Municipal Water Licence Renewal

Engagement Report

Submitted by:

City of Yellowknife

Submitted to:

Mackenzie Valley Land and Water Board

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BACKGROUND

Under the *NWT Waters Act*, the City of Yellowknife (the City) requires a Type A Water Licence from the Mackenzie Valley Land and Water Board (MVLWB) to continue to draw water from the Yellowknife River (drinking water) and from Great Slave Lake (maintenance and emergency use), to deposit municipal waste in the City's landfill, and to direct wastewater into the Fiddler's Lake Treatment System.

As part of preparing its application, the City undertook a series of activities intended to notify, inform and seek feedback from the public and stakeholders (also referred to as Affected Parties) on the application in general, as well as the various technical documents that make up the application. These public engagement activities took place between April and October, 2020.

PURPOSE

In the interest of transparency and good governance, the City has prepared this report to summarize these engagement activities and the findings from engagement. This report will be provided to the MVLWB in support of the Engagement Plan and Engagement Log required as part of the Water Licence application.

ENGAGEMENT OBJECTIVES

The engagement process was guided by the following objectives:

- To increase stakeholder and public understanding of the City's role in providing water and sewage services including financial, operational and regulatory considerations;
- To increase confidence that the City's Water Licence will protect public safety and minimize impacts to the surrounding land, water and environment;
- To improve the overall quality and thoroughness of the City's application; and
- To fulfill the MVLWB requirements for pre-application engagement.

WHO WAS INCLUDED IN ENGAGEMENT

The City of Yellowknife took a broad approach to engagement, reaching out to residents of Yellowknife, as well as the following groups and organizations:

- Yellowknives Dene First Nation (YKDFN)
- North Slave Métis Alliance (NSMA)
- Yellowknife Ski Club (nearby lease holder)
- Tłı̨chǫ Government
- Northwest Territory Métis Nation
- Mountain Island Métis
- Crown-Indigenous Relations and Northern Affairs Canada (NWT Region)
- GNWT Municipal and Community Affairs

METHODS OF ENGAGEMENT

The City of Yellowknife took a proactive and comprehensive approach to engagement, which included:

- Early and direct notification to all stakeholders of the City's intention to apply for renewal of the Water Licence This was done by phone and email, as well as a media advisory;
- Early and repeated public notification via the City's communications vehicles (i.e. Capital Update, Facebook page);
- Sharing of plain language information and materials on the City's dedicated Water Licence Renewal web page and direct notification to all stakeholders each time new materials were made available;
- Public virtual information session via GoToMeeting;
- Meetings offered to all stakeholders upon request (*only NSMA requested a meeting*); and
- Online engagement via PlaceSpeak platform, including an engagement survey.

The following table provides a high-level summary of engagement activities.

Activity	Details	Timing
Notification	Phone calls	April 16-17, 2020
	Formal letter via email	May 8, 2020
	Media advisory	Aug. 7, 2020
	Notices in Capital Update	Weekly from Aug. 7 to Sept. 18 PlaceSpeak survey notice: Oct. 2 & 9, 2020
Public information about licence	Web page launched **email notification to all stakeholders* https://www.yellowknife.ca/en/city-government/water-licence-renewal.asp	Aug. 7, 2020
	Plain language factsheets **email notification to all stakeholders for each posting*	*Overview:* Aug. 7, 2020 *Water Treatment and Solid Waste Management:* Aug. 20, 2020 *Stormwater and Wastewater:* Sept. 3, 2020 *Spill Contingency:* Sept. 30, 2020
Engagement meetings	Virtual public information session	Sept. 15, 2020
	Stakeholder session with NSMA Board of Directors	Sept. 29
	PlaceSpeak engagement and survey	Sept. 30 to Oct. 16, 2020

ENGAGEMENT TOPICS

Public information and engagement materials broke water licence information down into the following broad topic areas:

- Overview
- Water treatment
- Solid waste (i.e. landfill, hazardous waste, compost facility, etc.)
- Stormwater
- Wastewater (i.e. sewage)
- Spill contingency

In all cases, the City offered plain language background information, as well as more detailed summaries of key points in the licence application documents in each area. In addition, all draft licence documents were posted to the City's website for review on a dedicated Water Licence page.

