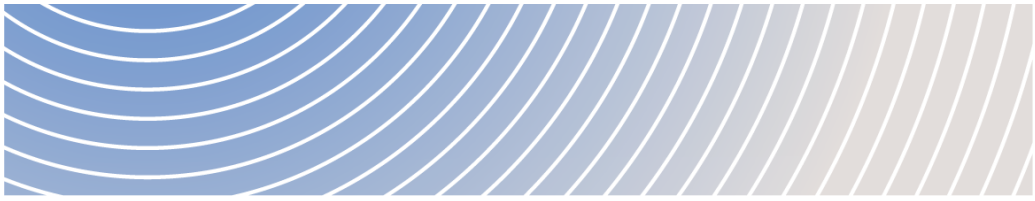
Impact Assessment Agency of Canada | Agence d'évaluation d'impact du Canada

Analysis of Proposed Changes to the Woodfibre LNG Project – Floatel #2



FINAL REPORT

November 2025

50 YEARS OF ASSESSMENTS

Canada

Table of Contents

1. Introduction

Woodfibre LNG Limited Partnership (the proponent) is the owner and operator of a liquefied natural gas (LNG) production facility (the Project) located seven kilometers southwest of Squamish, British Columbia, on the west side of Howe Sound. The Project includes the development of a natural gas liquefaction facility and LNG transfer facility to enable the export of LNG to global markets via marine vessels. It is expected to produce between 1.5 and 2.2 million tonnes of LNG per year and operate for at least 25 years. The Project began construction in late 2022.

The Project was subject to an environmental assessment under the *Canadian Environmental Assessment Act, 2012* (CEAA 2012) which was substituted to the British Columbia Environmental Assessment Office (EAO). The Minister of Environment and Climate Change issued a Decision Statement under CEAA 2012 for the Project on March 18, 2016. The Decision Statement was amended on March 7, 2018 and August 4, 2023, to accommodate a change to cooling technology, and address issues of feasibility and clarity issues with federal conditions related to an exclusion zone for pinnipeds and clarify water quality monitoring requirements, respectively. The Decision Statement was also amended in 2024 pursuant to transition provisions included in the *Budget Implementation Act, 2024* so that the Decision Statement is deemed to be issued under the amended *Impact Assessment Act*. The proponent also proposed a floating worker accommodation facility in 2019, however, the Impact Assessment Agency of Canada (IAAC) determined that no amendments to the Decision Statement were required.

On June 11, 2025, the proponent notified IAAC of proposed changes to the Project pursuant to condition 2.10 of the Decision Statement. This report provides a summary of the proposed project changes, an analysis of whether the changes constitute a new or different designated project under the *Physical Activities Regulation*s, an analysis of whether these changes may result in increased adverse environmental effects within federal jurisdiction relative to those described in the original environmental assessment and consideration of whether any changes (including addition or removal) may be required to conditions or the project description in the Decision Statement to address the project changes. EAO and Squamish Nation are conducting separate but coordinated reviews of the proposed changes to the Project to inform their own decision-making processes.

The following analysis focuses on the potential adverse effects within federal jurisdiction relative to those described in the original environmental assessment based on the proponent's information and feedback received from Indigenous groups and federal authorities on the proposed project changes. Additional concerns outside of the scope of this assessment, including health and socio-economic effects to the public are being considered through the provincial process.

2. Proposed project change

The proponent is proposing to install and operate a second floating worker accommodation facility (floatel #2) and associated facilities. Floatel #2 would provide temporary accommodation for approximately 630 workers and 85 floatel staff during the construction phase of the project. It would be located beside floatel #1, be of a similar size to floatel #1, and managed by the same third-party operator as floatel #1. The proponent would update and apply the same mitigation developed for floatel #1 to floatel #2. Floatel #2 would be located within the Certified Project Area (Figure 1).

