

## PERMIT TO CONSTRUCT

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

Date: **OCTOBER 03, 2016**

File No: 844.112.001  
Permit No: WS8861-2016

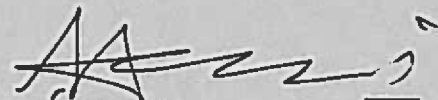
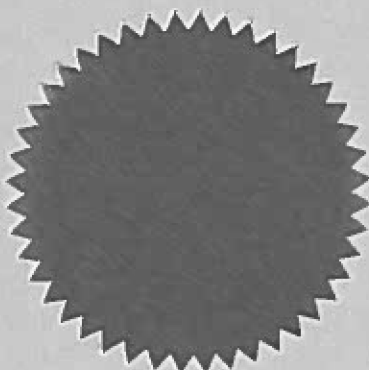
Permit Holder: **LSD of Georgetown  
PO Box 91  
Georgetown, NL  
A0A 2Z0**

Attention: **Len Walsh**

Re: **Georgetown - Water Supply System 2016**

Permission is hereby given for : the installation of 38 m of 200 mm HDPE water intake pipe with a Johnson screen in Third Pond, 12 m of 200 mm steel stilling well with 3.0 HP submersible pump, a new building to house the 13500 L PVC storage tank, sodium hypochlorite metering pump and 200 L PVC solution tank, a 3.0 HP variable speed booster pump and drive, pressure tank, flow meter, 18 m of 100 mm PVC watermain and related appurtenances as described in a specification and drawings titled, "Local Service District of Georgetown Water Supply System at Third Pond (2016)" as received from Harris & Associates Ltd. on August 5, 2016.

- 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*.
- 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 Environment and Climate Change 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 Design Approval Specialist representing the Drinking Water and Wastewater Section of this Department, during the construction and operation of the project. The Specialist shall be notified of the pre-construction and post-construction meetings so that she may attend, if deemed necessary. She 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. 8861 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. 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.
14. 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**

15. Under no circumstances shall sewage be permitted to enter the waterline trench during or after construction.
16. All new waterlines and appurtenances shall be hydrostatically tested in accordance with the *Municipal Water, Sewer and Roads Specifications*.

17. Water mains must not pass within 15 metres of any part of a sewage disposal system. Water service lines must not pass within 7.5 metres of a sewage disposal system. In general the following conditions should be met in regards to water service lines:
  - (a) There should be no joint in the service line between the building and the connection to the watermain.
  - (b) The groundwater level should not be above the service line.
  - (c) The service line should be located upslope of the sewage disposal system.If the above conditions are not met, consideration should be given to increasing the distance between the service line and the sewage disposal system, providing extra protection against contamination.
18. 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.
19. 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.
20. After final flushing and before the new water main is commissioned into service, bacteriological sampling must be conducted as per the latest edition of the AWWA C651 Standard for Disinfecting Watermains. Two acceptable options are available: (1) two consecutive sets of bacteriological samples, taken at least 16 hours apart, must be collected and tested for bacteriological quality, or (2) following a 16 hour rest period two consecutive sets of samples, taken 15 minutes apart, must be collected and tested for bacteriological quality. Sets of samples shall be collected for every 366 m of new water main including the end of the main line and the end of each branch line. These sampling locations shall be determined by the engineer. A copy of test results must be submitted to the Regional Department of Environment and Climate Change Office (Water Resources Management Division) before the new watermain is placed into service. In the event of any bacteria detected in the sample results, flushing and re-sampling may be attempted or the disinfection process will need to be repeated until results for two consecutive sets of samples are bacteria free. Where necessary, the Department of Environment and Climate Change should be contacted to determine provisions for the disposal of heavily chlorinated water. **Bacteriological results along with completion reports for projects (Appendix C of the Permit to Construct) must be forwarded to the Regional Department of Environment and Climate Change Office.**
21. For the purpose of disinfecting new or upgraded watermains, connection may only be made to the existing watermain provided a valve is installed that maintains a water tight seal. This valve may be operated to flush the new water extension before disinfection and post disinfection provided adequate measures and procedures are followed to avoid a backflow and contamination of the existing system.

#### **Chlorination**

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. The hypochlorination system shall be set-up such that chlorine is injected in the line from the source prior to any other connection to that line with the exception of the raw water sampling tap. Also, in this regard the chlorinated water shall enter one end of the chlorine contact tank and exit out of the opposite end to allow for maximum contact time and mixing and to avoid potential short circuiting.
24. Storage tank and pressure tank drain lines and overflows shall not be directly connected to the building floor drain, but shall be separated from the floor drain by an appropriately sized air gap. Drain lines from the storage tank and pressure tanks shall be protected from back-siphonage or back-pressure by an appropriate backflow prevention device.
25. 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.
26. 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.
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 the Department of Environment and Climate Change.

#### **Miscellaneous**

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

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.

#### **Special Conditions**

33. Local Service District Committee accepts the low percentage intake grade and any additional maintenance for cleaning stilling well. The stilling well should be monitored on a regular basis to anticipate any required maintenance.