The Water Licence documents described and shared through the engagement process were:

- Water Treatment Plant Operation and Maintenance Manual: Describes in detail the water supply, treatment (chemical/physical) processes, waste ("residuals") treatment/disposal and related instrumentation and automation controls used at the Water Treatment Plant (WTP). The manual also provides information on how waste from the water treatment process is managed and the relationship between the WTP and the City's wastewater collection and disposal facilities.
- Solid Waste Facility Operations and Maintenance Manual: Details the procedures to properly operate and maintain the Solid Waste Facility (SWF) in a manner that limits the impact to the environment and nuisances (e.g. smells, attracting animals, etc.). This includes procedures for disposal of waste materials generated in the City of Yellowknife, leachate management, and monitoring requirements. There are also inspection and maintenance requirements to maintain an organized and clean site that functions as designed.
- Hazardous Waste Management Plan: Describes what types of hazardous materials are accepted and not accepted at the SWF. It also describes the associated health and environmental hazards for the accepted hazardous waste, and the methods for managing, handling, and storing the material prior to sending it to an appropriate disposal facility.
- Compost Facility Operations and Maintenance Manual: Details the procedures to properly operate and maintain the Compost Facility in a manner to produce a high-quality final product, while limiting the impact to the environment and nuisances. This includes procedures for managing and testing materials through the composting process, management of generated leachate, and monitoring requirements. There are also inspection and maintenance requirements to maintain an organized and clean site that functions as designed.

- Solid Waste Facility Closure and Reclamation Plan: Describes the procedures for the closure of the landfill as waste reaches the designed height. Closure includes the construction/ installation of a cover system that is designed to reduce water infiltration to prevent leachate being produced. The City is required to show how it plans to deal with the leachate from its landfill over the long term and reduce impacts to the environment as well as prevent human exposure to waste. The plan also includes the requirements for cleaning up the site during closure and monitoring of the facility for any potential impacts to the surrounding environment.
- Solid Waste Facility Interim Groundwater Monitoring Plan: Describes the present groundwater monitoring activities undertaken by the City. The City has installed multiple groundwater monitoring wells at the SWF to monitor potential impacts to groundwater as it relates to landfill activities. This activity is intended to mitigate contamination off-site.
- Stormwater Management Plan: Describes the City's infrastructure that collects and diverts rainwater and snow melt ("stormwater"), the maintenance of this infrastructure, and the City's strategies to minimize urban stormwater impacts on the environment. Key components of this plan are pollution control measures, public education programs, and a stormwater monitoring program.
- Sewage Disposal Facilities Operations and Maintenance Manual: Provides information to assist City personnel with the operation and maintenance of the Yellowknife wastewater facilities, which includes the wastewater collection pipe system, wastewater pumping/lift stations, and the Fiddler's Lake Treatment System (FLTS), which includes a facultative lagoon and a wetland system. The manual also includes trucked waste, "honey bag" and animal waste management information. Requirements and guidance for the sampling and monitoring program, record keeping, safety procedures, FLTS site access control, and emergency response are also included.
- Fiddler's Lake Treatment System Management Plan: Describes the FLTS elements, current effluent requirements and objectives, and actual effluent quality relative to these needs. Water quality trends and other observations in the effluent receiving environment are discussed, which are used to inform proposed changes to effluent quality requirements and objectives, water quality triggers and thresholds, and Surveillance Network Program requirements. FLTS contingency planning is also discussed, highlighting actions the City could take if required.
- Spill Contingency Plan: Provides a clear response plan in the event of an unplanned release of any potentially harmful materials from the City's operations and infrastructure.

PARTICIPATION

Public and stakeholder engagement was relatively modest overall.

- One person attended the virtual information session (indicating they were associated with both the Yellowknife Ski Club and the Latham Island Community Association).
- While most stakeholder groups the City confirmed receipt of the information provided, only the NSMA requested an engagement meeting.
- Five residents filled out the PlaceSpeak survey.
- The City's Water Licence web page was viewed 645 times (429 unique views)
- No written submissions were received.
- No media inquiries were received.

FINDINGS

Though participation in public and stakeholder engagement opportunities was modest, the City did receive positive feedback and valuable input. Comments from both the public information session and the NSMA session indicated that the City's presentation materials were clear and comprehensive. Participants in these sessions were engaged and asked a number of questions, but did not indicate they had any significant concerns related to the Water Licence application.

Key areas of interest during these sessions were:

- the quality and testing of the water drawn from the Yellowknife River and Yellowknife Bay;
- surface water and groundwater monitoring;
- the future of the landfill facility;
- elevated levels of phosphorus and ammonia in the Fiddler's Lake Treatment System; and
- plans, costs and details of the replacement of the submarine water pipeline from the Yellowknife River.

The engagement survey results were more varied. While two respondents showed moderate to high confidence in the City's water and waste management, others expressed low, to very low confidence. Areas where confidence was lower and concerns were expressed included:

- management of the solid waste facility (hazardous waste, closure and reclamation, and groundwater monitoring);
- sampling and monitoring activities (stormwater, effluence, groundwater);
- some aspects of the Fiddler's Lake Treatment System (infrastructure, phosphorous and ammonia); and
- some aspects of spill contingency.

