving is anticipated for the access road outside of the Launch Complex.

3.5.2 Launch Complex

Site preparation of the Launch Complex will consist of clearing, grubbing and leveling of all areas required for site roads, buildings, tank locations and the launch pad. Access roads through and around the Launch Complex will be constructed from concrete or gravel as operationally required, and a security gate and guardhouse will be installed at the primary access point.

Launch pad, building foundations and storage tank locations will consist of poured concrete slab. Thickness of slabs will vary depending on end use, with the launch pad being the thickest. Concrete will be prepared offsite and trucked to site through just-in-time delivers by local suppliers.

Buildings 1 & 2 will be constructed on site with warehouse components being trucked to site following completion of building foundations. Warehouse will be constructed onsite, with plumbing and electrical installed through construction, as opposed to using a modular design. Building 1's potable water requirements will be serviced through the installation of a drilled potable groundwater well and wastewater (<4546 L per day) will be treated with an on-site septic system developed by an Approved Designer. Building 2 will be constructed as an un-serviced building. Electrical power will be generated on site by a 750 kW generator and associated diesel fuel tank, located adjacent to Building 1.

The certified and registered fuel and propellant tanks will be installed behind protective walls approximately 50 m apart. Adjacent lighting towers will be installed on concrete pad. A groundwater well will be drilled to provide water to the ~190,000L water tank. Water deluge, drainage, and recirculation piping will be installed below the launch pad, connecting the water tank, launch pad, and retention pond. Inert gas tanks will be stored on a pad adjacent to the launch pad and water deluge system, and outside of the 25 m safety area.

3.5.3 Mission Control Centre

The Mission Control Centre will use the existing road developed as part of the temporary launch facility constructed in August 2025. A pad will be cleared for the installation of the facility, associated parking and infrastructure. The building itself will be constructed as a modular building of six 40 ft shipping containers arranged in a rectangle. The shipping containers will be fabricated offsite with all components prefabricated and hooked up once arriving on site. Containers will be transported on a flatbed truck and installed on foundations using a crane.

A septic field will be built for all associated wastewater. The Mission Control Centre is anticipated to produce less than 4546 L per day and will be comprised of wastewater from the kitchen and restroom. No process water is required as part of this building. The septic field will be prepared by an Approved Designer and application for approval will be forwarded to Government Modernization and Service Delivery prior to construction.

NordSpace will deploy a ground radar array and up to three ground station antenna dishes to provide Telemetry, Tracking, and Control (TT&C) capabilities for launch vehicles, satellites, and space domain awareness capabilities for national security and commercial aerospace purposes. Each antenna dish will typically measure approximately 3 to 9 meters in diameter, and stand approximately 4 to 12 meters tall, each on top of a concrete pad with footprint of approximately 6m by 6m. The radar array will consist of multiple sensor units mounted on approximately 2-3m tall pedestals, fitting within an aggregate footprint of 15 by 15 meters. These installations will be securely fenced, sited in open unobstructed areas near the mission control building, and connected to dedicated equipment enclosures for power, communication, signal processing, and data archiving. This infrastructure ensures robust TT&C support throughout both launch and orbital operations and will operate in compliance with relevant licensing under Canada's radio frequency spectrum management legislation.

Power will be supplied to the site through a grid connected line from the existing power line on Lighthouse Road and running along the access road to the Mission Control Centre and associated equipment. Final locations of interconnections and routing will be determined during the detailed design phase.

3.6 Operations and Maintenance

3.6.1 Access Roads

The access roads will be regularly used to access the launch complex and mission control centre, especially in periods leading up to and during launch events. The roads will be maintained to operational standards (e.g., grading and clearing as needed) to ensure access is maintained throughout the year. The launch complex access road will remain gated with NordSpace personnel present at this safety check point during launch events to maintain site clearance. The road will be maintained year-round to support access and launch activities with grading and snow clearing activities as required throughout the year.

3.6.2 Launch Complex

The launch complex will serve as the site for assembly, testing, and inspection, and launch of rocket vehicles. Project personnel will be on site during the periods leading up to and during launch events. The following operations and maintenance details are divided into topics relating to the pre- and post-launch period and those specifically relating to launch events.

Power and Heating Systems

The launch complex will be powered using generators. Generator fuel (low sulphur diesel) will be trucked to site and stored in associated tank. Frequency of fuel deliveries are expected to fluctuate depending on seasonal demand and operational considerations, with higher demand anticipated in winter months due to increased heating requirements and reduced daylight. Deliveries to site will be managed by a local fuel provider.

Potable Water Use and Management

All potable water will be supplied to Building 1 through an onsite groundwater drilled well. Wastewater will be processed through the adjacent septic field. No potable water or septic fields are proposed for Building 2 or other areas of the Launch Complex.

Maintenance

Inspections of Project infrastructure will take place on a routine basis to ensure proper functioning and safe operation. Maintenance and repairs will occur as needed.

3.6.3 Launch Event Operations

The launch of a Tundra launch vehicle at the Atlantic Spaceport Complex follows a highly coordinated, stepwise sequence grounded in both local regulatory requirements and internationally recognized spaceport practices. Each phase of the operation—from vehicle delivery and payload integration through fueling, range safety, ascent tracking, and in-orbit payload deployment—is designed to maximize mission assurance, minimize operational risk, and protect both personnel and the environment. This rigorous process enables NordSpace and its partners to efficiently and safely deliver commercial, scientific, and government payloads to low Earth orbit, leveraging a purpose-built infrastructure and operational philosophy that reflect best practice across the modern space launch industry.
The operational steps for each launch mission campaign are generally as follows:

1. Vehicle Delivery and Hangar Processing: Launch vehicles are delivered to the on-site assembly hangar at the launch complex, transported by specialized flatbed trucks or trailers. Upon arrival, each rocket undergoes inspection, unpacking, and internal systems checks. The secure hangar environment ensures protection from weather and physical handling risks during these initial steps.

2. Payload Integration: Customer satellite payloads arrive at the cleanroom facilities within the hangar. Integration teams mount, secure, and electrically connect satellites to the rocket's payload adaptor, performing verification and fit checks. Both payload and rocket complete final testing, including simulated communications with Mission Control and environmental controls validation.

3. Pad Movement and Rocket Positioning: Once fully integrated, the launch vehicle is moved out of the hangar using motorized transporter equipment. The rocket is positioned vertically on the concrete launch pad, secured to the mounting fixtures, and then subjected to final alignment and umbilical connections for power, data, and propellant fill lines.

4. Range Safety and Readiness: Site safety systems, including pad area exclusion zones and range control, are verified. Fire suppression systems and water deluge systems are verified. Downrange safety notifications and marine/airspace/community safety notifications are confirmed. The launch director conducts the final go/no-go poll with mission teams, site personnel, and range safety officers.

5. Propellant Loading: Propellant operations commence under strict safety protocols. Highly trained filling technicians transfer liquid oxygen (LOX) and kerosene (RP-1) from ground-based tanks to the launch vehicle's tanks using monitored specialized plumbing systems. All containment systems are checked for leaks, and environmental monitoring is active for rapid response during propellant loading. Personnel perform final security checks of the launch site and move to the Mission Control Centre to proceed to launch.

6. Launch Execution: Upon authorization, automated launch sequences control engine ignition, pad hold-down release, and liftoff. The water deluge system deploys rapidly to suppress heat and exhaust emissions and absorb excess launch noise. Pad support infrastructure automatically retracts for vehicle clearance as the rocket begins vertical ascent.

7. Vehicle Tracking and Staging: During ascent, personnel from the Misson Control Centre use radar and ground station arrays to continuously track the vehicle. Telemetry is monitored from launch through atmospheric exit, with each vehicle stage reporting health and separation status. The mission control center processes live data, ensuring each stage performs within the expected parameters before sequential separation.

8. Payload Deployment: Once in designated Low Earth Orbit (LEO), the vehicle's upper stage executes final maneuvers to stabilize and orient the payload. Satellite deployment mechanisms are activated for precise release timing. Telemetry from the upper stage and payload is transmitted to on-site antenna dishes, verifying successful deployment and activation. This point marks mission success for the launch campaign.

These coordinated, stepwise procedures are crafted for maximum safety, reliability, and minimal site environmental impact, matching the operational protocols of industry best practices. All steps are designed for regulatory compliance, site & environmental protection, and customer assurance.

Launch Cadence

It is anticipated that NordSpace Tundra launches will take place two to three times per year during an initial ramp-up phase of operations (2027 to 2030). This will scale up to a peak of 20 launches per year by 2035 (Table 3.3).

Table 3.3: Anticipated Ramp-up Schedule of Launch Events for the Atlantic Spaceport Complex

Time Period	Number of Launches Expected per Year
2025 - 2026	1 (Initial test launch)
2027 - 2030	2 to 3
2030 - 2035	6 to 12
2035 Onward	16 to 20

Launch Trajectories

The orbital launch trajectory from the spaceport begins with a near-vertical ascent before the rocket performs a gradual pitch-and-roll maneuver to head in a direction ranging from 136 degrees to 195 degrees (i.e., southeasterly to southerly direction) over the open Atlantic Ocean. The exact heading depends on the specifics of the launch mission and the payload customers' orbital needs. These launch trajectories undergo stringent analysis prior to authorization by federal regulators at Transport Canada, to ensure that the vehicle's entire flight path remains safely over oceanic zones, free of human settlements or ecological sensitivities on land.

Following the launch vehicle's main engine cutoff and first stage separation, the vehicle's first stage continues on a controlled path downrange, eventually re-entering the atmosphere and descending to a designated splashdown area located approximately 300 to 600 kilometers offshore – well outside of any national territorial waters. The splashdown site is situated within international waters of the North Atlantic, where recovery or observation vessels operate under carefully monitored conditions and maritime coordination agreements. This offshore recovery distance ensures that all stage descent and retrieval operations occur in compliance with range safety requirements and United Nation International Maritime Organization guidance and conventions.

Meanwhile, the rocket's upper stage proceeds to complete its orbital insertion burn, positioning the payload typically between 300 and 800 km altitude depending on mission parameters. Throughout the flight, the ASX range safety system continuously monitors vehicle trajectory, speed, and performance using radar and telemetry ground stations to confirm nominal ascent and ensure adherence to predefined flight corridors. This trajectory design provides a high margin of public safety and full international compliance while enabling efficient, ocean-directed orbital insertion for small satellite launches from Newfoundland's southeastern coast.

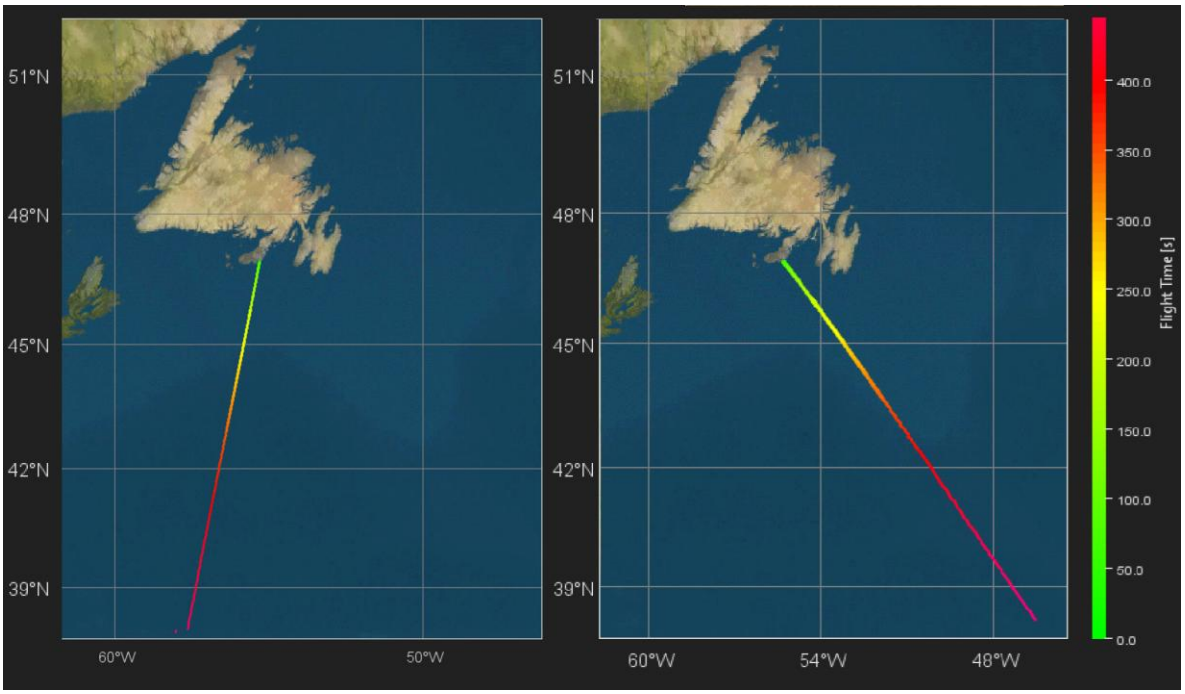

Figure 3.2: Possible launch trajectories from the ASX. Left image shows the southern heading of 195 degrees. Right image shows the eastern heading of 140 degrees.

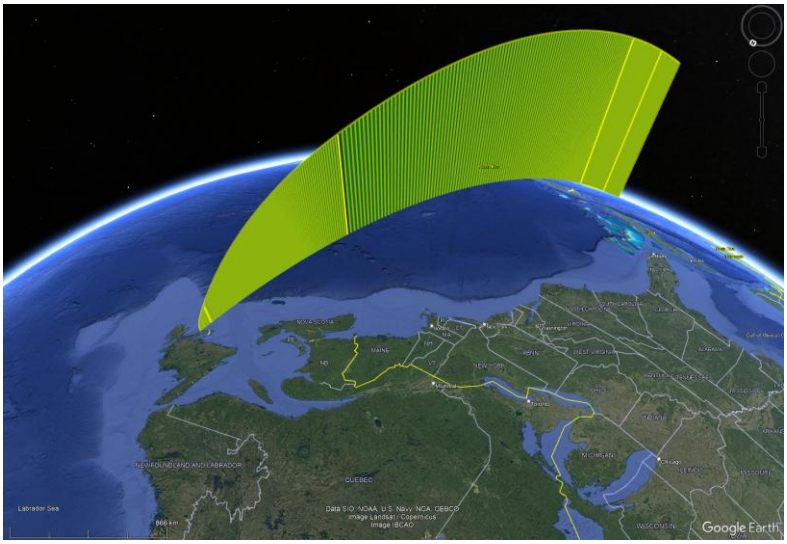

Figure 3.3: Example 3-dimensional orbital launch trajectory from the Atlantic Spaceport Complex. Illustrating 195 degree heading southbound over the open Atlantic Ocean.

Fuel Requirements

Rocket launch vehicles require the use of propellants (combinations of fuel and an oxidizer, such as liquid oxygen) to achieve the thrust necessary to counteract Earth's gravity and lift the vehicle through the Earth's atmosphere. Propellants are consumed during launch over a series of stages, whereby stages detach from the rocket once the fuel for that stage is consumed. Kerosene, hypergolic fuels, liquid hydrogen, and solid fuels are the most used fuel types for orbital vehicle launches (Ryan et al., 2022).

The NordSpace launch vehicles do not use toxic solid fuels and are designed to accept conventional aviation fuel (kerosene-based fuel types) and are compatible with Sustainable Aviation Fuels (SAF; a class of aviation fuels produced from renewable sources). Liquid rocket engine propellants, including kerosene, have a reduced environmental impact (i.e., lower environmental toxicity and atmospheric emissions) compared to solid or hybrid propellants (Dallas et al., 2020). Kerosene in particular has the added benefit of being easier to safely handle and store than other commonly used propellants.

The launch vehicles will use between 4,000 and 10,000 kg (5,000 and 12,500L) of kerosene fuel and between 9,200 and 23,000 kg (8,100 and 21,000L) of cryogenic liquid oxygen during a successful launch (amount depending on the specific model of Tundra launch vehicle). Kerosene will be transferred from the storage tanks to the launch vehicle on the pad using certified fuel pumps and plumbing. Routine inspections of tanks, containment barriers, and fueling pathways are conducted prior to every launch, and staff are trained in hazardous material handling and emergency spill response. In the event of a fuel spill, immediate containment, notification to authorities, and cleanup are enacted following government protocols to minimize environmental risk. Some smaller amounts of inert gases such as helium and nitrogen are also used during launch to pressurize fuel tanks and purge propellant lines.

Emissions

The emissions associated with the combustion of kerosene are primarily composed of CO, CO_2, and water vapour, with a smaller component of total emissions made up of OH, NO_x, and black carbon (soot; Dallas et al., 2020). In general, the largest fraction of atmospheric emissions during rocket launches occur above the Earth's surface in the stratosphere (about 15 to 50 km altitude) due to the vertical trajectory of launch vehicles and short period of time they spend on the Earth's surface (Brown et al., 2024).

The environmental impacts of emissions associated with space launches, including those using kerosene fuel, was reviewed by Dallas et al. (2020). Their review identified the main environmental impacts associated with the combustion of liquid propellants as being:

- Depletion of atmospheric ozone (O3)
- Formation of mesospheric clouds
- Contributions to climate change
- Potential for ecosystem toxicity

Using specifications from the range of Tundra launch vehicles NordSpace plans to fly, it is possible to estimate the approximate amount of CO_2 and black carbon released during launches. Based on an emission factor of 3.15 kg of CO_2 released per kg of kerosene, it is estimated that CO_2 emissions from NordSpace Tundra launches will range from 12.6 to 31.5 metric tonnes per launch. During the initial ramp-up period of Project operations, two to three launches per year are anticipated, with a target of 20 launch events per year anticipated by 2023 (Table 3.3). At a maximum of 20 launches per year and assuming the use of NordSpace's largest model of launch vehicle, this amounts to approximately 630 metric tonnes of CO_2 per year.

Fuel Transportation and Storage

During the initial ramp up, fuel and propellants will be trucked to site prior to launch campaigns and stored in holding tanks for short durations (two to three weeks). Regular fuel deliveries will begin once launches become more frequent, and fuel will be stored on-site in storage tanks longer-term.

Water Use and Management

Water will be pumped from a well and stored in a 190,000 L water tank for the water deluge system. The water deluge system at the Atlantic Spaceport Complex deploys approximately 50,000 to 100,000 litres of water over the concrete launch pad during each rocket launch over a period of less than a minute, rapidly suppressing heat, flames, and residual particulates generated by the rocket exhaust, and ensuring any fire or debris is contained within the pad's boundaries.

After launch, deluge water that is not turned into water vapour during the launch process will be collected through a drainage system within the launch pad. The deluge water and surface runoff are directed into a specially designed retention pond and filtration system adjacent to the pad. Typical rocket launches utilizing kerosene (RP-1) and liquid oxygen (LOX) as propellants may introduce several classes of contaminants to the deluge wastewater and pond system:

- Combusted Residuals and Soot: Fine carbon particulates, the result of incomplete combustion of kerosene, are washed off the pad and can be effectively removed through settling and filtration.
- Unburned RP-1 and Hydrocarbons: Trace amounts of unburned kerosene and intermediate hydrocarbons, present in the exhaust plume or surface splash, may be present and are handled by oil-water separation and activated carbon filtration steps.
- Metallic Residues: Metallic particles such as copper or nickel, originating from engine hardware erosion or ablation, are captured by sedimentation or filtration systems.

Once separated, water will be recirculated to the water storage tanks, while contaminants will be removed from site and sent to certified disposal facility. The overall water management system is designed to contain and filter of all particulates and substances resulting from rocket launches, safeguarding local ecosystems and complying with all regulatory requirements.

Waste Management

Operational procedures require that all hazardous and non-hazardous wastes, including spent kerosene or contaminated materials resulting from maintenance and launch activities, are sorted, secured, and transferred only to provincially approved waste management facilities in accordance with industrial waste regulations.

Fire Suppression

NordSpace Atlantic recognizes that fire prevention is a critical aspect of safe spaceport operations and is committed to meeting and exceeding international standards used at comparable facilities. The Atlantic Spaceport Complex is intentionally sited in coastal terrain with minimal forest coverage, and all launch trajectories are designed to proceed entirely over the Atlantic Ocean, eliminating the risk of rocket-induced wildfires in surrounding land areas.

One of the central features of the spaceport's fire management plan is the pad water deluge system. For each launch, approximately 50,000 - 100,000 L of water, as launch operations deem necessary, is rapidly deployed in a distributed manner over the concrete launch pad area surrounding the active launch vehicle throughout the very short ignition and liftoff timeframe (lasting approximately 30-60 seconds). This high-volume water curtain ring suppresses all fire hazards arising from rocket exhaust and ensures that any isolated ignition event is both contained and extinguished before it can extend beyond the concrete launch pad surface. The water deluge keeps heat, flame, and particulate matter from reaching beyond the concrete launch pad surface, adding an extra layer of protection to ground-based equipment and the surrounding environment.

The facility's integrated fire prevention strategy includes active, on-site fire detection and suppression systems, routine fire safety drills, comprehensive training for operational staff, and the strategic placement of firefighting equipment throughout critical zones. NordSpace has built a strong partnership with the St. Lawrence Volunteer Fire Department, whose crews have provided support for NordSpace's mission, including direct emergency coverage during the demonstration launch activities in 2025. This partnership ensures that emergency response measures are tailored to local needs and are always in line with best practice recommendations.

These measures collectively ensure that spaceport operations add no measurable risk to wildfires, even during provincial forest fire seasons or under local fire bans. The combination of advanced fire suppression infrastructure, coastal siting away from forested zones, and ocean-facing launch trajectories provides a robust safety buffer that protects infrastructure, personnel, and surrounding natural areas. The continuous application of these fire prevention practices guarantees that the Atlantic Spaceport Complex can operate safely and confidently throughout the year.

Sound

NordSpace launch vehicles are among the smallest in the world, resulting in a reduced acoustic impact on the surrounding environment. At approximately 3 km, which is the distance to the closest receptor (three recreational cabins), if an individual were oriented directly towards the launch vehicle (the acoustics of a launch are highly directional as opposed to omnidirectional), they could expect to experience a maximum of approximately 94 dB for 5 seconds (Table 3.4) including the benefit of natural sound suppression from geological features surrounding the ASX and active sound suppression from the water deluge system deployed on the launch pad. Given the speed of the launching vehicle heading away from land over the Atlantic Ocean, this sound pressure level would rapidly diminish to zero within a few more seconds.

Table 3.4: The Approximate Acoustic Impact of a NordSpace Launch, at Launch (T-0 Seconds)

Distance from Launch (km)	Sound Level (dB)		
	Raw Estimated	After Sound Suppression	After Geological Features & Elevation
10	55	47	46
5	86	77	75
3	100	91	88
2	109	99	94
1	120	110	105
0.5	129	119	117
0	175	165	165

Estimates calculated by NordSpace using NASA Acoustic Loads Generated from the Propulsion Systems for sound pressure levels (SPL) and ISO 9613-1 for atmospheric absorption. Values in the right-most column best approximate the actual sound levels experiences at each distance.

Accounting for sound suppression systems (water deluge), geographical features, and the elevation of the launch site, it is approximated that there would be a further 5 to 10x reduction in the acoustic impact. To put this in perspective, the closest receptors to the launch complex are expected to experience an acoustic impact approximating something between a lawn mower and large truck driving by for 5 to 10 seconds (total exposure duration of approximately 3.5 minutes per year once the facility is fully operational).

Based on sound propagation modelling performed for NordSpace's Tundra launch vehicles, noise levels for all receptors will be of very short duration and below guidelines set forth in occupational health and safety guidelines (i.e., below impact exposure levels)(ACGIH, 2018) . To further minimize the effects of the Project on the acoustic environment, residents of nearby communities will be notified prior to launch events.

Additional sources of noise associated with the Project include ambient noise from operation generators at the launch complex and mission control centre.

Launch Boosters

First stage launch boosters will be ejected from launch vehicles approximately 300-600 km south, south-west off the coast of NL where they will land in the North Atlantic Ocean. It is anticipated that, based on current estimated range and trajectory, boosters will land in the ocean outside of Canadian territorial water. NordSpace will coordinate with DFO/TC to ensure no marine traffic (including fisheries) are present in the area where boosters will land in the ocean.

Boosters are comprised of inert materials, reducing the likelihood of a harmful leachate, and will be recovered and refurbished for future use. In studies where normal operations of kerosene propelled rockets have potentially resulted in the interaction of the second stage and the terrestrial environment, absence of considerable input of propellants was documented (Koroleva et al., 2024).

