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Environmental Impact Assessment Registration (Draft)

McCain Foods (Canada), Grand Falls,
NB

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Acronyms and Abbreviations

EIA, Environmental Impact Assessment

MBCA, Migratory Birds Convention Act

NBDELG, New Brunswick Department of Environment and Local Government

NBDEM, New Brunswick Department of Energy and Mines

NBSARA, New Brunswick Species at Risk Act

WAWA, Watercourse and Wetland Alteration

WSSA, Water Supply Source Assessment

1.0 The Proponent

1.1 Name of the Proponent

McCain Foods (Canada) a Division of McCain Foods Limited – Grand Falls Facility

1.2 Project Manager

McCain Foods (North America)

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1.3 Principle Contact Person

For purposes of the Environmental Impact Assessment the principal contact person is:

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1.4 Property Ownership

The McCain Foods water supply wells and associated well house is located on property PID # 35264571 owned by New Brunswick Power Corporation. The well house property abuts with an easement owned by the New Brunswick Railway Company PID 35108034. An agreement exists between McCain Foods and parties to allow the occupation and operation of their water supply infrastructure.

2.0 The Undertaking

2.1 Introduction

This document is for work related to the completion of a Water Supply Source Assessment (WSSA) for back-up water supply wells at the McCain Foods facility in Grand Falls, New Brunswick.

This project includes the following:

- Well siting;
- Drilling of test/observation wells;
- Drilling of back-up water supply wells;
- Hydrogeologic testing of back-up water supply wells; and
- Commissioning of back-up water supply wells.

2.2 Name of the Undertaking

Water supply source assessment for back-up water supply wells at the McCain Foods Facility in Grand Falls, New Brunswick.

2.3 Project Overview

A WSSA is being completed to site and assess back-up water supply wells at the McCain Foods facility in Grand Falls, New Brunswick. This will involve siting, drilling and hydraulic testing of one or more wells.

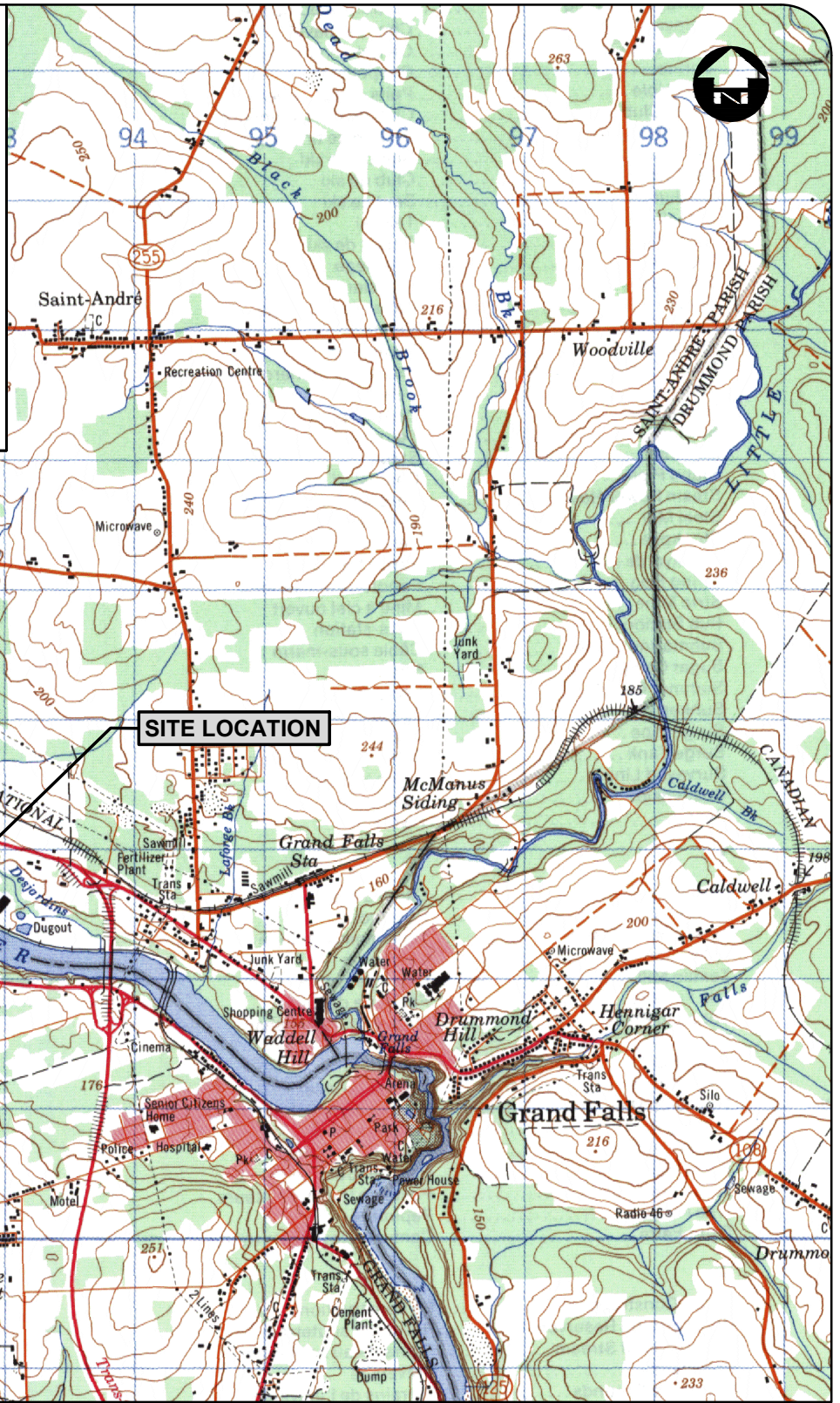
2.4 Purpose/Rationale/Need for the Undertaking

