Appendix C

Managing Operator Certification Requirements

Water, wastewater and landfill operators have certification requirements under Manitoba law. Staff working in these positions must be properly trained to ensure community public health and safety is maintained and the environment is protected.

Part 1: Water and Wastewater Operators

Water and wastewater operators include staff who work at the community water or wastewater treatment plant, lagoon or on the piped water distribution or wastewater collection system. They **do not** include water delivery or wastewater collection truck drivers.

Types and Classes of Facilities

There are four types of water and wastewater facilities, including:

- water treatment facilities (or water treatment plants)
- wastewater treatment facilities (including lagoons and wastewater treatment plants)
- water distribution facilities (piped distribution systems)
- wastewater collection facilities (piped collection systems and lift stations)

Within each type of facility there are several classes, including Small System, Class 1, Class 2 and higher. All community lagoons, piped water distribution and wastewater collection systems are small systems. Community water treatment systems range from small systems to Class 2; however, most are Class 2. All community wastewater treatment plants are Class 2. By policy, the department does not build plants in communities higher than Class 2.

Operator Certification Requirements

Operators must be certified for the type and class of facility they operate. Operator certification requirements for each community are laid out in Appendix F1-C Water and Wastewater Schedule of the Northern Affairs Manual of Policies and Procedures (NAMPP).

To become certified, water and wastewater operators must meet minimum education, exam and experience requirements, and must also apply for certification. Minimum education, exam and experience requirements for each class of facility are laid out in Table 1 below. Additional information is available on the Certification Program homepage: Environment and Climate Change | Manitoba Government

Table 1: *Minimum Education, Exam and Experience Requirements for each Class of Facility*

Facility Class	Education*	Exam (Passing grade is 70%)	On-the-Job Work Experience*
Small System	Grade 10 or equivalent	Small Water or Wastewater System	Six months if the operator has Grade 10. Operators with Grade 11 or higher can apply immediately upon passing a Small Systems exam.
Class 1	Grade 12 or equivalent	Class 1 Water or Wastewater Treatment	Minimum one year of experience working at a Class 1 or higher plant.
Class 2	Grade 12 or equivalent	Class 1 Water or Wastewater Treatment	Three years at a Class 2 plant for operators with Grade 12 or 1.5 years for operators with two or more years of post-secondary education.

* **Water and Wastewater Facility Operators Regulation** Schedule B Qualifications

Notes: substitutions regarding education and operating experience

1 For the requirement of Grade 10 or 12, a person may substitute 45 continuing education units (CEUs) of applicable training for one year of high school.

4 For the operating experience, a person may substitute 3.75 CEUs for one month's operating experience to the following maximums:

(a) small system: maximum of 22.4 units (six months operating experience)

(b) Class 2: maximum of 67.5 units (1.5 years of operating experience)

Operator Certificate

Operators are not considered certified, unless they hold a valid certificate signed by the director responsible for the Certification Program. Certificates are valid for five years from the date of issue and must be renewed before they expire. An example operator certificate is shown in Figure 1. Copies of certificates for all operators working in the community water and wastewater facilities should be posted in the facilities with the Table of Organization (TOO) and a copy sent to the Northern Affairs Branch (NAB) regional office. Receipt of the operators' certificate triggers a review of the certification top-up release to the community under the Local Government Services Program funding (see Policy F9 – Community Employees) of the NAMPP.

Figure 1: *Example Operator Certificate*

Water and Wastewater Facility Operators Certification Program

This is to certify

Ima G. Operator

has qualified as a

Water Treatment	*Class 2*
Water Distribution	*Small System*
Wastewater Treatment	*Operator-In-Training*
Wastewater Collection	*Operator-In-Training*

in accordance with the Water and Wastewater Facility Operators Regulation under *The Environment Act.*

Dated at Winnipeg, Manitoba **this** 12th **day of** July 2019.

Certificate No.: 2019-XXX
Expires: 12 July 2024
Operator ID: XXXXX

Director
Manitoba Sustainable Development

Certificate is the property of Manitoba Sustainable Development and must be surrendered upon request.