Additional information about floatel #2 is found below:

- Floatel #2 would be approximately 167 meters long, 29 m wide and 22 m tall with a gross tonnage of 33,967 DWT and draft of 638 m.
- It would have approximately 630 cabins with private ensuite bathrooms for workers, and 85 cabins for floatel crew.
- Mooring would require nine 15-ton external anchors, six 3-inch chains to moor the vessel and a spud barge located at the stern with gangways allow workers to access the floatel from shore.
- Onboard amenities would include restaurants, gym, games rooms, outdoor sports court, medical services, meeting rooms, and an auditorium.
- Power would be supplied via connection to shore, although diesel generators would be required until the shore connection is set up (anticipated within approximately the first 6 months of operation).
- Freshwater would be provided from Woodfibre Creek and treated via an onshore treatment system located in a shipping container near floatel #2.
- Workers would be ferried to and from the floatel from the Lower Mainland (one passenger vessel to and from the site, six days per week).
- Food and other materials would be transported using cargo vessels and barges from the Lower Mainland (one cargo/servicing vessel to and from the site, six days per week).
- Domestic waste would be managed in accordance with the vessel's Waste Management Plan which considers the District of Squamish's Net Zero Waste Action Plan.
- There would be no discharge of wastewater or sewage from the floatel. Wastewater and sewage would be transported offsite for disposal.
- Workers would not be permitted to access Squamish except in exceptional circumstances as per provincial condition 29.

The proponent is proposing floatel #2 based on refined projections for the number of workers required during peak construction. Floatel #1 has been fully occupied at times and additional housing for workers is required for construction activities starting in December 2025.