The McCain Foods facility in Grand Falls, New Brunswick requires potable water in the manufacturing of commercial frozen food products. This assessment is being completed to ensure a sustainable back-up water supply for facility operations.

A number of potential wells are being proposed within a given area in order to develop a water supply to provide redundancy to the current system and for potential future facility water use.

2.5 Project Location

The McCain Foods water supply wells, well house and associated infrastructure are located to the west of the existing facility within a well house on the north bank of the St. John River (see Figure 1). Additional back-up water supply wells would be located in this general area in relative close proximity to the current infrastructure. See Figure 2 for the area of assessment within the proposed project location.



McCAIN FOOD CANADA
 GRAND FALLS, VICTORIA CO., NB
 EIA REGISTRATION

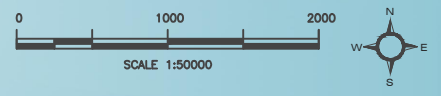
SITE LOCATION
 FIGURE 1



MAP SOURCE - NTS MAPSHEET 210/04

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McGAIN FOOD CANADA
 GRAND FALLS, VICTORIA CO., NB
 EIA REGISTRATION

SITE PLAN
 FIGURE 2

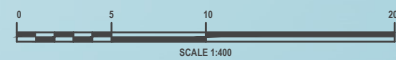
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	PROPERTY LINE		PROPOSED AREA OF ASSESSMENT
	WELL LOCATION		
	OBSERVATION WELL		

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NOTES:

1. INFRASTRUCTURE LOCATIONS ARE APPROXIMATE ONLY AND SHOULD BE FIELD VERIFIED.
2. IMAGERY SOURCE - GOOGLE EARTH PRO.

MAP/DRAWING INFORMATION
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 DATE: 18/12/14

2.6 Physical Components of the Project

The McCain Foods facility is located on McCain Road off of Route 108 in St. Andre adjacent to the St. John River in northwestern New Brunswick. This facility uses water supplied from groundwater wells in food manufacturing, sanitation, and auxiliary processes.

Potable water used as part of daily operations is obtained from a confined gravel aquifer from two wells (Well C and Well D) located adjacent to the St. John River.

Currently McCain Foods is extracting a volume of water that peaks upward to 5500 m³/day to meet the demands of its operations. McCain is proposing the installation and testing of one or more back-up water supply wells to provide redundancy to the current system. A hydrogeological assessment of the currently utilized wells was completed last year, which confirmed a maximum daily extraction rate of 6624 m³/day from the local aquifer based upon the limiting well construction and pumping infrastructure. Therefore, as part of the current assessment and moving forward the back-up water supply wells will be designed and constructed such that the greatest potential of the aquifer can potentially be assessed. The New Brunswick DELG legislation indicates that all waterworks requiring greater than >50m³/day undergo a WSSA and review through an Environmental Impact Assessment Registration (EIA). The sections described herein are proposed to inform the EIA.

The currently operational McCain wells (Well C and Well D) are installed into a confined sand and gravel aquifer. See Table 1 for a summary of construction details for each well based upon historical well logs and notes summarized from video inspections.

