

# COUNCIL REPORT

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Date: August 28, 2024  
File: 2.10.2.5.2/9.2.1  
To: Warren Waycheshen, CAO - for Mayor and Council  
From: Sue-Lin Tarnowski, Director of Finance  
Re: District of Kitimat Water Treatment System Loan  
Authorization Bylaw No. 2058, 2024  
Applicant: n/a  
Location: n/a

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## **Recommendation:**

Action: Council consider Bylaw No. 2058, 2024 for the first three readings

## **Recommended Motion:**

**THAT District of Kitimat Water Treatment System Loan Authorization Bylaw No. 2058, 2024 be given first, second and third readings.**

## **Background:**

### Water Treatment System

Our existing water supply system does not meet today's water quality standards and experiences occasional water quality advisories, which is a key driver to modernize it. In 2017, a Public Health Engineering (PHE) Report was issued to the District outlining numerous drinking water treatment concerns. It was clearly identified in the PHE Report that the District is consistently not meeting the majority of the Surface Water Treatment Objectives in BC, which is not acceptable and poses a public health risk to the community. Since 2017, there have been more than twelve (12) water quality advisories issued to the District, ranging from days to weeks in duration.

The Water System Upgrade project integrates new infrastructure into the existing water treatment system to align with the 4-3-2-1-0 rule for community water standards outlined under the Drinking Water Protection Act. The project will utilize the existing conveyance and water storage but will address shortfalls in meeting current regulatory requirements by constructing a new water treatment building on DOK owned land situated above the 200-year flood level. The new building will provide automated municipal water operations that will apply chemical conditioning, additional filtration, and UV disinfection in the treatment of municipal water which will achieve the mandated 4-3-2-1-0 rule and improved water quality for Kitimat. The upgraded system will provide a long-term, sustainable disinfection system that will improve Kitimat water quality. The 4-3-2-1-0 rule is broken down as:

4 – 99.99% removal of viruses and bacteria (4 log removal); achieved through UV & chlorination treatment;

3 – 99.9% removal of giardia and cryptosporidium (3 log removal); achieved through UV (filter provides an additional 0.5 log credit);

2 – Dual (2) Treatment Process (multi barrier approach); achieved through filter & chlorination treatment;

1 – Limit for solids in water - under 1 NTU; achieved through filter and chemical treatment; and

0 – E-coli and coliforms (0 count); achieved through chlorination treatment.

*Design Objectives:*

Key design objectives for the Water Treatment Upgrade project:

- Water treatment system is compliant with 4-3-2-1-0 rule;
- Meets demand for a population of 11,700;
- Increases alkalinity and raises treated water pH by addition of soda ash treatment;
- New treatment plant building is designed to Post Disaster standards;
- New treatment plant building elevation is above the 200 year flood level;
- Considerations for future system expansion if turbidity exceeds treatment plant capacity or water demand exceeds average or maximum day design flows.

The Water Treatment System upgrades are expected to be commissioned in 2026.

Staff will be providing a general project update during the Council meeting of September 3, 2024. The presentation is attached to this report.

More information on the Water Treatment Upgrade Project and timeline is available on Get Involved Kitimat [here](#).

Funding:

The District applied for two grants. We were successful in securing the Canada-British Columbia Investing in Canada Infrastructure Program – Green Infrastructure for \$5,991,061. We were unsuccessful with the other grant. Reserve funds and funding through the Northwest BC Regional Funding Agreement (formerly Resource Benefits Alliance) can be allocated to this project. Staff is presenting for Council consideration the budget for Water Treatment Plant (as of August 2024) noting funding sources:

<b>Water Treatment Plant – Updated Budget (as of August 2024)</b>	
Construction Budget	\$23,700,000
Design	\$ 700,000
<b>Total</b>	<b>\$24,400,000</b>
<b>Funding</b>	
Canada-British Columbia Investing in Canada Infrastructure Program – Green Infrastructure Grant	\$ 5,991,061
DoK funding – reserves and taxation	\$ 2,112,059
Northwest BC Resource Benefits Alliance fund	\$ 2,800,000
<b>Total Funding</b>	<b>\$10,882,561</b>
<b>Funding Shortfall</b>	<b>\$13,496,880</b>

