



Notice of Meeting and Meeting Agenda Magic Lake Estates Water and Sewer Committee

Thursday, June 5, 2025

2:00 PM

Goldstream Conference Room
479 Island Hwy
Victoria BC V9B 1H7

Members of the public can view the live meeting via MS Teams link: [Click here](#)

Alternatively, to hear the meeting via telephone:

Call: 1-877-567-6843 and enter the Participant Code: 917 184 88#

B. Mongeon (Chair), P. Brent (EA Director), C. Aldridge Sanchez, J. Deschenes, M. Fossli,
S. Kobierski

The Capital Regional District strives to be a place where inclusion is paramount and all people are treated with dignity. We pledge to make our meetings a place where all feel welcome and respected.

1. Territorial Acknowledgement

2. Election of Vice Chair

3. Approval of Agenda

4. Adoption of Minutes

4.1. [25-0652](#) Minutes of the Magic Lake Estates Water and Sewer Committee meeting of February 11, 2025

Recommendation: That the minutes of the Magic Lake Estates Water and Sewer Committee meeting of February 11, 2025 be adopted as circulated.

Attachments: [Minutes - February 11, 2025](#)

5. Chair's Remarks

6. Presentations/Delegations

The public are welcome to attend CRD meetings in-person.

Delegations will have the option to participate electronically. Please complete the online application at www.crd.ca/address no later than 4:30 pm two days before the meeting and staff will respond with details.

Alternatively, you may email your comments on an agenda item to the Committee at legserv@crd.bc.ca.

7. Commission Business

7.1. [25-0650](#) Senior Manager's Verbal Update

Recommendation: There is no recommendation. This verbal update is for information only.

7.2. [25-0651](#) Capital Projects and Operational Update - June 2025

Recommendation: There is no recommendation. This report is for information only.

Attachments: [Staff Report: Capital Projects and Operational Update](#)

7.3. [25-0642](#) 2024 Annual Report

Recommendation: There is no recommendation. This report is for information only.

Attachments: [2024 Annual Report - MLE Sewer and Water System](#)
[Appendix A: 2024 MLE Statement of Operations & Reserve Balances](#)

8. Notice(s) of Motion

9. New Business

10. Adjournment

The next meeting is November 13, 2025.

To ensure quorum, please advise Megan MacDonald (mmmacdonald@crd.bc.ca) if you or your alternate cannot attend.

Meeting Minutes

Magic Lake Estates Water and Sewer Committee

Tuesday, February 11, 2025

9:30 AM

Goldstream Conference Room
479 Island Hwy
Victoria BC

PRESENT:

P. Brent (EA Director) (EP), M. Fossil, B. Mongeon

Staff: J. Marr, Senior Manager, Infrastructure Engineering; J. Dales, Senior Manager, Wastewater Infrastructure Operations; M. Cowley, Manager, Wastewater Engineering and Planning; J. Kelly, Manager, Capital Projects; D. Robson, Manager, Saanich Peninsula Gulf Island Operations; D. Dionne, Manager, Business Support Services; M. Lagoa, Manager, Legislative Services; M. MacDonald, Legislative Services Coordinator (Recorder)

EP – Electronic Participation

Regrets: J. Deschenes

The meeting was called to order at 9:31 am.

1. Territorial Acknowledgement

J. Dales provided a Territorial Acknowledgement.

2. Election of Chair

J. Dales called for nominations for the position of Chair of the Magic Lake Estates Water and Sewer Committee for 2025.

P. Brent nominated M. Fossil. M. Fossil declined the nomination.

P. Brent nominated B. Mongeon. B. Mongeon accepted the nomination.

J. Dales called for nominations a second and third time.

Hearing no further nominations, J. Dales declared Brenna Mongeon the Chair of the Magic Lake Estates Water and Sewer Committee by acclamation.

3. Election of Vice Chair

Chair Mongeon called for nominations for the position of Vice Chair of the Magic Lake Estates Water and Sewer Committee for 2025.

P. Brent nominated M. Fossil. M. Fossil declined the nomination.

**MOVED by M. Fossil, SECONDED by B. Mongeon,
That the Election of Vice Chair be deferred until the next meeting.
CARRIED**

4. Approval of Agenda

**MOVED by M. Fossil, SECONDED by P. Brent,
That the agenda of the Magic Lake Estates Water and Sewer Committee meeting
of February 11, 2025 be approved.
CARRIED**

5. Adoption of Minutes

- 5.1. [25-0097](#) Minutes of the October 29, 2024 Magic Lake Estates Water and Sewer Committee
- MOVED by M. Fossil, SECONDED by B. Mongeon,
That the minutes of the Magic Lake Estates Water and Sewer Committee meeting
of October 29, 2024 be adopted as circulated.
CARRIED**

6. Chair's Remarks

The Chair thanked committee members and staff for their dedication.

7. Presentations/Delegations

There were no presentations or delegations.

8. Commission Business

- 8.1. [25-0111](#) Senior Manager's Verbal Update
- J. Dales presented Item 8.1. for information and provided the following updates:
- CRD evolves and related staff support changes for the committee
 - new stage four water restriction bylaw implementation
 - new water conservation signage, which will be installed later this year
 - ongoing recruitment for vacant operator position for Pender Island
 - budget implications of interim operator coverage

8.2. [25-0101](#) Capital Projects and Operational Update - February 2025

J. Marr, M. Cowley, J. Kelly and D. Robson presented item 8.2. for information.

Discussion ensued regarding:

- performance of wastewater treatment plant filtration system
- potential requirement for the installation of a seventh filtration membrane
- inflow and infiltration challenges for the wastewater system
- reducing stormwater runoff from private properties
- educating the public on the effects of inflow and infiltration
- the Chart Drive discharge station, which is not connected to the remote monitoring system

9. Notice(s) of Motion

There were no notice(s) of motion.