3.6.4 Mission Control Centre

The mission control centre will primarily function as the remote operations and communications hub during launch events. Additionally, the site may act as a viewing platform and visitor's centre. As the site will have a permanent grid connection, operations and maintenance will consist of standard snow clearing of the parking lot and emptying of the septic tank as required. General day-to-day maintenance operations will be handled by on-site staff and service contractors. All waste generated at the site will be disposed of in a certified waste disposal facility.

3.7 Employment and Regional Economic Development

The development and operation of the Project will have a significant impact on the regional and provincial economy. The following sections outline job creation estimates as well as the economic benefits of the Project. Detailed information about the Project hiring plan is provided in Appendix B.

3.7.1 Employment and Training

A large number of permanent, full-time employment opportunities will be created as part of the Project. NordSpace is targeting the creation of 50 new positions by 2030 and anticipates up to 200 new positions may be created by 2035. These include highly skilled jobs in a variety of fields (engineering, technical assembly, operations, and business management) with employees based in NL throughout the development and operation of the Project. Most positions will be located on the Burin Peninsula (at, or near, the Atlantic Spaceport Complex), with a small number of business development and support positions at a new NordSpace office in St. John's. A formal Diversity, Equity, and Inclusion plan has been developed with commitments to fair treatment, equal opportunity, and proactive inclusion (Appendix C). Hiring of local and Indigenous candidates will be prioritized when qualifications are comparable.

NordSpace plans to collaborate with the Newfoundland and Labrador Department of Jobs, Growth and Rural Development and regional workforce development committees to identify talent pools and address skills gaps for hiring. The Project will serve as a hub for space-related research and innovation, and collaborations with local post-secondary institutions (i.e., Memorial University of Newfoundland, Burin Campus of the College of the North Atlantic) will help to enhance the expertise of the regional workforce in engineering and space technologies. Internships, co-op placements, and apprenticeship programs will provide further opportunities for technical training.

3.7.2 Economy

In addition to direct employment, the Project is anticipated to stimulate significant economic development in the broader region. This will lead to additional, indirect employment opportunities in related sectors including construction, transportation, professional services, and tourism. It is expected that once operational, ongoing Atlantic Spaceport Complex activities will induce the creation of over 230 indirect new jobs in Newfoundland and Labrador by growing the local supply chain, diversifying the industrial base, and creating new hospitality and tourism opportunities.

NordSpace forecasts new net revenue from launch services and space systems totaling $75 million per year by 2035. Once fully operational, the Atlantic Spaceport Complex is projected to contribute upwards of $200 million annually to the GDP of Newfoundland and Labrador via direct and induced economic activities.

3.7.3 Business

Regional business development and growth are expected to occur alongside the operation of the Project. It is anticipated that the Atlantic Spaceport Complex will serve as a catalyst for tourism as visitors travel to the region for launch viewing. For example, the visitor space located within the mission control centre will serve as a destination for school groups and the public. The development and operation of the Project is expected to enhance the regional supply chain by diversifying the economy and boosting the industrial base through the provision of goods and services associated with the project.

3.8 Decommissioning

The facilities described in this EAR have an estimated operational lifespan of 50 years (2027 to 2077). However, the actual lifespan of the Project is dependent on the future demand for Canadian space launch services. As interest and investment in this sector are anticipated to increase in the coming decades, it is possible that the facility will operate for longer than 50 years if market conditions, customer demand, and strategic business interests provide a compelling rationale to do so. In such a case, any extension of operations would be implemented in compliance with all regulatory requirements and subject to approval by the relevant authorities. The decommissioning and closure strategy described below will apply only if and when a decision has been made to end operations and retire the facility on a permanent basis.

At the close of operations, all major above-ground structures—including launch towers, service gantries, storage tanks, site utility fixtures, electrical substations, and mission control buildings—will be systematically dismantled and removed from the site. Dismantling will be performed to allow for the safe segregation, recycling, or disposal of materials in accordance with provincial and national regulations. Any hazardous substances or components (e.g., electronic waste, batteries, refrigerants, or fuel systems) will be documented and removed by licensed contractors to certified facilities.

Concrete launch pads, hardstands, and asphalt surfaces will undergo a condition assessment to determine the most suitable remediation. Where feasible, hard surfaces will be broken up and removed, with all resulting debris disposed of at approved offsite locations. In cases where removal is not environmentally preferable, surfaces will be left in place but capped with a sufficient thickness of clean, local overburden soil, graded for stability, and prepared for reinstatement of native vegetation. This method is consistent with best practices in NL for minimizing soil disturbance and promoting rapid ecological recovery.

The gravel access road—spanning approximately 5 km—will be addressed based on future use requirements and environmental sensitivity. If continued public or industry access is not required, all culverts, signage, and engineered drainage structures will be removed. Road surfaces will be scarified or decompacted and either have the gravel and aggregate hauled offsite for reuse or be covered with native overburden and graded to blend into the surrounding natural landscape. All disturbed road areas will be seeded or planted to promote habitat restoration and prevent erosion or sediment transport to adjacent watercourses.

Site restoration will include redistribution of stockpiled topsoil or overburden where available, decompaction or grading of disturbed soils, and targeted planting of native vegetation to re-establish the local ecological character and support long-term resilience. Active restoration efforts will continue until agreed criteria—set by provincial authorities—are met for soil stability, vegetation cover, and absence of contamination.

A post-closure environmental monitoring program will be implemented for a period to be determined in consultation with provincial regulators. Monitoring will focus on soil stability, groundwater and surface water quality, vegetation re-establishment, and site-specific risks identified during the operational phase.

NordSpace Atlantic recognizes the significant change that decommissioning will present for employees and the local community. The company is committed to responsible workforce and community transition strategies guided by best practice in the province. In advance of decommissioning, NordSpace will develop and communicate a comprehensive transition plan in cooperation with local stakeholders, regional economic development agencies, and educational institutions. The plan will provide early notification to employees, facilitate access to retraining and upskilling programs, and offer career counseling and referral services. Further, the company will seek to attract potential new employers, leverage transferable workforce skills, and collaborate with regional partners to identify alternative employment

opportunities for impacted individuals and families. Support services for broader community adjustment, such as information sessions, liaison with social service agencies, and transparent communication channels, will be established to help ensure a smooth transition.

3.9 Project Schedule

The Project is expected to start construction in Q4-2025 following all required regulatory and permit approvals, with commissioning anticipated in 2027. The operational lifespan is based on a 50-year projection with decommissioning of the site to occur in 2077 should future operations be determined to no longer be viable (Table 3.5).

Table 3.5: Project schedule for the Atlantic Spaceport Complex Project

Project Activity	Timeline
EA Registration	Q3 2025
Complete Environmental Assessment Process	Q4 2025
Obtain Crown Lands approval	Q4 2025
Site Preparation / Construction Phase	Q4-2025-Q3-2027
Commissioning	Q3 2027
Operations / Maintenance	2027-2077
Decommissioning	2077

3.10 Alternatives

Site selection for a spaceport is a complex, multidisciplinary process involving safety, operational efficiency, environmental sustainability, and community partnership—all guided by recognized global best practices and recent research in aerospace infrastructure planning. St. Lawrence, Newfoundland, stands out as the optimal Canadian location for the Atlantic Spaceport Complex owing to several criteria critical for safe, efficient, and scalable launch operations. Successful site selection is driven by factors including broad, unobstructed coastal exposure, minimal risk to public or environment, suitable physical terrain, and positive community engagement. The region around St. Lawrence is unique in Canada for meeting each of these core requirements:

- Wide Open Atlantic Ocean Trajectories: St. Lawrence occupies a long, east-facing coastal expanse that enables rocket trajectories on headings from approximately 136 to 195 degrees true, directing launches entirely over the open Atlantic with no geological, urban, or protected ecological obstacles in the flight path. This configuration supports a wide angle of allowed orbital inclinations, enabling launches to sun-synchronous, polar, and equatorial orbits without overflying other provinces, communities, or key infrastructure.

- Exceptional Safety Buffer: The spaceport location provides more than 5 km of distance between the launch infrastructure and the nearest permanent residence or community center, well exceeding industry safety standards for risk mitigation and blast protection. By contrast, most other Canadian provincial sites—such as those near Canso, Nova Scotia, or northern Ontario—are less able to guarantee such large exclusion zones due to fragmented land ownership and closer proximity to towns or summer communities.
- Large, Flat Terrain: The chosen site is comprised of a suitable parcel of relatively flat terrain elevated on a coastal cliff. This supports the straightforward and secure construction and operation of launch pads, vehicle integration facilities, and mission control centres. Flat topography minimizes earthworks, reduces long-term operational costs, and allows for easy expansion if future demand warrants additional pads or facilities. The coastal cliff provides a natural security barrier to entry for safety.
- Community Support and Shared Vision: St. Lawrence has demonstrated robust local support for this spaceport development, driven by a forward-looking town council, active engagement by the local Fire Department, and enthusiastic participation by local businesses and residents. This support has provided a foundation of trust and partnership for NordSpace's outreach, consultation activities, and long-term strategic planning.

Compared to alternative Newfoundland sites on the Atlantic coast (e.g. on the Avalon peninsula or elsewhere on the Burin peninsula) and in other provinces (e.g. Nova Scotia), St. Lawrence offers unmatched safety distancing, mission flexibility, and community alignment. Other regions are limited by narrower ocean exposure, variable topography, or nearby population clusters, which constrain trajectory planning and add to regulatory complexity.

4.0 EXISTING ENVIRONMENT

The following section describes the environment prior to the implementation of the Project (i.e., baseline conditions). Information is presented for the Project Area (equivalent to the Crown Lands lease area), Study Area (a 10 km radius around the launch complex), and/or the broader region as deemed appropriate for the various environmental components and their anticipated interactions with the Project. It is expected that all direct Project interactions during the construction phase will be limited to the Project Area, whereas some operational interactions will extend to the Study Area.

4.1 Species at Risk and Species of Conservation Concern

Within the EA process, individuals identified as Species at Risk (SAR) or Species of Conservation Concern (SOCC) are paid particular attention. SAR are listed under the federal *Species at Risk Act* (SARA) and/or provincially under the Newfoundland and Labrador *Endangered Species Act* (NL ESA). Throughout this Chapter, SAR are defined as:

- Species listed under SARA as “Endangered”, “Threatened”, or “Special Concern” (SARA 2002).
- Species listed under NL ESA as “Endangered”, “Threatened” or “Vulnerable” (NL ESA 2004).

Species of conservation concern (SOCC) are not designated as SAR but have been assessed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) as either “Endangered”, “Threatened”, or “Special Concern” (Government of Canada 2022), or are species that have a subnational (provincial) rank (S-Rank) of “S1”, “S2”, or combinations thereof (Atlantic Canada Conservation Data Centre (ACCDC) 2023; Table 4.1).

Note that the SAR and SOCC definitions apply to all wildlife described in the EA Registration.

Table 4.1: Provincial S-Rank Definitions

S-Rank	Status	Definition
S1	Critically Imperiled	Critically imperiled in the province because of extreme rarity (often 5 or fewer occurrences) or steep or long-term population decline rendering the species especially vulnerable to extirpation.
S2	Imperiled	Imperiled in the province because of rarity due to very restricted range, few populations (often 20 or fewer), steep declines, or other factors making the species vulnerable to extirpation.

* The letter ‘B’ after an S-rank indicates the status refers to the breeding population of the species.

4.2 Atmospheric Environment

4.2.1 Weather and Climate

The Project Area is located on the Burin Peninsula on the southeast coast of Newfoundland. It is situated within the broader Eastern Hyper-Oceanic Barrens ecoregion (NLECCC, 2008). Proximity to the ocean has a strong, moderating influence on the region's climate; summers are characterized by cool, foggy conditions, and winters are mild, with temperatures above 0°C being common (NLECCC, 2008). The Burin Peninsula is described as having some of the wettest climates in Newfoundland (ECCC 2024; NLECC 2025).

An assessment of recent weather and air quality conditions was completed using observational data from the following sources:

- Environment and Climate Change Canada (ECCC) weather data (ECCC, 2025)
- NLECCC Air Quality Data (NLECCC, 2024a).

Local temperature and precipitation data were obtained for the St. Lawrence meteorological station (Climate Identification (ID): 8403619; ECCC, 2025) which is within 10 km of the Project Area. From 2015 to 2024, the average annual temperature and precipitation were 6.5°C and 1504.6 mm (Table 4.2). Temperatures were coldest in February (average minimum and maximum daily temperature: -6.9°C and 0.4°C) and warmest in August (average minimum and maximum daily temperature: 12.9°C and 20.8°C). November and December were the wettest months, with average monthly precipitation totals of 167.5 mm and 158.5 mm, respectively (ECCC, 2025).

Table 4.2: Monthly Temperature and Precipitation Data (2015-2024) for the Town of St. Lawrence

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Ave Temp (C)	-2.6	-3.2	-1.6	2.6	6.4	10.7	14.9	16.8	13.5	8.8	4.5	-0.1	6.5
Min Temp (C)	-6.1	-6.9	-5.2	-1.3	1.9	6.2	10.9	12.9	9.3	4.7	1.0	-3.2	2.6
Max Temp (C)	1.0	0.4	2.0	6.4	10.9	15.1	18.9	20.8	17.7	13.0	7.9	3.0	10.4
Precip (mm)	127.8	119.4	139.9	124.0	95.5	115.8	106.4	129.5	105.1	115.2	167.5	158.5	1504.6

Data source: ECCC, 2025

Between 2015 and 2024, the average maximum daily wind speed in St. Lawrence ranged from 71 km/h in August to 109 km/h in March, predominantly originating from the west (NLECC 2025a).

A wind rose plot (Figure 4.1; NLECC, 2024a) is provided for the St. Lawrence meteorological station. The plots demonstrate that between 2014 and 2023, wind directions above 60 km/h occurred most frequently from the west, with Northerly winds being generally lighter.

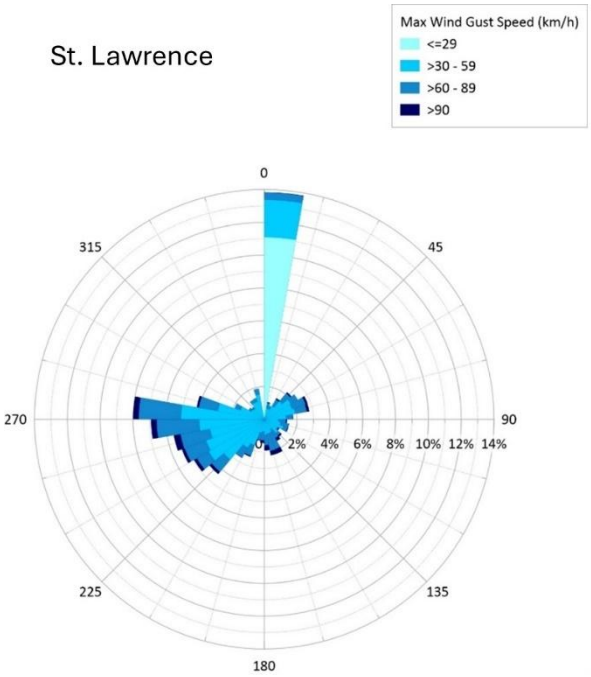

Figure 4.1: Wind rose of St. Lawrence meteorological station wind data between 2014 to 2023. (NLECC 2024a).

4.2.2 Air Quality

Air quality in NL is monitored via a series of 30 air quality monitoring stations that are part of the National Air Pollution Surveillance (NAPS) network (NLECCC, 2024b). Stations are jointly monitored by the NL Department of Environment and Climate Change and Environment and Climate Change Canada (6 sites), or by major industrial operators in the province (24 sites). The Government of Newfoundland and Labrador has legislated Air Pollution Control Regulations (NL APCR), N.L. Reg. 11/2022 under the NL *EPA*.

Recent air quality conditions on the Burin Peninsula (2019 to 2023) were inferred from air quality monitoring data provided by NLECCC (NLECCC, 2024d). The Burin air quality monitoring station (47.098988° N, 55.198521° W; Station ID 010901) is in the town of Burin, approximately 20 km northeast of the Project Area. An additional air quality monitoring station is located in St. Lawrence (46.913360° N, 55.400259° W) owned and operated by Canada Fluorspar Inc., however, data from this station has not been included at this time due to the completeness of available data. The provincially regulated pollutants (Schedule A) measured at the Burin air quality monitoring stations include:

- NO_2
- O_3
- PM2.5 and particulate matter ≤10 µm (PM10)
- CO

Provincial ambient air quality standards, which describe the maximum concentration of pollutants considered to be protective of the environment, are described in the NL APCR in Section 5.2.

Monitoring data indicates that the measured contaminants are below their respective Newfoundland Ambient Air Quality Standards, apart from PM2.5, which has exceeded the 24-hour NL APCR in the past five years (Table 4.3).

Table 4.3: Current (baseline) Maximum Ambient Air Quality Conditions at the Burin Air Quality Monitoring Station (January 1, 2019 to December 31, 2023). Data reproduced from NLECCC (2024b)

Parameter	Averaging Period	O_3 (ppb)	SO_2 (ppb)	NO_X (ppb)	NO (ppb)	NO_2 (ppb)	$PM_{2.5}$ ($\mu g/m^3$)
Burin Ambient Monitoring	1 hour	55.5	1.5	55.1	49.2	27.2	58.8
	24 hours[1]	48.5	0.50	36.4	29.7	10.6	**43.2**
	Annual[2]	32.5	0.07	4.8	3.4	1.6	5.9
CAAQS	1 hour	82	70	-	-	60	-
	24 hours[1]	-	-	-	-	-	25
	Annual[2]	-	-	-	-	-	8.8
Fraction of CAAQS	1 hour	67.7%	2.1%	-	-	45.3%	-
	24 hours[1]	-	-	-	-	-	172.7%
	Annual[2]	-	-	-	-	-	-

[1] 24-hour averaging period is calculated using a rolling average of hourly maximums.
[2] Annual averaging period is calculated using the yearly average of hourly maximums.
Bold and underlined data indicates exceedances

4.3 Aquatic Environment

4.3.1 Fish and Fish Habitat

A desktop study was conducted to identify fish habitat and potential fish species that could be found within the Study Area. For this assessment, the following resources were used:

- DFO Aquatic Species at Risk Map (DFO, 2025b)
- Newfoundland and Labrador Water Resources Portal (NL WRM, n.d.)
- Newfoundland and Labrador FAL – Land Cover (NLFAL, 2025)
- CanVec Database – Hydrographic Features (NRCan, 2023)
- Newfoundland and Labrador Land Use Atlas (NL, 2020)
- NLFAL GeoHub Aquaculture Licenses dataset
- ACCDC Data Report (Appendix D)
- Scientific literature and government documents
- Canadian Wetland Inventory Map

4.3.2 Aquatic Species Community

There is no publicly available database outlining fish species presence in the Study Area. Therefore, government research, and past EA documentation were reviewed for records of species potentially occurring in the Project Area as well and adjacent coastal habitats of the Burin Peninsula.

The review identified 25 finfish species (Table 4.4), including socio-economically valuable species, namely Atlantic salmon (*Salmo salar*) and Atlantic cod (*Gadus morhua*) that use coastal habitats in Placentia Bay as nursery grounds before migrating offshore (Robichaud & Rose, 2006).

Table4.4: List of Aquatic Fish Species within the Project Area

Common Name	Scientific Name	Species Status				Habitat
		SARA	NL ESA	COSEWIC	S-Rank	
Banded killifish	*Fundulus diaphanus*	Special Concern	Vulnerable	Special Concern	S3	Freshwater
American eel	*Anguilla rostrata*	-	Vulnerable	Threatened	-	Freshwater Coastal
Blackspotted stickleback	*Gasterosteus wheatlandi*	-	-	-	-	
Fourspine stickleback	*Apeltes quadracus*	-	-	-	-	
Threespine stickleback	*Gasterosteus aculeatus*	-	-	-	-	
Ninespine Stickleback	*Pungitius pungitius*	-	-	-	-	
Atlantic salmon	*Salmo salar*	-	-	Threatened‡	-	
Brook trout	*Salvelinus fontinalis*	-	-	-	-	
Brown trout	*Salmo trutta*	-	-	-	-	
Rainbow smelt	*Osmerus mordax*	-	-	-	-	
Atlantic sturgeon	*Acipenser oxyrinchus*	-	-	Threatened	-	
Sand lance	*Ammodytidae*	-	-	-	-	Coastal
Atlantic cod	*Gadus morhua*	-	-	-	-	
Capelin	*Mallotus villosus*	-	-	-	-	
Cunner	*Tautogolabrus adspersus*	-	-	-	-	
Atlantic herring	*Clupea harengus*	-	-	-	-	
Atlantic silversides	*Menidia menidia*	-	-	-	-	
Greenland cod	*Gadus ogac*	-	-	-	-	
Grubby sculpin	*Myoxocephalus aenaeus*	-	-	-	-	
Longhorn sculpin	*Myoxocephalus octodecemspinosus*	-	-	-	-	
Rainbow smelt	*Osmerus mordax*	-	-	-	-	
Rock gunnel	*Pholis gunnellus*	-	-	-	-	
Shorthorn sculpin	*Myoxocephalus scorpius*	-	-	-	-	
Smooth flounder	*Pleuronectes putnami*	-	-	-	-	
White hake	*Urophycis tenuis*	-	-	-	-	
Winter flounder	*Pseudopleuronectes americanus*	-	-	-	-	
Polar bear	*Ursus maritimus*	Special Concern	-	-	-	Incidental occurrence†
Blue whale	*Balaenoptera musculus*	Endangered	-	-	-	Marine

Common Name	Scientific Name	Species Status				Habitat
		SARA	NL ESA	COSEWIC	S-Rank	
North Atlantic right whale	*Eubalaena glacialis*	Endangered	-	-	-	
Leatherback sea turtle	*Dermochelys coriacea*	Endangered	-	-	-	
White shark	*Carcharodon carcharias*	Endangered	-	-	-	
Northern wolffish	*Anarhichas denticulatus*	Threatened	-	-	-	
Fin whale	*Balaenoptera physalus*	Special Concern	-	Special Concern	-	
Spotted wolffish	*Anarhichas minor*	Threatened	-	Threatened	-	

‡ South Newfoundland population

†Incidental record, Burin Peninsula does not fall in the habitat range

4.3.2.1 Species at Risk (SAR)

The Canadian aquatic species at risk map (DFO, 2025b) identified the coastal waters off the southeast coast of the Burin Peninsula as being potential habitat for SAR. The SAR that are found or potentially found in the coastal area adjacent to the Project includes:

- Fin whale (*Balaenoptera physalus*)
- Blue whale (*Balaenoptera musculus*)
- Spotted wolffish (*Anarhichas minor*)
- North Atlantic right whale (*Eubalaena glacialis*)
- Leatherback sea turtle (*Dermochelys coriacea*)
- White shark (*Carcharodon carcharias*)
- Northern wolffish (*Anarhichas denticulatus*)

Fin Whale

Fin whales (*Balaenoptera physalus*) are most common in cool and subpolar oceanic waters. The species tends to occupy waters at high latitudes in summer and breed during winter in lower latitudes. Fin whales can be found in Canada year-round. The Atlantic population of fin whale tend to concentrate in productive waters with high concentrations of crustaceans but the bathymetry or their habitat is variable (unlike the pacific population). Historically, hunting was the main threat to fin whales but noise from activities such as oil and gas exploration, shipping, wind farms, and military exercises is an ever-growing concern that causes displacement and injury and interferes with intra-species communication. Other threats are injury due to vessel strikes entanglement in fishing gear (COSEWIC, 2019a)

Blue Whale

The blue whale (*Balaenoptera musculus*) is found globally but the Atlantic population is most common in the coastal and pelagic waters of eastern Canada and Iceland. The species is often concentrated along the edge of the continental shelf where krill are abundant. Commercial whaling has caused the largest reduction in population, with other threats to the species including disturbances from fishing, boat traffic, and pollution. The effects of ocean warming on the abundance of prey is increasingly becoming a threat to the blue whale (COSEWIC, 2002)

Spotted Wolffish

The spotted wolffish (*Anarhichas minor*) occupies cold waters (50 to 600 m in depth and below 5 °C) along the continental shelf and across the North Atlantic but is primarily found off northeastern Newfoundland. Where they occur, the ocean substrate tends to be sand or mud with nearby boulders. Fishing activities, especially bottom trawling and dredging, are threats to the species and their habitat (COSEWIC, 2001a).

North Atlantic Right Whale

North Atlantic right whale (*Eubalaena glacialis*) occupies the waters of Canada - including Newfoundland - where the species migrates to feed, primarily on copepods (*C. Finmarchicus*). Like other whale species, one of the biggest threats to the North Atlantic Rish Whale is interactions with vessels and fishing activities, including collisions and entanglement in equipment. Other threats to the species include a small population size which can cause poor genetic health for populations. The effects of climate change may also contribute to habitat loss, disease, and reduced prey availability (COSEWIC, 2003a).