When asked how the City should prioritize considerations for upgrades and investments in its water treatment and waste management systems in the future, all respondents ranked "Adopt current best practices" highest. Other considerations that ranked highly were: "Limit potential negative impacts on the environment" and "Anticipate future pressures and needs". Considerations like "limiting additional cost to taxpayers" and "limiting potential nuisances" ranked lower.

The following provides more detail on the outcomes of each engagement activity.

Public session

The City gave a presentation covering all the main aspects of the Water Licence application and key areas of potential interest. The presentation is posted to the City's Water Licence webpage for reference.

- The participant had questions in the following areas:
    - Details on the plan to replace the submarine water pipeline from the Yellowknife River, which is not a subject of the Water Licence per se, but a topic of general interest;
    - Details of testing of water coming into the system at the Water Treatment Plant, especially for arsenic;
    - Long-term plans for the landfill;
    - Spring "die off" of trees observed near the new Highway 4 entrance and what might be causing it;
    - Locations and frequency of sampling of surface water and groundwater monitoring wells at the Yellowknife Ski Club;
    - Results of stormwater outflow sampling at Niven Lake; and
    - Levels of phosphorus and ammonia in the Fiddler's Lake Treatment System (wastewater).
- Most questions raised were answered to the satisfaction of the participant and some were not directly related to the Water Licence itself. No issues were raised during the public meeting which were significant to the content of the Water Licence application documents.

NSMA session

The City gave the same presentation as the public session, covering all the main aspects of the Water Licence application and key areas of potential interest.

- The participant had questions in the following areas:
    - Details around Yellowknife's water sources and Water Treatment Plant;
    - Details around the leak in the Water Treatment Plant reservoir;
    - Details on the plans for the replacement of the submarine water pipeline from the Yellowknife River, including costs, pipe diameter and how water will be pumped through the pipeline;
    - How contaminated soil is treated;
    - Details related to Solid Waste Facility operations and composting services;
    - Future plans for the Solid Waste Facility and when it is expected to reach capacity;
    - Algae growth at Jackfish Lake and whether it is related to the Solid Waste Facility;
    - Capacity of Fiddler's lagoon and treatment system;
    - Details about plans for desludging the lagoon;
    - Whether the City may need to consider moving to a sewage treatment plant; and
    - Back up power at lift stations.
- Participants showed strong a strong understanding of key Water Licence topics. The questions raised prompted some good discussion and the City benefited from the NSMA input.
- No issues were raised which were significant to the Water Licence application documents.

Engagement survey

The PlaceSpeak online survey was completed by five respondents, though only four respondents answered the majority of the survey questions (one respondent answered only a handful of questions). While these numbers are too low to extrapolate to the broader population, they do provide some useful insights in to how a few engaged residents feel about the City's water and waste management systems

The following summarizes the feedback received.

Water and waste management systems overall

- Respondents indicated they had a moderate to high level of understanding of most of the components of the City's water and waste management system. The only exception was spill contingency, where two participants indicated they did not feel well informed.
- Two respondents indicated they were "very confident" in the City's overall management of its water and waste water systems, while one respondent indicated they were "somewhat confident", and one indicated they were "not very confident". Notably, those who said they felt very informed also said they were very confident, while the two who felt less informed also expressed less confidence throughout the survey.
- Only one respondent indicated a top-of-mind concern about how the City manages its water and waste systems, mentioning *"the deterioration of the pipe system to Fiddler's Lake Lagoon".*
- When asked how the City should prioritize considerations for upgrades and investments in City water treatment and waste management systems, all four respondents ranked "Adopt current best practices" highest. Other considerations that ranked highly were: "Limit potential negative impacts on the environment" and "Anticipate future pressures and needs". Considerations like "limiting additional cost to taxpayers" and "limiting potential nuisances" ranked lower. One participant added that following regulations should be a key factor in these decisions.

Water treatment components of the Water Licence

- Respondents indicated they felt somewhat to very informed on this component.
- Two respondents indicated they were "very confident" in the City's management of water treatment, while two respondents indicated they were "somewhat confident".
- Participants indicated they had concerns in the following areas (from a menu), but did not provide additional details on those concerns:
    - → Concerns about how much water the City can draw from the Yellowknife River and/or Great Slave Lake (2)
    - → Concerns about water quality monitoring of water coming into the system from local water bodies (1)
    - → Concerns about waste produced by treatment of water (1)
    - → Concerns about reporting requirements for the Water Treatment Plant (1)
- One respondent provided feedback on the *Water Treatment Plant Operation and Maintenance Manual*, indicating that the emergency response contact list should include 911 and noting that the document *"seems very cumbersome, will it actually be used by any operators?".*