TABLE 1 - WELL CONSTRUCTION DETAILS

Well ID	Total Depth (m)	Casing Diameter (m) ²	Casing Length (m)	Screen Length (m)	Pump Size (HP) / Average Pump Capacity (L/min)
Well C ¹	45.7	0.25 / 0.40	39.6	6.1	40 / 1900
Well D	48.2	0.30 / 0.40	36.0	12.2	60 / 2700

Notes:

1. Construction details of Well C were obtained from a historical sketch and may not be exact.
2. Each well was installed with two casing sizes, the smaller diameter casing being installed with screen within the larger diameter casing into the aquifer unit. The annular space is gravel packed and the larger diameter casing was then pulled back to expose the screen to the aquifer.

Both of the well heads are located approximately 10 meters from the edge of the St. John River within a permanent structure (well house). The well house contains the associated pressure tanks, chlorination equipment and pipe network. A single water supply line exits the well house subgrade to connect to the facility water distribution network. Well heads C and D are also connected to pipework which have a bypass option to discharge to the St. John River. Access hatches are located above each of the well heads to enable access to the infrastructure.

The back-up water supply wells will be located within the developed/grassed areas within the McCain property boundary in the vicinity of the existing infrastructure. The back-up water supply wells must source from the same aquifer as the two existing water supply wells to adequately supply the facility. See Figure 2 for a site plan of the current well house location and proposed area of assessment.

2.7 Project Schedule

The work will need to be completed during specific timeframes (planned shut-downs) as the water supply is critical to the operation of McCain's major industrial operation. It is anticipated that a planned shut-down will occur in Summer/Fall 2015 at which time the drilling of a back-up water supply well can take place as to not interfere with the

facility's water supply. Given the specialized design and construction of the back-up water supply well the test wells should be drilled in early Summer 2015 to allow for the design, construction and shipment of a well screen and pump for a back-up water supply well. The need for a schedule for additional back-up water supply wells cannot be determined at this time.

2.7.1 Drilling Test Wells

The drilling of test wells is expected to occur over a two or three day period during normal operation of the McCain facility. The drilling of 150 mm (6 inches) diameter test wells will provide an initial potential yield assessment and geologic conditions to apply to the design and construction of the well. The test wells will remain in place following drilling to serve as observation wells for long term monitoring.

2.7.2 Drilling Back-Up Water Supply Wells

The drilling and installation of an initial 406 mm (16 inches) diameter back-up water supply well is anticipated to occur over a one week period during normal operation of the McCain facility. It is anticipated that the back-up well will include up to 12 meters (40 feet) of stainless steel screen.

3.0 Description of Existing Environment

The project site is industrial and the surrounding land uses are mostly rural and undeveloped. The infrastructure required to complete the proposed testing activities are currently in place and any additional disturbance associated with the project will be minimal and limited to the areas surrounding the well house, the newly drilled test/observation wells and the back-up water supply well(s). Based upon the limited project footprint required for this project, the description of the existing environment has been focused on the St. John River (aquatic environment) and the terrestrial environment within the area of potential disturbance and more specifically the vegetated area along the bank of the St. John River. See Figure 3 for site plan with aerial imagery.

3.1 Terrestrial Environment

3.1.1 Flora

Within the area of the well house, the site is fully developed with little to no natural vegetation. Although no vegetation communities are found within the well area, the vegetation communities which exist along the banks of the St. John River and adjacent the site consists of immature intolerant hardwood species dominated by trembling aspen (*Populus tremuloides*), white birch (*Betula papyrifera*) with red maple (*Acer rubrum*). The understory consists of herbaceous and woody vegetation which provide stability to the banks of the St. John River.

3.1.2 Fauna

Due to the absence of available habitat within the McCain Foods facility boundary, the presence of wildlife on-site is very limited. In particular, it is unlikely that any species at risk may exist in the area.

Based on visual observation around the well house area and the limited available habitat at the project site, it is unlikely that nesting bird species would occur in this area.



McCain Food Canada
 GRAND FALLS, VICTORIA CO., NB
 EIA REGISTRATION

SITE PLAN WITH AERIAL IMAGERY
 FIGURE 3

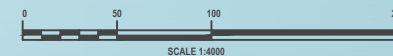
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- - - PROPERTY LINE ▨ PROPOSED AREA OF ASSESSMENT
- ⊙ WELL LOCATION
- ⊙ OBSERVATION WELL

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NOTES:

1. INFRASTRUCTURE LOCATIONS ARE APPROXIMATE ONLY AND SHOULD BE FIELD VERIFIED.
2. IMAGERY SOURCE GEONB MAPVIEWER.

MAP/DRAWING INFORMATION
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PROJECT: 14 9574
 STATUS: DRAFT
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3.1.3 Protected Areas

According to the NBDEM, there are no identified protected areas or environmentally significant areas located within the boundaries of the project activities.