Leatherback Sea Turtle

Leatherback sea turtles (*Dermochelys coriacea*) are large marine turtles that occupy tropical and temperate waters including the Atlantic Ocean. The northern extent of their range is 71°N but the species does not nest in Canada. In Atlantic Canada, leatherback sea turtles occur in offshore and coastal waters (2 to about 5000 m in depth) but are mostly found along the continental shelf. Major threats include interactions with fisheries including being caught as bycatch, getting stuck in fishing equipment, or getting struck by ships. Other threats include pollution, climate change interactions and oil and gas exploration (COSEWIC, 2015b).

White Shark

The white shark (*Carcharodon carcharias)* is found widely between 60 °N to 60°S. In Atlantic Canada, the species is found sporadically and is considered uncommon. In Newfoundland, the species has only been observed along the Northeast Newfoundland Shelf and the Strait of Belle Isle. The species can occupy a wide range of ocean depths, found in surface waters to a depth of about 1,300 m. The biggest threat to white sharks is human activity, either from hunting, commercial bycatch or international trade. They are unlikely to get caught in fishing gear with only two recorded instances in Atlantic Canada since 1990 (COSEWIC, 2006b).

Northern Wolffish

The northern wolffish (*Anarhichas denticulatus)* is found in cold continental waters in the North Atlantic, including in southern Newfoundland. Habitat requirements include offshore waters below 5°C and depth greater than 100 m. They also prefer habitat with soft substrates and boulders nearby. Threats include being captured as by-catch, and bottom trawling with disturbs habitat (COSEWIC, 2001b).

The nearest critical habitat for marine SAR is found about 200 km away from the PA (DFO, 2025b). A review of aquatic SAR listed under the NL ESA and SARA was also conducted and identified another 3 species that may be present within oceanic component of the Study Area: American eel, banded killifish, and Atlantic wolffish.

American Eel

Five Freshwater Ecological Areas (FEAs) are used by eels in Canada including the Atlantic Island FEA (i.e. Newfoundland) and historically have been found throughout marine and freshwater habitat in Atlantic Canada. American eels migrate though ocean waters and during the continental phase they occupy all zones including sheltered marine waters, estuaries and lakes and rivers. Threats include mortality due to hydroelectric dams and a parasite the effects eels ability to survive, *Anguillicola crassus*. This parasite has not yet been observed in Canada but is present in the Northern United States and has potential for its range to expand north into Canada (COSEWIC, 2006a).

Banded Killifish

Banded killifish is widely distributed in the maritime provinces, but only 7 populations are known to exist in Newfoundland. Two populations occur on the Burin Peninsula near the town of Winterland approximately 25 km from the Project Area but is unlikely that they occur in watersheds within the Project area. These populations are considered geographically distinct, and they are the only populations that are considered SAR due to threats, habitat degradation and limited available habitat for range expansion. The species requires clear, warm water for spawning and habitat with aquatic vegetation and sandy to muddy substrates. Threats to the populations on the Burin Peninsula is not well known (COSEWIC, 2003b).

4.3.2.2 ACCDC Report

The ACCDC Data Report (2025) identified no SAR or SOCC records in the Study Area (Appendix D).

4.3.2.3 Invasive Species

In the coastal marine environment, the primary invasive species are green crab (Carcinus maenas), but others include violet tunicates (Botrylloides violaceus), golden star tunicates (Botryllus schlosseri), and coffin box bryozoan (Membranipora membranacea). Green crab were introduced to Newfoundland in 2007, including Placentia Bay and Fortune Bay (i.e., both bays on either side of the Burin Peninsula), presumably via vessel ballast water (Matheson et al. 2016). Occurrences of green crab correlated with a decline in eelgrass meadows and fish abundance in Placentia Bay. Green crab are generalists and can survive long durations in air, brackish water, and freshwater. Work, led by DFO and the Fisheries and Marine Institute of Memorial University, is ongoing to control the spread of green crab in Newfoundland.

4.3.3 Fish Habitat

4.3.3.1 Waterbodies

Waterbodies within the Project Area were identified using the federal CanVec 50k Hydrographic Features database (NRCan, 2023) and supplemented with additional watercourse features identified in the FAL Land Cover database (NLFAL, 2025). For waterbodies, only those present within the Project Area associated with the Launch Complex and Mission Control Building have been recorded. Waterbodies associated with the access road have not been discussed as the final detailed design will include a constraint of amin-imum 15 m buffer of all waterbodies. A review of these databases identified 12 unnamed waterbodies in the Project Area (Table 4.5). Waterbodies have a median area of 0.001 km^2, with the largest area being 0.008 km^2. Three of these waterbodies are located in the Mission Control Project Area, while the remaining nine are located within the Launch Complex Project Area.

Table 4.5: Waterbodies within the Project Area

CANVEC Feature ID	Waterbody name	Type	Area (km^2)	Permanency
59ed56ec750c406b8941fa0ac0bccbc7	-	Lake	0.001	Permanent
65da147e2e71474fb7160daa6b4d7209	-	Lake	0.001	Permanent
42c1bc3df5714cf39adc74a4ca9e816b	-	Lake	0.001	Permanent
7d9611e783184f4fb2f4994eb944fcdc	-	Lake	0.004	Permanent
7ff29a2a7f6743028ff5cfa4d09f24e5	-	Lake	0.001	Permanent
b68736eb893b42a289c99c3746fda7c0	-	Lake	0.005	Permanent
e9733cd9c25b4756b226182fe66180b3	-	Lake	0.001	Permanent
3a2521ff75e043c094ce2e5c134bf852	-	Lake	0.005	Permanent
c427e624dcd446969dfce35553f3319b	-	Lake	0.001	Permanent
1a1259140fdf4b639ed336029356777e	-	Lake	0.008	Permanent
cb9a9cde9ae64d898bfde2bd11e602e3	-	Lake	<0.001	Permanent
3afb8dfbb82a4b0ebc804a4c3988a7da	-	Lake	0.002	Permanent

4.3.3.2 Watercourses

Watercourses that intersect with the Project Area were identified using CanVec 50 k Hydrographic Features database (Table 4.6). A single unnamed watercourse was identified near the north end of the access road, flowing from an unnamed pond into Bryant Pond, and was not identified as a salmon river (Drawing 1).

Table 4.6: Watercourses that Intersect the Project Area

WC ID	CANVEC Feature ID	Watercourse name	Length (km)	Permanency	Outflow (drainage basin)
1	64d32a4d0c604ba1bd010a1a1adc31c4	NA	0.26	Permanent	Bryant Pond

There is one scheduled salmon river within 10 km of the Project Area which feeds into Little St. Lawrence Harbour (NL, 2020). The Little St. Lawrence River is considered class 2 (DFO, 2025a) and the mouth of the river is located about 4 km from the Mission Control Centre (NL, 2020)

4.3.3.3 Marine Nearshore Environment

A review of aerial imagery and the Community-Based Coastal Resource Inventory shows that the shoreline along the Project Area is primarily steep cliffs with no beaches present. Placentia Bay itself is documented as an Ecologically and Biologically Significant Area (EBSA) and the Project area is adjacent to the boundaries of the Placentia Bay EBSA. While this EBSA has been designated due to the presence of salmon rivers, capelin spawning beaches eelgrass habitats and seabird colonies, these features were not noted to be present or directly adjacent to the Project Area based on the desktop review.

Marine Eelgrass Habitat

Eelgrass (*Zostera marina*) is a seagrass that plays an important role in coastal and estuarine ecosystems by reducing force of waves, providing habitat for a wide variety of organisms, providing ecosystem services, and acting as a carbon sink (ECCC, 2020). The national eelgrass dataset for Canada provides the location and distribution of eelgrass in Canada. While eel grass beds are present throughout Placentia Bay, the dataset showed no eelgrass beds found within the Study Area (Government of Canada, 2025).

4.4 Terrestrial Environment

4.4.1 Ecoregion Overview

The island of Newfoundland is divided into nine ecoregions based on patterns in vegetation and soil development that are driven by variation in climate and geology (NL ECC, n.d.). The Project Area for the Atlantic Spaceport Complex lies entirely within the small and fragmented Eastern Hyper-Oceanic Barrens ecoregion (NL ECC, 2008). This ecoregion is restricted to the southern portions of the Burin and Avalon peninsulas and sections of the northeastern coast of Newfoundland.

The Eastern Hyper-Oceanic Barrens ecoregion is characterized by flat to gently rolling topography with a maximum elevation above sea level of approximately 200 m. Despite the low elevation, summer temperatures are cool with frequent fog due to oceanic influence (NL ECC, 2008). Trees are uncommon and those that are present are stunted due to harsh climatic conditions, consisting almost entirely of balsam fir tuckamore. Most of the ecoregion consists of costal barrens vegetation with blanket and plateau bogs occurring in areas with poor drainage (NL ECC, 2008). Coastal barrens vegetation is characterized by heath moss, a plant community not commonly found in North America. Plants that typify the ecoregion are crowberry, lichens, and arctic-alpine plants such as alpine azalea. Other species include cloudberry, partridgeberry, and blueberry (NL ECC, 2008).

The Eastern Hyper-Oceanic Barrens ecoregion provides important habitat for seabirds including Leach's storm petrel, Atlantic puffin, black-legged kittiwakes, common murres, northern gannet, and harlequin duck. Species such as rough-legged hawk and snowy owl occupy coastal barren habitat, and various passerines and ptarmigan are present in forested areas (NL ECC, 2008). Mammal populations include caribou, snowshoe hare, bats, lynx, red squirrel, and red fox. Few amphibian species are present in this ecoregion, and none are native to Newfoundland.

4.4.2 Geology Overview

An assessment of the geological environment of the Project Area included a review of surficial and bedrock geology. The assessment was completed through a review of the following resources:

- Aerial imagery and topography
- Newfoundland and Labrador Geoscience Atlas (NLEM, 2025)

The Burin Peninsula is part of the Avalon Zone geologic region, which includes a variety of lithofacies (volcanic, sedimentary, and plutonic rock types). The bedrock of the Project Area is part of the Burin Group, which is composed of volcanic mafic marine rock of the Neoproterozoic Era (Strong et al. 1978).

The portion of the Project Area containing the Mission Controle Centre is situated within the Sculpin Point formation, composed of grey-green siltstone, sandstone, conglomerate, black shale, argillite, subordinate mafic flows and sills (NLEM, 2025). The surficial geology of this area is primarily characterized by concealed (vegetated) bedrock. The launch complex and launch complex access road are situated upon the Port au Bras formation, with bedrock composed of waterlain mafic pyroclastics, and abundant pillowed basalt, tuffaceous sandstone, black argillite, recrystallized dolomitic limestone breccia (Strong et al., 1978). The Project Area around the launch complex is highly coastal and has a greater proportion of exposed bedrock than the mission control centre or launch complex access road.

4.4.3 Landcover Classification

An evaluation of landcover types was conducted using the NL Forest Resource Inventory compiled by NL FAL. This database provides a landscape level analysis of land classes across the province and is used provincially for the development of annual forestry allocations. The database is updated continuously on a 10-year cycle and is generated through aerial interpretation couple with field validations.

The dominant terrestrial habitat types within the Study Area (12,836.33 ha) were assessed using a landcover classification derived from the NL FAL provincial forestry database (Drawing 5; Table 4.7).

The dominant landcover types within the Study Area are wetland (30.3%), coniferous scrub (29.8%), and barren (rock- barren type; 25.7%). The Project Area is dominated by barrens (67.6%) with coniferous scrub the next most prevalent (21.9%). Wetlands only account for 8% of the total Project Area. Within the Project Area, landcover differs between the two portions of the Crown Land lease. The portion of the Project Area containing the mission control centre is a mix of wetland bog and coniferous scrub, whereas the launch complex is primarily rock barren. The launch complex access road passes through coniferous scrub and wetlands in the northern half and open, rock barren to the south.

Table 4.7: Percentage Coverage of Landcover Classes in the Study Area

Landcover Class	% Cover – Study Area (Terrestrial)	% Cover – Project Area
Anthropogenic	2.0	--
Barrens	25.7	67.6
Coniferous scrub	29.8	21.9
Deciduous scrub	2.5	0.2
Softwood	3.9	--
Waterbody	5.9	2.3
Wetlands	30.3	8.0

4.4.4 Wetlands

A wetland is defined by the NL *Water Resources Act (2002)* as “land that has the water table at, near or above the land surface and includes bogs, fens, marches, swamps and shallow open water areas”. Wetlands are the predominant land cover on the Burin Peninsula. Aside from providing valuable habitat for fauna and flora, wetlands provide important ecosystem services like water purification, nutrient storage, carbon storage and flood protection.

In addition to the wetlands identified through the NL FAL provincial Forestry Database (Section 4.4.3) the saturated soils layer from the CanVec 50 k Hydrographic Features Database (NRCan, 2023) was used to further assess the presence of wetlands within the Project Area. Wetlands were further assessed using the Canadian Wetland Inventory Map (NRCan, 2024), a model with has an overall accuracy of 90.5%.

No areas identified within the saturated soils layer were deemed to be present within the Project Area. While some additional areas were identified using the Canadian Wetland Inventory, these locations will be excluded during final detailed design of the Project Footprint, and when possible, during final detailed design of the access road. No additional wetlands were identified beyond those previously identified in the FRI at the Mission Control Centre location

4.4.5 Terrestrial Flora

A desktop analysis was conducted to identify known occurrences of rare and/or legislatively protected botanical Species of Conservation Concern (SOCC) including Species at Risk (SAR) (as defined in section 4.1 of the ESA and the federal SARA) within the Study Area. It is anticipated that direct interactions with the Project will be limited to the Project Area; however, a larger search radius may reveal records for species that have potential to occur in the Project Area but have yet to be identified.

The following sources were evaluated:

- Newfoundland and Labrador Land Use Atlas (source)
- ACCDC report (Appendix D)

There are currently 34 plant and lichen species listed under the NL ESA (Newfoundland and Labrador, 2001). Data provided by the ACCDC Report (Appendix D) showed no records of SAR and one SOCC record in the Study Area. Fragile Rockbrake (*Cryptogramma stelleri*) has a provincial species rank of S2S3 (“Imperiled”) and was identified in 1998 near Little St. Lawrence (approximately 5 km from the Project Area). Fragile Rockbrake is a small fern with mostly twice pinnate leaves 5-15 cm long (Government of Montana, 2025). The species occupies wet crevices of cliffs and outcrops. It is not considered globally rare outside of Newfoundland and Labrador.

Although not previously recorded within the Study Area (ACCDC report), water pygmyweed (*Crassula aquatica*), a Vulnerable species under the NL ESA (Newfoundland and Labrador, 2001), is known to occur in coastal habitat on the Burin Peninsula. Water pygmyweed is a very small, annual, succulent, herbaceous plant that inhabits semiaquatic coastal environments (NLFFA, 2021). Within Newfoundland and Labrador, it is only known to occur on southern Avalon and Burin Peninsulas where six and five occurrences have been documented, respectively, as of 2021 (NLFFA, 2021). All known occurrences are in intermittently wet, disturbed habitat including quarry pits, roadside shoulders and ditches, and trail ruts. The closest known occurrences are about 25 km from the Project Area in Taylor’s Bay (near Point au Gaul, NL). Water pygmyweed has some potential to occur throughout all coastal sections of the Project Area, particularly those that have been previously disturbed; however, based on available data (Newfoundland and Labrador, n.d.; NLFFA, 2021), known species occurrences on the Burin Peninsula are at lower elevations (~10 masl) more prone to saline/brackish waters than the raised plateau of the Project Area (< 20 masl).

4.4.6 Terrestrial Fauna

A desktop review was completed to identify potential fauna that could occur in the Study Area, with a focus on SAR. The following information was used to evaluate potential species:

- Newfoundland and Labrador Land Use Atlas (Newfoundland and Labrador, n.d.)
- Known distributions and habitat requirements for species cited herein
- Important Bird Areas (IBA Canada, 2025)
- Sea duck Key Sites (Sea Duck Joint Venture, n.d.)
- ACCDC report (Appendix D)

4.4.6.1 Avifauna

The study area provides habitat for a variety of avian species. The coastal waters within and adjacent to the Study Area provides habitat for waterfowl and coastal waterbirds due to habitat characteristics including the presence of coves and islands and wetlands (for waterfowl). Habitat throughout the study area is assumed to be used as breeding habitat, however breeding and migratory bird surveys have not been conducted. Coastal habitat within the Study Area also may supports raptors like the bald eagle (*Haliaeetus leucocephalus*).

There are 21 avian species currently listed under the NL ESA (Newfoundland and Labrador, 2001). Based on the known ranges and habitat requirements for these species, 16 have potential to be present within the Study Area, with an additional five species having been previously documented presence by ACCDC (Table 4.8).

Table 4.8: Avian Species at Risk with Potential to Occur in the Study Area

Common Name	Scientific Name	COSEWIC	SARA	NL ESA
Barrow's goldeneye	*Bucephala islandica*	Special Concern	Special Concern	Vulnerable
Eskimo curlew	*Numenius borealis*	Endangered	Endangered	Endangered
Gray-cheeked thrush	*Catharus minimus minimus*	Threatened	_	Threatened
Harlequin duck	*Histrionicus histrionicus*	Special Concern	Special Concern	Vulnerable
Leach's storm-petrel (Atlantic population)[1]	*Oceanodroma leucorhoa*	Threatened	--	Threatened
Red-necked phalarope	*Phalaropus lobatus*	--	Special Concern	Vulnerable
Short-eared owl[1]	*Asio flammeus*	--	Special Concern	Threatened
Bobolink[1]	*Dolichonyx oryzivorus*	Threatened	Threatened	Vulnerable
Piping plover	*Charadrius melodus*	Endangered	--	Endangered

Common Name	Scientific Name	COSEWIC	SARA	NL ESA
Evening Grosbeak[1]	*Coccothraustes vespertinus*	Special concern	Special concern	Vulnerable
Barn swallow[1]	*Hirundo rustica*	Special concern	Threatened	Vulnerable
Olive-sided flycatcher	*Contopus cooperi*	Special concern	Special concern	Vulnerable
Red crossbill	*Loxia curvirostra percna*	Threatened	Threatened	Threatened
Red knot	*Calidris canutus*	Endangered	Endangered	Endangered
Hudsonian godwit	*Limosa haemastica*	Threatened	--	Threatened
Rusty blackbird	*Euphagus carolinus*	Special concern	Special concern	Vulnerable

[1]Identified by ACCDC report as previously present within Study Area

Barrow's Goldeneye

Barrow's goldeneye (*Bucephala islandica)* is a medium-sized diving duck that mostly breeds and over-winters in Canada. The exact distribution of this species is not well understood, but they are known to winter in Newfoundland, mostly in coastal areas near Terra Nova National Park. Threats to this species include oil spill-related contamination of the sediment found in their habitat, hunting, and forest harvesting (COSEWIC, 2000).

Eskimo Curlew

Eskimo curlew are small shorebirds that nest in the Northwest Territories and use the coastal barrens of Newfoundland as stopover locations as they migrate to South America. Sightings of this species are extremely rare, and there has not been a confirmed observation since the 1960s suggesting the species may be extinct (NLFFA, 2010a). The decline of this species is attributed to hunting, declines in appropriate grassland habitat for stopover and wintering, and declines in invertebrate (prey) availability during migration (COSEWIC, 2009).

Gray-cheeked Thrush

Gray-cheeked thrush (*Catharus minimus minimus*) breed in Newfoundland and Labrador, most commonly on the Northern Peninsula and Northeast coast of the island. For breeding habitat, the species prefers coniferous forests, young regenerating stands, and areas with stunted spruce and fir (tuckamore), the latter of which is found in the Project Area.. The threats to the species are not well understood but may include harvesting of old growth habitat and the increased density of red squirrel in Newfoundland, a species that predates bird nests. Collisions with man-made structures like radio towers during the species migration is also a potential threat (Dalley et al., 2005). There are historic and recent breeding observations for the species on the Burin Peninsula, and, since the species is known to migrate to Nova Scotia, it is also possible that there could also be migratory habitat within the Study Area as well (ECCC, personal communication, 10 October 2025).

Harlequin Duck

The harlequin duck (*Histrionicus histrionicus*) is a small sea duck with two disjunct populations in Canada. The eastern population breeds in Quebec, Newfoundland and Labrador, New Brunswick, and Nunavut. Placentia Bay is an important location for the species to overwinter; however, most of this activity takes place east of the Study Area. The species inhabits fast-flowing rivers and streams during breeding season and winters in outer-marine coastline habitat. Hunting is thought to have impacted this species historically, but current threats include disturbance of wintering populations through hydrocarbon pollution (e.g., through oil exploration and production, international shipping). Other threats to the species include boating, fishing, and development within breeding habitat (COSEWIC, 2013a).

Leach's Storm-petrel

Leach's storm-petrel (*Oceanodroma leucorhoa*) is a small seabird that occurs in the Northern Hemisphere. There are two disjunct populations – Pacific and Atlantic. The Atlantic population breeds in Canada's Atlantic provinces, including Newfoundland and Labrador. About one third of the world's Leach's storm petrels belong to the Atlantic population, with the largest colony being on Baccalieu Island, Newfoundland. The species breeds on islands that have well drained soils and vegetated habitat that is generally free from mammalian predators. During the breeding season, Leach's storm-petrel are nocturnal foragers that capture fish in open waters. The most notable threat to the species is low adult survival partially due to high predation rates from other, larger, avian species such as gulls. Expanding Atlantic puffin colonies also threaten the species by reducing the total area of habitat available, especially for nesting. Severe weather events like storms and extreme temperatures which are a result of climate change can reduce the availability of prey. Leach's storm-petrel can also be severely impacted by light pollution which confuses fledglings, resulting in them being stranded on shore or at industrial sites and making them more susceptible to predation (COSEWIC, 2020b)

Red-necked Phalarope

Red-necked phalarope (*Phalaropus lobatus*) occurs in every Canadian province and territory. Although breeding activity has not been confirmed in Newfoundland, the species is known to present during the migration seasons in April to May and August to October. During migration, the species is primarily pelagic but can use wetlands and waterbodies as stop-over habitat, however it is unlikely that the species would use the Study Area as breeding habitat (ECCC, personal communication, 10 October 2025)Threats to migrating phalaropes include decreased prey availability due to disturbance from activities such as shipping, increased competition with fish for food resources like copepods (i.e., *C. finmarchicus*), changes in water quality, and increased levels of pesticide run-off. Other threats include pollution from oil spills, tailing ponds, and plastics which can affect migrating populations that occupy offshore habitat (COSEWIC, 2014c).

Short-eared Owl

In Newfoundland, Short-eared owls (*Asio flammeus)* have been found in tundra, coastal barrens, sand dunes, fields and bogs and are most abundant in western Newfoundland and the Northern Peninsula. Across Canada, long-term population declines have been noted but Atlantic Canada populations seem stable. Threats include lack of available prey, predation of eggs and young, resource competition and disturbance of nests. Development of coastal areas may also contribute to the decline of the species (NLFFA, 2010b). A survey for short-eared owl was conducted at the temporary launch site and temporary access roads in July 2025, with no presence of individuals or nests observed during that survey. Methods for these surveys are described below (Section: Short-eared Owl Surveys).

Bobolink

The bobolink is a medium-sized passerine. Males are black on the lower half and lighter above, while females are light beige streaked with brown and could be mistaken for a sparrow species. The bobolink has a conical bill, rigid, sharply pointed tail feathers and long hind toenails. Bobolinks prefer grasslands, prairies and meadows. The primary causes of decline include incidental mortality due to agriculture practices, habitat fragmentation and loss of habitat (COSEWIC, 2010).

Piping Plover

Piping plover are known to breed in northeast Newfoundland and are not commonly observed on the Burin Peninsula. However, in 2025, one occurrence of piping plover was recorded at Shoal Cove, a beach several kilometers west of the mission control centre (eBird, 2025).It is not clear whether this area is currently included in the species' breeding range. Piping plover are also known to change breeding locations over time and their range has expanded so it is possible that they will continue to use this habitat (COSEWIC, 2013b). Although not commonly observed on the Burin Peninsula the species is known to be observed in nearby St. Pierre and Miquelon and, as such, may be present in the Study Area (ECCC, personal communication, 10 October 2025)..