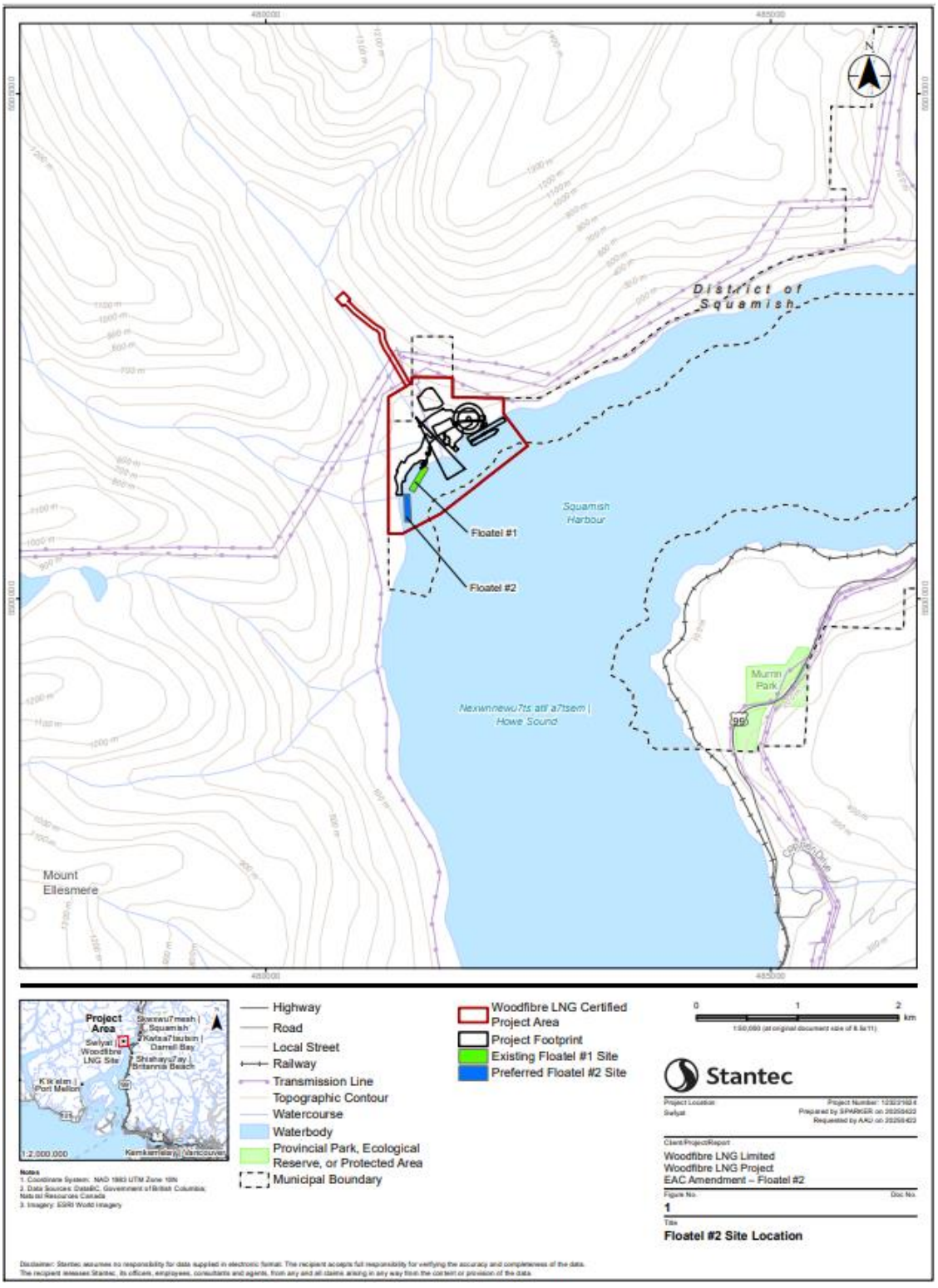


Figure 1: Floatel #2 site location (Woodfibre LNG, 2025)

2.1 *Physical Activities Regulations* analysis

The *Physical Activities Regulations* under the Impact Assessment Act (IAA) identify the physical activities that constitute designated projects that may require an impact assessment, including certain types of liquefied natural gas facilities. A worker accommodation facility is not a physical activity described in these regulations. Consequently, IAAC is of the view that the changes do not constitute a new or different designated project that may require a new impact assessment.

3. Consultation and engagement

3.1 Consultation with Indigenous groups

In its submission to IAAC, the proponent indicated that it had engaged with Sḵwx̱wú7mesh Úxwumixw (Squamish Nation), Tsleil-Waututh Nation, Musqueam First Nation, Cowichan Tribes First Nation, Halalt First Nation, Lake Cowichan First Nation, Lyackson First Nation, Penelakut Tribe, Stz'uminus First Nation, Lake Cowichan First Nation, and Métis Nation of British Columbia on the proposed floatel #2.

As part of the review process, IAAC sought comments from Sḵwx̱wú7mesh Úxwumixw (Squamish Nation), Tsleil-Waututh Nation, Musqueam First Nation, Cowichan Tribes First Nation, Halalt First Nation, Lake Cowichan First Nation, Lyackson First Nation, Penelakut Tribe, Stz'uminus First Nation, Lake Cowichan First Nation and Métis Nation British Columbia. Squamish Nation, Tsleil-Waututh Nation, and Musqueam First Nation provided comments which are discussed in the applicable sections below.

3.2 Consultation with the public

IAAC held a public comment period on proposed amendments to the federal Decision Statement from September 3 until September 18, 2025. This comment period followed EAO's recent comment period on the proponent's submission (July 8 – August 2, 2025) and the proponent's public information meeting (July 2, 2025) where the public was also invited to share views on the floatel #2.

IAAC received ten public comments during the comment period focused on the importance of a rigorous and transparent assessment process, general effects to the sensitive Howe Sound ecosystem, effects to herring spawning, and gender-based violence. Comments were also shared focused on the project in general, including on the former assessments, and climate considerations.

4. Potential adverse environmental effects

4.1 Fish and fish habitat

4.1.1 Proponent's assessment

Marine water quality and benthic habitat

The proponent indicated that installation and operation of the mooring infrastructure including chains, anchors, and spud barge(s) would directly affect approximately 98.6 m^2 of benthic habitat. This direct disturbance would be from installation as well as chain drag associated with natural tides. In addition, the floatel would shade approximately 7,453 m^2 of subtidal areas during morning hours. The proponent indicated that the benthic habitat that would be impacted is low quality and largely absent of marine vegetation.

The proponent indicated that existing mitigation measures assessed as part of the original environmental assessment, such as placement of structures in low quality habitat, would be sufficient and that there would be no change to the residual effects characterization made in the original environmental assessment.

Marine fish and marine mammals

The proponent indicated that artificial lighting from floatel #2 may cause phototaxis (i.e. the movement of fish towards or away from light), changes to the distribution and behaviour of marine fish and marine mammals and may alter predator-prey dynamics.

The proponent indicated that existing mitigation measures assessed as part of the original environmental assessment, including fully shielding light fixtures to minimize uplight to the atmosphere, would be sufficient to manage effects to marine fish and marine mammals. The proponent also indicated that lighting is reassessed every six months as part their Lighting Implementation Plan. The proponent indicated that residual effects from artificial lighting would be negligible.