10. New Business

10.1. Renewable Energy Viability

Chair Mongeon spoke to the potential for harvesting renewable energy at pump stations.

Discussion ensued regarding:

- current locations of renewable energy initiatives
- the Chair's desire to view energy use data and conditions on site

11. Adjournment

**MOVED by M. Fossi, SECONDED by P. Brent,
That the Magic Lake Estates Water and Sewer Committee meeting of February
11, 2025 be adjourned at 10:27 am.
CARRIED**

CHAIR

RECORDER

**REPORT TO MAGIC LAKE ESTATES WATER AND SEWER COMMITTEE
MEETING OF THURSDAY, JUNE 5, 2025**

SUBJECT Capital Projects and Operational Update – June 2025

ISSUE SUMMARY

To provide the Magic Lake Estates Water and Sewer Committee with capital project status reports and operational updates.

BACKGROUND

The Magic Lake Estates (MLE) Water and Sewer Systems are located on the south shore of North Pender Island in the Southern Gulf Islands Electoral Area and provides drinking water services to approximately 1,082 customers, and wastewater services to approximately 651 customers. Capital Regional District (CRD) Infrastructure and Water Services is responsible for the overall operation of the water and wastewater systems with day-to-day operation, maintenance, design and construction of water and wastewater system facilities provided by the CRD Infrastructure, Planning and Engineering and Operations Divisions. The quality of drinking water provided to customers in the MLE Water System is overseen by the CRD Water Quality Section.

CAPITAL PROJECT UPDATE

Magic Lake Estates Water

26-02 | WTP Process Pipe Condition Assessment

Project Description: Conduct updated condition assessment of process piping in the water treatment plant with potential repairs or segment replacement.

Project Rationale: Weld deficiencies identified following completion of the water treatment plant in 2012/2013 resulted in a settlement and funds to be utilized for future corrective work or replacement. Funding has been reallocated for 2025 to review the condition and address the most critical deficiencies.

Project Update and Milestones:

- After a leak developed at a weld location, CRD drafted a scope of work and specifications for replacement of a segment of pipe that feeds Captain's Tank.
- Caird Mechanical Contractors Ltd. have visited the site and have been issued a Purchase Order to complete the fabrication and installation. Acuren is being contracted for weld inspection quality control.

Milestone	Completion Date
Budget setup complete.	March 2025
Specifications developed for segment replacement and Contractor site visit conducted.	April 2025
Target fabrication and installation.	Q2 2025 (Target)

21-04 | Buck Lake Dam Repairs – Phase 1

Project Description: Conduct additional inspections, minor repairs, and performance analysis highlighted in the 2019 Dam Safety Review. Phase 2 dam improvements to be completed in the following five years.

Project Rationale: Resulting from the Hatch 2019 Dam Safety Review, funds are required to conduct additional inspections, minor dam repairs, and performance analysis. Phase 2 dam improvements to be completed in the following five years.

The November 26, 2020, staff report outlines the detailed expenditure plan for Phase 1.

Project Update and Milestones:

- Detailed scope of work and acceptable options for preventing high live loads at Buck Lake Dam's west dam have been developed. This was reviewed during the 2022 annual inspection and a scope for warning signage is being proposed to be installed in 2023.
- Consultant was retained to conduct a dam breach analysis for both dams to confirm the dam flood area and improve the dam emergency plan. This report was finalized in January 2023.
- Operations to coordinate with CRD Protective Services so that dam emergencies are part of CRD's Public Alert Notification System (PANS).
- CRD staff have started compiling required information for the dam emergency plan and Operating and Maintenance Manuals. Updates were completed January 2023.
- In 2023, engineering is assessing options for installation of a v-notch weir to monitor lower flow seepage rates and will continue with design work into 2024.
- Engineering consultant onboarded for design in July 2024.
- Design complete and weir plate fabrication underway in third quarter (Q3) 2024.
- Design complete and fabrication completed in Q4 2024.
- CRD will commence contacting local Contractors in Q2 of 2025 with hopes of constructing in the summer/fall dry weather window.

Milestone	Completion Date
Consultant retained to conduct dam breach analysis	December 20, 2021
Draft Dam Breach Analysis Complete and Comments returned	July 14, 2022
Final Dam Breach Analysis Complete	January 2023
Design of Seepage Weir on West Dam	Q2 2024
Fabrication of Weir Plate Complete	Q4 2024

WATER SYSTEM OPERATIONAL UPDATE

This is a water system operational update report for January through April 2025.

- Planned replacement of a failed hydrant isolation valve (MLE052) at Dory/Shoal. Corrective work is funded by the Operating Reserve Fund (ORF). Several additional failed isolation valves have been identified at various locations that require also require replacement. This corrective maintenance will be ongoing as resources allow.

- Water Treatment Plant annual maintenance completed, which included cleaning of the Dissolved Air Floatation (DAF) tanks and chemical static mixers.
- Buck Lake storage and workshop cleaning and organization completed during this reporting period to address ongoing safety concerns.
- Corrective maintenance completed of the dedicated water pressure system that services 1601 Shoal Road.
- Several critical alarm call outs to the water treatment plant during this operating period which included response to low chlorine residual limit, loss of hydro power and communications failures.
- Deployment of Stage 1 water conservation signage for May 1.
- Water Treatment Plant Heating Venting and Air Conditioning (HVAC) system preventative maintenance completed which identified some failed equipment that requires repair. This work is currently being evaluated to determine scope and cost.