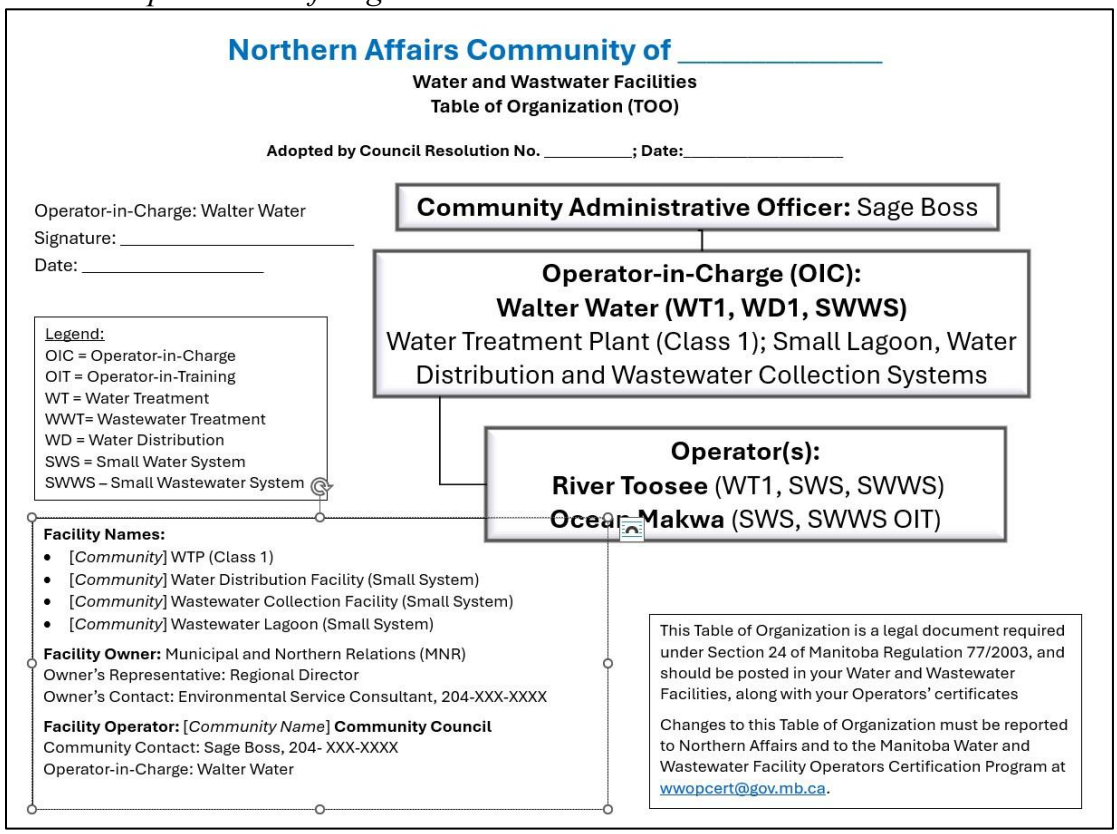
Manitoba

Table of Organization and Operator-in-Charge

The Water and Wastewater Facility Operators Regulation under section 24 requires water and wastewater system owners and operators to file a TOO for their facilities with the Manitoba Certification Program. The TOO is a legal document that identifies the Operator-in-Charge (OIC) of each facility and all operators working under them. The OIC must be fully certified to operate all facilities they are responsible for.

Example TOOs are shown in Figure 2. The TOO should be signed by the OIC, adopted by council resolution, sent to the NAB regional office and the Manitoba Certification Program, and posted in the community water and wastewater facilities with the operator's certificates.

Figure 2: *Example Tables of Organization*



Northern Affairs Community of _____

Water and Wastwater Facilities
Table of Organization (TOO)

Adopted by Council Resolution No. _____; Date:_____

Operator-in-Charge: Walter Water
Signature: _____
Date: _____

Community Administrative Officer: Sage Boss

Operator-in-Charge (OIC):
Walter Water (WT1, WD1, SWWS)
Water Treatment Plant (Class 1); Small Lagoon, Water Distribution and Wastewater Collection Systems

Operator(s):
River Toosee (WT1, SWS, SWWS)
Ocean Makwa (SWS, SWWS OIT)

Legend:
OIC = Operator-in-Charge
OIT = Operator-in-Training
WT = Water Treatment
WWT= Wastewater Treatment
WD = Water Distribution
SWS = Small Water System
SWWS – Small Wastewater System