Glass sponges

During technical review of the proponent's submission, the proponent notified IAAC and other regulators that they had found individual glass sponges that could be impacted by the floatel's drag anchors. The proponent prepared a technical memo which included a description of the results of two drop camera surveys, a benthic habitat survey by a remotely operated vehicle and a description of the redesigned anchoring system to avoid impacts to glass sponges. In total, the proponent indicated that they had found 11 individual cloud sponges (a type of glass sponge) but that the redesigned anchoring system would avoid all sponges.

4.1.2 Views expressed

Squamish Nation, Tsleil-Waututh Nation, and Musqueam First Nation provided comments related to fish and fish habitat. Fisheries and Oceans Canada did not provide specific comments as part of the assessment. However, Fisheries and Oceans Canada confirmed that they were working with the proponent as part of the *Fisheries Act* permitting process.

Squamish Nation indicated that the location of the floatel would be adjacent to the most recent known herring spawning location in the Certified Project Area. They said that a herring spawn mitigation and monitoring plan will be required for Squamish Nation approval of a revised Marine Fish and Fish Habitat Management Plan. Squamish Nation indicated that this herring spawn and mitigation plan could be developed and included in the existing fish and fish habitat monitoring plan in parallel to the floatel #2 decision process. In response, the proponent expressed their agreement with the comment and noted that a mitigation plan is currently being developed.

Squamish Nation was first to raise concerns about effects of drag anchors on individual glass sponges that had been found by the proponent. Squamish Nation indicated that avoidance would be required for Squamish Nation approval of an updated Marine Fish and Fish Habitat Management Plan. In response, the proponent prepared a technical memo, described in the section above, which discussed additional surveys and proposed a redesigned mooring system to avoid impacts on glass sponges. Fisheries and Oceans Canada also confirmed that they were working with the proponent on mitigation plans for both glass sponges and herring spawning as part of their *Fisheries Act* permitting process.

Tsleil-Waututh Nation shared comments and questions about the floatel's impacts on biomass, juvenile salmonid, and quality of benthic habitat, as well as the ability of these components to recover. The proponent provided responses and clarifications to these questions.

Musqueam First Nation shared general concerns about the project, specifically effluent releases from ongoing construction activities at the project site and the weekly discharge and compliance reports prepared in accordance with British Columbia's *Environmental Management Act*. Musqueam First Nation indicated that they had requested a more accessible format for these reports and capacity for reviewing these reports. BC EAO responded to these concerns and put Musqueam First Nation in touch with BC Energy Regulator as the appropriate regulator to discuss these reports.

4.1.3 Analysis and conclusions

IAAC notes that the direct habitat disturbance is a 2.6% increase compared to the original environmental assessment (98.6 m^2 compared to 3,856 m^2).

IAAC recognizes the issues related to herring spawning and glass sponges raised by Squamish Nation as well as the proponent's ongoing work to advance and address the issues in parallel to the assessment. With respect to glass sponges, IAAC agrees with the proponent's proposal to avoid impacts through a redesigned anchoring system and has confirmed that Fisheries and Oceans Canada has addressed the issue through the *Fisheries Act* permitting process which was being conducted in parallel to this assessment. With respect to herring spawning, IAAC notes that Squamish Nation has identified an appropriate path to address the issue as part of the proponent's marine fish and fish habitat monitoring plan which is a condition of the

provincial Environmental Assessment Certificate and further regulated through Squamish Nation's independent approvals process. In addition, Fisheries and Oceans Canada has confirmed that they were working directly with the proponent on the issue as part of the *Fisheries Act* permitting process. Condition 3.14 of the existing Decision Statement also requires the proponent to develop and implement a follow-up program for fish and fish habitat.

Taking into account the limited disturbance area and the proponent's commitments to address the issues raised by Squamish Nation, IAAC accepts the proponent's determination that the project change would not result in any changes to the findings of the original environmental assessment. IAAC is of the view that effects to fish and fish habitat would be within the range of effects predicted during the original environmental assessment and that no new conditions are required.

4.2 Current use of lands and resources for traditional purposes

The proponent indicated that there would be no effects to the current use of lands and resources for traditional purposes but provided information about effects to Indigenous interests. Consistent with the proponent's methodology, IAAC has assessed effects to the current use of lands and resources for traditional purposes as part of section 5 of this report.