A municipality has the authority to borrow funds for capital projects through the Municipal Finance Authority (MFA), subject to specific procedures and limitations. If a municipality is within 5% of its annual liability servicing limit, referred to as the assent-free or approval-free zone, it may authorize borrowing through a bylaw without needing approval from the electors. However, if the municipality intends to borrow beyond the 5% threshold, it must obtain approval from the electors. This approval can be sought through an Alternative Approval Process or a Referendum, both of which involve associated costs and require additional time for bylaw consideration.

For this project, the District of Kitimat is within the District's assent-free borrowing limit that does not require electoral approval.

Staff is presenting for Council consideration the District of Kitimat Water Treatment System Loan Authorization Bylaw No. 2058, 2024. This bylaw proposes that the District borrow up to \$13,500,000 through a program administered by the Municipal Finance Authority. The loan will initially be structured as temporary borrowing during the construction of the project and will be converted to long-term borrowing upon its completion.

If the bylaw receives three readings at this meeting, it will be forwarded to the Inspector of Municipalities for approval, which is expected to take approximately six to eight weeks. During this period, the Ministry will review the District's liability servicing limits and issue Statutory Approval. After receiving this approval, staff will present the bylaw for adoption consideration.

Staff project the loan funding will be required by Spring 2025 and have attached the Borrowing Flow Chart for reference.

**Alternative Options:**

1. Another option as developed through discussion of Council.

**Budget Implications:**

The interest and debt repayment will form part of future budgets. "SLT"  
\_\_\_\_\_  
Director of Finance Initials

**Budgeted:**

**Unbudgeted: x**

**Council Initiative/Other Relevant Plans:**

**Strategic Plan (2023-2026)**

Strategic Priority 4  
Infrastructure, Services and Human Resources

- Complete the water system upgrade

**District of Kitimat and Haisla Council Friendship Agreement - gi guálap' ni**

Not Applicable

**Community Energy and Emissions Plan**

Not Applicable

**Housing Action Plan and Needs Assessment**

Not Applicable

**Kitimat Age-Friendly Assessment Report and Action Plan**

Not Applicable

**Kitimat Cycle Network Plan**

Not Applicable

**Kitimat Poverty Reduction Strategy**

Not Applicable

**Leisure Services Master Plan**

Not Applicable

**Minette Bay West Concept Plan**

Not Applicable

**Official Community Plan (and Downtown Design Guidelines)**

Not Applicable

**Solid Waste Action Plan**

Not Applicable

**Water Conservation Plan**

- 4. Conservation Objectives
  - 4.3 Potential Cost of New Supply Infrastructure to meet future demand

**BC Transit Future Services Plan**

Not Applicable

**Economic Development Strategic Plan (2023-2029)**

Not Applicable

"Sue-Lin Tarnowski"

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Submitted by  
Sue-Lin Tarnowski, CPA, CMA  
Director of Finance

"Warren Waycheshen"

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Approved for Submission  
Warren Waycheshen, CAO

Attachment(s): A – District of Kitimat Water Treatment System Loan Authorization Bylaw No. 2058, 2024  
B – Long Term Borrowing Flow Chart  
C – Water Treatment Project Update Presentation

DISTRICT OF KITIMAT

BYLAW NO. 2058, 2024

A BYLAW TO AUTHORIZE THE BORROWING FOR THE DISTRICT OF KITIMAT WATER TREATMENT SYSTEM.

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WHEREAS it is deemed desirable and expedient to upgrade the Kitimat Water Treatment System.

