

## PERMIT TO CONSTRUCT

Pursuant to the *Water Resources Act*, SNL 2002 cW-4.01, specifically Section(s) 37

Date: **OCTOBER 25, 2017**

File No: **843.098.1**  
Permit No: **WS9434-2017**

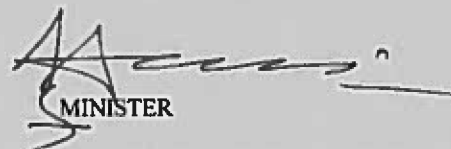
Permit Holder: **Town of Milltown - Head of Bay D'Espoir**  
**PO Box 70**  
**Milltown NL**

Attention: **Anita Garland**

Re: **Milltown-Head of Bay D'Espoir - Hydrogen Peroxide Pilot Project**

Permission is hereby given for : the installation of chemical dosing pumps and piping for sodium hydroxide, sodium bicarbonate, hydrogen peroxide, and polyaluminum chloride injection, a new flow meter, a secondary disinfection building to house hydrogen peroxide dosing pumps, pH and hydrogen peroxide analyzer and controller, and related appurtenances to pilot hydrogen peroxide as a secondary disinfectant as described in the drawings and document titled, "Milltown-Head of Bay D'Espoir AVIVE Pilot Project Design Brief" as received from SanEcoTec Ltd. on September 13, 2017.

- 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 Municipal Affairs and Environment under Section 49 of the *Water Resources Act*.
- Failure to comply with the terms and conditions will render this Permit null and void, place the Permit Holder and their agent(s) in violation of the *Water Resources Act* and make the Permit Holder responsible for taking any remedial measures as may be prescribed by this Department.



MINISTER

**APPENDIX A**  
**Terms and Conditions for Permit**

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**Water & Sewer General**

1. Water pumped from excavations or work areas, or any runoff or effluent directed out of work sites, must have silt and turbidity removed by settling ponds, filtration, or other suitable treatment before discharging to a body of water. Effluent discharged into receiving waters must comply with the *Environmental Control Water and Sewage Regulations, 2003*.
2. 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.
3. 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.
4. All waste materials resulting from this project must be disposed of at a site approved by the Department of Service NL.
5. The works proposed must satisfy the requirements of the latest applicable codes and standards, and be consistent with or otherwise address the design criteria set out in the Department of Municipal Affairs and Environment publication *Guidelines for The Design, Construction, and Operation of Water and Sewerage Systems, 2005*, and as amended from time to time.
6. The work must be undertaken in strict compliance with the submitted documents and the latest version of the *Municipal Water, Sewer and Roads Master Construction Specifications*. A copy of all documents, including the *Municipal Water, Sewer and Roads Master Construction Specifications* must be available for viewing at the construction site office at all times.
7. Liaison is to be maintained with the Environmental Scientist representing the Drinking Water and Wastewater Section of this Department, during the construction and operation of the project. They shall be notified of the pre-construction and post-construction meetings so that they may attend, if deemed necessary. They can be reached at telephone (709)729-2558.
8. Officials of this Department may visit the project from time to time to ensure that work is carried out within the provisions of this Permit, and is not creating any environmental hazard.
9. Any changes in the approved works, or works other than those specified in the application, must be submitted, in writing, to this Department, and approved, in the form of an Amendment to this Permit, prior to any work.
10. Copies of this Permit, as well as any subsequent Amendments, must be provided to the contractor(s) who will be carrying out these works, and to the engineer's site representative.
11. The attached Completion Report (Appendix C) for Permit No. 9434 must be completed and returned to this Department upon completion of the approved works. Pictures must be submitted along with the completion report, showing the project site prior to and after development.
12. This Permit is valid for two years from the date of issue. Work must be completed by that date or the application and approval procedure must be repeated.
13. The drinking water system shall be operated and maintained in accordance with the Permit to Operate issued by this Department.
14. Management of stormwater is the responsibility of the municipality or LSD. Stormwater management should focus on ensuring that the post-development stormwater runoff rate will be equal to or less than the pre-development runoff rate. Any stormwater runoff has the potential to contribute to flooding downstream which may have liability issues for the municipality or LSD if not managed properly.
15. The Owner must update any drawings maintained of the drinking water system to reflect the modification or replacement of the works, where applicable.

**Water Systems**

16. Under no circumstances shall sewage be permitted to enter the waterline trench during or after construction.

17. All new waterlines and appurtenances shall be hydrostatically tested in accordance with the *Municipal Water, Sewer and Roads Specifications*.
18. All new lines and appurtenances must be disinfected by an approved method described in the latest edition of the AWWA C651 Standard for Disinfecting Watermains and using only chlorine products that meet the NSF 60 standard.

#### **Miscellaneous**

19. The Permit Holder must prevent erosion of drainage ditches, streams or other natural bodies of water by installing rip-rap and/or sodding.

