

## PERMIT TO CONSTRUCT

---

Pursuant to the *Water Resources Act*, SNL 2002 cW-4.01, specifically Section(s) 37, 39, 48

Date: **MAY 03, 2023**

File No: **841.022.1**  
Permit No: **WS13020-2023**

Permit Holder: **Town of Cartwright  
PO Box 129  
Cartwright NL A0K 1V0  
twcouncil@bellaliant.com**

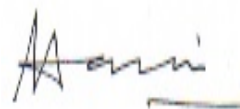
Attention: **Ms. Shirley Hopkins**

Re: **Cartwright - Water System Improvements**

---

Permission is hereby given for : **upgrades to the main chlorination and booster chlorination buildings including new sodium hypo chlorination equipment, pH adjustment system, new water intake screen, seven new automatic flushing hydrants and related works and appurtenances as shown a set of revised drawings numbered 22-107 (MI no. 17-GI-22-00078), sheets 1-12 inclusive as received from Harris and Associates on May 1, 2023.**

- 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**

---

**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. 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 this Department's publication *Guidelines for the Design, Construction, and Operation of Water and Sewerage Systems, 2005*, and as amended from time to time.
5. 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.
6. 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) 637-2034 .
7. 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.
8. 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.
9. 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.
10. The attached Completion Report (Appendix C) for Permit No. 13020 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.
11. 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.
12. The drinking water and wastewater system shall be operated and maintained in accordance with the Permit to Operate issued by this Department.

13. The Owner must update any drawings maintained of the drinking water or wastewater system to reflect the modification or replacement of the works, where applicable.

### **Water Systems**

14. 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.
15. 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.

### **Intake**

16. A water supply intake may be placed in Burdett's Pond as part of the water supply system for the Town of Cartwright.
17. The intake shall consist of a 200 mm diameter PVC pipe and a screened stainless steel intake structure.
18. Pipe zone cutoff walls or other means must be installed to prevent lowering of the water table due to groundwater flow through the porous pipe zone material.
19. Where pumping is used to bypass flow, cofferdams must be installed both above and below areas of construction. The Permit Holder must provide pumps with sufficient capacity to prevent washout of cofferdams.
20. Cofferdams must be properly designed and constructed of suitable materials to prevent leakage and to resist loss of any material as a result of erosion. Cofferdams must be removed upon completion of their intended function. All material must be removed carefully to prevent disturbance of the water body and to prevent water quality degradation.
21. Close cut clearing and disposal must be undertaken around the perimeter of the water supply reservoir to an elevation not less than 200 mm above the proposed high water mark. Special care should be exercised to minimize siltation and erosion problems at the new shore wash area.
22. The intake must be fitted with a removable mesh screen or a trash rack.
23. Intake ports must be located above the bottom of the stream, lake or impoundment, but at sufficient depth to be kept submerged at low water levels and below ice level. The intake structure must not draw air.
24. Adequate protection must be provided against clogging by sediment, debris, ice, frazil ice, wind, floatation and wave pressure.

### **Chlorination**

25. 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.
26. The upgrading of the existing chlorination facility must be carried out in such a way as there will be minimal interruption of the water supply and chlorination system. In this regard, water consumers and the Regional Office of the Department of Digital Government and Service NL shall be kept informed and appropriate action taken to address any potential or encountered problems.
27. The sodium hypochlorite shall be stored in a dark cool area to minimize loss of strength of the solution. In this regard a storage cabinet should be provided and shall be located away from any direct heat and light sources.

28. Personal protective equipment such as goggles and rubber gloves suitable for handling sodium hypochlorite must be provided.
29. Portable equipment must be provided for measuring chlorine residuals. The equipment shall have digital display readout, enable measurement of chlorine residuals to the nearest 0.02 mg/L, and shall be of a type approved by this Department.

### **Water Treatment**

30. There shall be adequate storage handling facilities for 30 days of dry chemical supply.
31. All drains and vents shall be equipped with screens to prevent the entry of insects, birds and rodents.
32. The ends of drains and overflows shall be located so as to prevent erosion. Where necessary, concrete or similar splash plates shall be located below the end of the overflow, and the immediate surrounding area shall be filled to a depth of 10 cm with 19 mm minus stone to prevent ponding.
33. A minimum of 2 feed/metering pumps shall be provided for all chemical feed systems.
34. Chemical mixing tanks shall be located as near as possible to the point of application to minimize the length of feed lines.
35. A sample tap shall be provided so that water samples can be obtained from the raw water source and from an appropriate location after chlorination. Taps used shall be of the smooth-nosed type without interior or exterior threads and shall not have a screen, aerator or other such appurtenance.
36. 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.
37. 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.
38. All chemical tanks shall have liquid level indicators and overflows connected to a drain line.

### **PPWSA General**

39. 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.
40. An undisturbed (no cutting or ground disturbance) buffer zone of at least **150 metres** shall be maintained around Burdett's Pond, at least **50 metres** around major lakes and ponds and along both sides of all streams and main tributaries running into Burdett's Pond, and at least **30 metres** around all ponds, 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.
41. Treated wood shall not be used in a water body or within buffer zones established in Condition #42 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.

42. 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*.
43. 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.
44. 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.
45. Officials of the Department and the appropriate Municipal Authority, Operator, or Watershed Management Committee may visit the site to ensure compliance with this Permit.
46. 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)938-7259. The Environmental Scientist must also be notified immediately at **(709)637-2542**.
47. The felling or disposing of trees, parts of trees, sawdust, bark, logging debris or slash into a water body or upon the frozen surface of a water body is strictly prohibited.
48. 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)938-7259.
49. The location of the work is highlighted on the Location Map for this Permit attached as Appendix D.
50. Any changes in water quality 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.
51. 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.
52. 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.
53. 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*.

