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ONTARIO FIRST NATIONS
TECHNICAL SERVICES
CORPORATION

On-Reserve Water and Wastewater Systems in Ontario:

The Role of OFNTSC and Recommendations for Improvement

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1. Introduction

Access to clean, healthy drinking water and sanitation services is integral for building healthy communities. Despite living with a country with some of the largest freshwater sources in the world, many First Nation communities in Canada continue to face challenges when it comes to accessing clean water and proper wastewater services, adequate infrastructure and quality training programs.

The Right to Water and Sanitation was adopted by the UN General Assembly on July 28, 2010, and in Canada the federal government has stated that “access to safe drinking water, the effective treatment of wastewater and the protection of sources of drinking water on First Nation lands are priorities for the Government of Canada.”¹

Unfortunately, it remains true that First Nations have some of the poorest water quality in Ontario, and across the country.² Long-term boil water advisories continue—in some communities, an entire generation has been unable to drink tap water³—and communities have declared states of emergency as recently as July 2019.⁴ Failing or absent water and wastewater systems also contribute to overall systemic challenges on reserve. For example, funding provided for programming will at times need to be diverted to water and wastewater systems,⁵ and in some cases much-needed additional housing units cannot be added due to limitations on water and wastewater infrastructure.⁶

There are several challenges associated with on-reserve water and wastewater systems which include a lack of infrastructure, limited funding, and human resources and skills training. While the situation has seen improvements, there is still much to do to improve water and wastewater systems on-reserve in Ontario.

¹ Indigenous and Northern Affairs Canada, “First Nations Water and Wastewater Action Plan.” <https://www.aadnc-aandc.gc.ca/eng/1466537196019/1466537216230>

² Ontario Ministry of The Attorney General. *Part Two Report of the Walkerton Inquiry: A Strategy for Safe Drinking Water*. 2002, 486

³ Human Rights Watch. “Make it Safe: Canada’s Obligation to End the First Nations Water Crisis.” 2016, 9.

⁴ Barrera, Jorge. “Another Ontario First Nation declares a state of emergency over water.” CBC News. July 15, 2019. <https://www.cbc.ca/news/indigenous/fn-ont-water-1.5211728>

⁵ Human Rights Watch, 53

⁶ “A Snapshot of On Reserve Clean Water Issues.” *Working Effectively with Indigenous Peoples* (blog). March 2 2018. Accessed July 19, 2019. <https://www.ictinc.ca/blog/a-snapshot-of-on-reserve-clean-water-issues>



The Ontario First Nations Technical Services Corporation (OFNTSC) plays a critical role in delivering water and wastewater engineering services to First Nations in Ontario. As First Nations continue to experience water quality issues it is essential that water and wastewater systems are delivered by and for First Nations consistent with a First Nations-led approach.

The following report will explore OFNTSC's Water and Wastewater Services, and the issue of water and wastewater more broadly within Ontario. The report will include an overview and analysis of federal legislative framework, funding mechanisms, policies, and challenges for water and wastewater on reserve First Nations in Ontario. Finally, it will explore opportunities and recommendations on improving water and wastewater systems on reserve.

2. OFNTSC's Approach to Water and Wastewater

OFNTSC is committed to ensuring that all Ontario First Nations communities have access to safe, clean and potable drinking water. To that end, OFNTSC's engineering service was established in 1996 and provides technical advice related to water and wastewater for Ontario First Nations. Specific services include project planning, project management, capital planning, and oversight throughout a project life cycle. OFNTSC works with communities to identify and communicate issues with their water and wastewater systems, develop action plans, assist with securing funding, and work as part of a project team to implement solutions. A key part of our mandate is to transfer technical knowledge and skills to First Nations members to build capacity in First Nations communities across the province.

OFNTSC's engineers also provide guidance and oversight to First Nations when making funding applications, which collectively increases the number of First Nations who are receiving money through funding sources like the federal Clean Water and Wastewater Fund and Investing in Canada Infrastructure Program.

