

PERMIT TO CONSTRUCT A NON-DOMESTIC WELL

Pursuant to the *Water Resources Act*, SNL 2002 cW-4.01, specifically Section(s) 39, 58

Date: **MAY 30, 2024**

File No: **NDOM24-012**
Permit No: **GW13694-2024**

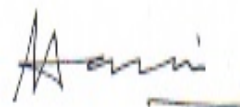
Permit Holder: **Town of Steady Brook
1 Wilton Street
Steady Brook NL A2H 2N2
dmorrissey@steadybrook.com**

Attention: **Derek Morrissey**

Re: **Town of Steady Brook - Installation of a new municipal well, Steady Brook**

Permission is hereby given for : **Installation of a new municipal well.**

- 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*.



(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. Pesticides, herbicides and fertilizers must not be used within a 100 metre radius of the wellhead.

Non-Domestic (Location)

8. The well must be located outside the right-of-way, or a minimum of 30 metres from the centre line, which ever is greater, of any road, street or highway.
9. The well must not be located within 30 metres of another well water supply or nearby furnace oil storage tanks.
10. The well must not be located within a minimum of 16 metres and/or down gradient of sewage disposal field or septic tank.
11. The well must not be drilled within 15 metres of any water body as defined under the Water Resources Act.

Non-Domestic (Construction)

12. Water disinfected by a National Sanitation Foundation (NSF) certified chlorine product must be used for the drilling and clean up operations.
13. Construction of each well must include carbon steel casing to a minimum depth that extends 6 meters into the bedrock and impedes flow of potentially contaminated surface water and/or shallow groundwater to the well. A drive shoe must be used to set the casing into the bedrock.
14. Casing joins must be of continuous weld.

15. The well annulus must be a minimum of 50 millimetres (2 inches) from the outside of the casing to the wall of the borehole and sealed with appropriate grout and/or cement from the bottom of the well casing/drive shoe to the ground surface. If a 150 millimetre (6 inch) casing is used, then a minimum of a 250 millimetre (10 inch) borehole is required.
16. In the course of drilling the well and during the development stage, if salty, sulphurous, or other water that might impair the quality of potable water is encountered, the well driller must seal off that water by a method approved by the Minister.
17. The well driller must take all other reasonable measures necessary to ensure that contaminated surface water, shallow groundwater, and/or other water that might impair the quality of potable water will not enter the well.
18. Water well construction data must include the precise location of the newly completed well taken in latitude/longitude format.

Non-Domestic-Finished Wellhead

19. The area immediately surrounding the well must be sloped away from the well and grass covered to a minimum distance of 5 metres in all directions.
20. The wellhead must be completed to a minimum height of 0.6 metres above finished grade.
21. The wellhead must be completed with a double vented (screened) metal vermin-proof well cap with electrical access through the well cap.
22. Water supply from the well must utilize a pitless adaptor installed below the frost line.
23. There must be no holes, slots, or other openings made in the well casing except for the installation of a properly sealed pitless adapter.
24. If an electrical ground wire or other such attachment to the well casing is necessary, it must be attached to a steel anchor that has been welded to the outside of the well casing.
25. If a well pump is to be suspended, it must be done utilizing a stainless steel cable attached to an industry approved well hanger inside the wellhead.
26. The well casing and finished wellhead must be sealed (water tight) except for the screened vent.
27. If finished outside, the wellhead must not be enclosed in a protective enclosure, finished below ground level, in a concrete pit, or any other such enclosure unless the method of enclosure is approved by this department.
28. The well must not be located inside, under, or too close to a building unless provision is made in the construction of the building to allow access to the well for cleaning, treatment, repair, testing and inspection of the well.
29. A wellhead located inside a building must be finished in the same manner as an outside well, i.e., to a minimum height of 0.6 metres above floor level, utilizing a pitless adaptor (installed above floor level), and utilizing a double vented screened vermin proof well cap.
30. For public water supply wells, a permanent sampling port must be located in the discharge from the well, before chlorination and/or treatment is applied, for the purpose of source water quality monitoring.

Non-Domestic (Pumping Test)

31. A 72 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.
32. 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)

33. 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.
34. 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.
35. 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.
36. A take-off valve is required in the discharge from the well, located before chlorination and/or treatment is applied, for the purpose on water quality monitoring.
37. A permanent sampling port is also recommended in the discharge from chlorination or other treatment device for the purpose of measuring effectiveness of treatment.