4.3 Health of Indigenous peoples

4.3.1 Proponent's assessment

The proponent indicated that the project may affect human health from exposure to air pollutants from diesel generators which would be used for up to six months before the floatel is connected to shorepower. The proponent conducted an assessment of risks to residents of the District of Squamish (which would include members of Squamish Nation) and off-duty workers.

For its assessment of risks to residents of the District of Squamish, the proponent updated its emission inventory to consider the floatel #2 diesel generators in combination with construction emissions. The proponent determined that the total emissions would be less than the peak emissions which would be expected to occur during operation. As a result, the proponent said that there would be no change to conclusions of the original environmental assessment which concluded that health risk for residents in the District of Squamish (which would include members of Squamish Nation) would be negligible.

4.3.2 Views expressed

Health Canada and Squamish Nation provided comments related to air quality and effects to health of Indigenous peoples. Health Canada asked for additional rationale for the proponent's statements about effects of polycyclic aromatic hydrocarbon and the rationale for using hexane as a surrogate for volatile organic hydrocarbons. The proponent provided technical responses to both questions.

Squamish Nation requested additional modeling of generator exhaust to confirm viability of health-based targets, recommended inclusion of diesel particulate in the Air Quality Management and Monitoring Program, and requested the development of triggers for sulfur dioxide and volatile organic compounds in the Air Quality Management and Monitoring Plan. The proponent responded indicating that they have initiated a screening-level dispersion model to quantify effects of generator exhaust, confirming that they are investigating installing two continuous diesel particulate monitors, and responded by identifying specific trigger levels for inclusion in the Air Quality Management and Monitoring Plan.

4.3.3 Analysis and conclusions

IAAC notes that diesel generators would be used temporarily while awaiting shorepower connection so potential effects to health of Indigenous peoples would be limited in duration, and that the proponent already has in place an Air Quality Monitoring and Management Plan that would be updated for floatel #2. IAAC notes the proponent's commitment to address the comments raised by Squamish Nation including the commitment to update the dispersion model and add thresholds to existing Air Quality Monitoring and Management Plan.

Taking this into account, IAAC agrees with the proponent's determination that the project change would not result in any changes to the findings of the original environmental assessment. IAAC is of the view that effects to health of Indigenous peoples would be within the range of effects predicted during the original environmental assessment and that no new conditions are required.

5. Indigenous interests

5.1.1 Proponent's assessment

The proponent stated that the installation and operation of floatel #2 may affect the amount and quality of harvested marine resources and interactions between ferry routes and marine users. No evidence or concerns were presented to indicate that the floatel would affect access to known harvesting or heritage sites.

The proponent stated that existing mitigation measures focused on biophysical effects and described in section 4.1.1 would be sufficient to manage effects to the amount and quality of harvested marine resources. The proponent also indicated that floatel #2 could affect interactions of marine users with ferry routes but that floatel #2 would not change the total number of ferries compared to the single floatel. There is currently nine round trips per week of the passenger ferry and three round trips for the service ferry (12 round trips total per week) and there would be 6 round trips per week for each of the passenger ferry and service ferry (12 round trips total per week) with floatel #2. The proponent's Marine Transport Management and Monitoring Plan which was developed to satisfy the conditions of the original environmental assessment would apply to floatel #2

5.1.2 Views expressed

Squamish Nation and Tsleil-Waututh Nation provided technical comments on the proponent's submission which are already discussed in sections 4.1.2 and 4.3.2 of this report. Squamish Nation is also undertaking

its own assessment in accordance with the Squamish Nation Environmental Assessment Agreement (SNEAA) review process.

5.1.3 Analysis and conclusions

Taking into account the proponent's predictions that there would be no change to the number of ferry trips compared to floatel #1, and comments from Indigenous groups, IAAC is of the view that effects to current use of lands and resources for traditional purposes would be within the range of effects predicted during the original environmental assessment and that no new conditions are required.

6. Conclusion

Based on the information provided by the proponent, and the input provided by Squamish Nation, Tsleil-Waututh Nation, and Health Canada, IAAC is of the view that effects from floatel #2 would be within the range of effects predicted during the original environmental assessment and that no modified or additional conditions are required.

IAAC recommends modifying the current definition of Designated Project to include the additional floatel.

