



Government of Newfoundland and Labrador
Department of Environment and Climate Change
Water Resources Management Division

PERMIT TO CONSTRUCT A NON-DOMESTIC WELL

Pursuant to the *Water Resources Act*, SNL 2002 cW-4.01, specifically Section(s) 58

Date: **SEPTEMBER 11, 2025**

File No: **NDOM25-022**
Permit No: **GW14587-2025**

Permit Holder: **Labrador Island Link Limited Partnership (NL Hydro)**
500 Columbus Drive
St. John's, NL
A1B 4K7
SarahMaddigan@nlh.nl.ca

Attention: **Sarah Maddigan**

Re: **Labrador Island Link Limited Partnership (NL Hydro) - Non-potable replacement well to supply Camp 1B, between Muskrat Falls and Forteau**

Permission is hereby given for : **Construction of a non-potable water well for showers, sinks, and toilets. Will replace existing well that has gone dry.**

- This Permit does not release the Permit Holder from the obligation to obtain appropriate approvals from other concerned municipal, provincial and federal agencies.
- The Permit Holder must obtain the approval of the Crown Lands Administration Division if the project is being carried out on Crown Land.
- This Permit is subject to the terms and conditions indicated in Appendices A and B (attached).
- It should be noted that prior to any significant changes in the design or installation of the proposed works, or in event of changes in ownership or management of the project, an amendment to this Permit must be obtained from the Department of Environment and Climate Change under Section 49 of the *Water Resources Act*.

A handwritten signature in black ink, appearing to read "Hann".

(for) MINISTER

APPENDIX A
Terms and Conditions for Permit

Non-Domestic (General)

1. The well must be drilled and completed by a water well driller licenced by the Government of Newfoundland and Labrador, and constructed according to the Water Resources Act and the Well Drilling Regulations under that Act.
2. The existing well must not be sealed as per guidelines until after the new well is active and tested as required. Only after the pumping test and new well connection to the distribution system is complete will consideration be given to sealing the existing well.
3. A Completion Report must be provided to this department within 30 days after well construction is complete.
4. Water well construction data including Drilled Water Well Record(s) and pumping test results for the well must be attached to the Completion Report.
5. This permit is valid for one (1) year from the date of issuance.
6. The well owner is responsible for compliance with this permit.
7. This licence/permit does not constitute an acknowledgement of interest in any land claims adjacent.

Non-Domestic (Pumping Test)

8. A 6 hour aquifer pumping test is required for the well in accordance with the Water Resources Management Division document Guidelines for Aquifer Pumping Tests. A final report, written by a hydrogeologist or qualified person and providing the information as stated in the guidelines, including chemical analyses of the water, must be forwarded to this department. This report must be submitted with the completion report.
9. Prior to commencing a long-term aquifer test, a step drawdown test must be conducted to estimate the rate that can be maintained by the well for extended periods of time. The step drawdown test should consist of at least 4 steps and each step should be of at least 30 minutes duration. The pumping rates that are used for this test are determined from the driller's estimate of the well yield. If four steps are used, the first should be conducted at a rate of about one-quarter of the well yield estimate provided by the driller. This rate is maintained for 30 to 60 minutes and then the next step is begun without stopping for recovery. Each successive step should be run at a rate that is approximately double the rate of the step prior. The step drawdown test must be evaluated by a qualified professional prior to the constant rate pumping test to evaluate a sustainable pumping rate.

Non-Domestic (Water Quality)

10. A minimum of two water samples must be collected from the well at the wellhead during the aquifer pumping test utilizing proper sampling protocol. The first water sample must be collected not less than 30 minutes or more than two hours into the pumping period, and the second or last water sample must be collected during the last hour of the pumping period. Water samples must be submitted to an accredited water analysis laboratory for testing as per the attached parameter list. As a part of the completion report, a copy of the analytical results must be sent to this department.

11. After the well has been completed as a source water supply, a bacteriological water sample must be collected from the well before chlorination and/or treatment is applied, utilizing proper sampling protocol, and submitted to Service NL for analysis between 10-15 days after well disinfection. As a part of the completion report, a copy of the bacteriological results must be submitted to this department.
12. The completed well must not be utilized as a source water supply until all required water quality analytical results have been received and approved by this department.

