Winnipeg | Water and Waste
Eaux et déchets

# NEWPCC Upgrade Audit – Management Response: Strategic Plan Summary

The Public Service is committed to continuously improving processes and procedures to ensure the successful delivery of our North End Sewage Treatment Plant (NEWPCC) Upgrade projects.

## NEWPCC Upgrade Project Background

NEWPCC is the City's oldest and largest sewage treatment plant. First commissioned in 1937, it provides 70 percent of the city's wastewater treatment and 100 percent of the biosolids treatment.

The NEWPCC Upgrade is composed of a series of large- and small-scale capital projects. The three main projects are collectively referred to as:

- NEWPCC Upgrade: Power Supply and Headworks Facilities (Headworks)
- NEWPCC Upgrade: Biosolids Facilities (Biosolids)
- NEWPCC Upgrade: Nutrient Removal Facilities (Nutrient Removal)

Upgrades to NEWPCC are largely regulatory driven and, when complete, will be the largest infrastructure investment the City has ever made. Without upgrades to NEWPCC, the City will be unable to meet Provincial Environment Act Licence requirements, and will be limited in its growth and economic development. It is critical these upgrades succeed. The Public Service is committed to implementing the audit recommendations.

## Strategic Implementation of Audit Recommendations

The audit confirmed that the NEWPCC Upgrade projects comply with all Council and administratively mandated policies, governance, and reporting. However, it also identified the City needs to adopt leading industry project management and project governance practices to reduce risk in delivery of mega projects. This means doing things the City has never done before.

The Water and Waste Department (WWD) and the Assets and Project Management Department (APM) will work towards implementing all agreed-to recommendations for these important projects. As noted in the audit findings, the Winnipeg Sewage Treatment Program (WSTP) and APM are currently understaffed. Due to this, we need to be strategic and realistic about how the audit recommendations will be implemented. This ensures that project delivery remains the priority, and more risks are not added to the projects by focusing only on the audit recommendations.

Some of the recommendations can be addressed quickly; many have already been actioned. Some of the recommendations require significant changes to existing City governance structures and policies. These changes will take time, and may need Council approval. Other recommendations are more strategic in nature and more internal and/or external resources will be needed to implement them. Although we are already taking steps to implement the audit recommendations, realistically, it will take two or more years to implement them all.

Each of the three main NEWPCC projects are at different phases in the project lifecycle. We will have to tailor the implementation of the audit recommendations to each project.

ENGINEERING SERVICES DIVISION
110-1199 Pacific Avenue, Winnipeg, Manitoba R3E 3S8
DIVISION DES SERVICES D'INGÉNIERIE
1199, avenue Pacific, Porte 110, Winnipeg (Manitoba) R3E 3S8
T. | Tél. : 204-986-7550
F. | Fax : 204-224-0032
winnipeg.ca

1. Headworks Facilities
   Current project phase: Construction
   Planned completion date: March 2026

   With the Headworks project currently in construction, and scheduled for completion in March 2026, WWD will strive to implement the recommendations that will add the most value, without adding new risk to the project. The project is being delivered using a design build model, with a contract already in place. Implementing some of the audit recommendations at this point could add costly change orders, and introduce unnecessary risk to the project.

2. Biosolids Facilities
   Current project phase: Development/Design
   Planned completion date: Q4 2030

   The Biosolids project is using a progressive design build model, and we have not yet entered into the final construction contract. As a result, many of the audit recommendations and lessons learned from the Headworks project can be applied. WWD is working with the development partner towards the final construction contract for Biosolids; this provides a natural deadline for having most audit recommendations implemented. During this time, WWD and APM will work together to address the recommendation that creates a unique governance structure for the project. Having actual project deadlines brings accountability to making these audit recommendations a reality.

3. Nutrient Removal Facilities
   Current project phase: Pre-procurement
   Planned completion date: Regulated date of 2030

   With the Nutrient Removal project still in the planning stages, there's a greater opportunity to implement audit recommendations, and gain lessons learned from the other two major NEWPCC projects.

