

PERMIT TO ALTER A BODY OF WATER

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

Date: **OCTOBER 27, 2015**

File No: **533**
Permit No: **ALT8349-2015**

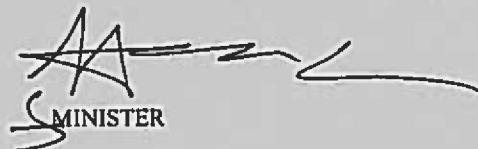
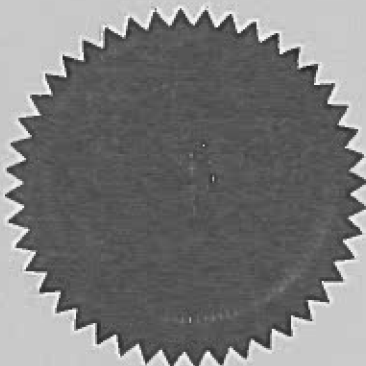
Permit Holder: **Deer Lake Power
2 Trans Canada Highway
Deer Lake NL A8A 2E4**

Attention: **Mr. Jaimie Park**

Re: **Deer Lake Power- West Bank Dyke Stabilization**

Permission is hereby given for : **slope stabilization work along sections of the Humber Canal/West Bank Dyke and associated activities, as detailed in the application received from Deer Lake Power on October 2, 2015.**

- 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 Conservation 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

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 downstream channel.
2. The dam and appurtenant structures shall be constructed at the following coordinates:

Name	Datum	Northing (m)	Easting (m)	Zone
West Bank Dyke	NAD83	5446837.5	470584.6	21

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

Name	Height of Dyke/Elevation of Dyke (m)	Elevation of Spillway (m)	Maximum Water Elevation (m)	Minimum Water Elevation (m)
West Bank Dyke	9/120	118	112.86	110.64

4. 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)
West Bank Dyke	PMF	6050

General Alterations

5. Any work that must be performed below the high water mark must be carried out during a period of low water levels.
6. Any flowing or standing water must be diverted around work sites so that work is carried out in the dry.
7. 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*.
8. 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.
9. 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.
10. 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.
11. 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 the Department.

12. 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.
13. All waste materials resulting from this project must be disposed of at a site approved by the Department of Service NL.
14. The owners of structures are responsible for any environmental damage resulting from dislodgement caused by wind, wave, ice action, or structural failure.
15. 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.
16. 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.
17. The attached Completion Report (Appendix C) for Permit No. 8349 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.
18. This Permit is valid for two years from the date of issue for all construction related work. Construction work must be completed by that date or the application and approval procedure must be repeated. The following term(s) are valid for the life cycle of the structure: 29, 32, 33.
19. The location of the work is highlighted on the Location Map for this Permit attached as Appendix D.

Water Supply Area

20. No fuels, chemicals, or other deleterious material shall be stored at the site.
21. The proponent must take necessary measures to control dust that may impair the quality of any adjacent waterbody.
22. Equipment must not be serviced within the boundaries of protected watersheds.
23. The proponent must obtain written permission from each community before commencing any work in their protected watershed area.
24. The proponent is hereby informed that if there is any change in water quality in a protected watershed resulting directly from the project which causes sufficient changes in physical, chemical or bacteriological composition to render the water within the protected watershed unsuitable as a public water supply, then the proponent must ensure that an alternate source of potable water is provided to the citizens until water quality returns to an acceptable level.
25. 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.
26. Liaison is to be maintained with the Regional Watershed Management Specialist for all activities within the PWSA. If there are any problems, she may be reached at (709) 637-2542.
27. All vegetation removal within 100 metres of a body of water or within the Protected Water Supply Area for the Town of Deer Lake must be carried out by hand operated equipment only.
28. 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 ax
 - Five metres of containment boom
 - Five absorbent pads
 - Twenty-five litres of loose absorbent material

Dam Safety

29. The dam has been conditionally classified in the EXTREME 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 a maximum of every five years from the date of the last report,
- Update, in consultation with this Department, the Operation, Maintenance and Surveillance (OMS) Manual,
- Prepare an Emergency Preparedness and Response Plan (EPRP) for the Power Canal and Forebay.

Special Conditions

30. The dam and associated works shall be designed according to the Canadian Dam Association Dam Safety Guidelines and associated Bulletins (most recent edition).
31. 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.
32. The Permit Holder is required to adhere to the Memorandum of Agreement as set forth by the Department of Environment and Conservation. This agreement relates to the operation of hydrometric and climate stations for the Humber River Basin. The following monitoring stations must remain active for the life of the dam through the renewal of the Memorandum of Agreement with the Department of Environment and Conservation: Grand Lake East of Grand Lake Brook (02YK010), Grand Lake on Glover Island (climate station: GRAND_LK_G - 480FC3FA), Hinds Lake (1996)(climate station: HINDS - 48146734), Indian Brook Diversion to Birchy Lake (02YM004), Lewaseechjeech Brook at Little Grand Lake (02YK002), Sandy Lake at Howley Road (climate station: SANDY - 4812A2E4), and Sheffield Brook Near TCH (02YK005). Note that there are other stations listed in the Memorandum of Agreement, but apply to other monitoring requirements. The Department of Environment and Conservation may require the set-up of additional water resources monitoring stations through a Memorandum of Agreement as per provisions of Section 31 of the Water Resources Act, SNL2002 Chapter W-4.01.
33. Deer Lake Power shall undertake recommendations of the 2014 Dam Safety Review as per the schedule of recommendations and actions submitted to this Department on May 22, 2015.
34. Canal water levels shall be lowered to assist in the placement of armour stone.

Dam Construction

35. The upstream side of the dyke shall have a slope of 2 horizontal to 1 vertical where rehabilitation work is undertaken.
36. 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.
37. Reservoir shorelines with moderately steep slopes or vulnerability to wave induced erosion, must be adequately protected with armour stone, rip-rap, or by other suitable measures.
38. The area to be flooded by the reservoir must be prepared by removing timber, brush, and slash up to the maximum water elevation.
39. The transportation of labour and materials to the site must be along existing access roads.
40. The dyke 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.

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 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: File Copy for Binder
- cc: Ms. Carla Hayes
Environmental Scientist , Drinking Water & Wastewater Section
Water Resources Management Division
Dept. of Environment and Conservation
P.O. Box 2006
Corner Brook, NL
A2H 6J8
- cc: Ms. Paula Dawe, P.Eng.
Environmental Engineer, Drinking Water and Wastewater Section
Water Resources Management Division
Dept. of Environment and Conservation
PO Box 8700
St. John's, NL
A1B 4J6
- cc: Town of Deer Lake
6 Crescent Street
Deer Lake NL A8A 1E9

Appendix C - Completion Report

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

Date: **OCTOBER 27, 2015**

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Permit Holder: **Deer Lake Power
2 Trans Canada Highway
Deer Lake NL A8A 2E4**

Attention: **Mr. Jaimie Park**

Re: **Deer Lake Power- West Bank Dyke Stabilization**

Permission was given for : **slope stabilization work along sections of the Humber Canal/West Bank Dyke and associated activities, as detailed in the application received from Deer Lake Power on October 2, 2015.**

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 Conservation 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 Conservation
Water Resources Management Division
PO Box 8700
St. John's NL A1B 4J6

APPENDIX D
Location Map for Permit