Evening Grosbeak

The evening grosbeak (*Coccothraustes vespertinus*) is listed as 'vulnerable' under the NL ESA and 'special concern' under SARA. This species is found throughout forests in Canada and are year-round residents in Newfoundland and Labrador. Evening grosbeak breeding habitat consists of open, mature softwood forests with either balsam fir or white spruce dominant. As it is a resident species, its non-breeding habitat consists of areas with abundant seed crops from coniferous trees such as firs and spruces. They are also known to occupy residential areas where feeders are found as they are stocked with seeds.

Barn Swallow

Barn swallows are a medium-sized passerine with metallic blue- and cinnamon-colored underparts, and a chestnut throat and forehead. Its most recognizable feature is a deeply forked tail with long outer feathers. Prior to anthropogenic features Barn swallows largely nested on fissures in cliffs, rock overhangs, and caves. Thereafter, their preferred nest sites

became human-made structures, including barns, stables, houses, sheds, and bridges. Barn swallows prefer to forage over open spaces such as grasslands, agricultural fields, shorelines, woodland clearings, wetlands, sand dunes, and roads. Currently the major concerns effecting Barn swallow decline are thought to be modifications to the natural system (indirect threats such as pesticides and habitat loss reducing prey quality and quantity), climate change, housing and commercial development, roads and pollution (COSEWIC, 2021). Several observations of barn swallow have been recorded within St. Lawrence and there is potential for nesting to occur in project infrastructure (ECCC, personal communication, 10 October 2025)..

Olive-sided flycatcher

This medium-sized songbird is an aerial insectivore found throughout Canada, including Newfoundland. Olive-sided flycatcher breeds in boreal, sub-boreal, interior and coastal forest regions and the highest density for breeding individuals is found in mountainous regions of Western North America. The species winters in South America and migrates through Central America. It is commonly observed in coniferous or mixed-wood forests, often adjacent to water or wetland, and in areas with tall snags. Olive-sided flycatcher is also associated with habitat influenced by natural disturbances, such as forests fires. They generally nest on coniferous branches and feed on a variety of insects like those belonging to Diptera, Lepidoptera and Odonata. Threats to olive-sided flycatcher includes loss of prey (via loss of habitat for insects, climate change, habitat acidification and use of pesticides), deforestation or land conversion of nonbreeding habitat, silvicultural activities in breeding habitat, and mining exploration and extraction (COSEWIC, 2018).

Red Crossbill

A small finch with a crossed bill adapted for eating seeds. Red crossbill prefer mature black spruce and balsam fir forests across the island of Newfoundland. The *percna* subspecies is unique to the island of Newfoundland and appears to have become rare in recent years, likely related to loss of mature forested habitats, as this species relies on cone crops as its food source (Government of Newfoundland and Labrador, n.d.-a) Threats to the species include the degradation of boreal forest habitat and potentially the competition with and predation of red squirrels (COSEWIC, 2004)

Red knot

The red knot, *rufa* subspecies is a medium shorebird that breeds in central Canadian Arctic and winters in South America. During migration, the species replies on coastal areas with extensive sandflats or mudflats and also use peat banks, salt marshes, lagoons and mussel beds where the feed on invertebrate like bivalves. Threats to the species includes overfishing within migratory habitat in South America. Decreased habitat availability in eastern North America which is used during their migration may also be contributing to the species decline, along with climate change (including severe weather events), pollution (oil), and increased predation (COSEWIC, 2007).

Hudsonian godwit

Hudsonian godwit breed in sub-arctic and boreal regions of North America and overwinters in South America. Primary staging areas for the species during its southern migration include the coast of James Bay and the prairie lakes in Saskatchewan. During migration and breeding they can be found in Canada's territories and British Columbia to Quebec. During fall they are also occasionally found in the Atlantic provinces, including Newfoundland. During migration, Hudsonian godwit use freshwater marshes, saline lakes, flooded fields, shallow ponds, coastal wetlands, and mudflats. Climate change, urban sprawl within foraging habitat, and pollution (oil) are listed as threats to the species (COSEWIC, 2020a)

Rusty blackbird

A medium-sized passerine with pale yellow eyes and a black, slightly curved bill. During the breeding season, the male's plumage turns completely black with a slight green and violet iridescence. In winter, the plumage of both sexes is rust-coloured. Within Newfoundland and Labrador, rusty blackbird can be found throughout the boreal forest, breeding in forest wetlands, bogs, meadows, marshes, and swamps (Government of Newfoundland and Labrador, n.d.-b). Rusty blackbird tend to nest on the edge of wetlands/bogs in the tree line surrounding the area.

In addition to the above noted SAR, Table 4.9 contains those SOCC that were identified as occurring within the Study Area as identified by ACCDC. As the Project Area does not intersect any beaches it is unlikely that Semipalmated Plover habitat will be directly impacted. Given the small footprint and mostly rock barren habitat associate with the Project Area, there is a low likelihood of other SOCC being present within the Project Area.

Table 4.9: Avian Species of Conservation Concern Reported Within the Study Area (ACCDC report)

Common Name	Scientific Name	COSEWIC	SARA	NL ESA	S-Rank (2020)	Habitat
Rough-legged hawk	*Buteo lagopus*	---	_	---	S2S3	Primarily nest in tundra, winter habitat includes coniferous forests
Semipalmated plover	*Charadrius semipalmatus*	---	---	---	S1B, S4M	Nest in subarctic, winter on beaches
American kestrel	*Falco sparverius*	Candidate, low priority (Group 3)	---	---	S2B, SUM	Prefer open areas with short vegetation and without trees
Caspian tern	*Hydroprogne caspia*	---	---	---	S2B, SUM	Breed in eastern Newfoundland, occupy coastal habitat

Chipping sparrow	*Spizella passerina*	---	---	---	S2S3B, SUM	Breeds in Newfoundland, found in treed areas with grassy openings

Important avian habitat

A coastal Municipal Stewardship Area for the town of St. Lawrence is located within the Study Area (Drawing 6). The stewardship area is important for waterfowl, shorebirds, and seabirds (NL, 2020). The Corbin Island Important Bird Area (IBA) is also located within the Study Area (about 10 km northeast of the launch complex), with other IBAs and seabird colonies in the Placentia Bay region (Drawing 6). Recent surveys of the Corbin Island IBA have not been completed but are historically known to support large colonies (10,000 breeding pairs) of Leach's storm-petrel along with other avian species (IBA Canada, 2025).

Middle Lawn Island IBA is about 20 km from the mission control centre (outside the Study Area)(Drawing 6) and is known to support the largest concentration of manx shearwater in North America, with approximately 100 breeding pairs and 300 additional individuals recorded in the 1980s (IBA Canada, 2025). Leach's storm-petrel also nests on the island along with several species of gull. Based on most recent population estimates, 200,000 mature individuals were observed on Corbin Island and 21,582 mature individuals on Middle Lawn Island (IBA Canada, 2025).

Other important avian habitat identified with the Study Area is Sea duck Key Site 49, located along the coast of Newfoundland which starts from the islands of St. Pierre and Miquelon and continues along the southeast portion of the Burin Peninsula towards the southwestern Avalon Peninsula (Drawing 6). This coastline has important habitat features for these species including coves, harbours, islands, and islets. Common eiders (*Somateria mollissima*) and harlequin ducks (*Histrionicus histrionicus)* use this habitat for migration and overwintering.

Cape St. Mary's and Point Lance (located on the Southwestern region of the Avalon peninsula) is particularly important for the overwintering of eastern harlequin duck (Sea Duck Joint Venture, n.d.). While this is approximately 90 km from the PA (Drawing 6), it is still possible that harlequin duck be present along coastal areas off St. Lawrence, along with common eider and purple sandpiper which regularly use the coastline (ECCC, personal communication, 10 October 2025). Risks to waterfowl included vessel traffic, introduction of invasive species impacting resource availability, and pollution to habitat like oil spills.

Short-eared owl surveys

In August 2025, a temporary launch facility and associated access road was constructed at the Misson Control Centre Project Area. Prior to the construction, Strum conducted surveys to document the presence of short-eared owl or their nests. Taking place on July 30, 2025 (within seven days of the start of work), two surveyors walked along the proposed construction footprint to assess adjacent habitat for evidence of short-eared owl. Surveys were conducted

following the Short-eared owl Survey protocol provided by the Newfoundland and Labrador Wildlife Division. A total of 976 m was covered, and no signs of short-eared owl or nests were observed. A copy of the report can be found in Appendix E.

4.4.6.2 Mammals

In Newfoundland, 26 species of mammals are present, 14 of which are native, with the remainder being introduced. Eight mammal species are currently listed under the NL ESA or SARA on the Island of Newfoundland (Table 4.10) with only the five bat species and caribou potentially occurring in the Project Area. Polar bear (*Ursus maritimus*) are unlikely to occur in the Study Area and would only occur incidentally, and American marten (*Martes americana atrata*; Newfoundland population) know ranges do not overlap with the Burin Peninsula.

Table 4.10: Mammal Species Designated as SAR potentially occurring within the Study Area

Common Name	Scientific Name	SARA	COSEWIC	NL ESA
Ungulate				
Caribou	*Rangifer tarandus*	Special Concern	Special Concern	-
Chiroptera				
Little brown myotis	*Myotis lucifugus*	Endangered	Endangered	Endangered
Northern myotis	*Myotis septentrionalis*	Endangered	Endangered	Endangered
Hoary bat	*Lasiurus cinereus*	-	Endangered	Endangered
Eastern red bat	*Lasiurus borealis*	-	Endangered	Endangered
Silver-haired bat	*Lasionycteris noctivagans*	-	Endangered	Endangered

Large Mammals

Three large mammal species could potentially occur within the Study Area: moose (*Alces alces*), caribou (*Rangifer tarandus*), and black bear (*Ursus americanus*). Of these three species, moose and black bear populations are widely distributed across the province, and populations are managed based on their respective hunting zones, referred to as management areas. In Newfoundland, caribou, a SAR listed as Special Concern under SARA, have a more restricted distribution compared to moose and black bear.

The Project Area sits within the Burin Peninsula foot which includes Moose/ Bear Management Area 38 (NLFAL, 2020a) and Newfoundland Caribou Management Area 74 (NLFAL, 2020b), the latter currently being closed for hunting. It is important to note that as of 2015, the range for the caribou population within Management Area 74 does not extend to the peninsula's coast and is approximately 10 km from the Project Area (COSEWIC, 2014a), While no public records of caribou presence in the Project Are exist. , it is possible that incidental occurrences of caribou in the Project Area may occur and in such case proper mitigations will be put in place based on guidance and best practices provided by NL FAL Wildlife Division,. For moose and black bear, while these species are habitat generalists and may occupy habitat found in the Project Area, its remote and coastal nature suggests that the likelihood of occurrence is low.

Small Mammals

Species of small mammal that may occur in the Study Area include beaver (Castor canadensis), muskrat (*Ondatra zibethicus*), mink (*Mustela vison*), and otter (*Lutra canadensis*) which have habitat preferences associated with waterbodies and wetlands. Desktop analysis of arctic hare (*Lepus arcticus bangsii*) revealed a low likelihood of occurrence in the Project Area as they tend to inhabit arctic-alpine habitat. American marten (*Martes americana atrata*), a SAR designated under SARA and NL ESA is also unlikely to be found in the Project Area due to it being outside the species known range and the lack of mature forest required for the species. Other species such as fox (*Vulpes vulpes*), ermine (*Mustela ermina*), lynx (*Lynx canadensis*), and snowshoe hare (*Lepus Americanus*), mice, rats, voles etc. are broadly distributed across Newfoundland and may be present within the Project Area.

Bats

Five species of bat are present in Newfoundland and Labrador: the little brown myotis (*Myotis lucifugus*), the northern myotis (*Myotis septentrionalis)*, the hoary bat (*Lasiurus cinereus*), the Eastern red bat (Lasiurus borealis), and the silver-haired bat (*Lasionycteris noctivagans)*. These are SAR under both SARA and the NL ESA. little brown myotis and the northern myotis are resident species in Newfoundland and may be present within the Study Area, whereas the hoary bat, Eastern red bat, and silver-haired bat are migratory species. Sightings of migratory bats in Newfoundland are limited, likely due to exploratory migration (Tessa McBurney, 2018). Within Newfoundland, critical habitat for the little brown myotis and northern myotis has been delineated and is not located within or near the Study Area (Government of Canada, 2018). The ACCDC data report did not indicate any species of bat within the Study Area (Appendix D).

4.4.6.3 Insects

Hymenoptera and Coleoptera

There have been 47 species of bees recorded in Newfoundland (Hicks 2009), of which three species are designated SAR under the NL ESA. Additionally, there is one species of lady beetle designated SAR under NL *ESA* (Table 4.11).

Table 4.11: Insect Species Designated as SAR on the Island of Newfoundland

Common Name	Scientific Name	SARA	COSEWIC	NL ESA
Hymenoptera				
Gypsy Cuckoo Bumble Bee	*Bombus bohemicus*	Endangered	Endangered	Endangered
Suckleys Cuckoo Bumble Bee	*Bombus suckleyi*	Not Listed	Threatened	Threatened
Yellow-banded Bumble Bee	*Bombus terricola*	Special Concern	Special Concern	Vulnerable
Coleoptera				
Transverse Lady Beetle	*Coccinella transversoguttata*	Special Concern	Special Concern	Vulnerable

Gypsy Cuckoo Bumble bee

Gypsy Cuckoo Bumble Bee is a social parasite in other bumble bee colonies. The species likely plays a significant ecological role through its effect on host dynamics and distribution. In this case, host species include the Rusty-patched Bumble Bee (*B. affinis*), Western Bumble Bee (*both subspecies of B. occidentalis*), Yellow-banded Bumble Bee (*B. terricola*) and possibly the Holarctic Cryptic Bumble Bee (*B. cryptarum*). The most recent record of Gypsy Cuckoo Bumble Bee is 1979 from Gros Morne National Park. Additional specimens have been collected at Goose Bay, Codroy Valley and Grand Falls. Hosts in Newfoundland and Labrador include the Yellow banded bumble bee. The most recent Yellow-banded Bumble Bee collections from the province are from 2010 where it remains common (COSEWIC, 2014b).

Suckleys Cuckoo Bumble bee

Suckley's Cuckoo Bumble Bee can be distinguished from the similar Gypsy Cuckoo Bumble Bee by the prominent triangular ridges on the underside of the last segment of the abdomen. This bumble bee is a nest parasite of other bumble bees and depends on its hosts to rear its young. It is found in all provinces and territories except Nunavut. The major known threats to the hosts of this species are the escape of pathogen-infected bumble bees from managed colonies in commercial greenhouses as well as pesticide use. Suckley's Cuckoo Bumble Bee occurs in diverse habitats including open meadows and prairies, farms and croplands, urban areas, boreal forest, and montane meadows, some of these habitats are present within the PA. Adults have been recorded feeding on pollen and nectar from many flowers (COSEWIC, 2019b).

Yellow-banded bumble bee

The Yellow-banded Bumble Bee is a medium-sized bumble bee with a short head and tongue length relative to other species. This species is an important pollinator of a variety of agricultural crops and native plant species. It occurs in a diverse range of habitats, including mixed woodlands, farmlands, urban areas, montane meadows, prairie grasslands and boreal habitats, some of which occur within the PA. It has been recorded foraging flowers for pollen and nectar from a variety of plant genera. This species usually nests underground in pre-existing cavities. Possible threats include introduced pathogens from managed bumble bees used in greenhouses and the transfer of these pathogens to native bumble bees when introduced bees escape, pesticide use associated with agriculture, climate change and habitat loss (COSEWIC, 2015a).

Transverse lady beetle

The Transverse Lady Beetles are small, round beetles (5.0 to 7.8 mm) that are native to North America. They have four life stages: egg, larva, pupa and adult, and can have two generations per year. It is a wide-ranging species occurring from coast to coast across Canada and the United States. Transverse Lady Beetles are habitat generalists, primarily feeding on aphids and occurring across a wide range of habitats. This lady beetle inhabits agricultural areas, suburban gardens, parks, coniferous forests, deciduous forests, prairie grasslands, meadows, riparian areas and other natural areas, many of these habitats are present within the PA (COSEWIC, 2016).

4.5 Socioeconomic Environment

4.5.1 Communities

The Project is within the municipal planning area of the town of St. Lawrence. St. Lawrence is the only town in the Study Area. The local service district of Little St. Lawrence and the resettled community of Corbin are also in the Study Area. NordSpace has engaged with the St. Lawrence Town Council and residents from St. Lawrence, Little St. Lawrence and surrounding communities on multiple occasions throughout 2025 to discuss project details and address concerns. This includes:

- Public Consultation Notice posted by the Town Office in January 2025 including on the Town's Facebook community page.
- Public Information session held in person on March 29, 2025 at the St. Lawrence Recreation Centre (23 Water St E, St. Lawrence, NL A0E 2V0), attended by approximately 100 people from St. Lawrence, Little St. Lawrence, Marystown and surrounding communities on the Burin Peninsula.
- Open House event held in person on August 24, 2025 at Middlehead demonstration launch site along with community barbeque hosted by the St. Lawrence Volunteer Fire Department, attended by approximately 200 residents mainly from St. Lawrence and Little St. Lawrence, with additional attendees from Marystown, Clarenville, St. John's, and other communities.
- Regular project updates on NordSpace website, X.com, Instagram, on St. Lawrence community Facebook page, and ad hoc public engagements in person throughout NordSpace demonstration launch campaigns between Aug 25-29, 2025 and Sept 20-27, 2025.

Community sentiment in St. Lawrence is overwhelmingly positive toward the NordSpace spaceport project, as local residents, town officials, and business leaders recognize the significant opportunities it brings for the region. The spaceport initiative has inspired a sense of pride and excitement in the community, with strong public turnout at launch events, ribbon cuttings, and public consultations hosted in collaboration with NordSpace. Local officials and provincial government representatives have voiced enthusiastic support, highlighting the project's alignment with St. Lawrence's forward-looking vision. A letter for support from the Town of St. Lawrence has been included in Appendix F.

Job creation is a central benefit, with NordSpace forecasting hundreds of direct and indirect new high-quality, skilled positions in engineering, operations, logistics, and support roles as the spaceport fully ramps up commercial operations. Additionally, the spaceport's unique appeal is expected to drive tourism, attracting visitors for public launch viewing events, educational tours, and outreach programs. This combination of employment and tourism promises to invigorate the local economy, diversify St. Lawrence's industrial base, and generate new opportunities for businesses and families alike.

NordSpace is collaboratively engaging with local fishing communities in St. Lawrence and surrounding regions, recognizing the critical role of commercial and recreational fishing to the area's economy and culture. NordSpace is working directly with the Town Office, Harbour Authority, and fishers to advance public notifications and minimize any temporary impact from launch activities or maritime exclusion zones. The company is committed to ongoing consultations and transparent information sharing to ensure that spaceport activities coexist harmoniously with vital fishing operations, reflecting NordSpace's genuine commitment to local priorities and sustainable development.

NordSpace has made proactive efforts to identify and engage Indigenous organizations, particularly those recognized on the Burin Peninsula and throughout NL, by providing project information and invitations for input. NordSpace's preliminary review of publicly available data and own public consultations to date have not identified designated Indigenous communities, permanent Indigenous settlements, or identified Indigenous land use areas located within the immediate Project Area or its surrounding Study Area. The closest Indigenous communities with potential regional interests are Mi'kmaq, some of whom maintain resource and marine use rights in the wider Placentia Bay or Gulf of St. Lawrence region. This finding is consistent across environmental assessments for major industrial projects on the Burin Peninsula, including the Everwind Green Fuels Project and the St. Lawrence Fluorspar Marine Shipping Terminal. NordSpace is committed to continuing engagement, learning, and where possible and appropriate incorporating Indigenous knowledge in the planning and implementation of this Project.

4.5.1.1 Population

The town of St. Lawrence, the only incorporated community in the Study Area, has a population of 1,115 (6.5% decline between 2021 and 2016; Statistics Canada 2024) (Table 4.12). The population of Little St. Lawrence is 95 (19.7% decline since 2016; Statistics Canada 2024). The broader Census division containing St. Lawrence and the entirety of the Burin Peninsula (Division 2) has a population of 19,392 (4.8% decline since 2016; Statistics Canada, 2024).

Table 4.12: Characteristics of the Local Population

Population Characteristic	St. Lawrence	Little St. Lawrence	Division 2
Population 2021	1,115	95	19,392
Population 2016	1,192	117	20,372
Percent change (2016-2021)	-6.5	-19.7	-4.8
Total private dwellings, 2021	598	56	11,551
Land area (km^2)	34.9	4.6	5,915.6
Population density (per km^2)	32.0	20.5	3.3

The median age of the population of St. Lawrence is 54.8 years, which is comparable to the broader region (Division 2 – 54.4 years; Statistics Canada 2024) (Table 4.13).

Table 4.13: Age Distribution of the Local Population

Age Statistic	St. Lawrence	Little St. Lawrence	Division 2
0-14 years	130	10	2,190
15-64 years	645	60	11,430
65+ years	380	25	6,175
Total population	1,115	95	19,392
Median age	54.8	46	54.4
Average age	49.5	48.8	49.3

4.5.1.2 Schools, Medical Facilitates, Emergency Services, and Activities

One grade school education facility is located within the Study Area (St. Lawrence Academy, grades K to 12), along with a Primary Care/Family Care Clinic operating Monday -Friday and urgent care capabilities (offered virtually) at the U.S. Memorial Health Centre, and one retirement living facility (Mount Margaret Manor). Recreational activities and community groups in St. Lawrence include hiking and ATV use, snowmobiling, the soccer association, Miners Museum, Community Youth Network, and Golden Age senior citizen's club.

NordSpace has actively engaged with emergency services in the region, recognizing their importance in supporting the Project with respect to emergency planning and response during all phases. NordSpace views the investment in training and capacity as critical for the development of the Project and as a value-added benefit to the region. Active collaboration and engagement with the St. Lawrence Volunteer Fire Department has initiated the development of a relationship based on mutual respect and support as demonstrated in their letter of support in Appendix F.

4.5.2 Economy, Employment and Business

The town of St. Lawrence has a strong history of mining and manufacturing. Fishing and fish processing are currently the main community industries. The town has a fully equipped harbour that is situated within 35 km of an international shipping lane.

Average housing costs and individual total incomes for the town of St. Lawrence, Little St. Lawrence, and Division 2 are presented in Table 4.14 alongside provincial and national data (Statistics Canada, 2024). Overall, the average dwelling value and total annual income of St. Lawrence and Little St. Lawrence are below those of Division 2, and all fall below provincial and national averages.

Table 4.14: Housing Costs and Average Individual Income

Jurisdiction	Average Dwelling Value in 2020	Average Total Income in 2020
St. Lawrence	$126,000	$38,700
Little St. Lawrence	$116,000	Not available
Division 2	$148,800	$41,360
Province of NL	$246,800	$48,440
Canada	$618,500	$54,450

The unemployment rates of the town of St. Lawrence and Division 2 are both higher than the provincial rate, with participation in the employment labour market being lower (Table 4.15) (Statistics Canada 2024). Health care and social assistance and extractive industries are the main employers in St. Lawrence (Table 4.16).

Table 4.15: Labour Force Statistics 2021 Census 25% Sample

Labour Statistic	St. Lawrence	Little St. Lawrence	Division 2	Nfld & Lab
Participation Rate	53.5	72.2	49.3	56.1
Employment Rate	43.9	61.1	39.5	47.5
Unemployment Rate	18.0	0.0	20.0	15.2

Table 4.16: Top Industries for the Employed Labour Force 2021 Census 25% Sample

Industry	St. Lawrence	Little St. Lawrence	Division 2	Nfld & Lab
Health care and social assistance	30.3%	41.7%	20.5%	16.5%
Mining, quarrying, and oil and gas extraction	14.1%	25.5%	5.3%	4.0%
Manufacturing	12.1%	-	8.4%	4.8%
Educational services	10.1%	-	5.6%	7.1%
Administrative and support, waste management and remediation services	6.1%	-	2.0%	3.1%
Agriculture, forestry, fishing and hunting	5.1%	-	10.5%	3.9%
Construction	5.1%	-	9.6%	8.0%
Accommodation and food services	4.0%	-	5.0%	6.3%
Other services	4.0%	-	3.7%	4.1%
Retail trade	3.0%	16.7%	10.6%	12.3%

4.5.3 Land and Resource Use

The land and coastal waters of the Study Area have a variety of overlapping recreational and resource uses.

4.5.3.1 Industry

Wind Energy Reserves

The Study Area coincides with a small portion of the wind energy land reserve on the Burin Peninsula for which EverWind NL Company (EverWind) received a Wind Application Recommendation Letter as part of the provinces' Crown Land Call for Bids for Wind Energy

Projects (NLEM, 2023). The Project's mission control centre and launch complex are within a few hundred meters of the land reserve, and the launch complex access road overlaps a portion of the reserve on Sauker Head (NL, 2020). It is possible that EverWind may seek to develop wind farms and/or related infrastructure in the Project Area.