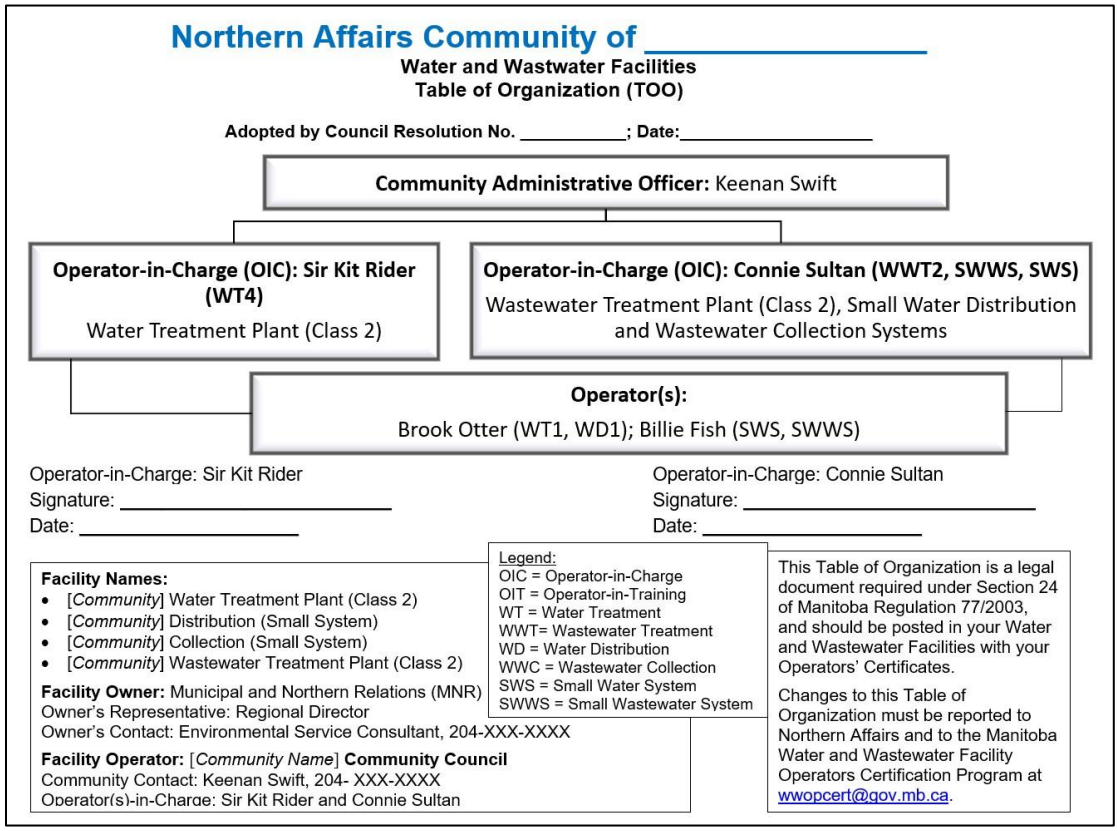
Facility Names:
- [*Community*] WTP (Class 1)
- [*Community*] Water Distribution Facility (Small System)
- [*Community*] Wastewater Collection Facility (Small System)
- [*Community*] Wastewater Lagoon (Small System)

Facility Owner: Municipal and Northern Relations (MNR)
Owner's Representative: Regional Director
Owner's Contact: Environmental Service Consultant, 204-XXX-XXXX

Facility Operator: [*Community Name*] **Community Council**
Community Contact: Sage Boss, 204- XXX-XXXX
Operator-in-Charge: Walter Water

This Table of Organization is a legal document required under Section 24 of Manitoba Regulation 77/2003, and should be posted in your Water and Wastewater Facilities, along with your Operators' certificates

Changes to this Table of Organization must be reported to Northern Affairs and to the Manitoba Water and Wastewater Facility Operators Certification Program at wwopcert@gov.mb.ca.



Northern Affairs Community of _____

Water and Wastwater Facilities
Table of Organization (TOO)

Adopted by Council Resolution No. _____; Date:_____

Community Administrative Officer: Keenan Swift

Operator-in-Charge (OIC): Sir Kit Rider (WT4)
Water Treatment Plant (Class 2)

Operator-in-Charge (OIC): Connie Sultan (WWT2, SWWS, SWS)
Wastewater Treatment Plant (Class 2), Small Water Distribution and Wastewater Collection Systems

Operator(s):
Brook Otter (WT1, WD1); Billie Fish (SWS, SWWS)

Operator-in-Charge: Sir Kit Rider
Signature: _____
Date: _____

Operator-in-Charge: Connie Sultan
Signature: _____
Date: _____

Facility Names:
- [*Community*] Water Treatment Plant (Class 2)
- [*Community*] Distribution (Small System)
- [*Community*] Collection (Small System)
- [*Community*] Wastewater Treatment Plant (Class 2)

Facility Owner: Municipal and Northern Relations (MNR)
Owner's Representative: Regional Director
Owner's Contact: Environmental Service Consultant, 204-XXX-XXXX

Facility Operator: [*Community Name*] **Community Council**
Community Contact: Keenan Swift, 204- XXX-XXXX
Operator(s)-in-Charge: Sir Kit Rider and Connie Sultan

Legend:
OIC = Operator-in-Charge
OIT = Operator-in-Training
WT = Water Treatment
WWT= Wastewater Treatment
WD = Water Distribution
WWC = Wastewater Collection
SWS = Small Water System
SWWS = Small Wastewater System

This Table of Organization is a legal document required under Section 24 of Manitoba Regulation 77/2003, and should be posted in your Water and Wastewater Facilities with your Operators' Certificates.