Solid waste management components of the Water Licence

- Respondents indicated they felt somewhat to very informed on this component.
- They expressed less overall confidence in the City's management of solid waste, with one respondent indicating they were "very confident", one indicating they were "somewhat confident", and 2 indicating they were "not very confident".
- Confidence levels were similar for most of the sub-components of solid waste management (i.e. hazardous waste, closure and reclamation and groundwater monitoring), but were slightly more positive in relation to management of the composting facility.
- Participants indicated they had concerns in the following areas (from a menu), but did not provide additional details on those concerns:
    - → Concerns about expansion or modifications to the landfill cells (2)
    - → Concerns about monitoring locations and requirements for leachate, surface water, groundwater, or landfill gas (2)
    - → Concerns about hazardous waste acceptance and handling (1)
    - → Concerns about plans for closure and reclamation of solid waste facilities (1)
- One respondent provided feedback on the series of draft documents associated with the solid waste management components of the Water Licence. This was a positive comment: *"Everything seems very detailed and well thought out".*

Stormwater management components of the Water Licence

- Respondents indicated they felt somewhat to very informed on this component.
- They expressed limited confidence in the City's management of stormwater (one "very confident", one "somewhat confident", one "not very confident" and one "not sure").
- Participants were asked how confident they were in different aspects of the City's stormwater management and responses were split.
    - → For use of bylaws, pollution control measures and public education to minimize potential impacts of the City's stormwater on the environment, two participants indicated they were "confident" or "very confident" in this aspect of stormwater management, while two indicated they were "not very confident". The responses were similar for the City's management of stormwater monitoring and reporting requirements.
    - → In regards to sampling of stormwater, two respondents indicated they were "not sure", one indicated they were "not very confident" and one indicated they were "confident".
- However, participants did not demonstrate a high level of concern about the potential impacts of stormwater on the environment (one "not at all concerned", two "not very concerned" and one "somewhat concerned").
- Nor did they show strong support for investing in stormwater treatment (two "do not support", one "not sure", and one "support"). Participants provided the following comments to explain their perspectives:
    - → *"Unless there is some overwhelming evidence to support it, I would think treating stormwater is a waste of money."*
    - → *"Not sure what the impacts are - if it's a moderate pollutant, then fully support the City investing in the treatment of stormwater."*
- No respondents provided feedback on the draft *Stormwater Management Plan*.

Wastewater management components of the Water Licence

- Respondents indicated they felt somewhat to very informed on this component.
- They indicated varying degrees of confidence in the different aspects of the wastewater management system.
    - → Operations and maintenance of sewage disposal facilities (one “very”, two “somewhat”, and one “not very”)
    - → Meeting requirements for the quality of treated water ("effluent") discharged into the environment (one “very”, one “confident”, one “somewhat”, and one “not very”)
    - → Sampling and monitoring (two “confident”, one “not very” and one “not sure”)
    - → Monitoring and maintenance of dykes and dams in the Fiddler's Lake Treatment System (one “very”, one “somewhat” and two “not very”)
    - → Elevated levels of phosphorus and ammonia in the wastewater treatment system (one “very”, one “confident”, two “not very”)
    - → Sludge management (two “confident”, two “not very”)
- Only one participant indicated they had a concern in one of the listed areas (from menu): “Concerns about operations and maintenance of sewage disposal facilities”.
- No respondents provided feedback on the series of draft documents associated with the wastewater management component of the Water Licence.

Spill contingency components of the Water Licence

- Respondents did not feel as well informed on this topic than others. One participant said they did “not feel very well informed” and one indicated they “did not feel at all well informed”.
- Respondents indicated varying degrees of confidence in the different aspects of the spill contingency system.
    - → Sewage spills from forcemains, lift stations, and Fiddler's Lagoon structures (one “very”, one “confident”, one “somewhat” and one “not very”)
    - → Fuel and gasoline spills from aboveground and underground storage tanks at all City sites (two “very”, one “somewhat”, and one “not very”)
    - → Waste oil storage spills from the tank at the Baling Facility or the City Garage (two “very”, one “somewhat” and one “not very”)
    - → Sodium hypochlorite spills from the pump houses or Water Treatment Plant (two “very”, one “somewhat”, two “not very”)
    - → Chlorine gas spills at the pool (one “very”, one “somewhat” and two “not very”)
    - → Other types of chemical spills at City facilities (one “very”, one “confident” and two “not very”)
- Only one participant indicated they had a concern in one of the listed areas (from menu): “concerns about sewage spills from forcemains, lift stations, or Fiddler's Lagoon structure”.
- Only one respondent provided feedback on the draft Spill Contingency Plan. This was a positive comment: *“Well thought out and well written”.*