OFNTSC administers the Circuit Rider Training Program (CRTP), which trains First Nations water and wastewater operators on the safe delivery of drinking water on-reserve. OFNTSC trainers provide Continuing-Education-Unit (CEU) and On-the-Job-Training (OJT) hours directly in First Nations communities to help water and wastewater system operators maintain their provincial licences. By providing onsite training on the community water and wastewater systems, the CRTP provides knowledge needed so that operators can confidently and effectively operate treatment systems.

3. Background



3.1 Federal policy/legislative framework

Water treatment regulation is a federal authority governed under the *Safe Drinking Water for First Nations Act* (SDWFNA), which requires that the Government of Canada create regulations for drinking water, the effective treatment of wastewater, and to protect drinking water sources on First Nations' reserve lands.⁷ Under the Act, Chief and Council are responsible for drinking water quality including sampling and testing, issuing drinking water advisories, and facilities planning, development, operations and maintenance.⁸

The SDWFNA was created in 2013 and has been criticized for ignoring the recommendations of First Nations, creating a regulatory framework without appropriate investments in resources, and passing the liability of failing infrastructure onto First Nations communities.⁹ The Assembly of First Nations (AFN), in particular, has been critical of the Act and in 2015 passed Resolution 76/2015 "Safe Drinking Water for First Nations" to repeal it, stating – among other things – that it was "developed without meaningful consultation with First Nations, is contrary to inherent authority of First Nation governments and does not reflect the principles of Customary Laws regarding water."¹⁰ Following that resolution, the AFN passed Resolution 01/2018 "First Nations Led Process to Develop New Federal Safe Drinking Water Legislation," which mandated work with the federal government to create a co-developed process.¹¹ Indigenous Services Canada (ISC) has agreed to work with the AFN on this process, and the two are working together to create safe-drinking water legislation and a long-term water and wastewater strategy.¹²

Water and wastewater system operation and maintenance are supported by federal funding via the Capital Facilities and Maintenance Program (CFMP) and the First Nations Infrastructure Investment Fund (FNIF). This funding mix, however, leads to its own set of challenges that OFNTSC has identified in the past: funding has not increased to meet increasing rising costs, the funding formula is based on dated information, federal contributions are based on project costs

⁷ Indigenous and Northern Affairs Canada. "Safe Drinking Water for First Nations Act." Accessed July 19, 2019. <https://www.aadnc-aandc.gc.ca/eng/1330528512623/1330528554327>

⁸ Indigenous and Northern Affairs Canada. "Roles and Responsibilities." Accessed July 2019, 2019. <https://www.aadnc-aandc.gc.ca/eng/1314034319353/1314034564208>

⁹ Assembly of First Nations. "First Nations Led Process for New Safe Drinking Water and Wastewater Legislation." Technical Bulletin. July 2018. <https://www.afn.ca/wp-content/uploads/2018/08/18-07-09-Housing-Sector-Technical-Update-re-Water-July-2018-V4.pdf>

¹⁰ Assembly of First Nations. Special Chiefs Assembly. "First Nations Led Process to Develop New Federal Safe Drinking Water Legislation." Resolution no. 01/2018. May 2, 2018.

¹¹ Ibid

¹² Indigenous Service Canada. "Indigenous Services Canada: Departmental Plan 2019-20". <https://www.sac-isc.gc.ca/eng/1553090854386/1553090905214?wbdisable=true>. Accessed July 24, 2019.



rather than life-cycle costs and First Nations are obligated to meet a net funding requirement.¹³ If communities are unable to meet this last requirement, operations and maintenance needs are unmet. Taken all together, these issues lead to “higher costs and prevents First Nations infrastructure and community assets from achieving their full life cycles.”¹⁴

