

PERMIT TO CONSTRUCT A NON-DOMESTIC WELL

Pursuant to the *Water Resources Act*, SNL 2002 cW-4.01, specifically Section(s) 58

Date: **JULY 27, 2016**

File No: **NDOM16-018**
Permit No: **GW8782-2016**


Permit Holder: **Johnson's Construction Ltd.
1 Massey Drive Access Road
P.O. Box 458
Corner Brook, NL, A2H 6E6**

Attention: **Brian Johnson**

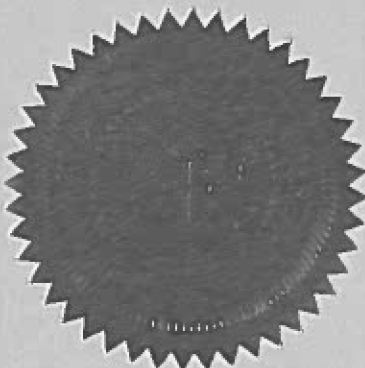
Re: **Johnson's Construction Ltd - Dug well for temporary work camp**

Permission is hereby given for : **Dug well to provide water for temporary camp for washrooms and showers during construction.**

- 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



GOVERNMENT OF NEWFOUNDLAND AND LABRADOR
Department of Environment and Conservation

File No: NDOM16-018
Permit No: GW8782-2016

APPENDIX A
Terms and Conditions for Permit

Non-Domestic (General)

1. A Completion Report must be provided to this department within 30 days after well construction is complete.
2. Water well construction data including Water Well Construction Record(s) and yield test results for the well must be attached to the Completion Report.
3. This permit is valid for one (1) year from the date of issuance.
4. The well owner is responsible for compliance with this permit.
5. Pesticides, herbicides and fertilizers must not be used within a 100 metre radius of the wellhead.

Non-Domestic (Completion)

6. The signed completion report must include: all completed Water Well Construction Records for each water well constructed; yield test results (including calculations); water quality results; and any other reports related to the construction or abandonment of water wells.
7. All non-domestic wells are subject to inspections to ensure compliance with the terms and conditions of this permit. Upon completion of the inspection, a wellhead inspection report will be sent to the well owner.

Non-domestic (GPS Coordinates)

8. The well and/or borehole must be constructed at or near the given coordinate as provided in the non-domestic well application: N 48°30'25.44, W 54°10'58.16. Any additional information on well or borehole locations can be acquired by contacting Angela Buchanan at (709) 729-1671 or angelabuchanan@gov.nl.ca.

Dug Wells

9. The following terms and conditions apply to the construction of dug wells. For further information, please contact the Water Resources Management Division at (709) 729-2539.
10. A dug well should not be constructed in such a manner or location that surface contamination may enter the well or aquifer, posing and environmental and public health hazard.
11. The well should not be constructed within: 61 m of a cesspool receiving raw sewage; 30 m of a seepage (leaching) pit or disposal unit; or 30 m of a septic tank, concrete vault privy or sewer of tightly joined tile.
12. The center line of a dug well should be no closer than 1.6 m from the outside or inside wall of a structure or projection of that structure that may impede the inspection and maintenance of the well.
13. The well should not be located within 1.5 m of a propertyline or within 6 m of the right-of-way of any road or public highway.
14. Where the dug well is located in a place where surface runoff will pass over or near the opening of the well, the owner should fill the area immediately surrounding the well with clay or clean earth for a minimum distance of 5 m in all directions from the well. The owner should also grade the area immediately surrounding the well to an elevation of at least 61 cm above the highest known surface water level.