**Key Themes and Roadmap to Address Audit Recommendations**

We have identified four key themes in the audit report. By addressing these themes, the City will have a strategic roadmap that will allow it to implement the audit recommendations and ensure best value for money. This will better align the City with current best practices for managing mega projects. The four key themes are:

1. Governance
2. Resources and Capacity
3. Risk
4. Communication

1. Governance
   The strategy for implementing the Governance-related recommendations includes making changes to several Council policies, Administrative Standards and procedures. Given the

magnitude of these changes, some of which are subject to Council approval, it could take several years to fully implement all the governance recommendations.

As an interim measure to streamline project approvals, WWD will request new project-specific delegation of authority, within Council-approved budget. This will immediately reduce risk to the ongoing Headworks construction and Biosolids development contracts, while changes to the other policies, standards, and procedures are underway.

Project oversight by Audit and APM will also be enhanced across all major capital projects. This will provide more project assurance, and help identify potential issues early, reduce risk, and improve public confidence.

Key actions required to address this theme include:

- Revising applicable City documents, including, but not limited to:
    - F1-003 Purchasing Policy
    - F1-011 Asset Management Policy
    - FI-003 Materials Management Policy
    - FM-002 Administrative Standard - Supplemental to the Purchasing Policy
    - FM-004 Administrative Standard - Asset Management
    - Project Management Manual
- Where applicable, developing NEWPCC specific guidance documents, such as escalation protocols and defining stage gates
- Streamlining approvals for the NEWPCC projects through a delegation of authority reports
- Hiring internal staff to undertake project assurance for major capital projects
- Engaging external resources to audit a key element of the NEWPCC Upgrade projects every one to two years

The detailed Management Responses related to Governance can be found in Section 4. The audit recommendations addressed under the Governance theme include: 1a, 1b, 2, 3, 4, 5, 6, 11, 12, 13, 17, 24, 32, 40.

2. Resources and Capacity

The audit report highlighted a critical lack of resources for successful delivery of the NEWPCC Upgrades. While WWD has already begun to address this concern, more staff are required to build up the team. Recruiting qualified and experienced team members is a challenge in the current job market. Addressing this may require creative solutions to retain key project leaders, to reduce knowledge lost through transitions and ensures project momentum is maintained.

Hiring more third-party resources to help fill gaps, such as external communication and claims consultants, will also bolster team capacity. Our strategic partner, Veolia, will also be used to add capacity in specialty positions, such as Contract Interface and Risk Managers. Although more capital funding will be needed for these extra resources, WWD believes they will significantly reduce the City's risk exposure, and enhance project success.

Key actions required to address this theme include:

- Requesting Council approval for more resources, to be funded from the NEWPCC Upgrade capital project budgets. Two positions are expected to be temporary WWD staff. Three will be augmented by new Veolia resources. Three will be added through new consultant service contracts.
    - This will require a capital budget amendment for Headworks and Biosolids.
    - Additional funds will be included in the updated Nutrient Removal cost estimate.
- Providing additional internal training on risk management and the alternative delivery models used for the NEWPCC projects
- Developing alternative delivery model awareness training for key stakeholders

The detailed Management Responses for Resources and Capacity can be found in Section 4. The audit recommendations addressed under the Resources and Capacity theme include: 14, 21, 27.

3. Risk

The need to manage risk more actively and effectively is a key finding of the audit. WWD had already identified this as a need before the audit. The WSTP began evaluating newly-developed Veolia risk software in June 2024. This tool enables the Project Team to run various risk/probability simulations, develop contingency amounts, and manage contingency drawdowns through the life of the project. It also helps identify top risks. This tool has recently been adopted, and will be used for both the Biosolids and Nutrient Removal projects to improve risk management. Given the stage of Headworks, the existing risk register will still be used, with an increased frequency of monitoring the risks and contingency budgets.

WWD also recognizes the importance of a Risk Management Plan (RMP) that reflects the complexity and size of a project, in order to adequately identify, manage and mitigate potential project risks. To improve on the existing Headworks RMP, WWD has already engaged a third-party consultant to work with the Project Team and ensure it is fit for purpose. RMPs will also be developed for Biosolids and Nutrient Removal.

