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

PERMIT TO ALTER A BODY OF WATER

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

Date: **SEPTEMBER 28, 2020**

File No: **524**
Permit No: **ALT11318-2020**

Permit Holder: **Town of Grand Bank**
PO Box 640
Grand Bank NL A0E 1W0

Attention: **Mr. Wayne Bolt, Town Manager**

Re: **Grand Bank Dam Repairs and Extension of Water Supply Intake Structure**

Permission is hereby given for : **removal of overflow pipes, minor concrete dam repairs, installation of handrails along the dam crest, and extension of the upstream water intake line as detailed in the application received September 2, 2020.**

- 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, Climate Change and Municipalities under Section 49 of the *Water Resources Act*.

(for) MINISTER

GOVERNMENT OF NEWFOUNDLAND AND LABRADOR
Department of Environment, Climate Change and Municipalities

File No: **524**
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APPENDIX A

Terms and Conditions for Permit

Dam/Reservoir Design

1. Reservoirs must be provided with a spillway of adequate capacity to safely discharge design flows at non-erosive velocities without causing flooding of the reservoir or damage to the spillway or section downstream channel.

2. The normal operating water levels in the reservoir shall be an elevation 19.2 metres.

3. The dam must provide a minimum free board of 0.91 metres between the normal water level elevation and the crest of the dam. The dam crest will act as an overflow spillway during high flow events.

4. Alteration of the natural minimum streamflow is not permitted in order to preserve aquatic life.

5. The dam and appurtenant structures shall be constructed at the following coordinates:

Name	Datum	Northing (m)	Easting (m)	Zone
Grand Bank Brook Dam	NAD83	5215377.5	593974.4	21

6. The dam(s) must have the following dimensions:

Name	Height of Dam/Elev of Dam (m)	Elevation of Spillway (m)	Maximum Water Elevation (m)	Minimum Water Elevation (m)
Dam Bank Brook Dam	12.5/20.12	19.2	20.12	13.72

7. To safely convey peak flows the dam(s) must be designed according to the following hydraulic criteria:

Name	Design Return Period (years)	Minimum Flow Capacity (m^3/s)
Grand Bank Brook Dam	1/3 between 1/1000 and PMF	>71.8

8. The dam and associated works must be designed and constructed under the direct supervision of an engineer eligible for membership with the Professional Engineers and Geoscientists of Newfoundland and Labrador (or equivalent Canadian organization) who is able to demonstrate competence in the design, construction, and surveillance of dams.

9. The dam and associated works shall be designed according to the Canadian Dam Association Dam Safety Guidelines and associated Bulletins (most recent edition).

Dam Safety

10. The dam has been conditionally classified in the HIGH Consequence category based on the 2007 Canadian Dam Association (CDA) guidelines. To meet the CDA's Dam Safety guidelines (Current Edition) for dams of this classification, the owner must:
    - Carry out an annual Dam Safety Inspection and provide the results to this Department,
    - Carry out a Dam Safety Review and submit a Dam Safety Report to this Department within one year of the date of issue of this permit and every **seven years** after that,
    - Develop in consultation with this Department, an Operation, Maintenance and Surveillance (OMS) Manual for the operation of the dam once all phases of upgrade work have been completed,
    - Prepare an Emergency Preparedness and Response Plan (EPRP) upon completion of the Dam Safety Review and confirmation of the dam classification.

Dam Construction

11. Every effort shall be made to lower water levels in the reservoir as low as reasonably possible prior to the start of construction.

12. Remove cobble stones, loose and fragmented rock/concrete to expose a sound competent bedrock/concrete surface to acceptance of engineer prior to placement of concrete. Intentionally roughen/chip any smooth rock/concrete to a full amplitude of 25mm (min). Clean entire surface, remove standing water and apply bonding agent to all existing surfaces to receive new concrete. Saw cut existing rock/concrete as required to eliminate any feather edges with new concrete.

13. Concrete cover to be 75mm minimum.

14. Sealing of overflow pipes should be completed during the lowest possible flow conditions to ensure the work is completed with the lowest head pressure possible.

15. Stainless steel gate to be 1372mm x 1372mm, rectangular, upward opening, sealed on all sides, 6.5m head (each side).

16. Temporary removal of rip-rap on the downstream side shall be replaced to match existing site conditions.

17. The dam and spillway must be inspected regularly to identify any indications of structural failure, leaking, erosion or other problem so that immediate action can be taken to rectify the problem.

18. Fill material must be obtained from an approved quarry site. It must not be taken from beaches or streams, and must not be dredged from a body of water.

19. The transportation of labour and materials to the site must be along existing access roads.

General Alterations

20. Any work that must be performed below the high water mark must be carried out during a period of low water levels.

21. Any flowing or standing water must be diverted around work sites so that work is carried out in the dry.

22. 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*.