AND WHEREAS the estimated cost of the upgrade including expenses incidental thereto is the sum of twenty-four million four hundred thousand dollars (\$24,400,00.00), of which the sum of thirteen million five hundred thousand dollars (\$13,500,000) is the amount of debt intended to be borrowed by this bylaw;

NOW THEREFORE, the Council of the District of Kitimat in open meeting assembled, enacts as follows:

1. This bylaw may be cited as “District of Kitimat Water Treatment System Loan Authorization Bylaw No. 2058, 2024”.
2. The Council is hereby empowered and authorized to undertake and carry out or cause to be carried out for the process equipment supply, construction and commissioning of the Kitimat Water Treatment System generally in accordance with general plans on file in the municipal office and to do all things necessary in connection therewith and without limiting the generality of the foregoing:
  - a) To borrow upon the credit of the Municipality a sum not exceeding thirteen million five hundred thousand dollars (\$13,500,000).
  - b) To acquire all such real property, easements, rights-of-way, licenses, rights or authorities as may be requisite or desirable for or in connection with the process equipment supply, construction and commissioning of the Kitimat Water Treatment System.
3. The maximum term for which debentures may be issued to secure the debt created by this bylaw is thirty (30) years.
4. This bylaw shall take effect and be binding upon all persons from the date of adoption.

READ a first time this	day of	, 2024
READ a second time this	day of	, 2024
READ a third time this	day of	, 2024
MINISTERIAL APPROVAL	day of	, 2024
FINALLY ADOPTED this	day of	, 2024