A dedicated Risk Manager will be hired to manage risk across all NEWPCC projects. Adding this position will ensure the WSTP has the resource capacity to monitor risk to the level of detail required on mega projects (this resource is included in theme 2. Resources and Capacity).

Key actions required to address this theme include:

- Completing the implementation of the risk tool for Biosolids and Nutrient Removal
- Increasing the frequency of risk monitoring for all projects
- Continuing to work with the third-party resource engaged to enhance the Headworks RMP and develop RMPs for Biosolids and Nutrient Removal

The detailed Management Responses related to Risk can be found in Section 4. The audit recommendations addressed under the Risk theme include 14, 22, 25, 26, 27, 28, 29, 30, 31

4. Communication

The recommendations related to the Communication theme are divided into three topics – reporting, documentation, and public communication.

i. Reporting

The NEWPCC projects comply with all City mandated reporting. However, the current best practice for mega projects is to go beyond what the City mandates. To improve reporting, WWD is developing a project dashboard, complete with all information necessary to enable decision makers of all levels to make fully informed decisions. Having this single source of truth will also build trust and transparency with City Council and the public. WWD has already begun work to implement this audit recommendation. The Project Team is reviewing dashboard options, and has started reviewing key objectives and performance indicators to include in the reporting. This could include a variety of metrics, such as budget, schedule, earned value, scope, safety, reputation, key project risks and mitigation strategies.

ii. Documentation

The audit identified some areas for improved documentation. The Project Team will develop the following plans, as required, based on the stage that each project is in:

- Contract Interface Management Plan
- Claims Management Plan and Claims Avoidance Strategy
- Internal Stakeholder/Organizational Change Management Strategy
- Contract Management/Administration Plan
- Training and Onboarding Plan

Due to limited resources, some documents were also identified as outdated, or complete information was located over more than one document. These include Organization Charts, RACI Matrices, and Change Logs. The Project Team will update the documents in the respective Project Plans. All changes are currently underway, and will be completed by the end of Q1 2025.

iii. Public Communication

Public Communication is a critical part of any mega project. Due to a lack of resources, this area has been underdeveloped. WWD will work with department and corporate communications to engage a third-party communication consultant to develop a communication strategy and plan, and to provide communication services on an as-required basis.

During the Headworks project, WWD identified the importance and the impact the NEWPCC projects have on the Indigenous community. In February 2024, an Indigenous Liaison was retained, and a draft Indigenous Communities communication plan was developed. It is currently under review. WWD continues to take steps toward improving its communication with Indigenous peoples, and is currently hiring a dedicated resource to support this important initiative.

Council also directed WWD to take steps towards including social procurement on Biosolids and Nutrient Removal. These projects will be the first mega projects at the City to incorporate

social procurement. The Biosolids social procurement plan is being developed as part of the development phase. The Project Team is currently adding resources to ensure there is enough support for this critical endeavour.

Key actions required to address this theme include:

- Defining key objectives and metrics to include in the dashboard
- Implementing the dashboard for Biosolids and Nutrient Removal
- Developing strategic project plans and ensuring important documentation is up-to-date
- Engaging a third-party communications consultant
- Formalizing Indigenous communication and social procurement plans

The detailed Management Responses related to Communication can be found in Section 4. The audit recommendations addressed under the Communication theme are:

- Reporting: 7, 8, 9, 10, 29, 36, 37, 38
- Documentation: 15, 16, 18, 19, 20, 23, 33, 34, 35, 39, 41, 42
- Public Communication: 43, 44a, 44b

We are committed to implementing all agreed upon audit recommendations. This is a significant goal that will require a lot of effort and collaboration across many different departments. The City remains dedicated to improving its major capital projects processes and procedures to ensure the success of its NEWPCC Upgrade projects.

T. W. Shanks, M. Eng., P. Eng.
Director
Water and Waste Department

G. K. Patton, P. Eng.
Director
Assets and Project Management