#### **Water Treatment**

20. There shall be adequate storage handling facilities for 30 days of dry chemical supply.
21. All drains and vents shall be equipped with screens to prevent the entry of insects, birds and rodents.
22. A backflow prevention device, in this case a hose connection vacuum breaker, non removable, meeting or exceeding CSA 64.2, shall be attached to any hose bibb connection, to prevent the possibility of contaminants entering the potable water distribution system due to back-siphonage.
23. Chemical mixing tanks shall be located as near as possible to the point of application to minimize the length of feed lines.
24. All components, lubricants and chemicals provided shall be compatible for use with drinking water and shall meet the requirements of ANSI/NSF 60 Drinking Water Treatment Chemical Standard and ANSI/NSF 61 Drinking Water and System Component Standard and any other standard applicable to potable water.
25. An emergency shower and eye wash station that is in compliance with ANSI Z358.1-2014 and meets the requirements of the appropriate Materials Safety Data Sheet (MSDS) shall be installed in a convenient location(s) within each facility.
26. The owner shall ensure that all chemicals used in the treatment process and all materials contacting the water are of Food Grade quality and meet both the American Water Works Association (AWWA) quality criteria as set out in AWWA standards and the American National Standards Institute (ANSI) and the National Sanitation Foundation (NSF) safety criteria as set out in ANSI/NSF 60 or ANSI/NSF 61 standards and any other applicable standards.
27. Residuals discharged from the water treatment plant must meet the requirements of the *Environmental Control Water and Sewage Regulations, 2003*.
28. Appropriate backflow prevention devices meeting or exceeding the CSA 64 Standard shall be installed on all potable water lines where a cross connection may exist or be created, to prevent the possibility of contaminants entering the potable water distribution system due to back-siphonage or back-pressure.
29. Continuous on-line monitoring of disinfectant residual is required with a maximum 5 minute interval for measurements as water enters the distribution system or at some point prior to the first consumer.
30. Continuous on-line monitoring of pH is required.

#### **Special Conditions**

31. A Pilot Hydrogen Peroxide System study shall be submitted to the Department and shall include the following:
  - Introduction;
  - Background;
  - Methodology;
  - Results; and
  - Conclusions\Recommendations.
32. Handheld field meters for measuring hydrogen peroxide residual must be supplied to the Town of Milltown-Head of Bay D'Espoir, Service NL, and this Department.

#### **Commissioning and Monitoring**

33. The drinking water treatment system shall meet the proposed performance objectives as established in the Milltown-Head of Bay D'Espoir AVIVE Pilot Project Design Brief.
34. This Department must be informed of the date of commission of the drinking water or wastewater treatment system.

35. The water treatment plant must meet the requirements of the *Drinking Water Treatment Standards for Newfoundland and Labrador*.
36. This Department shall require an enhanced monitoring and reporting procedure be undertaken as part of this pilot project. Sampling should be undertaken as per the submitted pilot sampling plan for the duration of the three month pilot. Analysis of water quality grab samples as part of this monitoring plan must be analysed at an accredited laboratory or in-house (where applicable). The monitoring and reporting plan shall at a minimum include the following:
- daily pH, temperature and hydrogen peroxide residuals;
  - weekly bacteriological sampling including Total Coliform and *E.coli* counts;
  - bi-weekly trihalomethanes (THMs) and haloacetic acids (HAAs); and
  - monthly physical and chemical parameters as per the *Policy for Drinking Water Quality Monitoring and Reporting for Public Water Supplies*.

At least one sampling site should include a tap sample. Results must be reported to the regional Design Approval Specialist.

#### **Alternative Disinfection**

37. The point of application of hydrogen peroxide shall be located after primary disinfection requirements have been achieved.

**APPENDIX B**  
**Special Terms and Conditions for Permit**

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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 and/or Ministerial orders and guidelines, as determined by this Department, the Minister may, after providing ten (10) day notice to the Permit Holder, 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: Ms. Annette Tobin, P. Eng.  
Environmental Engineer, Drinking Water and Wastewater Section  
Water Resources Management Division  
Department of Environment and Climate Change  
P.O. Box 8700  
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St. John's, NL A1B 4J6  
annettetobin@gov.nl.ca

cc: Ms. Deneen Spracklin, P.Eng.  
Environmental Engineer, Drinking Water and Wastewater Section  
Water Resources Management Division  
Department of Municipal Affairs and Environment  
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St. John's, NL A1B 4J6  
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cc: Mr. Wilf Maloney, P. Eng.  
Regional Engineer, Central Regional Office  
Department of Municipal Affairs and Environment  
PO Box 2222  
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WilfMaloney@gov.nl.ca

cc: Mr. Wayne Lynch  
Regional Director (Central)  
Service NL  
P.O. Box 2222  
Gander, NL A1V 2N9  
waynelynch@gov.nl.ca

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cc: Ms. Els Vanbeckevoort  
Chief Executive Officer  
SanEcoTec. Ltd.  
5636 Manotick Main Street, AVIVE House  
Ottawa, ON K4M 1B3  
els.vanbeckevoort@sanecotec.com

### Appendix C - Completion Report

Pursuant to the *Water Resources Act*, SNL 2002 cW-4.01, specifically Section(s) 37

Date: **OCTOBER 25, 2017**

Permit Holder: **Town of Milltown - Head of Bay D'Espoir  
PO Box 70  
Milltown NL**

Attention: **Anita Garland**

Re: **Milltown-Head of Bay D'Espoir - Hydrogen Peroxide Pilot Project**

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*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 Municipal Affairs and Environment 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 Municipal Affairs and Environment  
Water Resources Management Division  
PO Box 8700  
St. John's NL A1B 4J6