MAYOR

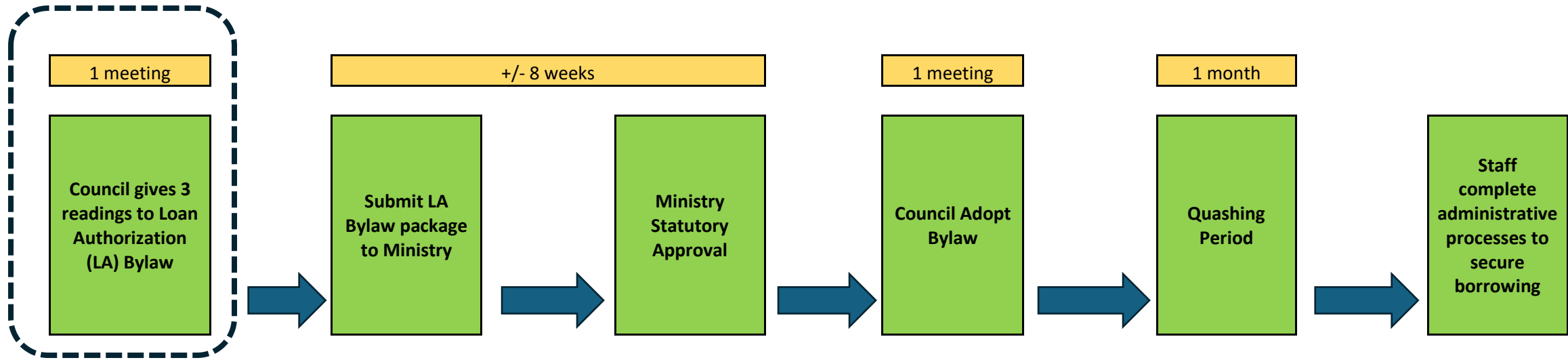
CORPORATE OFFICER

\_\_\_\_\_  
Philip Germuth

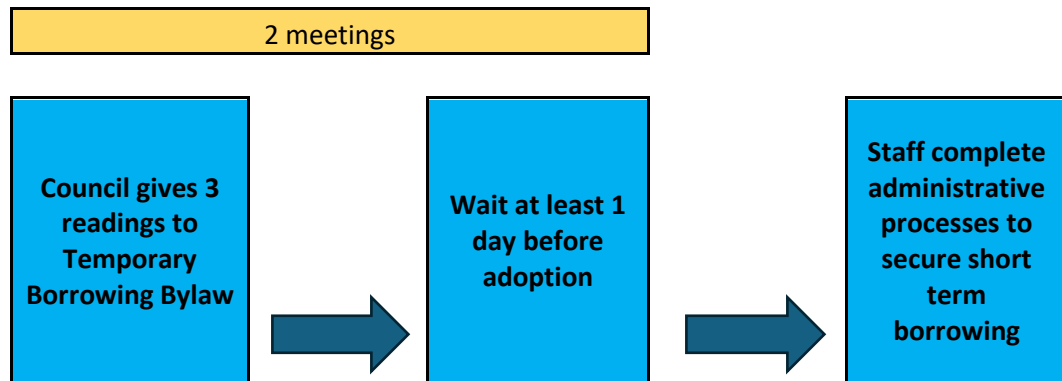
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Tracy Tavares

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### LONG TERM BORROWING FLOW CHART



#### Temporary borrowing:



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## **Water Treatment Upgrade Project – Loan Authorization Bylaw September 3, 2024**

# Water Treatment System Upgrade

Purpose: Comply with 4-3-2-1-0 rule for community water standards outlined under the Drinking Water Protection Act