Changes to this Table of Organization must be reported to Northern Affairs and to the Manitoba Water and Wastewater Facility Operators Certification Program at wwopcert@gov.mb.ca.

Steps to Certification for New Operators

Communities that have identified and appointed a fully certified OIC can hire a local operator to train under them in an underfill capacity. The recommended steps to certification for new operators who are not yet certified are outlined below.

Step 1: Education Requirements and Registering as an Operator-in-Training (OIT)
Communities should not hire anyone with less than Grade 10 to be a water or wastewater treatment plant operator. Certification is a long process, and the challenges for anyone with less than Grade 10 education to get certified will be significant.

- New hires should provide the community administrative officer with a copy of their high school and/or college diploma or transcripts on their first day of work. If they don't have a copy of their diploma or transcripts, operators can apply for a copy of their high school transcripts using the form available here: Request form: Manitoba Statement of High School Marks (Transcript).
- As soon as a copy of their high school diploma or transcript becomes available, the community should register them as an OIT and start giving them time at the water or wastewater facility and training under the direction of the OIC.
- Operators with less than Grade 12 education, who are training to work at a water or wastewater treatment plant, should be enrolled in a Mature Student Diploma Program.

Step 2: Starting Training – Foundations, Small Water and Wastewater Systems
Information on where to find training courses, how to register for certification exams and apply for certification follows in the next sections. This section outlines which courses and exams to take first.

- **Water and Wastewater Foundations:** If taking courses through Red River College (RRC) Polytech, we recommend operators start with the Water and Wastewater Foundations course. This five-day course provides information on basic math, science and safety that is not covered in detail in other courses. In addition, there is no exam attached to the course, which minimizes pressure on new trainees. If asked, RRC will send out a diagnostic quiz in advance of the course to help operators evaluate whether they need to take the foundations course or not. Operators can skip the foundations course if they do well on the diagnostic quiz.
- **Small Water Systems (SWS)**: Within six months of hire, the operator should take the SWS training course and write the SWS certification exam. This is the least difficult certification exam, which makes it a good place for a new operator to start.
- **Small Wastewater Systems (SWWS):** If the operator will be working on the community lagoon, wastewater treatment plant or wastewater collection system, they should take the SWWS course and write the SWWS certification exam. SWWS is harder than SWS, so we recommend starting with SWS.
- **Apply for Certification:** If the operator passes their SWS or SWWS exam, they should immediately register for SWS and/or SWWS certification. Information on how to register for certification follows in the next sections.

Step 3: Class 1 Water and Wastewater Treatment

Operators can take the Class 1 water or wastewater courses or certification exams at any time. They don't have to take the small water or wastewater courses first, it's just easier to start that way. At all levels, we recommend taking the water courses and exams first, as the wastewater courses and exams are more difficult. The Wastewater Treatment Class 1 course is only required for wastewater treatment plants; it is not required for lagoons.

Operators should apply for their Class 1 water and/or wastewater certification as soon as they pass their exam, obtain their Grade 12 and accumulate one full year of work experience.

Step 4: Class 2 Water and Wastewater Treatment

Operators must have their Class 1 water or wastewater certification before they write the Class 2 certification exam. We recommend taking the water courses/exams first. Most community water and wastewater treatment plants are Class 2 plants. Operators need their Class 2 certification to take on the role of OIC for these facilities.

Operators should apply for their Class 2 water or wastewater certification as soon as they pass their exam and accumulate three years of work experience. Operators with two or more years of post-secondary education (college or university) can apply for their Class 2 certification with 1.5 years of work experience.

Operator Training Courses

Water and wastewater operator training courses are available through RRC Polytech, the Manitoba Water and Wastewater Association (MWWA) or the Sacramento State Water Programs with varying prices. The course provider you choose will depend on your operators' preference and training needs, and what their schedules can accommodate.