Non-Domestic (Abandonment)

13. If the completed well can not meet its intended purpose as stated in the application, or if it has no further use at any time after it has been drilled or in service, for any reason including poor water quality or insufficient yield, the well must be sealed as per the Water Resources Management Division document Guidelines for Sealing Groundwater Wells, available on our web site at <https://www.gov.nl.ca/ecc/files/waterres-cycle-groundwater-well-guidelines-for-sealing-groundwater-wells.pdf>

Non-Domestic (Completion)

14. The signed completion report must include: all completed Drilled Water Well Records for each water well or borehole constructed; aquifer pumping test results (including calculations); water quality results; and any other reports related to the construction or abandonment of water wells or boreholes.
15. All non-domestic wells and boreholes are subject to inspections to ensure compliance with the terms and conditions of this permit. Upon completion of the inspection, a wellhead inspection report will be sent to the well owner.

Non-domestic (GPS Coordinates)

16. The well and/or borehole must be constructed at or near the given coordinate as provided in the non-domestic well application: N 52.342397, W 58.886261. Any additional information on well or borehole locations can be acquired by contacting the groundwater environmental scientist at (709) 729-2539 or GroundwaterSection@gov.nl.ca.

Dug Wells

17. The following terms and conditions apply to the construction of dug wells. For further information, please contact the Water Resources Management Division at (709) 729-2539.
18. A dug well should not be constructed in such a manner or location that surface contamination may enter the well or aquifer, posing an environmental and public health hazard.
19. The well should not be constructed within: 61 m of a cesspool receiving raw sewage; 30 m of a seepage (leaching) pit or disposal unit; or 30 m of a septic tank, concrete vault privy or sewer of tightly joined tile.
20. The center line of a dug well should be no closer than 1.6 m from the outside or inside wall of a structure or projection of that structure that may impede the inspection and maintenance of the well.
21. The well should not be located within 1.5 m of a propertyline or within 6 m or the right-of-way of any road or public highway.
22. Where the dug well is located in a place where surface runoff will pass over or near the opening of the well, the owner should fill the area immediately surrounding the well with clay or clean earth for a minimum distance of 5 m in all directions from the well. The owner should also grade the area immediately surrounding the well to an elevation of at least 61 cm above the highest known surface water level.

23. The well should be excavated as deep as possible to prevent it from running dry, for example, as a result of excessive water use or during periods of drought. It is recommended that the construction of the well take place between the months of August and October when the elevation of the water table tends to be at its annual low.
24. The casing of the dug well must extend a minimum of 0.5 m above finished grade at the well location or to a minimum of 0.6 m above finished grade in flood-prone areas.
25. Surface drainage at the wellhead should be directed away from the dug well by means of a sloping impermeable (e.g. concrete) apron, housing or other adequate protection.
26. All joints in the well casing above the apron should be made watertight with a non-toxic sealant.
27. The top 2.44 metres of the well casing should be made of concrete rings, poured reinforced concrete or brick lining, or any other material approved by the Department.
28. The annular space from the bottom of the well up to the casing bottom should be filled with a bed of clean, washed sediment (e.g., gravel, sand, crushed rock, or small boulders). The remaining annular space should be filled to the land surface with cement grout, bentenite clay, or equivalent commercial slurry, clay slurry, or puddle clay to prevent surface runoff from entering the dug well.
29. Where a subsurface plumbing connection is made through the casing, the connection should be made water tight with a durable non-toxic sealant. The connection should extend outward from the well a minimum of 30 cm, and extend from the bottom of the excavation to within 61 cm of the land surface to prevent surface contamination from entering the well.
30. A secure vermin-proof cover, preferably of metal or reinforced concrete that is at least 10 cm thick, should cap the well. The cover should rest on and overlap the outer edge of the well casing by at least 5 cm. The top cover should be sloped such that water drains away from the sleeve to prevent the leakage of contamination into the well.
31. The well should be disinfected as per the Guidelines for Disinfecting Dug and Drilled Wells found online at <https://www.gov.nl.ca/ecc/waterres/groundwater/well/disinfecting/>
32. All maintenance, repair, and construction work should be done only by a licensed professional.
33. A center observation hole in the cover of the well is not recommended.
34. The use of a galvanized steel culvert as a well liner or casing is not recommended. A galvanized steel liner should only be used in wells with a low water level, or in combination with an inner PVC or concrete liner, to prevent its contact with the water.
35. The well owner is responsible for maintaining the well in a sanitary condition, in a manner that prevents surface water or contaminants from entering the well to protect groundwater resources.
36. The well owner should contact this department prior to decommissioning and sealing a dug well. For more information, please contact the Water Resources Management Division at (709) 729-2539.
37. Please see attached diagram of a properly constructed dug well.