Non-Domestic (Abandonment)

38. 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)

39. 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.
40. 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)

41. The well and/or borehole must be constructed at or near the given coordinate as provided in the non-domestic well application: PW4 (N 48.946047, W 57.817208) with backup location PW5 (N 48.944975, W 57.814911). 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.

Special Conditions

42. The Permit Holder must obtain a Permit to Construct Drinking Water Infrastructure under the Water Resources Act prior to connecting to the existing infrastructure. Contact Deneen Spracklin (dspracklin@gov.nl.ca)

PPWSA General

43. All operations must be carried out in a manner that prevents damage to land, vegetation, and watercourses, and which prevents pollution of bodies of water.
44. Any areas adversely affected by this project must be restored to a state that resembles local natural conditions. Further remedial measures to mitigate environmental impacts on water resources can and will be specified, if considered necessary in the opinion of this Department.
45. All persons working on this project must be informed that they are within a Protected Public Water Supply Area, and must be made aware of all conditions of this Permit. A copy of this Permit must be on site during operations.
46. An undisturbed (no cutting or ground disturbance) buffer zone of at least **150 metres** shall be maintained around Steady Brook for a distance of 1 kilometer upstream and 100 metres downstream of the intake, at least **75 metres** along the remainder of Steady Brook, at least **50 metres** around major lakes or ponds and along both sides of all streams and main tributaries running into Steady Brook, and at least **30 metres** around all ponds and along both sides of all other water bodies including wetlands and field identified streams. Activity or development within these buffer zones is prohibited. All buffer zones must be marked with signs or flagging tape to avoid encroachment into the buffer zones.
47. Treated wood shall not be used in a water body or within buffer zones established in Condition 46 of any water body measured from the high water mark. The use of creosote treated wood anywhere within the Protected Public Water Supply Area is strictly prohibited.
48. All waste material is to be collected in refuse containers, and disposed of at an approved waste disposal site outside the Protected Public Water Supply Area in accordance with the *Environmental Protection Act, SNL 2002 cE-14.2*.
49. Equipment storage, maintenance facilities associated with this project, and all maintenance other than emergency repairs must not be located/carried out within the Protected Public Water Supply Area.
50. The Department reserves the right to require that the Permit Holder follow, and cover all costs incurred by the Permit Holder or this department, associated with any water quality monitoring program that may be ordered by the Minister for the purpose of ensuring that the water quality is maintained within acceptable guidelines.
51. Officials of the Department and the appropriate Municipal Authority, Operator, or Watershed Management Committee may visit the site to ensure compliance with this Permit.
52. Liaison is to be maintained with the appropriate Municipal Authority and Environmental Scientist. If there are any specific problems (i.e. sedimentation, fuel spill, or other potential water quality impairment), the appropriate Town Manager/Clerk, Mayor, Chair of the Local Service District Committee, or Chair of the Water Supply Committee must be notified immediately at (709)634-7601. The Environmental Scientist must also be notified immediately at **(709)637-2542**.

53. Drainage from roads and other disturbed areas, and all water, runoff or effluent from the site, that is pumped or flows by gravity, shall have silt, sludge, sediment, cuttings, and visible turbidity removed by means of sediment boxes, settling tanks, settling ponds, sumps dug into the ground, filtration or other suitable treatment, to less than or equal to 30 milligrams per litre of Total Suspended Solids (TSS), before being discharged to the environment. More specifically, at the last point of control, the final discharge of all water, runoff or effluent must conform to the limits specified in Schedule A of the Environmental Control Water and Sewer Regulations, 2003, <https://www.assembly.nl.ca/Legislation/sr/Regulations/rc030065.htm>. It is the responsibility of the Permit Holder to demonstrate, that the final discharge meets the requirement of these Regulations.
54. The location of the work is highlighted on the Location Map for this Permit attached as Appendix D.
55. Any changes in water quality or quantity resulting directly from this project, rendering the water unsuitable as a public water supply, are the responsibility of the Permit Holder. The Minister may order the Permit Holder to provide an alternate source of potable water to the affected community until water quality returns to an accepted level.
56. All vehicles and equipment must be clean and in good working order with no leaking fuel, oil, or other harmful substances that could impair water quality.
57. All stationary motorized equipment and associated fuel tanks shall have metal trays, absorbent pads or impervious liners under them to catch and contain in excess of 110 % of the aggregate volume of any fuel, lubricant and oil.
58. Where permits, licences, approvals or authorizations are issued by multiple governments departments or agencies, in the case of similar conditions, the more stringent of those shall prevail; in the case of conflicting conditions, the Permit Holder shall seek clarification and direction in writing from each of the respective departments or agencies.
59. The Permit Holder is required to ensure that adequate sanitary (bathroom) facilities are available or provided on site. This may be in the form of a portable toilet, chemical toilet, or municipal sewer system. If a portable toilet or chemical toilet is used, the waste water must be disposed of in a septic disposal system approved by Service NL, or at an approved waste disposal site, outside the Protected Public Water Supply Area in accordance with the Environmental Protection Act, SNL 2002 cE-14.2.
60. The issuance of this permit does not guarantee, nor set precedent, that additional or similar permits or amendments will be issued in this or any other Protected Public Water Supply Area for additional or similar activity or development.