3.2 Groundwater Environment

The project site is not located in a wellfield protection area under the New Brunswick Wellfield Protection Program or a designated watershed under the New Brunswick Watershed Protection Program.

3.3 Freshwater Environment

There are no watercourses at the project site; however, the St. John River runs parallel to the southwestern boundary of the property and is located approximately 15 m from the study area. The top of the steep bank to the river is located approximately 5 m from the study area and consists of immature hardwood, shrubs and grass. The portion of the river adjacent the subject property is regulated by NB Power; the Grand Falls hydroelectric dam located approximately 4 km downstream of the project site. A discharge pipe directs well water effluent from the well house to the St. John River as noted on Figure 2. The purpose of the discharge pipe is for the activity of hydraulic testing or flushing of the water supply wells.

Based on the GeoNB Map layer, there are no regulated or provincially significant wetlands located within the vicinity of the property.

4.0 Environmental Effects and Mitigation

4.1 Assessment of Environmental Effects

Given the industrial nature of the McCain site, and since the well testing activities will be carried out using existing infrastructure or on other areas of the site that are fully developed (i.e., landscaped or paved areas), interaction with the terrestrial environment (including vegetation, wildlife and wildlife habitat) will be limited. The site is not known to support wildlife or important species of vegetation, and similarly, it is unlikely to support important migratory bird habitat. The project will take place on previously disturbed land at the McCain Foods Facility, and very limited disturbance of the surrounding land on the site will be required to accommodate the drilling, hydraulic testing and commissioning activities.

Because the well testing activities will be discharging clean water to the St. John River, there are no potential environmental effects with the exception of potential minor short-term sedimentation. The proposed work is of similar nature to what was previously completed under an EIA registration in 2014 for the current water supply wells (Well C and Well D). Therefore, it is anticipated that hydraulic testing will result in similar discharge volumes to the St. John River. Interactions with the aquatic environment are not expected to cause adverse environmental effects during the well testing activities.

4.2 Proposed Mitigation

Specific mitigation and best management practices will be observed during the well drilling and testing activities, specifically to remain in compliance with the New Brunswick Clean Water Act, MBCA, the SARA and the NBSARA to

ensure that adverse environmental effects do not occur. The following mitigation measures will be applied to this project.

All work conducted within 30 m of the St. John River shall adhere to the conditions outlined in the Watercourse and Wetland Alteration (WAWA) permit issued by the NBDELG. Additional mitigation measures are outlined as follows:

Drilling Equipment and other Machinery Use:

- No material is to be deposited in or removed from the watercourse.
- The project site will be equipped with spill kit (at least one clean-up kit, containing absorbent pads and booms for petroleum spills).
- Precautions will be taken to prevent the discharge or loss of any harmful material or substance into the St. John River; including but not limited to hydrocarbons.
- Equipment shall be in good working order and free of leaks.
- Vehicle fueling and maintenance will only occur at least 30 m away from any watercourse.
- Erosion and sediment control structures will follow specifications as outlined in the Watercourse and Wetland Alteration Technical guidelines (Site and Surface Water Management p.19- 21).
- Siltation prevention measures (i.e., silt fence) shall be installed at the onset of the construction activities and added wherever necessary. Sediment control structures shall be monitored and maintained on a regular basis.

4.3 Accidents, Malfunctions and Unplanned Events

McCain has a contingency and an emergency response plan as part of its standard operating procedures to address potential accidents malfunctions and unplanned events. In this project, these events relate specifically to the drilling and testing activities of the project. McCain currently has a facility-specific Health and Safety Program for their operations. An on-site job safety plan and environmental assessment will be facilitated prior to the commencement of work to fulfill the obligations of the facility's Safety Program and Environmental Management System (ISO14001).

5.0 Public Consultation

Project information letters will be distributed to landowners within approximately 1.0 km of the proposed activities. The purpose of the letter will be to advise local residents and businesses close to the proposed Project site (i.e., those who are potentially most affected) and provide them with opportunity to comment on the proposed undertaking.

Information letters will also be sent to the Town of Grand Falls.

The notification letters and any potential concerns or responses from the public will be provided to NBDELG.

References

GeoNB Map Viewer. Accessed 2015. <http://www.snb.ca/geonb1/e/index-E.asp>

New Brunswick Department of Environment and Local Government. 1987. New Brunswick Regulation 87-97 Under the Clean Environment Act. Available: <http://www.gNew Brunswick.ca/0062/pdf-regs/87-97.pdf>