15. The well should be excavated as deep as possible to prevent it from running dry, for example, as a result of excessive water use or during periods of drought. It is recommended that the construction of the well take place between the months of August and October when the elevation of the water table tends to be at its annual low.
16. The casing of the dug well must extend a minimum of 0.5 m above finished grade at the well location or to a minimum of 0.6 m above finished grade in flood-prone areas.
17. Surface drainage at the wellhead should be directed away from the dug well by means of a sloping impermeable (e.g. concrete) apron, housing or other adequate protection.
18. All joints in the well casing above the apron should be made watertight with a non-toxic sealant.
19. The top 2.44 metres of the well casing should be made of concrete rings, poured reinforced concrete or brick lining, or any other material approved by the Department.
20. The annular space from the bottom of the well up to the casing bottom should be filled with a bed of clean, washed sediment (e.g., gravel, sand, crushed rock, or small boulders). The remaining annular space should be filled to the land surface with cement grout, bentonite clay, or equivalent commercial slurry, clay slurry, or puddle clay to prevent surface runoff from entering the dug well.
21. Where a subsurface plumbing connection is made through the casing, the connection should be made water tight with a durable non-toxic sealant. The connection should be extend outward from the well a minimum of 30 cm, and extend from the bottom of the excavation to within 61 cm of the land surface to prevent surface contamination from entering the well.
22. A secure vermin-proof cover, preferably of metal or reinforced concrete that is at least 10 cm thick, should cap the well. The cover should rest on and overlap the outer edge of the well casing by at least 5 cm. The top cover should be sloped such that water drains away from the sleeve to prevent the leakage of contamination into the well.
23. A yield test is required for the well in accordance with the Water Resources Management Division document Guidelines for Aquifer Pumping Tests. A final report, written by a hydrogeologist or qualified person and providing the information as stated in the guidelines, including chemical analyses of the water, must be forwarded to this department. This report must be submitted with the completion report.
24. A minimum of two water samples must be collected from the well at the wellhead during the yield test utilizing proper sampling protocol. The first water sample must be collected not less than 30 minutes or more than two hours into the pumping period, and the second or last sample must be collected during the last hour of the pumping period. Water samples must be submitted to an accredited water analysis laboratory for testing as per the attached parameter list. A copy of these results must be sent with the completion report.
25. After the well has been completed a bacteriological water sample must be collected from the well, before chlorination and/or treatment is applied, utilizing proper sampling protocol, and submitted to the Department of Service NL for analysis between 10-15 days after well disinfection. A copy of this report must accompany the completion report.
26. The well should be disinfected as per the Guidelines for Disinfecting Dug and Drilled Wells found online at <http://www.env.gov.nl.ca/env/waterres/cycle/groundwater/well/disinfecting.html>
27. All maintenance, repair, and construction work should be done only by a licensed professional.
28. A center observation hole in the cover of the well is not recommended.
29. The use of a galvanized steel culvert as a well liner or casing is not recommended. A galvanized steel liner should only be used in wells with a low water level, or in combination with an inner PVC or concrete liner, to prevent its contact with the water.

30. The well owner is responsible for maintaining the well in a sanitary condition, in a manner that prevents surface water or contaminants from entering the well to protect groundwater resources.
31. The well owner should contact this department prior to decommissioning and sealing a dug well. For more information, please contact the Water Resources Management Division at (709) 729-2539.
32. Please see attached diagram of a properly constructed dug well.

Water Use Licence Requirement

33. The Permit Holder must obtain a water use licence under the Water Resources Act (Contact: Dr. Abdel-Razek at 709-729-4795). The application (pages 1 and 2 only) and fee schedule are available at the following links:
http://www.env.gov.nl.ca/env/waterres/regulations/appforms/application_for_wul.pdf http://www.env.gov.nl.ca/env/waterres/regulations/appforms/fee_schedule_for_application_for_wul.pdf.

GOVERNMENT OF NEWFOUNDLAND AND LABRADOR
Department of Environment and Conservation

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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.

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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 Conservation
P.O. Box 8700
4th Floor, West Block, Confederation Building
St. John's, NL A1B 4J6
aabdelrazek@gov.nl.ca

cc: Groundwater Section File Copy



Government of Newfoundland and Labrador
Department of Environment and Conservation
Water Resources Management Division

Appendix C - Completion Report

Pursuant to the *Water Resources Act*, SNL 2002 cW-4.01, specifically Section(s) 58

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1 Massey Drive Access Road
P.O. Box 458
Corner Brook, NL, A2H 6E6**

Attention: **Brian Johnson**

Re: **Johnson's Construction Ltd - Dug well for temporary work camp**

Permission was given for : **Dug well to provide water for temporary camp for washrooms and showers during construction.**

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

General Water Quality Parameter List for Groundwater

Alkalinity
Aluminum
Ammonia
Antimony
Arsenic
Barium
Boron
Bromide
Cadmium
Calcium
Chloride
Chromium
Colour (true)
Conductivity
Copper
Dissolved Organic Carbon
Fluoride
Hardness
Iron
Kjeldahl Nitrogen
Lead
Magnesium
Manganese
Mercury
Nickel
Nitrate/Nitrite
pH
Potassium
Selenium
Sodium
Sulphate
Total Dissolved Solids
Total Phosphorus
Turbidity
Uranium
Zinc

Properly Constructed Dug Well