OFNTSC has also argued that federal funding for operations and maintenance must be amended to “provide greater resources for the costs associated with primary and secondary operator training and succession planning...and address the wage disparity between on-reserve and off-reserve O&M personnel salaries and benefits.”¹⁵ Compared to operator salaries in Ontario municipalities and the Ontario Clean Water Agency (OCWA), First Nation operators earn 22-38% (municipalities) and 13-36% less (OCWA) than their counterparts.¹⁶ The consequences of this salary discrepancy cannot be understated: low salaries have the potential to increase turnover, which in turn could put safe drinking water and communities at risk. Without support for training, succession planning and competitive salaries, First Nations will continue to face challenges maintaining their water and wastewater facilities and providing those essential services to communities.

Federal funding is provided to run the Circuit Rider Training Program, which First Nations communities are automatically enrolled in if they operate a public drinking water or wastewater system.¹⁷ OFNTSC administers this program, which provides training to on-reserve operators on how to provide ongoing maintenance to water and wastewater systems.

As First Nations reservations are federal lands, there is no provincial regulatory regime governing water or wastewater in First Nations communities.

3.2 Federal policy direction

The Federal government has made a commitment to water and wastewater projects, with a promise to end all long-term drinking water advisories by March 2021.¹⁸ This commitment led to the creation of the Trilateral Steering Committee, whose mandate is to monitor and develop

¹³ Ontario First Nations Technical Services Corporation. “On Reserve Operations and Maintenance Policy: The Case for Reform”. November 23, 2018: 4

¹⁴ Ibid, 4

¹⁵ Ibid: 6

¹⁶ Hamilton, Tricia. Ontario First Nations Technical Services Corporation. “Ontario First Nations Operator Salary Survey.” August 27, 2018: 2

¹⁷ Indigenous and Northern Affairs Canada. “Circuit Rider Training Program.” <https://www.aadnc-aandc.gc.ca/eng/1313424571273/1313424692733> Accessed July 24, 2019.

¹⁸ Indigenous Services Canada. “Ending Long-Term Drinking Water Advisories.” Accessed July 24, 2019. <https://www.sac-isc.gc.ca/eng/1506514143353/1533317130660>.



action plans for resolving long-term drinking water advisories. As of January 2019, 32 long-term drinking water advisories had been ended in 19 First Nations communities throughout the province. OFNTSC is a member of this committee along with the Chiefs of Ontario, Ontario First Nations Political Territorial Organizations (Anishinabek Nation, Association of Iroquois & Allied Indians, Grand Council Treaty No. 3, Nishnabwe Aski Nation), Indigenous Services Canada, and the Province of Ontario (Ministry of Environment, Conservation and Parks).

Over the years there have been several budget commitments made, including:

- Budget 2016: \$1.8 billion over five years for on-reserve water and wastewater infrastructure.¹⁹
- Budget 2017: invested an additional \$4 billion over 10 years, starting in 2018-2019, to build and improve infrastructure in First Nation and Inuit communities.²⁰
- Budget 2018: proposed to invest an additional \$172.6 million over three years, starting in 2018-2019, to improve access to clean and safe drinking water on reserve and accelerate the pace of construction and renovation of affected water systems.²¹
- Budget 2019: proposed an additional \$739 million over five years, beginning in 2019-2020, with \$184.9 million per year ongoing.²²

In May 2016, the Minister of Indigenous and Northern Affairs announced Canada is a full supporter, without qualification, of the *United Nations Declaration on the Rights of Indigenous Peoples* (UNDRIP).²³ Articles 25 and 32 of the UNDRIP state, respectively:

Indigenous peoples have the right to maintain and strengthen their distinctive spiritual relationship with their traditionally owned or otherwise occupied and used lands, territories, waters and coastal seas and other resources and to uphold their responsibilities to future generations in this regard.