Mineral Lands

The Project Area associated with the launch complex and launch complex access road coincides with two mineral licence areas that are actively being surveyed and prospected (NLEM, 2025). Precipitate Gold Corporation holds 240 mineral claims that include the area of the launch complex and northern portion of the access road. The southern portion of the launch complex access road coincides with a mineral licence area held by Jeffery Brushett. No other mineral licence areas overlap the Project Area. NordSpace has engaged with all mineral license holders via virtual meetings, which were well received, to discuss the nature of the spaceport development project. Potential mineral exploration activities would benefit from the ASX development, including shared access on the ASX access road to make prospecting activities more accessible, additional satellite imagery to provide greater profitability and lower costs to prospecting activities, and other collaborative opportunities. NordSpace commits to being good neighbours and stewards for mineral license holders in the Study Area.

Within the broader Study Area, the largest mineral lands user is Canada Fluorspar (NL) Incorporated (CFI). Fluorspar is a non-metallic ore that is used in manufacturing aluminum, glass, and freon (Heritage NL, 2025).The town of St. Lawrence has a long history of fluorspar mining, with the first mine opening in 1933. Operations were successful for several decades before down turning in the 1970s. In the time since, the mine has undergone a period of closures and re-openings, and in 2023 CFI was sold to a new buyer with plans to reopen the mine (production expected to begin 2025/2026). CFI holds seven mineral licence areas, in addition to mining and surface leases around St. Lawrence (i.e., within the Study Area) totalling 5,950 ha (NLEM, 2025).

Fisheries and Aquaculture

The Atlantic salmon fishery carries social, economical, and cultural value. The Burin Peninsula falls under the salmon fishing zones 10. The fishery is typically open from late Spring until the end of summer (DFO 2024e). In 2020, 20,574 Atlantic salmon were retained in all of Newfoundland and 25,704 were released (DFO 2022e). Despite these numbers, Atlantic salmon angling rates in the Garnish River have declined by more than 60% compared to historical (1970s) captures. Retention of salmon is not permitted for Atlantic salmon caught in coastal waters or in non-scheduled waters.

The Burin Peninsula borders the NAFO 3Ps division. Placentia Bay is an active coastal and offshore commercial fishing locations. Coastal fisheries include the American lobster (*Homarus americanus*) fishery, where the Burin Peninsula boarders the Newfoundland Lobster Fishing Area 10 (DFO 2021b). The lobster fishery is open 8-10 weeks in the spring and is controlled via licenses and trap limits. Traps are generally deployed in waters <20 m deep.

Scallops are another coastal fishery targeted by commercial, Indigenous, and recreational fisheries, where the commercial fishery targets both Icelandic scallops (*Chlamys islandica*) and sea scallops (*Placopecten magellanicus*). The Burin Peninsula also boarders the Newfoundland Scallop Fishing Area 10 (DFO, 2019). In 2018, there are 771 commercial inshore scallop fishing licenses in Newfoundland and Labrador. The fishery is typically open April to December, with most fishing activity occurring in October.

Other marine commercial fisheries in the region include groundfish fisheries (e.g., Atlantic cod, American Plaice), Atlantic herring, snow crab, whelk, capelin, mackerel, bluefin tuna, lumpfish, redfish, winter flounder, Greenland halibut, Atlantic halibut, squid, and sea cucumber. Atlantic cod (Gadus morhua) and capelin (Mallotus villosus) are also targeted by recreational fishers. Atlantic cod, queen crab (Chionoecetes opilio), and whelks (Buccinum undatum) account for the top three species caught in commercial fisheries in the 3Ps NAFO division (NAFO 2024)

In addition to technical and ecological measures, NordSpace Atlantic is actively engaging with the Town of St. Lawrence, local harbour authorities, and fishing communities to collaboratively minimize the impact of navigation and operational advisories (NOTMARS) associated with Atlantic Spaceport Complex (ASX) activities on local fishing and boating routines. Regular consultations and open communication channels are being established, with an aim to notify fishers and boaters well in advance of any temporary exclusion zones or changes in maritime access related to launch schedules or safety protocols. NordSpace's team works with local leadership to optimize timing and scope of advisories so that periods of restricted access are as brief and predictable as possible. This approach supports both safe launch operations and the uninterrupted functioning of fisheries and aquaculture, and reflects NordSpace's ongoing commitment to building positive long-term relationships with St. Lawrence's maritime community.

Aquaculture

There are aquaculture facilities located approximately 60 km to the Northeast of the Project Area, however there are no licensed aquaculture facilities within the Project Area or Study Area (Newfoundland and Labrador, 2025).

Domestic Water Supplies

There are two Public Protected Water supply Areas (PPWSA) in the Study Area that are within the municipal planning area for St. Lawrence. PPWSAs are areas of land surrounding a public drinking source that are protected under Section 39 of the NL WRA (2002), to prevent degradation of potable water. Both PPWSAs are located northwest of the launch complex (approximately 4.5 km and 9.5 km). St. Lawrence River PPWSA (WS-S-0699) has an area of 50.96 km^2 provides water for 1,244 people (NLECCC, 2024c).The catchment area that includes Butler's Brook PPWSA (WS-S-0421) is approximately 40 km^2 but only 3.59 km^2 is included within the protected boundary (NL, 2020). Butler's Brook PPWSA services 125 individuals.

Domestic Harvest Area

The launch complex and launch complex access road coincide with a large, 25,000 ha Domestic Harvest Area. Within the overlapping areas, only a small portion of the harvest area associated with the access road is considered to be forested habitat (coniferous scrub; NL FAL) with the remainder being open barren.

Protected Areas

The Study Area does not contain any currently designated provincial (e.g., provincial parks, wilderness/ecological reserves, special management areas) or federal (e.g., national parks, national historic sites) protected areas. Protected areas within the broader region include Lawn Bay Ecological Reserve (~20 km, Burin Peninsula), Fortune Head Ecological Reserve (~45 km, Burin Peninsula), and Cape St. Mary's Ecological Reserve (~80 km, Avalon Peninsula). Lawn Bay and Cape St. Mary's Ecological Reserve are both intended to provide habitat protection for avifauna.

Other Human Land Use

There are permanent and seasonal residences within the Study Area, but based on inspection of aerial imagery, none are present within 2 km of the Project Area. The closest building (a dwelling) to the launch complex is approximately 3 km to the northeast. The mission control centre is located closer to the population and services of St. Lawrence (approximately 3 km). The area surrounding the launch complex is currently used for recreation. The proposed layout for the launch complex access road coincides with several existing ATV/snowmobile trails used for recreation, accessing the domestic harvest block and mineral lands. Public Services and Procurement Canada holds a Crown Land title for the Middle Head Lighthouse that is located within 100 m of the mission control centre (Drawing 4).

4.5.4 Heritage and Cultural Resources

The Arts and Heritage Division of the Department of Tourism, Culture, Arts, and Recreation with the Government of Newfoundland and Labrador is responsible for supporting the preservation and management of arts and heritage across the province, including the operation of the Provincial Archaeology Office (PAO). The Division is guided by the Historic Resources Act, RSNL 1990, c H-4, with a mandate to protect historic resources and paleontological resources. A permit is required for any archaeological or paleontological investigations. The PAO reviews the need for historic resources impact assessments through the review of land use referrals submitted by government agencies and the private sector, including the Environmental Assessment Division.

The PAO Archaeological Sites Database lists 150 archaeological and ethnographic sites within or near the Burin Peninsula. Over two thirds of these sites are from the historical period and include 55 shipwrecks and 14 ethnographic sites. Forty-eight sites are associated with European/ Newfoundlander populations from the 18th and 19th centuries, and 33 sites are attributed to precontact and historic period Indigenous groups including that of the Beothuk and Mi'kmaq. There are no paleontological resources recorded in the Project Area.

5.0 PROJECT INTERACTIONS WITH THE ENVIRONMENT

The Project is expected to interact with the environment through all aspects of construction, operation, and decommissioning (Table 5.1).

Table 5.1: Valued Component Interaction Assessment

PROJECT COMPONENTS	VALUED COMPONENTS											
	Atmospheric			Aquatic		Terrestrial			Socioeconomic			
	Greenhouse Gas Emissions	Air Quality	Sound	Waterbodies and Wetlands	Fish and Fish Habitat	Habitat and Vegetation	Mammals	Avifauna	Communities	Economy, Employment, and Business	Land and Resource Use	Cultural and Heritage Resources
SITE PREPARATION AND CONSTRUCTION												
Tree Clearing and Grubbing	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Access Roads	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mission Control Centre Installation and Commissioning	✓	✓	✓	-	-	✓	✓	✓	✓	✓	✓	✓
Launch Complex Installation and Commissioning	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
OPERATIONS AND MAINTENANCE												
Daily Maintenance and Operations	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓	-
Launch Vehicle Delivery	✓	✓	✓	-	-	-	✓	✓	✓	✓	✓	-
Integrated Launch Vehicle Transport to Vertical Launch Area	✓	✓	✓	-	-	-	✓	✓	✓	✓	✓	-
Pre-launch Activities	✓	✓	✓	-	-	-	✓	✓	✓	✓	✓	-
Launch Activities	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-
Post-Launch Activities	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓	-
ACCIDENTS AND MALFUNCTIONS												
Accidental Release	-	✓	-	✓	✓	✓	✓	✓	-	✓	✓	✓

Notes: ✓ = Potential Interaction, - = No Interaction

During the construction phase of the Atlantic Spaceport Complex, Project interactions with the aquatic and terrestrial environment will be managed by following recommended well understood construction processes: avoidance of sensitive habitats (e.g., watercourse crossing and wetlands); and seeking appropriate permits where avoidance is not possible (e.g., necessary stream or wetland crossings). No terrestrial flora or fauna SOCC have previously been reported in the Project Area, except one occurrence of rough-legged hawk (an S2S3 species) observed near Middle Head in 2002. The terrestrial habitat of the Project Area is typical of the region, and the Project will make use of the existing network of trails wherever possible when constructing the main access road to limit the extent of land disturbance associated with the Project.

Standard mitigation measures will also be employed to reduce environmental risk. These mitigation measures are described in Sections 5.1 to 5.7. Monitoring programs, if and as required, will be proposed during permitting processes following the EA process.

During the operational phase, certain activities, primarily the launching of rockets, will interact with the environment in ways that are specific to the Project description, such as air emissions or sound and through the potential for specific accidents and malfunctions associated with a rocket launch. Due to the specificity of this Project Description, NordSpace commits to the following:

Table 5.2: NordSpaces' Commitments

Environmental Effect	Commitments
Greenhouse Gas Emissions	• NordSpace will model its potential annual greenhouse gas emissions for all stages of the Project to ensure it is below the above noted thresholds and report on annual emissions.
Emissions and Air Quality	• Complete rocket plume emissions modeling once rocket design details are further defined; as required by NL ECCC • Provide outputs of modeling to regulatory agencies for review • Develop a Waste Management Plan • Development of an Emergency Response Plan and Spill Response Plan • In the event of a spill or leak, the Environmental Emergencies 24-hour report line (1-800-563-9089) will be notified
Sound	• A public posting notification procedure will be developed to advise Residents of nearby communities prior to any launch activities;
Waterbodies and Wetlands	• Adhere to codes of best practices for culvert installation and maintenance as outlined by DFO. • Buffer all wetlands and watercourses by 30 m, where practical, during detailed engineering.
Fish and Fish Habitat	• Follow DFO Best Management Practices for the Protection for Freshwater Fish Habitat in NL
Terrestrial Flora and Fauna	• Conduct pre-construction surveys for Terrestrial SAR/SOCC as required by regulators

Environmental Effect	Commitments
	• Contact the Wildlife Division for direction if rare plants are encountered during pre-construction surveys or during construction. • The location of any raptor nest will be reported to the NL Department of Forestry, Agriculture and Lands, Wildlife Division. Any identified roosts or hibernacula will be reported to the NL Department of Forestry, Agriculture and Lands, Wildlife Division and avoided. • Any observations of Species at Risk will be reported to the NL WLD and ECCC CWS.
Socioeconomic	• Conduct additional archaeological assessment during the detailed design phase prior to construction. • Develop a chance find procedure related to the potential unexpected discovery of archaeological items or sites during construction. This would include halting any work immediately upon discovery of suspected resources and contacting the PAO. • Develop a public advisory procedure to notify local residents of schedules launch events. • Develop a complaint response protocol, which will consider complaints related to sound and outline a process to investigate complaints.

The following section discusses the permitting processes and mitigation measures that the Project will follow to reduce the potential for effects to the environment.

5.1 Greenhouse Gas Emissions

5.1.1 Regulations and Permitting

Greenhouse gas emissions in Newfoundland Labrador are managed though the *Management of Greenhouse Gas Act* and it's associated Regulations. The Act applies to industrial facilities that emit 15,000 tonnes of carbon dioxide equivalent a year and allows government to set greenhouse gas emissions reduction targets for opted in facilities or facilities emitting 25,000 tonnes of carbon dioxide equivalent or more a year.

NordSpace will model its potential annual greenhouse gas emissions for all stages of the Project to ensure it is below the above noted thresholds. NordSpace will report on its annual greenhouse gas emissions as required by Section 10 of the Act. Should during this modeling or during operations, NordSpace determine that the Project will exceed the threshold on any given year, it will work with the Government to set reduction targets as required. Additionally, NordSpace will apply mitigation measures during their construction, operations, and decommissioning phases to address potential effects as outlined below.

5.1.2 Mitigations

Mitigative measures to minimize the environmental effects of the Project on the greenhouse gas emissions during construction, operation decommissioning activities are presented in Table 5.3.

Table 5.3: Potential mitigations for Greenhouse gas emissions

Environmental Effect	Mitigation
Greenhouse Gas Emissions	• Use locally sourced materials, where possible, to reduce CO2, CH4, and NOx emissions associated with transport. • Incorporate the shortest construction/transport routes where possible to minimize the use of fossil fuels during construction. • Recover and recycle construction and demolition/decommissioning waste, where possible. • Recycle and compost workforce waste (i.e., food waste). Diverting this waste will reduce methane generated in landfills as it decomposes. • Plan construction activities to reduce the double handling of materials, reducing GHG emissions associated with heavy equipment operations. • Use recycled or repurposed materials, where possible, to reduce GHG emissions associated with embodied energy (i.e., the energy associated with manufacturing a product or service). • Ensure Project equipment meets all applicable provincial and air quality regulations and emissions standards. • Maintain engine and exhaust systems according to the manufacturer's specifications and applicable maintenance schedule. • Remove from service malfunctioning equipment or equipment generating excess amounts of smoke, odour, or noise until an assessment and necessary repairs can be completed. • Ensure equipment containing coolant (i.e., air conditioning units) undergoes preventative maintenance and inspections (i.e., leak testing). • Hire from a local labour force to reduce emissions associated with workforce transportation. • Dispose of halocarbon-containing substances at an approved hazardous waste facility per applicable regulations and in compliance with local requirements.

5.2 Emissions and Air quality

5.2.1 Regulations and Permitting

The Canadian Council of Ministers of the Environment (CCME) has established Canadian Ambient Air Quality Standards (CAAQS) for fine particulate matter (PM) [<2.5 micrometres (µm) ($PM_{2.5}$)], ozone (O_3), sulphur dioxide (SO_2), and nitrogen dioxide (NO_2) over select averaging periods (CCME, n.d.). The Government of Newfoundland and Labrador has legislated Air Pollution Control Regulations (NL APCR), N.L. Reg. 11/2022 under the NL *EPA*.

The province has adopted the CAAQS for SO_2 and NO_2 under the NL APCR (2022). The province has not adopted the CAAQS for $PM_{2.5}$ and O_3 as they are not as stringent as the current provincial legislation. The NL APCR is presented below in Table 5.4 with the new standards in effect as of January 1, 2025 (NLECCC, 2024a).

Table 5.4: Summary of Regulations Pertaining to Ambient Air Quality in Newfoundland and Labrador

Contaminant	Averaging Period	unit	Regulatory Threshold
Carbon Monoxide	1-hour	ppb	30582
	8-hour	ppb	13107
Nitrogen Dioxide	1-hour	ppb	213
	24-hour	ppb	106
	Annual	ppb	53
Ozone	1-hour	ppb	82
	8-hour	ppb	44
$PM_{2.5}$	24-hour	µg/m^3	25
	Annual	µg/m^3	8.8
PM_{10}	24-hour	µg/m^3	50
Sulphur Dioxide	1-hour	ppb	344
	24-hour	ppb	115
	Annual	ppb	23
Total Suspended Particulate	24-hour	ppb	120
	Annual	ppb	60

Ppb = parts per billion
µg/m3 = microgram per cubic metre

As part of Project, NordSpace will apply for a Certificate of Approval with NL ECCC for the installation and operation of the 750 kW diesel generator. Activities potentially affecting air quality are managed thorough the Certificate of Approval (COA) process overseen NL ECCC, Pollution Prevention Division, Industrial Compliance Section. The COA process requires that industrial operations comply with the air quality standards as outlined in the NL ACPR and perform regular monitoring and reporting as part of the Approval.

Additionally, NordSpace will develop Environmental Protection Plan (see Appendix G for a draft table of contents), a Waste Management Plan, a Contingency Plan, an Emergency Response Plan (with support of the St. Lawrence Town Office and Volunteer Fire Department), a Spill Response Plan and a Rehabilitation and Closure Plan. This is in addition to having specific operating and emergency procedures and standards required to protect the environment from accidental discharge or contamination.

These procedures will include a combination or urgent and long-term actions, taking into account surrounding communities, site-specific conditions, and sensitivities. Risk planning and assessment will be conducted in consideration to industry best practice standards and guidance. Additionally, NordSpace will apply mitigation measures during their construction, operations, and decommissioning phases to address potential effects as outlined below.

5.2.2 Mitigations

Mitigation measures to minimize the effects of the Project on emissions and air quality are presented in Table 5.5.

Table 5.5: Potential mitigations for Emission and Air Quality

Environmental Effect	Mitigation
Emissions and Air quality	• All soils removed during the excavation phase will be stored according to provincial regulations and best practice guidelines • Exposed soils and stockpiles capable of producing particulate matter will be covered • Where required, dust will be controlled using water or an approved dust suppressant • Unpaved road surfaces will be monitored during dry periods to ensure dust control is timely and effective • Engine idling and driving speeds will be restricted • All vehicles and construction equipment will be kept in good working order, and will be properly muffled • An ESCP will be developed as part of a site-specific EPP which will address the storage of stockpiled material • Implementation of the EPP, including the ESCP, spill prevention plan, and contingency plans (as necessary) will be implemented prior to construction • Spill kits will be present and accessible during construction and operation phases Control public access at and around the launch site prior to launch;

5.3 Sound

5.3.1 Regulations and Permitting

The effects of noise exposure on receptors are dependent on both the level and duration of exposure. Sound pressure levels are measured and reported in decibels (dB), or dB measurements adjusted for the sensitivity of human ears to different frequencies (dBA).

In Newfoundland and Labrador, workplace noise exposure is regulated under the NL Occupational Health and Safety Act and associated Occupational Health and Safety Regulations (2012 Section 68). Regulations stipulate that workplace noise exposure should not exceed 140 dB ("impact exposure") and the maximum permitted exposure level over 8 hours (within a 24-hour period) is an average of 85 dBA.

There are no municipal, provincial, or federal regulations related to operational sound. Health Canada recommends sound levels to be below a weighted sound level of 45 dBA (Health Canada, 2023).

Table 5.6: Summary of Sound Level Regulations and Guidelines

Regulated By	Regulation/Guidance	Sound Level (dBA)	Hours / Duration
For Residential Receptors			
Health Canada Guidance	Guidance for Evaluating Human Health Impacts in Environmental Assessment: Operational and Construction Noise	45 (Outside Receptor)	NA
For Occupational Safety			
Workplace NL, Government Service NL	Occupational Health and Safety Regulations, 2012	85	8-hour maximum
Workplace Health and Safety Regulations & Canadian Centre for Occupational Health and Safety (CCOHS)	Noise – Occupational Exposure Limits in Canada (Workplace Health and Safety Regulations & CCOHS)	85	8-hour maximum

General operational sound is not anticipated to achieve levels exceeding the above noted guidance based on the distance from nearest receptor (~3km). Both construction sound and acute operation sound associated with launch events are anticipated to be within the exposure limits at receptors, and for sufficiently shorter durations than those considered under the OHS regulations. Additionally, NordSpace will apply mitigation measures during construction, operations, and decommissioning phases to address potential effects as outlined below.

5.3.2 Mitigations

Mitigative measures to minimize the environmental effects of the Project on the acoustic environment during construction, operation decommissioning activities are presented in Table 5.7.

Table 5.7: Potential mitigations for Sound

Environmental Effect	Mitigation
Sound	• Equipment to be maintained in good working order and be properly muffled • Engine idling will be restricted • Noise control measures (e.g., sound barriers, shrouds, enclosures) will be used where warranted • Residents of nearby communities will be notified prior to any blasting activities • Residents of nearby communities will be notified prior to any launch activities • Implementation of the EPP, including the sound level monitoring (if required) and complaint response (as necessary).

5.4 Waterbodies and Wetlands

5.4.1 Regulations and Permitting

Waterbodies, including watercourses, and wetlands are managed in NL through the *Water Resources Act.* The *Water Resources Act* S.N.L. 2002 c. T-6.2 requires an approval from NLECCC, Water Resources Management Division, prior to any alterations to a body of water or the use of water for Project activities. In the case of potential alterations to a body of water, any activity occurring within 15 m of a body of water is subject to regulatory permitting, with bodies of water defined as a "…*source of fresh or salt water … and includes water above the bed of the sea that is within the jurisdiction of the province, a river, stream, brook, creek, watercourse, lake, pond, …wetland, and other flowing or standing wate*r."

Additionally, any wastewater or effluent associated with the Project being discharged into the environment, must comply with the Environmental Control Water and Sewage Regulations, 2003 and meet quality standard outlined in the associated schedules. Management of these discharges is handled in a similar fashion as those activities outlined with in Section 5.1.

NordSpace will comply with all permitting requirements through the Water Resources Act and the Environmental Protection Act to reduce the potential effects of the Project on the environment. Additionally, NordSpace will apply mitigation measures during their construction, operations, and decommissioning phases to address potential effects as outlined below.

5.4.2 Mitigations

Mitigative measures to minimize the environmental effects of the Project on waterbodies and wetlands during construction, operation decommissioning activities are presented in Table 5.8.

Table 5.8: Potential mitigations for Waterbodies and Wetlands

Environmental Effect	Mitigation
Erosion and Sedimentation	• Develop site-specific erosion and sedimentation plans (ESCP) to minimize disturbance to banks and adjacent land, and address the type of control structures, proper installation techniques, grading, maintenance and inspection, timing of installation, and revegetation. • Minimize fording and implement temporary bridges or permanent crossing structures if repeated fording is required. • Apply sediment control measures such as silt fencing or temporary instream sediment controls (i.e., outlet blocking) for low flow sites whenever there is risk of sediment resuspension. • Limit the area of exposed soil and the length of time soil is exposed without mitigation (e.g., mulching, seeding, rock cover). • Leave riparian vegetation as intact as Project developments will allow. • Revegetate along the water edge and above the ordinary high-water mark to facilitate the stabilization of the area. • Use water or an approved dust suppressant to control dust on roads, as required.
Wetland Loss	• Flag wetlands to avoid unnecessary interference with wetland habitat, to the extent possible. Where unavoidable, wetlands will be mapped at the 1:50,000 scale and subject to a Permit to Alter a Body of Water, as Per NL ECCC Policy for Development in Wetlands. • Design wetland crossings to occur at the narrow part of the wetland or the wetland's edges, to the extent possible. • Conduct vegetation cutting and clearing in or near wetlands in accordance with applicable guidelines and maintain wetland vegetation wherever practicable. • Mitigate risk of soil disturbance (e.g., rutting) by using mitigations such as swamp mats, limiting the use of machinery within wetlands, and avoiding work in wetlands in highly saturated conditions (e.g., consider seasonality), as is practicable. • Implement erosion and sediment control structures and regularly inspect and repair control structures. • Direct construction and/or operational runoff through natural upland vegetation, wherever possible. • Maintain or construct appropriate cross-drainage on existing and new access roads. • Employ measures to reduce the risk of spread of invasive species (particularly by inspecting and cleaning equipment prior to travel within the site) into wetlands and retain habitat integrity (e.g., revegetate exposed soil surfaces with native vegetation, include invasive species monitoring in the wetland monitoring program). • Only complete refueling in designated areas, >30 m from wetlands and watercourses. Spill response equipment will be readily available. • Wetland hydrologic function will be maintained in existing habitat through the installation of culverts.
Changes in Surface Water Quality and Contamination	• Ensure surface run-off containing suspended materials or other harmful substances is minimized. • Direct run-off from construction activities away from aquatic habitats. • Limit the slope and gradient of disturbed areas to minimize the velocity of surface water runoff.