RRC Polytech offers week-long exam preparation courses in-person and online. Courses generally have five to 25 students with one instructor. In-person courses are offered in the summer and online courses in the fall and winter. See their website at: RRC Polytech: Technology Solutions for the Workplace – Manitoba Water and Wastewater Training: for more information, including their course registration form. Regardless of whether they are taking the course online or in-person, operators should be allowed to devote themselves to the training during the course, including time in the evening to do assigned homework.

Operators who are dedicated enough to work through courses independently can take courses online or by correspondence through MWWA at MWWA – Store or Sacramento State University at Sacramento State Operator Training Courses (see their respective websites for more information).

Certification Exams

Certification exams are administered by the Manitoba Certification Program. Course registrations listed above **do not** include the certification exam registration. See the

Certification Program website at Environment and Climate Change | Manitoba Government for exam schedules and the exam registration form. The Application for Exam Registration form must be sent to the Manitoba Certification Program, along with the application fee.

Exams can be written in Winnipeg or at colleges or universities in Brandon, Thompson or The Pas. Some Manitoba Friendship Centers will also host exams. Additional proctor fees may apply.

The passing grade for all certification exams is 70%. It is not unusual for operators to fail a certification exam the first time they write it. Operators can challenge the exam four months later, with or without taking the course again. If they fail the exam more than three times, they will have to take additional training.

Applying for Certification

Communities must apply for certification by filling out a certification application, paying the application fee and sending the application to the Manitoba Certification Program with the required attachments. It is important to note, taking a course and writing a certification exam alone **does not** make an operator certified.

Operators will need to attach proof of any training or Continuing Education courses they have completed to the certification application. For first time certification applications or to register as an OIT, operators will need to attach a copy of their high school or secondary school diploma or transcript. They do not need to attach their certification exam results as the Certification Program will have those already.

The Application for Operator Certification form is available on the Manitoba Certification Program website at: Environment and Climate Change | Manitoba Government.

Getting Additional Help

Many operators struggle to pass the certification exams on the first try. Operators receive their marks and an Individual Mastery Report immediately after writing a certification exam. The report shows areas they did well on or struggled with. Many operators struggle with the math, some struggle with reading comprehension, while others just need more time in the water or wastewater plant to get familiar with the equipment or more time with their OIC to learn the terminology used to describe things in the plant.

Workplace Education Manitoba (WEM) is a free resource for operators that need help with math skills, reading comprehension, managing exam anxiety or any number of other challenges. WEM offers group or one-on-one training, in-person or online, depending on your location. They also offer assessments to assist operators in identifying areas they struggle with. For more information, see their website at WEM – Looking to improve your Essential Skills?, email: info@wem.mb.ca or phone: 1-855-373-2246.

The MWWA – Store also offers a mathematics correspondence course, as does Sacramento State Water Programs at Sacramento State Operator Math Courses.

Certification Renewals and Continuing Education Units

All water and wastewater operator certificates expire after five years. Operators need to continually train to maintain their certification. Small water and wastewater systems certification requires 3.0 CEUs every five years to support a certification renewal request. Class 1 and 2 certification requires 6.0 CEUs every five years to support a renewal request.

There are a wide variety of courses that operators can take for CEUs, including courses from RRC, MWWA, Sacramento State University, as well as safety courses, math courses and others. Many conferences and webinars also qualify for CEUs. See the Certification Program website for more information at Guidelines for CEU Evaluation and Credit. The department can assist in requesting CEU evaluations of courses or workshops as needed.

Part 2: Landfill Operators

Communities that operate a landfill or waste disposal facility where materials are placed in or on the ground for long-term or permanent storage must have a certified landfill operator on-site whenever the landfill is open to the public.

The certified landfill operator is responsible for keeping the public and any staff working on-site safe following applicable Manitoba regulations; ensuring that no waste enters the site that the facility is not permitted to accept; directing people where to place different materials; ensuring all waste streams are properly managed; and record-keeping in accordance with permit requirements.

Landfill operators must take the Landfill Operation Basics Course offered by the Solid Waste Association of North America (SWANA) Northern Lights Chapter and write the Manitoba landfill operator certification exam. The course, exam and the Manitoba Landfill Operator Certification Program are all administered by SWANA (see their website at SWANA Northern Lights Chapter | Manitoba Landfill Operator Certification Program for more information on the certification program and exam).

Operators must be at least 18 years of age and employed at a landfill to get certified. Landfill operator certification is valid for three years. There are no Continuing Education requirements associated with renewing certification in Manitoba. An example of a landfill operator certificate is shown in Figure 3.

Figure 3: *Landfill Operator Certificate*