1. Indigenous peoples have the right to determine and develop priorities and strategies for the development or use of their lands or territories and other resources. 2. States

¹⁹ Canada. Ministry of Finance. “Budget 2016: Growing the Middle Class.” William Francis Morneau. (2016): 95, 103

²⁰ Indigenous Services Canada. “Water in First Nations Communities”. Accessed July 24, 2019. <https://www.sac-isc.gc.ca/eng/1100100034879/1521124927588>

²¹ Ibid

²² Ibid

²³ Indigenous and Northern Affairs Canada. “United Nations Declarations on the Rights of Indigenous Peoples.” Accessed July 24, 2019. <https://www.aadnc-aandc.gc.ca/eng/1309374407406/1309374458958>



shall consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their free and informed consent prior to the approval of any project affecting their lands or territories and other resources, particularly in connection with the development, utilization or exploitation of mineral, water or other resources. 3. States shall provide effective mechanisms for just and fair redress for any such activities, and 24 appropriate measures shall be taken to mitigate adverse environmental, economic, social, cultural or spiritual impact.²⁴

These Articles of the UN declaration demonstrate the need for active First Nations involvement in developing and administering water and wastewater programs, which to date have not been developed with adequate funding, training, or regulatory support from either the federal or provincial governments.

3.3 Federal funding mechanisms

The federal government provides funding for water and wastewater through several programs including:

- Capital Facilities and Maintenance Program: \$1 billion annually in housing, education, water and wastewater, and other infrastructure funding.²⁵
- First Nations Infrastructure Investment Fund: provides funding for infrastructure projects including planning and skills development as identified in First Nations Infrastructure Investment Plans.
 - FNIIF does not fund continued operations and maintenance, or salaries for positions responsible for ongoing maintenance.²⁶

The federal government provides Operation and Maintenance funding for water and sewage systems through a funding formula. This formula funding is intended to cover 80 per cent of the operational costs, however, it often covers significantly less. Many First Nations are concerned that the funding formulas are outdated and do not represent the actual cost of operating a water and sewage system properly.

²⁴ United Nations. UN General Assembly. “United Nations Declaration of the Rights of Indigenous Peoples.” General Assembly Resolution 61/295. (2008)

²⁵ Canada. Indigenous Services Canada. “Capital Facilities and Maintenance Program.” Accessed July 24, 2019. <https://www.sac-isc.gc.ca/eng/1100100016395/1533641696528>

²⁶ Canada. Indigenous Services Canada. “First Nation Infrastructure Investment Fund.” Accessed July 24, 2019. <https://www.sac-isc.gc.ca/eng/1497275878022/1533645265362>



3.4 Planned funding for Ontario Region

In an update to First Nations communities, Indigenous Services Canada has provided the following funding commitments to Ontario:

- \$255 million to infrastructure projects on-reserve in 2018-2019, and
- The creation of a Major Projects Implementation Office, which is meant to “enhance service delivery and maximize benefits to communities.”²⁷

4. Best Practices in Water and Wastewater

Although First Nations do not fall under provincial jurisdiction, all new or upgraded water or wastewater system in Ontario must meet the most stringent of federal or provincial guidelines and regulations in order to comply with ISC Protocols, meet any future regulations, and ensure that the quality of drinking water on reserve is as good as those of Ontario municipalities. OFNTSC contributes to the successful adoption of these best practices through the services its engineering team provides as well as through the delivery of the Circuit Rider Training Program.

Guidelines and regulations for water and wastewater systems include:

- Protocol for Safe Drinking Water in First Nations Communities
- Protocol for Centralised Drinking Water Systems in First Nations Communities
- Protocol for Decentralised Water and Wastewater Systems in First Nations Communities
- Design Guidelines for First Nations Water Works
- Maintenance Management Plan for drinking water and wastewater systems in First Nations communities
- Emergency Response Plan for Drinking Water Systems in First Nations communities
- Emergency Response Plan for Wastewater Systems in First Nations communities
- Ontario Drinking Water Standards, Objectives and Guidelines, Ministry of Environment, Conservation and Parks
- Procedure for Disinfection of Drinking Water in Ontario, Ministry of Environment, Conservation and Parks
- Ontario Regulation 169/03: Ontario Drinking Water Quality Standards
- Ontario Regulation 170/03: Drinking Water Systems