Magic Lake Estates Sewer Utility

21-01 | Wastewater Improvements – Pump Station and Treatment Plant Upgrades

Project Description:

1. Renew Galleon and Schooner Pump Stations (upgrade communications at Buccaneer, Capstan, Cutlass and Masthead Pump Stations).
2. Replace Cannon Wastewater Treatment Plant (WWTP) with a new pump station.
3. Upgrade Schooner WWTP.

Project Rationale: Successfully received an Infrastructure Canada grant to complete upgrades on pump stations, install a new pump station at Cannon to pump to Schooner WWTP, and upgrade Schooner WWTP to treat flow from Cannon and renew many components to bring the wastewater system into compliance with environmental regulations.

Project Update and Milestones:

- The pump stations and wastewater treatment plant have been in operation since September 2024.
- All remaining contractual deficiencies have been completed and this project is now 100% complete.
- There is ongoing optimization of the facilities as more experience is gained in operating them.
- An additional membrane is being added to help meet peak flow capacity.
- Over time, components of the old Schooner and Cannon WWTP's will be disassembled and removed.
- The final cost of the pump station and wastewater treatment upgrade project was \$9,205,789 and the budget was \$9,205,045.
- The full grant amount of \$5,653,266 has been received from senior governments.
- As a result of investing up-front payments and grant funds received earlier on in the project, a total of up to \$362,434 in interest has accumulated.
- The additional membrane is being funded from the earned interest in the amount of \$86,100.
- A portion of the remaining \$276,334 in earned interest will be used towards purchasing critical spare parts for the four remaining pump stations that still need to be upgraded, and the final remaining amount will remain in Capital Funds On-Hand and continue to earn interest to help fund future capital upgrades.

Magic Lake Estates Water and Sewer Committee – June 5, 2025
Capital Projects and Operational Update – June 2025

- This will be the last report provided for this specific capital project.

Milestone	Completion Date
Preliminary Design (30%)	September 2022
Detailed Design (90%)	December 2022
Tender Period	January 27 – March 14, 2023
Construction Period	May 2023 – November 2024
Commissioning Period	September - November 2024
Substantial Completion	December 10, 2024
Warranty Period	December 10, 2026



Schooner WWTP in Operation

WASTEWATER SYSTEM OPERATIONAL UPDATE

This is a wastewater system operational update report for January through April 2025.

- Operations of the new Membrane Bioreactor (MBR) Wastewater Treatment Plant.
 - Ongoing treatment optimization/commissioning continues.
 - Ongoing system familiarization and data collection continues.
 - First time completing an MBR preventative maintenance chemical clean to improve system permeation performance.
- Cannon wastewater treatment plant decommissioning.
- Environmental emergency response to an unplanned bypass on March 27, 2025. The bypass event was partially due to planned membrane chemical clean maintenance which requires the treatment process to be partially shut down for several hours to complete. A wet weather storm event occurred shortly thereafter which resulted in the exceedance of equalization storage and emergency storage at the facility.

Magic Lake Estates Water and Sewer Committee – June 5, 2025
Capital Projects and Operational Update – June 2025

Table 1: Operating Permit Regulatory Non-compliance reporting for January through April 2025

Facility	January to April Reports Issued	Reports YTD 2025	Total Reports 2024	Cause
Schooner WWTP	1	1	13	Environmental Incidence Reports are issued typically because of: 1. Exceedance of permitted daily maximum flows (756m³/day). Flow exceedances are due to excessive collection system inflow and infiltration (I&I). 2. Exceedance of permitted total suspended solids (TSS) (<45mg/l) or biochemical oxygen demand (CBOD) 3. Emergency facility bypasses due to equipment failure or inflows that exceed treatment equalization and emergency storage capacity.

RECOMMENDATION

There is no recommendation. This report is for information only.

Submitted by:	Jared Kelly, P.Eng., Manager, Capital Projects
Submitted by:	Malcolm Cowley, P.Eng., Manager, Wastewater Engineering and Planning
Submitted by:	Dan Robson, A.Sc.T., Manager, Saanich Peninsula and Gulf Islands Operations
Concurrence:	Jason Dales, B.Sc., WD IV., Senior Manager, Infrastructure Wastewater Operations
Concurrence:	Joseph Marr, P.Eng., Senior Manager, Infrastructure Planning and Engineering
Concurrence:	Alicia Fraser, P.Eng., General Manager, Infrastructure and Water Services

Magic Lake Estates Water and Sewer System

2024 Annual Report

CRD | Drinking Water and Wastewater

Introduction

This report provides a summary of the Magic Lake Estates (MLE) Water and Sewer Service for 2024 and provides a description of the water and sewer services including: summary of the water supply, demand and production, drinking water quality, wastewater treatment flows, effluent quality, operations highlights, capital project updates and financial report.

WATER SYSTEM

Water Service Description

The community of Magic Lake Estates is primarily a rural residential development with some community properties located on Pender Island in the Southern Gulf Islands Electoral Area which was originally serviced by a private water utility and in 1981 the service converted to the Capital Regional District (CRD). The Magic Lake Estates water service is made up of 1,196 parcels, of which there are 1,072 single family equivalents (or approximately the same number of customers) obtaining service from the water system.