Environmental Effect	Mitigation
	• Revegetate overhanging vegetation along the water edge and above the ordinary high-water mark to facilitate temperature regulation. • If the use of timber is necessary, use untreated, rot-resistant timber (e.g., hemlock, tamarack, juniper, or cedar) below the ordinary highwater mark to avoid the leaching of toxic preservatives into waterways. • If the use of rock is necessary, use rock material that is clean, coarse granular, non-ore-bearing, non-watercourse-derived, and non-toxic to aquatic life.
Changes in Surface Water Quantity and Flow	• Avoid impacts to watercourses, waterbodies, and wetlands to the extent possible (including alteration, compaction, or otherwise). • Design water crossings to occur at the narrow part of the watercourse, waterbody, or wetland whenever possible. • If travel through aquatic habitat is required, use geotextile matting or time work to occur during frozen ground conditions. • Minimize riparian vegetation removal. • Design water crossings to occur at the narrow part of the wetland or the wetland's edges, to the extent possible. • Fit any watercourse crossings with appropriately sized infrastructure. • Ensure all water crossings are installed by a certified professional, and designed to avoid any permanent diversion, restriction, or blockage of natural flow, such that the hydrologic function of the watercourse is maintained • Design any necessary alterations in a way that maintains the natural grade of a watercourse, to ensure the hydroperiod remains as it was pre-alteration. • Integrate water management systems including diversion and collection ditches, roadside drainage channels, and stormwater retention ponds • Limit the slope and gradient of disturbed areas to minimize the velocity of surface water runoff. • Integrate outlet protection features to dissipate flow velocities and decrease erosion at the outflow.

5.5 Fish and Fish Habitat

5.5.1 Regulations and Permitting

In addition to the regulatory and permitting processes outlined in Section 5.4, additional protections are afforded at a Federal level for fish and fish habitat. The *Fisheries Act* defines fish as "(a) parts of fish, (b) shellfish, crustaceans, marine animals and any parts of shellfish, crustaceans or marine animals, and (c) the eggs, sperm, spawn, larvae, spat and juvenile stages of fish, shellfish, crustaceans and marine animals;", and fish habitat as "waters frequented by fish and any other areas on which fish depend directly or indirectly to carry out their life processes, including spawning grounds and nursery, rearing, food supply and migration areas".

Section 34.4(1) of the *Fisheries Act* states that "No person shall carry on any work, undertaking or activity, other than fishing, that results in the death of fish", and Section 35(1) states that "No person shall carry on a work undertaking or activity that results in the harmful alteration, disruption or destruction of fish or fish habitat".

All project working near water may undertake the Request for Review (RfR) process through DFO. Through this process, Proponents describe their proposed activities and the mitigations they intend to employ to avoid death of fish or harmful alteration, disruption, or destruction to fish habitat. These mitigations may take the form of preventative actions, codes of practice, or best management practices as recommended by DFO. Following the RfR process DFO may provide the Proponent a Letter of Advice containing guidance on their activities, or they may assess the need for an Authorization, as outlined under Section 35(2) of the *Fisheries Act*. An authorization may be granted for a proposed work, undertaking or activity that may, respectively, result in the death of fish or the harmful alteration, disruption, or destruction of fish habitat, and is subject to the need for an offsetting plan and monitoring plan based on a calculated ratio of harm.

NordSpace will comply with all permitting requirements through the *Fisheries Act* and the RfR and/or Authorization process to reduce the potential effects of the Project on the environment. Additionally, NordSpace will apply mitigation measures during their construction, operations, and decommissioning phases to address potential effects as outlined below.

5.5.2 Mitigations

Mitigative measures to minimize the environmental effects of the Project on fish and fish habitat during, and construction, operation decommissioning activities are presented in Table 5.9.

Table 5.9: Potential mitigations for Fish and Fish Habitat

Environmental Effect	Mitigation
Direct fish mortality	• Limit work along streambanks. • Adhere to DFO timing windows for in-water work for Newfoundland • No hunting/fishing by project personnel.
Fish habitat loss/reduced habitat quality	• Assess fish habitat that has the potential to be impacted, prior to work and avoid any unnecessary potential impacts • Plan construction activities to align with low flow periods where practicable. • Ensure watercourses and wetlands are clearly marked and minimize impacts to the area and adjacent riparian habitat. • Ensure all crossings are installed by a certified professional, and designed to avoid any permanent diversion, restriction or blockage of natural flow, such that the hydrologic function and fish passage of the watercourse is maintained. • Revegetate along the watercourse edge and above the ordinary high-water mark to facilitate the stabilization of the area and restore fish habitat.
Fish behaviour	• Clean and inspect work vehicles and other equipment prior to use to prevent the introduction of invasive/non-native species.

5.6 Terrestrial Flora and Fauna

5.6.1 Regulations and Permitting

Listed SAR and SOCC are managed in NL through a combination of federal and provincial legislation. The *Species at Risk Act* is managed by the Federal government and covers all species listed on the SARA registry. This Act affords protection to both the individual species and the habitat deemed critical for the survival or recovery of a listed species. The NL *Endangered Species Act* affords similar protections to species listed under the Schedules with the associated regulations.

In addition to the legislation around SAR and SOCC, avifauna species are protected Federally though the *Migratory Birds Convention Act* and associated regulations. This legislation offers additional protections to migratory bird species regardless of their presence on the SARA registry or NL Endangered Species Regulations. This legislation covers activities that may directly affect migratory birds and their nests, as well as indirect effects through activities such as the deposition of harmful substances.

While NordSpace will seek to avoid or mitigate potential interactions with SAR/SOCC and avifauna species (e.g. light), the above noted legislation provides permitting and authorization mechanisms that, should they be required, are subject to their own regulatory review processes. While there is not currently an anticipated need for these permits, NordSpace will work with the respective government departments to ensure compliance with all associated permitting conditions should they be required. Additionally, NordSpace will apply mitigation measures during construction, operations, and decommissioning phases to address potential effects as outlined below.

5.6.2 Mitigations

Mitigative measures to minimize the environmental effects of the Project on terrestrial flora and fauna during, and construction, operation decommissioning activities are presented in Table 5.10.

Table 5.10: Potential mitigations for Terrestrial Flora and Fauna

Environmental Effect	Mitigation
Habitat	• Sensitive habitats will be identified and avoided through pre-construction surveys. • Disturbance to ground-level vegetation, e.g., herbs, shrubs, and lichens, will be minimized. • Damage and removal of vegetation will be minimized by establishing staging areas and site access routes away from existing trees/naturalized vegetation to the extent possible • Exposed soils will be stabilized and re-vegetated as soon as possible • Any identified sensitive habitats, e.g., mineral licks, unique habitat features, will be avoided and provided with a buffer zone. • Site remediation activities shall be executed to promote natural vegetation by recovering and distributing overburden and organic material and decompacting soils. • Use rock material that is clean, coarse granular, non-ore-bearing, non-

Environmental Effect	Mitigation
	watercourse-derived, and non-toxic to wildlife
Rare Plants	• Minimize disturbance to natural habitat and avoid disturbance to rare habitats (e.g. fens, limestone barrens). • Work vehicles and other equipment will be regularly cleaned and inspected prior to use to prevent the introduction of weed, invasive, or non-native species. • Use quarried, crushed materials for road construction to reduce the introduction of invasive vascular plant species. • Be familiar with the wildlife regulations under the Wildlife Act (Government of Newfoundland and Labrador 2020) which covers regulations regarding different types of wildlife and aspects of management that may not be covered in SARA or the NL ESA.
Avifauna	• All requirements as set out in the Migratory Birds Convention Act (MBCA) will be adhered to for Project activities • If vegetation clearing is required, it will be completed outside of the breeding bird season from April 15 to August 15. • Should vegetation clearing be required during breeding season, searches for migratory bird nests will be undertaken (in consultation with ECCC-CWS), and all identified nests will be flagged and avoided until young have fledged. • No vegetation clearing will be undertaken within 5 m of a flagged migratory bird nest. • No vegetation clearing will occur within 800 m of a bald eagle or osprey nest during the nesting season (April 15 to August 15). • No vegetation clearing will occur within 200 m of any raptor nest at any time of the year. • Any active nests identified at any time of the year will be flagged. • Project personnel will not approach concentrations of seabirds, sea ducks or shorebirds. • Rigorous hazardous materials handling plans and spill cleanup plans will be incorporated into the Projects EPP to minimize the risk of pollutants to birds • A Project lighting plan will be developed in consultation with NL FAL and CWS, and technologies will be used (such as downward shaded lamps and narrow spectrum bulbs) to light the facility in a manner that is minimally intrusive to migrating birds. A lighting curtailment schedule can also be implemented during key migratory periods. • An Avian Management Plan will be developed and incorporated into the Project's EPP to further categorize and manage the impact of the Project to Avifauna such as, flight paths, noise disturbances, vibration during launch activities as well as post launch debris • Exclusion methods will be used on project infrastructure to prevent the nesting of barn swallow based on best management practices provided by the Ontario Ministry of Natural Resources and Forestry such as solid/flexible barriers, curtains and deterrents (OMNRF, 2017).
Terrestrial Fauna	• All Project participants will be prohibited from hunting at the Project site. • Wildlife will not be fed and all measures will be taken to avoid inadvertent feeding. • Wildlife shall not be chased, caught, diverted, followed or otherwise harassed by Project personnel. • Project personnel will always yield right of way to wildlife. • All wildlife encounters will be reported to designated Project personnel and communicated with NL Forestry, Agriculture, and Lands, Wildlife Division.

Environmental Effect	Mitigation
	• All site personnel shall receive environmental awareness training, including a review of any protection and mitigation plans developed specifically for caribou, moose, and other species listed above. • During construction, if caribou are observed within 500 m of Project activities any blasting or elevated noise activities will be delayed until animals have left the area.

5.7 Socioeconomic Components

5.7.1 Regulations and Permitting

The Socioeconomic environment broadly covers the valued components of:

- Communities
- Economy Employment and Business
- Land and Resource Use
- Heritage and Cultural Resources

The *Towns and Local Service Districts Act* and the *Urban and Rural Planning Act* provide a legislative framework for the planning and development of communities within NL. These legislations allow councils the authority to create and implement land use policies, municipal plans, development regulations, and permitting processes. The goal of these acts is to encourage the development of vibrant and more sustainable communities. Nordspace has engaged with the council of the Town of St. Lawrence and sought feedback through a community town hall to reinforce their goal of working with the local community and support local employment and businesses. Nordspace will work with the Town of St. Lawrence to ensure compliance with all existing municipal regulations and permitting requirements.

Conflicts related to Resource and Land Use are predominately management with the Crown Lands Application Process in NL. This process allows Projects, following release from EA, to formally apply for the right to occupy specifically identified lands. The Crown Land application process provides Government a single-window process to consult with other departments regarding potential Land Use conflicts. Nordspace will conduct a constraints analysis and work to resolve any potential conflicts in advance in advance of submitting the Crown Land Application based in final detailed design. Should potential Land Use conflicts be identified through this process, Nordspace will work with the Government of NL to resolve the identified overlap.

The specifics surrounding the NL *Historic Resources Act* have been previously outlined in Section 4.5.4. In addition to the review process undertaken by the PAO to evaluate the need for a Historical Impact Assessment, Nordspace will work with the department to develop a chance find procedure for any activities resulting in ground disturbance.

NordSpace will apply mitigation measures during construction, operations, and decommissioning phases to address potential effects to the socioeconomic components as

outlined below.

5.7.2 Mitigations

Mitigative measures to minimize the environmental effects of the Project on the socioeconomic components during construction, operation decommissioning activities are presented in Table 5.11.

Table 5.11: Potential mitigations for Socioeconomic Components

Environmental Effect	Mitigation
Socioeconomic	• Maintain avoidance of sites of high and moderate potential for archaeological sites where possible in detail design. • Minimize the potential for ground disturbance during site preparation in areas of potential archaeological resources by using hand tools. • Conduct shovel testing when sites of potential archaeological resources cannot be avoided. • Prioritize local workers and contractors for employment • Reduce lighting to the extent possible, as allowable by Transport Canada • Conduct engagement and education with local recreational users regarding the safe continued use of lands near the Project Area. • Install signage illustrating and warning of potential hazards associated with Rocket Launch Operations • Ensure fencing is in place surrounding the Launch Complex for safety of the public.

6.0 SUMMARY

The Project is proposing to develop, construct, and operate a spaceport, “the Atlantic Spaceport Complex”, to host the launch and operation of small lift rocket launch vehicles. The spaceport represents a critical piece of infrastructure that will benefit key areas of life for Canadians, including national security, public safety, and environmental monitoring. The Project is a $15 million, 5-year development that will position NL as the gateway to Canada’s growing space economy.

Project facilities will be located on two parcels of leased Crown Land on the Burin Peninsula, totaling approximately 60 hectares. The Project consists of three main components: the Atlantic Spaceport Complex (i) launch complex, (ii) launch complex access road, and (iii) mission control centre.

NordSpace believes a mature launch industry would become a new pillar of Canada's space economy, attracting new capital investments and fostering the growth of manufacturing businesses to help Canada’s space economy grow to its potential of $40 billion by 2040. This NordSpace project is a prime opportunity for Newfoundland to position itself as the province leading this industry growth. The project will benefit many key economic priorities of the province, including advanced manufacturing growth, skilled trades & workforce development, novel technology & intellectual property generation, and community economic development. Globally, this would also strengthen Canada’s positioning with our foreign allies as a capable technology exporter in the commercial space and national defence industries.

The global space launch market currently sits at $18.3 billion and is expected to reach $41.3 billion by 2030. The small-lift market segment, NordSpace’s target market, currently has a market size of $1.50 billion and is expected to reach $3.22 billion by 2030, growing at a CAGR of 13.5%. This fast pace of growth owes to the fact that space launch is the physical gateway to access the broader burgeoning global space economy, which the World Economic Forum projects will grow from $650 billion today to over $2 trillion by 2040, at a CAGR of 7.3%. Canada’s current share of the market is only $5.5 billion, an underweight amount relative to our nation’s share of the global GDP. This underscores that Canada has been underinvesting in space technology development and space manufacturing,

NordSpace is committed to building on the relationships it has established with local communities, suppliers and regulatory agencies through the detailed design, construction and operations stages of this Project. The Project would also stimulate significant economic development in the area surrounding the Atlantic Spaceport Complex, leading to the creation of employment opportunities in related sectors along the supply chain, including construction, transportation, professional services and tourism. Once ramped up with commercial operations, the Atlantic Spaceport Complex would attract customers from across Canada and foreign allied nations to the launch site to conduct business and investments.

7.0 PERSONNEL

This EA Registration Document was completed by Strum Consulting, an independent, multi-disciplinary team of consultants with extensive experience with submission of EA Registration Documents for undertakings within Atlantic Canada. Curriculum vitae for EA Report contributors and Project Team members are available. A list of the Project Team and their associated roles is provided below.

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APPENDIX A
DRAWINGS

Project Overview

Nordspace Atlantic
SpacePort Complex

- Proposed Access Road
- Project Footprint
- Project Area B
- Project Area A
- Study Area

Coordinate System: NAD 1983 CSRS UTM Zone 21N

Sources: ESRI Basemaps, GeoNOVA, NSTD, HERE, Garmin, USGS, NRCan, NFLD Gov. Depts

Date: June 2025	Project #: 25-11633
Scale: 1:100,000	Drawing #: 1
Drawn By: M. Trotman	
Checked By: B. Spencer	

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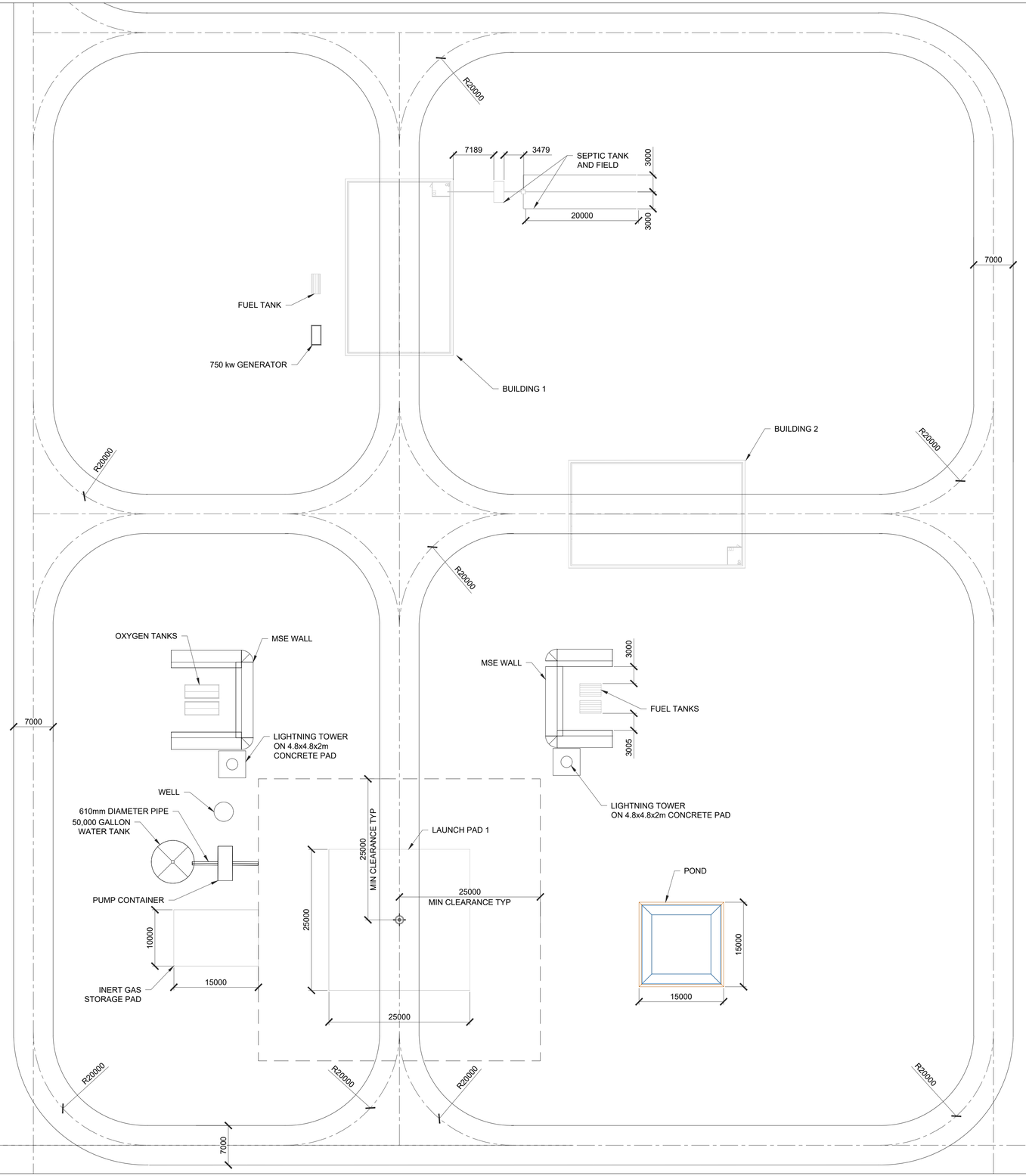
0 2 4 6 km

0 1 km



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NOTES :

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PROFESSIONAL STAMP

-	-	-
REF	DRAWING NUMBER	DRAWING TITLE

REFERENCE DRAWINGS

REV	DATE	DESCRIPTION	BY	CHK	ENG	APR
0	XX	XX	XX	XX	XX	XX

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PROJECT: NORDSPACE

TITLE: **SITE B LAYOUT**

	DRAWING NUMBER	REVISION
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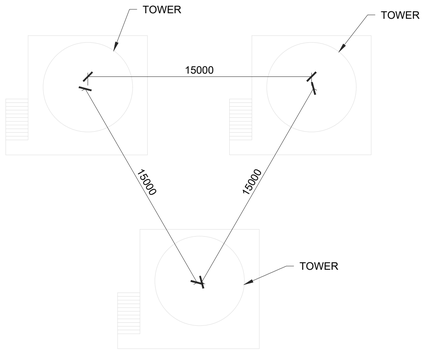
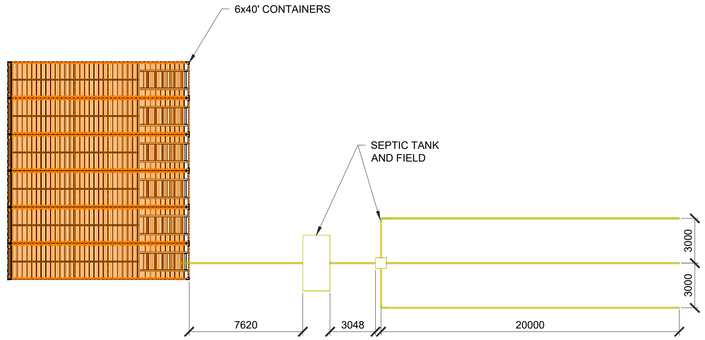
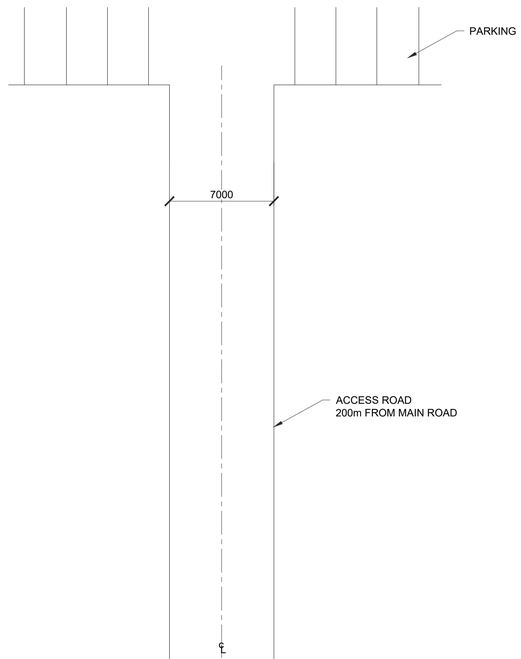
PROJECT NO: **25-12009** SCALE: **AS SHOWN**







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PROFESSIONAL STAMP

REF	DRAWING NUMBER	DRAWING TITLE
-	-	-

REFERENCE DRAWINGS

REV	DATE	DESCRIPTION	BY	CHK	ENG	APR
0	XX	XX	XX	XX	XX	XX

Strum CONSULTING

PROJECT:
NORDSPACE

TITLE:
SITE A LAYOUT

DRAWING NUMBER	REVISION
003	**0**

PROJECT NO: **25-12009** SCALE: **AS SHOWN**

Aug 06, 2025 - 10:56am U:\Newfoundland\Structure\2025\25-12009 Nordspace\CAD\25-12009 SITE LAYOUT.dwg

Original Size ANSI D

Receptors

Nordspace Atlantic
SpacePort Complex

- Civic Receptor
- Closest Receptor
- Launch Center
- Access Road
- Residential or Mixed Use Zone
- Project Area B
- Project Area A
- Surface Lease
- Mining Lease
- Crown Title
- Public Water Supply
- Wind Energy Reserve Area

Coordinate System: NAD 1983 CSRS UTM Zone 21N

Sources: ESRI Basemaps, GeoNOVA, NSTD, HERE, Garmin, USGS, NRCan, NFLD Gov. Depts

Date: June 2025	Project #: 25-11633
Scale: 1:100,000	Drawing #: 4
Drawn By: M. Trotman	
Checked By: B. Spencer	

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Civic Receptors

U S Memorial Health Centre
St. Lawrence Retirement Living
Saint Lawrence Academy
St. Lawrence
Little St. Lawrence
TURPINS ISLAND
Great St. Lawrence Harbour
Herring Cove
0 1 km

Little Lawn Brook
Little St Lawrence River
Waterfall Brook
Big Salmonier Brook
BURIN ISLAND
Corbin
CORBIN HEAD
Little St Lawrence
St Lawrence
MIDDLE HEAD
Lighthouse
Pinnacle Brook
CHAMBERS POINT
FERRYLAND HEAD
Placentia Bay
0 2 4 6 km