#### **Intake**

34. A water supply intake may be placed in Third Pond as part of the water supply system for the Local Service District of Georgetown.
35. The intake shall consist of 38 meters of 200 mm diameter HDPE pipe and a screened intake structure.
36. 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.
37. 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.
38. The intake must be fitted with a removable mesh screen or a trash rack.
39. 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.
40. Adequate protection must be provided against clogging by sediment, debris, ice, frazil ice, wind, floatation and wave pressure.

#### **Dredging**

41. Alteration of the natural minimum streamflow is not permitted in order to preserve aquatic life.
42. The natural course of any stream must not be altered.
43. Dredging activity must only be carried out during periods when wind, wave and tide conditions minimize the dispersion of silt and sediment from the work site.
44. The area to be dredged must be enclosed and isolated from the rest of the body of water through the use of a filter fabric curtain or similar method.
45. Dredged material must be disposed of in accordance with the regional Service NL Centre of the Department of Service NL. The Department of Service NL may require samples to be submitted for testing and analysis.

#### **Infilling**

46. The slopes along the perimeter of infilled areas must be no steeper than two horizontal to one vertical (2H:1V).
47. The constructed works must be inspected regularly so that action can be taken to undertake repairs as required.
48. 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.
49. Infilling must not cause increased water elevation upstream or increase flow velocity downstream of the site. Reduction of the natural cross sectional area of any watercourse is not permitted.
50. Infilling must not disrupt the established surface drainage pattern of the area.
51. Before infilling, any vegetation and topsoil must be completely removed and under no circumstances shall it be used as fill material. Topsoil must be stored and reused in final landscaping of the infilled area.
52. The constructed works must comply with all other terms and conditions provided in the Crown Lands grant, lease, or license for

occupancy.

53. Select heavy rocks must be placed along the toe of any infilling to provide slope stability and erosion protection.

#### **Pipe Crossing**

54. Infilling must not cause increased water elevation upstream or increase flow velocity downstream of the site. Reduction of the natural cross sectional area of any watercourse is not permitted.
55. Completed pipe crossings must provide a minimum cover of 0.6 metres of stable compacted material sufficient to resist scouring and erosion. The finished surface cover must not extend above the original grade of the channel.
56. 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.
57. 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.
58. A temporary diversion channel adequate to convey flow without causing erosion or downstream siltation may be employed during construction of the stream crossing. After the installation is complete, all flow must be diverted back into the fully reinstated original channel. The temporary channel must be permanently closed to all flow, backfilled and the area must be restored to its original condition.
59. The installation of the water supply pipe must comply with the manufacturers specifications, particularly with regard to pipe zone bedding material, degree of compaction, and maximum - minimum pipe cover for design loadings.

**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: Dr. Abdel-Zaher Kamal Abdel-Razek, Ph. D., P.Eng.  
Manager, Water Rights and Investigations 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  
aabdelrazek@gov.nl.ca
- cc: Ms. Annette Tobin, P. Eng.  
Environmental Engineer, Drinking Water and Wastewater Section  
Water Resources Management Division  
Department of Environment and Climate Change  
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- cc: Ms. Deneen Spracklin, P.Eng.  
Environmental Engineer, 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  
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dspracklin@gov.nl.ca
- cc: Mr. Inayat Rehman, P.Eng.  
District Engineer  
Department of Municipal Affairs  
Main Floor, West Block, Confederation Bldg.  
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St. John's, NL A1B 4J6  
inayatrehman@gov.nl.ca
- cc: Mr. Calvin Adams, Regional Manager  
GSC - Harbour Grace, Service NL  
7-9 Roddick Cres, P.O. Box 512  
Harbour Grace, NL A0A 2M0  
calvinadams@gov.nl.ca
- cc: Ms. Sharon Williams, Regional Manager  
Environmental Health, GSC - Mount Pearl, Service NL  
P.O. Box 8700  
St. John's, NL A1B 4J6  
williams@gov.nl.ca
- cc: Mr. David Peddle, CET  
Harris & Associates Limited  
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david.peddle@nf.aibn.com

### Appendix C - Completion Report

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

Date: **OCTOBER 03, 2016**

File No: **844.112.001**  
Permit No: **WS8861-2016**

Permit Holder: **LSD of Georgetown  
PO Box 91  
Georgetown, NL  
A0A 2Z0**

Attention: **Len Walsh**

Re: **Georgetown - Water Supply System 2016**

Permission was given for : the installation of 38 m of 200 mm HDPE water intake pipe with a Johnson screen in Third Pond, 12 m of 200 mm steel stilling well with 3.0 HP submersible pump, a new building to house the 13500 L PVC storage tank, sodium hypochlorite metering pump and 200 L PVC solution tank, a 3.0 HP variable speed booster pump and drive, pressure tank, flow meter, 18 m of 100 mm PVC watermain and related appurtenances as described in a specification and drawings titled, "Local Service District of Georgetown Water Supply System at Third Pond (2016)" as received from Harris & Associates Ltd. on August 5, 2016.

*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