#### **Fuel Storage**

54. There shall be no bulk fuel storage associated with this project within the protected water supply area. Fuel shall be brought to the operating area in no more than two (2), 205 litre barrels or one (1) 500 litre slip tank. 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*.

55. 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*.
56. Any spills of gasoline, fuel or oil, regardless of volume, shall be reported immediately to the Environmental Scientist and the appropriate Municipal Authority or Watershed Management Committee by calling (709)637-2542 and (709)938-7259 respectively. Furthermore, all spills in excess of 70 litres shall be reported immediately to the 24 hour spill report line at 1-800-563-9089.
57. 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 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
58. Refueling sites shall be located at least 150 metres from any water body or wetland.

#### **Protected Miscellaneous**

59. 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.
60. Sawdust, bark, and logs must not be stored within undisturbed buffer zones of any body of water, and must be removed at regular intervals to prevent excessive accumulation at the site.
61. Wood and brush removed from the work site must not be stored within undisturbed buffer zones of any water body.
62. The Permit Holder is required to undertake a water quality monitoring program as outlined below. Samples to be submitted to a CALA-certified laboratory and all water quality data must be submitted to this Department, within 15 days of the samples being collected.
  - Water samples shall be collected from the intake area on Burdett's Pond.
  - Water samples shall be collected the day the work has been completed.
  - Contact the Environmental Scientist at (709)637-2542 for a complete list of parameters that are to be tested.

#### **Special Conditions**

63. The written plan to provide water to the Town during construction is to be reviewed by the Department.

#### **General Alterations**

64. Any work that must be performed below the high water mark must be carried out during a period of low water levels.
65. Any flowing or standing water must be diverted around work sites so that work is carried out in the dry.
66. The use of heavy equipment in streams or bodies of water is not permitted. The operation of heavy equipment must be confined to dry stable areas.
67. All vehicles and equipment must be clean and in good repair, free of mud and oil, or other harmful substances that could impair water quality.

68. During the construction of concrete components, formwork must be properly constructed to prevent any fresh concrete from entering a body of water. Dumping of concrete or washing of tools and equipment in any body of water is prohibited.
69. Wood preservatives such as penta, CCA or other such chemicals must not be applied to timber near a body of water. All treated wood or timber must be thoroughly dry before being brought to any work site and installed.
70. The bed, banks and floodplains of watercourses, or other vulnerable areas affected by this project, must be adequately protected from erosion by seeding, sodding or placing of rip-rap.
71. Periodic maintenance such as painting, resurfacing, clearing of debris, or minor repairs, must be carried out without causing any physical disruption of any watercourse. Care must be taken to prevent spillage of pollutants into the water.
72. The owners of structures are responsible for any environmental damage resulting from dislodgement caused by wind, wave, ice action, or structural failure.
73. Sediment and erosion control measures must be installed before starting work. All control measures must be inspected regularly and any necessary repairs made if damage is discovered.
74. Fill material must be of good quality, free of fines or other substances including metals, organics, or chemicals that may be harmful to the receiving waters.
75. All work must be carried out within the Permit Holder's legal property boundaries.

**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: David Peddle, C.Tech.  
Harris & Associates Limited  
48 Crowdy Street, P.O. Box 699  
Carbonear, NL A1Y 1C2  
david.peddle@nf.aibn.com
- cc: Mr. Chris Blanchard, B.Tech.(Env), AScT  
Environmental Scientist  
Water Resources Management Division  
Department of Environment and Climate Change  
P.O. Box 2006  
Corner Brook, NL A2H 6J8  
cblancha@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: Mr. Derek Cull  
Regional Manager of Operations  
Digital Government and Service NL  
PO Box 3014 Stn B  
Happy Valley-Goose Bay NL A0P 1E0  
derekcull@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
- cc: Ms. Paula Dawe, P.Eng.  
Manager, Water Rights, Investigations and Modelling 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  
pauladawe@gov.nl.ca
- cc: Mr. Ehsan Khan, P. Eng.  
Department of Transportation and Infrastructure  
3 London Street, Building 86  
PO Box 3104, Stn B  
Happy Valley-Goose Bay NL A0P 1E0

ehsankhan@gov.nl.ca

cc: Fisheries Protection Division  
Ecosystem Management Branch  
Fisheries and Oceans Canada  
P.O. Box 5667  
St. John's, NL A1C 5X1  
FPP-NL@dfo-mpo.gc.ca

### Appendix C - Completion Report

Pursuant to the *Water Resources Act*, SNL 2002 cW-4.01, specifically Section(s) 37, 39, 48

Date: **MAY 03, 2023**

File No: **841.022.1**  
Permit No: **WS13020-2023**

Permit Holder: **Town of Cartwright  
PO Box 129  
Cartwright NL A0K 1V0  
twcouncil@bellaliant.com**

Attention: **Ms. Shirley Hopkins**

Re: **Cartwright - Water System Improvements**

Permission was given for : **upgrades to the main chlorination and booster chlorination buildings including new sodium hypo chlorination equipment, pH adjustment system, new water intake screen, seven new automatic flushing hydrants and related works and appurtenances as shown a set of revised drawings numbered 22-107 (MI no. 17-GI-22-00078), sheets 1-12 inclusive as received from Harris and Associates on May 1, 2023.**

*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**

WS13020



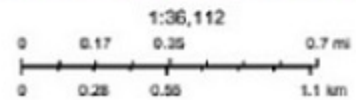
5/3/2023, 10:40:58 AM

Intakes / Wellheads

Intakes

Public Water Supplies

Protected



Esri Canada, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, NRCan, Parks Canada, Microsoft