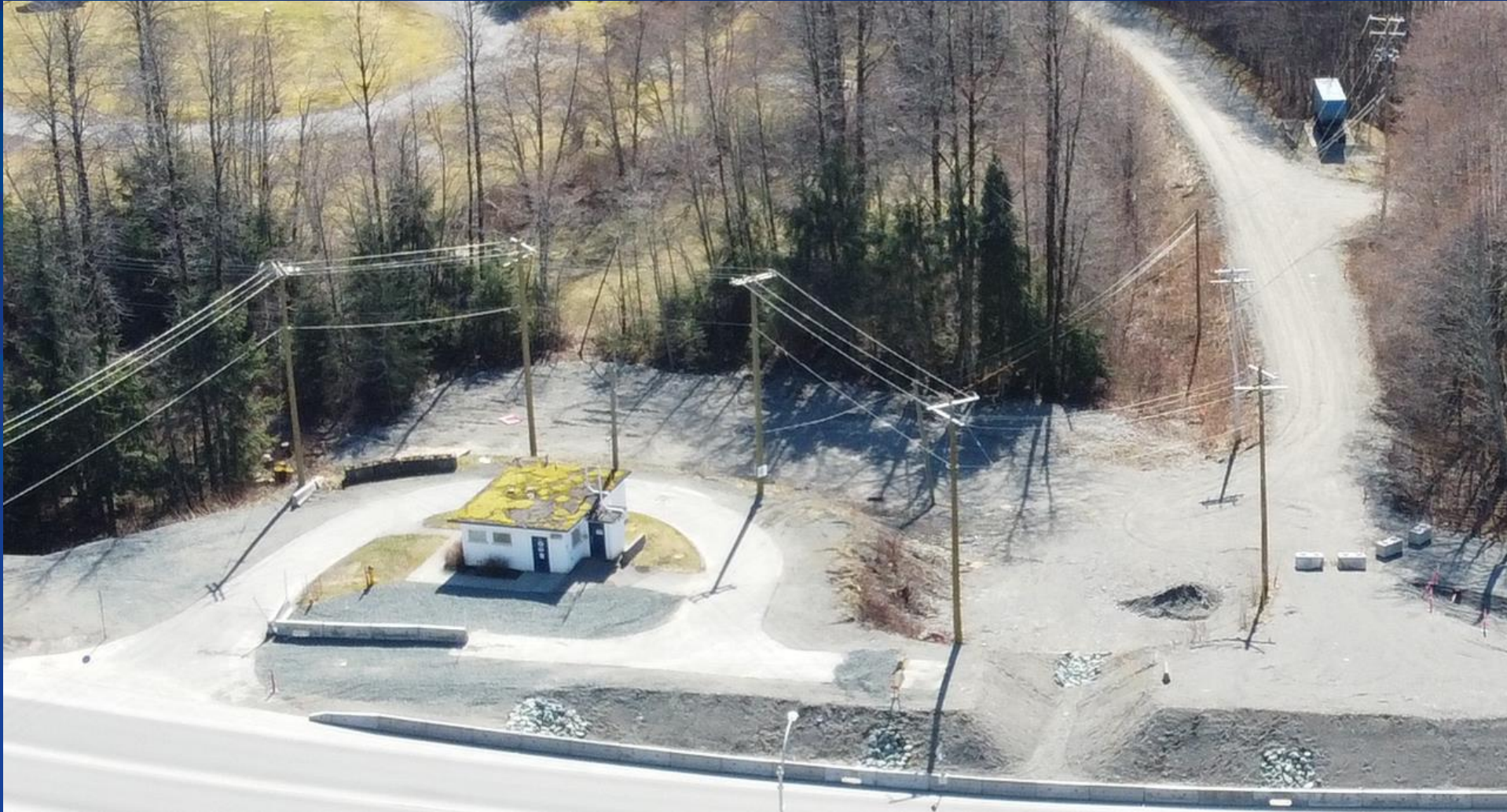
Objective	Existing System	System Upgrade
4 – 99.99% removal of viruses & bacteria (4 log removal)	✘ (chlorination treatment only)	✓ (UV & chlorination treatment)
3 – 99.9% removal of giardia & cryptosporidium (3 log removal)	✘ (no credit for infiltration gallery)	✓ (UV + 0.5 log credit for filter)
2 – Dual (2) treatment process (multi-barrier approach)	✘ (single barrier)	✓ (filter & chlorination treatment)
1 – Limit for solids in water (<1 NTU)	✓ (outside of high turbidity events)	✓ (Filter & chemical treatment)
0 – E-coli and coliforms (0 count)	✓ (chlorination treatment)	✓ (chlorination treatment)