Ecological Land Classification

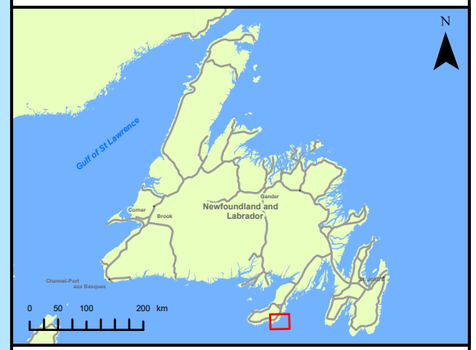
Nordspace Atlantic SpacePort Complex

BURIN ISLAND
Corbin
CORBIN HEAD
Little St. Lawrence
St. Lawrence
SAUKER HEAD
MIDDLE HEAD
CHAMBERS POINT
FERRYLAND HEAD
Placentia Bay
Waterfall Pond
Island Pond
Bryant Pond
Sauker Cove Pond
Little St. Lawrence Harbour
Hay Cove
Middle Bight Cove
Dieters Cove
SAUKER HEAD
0 2 4 6 km
0 1 km

Access Road
Study Area
Project Area B
Project Area A

Ecological Land Classification

- Anthropogenic
- Barren
- Coniferous Scrub
- Deciduous Scrub
- Softwood
- Waterbody
- Wetland



Coordinate System: NAD 1983 CSRS UTM Zone 21N

Sources: ESRI Basemaps, GeoNOVA, NSTD, HERE, Garmin, USGS, NRCan, NFLD Gov. Depts

Date: Sept. 2025	Project #: 25-11633
Scale: 1:100,000	Drawing #: 5
Drawn By: M. Trotman	
Checked By: B. Spencer	

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Important Bird Areas and other designated habitat

Nordspace Atlantic SpacePort Complex

- Proposed Access Road
- Project Area B
- Project Area A
- Study Area
- Important Bird Area (IBA)
- Sea Duck Key Site 49
- St. Lawrence Municipal Stewardship Area

N

Corbin

Corbin Island IBA

CORBIN HEAD

St. Lawrence

MIDDLE HEAD

CHAMBERS POINT

St. Lawrence Coastal Municipal Stewardship Area

Placentia Bay

0 1 2 3 km

George's Brook

Clarenville

Trinity Bay

Miquelon Island (Northeast Coast) IBA

Fortune

Corbin Island IBA

Green Island IBA

Grand Colombier Island IBA

Middle Lawn Island IBA

0 10 20 30 km

Placentia Bay

Placentia Bay IBA

Admirals Beach

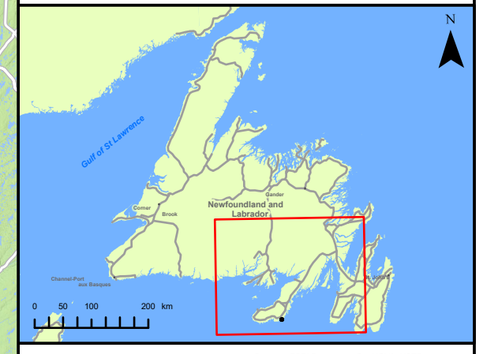
St. Bride's

Branch

St. Mary's Bay

Cape St. Mary's IBA

IBA



Coordinate System: NAD 1983 CSRS UTM Zone 21N

Sources: ESRI Basemaps, GeoNOVA, NSTD, HERE, Garmin, USGS, NRCan, NFLD Gov. Depts

Date: Oct 2025	Project #: 25-11633
Scale: 1:780,000	Drawing #: 6
Drawn By: B. Spencer	
Checked By: C. Dyke	

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APPENDIX B
PROJECT PERSONNEL NOC LIST

Table B1: Estimated Construction Personnel NOC List

Role	NOC (2021)	Number of Fulltime Employees in Role			
		2025	2026	2027	2028
Structural Steel/Tower Crew	72104	0	4	2	4
Electrical/Utilities Installation	72201	0	2	2	2
Plumbing/Water/Fire Systems	72301	0	2	1	2
Telecom & Ground Station Crew	72205	0	2	2	1
Equipment Operators (Machinery)	73400	6	6	2	5
Trucking/Material Logistics	73300	3	3	1	2
Hangar/Mission Control Building	72310	0	3	1	1
Civil Engineering	21300	1	3	1	1
Safety Officer	22603	1	2	1	1
General Labourers/Road Crew	75110	7	7	4	5
Project Site Manager	70010	1	1	1	1
TOTAL		**20**	**40**	**20**	**30**

Table B2: Estimated Operational Personnel NOC List

Role	NOC (2021)	Number of Full-Time Employees in Role									
		2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Engineering											
Engineers - Antenna/RF	21399	-	-	1	1	2	2	4	6	7	8
Engineers - Civil & Infrastructure	21300	1	1	1	1	2	2	2	2	2	2
Engineers - Electrical	21310	1	1	1	1	3	3	6	10	12	12
Engineers - Mechanical	21301	1	1	1	1	3	3	5	8	10	12
Engineers - Software	21231	-	-	1	1	3	3	6	10	12	14
Engineers - Systems	21310	-	-	1	1	2	3	4	4	4	4
Project Managers – Infrastructure	21210	1	1	1	1	2	3	4	4	4	4
Total Engineering		**4**	**4**	**7**	**7**	**17**	**19**	**31**	**44**	**51**	**56**
Technicians											
Ground Systems Technicians	22301	-	-	-	-	2	6	10	14	20	30
Payload Integration Technicians	22301	3	3	3	3	4	8	10	14	18	24
Total Technicians		3	3	3	3	6	14	20	28	38	54
Operations											
Launch Operation Directors	21390	-	-	-	1	1	2	3	4	6	8
Mission & Range Safety Controllers	21390	-	-	-	1	4	6	9	12	16	16
Security Officers	64410	-	-	-	5	5	8	8	8	10	10
Public Engagement Officers	541820	-	-	-	-	1	2	2	2	2	2
Environmental Protection Officers	541690	-	-	-	1	1	2	2	2	2	2
Total Operations		**-**	**-**	**-**	**8**	**12**	**20**	**24**	**28**	**36**	**38**
Business and Administration											
Government & Public Affairs Managers	10022	-	-	-	-	2	2	2	3	3	4
Marketing & Communications	10022	-	1	1	1	3	3	4	5	6	7
Sales & Partnerships	10022	-	-	1	1	2	3	4	5	6	7
Project Managers – Clients	10022	-	-	-	-	3	4	6	10	16	20
Finance & Accounting Manager	11100	-	-	-	1	1	2	2	3	4	4
Information Technology & Data Security	21222	-	-	1	1	1	2	2	3	3	3
Regulatory Operations (CGP, ITAR)	11201	-	-	1	1	1	2	2	3	3	3
HR & Talent Recruitment	12101	1	1	1	2	2	3	4	4	4	4
Total Business & Administration		**1**	**2**	**5**	**7**	**15**	**21**	**26**	**36**	**45**	**52**
TOTAL New full-time employees based in NL		**8**	**9**	**15**	**25**	**50**	**74**	**101**	**136**	**170**	**200**

APPENDIX C
HR AND DEI PLANS

Human Resources & Hiring Plan

Since its founding days, NordSpace has recognized the importance of upskilling talent and providing meaningful, high-quality employment opportunities. NordSpace is an active supporter of student groups in various space-related areas, including amateur rocketry, CubeSats, and robotics. Achieving domestic launch capabilities would serve as a powerful, visible inspiration for youth in NL to pursue STEM fields and develop the next generation of scientists and engineers.

This Human Resources plan outlines the strategy for sourcing, recruiting, evaluating, and hiring up to 30 employees over the three-year project term, and up to 200 employees by 10 years. Our approach leverages local partnerships, government programs, and best practices in workforce development to ensure a skilled, diverse, and representative team. Figure 6 depicts the growth in full-time roles over the first ten years of ASX operations in each major organizational function. Table 1 lists in detail the roles, salary ranges, and number of full-time employment positions per year in the first ten years of ASX operations. Appendix B contains the job descriptions, requirements and candidate qualifications of each role.

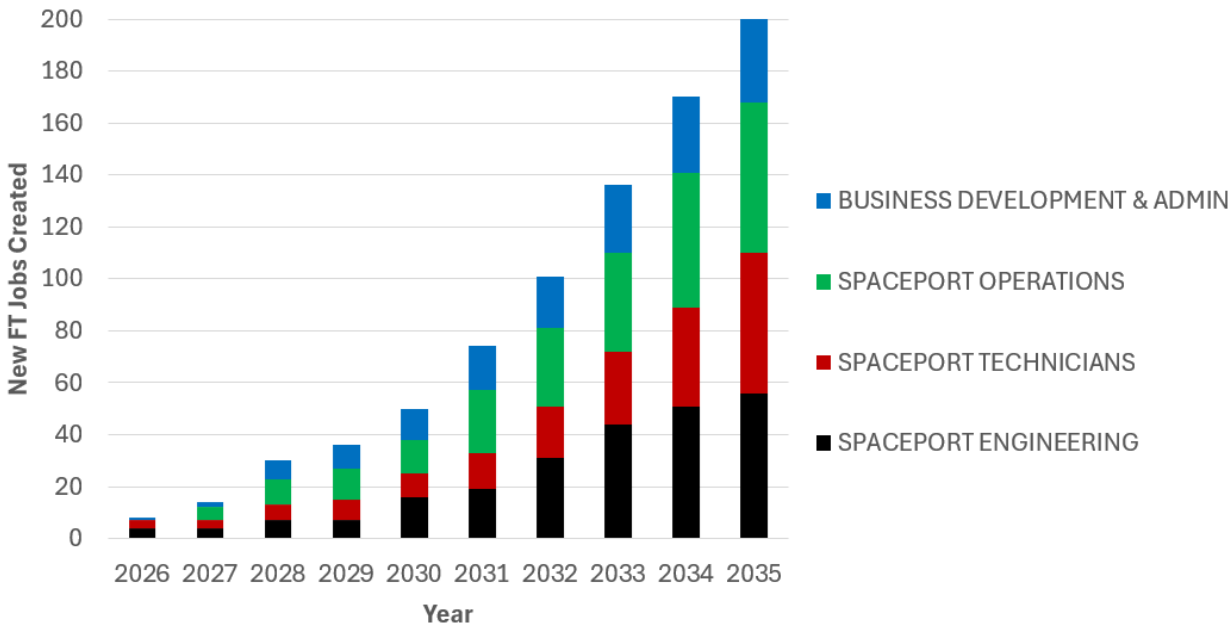


Figure 6: New Full Time Jobs Created at ASX

Workforce Planning and Sourcing

NordSpace plans to collaborate with the Newfoundland and Labrador Department of Immigration, Population Growth and Skills, local post-secondary institutions (e.g., Memorial University, College of the North Atlantic), and regional workforce development committees to identify talent pools and address skills gaps. We will engage with local industry associations, unions, and community agencies to promote job opportunities and access a wide range of candidates. NordSpace will host information sessions, career fairs, and open houses in St. Lawrence, St. John's, and surrounding communities to raise awareness and attract local talent. We will develop outreach materials highlighting career opportunities, training pathways, and the long-term benefits of working at the spaceport.

Recruitment Strategy

NordSpace will advertise all positions on provincial and national job boards, local newspapers, community bulletins, and through social media. We will partner with local employment centers, Indigenous organizations, and women-in-STEM groups to promote opportunities to under-represented populations. We will ensure job postings are accessible, use inclusive language, and clearly state the commitment to diversity and Indigenous hiring. We will engage with organizations such as Women in Aerospace Canada, Indigenous Friendship Centres, and accessibility advocacy groups to source candidates.

NordSpace will prioritize candidates from Newfoundland and Labrador when qualifications are comparable, to maximize local employment and economic impact. Once Atlantic Spaceport Complex is operational, NordSpace plans to establish internship, co-op, and apprenticeship programs with local colleges and universities to build future talent pipelines, particularly for engineering and technical roles. We will offer mentorship and job shadowing opportunities to students and early-career professionals from Newfoundland and Labrador.

Evaluation and Selection Process

NordSpace has developed clear, competency-based job descriptions and selection criteria for each role. The company uses structured interviews, technical assessments, and practical exercises to evaluate candidates objectively, and will assemble diverse hiring panels to minimize bias and ensure varied perspectives in the selection process. The company will provide interview accommodations for candidates with disabilities, such as accessible interview locations, alternative formats, or assistive technology, and train interviewers on unconscious bias, cultural competency, and inclusive hiring practices.

Onboarding and Retention

NordSpace will deliver a structured onboarding program that introduces new hires to the spaceport's mission, values, safety protocols, and DEI commitments. The company provides ongoing training in technical skills, leadership, and regulatory compliance, and fosters a supportive workplace culture with regular feedback, recognition programs, and opportunities for advancement.

Diversity, Equity, and Inclusion (DEI) Plan

NordSpace has adopted a formal DEI policy, endorsed by leadership and attached, that commits to fair treatment, equal opportunity, and proactive inclusion.

Indigenous Participation Plan

NordSpace is in the process of adopting an Indigenous Participation Plan, which would include:

- Consulting with local Indigenous governments, organizations, and leaders to identify employment, training, and partnership opportunities.
- Involving Indigenous suppliers and businesses in procurement and contracting opportunities related to the spaceport.
- Offering pre-employment training and bridging programs in partnership with Indigenous training organizations to prepare candidates for technical and operational roles.
- Incorporating Indigenous cultural awareness and history into onboarding and ongoing training for all employees.
- Recognizing and accommodating Indigenous cultural practices and holidays in the workplace.
- Supporting Indigenous youth engagement through scholarships, STEM outreach, and participation in school programs.

Monitoring, Evaluation, and Continuous Improvement

NordSpace will conduct annual reviews of recruitment, hiring, and retention data to assess the effectiveness of HR strategies and DEI/Indigenous initiatives. It will solicit feedback from employees, community partners, and stakeholders to identify areas for improvement, and adjust HR strategies as needed based on evaluation findings and evolving workforce needs.

Diversity, Equity, and Inclusion (DEI) Policy

1. Statement of Commitment

The organization publicly affirms its dedication to fostering a workplace where all individuals are treated with dignity and respect. This commitment extends to ensuring that every applicant and employee, regardless of gender, race, ethnicity, disability, sexual orientation, age, religion, or any other characteristic, is provided with equal opportunities to succeed. The organization pledges to actively promote a culture that values diversity, encourages open dialogue, and supports the full participation of all individuals.

2. Compliance with Legal and Policy Frameworks

The hiring plan is designed to meet or exceed all relevant federal and provincial laws and policies regarding employment equity, pay transparency, and accessibility. This includes implementing practices that support the inclusion of historically underrepresented groups such as women, Indigenous peoples, persons with disabilities, and visible minorities. The plan ensures that salary information is disclosed in all job postings, refrains from requesting pay history from applicants, and prohibits any form of retaliation against individuals who discuss or request pay information. The organization also ensures that all hiring processes and workplaces are accessible, providing reasonable accommodations for individuals with disabilities as required by law.

3. Inclusive Recruitment and Selection Practices

Job postings are crafted using inclusive language and clearly state the organization's commitment to diversity, equity, and accessibility. The postings highlight the availability of accommodations for applicants who may require them during the application or interview process. The recruitment process is designed to be barrier-free, with accessible application materials and procedures. Interview panels are intentionally composed of individuals from diverse backgrounds to minimize bias and provide a range of perspectives. Selection criteria are standardized and based strictly on the qualifications and requirements relevant to each position, ensuring that all candidates are evaluated fairly and objectively.

4. Proactive Inclusion Measures

The organization actively seeks to attract candidates from underrepresented groups through targeted outreach efforts. This may involve building partnerships with community organizations, participating in diversity-focused recruitment events, and engaging in programs that support the hiring of students and youth from diverse backgrounds. Special initiatives, such as targeted hiring campaigns, internships, and mentorship programs, are developed to address gaps in representation and provide additional support for equity-deserving groups. Employee resource groups are supported and encouraged, offering a platform for individuals from diverse backgrounds to connect, share experiences, and provide feedback on hiring and workplace practices.

5. Training and Education

All employees involved in hiring are required to complete comprehensive training on unconscious bias and inclusive hiring practices. This training is updated regularly to reflect the latest research and best practices in the field. The organization also provides ongoing educational opportunities for all staff, covering topics such as cultural competence, accessibility, anti-discrimination, and allyship. These initiatives aim to build awareness, foster empathy, and equip employees with the skills needed to contribute to an inclusive workplace culture.

6. Data Collection, Monitoring, and Reporting

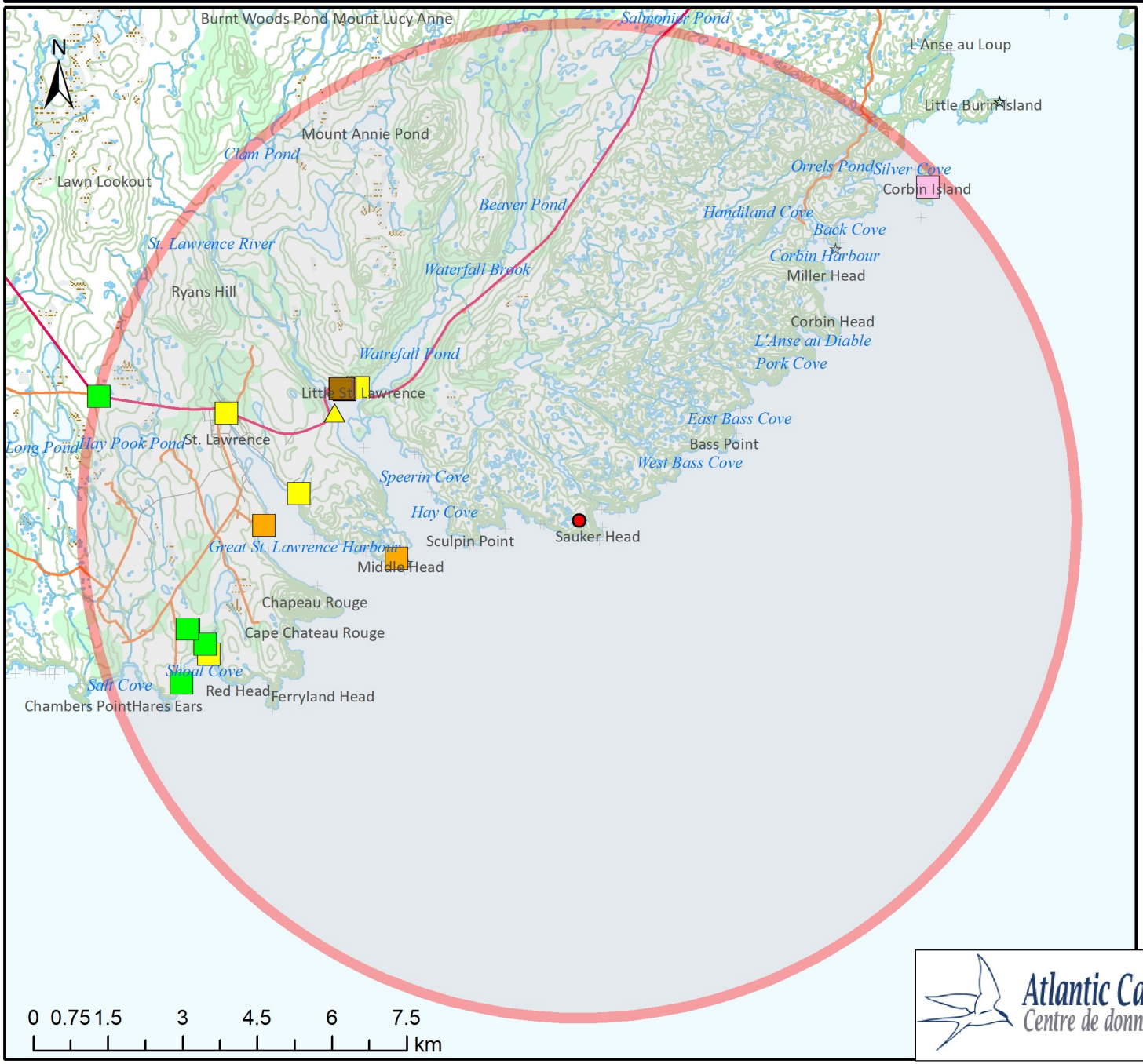
The organization invites applicants and employees to voluntarily self-identify as members of equity-deserving groups, ensuring that this information is kept confidential and used solely for the purpose of advancing DEI objectives. Workforce composition and hiring outcomes are regularly analyzed to identify gaps in representation and measure progress toward established equity goals. The organization maintains transparency by sharing diversity metrics, pay equity data, and progress reports with employees and stakeholders, demonstrating accountability and a commitment to continuous improvement.

7. Accountability and Continuous Improvement

Leadership is held accountable for advancing DEI objectives, with clear expectations and performance metrics integrated into management evaluations. Safe and confidential channels are provided for employees and applicants to report concerns related to discrimination, bias, or barriers encountered during the hiring process. Feedback is actively sought and incorporated into ongoing policy and practice reviews. The organization commits to regularly reviewing and updating its DEI hiring plan to ensure it remains effective, relevant, and aligned with evolving legal requirements and best practices.

APPENDIX D
ACCDC REPORT

GIS Scan of Rare and Provincially/Federally Listed Species for Point of Interest near St. Lawrence, Newfoundland and Labrador



Legend

- Point of Interest (POI)
- 10 km Buffer Around POI

Rare Flora

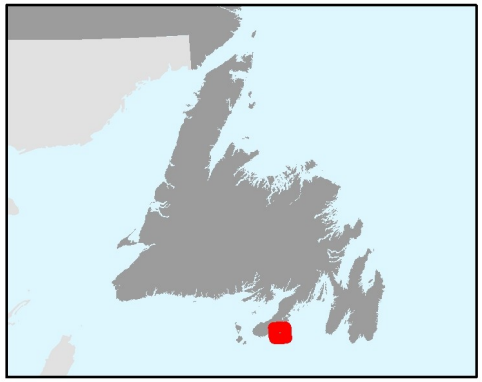
- 1000m Accuracy

Rare Fauna

- 10m Accuracy
- 100m Accuracy
- 200m Accuracy
- 244m Accuracy
- 500m Accuracy
- 1000m Accuracy

Atlantic Canada Conservation Data Centre
June 6, 2025
For: Strum Consulting
Data Request: RQ1246

Datum: Transverse Mercator NAD83
Note: Interpretations of this map should always be conducted in relation with data provided in spreadsheets and any other communications.