23. 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.

24. 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.

25. 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.

26. 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.

27. 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.

28. 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.

29. The owners of structures are responsible for any environmental damage resulting from dislodgement caused by wind, wave, ice action, or structural failure.

30. 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.

31. The attached Completion Report (Appendix C) for Permit No. 11318 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.

32. 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. The following terms are valid for the life cycle of the dam structures: 2, 3, 5, 6, 7, 10.

33. The location of the work is highlighted on the Location Map for this Permit attached as Appendix D.

PPWSA General

34. 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.

35. 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.*

36. 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.

37. 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.

38. Officials of the Department and the appropriate Municipal Authority, Operator, or Watershed Management Committee may visit the site to ensure compliance with this Permit.

39. Liaison is to be maintained with the appropriate Municipal Authority and Environmental Scientist. If there are any specific problems (ie sedimentation, fuel spill, 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)832-1600. The Environmental Scientist must also be notified immediately at **(709)729-4817.**

40. 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.

41. Treated wood shall not be used within 150m of a water body. The use of creosote treated wood anywhere within the Protected Public Water Supply Area is strictly prohibited.

42. The Permit Holder must inspect the site daily during construction period, and any water quality impairment related problems are to be reported immediately to the Environmental Scientist (Christa Skinner) at (709)729-4817.

43. 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.

44. 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.

45. Where permits, licences, approvals or authorizations are issued by multiple governments departments or agencies, in the case of similar conditions, the more stringent of the 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.

46. 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, sub-surface disposal system, 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.

47. 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.

Fuel Storage

48. 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. 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.

49. 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) 729-4817 and (709) 832-1600 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.

50. 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.*

51. 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

52. Refueling sites shall be located at least 150 metres from any water body or wetland.

Water & Sewer General

53. 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.

54. 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.

55. 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.

56. 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.

57. 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.

58. 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.

59. The drinking water and wastewater system shall be operated and maintained in accordance with the Permit to Operate issued by this Department.

60. 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.

61. 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.

Intake

62. A water supply intake may be placed in Grand Bank Brook as part of the water supply system for the Town of Grand Bank .

63. The intake shall consist of 3.3 m of 450 mm diameter stainless steel pipe and a wedgewire screened intake structure.

64. 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.

65. 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.

66. The intake must be fitted with a removable mesh screen or a trash rack.

67. 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.

68. Adequate protection must be provided against clogging by sediment, debris, ice, frazil ice, wind, floatation and wave pressure.

GOVERNMENT OF NEWFOUNDLAND AND LABRADOR
Department of Environment, Climate Change and Municipalities

File No: **524**
Permit No: **ALT11318-2020**

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, 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: Ms. Annette Tobin, P. Eng.
Environmental Engineer, Drinking Water and Wastewater Section
Water Resources Management Division
Department of Municipal Affairs and Environment
P.O. Box 8700
4th Floor, West Block, Confederation Building
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
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, Drinking Water and Wastewater Section
Water Resources Management Division
Environment, Climate Change and Municipalities
P.O. Box 8700
4th Floor, West Block, Confederation Building
St. John's, NL A1B 4J6
pauladawe@gov.nl.ca

cc: Mr. Inayat Rehman, P.Eng.
District Engineer
Department of Municipal Affairs and Environment
Main Floor, West Block, Confederation Bldg.
P.O. Box 8700
St. John's, NL A1B 4J6
inayatrehman@gov.nl.ca

cc: Christa Skinner (E)
Environmental Scientist, Drinking Water and Wastewater Section
Water Resources Management Division
Department of Municipal Affairs and Environment
P.O. Box 8700
4th Floor, West Block, Confederation
St. John's, NL A1B 4J6
christavskinner@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

cc: Kallan Fitzgerald, P.Eng.
Intermediate Civil Enginner
Meridian Engineering Inc.
10 Thompson Street
Clarenville NL A5A 1Y9

kfitzgerald@meridianengineering.ca

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

Appendix C - Completion Report

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

Date: **SEPTEMBER 28, 2020**

File No: **524**
Permit No: **ALT11318-2020**

Permit Holder: **Town of Grand Bank**
PO Box 640
Grand Bank NL A0E 1W0

Attention: **Mr. Wayne Bolt, Town Manager**

Re: **Grand Bank Dam Repairs and Extension of Water Supply Intake Structure**

Permission was given for : **removal of overflow pipes, minor concrete dam repairs, installation of handrails along the dam crest, and extension of the upstream water intake line as detailed in the application received September 2, 2020.**

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, Climate Change and Municipalities 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, Climate Change and Municipalities
Water Resources Management Division
PO Box 8700
St. John's NL A1B 4J6

GOVERNMENT OF NEWFOUNDLAND AND LABRADOR
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APPENDIX D
Location Map for Permit