In doing so, IAAC is also recommending modifying the approach to how the definition of Designated Project is presented in the Decision Statement for improved clarity and to align with IAAC's current approach. To date, the definition of Designated Project (condition 1.9) in the Decision Statement has referenced EAO's Certified Project Description. IAAC is recommending incorporating the content of the existing approved Certified Project Description as well as the proposed second floatel into the Decision Statement, as a schedule (see Annex I of this report where the proposed new wording is underlined) and modifying condition 1.9 so that it references the new Description of the Designated Project in this schedule (Table 1).

TABLE 1 RECOMMENDED AMENDMENT TO THE DECISION STATEMENT

Decision Statement dated July 26, 2024	Recommended Amendment to the Decision Statement
1.9 Designated Project means the Woodfibre LNG Project as described in the Certified Project Description in Schedule A of the Environmental Assessment Certificate issued by the Government of British Columbia (Canadian Environmental Assessment Registry Reference Number 80060).	1.9 Designated Project means the Woodfibre LNG Project as described in ~~the Certified Project Description in~~ Schedule **1A** ~~A~~ of **this document** ~~the Environmental Assessment Certificate issued by the Government of British Columbia (Canadian Environmental Assessment Registry Reference Number 80060)~~.

Annex I: Description of the Designated Project

Project overview

The Woodfibre LNG Project is comprised of the following components:

- Liquefied natural gas (LNG) facility and supporting infrastructure;
- Temporary construction-related infrastructure and facilities; and
- Shipping.

These components are described below.

The LNG facility is located in the District of Squamish. Unless otherwise specified, all components are located within the areas specified on Figure 1 and Figure 2.

LNG facility and supporting infrastructure

The LNG facility includes: the land-based natural gas processing and liquefaction facility; the floating storage and offloading unit; and supporting infrastructure. The Project Area, as shown on Figure 1, comprises the LNG Facility Area and the Marine Terminal Area.

The components related to the LNG processing are located within the Project Area on Figure 1. The components related to LNG processing are:

- Control system;
- Natural gas inlet facility and piping;
- Natural gas pre-treatment facilities;
- Up to two natural gas liquefaction trains (also called processing units), comprised of gas treatment and liquefaction facilities with a maximum total combined production of LNG that does not exceed the volume authorized in the Licence to Export LNG issued June 9, 2017 pursuant to Section 117 of the *National Energy Board Act*;
- A condensate storage container;
- Flare system with a maximum flare stack height of 140 m;
- Fire control and safety infrastructure;
- An air cooling system

The Project uses electrical power sourced from BC Hydro.

The components related to the LNG loading system are located within the Project Area on Figure 1. The components related to the LNG loading system are:

- Supporting utility lines;
- LNG loading lines; and
- Boil off gas vapour return lines.

The components related to the marine terminal are located within the Certified Marine Terminal Area on Figure 1. The components related to the marine terminal are:

- One LNG carrier berth, able to accommodate one LNG carrier; and
- The floating storage and offloading unit consisting of two converted LNG carriers with a total capacity of no greater than 250,000 m^3.

Supporting permanent infrastructure within the Project Area on Figure 1 are:

- Infrastructure to bring electrical power to LNG Facility Area;
- Fresh water supply infrastructure, including intake, piping and storage tank;
- Main administration building(s), control room(s), maintenance building(s), dry storage and chemical building(s), fire house(s), first aid building(s), and safety and guardhouse buildings;
- Facilities to provide site access, including floats, docks, barge ramp, passenger ferry terminal, and helipad;
- Marine offloading facility;
- Shoreline protection berm;
- Site security infrastructure;
- Water and wastewater treatment and discharge facilities;
- Storm water management, treatment and discharge facilities;
- Roads and bridges; and
- Landfill.

A Green Zone will be established in the area shown on Figure 1. Following Construction, this Green Zone will be planted with suitable native vegetation and would not contain any permanent Project buildings. Utilities, including power, process piping, communications cables, and roads and bridges would be within the Green Zone.

Construction infrastructure, facilities and activities

Within the Project Area on Figure 1, the Project includes the following construction-related infrastructure and facilities:

- **Up to two temporary floating worker accommodation facilities (floatels) and associated mooring infrastructure, on-shore water treatment and freshwater intake(s);**
- Concrete batch plant(s);
- Temporary buildings to house administration offices, temporary medical facilities, employee canteens and services, field offices, sanitary facilities, and a shipping and receiving warehouse;
- Temporary utilities for construction, including water, power, gas, sanitary wastewater collection and removal systems, and solid waste disposal; and
- Temporary stormwater collection and treatment systems.