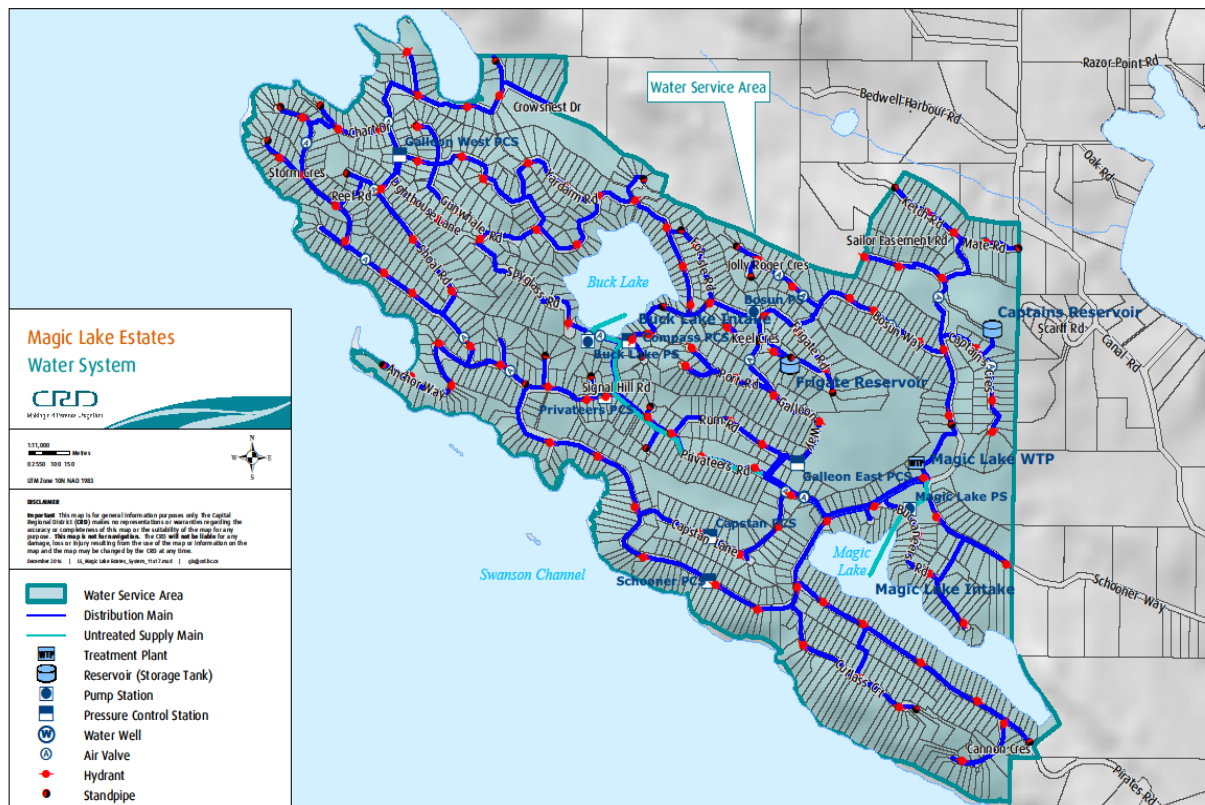


Figure 1: Map of Magic Lake Estates Water System

The Magic Lake Estates water system is primarily comprised of:

- Two raw water sources; Buck Lake (primary source) and Magic Lake (secondary source).
- Four earthen dam structures (two at Buck Lake and two at Magic Lake).
- Two raw water pump stations, one each related to the raw water supplies, with pretreatment oxidation equipment to treat and control dissolved manganese and iron in the raw water source.
- Centralized water treatment plant consisting of a dual process including dissolved air flotation (DAF), filtration, ultraviolet light disinfection, and chlorine disinfection.
- One booster pump station / pressure reducing station (Bosun).
- Two steel storage tanks, Frigate and Captains (volumes: Frigate 750 cubic meters or 200,000 USg and Captains 341 cubic meters or 90,000 USg).
- Supervisory Control and Data Acquisition (SCADA) system.
- Distribution system and supply pipe network (in excess of 27 kilometers of water mains).
- Other water system assets: water service connections and meters, approximately 70 fire hydrants, 6 pressure reducing valve stations, 100 gate valves and standpipes.

Water Supply

Surface water supply monthly water levels are provided in Figures 2 and 3 for Buck Lake and Magic Lake respectively. It is important to note that under normal operating conditions, Buck Lake provides 80% and Magic Lake provides 20% of the annual raw water demand for the service. However, due to an algae event in Magic Lake, Buck Lake provided 100% of the raw water supply from August through November.