Atlantic Canada Conservation Data Centre
Centre de données sur la conservation du Canada atlantique

GNAME	GCOMNAME	FAMILY	OBSERVERS	TotalNumbe	Month	Day	Year	SRANK_2020	SRANK_2015	NRANK	GRANK	GeneralSta	COSEWIC_ST	PROVINCIAL	SARA	DESCR_HABI	SURVEYSITE	SITE_NAME	CITATION	ELCODE	LOCUNCM	IDNUM
Charadrius semipalmatus	Semipalmated Plover	Charadriidae	John Pennell	1	9	16	2009	S1B,S4M	S1B, S4M	N5B	G5	Secure						Shoal Cove Beach	2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABNNB03060	10	mstr1021140
Circus hudsonius	Northern Harrier	Accipitridae	John Pennell	2	5	21	2009	S3B,SUM	S3B,SUM	N5B,N4N	G5	Secure						Cart Track	2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project		10	mstr1021134
Charadrius semipalmatus	Semipalmated Plover	Charadriidae	John Pennell	2	9	13	2009	S1B,S4M	S1B, S4M	N5B	G5	Secure						Shoal Cove Beach	2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABNNB03060	10	mstr1021136
Circus hudsonius	Northern Harrier	Accipitridae	John Pennell	1	5	18	2009	S3B,SUM	S3B,SUM	N5B,N4N	G5	Secure						Shoal Cove Transect	2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project		100	mstr1021133
Charadrius semipalmatus	Semipalmated Plover	Charadriidae	John Pennell	9	9	14	2009	S1B,S4M	S1B, S4M	N5B	G5	Secure						Shoal Cove Beach	2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABNNB03060	10	mstr1021137
Charadrius semipalmatus	Semipalmated Plover	Charadriidae	John Pennell	13	9	26	2009	S1B,S4M	S1B, S4M	N5B	G5	Secure						Shoal Cove Beach	2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABNNB03060	10	mstr1021150
Charadrius semipalmatus	Semipalmated Plover	Charadriidae	John Pennell	1	9	27	2009	S1B,S4M	S1B, S4M	N5B	G5	Secure						Shoal Cove Beach	2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABNNB03060	10	mstr1021151
Spizella passerina	Chipping Sparrow	Emberizidae	John Pennell	1	9	19	2009	S2S3B,SUM	S2S3B,SUM	N5B	G5	Secure						Shoal Cove Transect	2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABPBXJ4020	100	mstr1021141
Accipiter atricapillus	Northern Goshawk	Accipitridae	John Pennell	3	9	23	2009	S3	S3	N5	G5	Secure						Hares Ears	2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABNKC12061	10	mstr1021146
Accipiter atricapillus	Northern Goshawk	Accipitridae	John Pennell	15	9	24	2009	S3	S3	N5	G5	Secure						Hares Ears	2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABNKC12061	10	mstr1021147
Accipiter atricapillus	Northern Goshawk	Accipitridae	John Pennell	1	9	25	2009	S3	S3	N5	G5	Secure						Hares Ears	2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABNKC12061	10	mstr1021148
Charadrius semipalmatus	Semipalmated Plover	Charadriidae	John Pennell	7	9	25	2009	S1B,S4M	S1B, S4M	N5B	G5	Secure						Shoal Cove Beach	2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABNNB03060	10	mstr1021149
Charadrius semipalmatus	Semipalmated Plover	Charadriidae	John Pennell	2	9	21	2009	S1B,S4M	S1B, S4M	N5B	G5	Secure						Shoal Cove Beach	2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABNNB03060	10	mstr1021144
Circus hudsonius	Northern Harrier	Accipitridae	John Pennell	1	5	12	2009	S3B,SUM	S3B,SUM	N5B,N4N	G5	Secure						Cart Track	2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project		10	mstr1021127
Circus hudsonius	Northern Harrier	Accipitridae	John Pennell	1	5	13	2009	S3B,SUM	S3B,SUM	N5B,N4N	G5	Secure						Cart Track	2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project		10	mstr1021128
Accipiter atricapillus	Northern Goshawk	Accipitridae	John Pennell	8	5	9	2009	S3	S3	N5	G5	Secure						Hares Ears	2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABNKC12061	10	mstr1021125
Accipiter atricapillus	Northern Goshawk	Accipitridae	John Pennell	3	5	9	2009	S3	S3	N5	G5	Secure						Hares Ears	2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABNKC12061	10	mstr1021126
Spizella passerina	Chipping Sparrow	Emberizidae	John Pennell	3	9	21	2009	S2S3B,SUM	S2S3B,SUM	N5B	G5	Secure						Cart Track	2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABPBXJ4020	10	mstr1021142
Spizella passerina	Chipping Sparrow	Emberizidae	John Pennell	1	9	21	2009	S2S3B,SUM	S2S3B,SUM	N5B	G5	Secure						Blue Beach	2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABPBXJ4020	10	mstr1021143
Circus hudsonius	Northern Harrier	Accipitridae	John Pennell	1	5	13	2009	S3B,SUM	S3B,SUM	N5B,N4N	G5	Secure						Cart Track	2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project		10	mstr1021129
Circus hudsonius	Northern Harrier	Accipitridae	John Pennell	1	5	15	2009	S3B,SUM	S3B,SUM	N5B,N4N	G5	Secure						Cart Track	2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project		10	mstr1021131
Accipiter atricapillus	Northern Goshawk	Accipitridae	John Pennell	20	5	15	2009	S3	S3	N5	G5	Secure						Hares Ears	2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABNKC12061	10	mstr1021132
Accipiter atricapillus	Northern Goshawk	Accipitridae	John Pennell	1	5	5	2009	S3	S3	N5	G5	Secure						Hares Ears	2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABNKC12061	10	mstr1021721
Circus hudsonius	Northern Harrier	Accipitridae	John Pennell	1	5	7	2009	S3B,SUM	S3B,SUM	N5B,N4N	G5	Secure						Shoal Cove Beach	2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project		10	mstr1021121
Circus hudsonius	Northern Harrier	Accipitridae	John Pennell	1	5	8	2009	S3B,SUM	S3B,SUM	N5B,N4N	G5	Secure						Cart Track	2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project		10	mstr1021122
Circus hudsonius	Northern Harrier	Accipitridae	John Pennell	1	5	8	2009	S3B,SUM	S3B,SUM	N5B,N4N	G5	Secure						Cart Track	2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project		10	mstr1021123
Circus hudsonius	Northern Harrier	Accipitridae	John Pennell	2	5	8	2009	S3B,SUM	S3B,SUM	N5B,N4N	G5	Secure						Cart Track	2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project		10	mstr1021124
Hydrobates leucorhous	Leach's Storm-Petrel	Hydrobatidae	Threlfall, W., unpub.files [source]	200000	1	1	1974	S4B	S4B,S4M	N4B,N4N	G5	Secure	Threatened	Threatened		island marine	Corbin Island	Placentia Bay [block 819]	Wilhelm, S.I. et al. 2011. Colonial Waterbird Database.	ABNDC04020	500	mstr1022789
Hirundo rustica	Barn Swallow	Hirundinidae	Gail Wilson	2	4	25	2006	S2B,SUM	S2B,SUM	N4B	G5	Secure	Special Concern	Vulnerable	Threatened		St. Lawrence.		Nf.Birds, Data Entry by WD Summer Student, 2012	ABPAU09030	1000	mstr1026861
Hirundo rustica	Barn Swallow	Hirundinidae	Gail Wilson	2	4	26	2006	S2B,SUM	S2B,SUM	N4B	G5	Secure	Special Concern	Vulnerable	Threatened		St. Lawrence.		Nf.Birds, Data Entry by WD Summer Student, 2012	ABPAU09030	1000	mstr1026862
Buteo lagopus	Rough-Legged Hawk	Accipitridae	Norman & Gail Wilson	1	4	29	2002	S2S3	S2S3	N5B,N5N	G5	Secure					Middle Head		Nf.Birds, Data Entry by WD Summer Student, 2012	ABNKC19130	100	mstr1027761
Circus hudsonius	Northern Harrier	Accipitridae	Norman & Gail Wilson	1	5	27	2006	S3B,SUM	S3B,SUM	N5B,N4N	G5	Secure					Shoal Cove	St. Lawrence	Nf.Birds, Data Entry by WD Summer Student, 2012		1000	mstr1026849
Buteo lagopus	Rough-Legged Hawk	Accipitridae	Norman & Gail Wilson	1	1	16	2007	S2S3	S2S3	N5B,N5N	G5	Secure					St. Lawrence		Nf.Birds, Data Entry by WD Summer Student, 2012	ABNKC19130	1000	mstr1026864
Falco sparverius	American Kestrel	Falconidae	Norman & Gail Wilson	1	4	29	2002	S2B,SUM	S2B,SUM	N5B,N1N,N5	G5	Undetermined	Candidate (Group 3, Low Priority)				St. Lawrence		Nf.Birds, Data Entry by WD Summer Student, 2012	ABNRD06020	1000	mstr1026858
Asio flammeus	Short-eared Owl	Strigidae	nwii...@inf.sympatico.ca	1	6	25	2015	S2S3B	S3B,SUM	N4B,N3N,N4	G5	Secure	Threatened	Threatened	Special Concern		Herring Cove, St. Lawrence, Burin Penn	Herring Cove, St. Lawrence, Burin Penn	Nf.birds, June 25, 2015	ABNSB13040	1000	mstr1050204
Coccothraustes vespertinus	Evening Grosbeak	Fringillidae	Josh Pennell	1	9	27	2009	S3S4	S4	N4	G5	Secure	Special Concern	Vulnerable	Special Concern		Blue Beach		2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABPBY09020	100	MSTR1053420
Circus hudsonius	Northern Harrier	Accipitridae	Josh Pennell	3	5	8	2009	S3B,SUM	S3B,SUM	N5B,N4N	G5	Secure					Cart track Road		2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project		10	MSTR1053421
Circus hudsonius	Northern Harrier	Accipitridae	Josh Pennell	1	5	12	2009	S3B,SUM	S3B,SUM	N5B,N4N	G5	Secure					Cart track Road		2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project		10	MSTR1053422
Circus hudsonius	Northern Harrier	Accipitridae	Josh Pennell	1	5	13	2009	S3B,SUM	S3B,SUM	N5B,N4N	G5	Secure					Cart track Road		2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project		10	MSTR1053423
Circus hudsonius	Northern Harrier	Accipitridae	Josh Pennell	1	5	15	2009	S3B,SUM	S3B,SUM	N5B,N4N	G5	Secure					Cart track Road		2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project		10	MSTR1053424
Circus hudsonius	Northern Harrier	Accipitridae	Josh Pennell	2	5	21	2009	S3B,SUM	S3B,SUM	N5B,N4N	G5	Secure					Cart track Road		2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project		10	MSTR1053425
Eremophila alpestris	Horned Lark	Alaudidae	Josh Pennell	2	5	17	2009	S3B,SUM	S3B,SUM	N5B,N5N	G5	Secure					Hares Ears		2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABPAT02010	10	MSTR1053426
Eremophila alpestris	Horned Lark	Alaudidae	Josh Pennell	1	5	20	2009	S3B,SUM	S3B,SUM	N5B,N5N	G5	Secure					Hares Ears		2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABPAT02010	10	MSTR1053427
Eremophila alpestris	Horned Lark	Alaudidae	Josh Pennell	3	5	13	2009	S3B,SUM	S3B,SUM	N5B,N5N	G5	Secure					Hares Ears		2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABPAT02010	10	MSTR1053428
Eremophila alpestris	Horned Lark	Alaudidae	Josh Pennell	5	9	17	2009	S3B,SUM	S3B,SUM	N5B,N5N	G5	Secure					Hares Ears		2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABPAT02010	10	MSTR1053429
Eremophila alpestris	Horned Lark	Alaudidae	Josh Pennell	3	9	19	2009	S3B,SUM	S3B,SUM	N5B,N5N	G5	Secure					Hares Ears		2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABPAT02010	10	MSTR1053430
Eremophila alpestris	Horned Lark	Alaudidae	Josh Pennell	1	9	21	2009	S3B,SUM	S3B,SUM	N5B,N5N	G5	Secure					Hares Ears		2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABPAT02010	10	MSTR1053431
Eremophila alpestris	Horned Lark	Alaudidae	Josh Pennell	8	9	22	2009	S3B,SUM	S3B,SUM	N5B,N5N	G5	Secure					Hares Ears		2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABPAT02010	10	MSTR1053432
Circus hudsonius	Northern Harrier	Accipitridae	Josh Pennell	1	5	7	2009	S3B,SUM	S3B,SUM	N5B,N4N	G5	Secure					Shoal Cove		2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project		10	MSTR1053433
Circus hudsonius	Northern Harrier	Accipitridae	Josh Pennell	1	5	8	2009	S3B,SUM	S3B,SUM	N5B,N4N	G5	Secure					Shoal Cove		2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project		10	MSTR1053434
Calidris alba	Sanderling	Scolopacidae	Josh Pennell	20	9	13	2009	S2N,S3M	S3M	N3B,N4N,N5	G5	Secure					Shoal Cove		2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABNNF11030	10	MSTR1053435
Charadrius semipalmatus	Semipalmated Plover	Charadriidae	Josh Pennell	2	9	13	2009	S1B,S4M	S1B, S4M	N5B	G5	Secure					Shoal Cove		2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABNNB03060	10	MSTR1053436
Pluvialis squatarola	Black-bellied Plover	Charadriidae	Josh Pennell	3	9	13	2009	S3M	S3M	N3B,N5N,N5	G5	Secure					Shoal Cove		2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABNNB02010	10	MSTR1053437
Calidris alba	Sanderling	Scolopacidae	Josh Pennell	5	9	14	2009	S2N,S3M	S3M	N3B,N4N,N5	G5	Secure					Shoal Cove		2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABNNF11030	10	MSTR1053438
Charadrius semipalmatus	Semipalmated Plover	Charadriidae	Josh Pennell	9	9	14	2009	S1B,S4M	S1B, S4M	N5B	G5	Secure					Shoal Cove		2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABNNB03060	100	MSTR1053439
Calidris alba	Sanderling	Scolopacidae	Josh Pennell	1	9	16	2009	S2N,S3M	S3M	N3B,N4N,N5	G5	Secure					Shoal Cove		2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABNNF11030	10	MSTR1053440
Charadrius semipalmatus	Semipalmated Plover	Charadriidae	Josh Pennell	1	9	16	2009	S1B,S4M	S1B, S4M	N5B	G5	Secure					Shoal Cove		2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABNNB03060	10	MSTR1053441
Pluvialis squatarola	Black-bellied Plover	Charadriidae	Josh Pennell	1	9	16	2009	S3M	S3M	N3B,N5N,N5	G5	Secure					Shoal Cove		2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABNNB02010	10	MSTR1053442
Calidris alba	Sanderling	Scolopacidae	Josh Pennell	2	9	17	2009	S2N,S3M	S3M	N3B,N4N,N5	G5	Secure					Shoal Cove		2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABNNF11030	10	MSTR1053443
Calidris alba	Sanderling	Scolopacidae	Josh Pennell	2	9	19	2009	S2N,S3M	S3M	N3B,N4N,N5	G5	Secure					Shoal Cove		2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABNNF11030	10	MSTR1053444
Calidris alba	Sanderling	Scolopacidae	Josh Pennell	2	9	21	2009	S2N,S3M	S3M	N3B,N4N,N5	G5	Secure					Shoal cove		2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABNNF11030	10	MSTR1053445
Charadrius semipalmatus	Semipalmated Plover	Charadriidae	Josh Pennell	2	9	21	2009	S1B,S4M	S1B, S4M	N5B	G5	Secure					Shoal Cove		2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABNNB03060	10	MSTR1053446
Charadrius semipalmatus	Semipalmated Plover	Charadriidae	Josh Pennell	7	9	25	2009	S1B,S4M	S1B, S4M	N5B	G5	Secure					Shoal Cove		2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABNNB03060	10	MSTR1053447
Pluvialis squatarola	Black-bellied Plover	Charadriidae	Josh Pennell	3	9	26	2009	S3M	S3M	N3B,N5N,N5	G5	Secure					Shoal Cove		2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABNNB02010	10	MSTR1053448
Charadrius semipalmatus	Semipalmated Plover	Charadriidae	Josh Pennell	13	9	26	2009	S1B,S4M	S1B, S4M	N5B	G5	Secure					Shoal Cove		2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABNNB03060	10	MSTR1053449
Pluvialis squatarola	Black-bellied Plover	Charadriidae	Josh Pennell	1	9	27	2009	S3M	S3M	N3B,N5N,N5	G5	Secure					Shoal Cove		2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABNNB02010	10	MSTR1053450
Charadrius semipalmatus	Semipalmated Plover	Charadriidae	Josh Pennell	1	9	27	2009	S1B,S4M	S1B, S4M	N5B	G5	Secure					Shoal Cove		2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project	ABNNB03060	10	MSTR1053451
Circus hudsonius	Northern Harrier	Accipitridae	Josh Pennell	1	5	18	2009	S3B,SUM	S3B,SUM	N5B,N4N	G5	Secure					Shoal Cove Transect		2009 Post-Construction Migration and Mortality Bird Survey St. Lawrence Wind Farm Project		10	MSTR1053452
Dolichonyx oryzivorus	Bobolink	Icteridae	Norman Wilson	1	5	22	2018	S1B,SUM	S1B,SUM	N5B,N4M	G5	May be at risk	Threatened	Vulnerable	Threatened		Little St. Lawrence		nf.birds, may 22, 2018	ABPBXA9010	1000	MSTR1053861
Hydroprogne caspia	Caspian Tern	Laridae	Michael Parmenter, Brenda	1	6	11	2021	S2B,SUM	S2B,SUM	N3B,N5M	G5	May be at risk					Little St. Lawrence		nf.birds, Jun 11, 2021	ABNNM08020	1000	mstr1061914
Metarranthis duaria	Ruddy Metarranthis Moth	Geometridae	inaturalist user: wilsonnorman		6	23	2023	S3S4	S3S4	N5	G5						Newfoundland and Labrador, Canada	Census Division No. 2	iNaturalist record export June 2024		200	mstr1216417
Trichordestra rugosa	Wrinkled Trichordestra	Noctuidae	inaturalist user: wilsonnorman		6	25	2023	S3	S3	NU	GNR						Newfoundland and Labrador, Canada	Census Division No. 2	iNaturalist record export June 2024		244	mstr1215317
Besma quercivoraria	Oak Besma Moth	Geometridae	inaturalist user: wilsonnorman		7	19	2023	S3S5	S3S5	N5	G5						Newfoundland and Labrador, Canada	Census Division No. 2	iNaturalist record export June 2024		200	mstr1216383
Loscopsa velata	Veiled Ear Moth	Noctuidae	inaturalist user: wilsonnorman		8	1	2023	S3	S3	N5	G5						Newfoundland and Labrador, Canada	Census Division No. 2	iNaturalist record export June 2024		200	mstr1215410
Catocala blandula	Charming Underwing	Noctuidae	inaturalist user: wilsonnorman		9	1	2023	S3?	S3?	N5	G5						Newfoundland and Labrador, Canada	Census Division No. 2	iNaturalist record export June 2024		200	mstr1215575
Metarranthis duaria	Ruddy Metarranthis Moth	Geometridae	inaturalist user: wilsonnorman		5	21	2024	S3S4	S3S4	N5	G5						Saint Lawrence, NL A0E, Canada	Census Division No. 2	iNaturalist record export June 2024		200	mstr1216418

GNAME	GCOMNAME	accuracy_m	OBSERVERS	DATA_SOURC	Day	Month	Year	verificati	SRANK_2015	SRANK_2020	NRANK	GRANK	PROV_END_A	COSEWIC	FAMILY	HABITAT	SURVEYSITE	STATION_LI	SPECIMEN_I	SITE_NAME	COLLECTION	ACRONYMS_O	ELCODE
Cryptogramma stelleri	Fragile Rockbrake	1000	Maunder, John E.	Herbarium Data Entry, NFM, The Rooms Herbarium, St. John's	24	7	1998	v	S2S3	S2S3	N5	G5			Pteridaceae		Little St. Lawrence River		SP040437			NFM	PPADI0B020

APPENDIX E
SHORT-EARED OWL SURVEY REPORT

strum CONSULTING

NOVA SCOTIA
T: 902.835.5560 (24/7)

NEWFOUNDLAND & LABRADOR
T: 709.738.8478 (24/7)

NEW BRUNSWICK
T: 1.855.770.5560 (24/7)

August 11, 2025

Derrick Chow
Director of Operations,
NordSpace Corp.
Via email: derrick@nordspace.com

Re: Launch Pad Access Road, SEOS Survey, St. Lawrence, NL

Strum Consulting was retained by NordSpace Corporation to conduct Short-Eared Owl Survey (SEOS) prior to the construction of a Temporary Launch site access road located in St. Lawrence, NL. The proposed Temporary Launch site required a SEOS as per the approval condition of its Crown Land Application by the Department of Forest Fishery and Agriculture, Wildlife Division. In addition to the above noted survey, the Strum Field Team conducted a preliminary habitat assessment of the site and recorded any incidental observations of potential Species at Risk/Species of Conservation Concern (SAR/SOCC), Raptors, or bat hibernacula.

The proposed access road is to be constructed near the 3 km mark on Light House Road, which is accessed via Water St East in St. Lawrence. The field survey took place on July 30, 2025. A team of two Strum employees were on site for one evening, during the SEOW breeding season (May 15-August 15). The Survey took place within seven days of the start of work on the trail to ensure no nests were present.

The survey consisted of an assessment of all habitats adjacent to the proposed trail, with emphasis on trees and shrubs for presence of Short-eared owls or evidence of nesting. A total of 967 m was surveyed during this period, following Wildlife Division protocol, with the team ensuring habitats along either side of the proposed trail were fully covered, ***the results of the survey indicated no active Short-Eared Owls, nests or other SAR/SOCC were present at the site.***

All GPS data including GPX tracks of the sweep, and the recorded bird survey will be provided with this report as well as a map of the survey site (Appendix A).

This report has been prepared by Strum Consulting for the benefit of NordSpace in accordance with the Letter of Award between Strum Consulting and NordSpace, including the scope of work detailed therein. The report is not to be used or relied upon by third parties except as agreed in writing by Strum and NordSpace, as required by law, or for use by governmental reviewing agencies.

This report was prepared by Jessica McGrath, Environmental Technician, and Diedre Park, Senior Environmental Scientist and reviewed by Casidhe Dyke, Senior Environmental Scientist.

If you have any questions or concerns, please do not hesitate to contact Diedre Park below.

Sincerely,

Diedre Park
Sr. Environmental Scientist
Strum Consulting
dpark@strum.com

Short-Eared Owl Survey

NordSpace Space Port

Short-Eared Owl Survey Track

Proposed Launch Pad 1 Access
(200m gravel path)

Proposed Launch Pad 2 Access
(350m gravel path)

Proposed Launch Pad 1

Proposed Launch Pad 2

N

Coordinate System: NAD 1983 CSRS UTM Zone 21N

Sources: ESRI Basemaps, GeoNOVA, NSTD, HERE, Garmin, USGS, NRCan, NFLD Gov. Depts

Date: July 2025	Project #: 25-11633
Scale: 1:20,000	Drawing #: 1
Drawn By: B. Spencer	
Checked By: D. Park	

strum CONSULTING

Waterfall Pond

Little St. Lawrence

TURPINS ISLAND

Little St. Lawrence Harbour

Herring Cove

Great St. Lawrence Harbour

0 0.5 1 1.5 km

0 25 50 75 100 m

APPENDIX F
LETTERS OF SUPPORT

Town of St. Lawrence

P.O. Box 128
St. Lawrence, NL A0E 2V0
Telephone (709) 873-2222 Facsimile (709) 873-3352
Email: info@townofstlawrence.com

October 27, 2025

Mr. Rahul Goel - CEO/Founder
NordSpace Corp.
455 Cochrane Drive, Unit 24
Markham, Ontario, L3R 9R3, Canada

Re: Letter of Support – The Atlantic Spaceport Complex

On behalf of the Town of St. Lawrence, we formally extend our support to NordSpace Corp. for the construction and operation of the proposed Atlantic Spaceport Complex within our community, including the establishment of a permanent launch site within the municipal boundaries of St. Lawrence.

The Atlantic Spaceport Complex is an opportunity for Newfoundland and Labrador to position itself as the province leading this industry's growth, right here in our community of St. Lawrence. The project will benefit economic priorities of the community and the province. This is a new industry bringing with it novel technology that will necessitate skilled trades and workforce development and will enhance both economic and tourism potential of the community. This would also enhance Canada's reputation as a capable technology exporter in commercial and national defence sectors worldwide.

The Town of St. Lawrence is collaborating with NordSpace to complete the first commercial launch of the Taiga rocket and is confident in the team's expertise and experience for a successful result.

We support NordSpace Corp.'s plans for Canada's first Spaceport and are pleased to be the selected site. We wish Mr. Goel and his team continued success with their endeavor to establish the first Spaceport in Canada.

Kind Regards,

Kevin Pittman

_____

Mayor Kevin Pittman
Town of St. Lawrence

St. Lawrence Fire Department
P.O. Box 184
St. Lawrence, NL
A0E 2V0

October 28, 2025

To Whom it may concern,

On Behalf of the St. Lawrence Volunteer Fire Department, I am writing to express our strong support for Nordspace's proposed development of a spaceport facility in St. Lawrence,NL.

As a key emergency response organization serving the region, we recognize the significant potential benefits this project will bring to our community. The establishment of a spaceport represents a forward-looking investment in innovation, infrastructure, and employment for the people of of the Burin Peninsula and beyond. It will also enhance local capacity in areas such as emergency response coordination, safety training, and infrastructure improvement, sectors closely aligned with our mission to protect lives and property.

We have been encouraged by Nordspace's proactive engagement with local stakeholders and its commitment to safety, sustainability, and community partnership. Their collaborative approach to planning, including consultation with our department on emergency preparedness and safety standards, demonstrates a clear understanding of the importance of responsible development.

The St. Lawrence Volunteer Fire Department fully supports Nordspace's application and is prepared to work closely with them and all levels of government to ensure that the necessary emergency response and safety protocols are developed and maintained to the highest level.

We believe this project will not only position St. Lawrence as a leader in Canadas growing aerospace sector but also provide long-term social and economic benefits to our region.

Thank you for considering our endorsement of this important initiative. Please feel free to contact me at (709)567-5142 or slvfd@townofstlawrence.com.

Sincerely,

Daryl Doyle, Fire Chief

St. Lawrence Volunteer Fire Department

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