Protected Miscellaneous

61. The Permit Holder must inspect the site daily, and any water quality impairment related problems are to be reported immediately to the Environmental Scientist at (709)637-2542 and the appropriate Municipal Authority or Watershed Monitoring Committee at (709)634-7601.
62. The Permit Holder is required to provide this Department with all documentation, information and data which may be requested or required in order to carry out the inspection or investigation.

Fuel Storage

63. There shall be no bulk fuel storage associated with this project within the protected water supply area. Only the volume of fuel that will be used in one (1) day shall be brought to the operating area and that fuel will be in approved containers. Refueling sites shall be located at least 150 metres from any water body or wetland. The Permit Holder is hereby informed that fuel storage and handling requires a separate approval under the *Storage and Handling of Gasoline and Associated Products Regulations*, CNR 775/96.

64. Contaminated snow and soil must be removed from the site and disposed of at an approved location outside the protected public water supply area, in accordance with the *Environmental Protection Act, SNL 2002 cE-14.2*.
65. Any spills of gasoline, fuel or oil, regardless of volume, shall be reported immediately to the Environmental Scientist at (709)637-2542 and the appropriate Municipal Authority or Watershed Management Committee by calling (709)634-7601. Furthermore, all spills in excess of 70 litres shall be reported immediately to the 24 hour spill report line at 1-800-563-9089.
66. A complete oil spill clean-up kit must be on site at all times when gasoline or fuel powered equipment is being used or refuelled. The kit must contain the following:
- One hand operated fuel pump
 - One recovery container such as an empty 205 litre drum
 - One shovel
 - One pick axe
 - Five metres of containment boom
 - Five absorbent pads
 - Twenty-five litres of loose absorbent material
67. Refueling sites shall be located at least 150 metres from any water body or wetland.

Special Conditions

68. Drilling fluids other than water must be approved by this Department prior to their use.
69. All silt, sludge, sediment, cuttings, drilling additives, and drilling mud must be collected, properly disposed of and not permitted to flow freely over the ground into any receiving waterbody (including wetlands).
70. All storm runoff shall be diverted away from any engineered excavation for the retention of sediment (e.g. sump, sediment basin, settling pond).

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: Dr. John Gale
FracFlow Consultants Inc.
154 Major's Path
St. John's, NL, A1A 5A1
john_ffc@nfld.net
- 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
- cc: Ms. Carla Hayes, P.Tech
Environmental Scientist, Drinking Water Section
Water Resources Management Division
Department of Environment and Climate Change
P.O. Box 2006
Corner Brook, NL A2H 6J8
CarlaHayes@gov.nl.ca
- cc: Ms. Deneen Spracklin, P.Eng.
Manager, Drinking Water and Wastewater Section
Water Resources Management Division
Department of Environment and Climate Change
P.O. Box 8700
4th Floor, West Block, Confederation Building
St. John's, NL A1B 4J6
dspracklin@gov.nl.ca



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

Appendix C - Completion Report

Pursuant to the *Water Resources Act*, SNL 2002 cW-4.01, specifically Section(s) 39, , 58

Date: **MAY 30, 2024**

File No: **NDOM24-012**

Permit No: **GW13694-2024**

Permit Holder: **Town of Steady Brook
1 Wilton Street
Steady Brook NL A2H 2N2
dmorrissey@steadybrook.com**

Attention: **Derek Morrissey**

Re: **Town of Steady Brook - Installation of a new municipal well, Steady Brook**

Permission was given for : **Installation of a new municipal well.**

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.