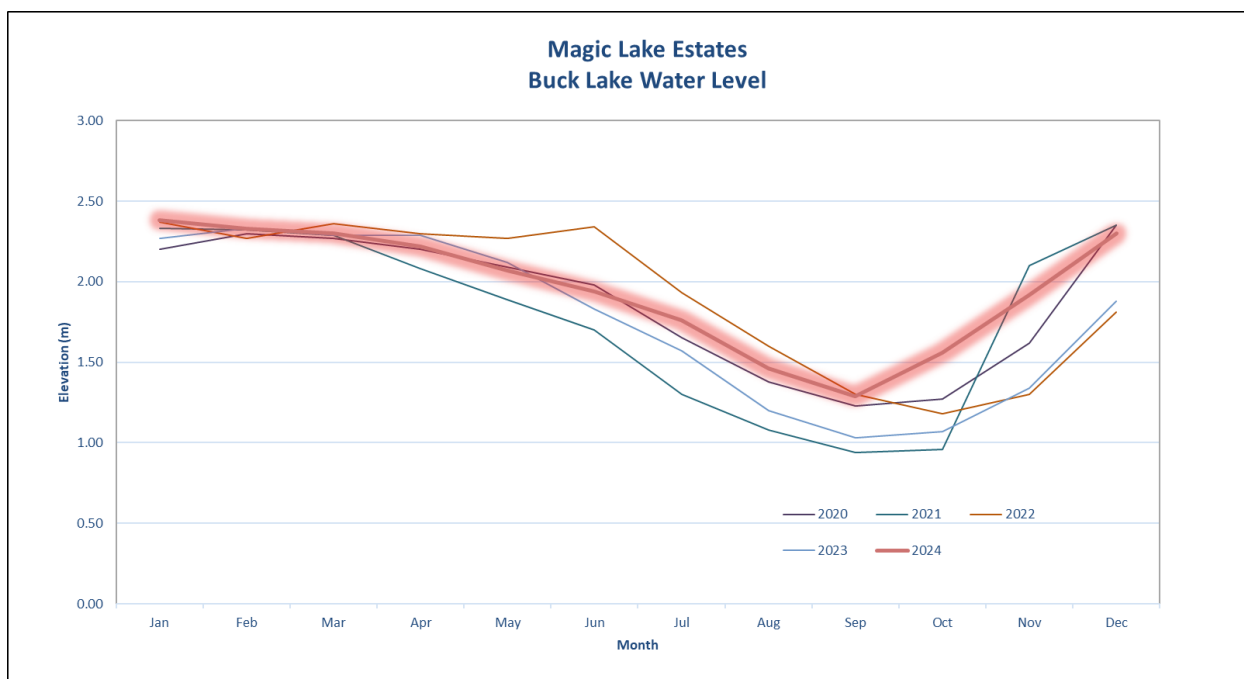


Figure 2: Buck Lake Monthly Water Level

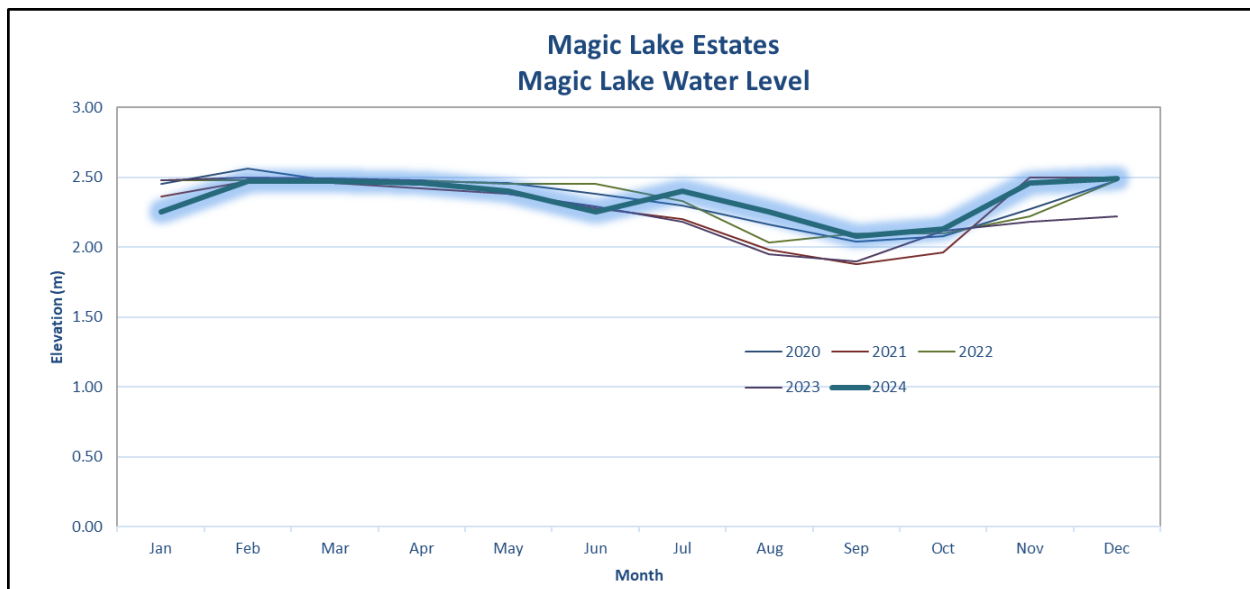


Figure 3: Magic Lake Monthly Water Level

Water Production and Demand

Referring to Figure 4, 236,423 cubic meters of water was extracted (water production) from both Buck Lake and Magic Lake water sources in 2024; a 12% increase from the previous year and a 9% increase in the rolling five-year average. Water demand (customer water billing) for the service totaled 130,145 cubic meters of water; essentially no change from the previous year and no change from the rolling five-year average.