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# Water Treatment System Upgrade

Site  
Location:

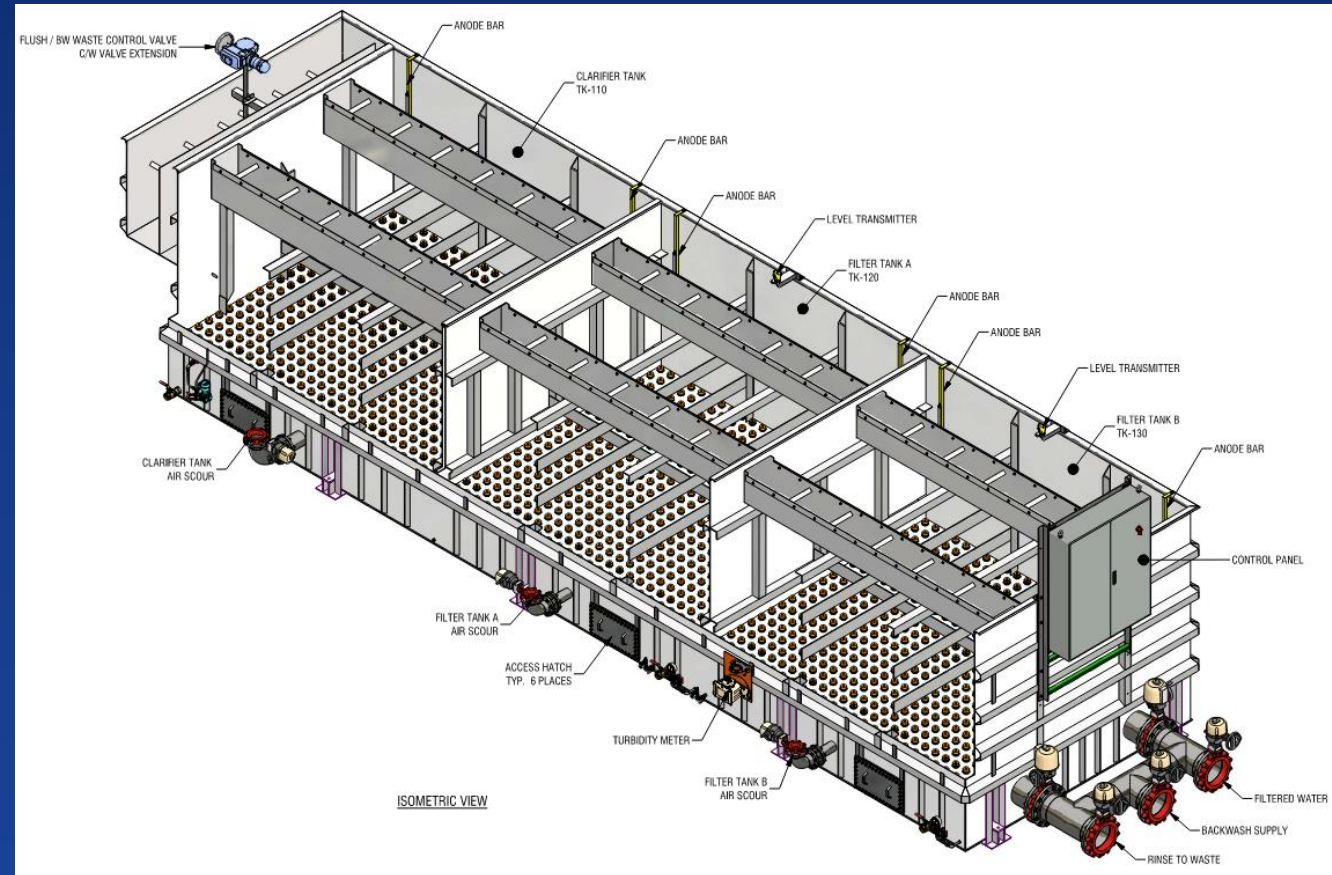


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# Water Treatment System Upgrade