²⁷ Canada. Indigenous Services Canada. “Indigenous Services Canada Capital & Housing Update. OFNTSC All Tribal Councils, Large & Unaffiliated First Nations Meeting.” Presentation. 2018



- Health Canada Guidelines for Canadian Drinking Water Quality

As noted in this paper, these overarching protocols must also be supported with support for:

- Ongoing maintenance, completed by trained professionals in a safe environment;
- Regular consistent training; and
- Enforceable standards and protocols. In this case, on-reserve water and wastewater systems should be held to federal and provincial standards, with the federal government holding ultimate responsibility while respecting First Nations rights, as noted by AFN and others.²⁸

Following the Report of the Walkerton Inquiry in response to the deaths of six people in the Ontario town there were several suggestions for best practices for on-reserve water and wastewater systems, including:

- Recommendation 93: the provincial government should make technical assistance, drinking water testing, inspection and enforcement available to First Nations communities on a cost-recovery basis, if requested.²⁹

Throughout that process, it is important to note that federal and provincial policies and regulations carry with them a strong potential to infringe on inherent, treaty, Aboriginal title, and human rights of First Nations if they are created in isolation. These policies must be co-created with First Nations to acknowledge these rights in order to be considered feasible solutions to water and wastewater on reserve.

5. Challenges and Opportunities

Despite commitments that have been made to water and wastewater systems and the improvements that have been made in recent years, First Nations communities still suffer from the lack of binding regulations, funding for maintenance and the lack of support for household water systems.

Water and wastewater systems require adequate funding for design and construction, but ongoing maintenance and monitoring are crucial to their ongoing operations. Two per cent of all First Nations communities in Canada lack any type of water and wastewater system³⁰ and those

²⁸ Ontario Ministry of The Attorney General. Part Two Report of the Walkerton Inquiry: A Strategy for Safe Drinking Water. Toronto: Queen's Printer for Ontario (2002); AFN "First Nations Led Process".

²⁹ Ibid.

³⁰ Islam and Yuan, 7



communities that do have access often suffer because the systems are poorly constructed or lack access to ongoing maintenance. In a 2011 study, one quarter of all existing systems on-reserve in Ontario were considered high-risk with potential health and safety issues—one of the highest percentages in the country.³¹

OFNTSC cites the following challenges with respect to on-reserve water and wastewater systems:

- Insufficient capital and maintenance funding.
- Inopportune timelines for funding: capital projects are often notified of approval in July or August, after the construction season.
- No clear regulations governing water and wastewater on-reserve. It is therefore up to each community to enforce standards.
- Insufficient funding for maintenance of water and sewage systems, which contributes to early equipment failures and ongoing challenges in delivering safe drinking water.
- The current funding process requires First Nations to apply for a finite amount of funding, requiring communities to compete against one another.
- Funding allocations are done by the federal government in isolation, without any input from First Nations communities or representatives.

6. Conclusion & Recommendations

The challenges associated with on-reserve water and wastewater systems—including a lack of infrastructure, limited funding, and human resources and skills training—indicate the need for widespread improvements and a sustained commitment from the federal government. The challenges also suggest the importance of the OFNTSC in helping bring First Nations water and wastewater systems to a level comparable to municipalities in Canada. The OFNTSC makes the following recommendations with respect to water and wastewater systems:

- Include operator training and salary levels in broader discussions related to water and wastewater operations and management.
- Shift federal funding allocations from a project-cost approach to asset management planning, which will address specific needs while also preparing for future needs, preventative maintenance and regular repairs.