The Project includes temporary laydown areas or suitable stockpile sites to stage or store construction materials within the Project Area on Figure 1. The Project includes limited dredging with total volume no greater than 80,000 m3 in the Marine Terminal Area on Figure 1.

Shipping

The Project marine access route is the Marine Route shown on Figure 2. This route must be used by all LNG carriers transiting to or from the Project, unless deviation is required due to exceptional circumstances.

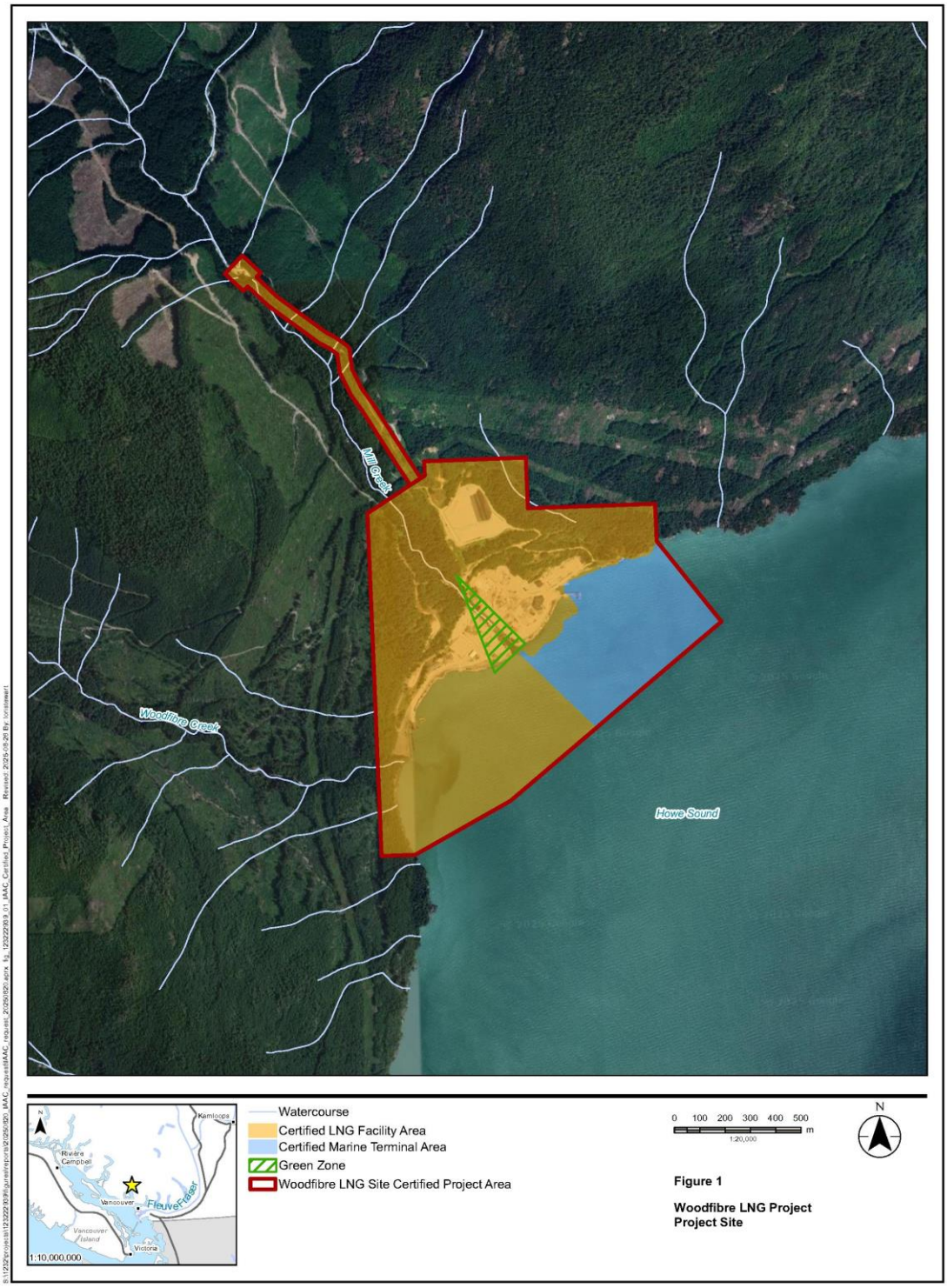


Figure 1

Woodfibre LNG Project
Project Site

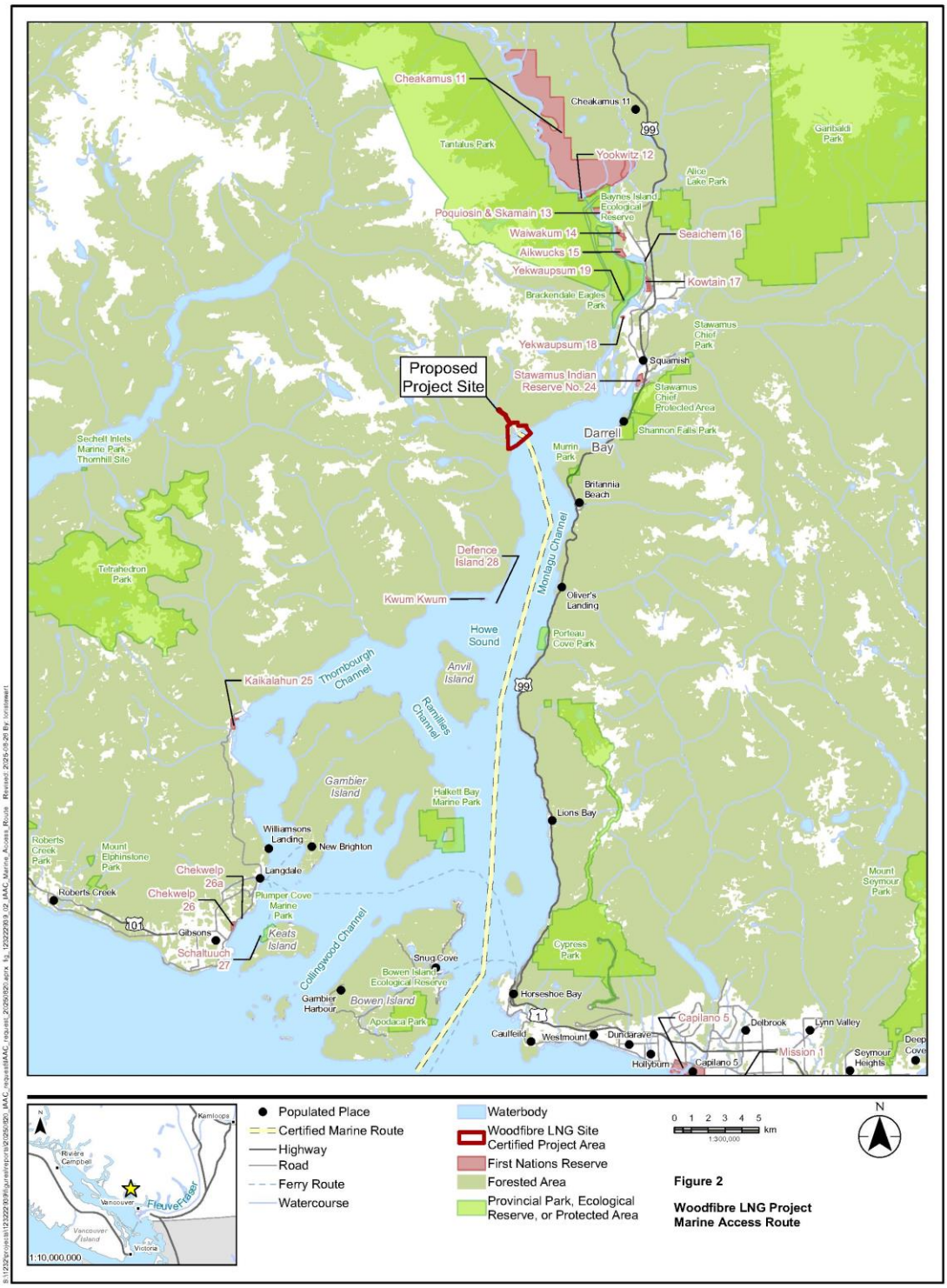


Figure 2

Woodfibre LNG Project Marine Access Route