## Design Objectives:

- Water treatment system is compliant with 4-3-2-1-0 rule;
- Meets demand for a population of 11,700;
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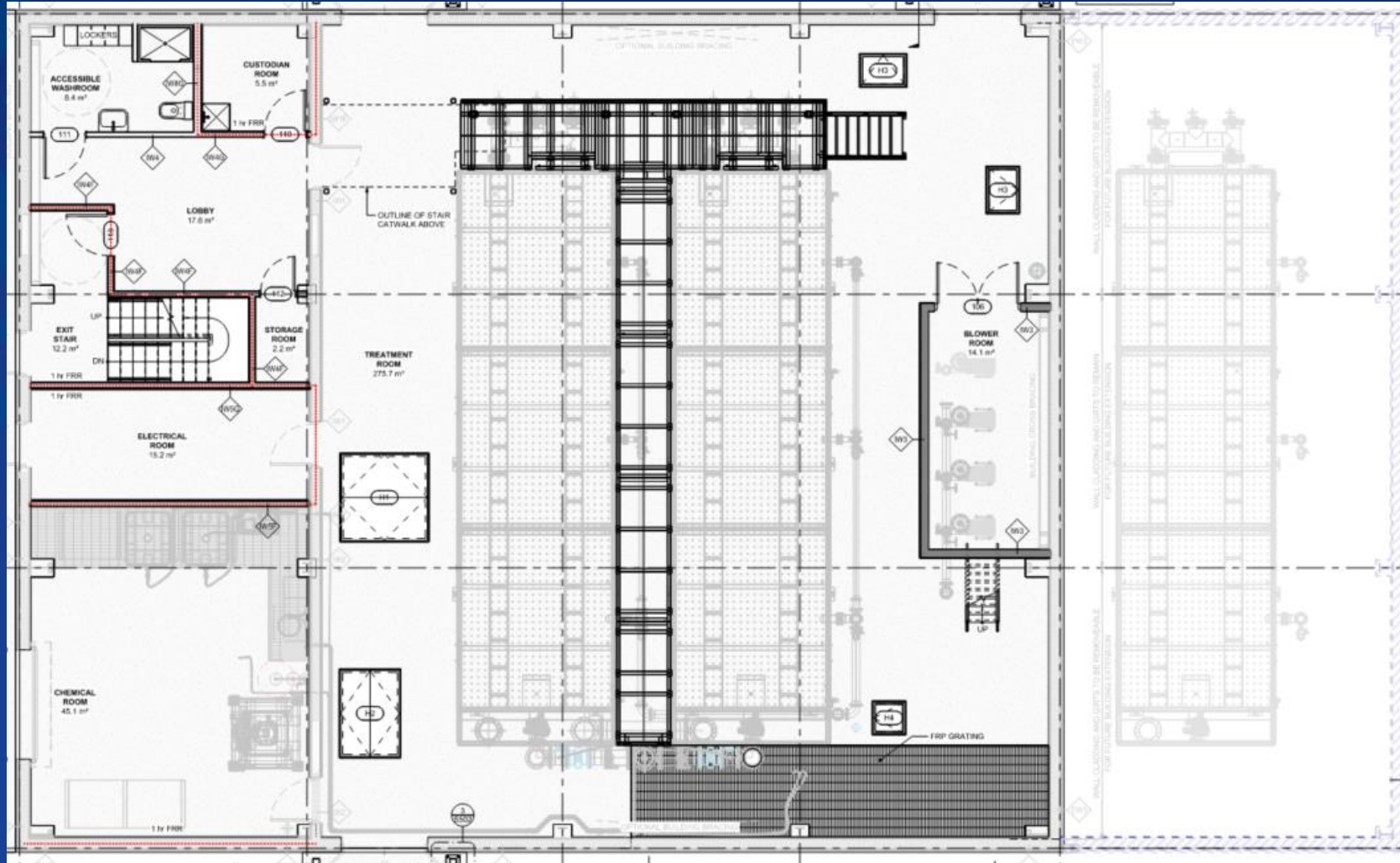
Adsorption Clarifier Filtration Train Dimensions: 3.5m x 12m x 2.8m



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# Water Treatment System Upgrade

Building  
Layout:



Main Level Floor Plan with Future Third Train Expansion



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# Water Treatment System Upgrade

Budget:

Water Treatment Plant – Updated Budget (as of August 2024)	
<b>Construction Budget</b>	\$23,700,000
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<b>Total Funding</b>	\$10,882,561
<b>Funding Shortfall</b>	\$13,496,880



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# Water Treatment System Upgrade

## Loan Authorization Bylaw:

- Staff propose borrowing \$13.5MM through the Municipal Finance Authority to cover funding shortfall
- DOK is within 5% of its annual liability servicing limit so electoral approval is not required to pass loan authorization bylaw
- Loan to be structured as temporary borrowing during construction and converted to long term upon completion



Loan Authorization Bylaw Process Flow Diagram



# Water Treatment System Upgrade

## 2024 Progress Update:

- 90% design review complete
- Filter train fabrication complete
- Contract for building supply awarded
- Final tree clearing scheduled Fall 2024



Filtration Train Fabrication



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# Water Treatment System Upgrade

## Current Schedule Milestone Targets:

- Tender issued for General Contractor: December 2, 2024
- Start of Construction: April 1, 2025
- Substantial Completion of Construction: December 31, 2025
- Commissioning: 2026



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# Water Treatment System Upgrade

## Public Communications:

- Project page has been created on District's Get Involved website page
- Get Involved page includes high level project summary of project purpose, progress to date, and timeline to complete
- Page will be expanded to provide further details on regulatory requirements driving the need for this project, additional details on process equipment, and facts on the community's water consumption

## Ongoing projects



Last updated: 08 Feb, 2024

### Water Treatment Upgrade Project

In order to meet modern regulatory requirements - and in doing so prevent future water quality advisories - we will be upgrading our water system in a number of ways.

[Learn more →](#)



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