Water Use Licence Requirement

38. The Permit Holder must obtain a water use licence under the Water Resources Act (Contact: Daniel Humber at 709-729-2657). The application (pages 1 and 2 only) and fee schedule are available at the following links: https://www.gov.nl.ca/ecc/files/application_for_wul_2021_Jul-19-2021.pdf and https://www.gov.nl.ca/ecc/files/WUL-Fee-Schedule_Revised_Budget-2021_Jul-13-2021.pdf

GOVERNMENT OF NEWFOUNDLAND AND LABRADOR
Department of Environment and Climate Change

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APPENDIX B
Special Terms and Conditions for Permit

1. The Permit Holder and its agent(s), subcontractor(s), and consultant(s) shall keep all systems and works in good condition and repair and in accordance with all laws, by-laws, directions, rules and regulations of any governmental authority. The Permit Holder or its agent(s), subcontractor(s), or consultant(s) shall immediately notify the Minister if any problem arises which may threaten the structural stability of the systems and works, endanger public safety and/or the environment or adversely affect others and/or any body of water either in or outside the said Project areas. The Permit Holder and its agent(s), subcontractor(s), and consultant(s) shall be responsible for all damages suffered by the Minister and Government resulting from any defect in the systems and works, operational deficiencies/inadequacies, or structural failure.
2. The Permit Holder and its agent(s), subcontractor(s), and consultant(s) shall operate the said Project and its systems and works in a manner which does not cause any water related and/or environmental problems, including but not limited to problems of erosion, deposition, flooding, and deterioration of water quality and groundwater depletion, in or outside the said Project areas. The Permit Holder and its agent(s), subcontractor(s), and consultant(s) shall be responsible for any and all damages associated with these problems caused as a result of changes, deficiencies, and inadequacies in the operational procedures by the Permit Holder or its agent(s), subcontractor(s), or consultant(s).
3. If the Permit Holder or its agent(s), subcontractor(s), or consultant(s) fails to perform, fulfil, or observe any of the terms and conditions, or provisions of this Permit, as determined by this Department, the Minister may, without notice, amend, modify, suspend or cancel this Permit in accordance with the *Water Resources Act*.
4. The Permit Holder and its agent(s), subcontractor(s), and consultant(s) indemnify and hold the Minister and Government harmless against any and all liabilities, losses, claims, demands, damages or expenses including legal expenses of any nature whatsoever whether arising in tort, contract, statute, trust or otherwise resulting directly or indirectly from granting this Permit, systems and works in or outside the said Project areas, or any act or omission of the Permit Holder or its agent(s), subcontractor(s), or consultant(s) in or outside the said Project areas, or arising out of a breach or non-performance of any of the terms and conditions, or provisions of this Permit by the Permit Holder or its agent(s), subcontractor(s), or consultant(s).
5. This Permit is subject to all provisions of the *Water Resources Act* and any regulations in effect either at the date of this Permit or hereafter made pursuant thereto or any other relevant legislation enacted by the Province of Newfoundland and Labrador in the future.
6. This Permit shall be construed and interpreted in accordance with the laws of the Province of Newfoundland and Labrador.

cc: Daniel Humber
Environmental Engineer, Water Rights, Investigations and Modelling Section
Water Resources Management Division
Department of Environment and Climate Change
DanielHumber@gov.nl.ca

cc: Groundwater Section File Copy
Groundwater Section
Water Resources Management
Dept. Environment and Climate Change
groundwatersection@gov.nl.ca



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Appendix C - Completion Report

Pursuant to the *Water Resources Act*, SNL 2002 cW-4.01, specifically Section(s) 58

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Attention: **Sarah Maddigan**

Re: **Labrador Island Link Limited Partnership (NL Hydro) - Non-potable replacement well to supply Camp 1B, between Muskrat Falls and Forteau**

Permission was given for : **Construction of a non-potable water well for showers, sinks, and toilets. Will replace existing well that has gone dry.**

I (the Permit Holder named above or agent authorized to represent the Permit Holder) do hereby certify that the project described above was completed in accordance with the plans and specifications submitted to the Department of Environment and Climate Change and that the work was carried out in strict compliance with the terms and conditions of the Permit issued for this project.

Date: _____ Signature: _____

This completion report must be completed and forwarded to the following address upon completion of the approved work.

Department of Environment and Climate Change
Water Resources Management Division
PO Box 8700
St. John's NL A1B 4J6

General Water Quality Parameter List for Groundwater

Alkalinity
Aluminum
Ammonia
Antimony
Arsenic
Barium
Boron
Bromide
Cadmium
Calcium
Chloride
Chromium
Colour (true)
Conductivity
Copper
Dissolved Organic Carbon
Fluoride
Hardness
Iron
Kjeldahl Nitrogen
Lead
Magnesium
Manganese
Mercury
Nickel
Nitrate/Nitrite
pH
Potassium
Selenium
Sodium
Sulphate
Total Dissolved Solids
Total Phosphorus
Turbidity
Uranium
Zinc

Properly Constructed Dug Well