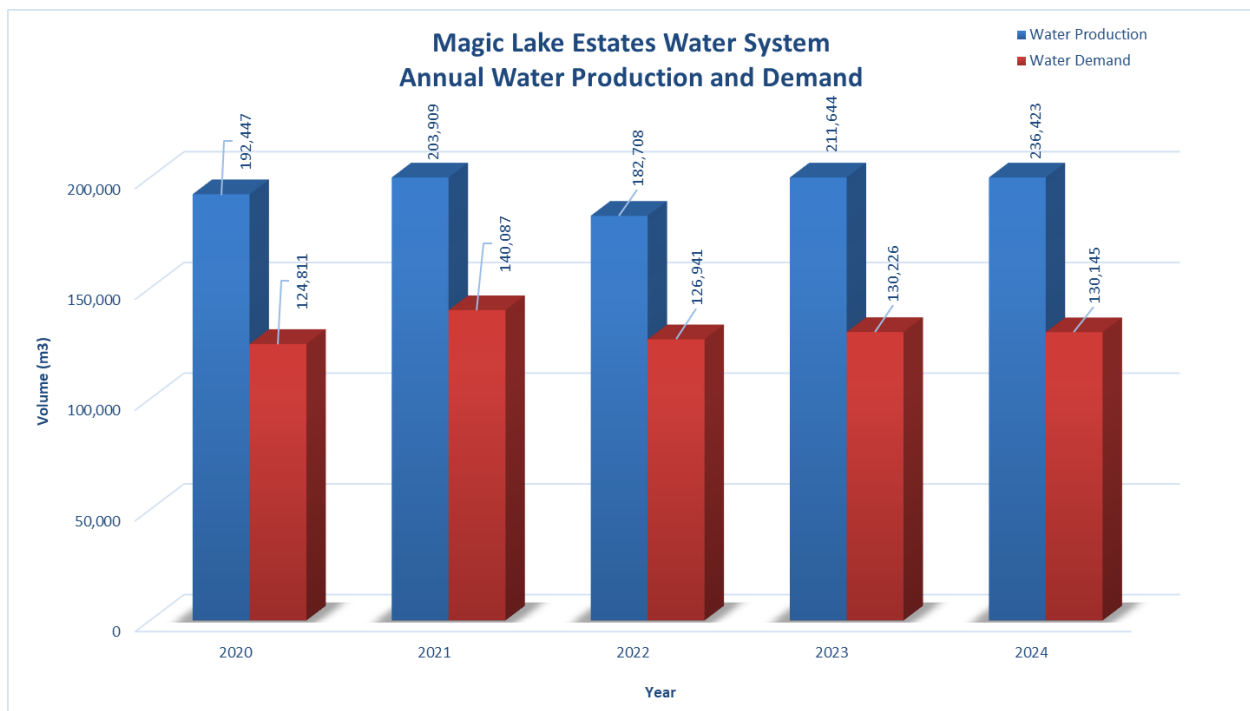


Figure 4: Magic Lake Estates Water System Annual Water Production and Demand

The difference between annual water production and annual customer water demand is referred to as non-revenue water and can include water system leaks, water system maintenance and operational use (e.g. water main flushing, filter system backwashing), potential unauthorized use and fire-fighting use.

The 2024 non-revenue water (106,278 cubic meters) represents about 45% of the total water production for the service area. However, approximately 8,150 cubic meters of non-revenue water can be attributed to operational use. Therefore, the non-revenue water associated with system losses is approximately 41%, which is an increase from the previous year, is considered high for a water distribution system the size of Magic Lake Estates. Effort to determine the reason for the increase in non-revenue water including leak detection activities was initiated in 2024. Additional details of the leak detection activities are provided in the operations update section of the annual report.

Figure 5 below illustrates the monthly water production for Magic Lake Estates for the past five years. The monthly water production trends are typical for smaller water systems such as Magic Lake Estates. In review of water production for 2024 (highlighted below), the monthly trend for January through October is higher than the previous years and is the result of water system leak or leaks developing in the system. Monthly water production trends have returned to historical production rates starting in November.

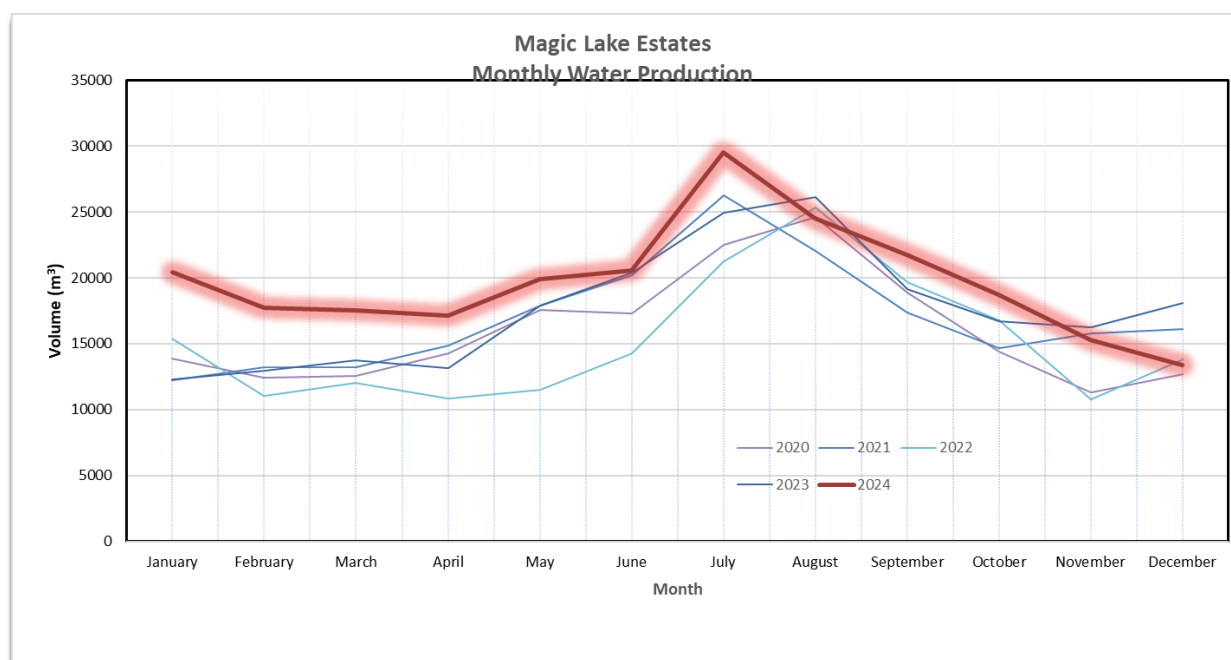


Figure 5: Magic Lake Estates Water System Monthly Water Production.