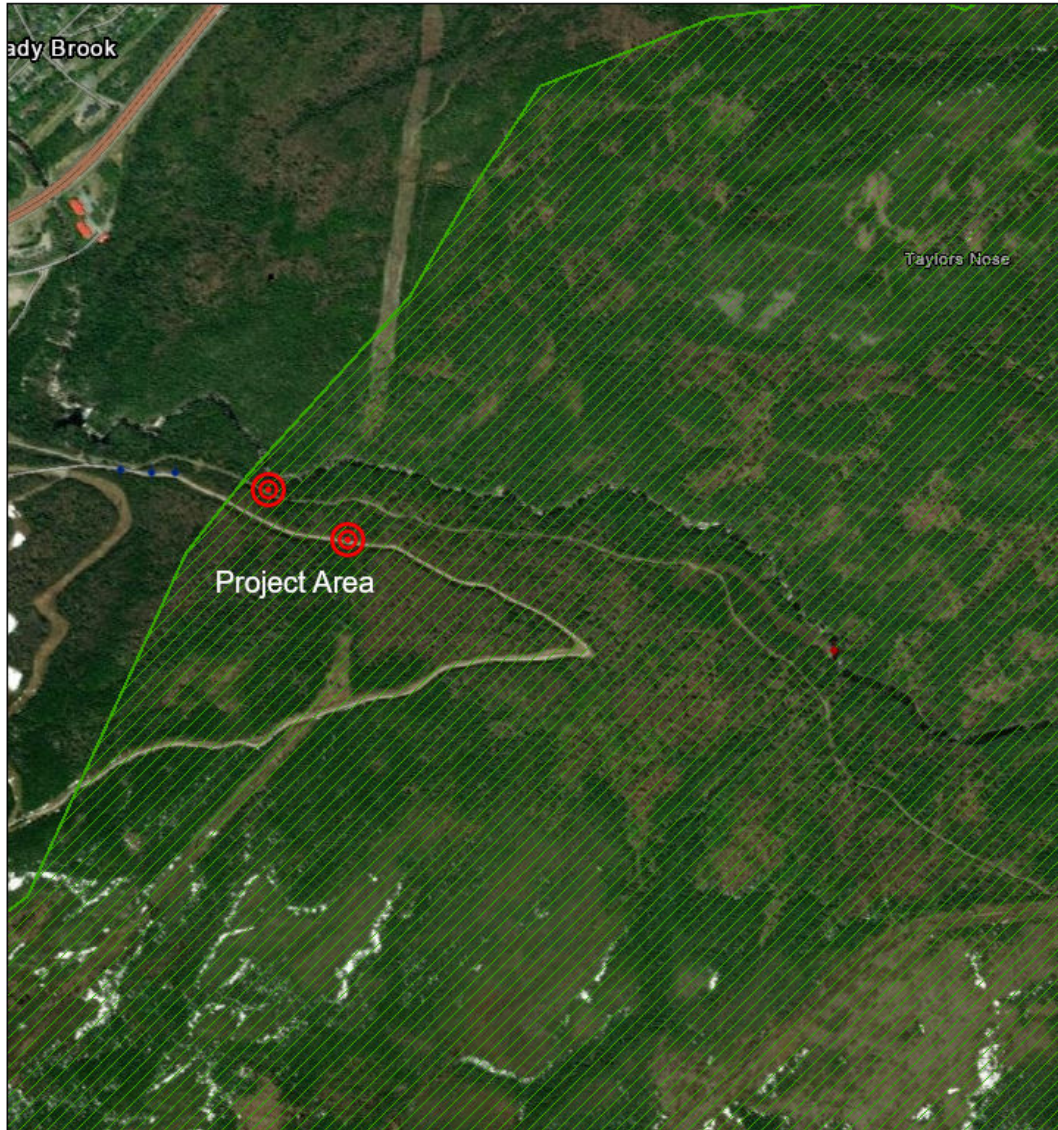
Date: _____ Signature: _____

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

APPENDIX D
Location Map for Permit

GW13694



5/23/2024, 9:31:27 AM

Communities Intakes
Intakes / Wellheads Public Water Supplies
Wellheads Protected

1:18,056
0 0.1 0.2 0.4 mi
0 0.15 0.3 0.6 km

Esri Community Maps Contributors, Esri Canada, Esri, TomTom, Garmin, SafeGraph, METI/NASA, USGS, NRCan, Parks Canada, Maxar

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