³¹ Ibid, 8



References

- Assembly of First Nations. “First Nations Led Process for New Safe Drinking Water and Wastewater Legislation.” Technical Bulletin. July 2018. <https://www.afn.ca/wp-content/uploads/2018/08/18-07-09-Housing-Sector-Technical-Update-re-Water-July-2018-V4.pdf>
- Assembly of First Nations. Special Chiefs Assembly. “First Nations Led Process to Develop New Federal Safe Drinking Water Legislation.” Resolution no. 01/2018. May 2, 2018.
- Barrera, Jorge. “Another Ontario First Nation declares a state of emergency over water.” CBC News. July 15, 2019. <https://www.cbc.ca/news/indigenous/fn-ont-water-1.5211728>
- Canada. Indigenous Services Canada. “Capital Facilities and Maintenance Program.” Accessed July 24, 2019. <https://www.sac-isc.gc.ca/eng/1100100016395/1533641696528>
- Canada. Indigenous Services Canada. “Ending Long-Term Drinking Water Advisories.” Accessed July 24, 2019. <https://www.sac-isc.gc.ca/eng/1506514143353/1533317130660>.
- Canada. Indigenous Services Canada. “First Nation Infrastructure Investment Fund.” Accessed July 24, 2019. <https://www.sac-isc.gc.ca/eng/1497275878022/1533645265362>
- Canada. Indigenous Services Canada. “Indigenous Services Canada Capital & Housing Update. OFNTSC All Tribal Councils, Large & Unaffiliated First Nations Meeting.” Presentation. 2018
- Canada. Indigenous Services Canada. “Indigenous Services Canada: Departmental Plan 2019-20.” Accessed July 22, 2019. <https://www.sac-isc.gc.ca/eng/1553090854386/1553090905214?wbdisable=true>
- Canada. Indigenous and Northern Affairs Canada. “Safe Drinking Water for First Nations Act.” Accessed July 19, 2019. <https://www.aadnc-aandc.gc.ca/eng/1330528512623/1330528554327>
- Canada. Indigenous and Northern Affairs Canada. “United Nations Declarations on the Rights of Indigenous Peoples.” Accessed July 24, 2019. <https://www.aadnc-aandc.gc.ca/eng/1309374407406/1309374458958>
- Canada. Indigenous Services Canada. “Water in First Nations Communities.” Accessed July 24, 2019. <https://www.sac-isc.gc.ca/eng/1100100034879/1521124927588>
- Canada. Infrastructure Canada. “Clean Water Wastewater Fund (CWWF) Allocations.” Accessed July 22, 2019. <https://www.infrastructure.gc.ca/plan/cwwf-fepteu-table-tableau-eng.html>.
- Canada. Ministry of Finance. “Budget 2016: Growing the Middle Class.” William Francis Morneau. (2016)
- Hamilton, Tricia. Ontario First Nations Technical Services Corporation. “Ontario First Nations Operator Salary Survey.” August 27, 2018: 2
- Human Rights Watch. “Make it Safe: Canada’s Obligation to End the First Nations Water Crisis.” 2016.



Islam, Mofizul and Yuan, Qiuyan. "First Nations wastewater treatment systems in Canada: Challenges and Opportunities." *Cogent Environmental Science* (2018), 4:1458526.

Ontario. "Clean Water and Wastewater Fund: Program Guidelines." (2016)

Ontario First Nations Technical Services Corporation. "On Reserve Operations and Maintenance Policy: The Case for Reform." November 23, 2018.

Ontario. Ministry of Environment, Conservation and Parks. "Working with First Nations to Improve Drinking Water." Accessed July 24, 2019. <https://www.ontario.ca/page/working-first-nations-improve-drinking-water>

Ontario Ministry of The Attorney General. *Part Two Report of the Walkerton Inquiry: A Strategy for Safe Drinking Water*. Toronto: Queen's Printer for Ontario (2002).

United Nations. UN General Assembly. "United Nations Declaration of the Rights of Indigenous Peoples." General Assembly Resolution 61/295. (2008)