Drinking Water Quality

Two intake lines from Buck Lake and Magic Lake provided blended source water to the DAF treatment plant. The typical intake blending ratio in 2024 was 80/20 Buck/Magic Lake. From February until April, both Magic and Buck Lake were affected by a strong algal bloom with filter clogging potential. Magic Lake experienced a cyanobacteria bloom from August through November and during that event the system was supplied from Buck Lake to avoid adverse water quality impacts. No cyanotoxins were detected in the Magic Lake water throughout this algal event. The drinking water supplied to the service area was safe for consumption throughout the year.

The existing multi-barrier treatment system was able to deal with several algal events as well as high manganese events in both source lakes throughout the year.

The treatment system was also able to reduce the total organic carbon (TOC) concentration by nearly 50%; however, the high organic loading of the raw water still resulted in a high organic carbon concentration in the treated drinking water, which can have taste/odour/colour implications and can potentially lead to high disinfection by-product concentrations. Testing for total trihalomethanes in the treated water demonstrated levels in compliance with the Guidelines for Canadian Drinking Water Quality (GCDWQ). As in previous years, operations staff successfully mitigated localized adverse water quality events due to aging and stagnant water through spot-flushing.

Overall Magic Lake Estates drinking water quality characteristics for 2024 are summarized below.

Raw Water:

- Both lake sources exhibited low concentrations of total coliform bacteria throughout the winter months but higher concentration during the warm water period. In Magic Lake, the total coliform bacteria concentration saw two unusually high spikes; at the beginning of May the coliform concentration reached a peak of 37,000 CFU/100 mL and in the middle of August of 63,000 CFU/100mL. In historical records, these concentrations never exceeded 6,000 CFU/100 mL before. The reasons for these anomalies are unknown. Buck Lake did not experience such extreme coliform spikes and coliform concentrations of up to 1,100 CFU/100 mL there were in line with previous summers.
- *E. coli* bacteria concentrations were generally low in both lakes throughout the year. During the summer months the concentrations were slightly higher than during the rest of the year. This is a typical pattern for lakes.
- Raw water from both sources was medium hard (57 – 67 mg/L CaCO₃).
- Buck Lake exhibited a raw water turbidity range from 0.4 to 2.0 nephelometric turbidity units (NTU) with an annual median of 0.55 NTU, and Magic Lake a range from 0.8 to 9.2 NTU with an annual median of 1.6 NTU. The higher turbidity occurred typically during the winter period, but also occasionally in summer periods with algae blooms. The turbidity in both lakes was generally consistent with historical turbidity trends.
- Buck Lake, with an annual median total organic carbon (TOC) of 6.9 mg/L, and Magic Lake, with a median TOC of 9.7 mg/L, are considered mesotrophic lakes (medium productivity). TOC levels have been rising over the last few years, which could be an indication of increasing lake productivity.
- Buck Lake has higher colour results during the winter period. Magic Lake's water exceeds the aesthetic objective for water colour all year which correlates with the higher TOC values in this lake. The higher water colour is typically caused by elevated concentration of organics in the water.
- Both lakes exhibited seasonally elevated iron and manganese concentrations which reached peaks of 199 µg/L (Fe) in February and 53 µg/L (Mn) in August in Magic Lake, and 138 µg/L (Fe) in February and 158 µg/L (Mn) in October in Buck Lake. Buck Lake historically has higher seasonal manganese concentrations than Magic Lake. These recorded metal concentrations were in line with long term trends.

Treated Water:

- Treated water was safe to drink with no *E. coli* or total coliform bacteria found in the treated water.
- Treated water turbidity (cloudiness) was typically well below the GCDWQ limit of 1 NTU except for a very few isolated samples exceeding this limit, mostly associated with operational activities such as flushing or pipe repairs. On March 20, a sample collected at the treatment plant post treatment yielded a turbidity result of 10.9 NTU. An investigation did not find any

breakthrough or plant malfunction and SCADA monitoring data as well as resamples collected subsequently did not show any elevated turbidity leaving the plant. This anomalous result was likely due to a sampling error.

- TOC (TOC median 3.7 mg/L) was consistent with results in previous years. A nearly 50% reduction of TOC compared with the source water TOC concentrations indicates a satisfactory performance of the DAF plant. TOC concentrations of > 4 mg/L are considered a strong precursor for disinfection by-product formation and potential guidelines exceedance.
- Metals were below maximum acceptable concentration (MAC) and consistently below the aesthetic objective (AO) limits, confirming the efficacy of the potassium permanganate treatment system in removing in particular iron and manganese.
- Disinfection by-products such as total trihalomethanes (TTHM) were in compliance with the annual average requirement in the GCDWQ; no individual samples did exceed the GCDWQ limit of 100 µg/L. TTHM concentrations fluctuated between 55 and 96 µg/L for an annual average of 62 µg/L. Haloacetic acids (HAA) were not tested in 2024 but are typically low when TTHM are low.
- Periods with algal blooms or high algal activity in the source lakes affected occasionally the taste and odour of the drinking water.
- The water temperature exceeded the GCDWQ aesthetic limit of 15°C between June and October.
- The newly established GCDWQ MAC for aluminum was at no time exceeded in 2024.

The attached Table 1 and 2 provide a summary of the 2024 raw and treated water test results. Water Quality data collected from this drinking water system can be reviewed on the CRD website:

<https://www.crd.bc.ca/about/data/drinking-water-quality-reports>

Water System Operational Highlights

The following is a summary of the major operational issues that were addressed by CRD Infrastructure and Water Services staff:

- Water Treatment Plant:
 - Corrective maintenance computer network system.
 - Corrective maintenance electrical room ventilation system.
 - Replacement of failed chlorine analyzer equipment.
 - Replacement of failed clarification tank level transducer.
- Water system loss and leak detection/investigation efforts commenced in February. Work included:
 - The installation of real time pressure monitoring equipment at strategic locations within the water distribution system.
 - Creating a water loss management tool that was added to the Pender Island SCADA system which helped to track specific water distribution systems zones for water production.
 - Field zone leak detection that resulted in significant leak sites being located.
 - Using advanced leak detection technology that included the use of detectable tracer gas.
- Water system leak/break repairs:
 - Pirates Road – January (water service line repair).
 - Bosuns Pump/Pressure Regulating Station.
 - Frigate Road – May (water service line repair).

- Anchor Way – July (auto flush site).
- Foc'sle Road – July (significant leak located).
- Foc'sle Road – August (second significant leak located).
- Galleon Way – October.
- Spyglass Road (Buck Lake Dam) – November.
- Schooner Way (x2) – December.

Water System Capital Project Updates

The Capital Projects that were in progress or completed in 2024 included:

1. Buck Lake Dam Repairs – Phase 1 – seepage weir design and fabrication initiated.
2. Electric Vehicle Charging Station – completed.

SEWER SYSTEM

Service Description

The community of Magic Lake Estates is primarily a rural residential development located on Pender Island in the Southern Gulf Islands Electoral Area which was originally serviced by a private sewer utility and in 1981 the service converted to the CRD. The sewer service is approximately 210 hectares in size and includes 730 parcels of which 651 are serviced. Some of the sewer infrastructure includes: 18.5 km of sewer pipe, 293 manholes, seven pump stations, and one treatment plant with an outfall into Swanson Channel. In the fall of 2024, Cannon wastewater treatment plant (WWTP) was replaced with a pump station and forcemain which now pumps to an upgraded Schooner WWTP. Cannon WWTP is, therefore, no longer in service.

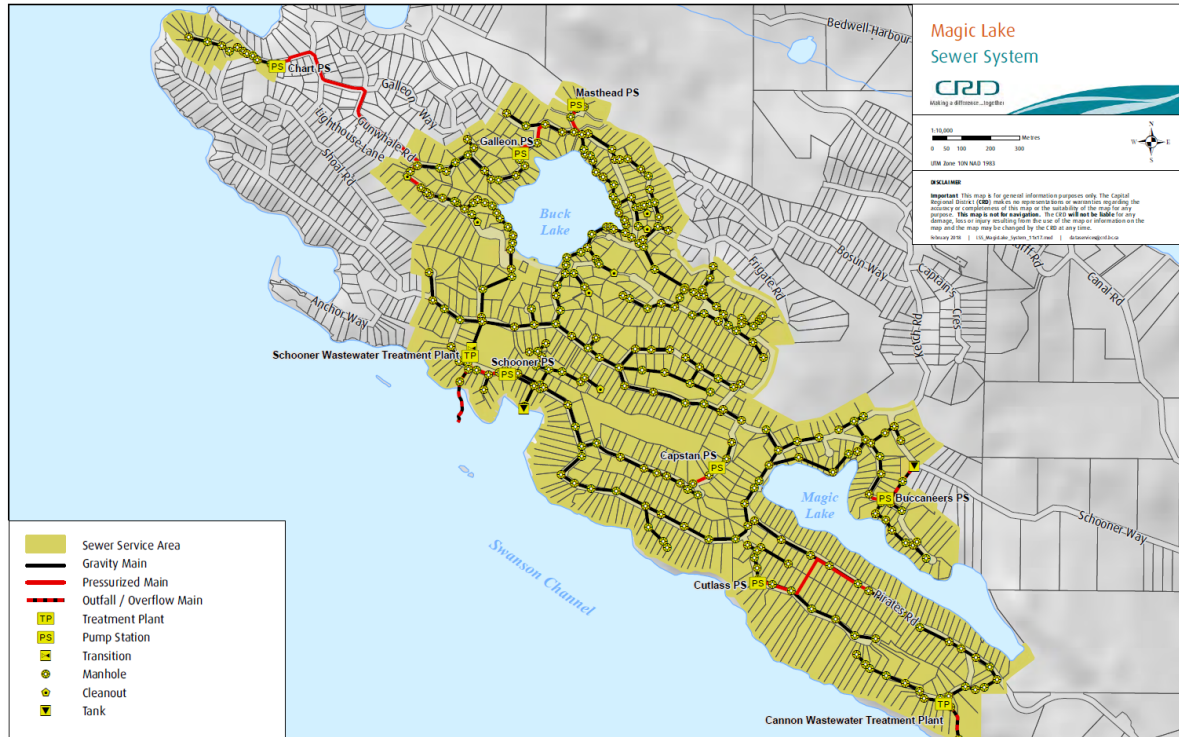


Figure 5: Map of Magic Lake Estates Sewer System

Wastewater Flows

The total monthly and 8-year total annual flows are shown in Figures 6 and 7 below. Cannon Pump Station was commissioned on November 5, 2024, with all flow subsequently directed to the Schooner WWTP. The resulting change in flow for Cannon WWTP is visible in Figure 6. The graphs indicate that the 2024 wastewater flows were about 5% higher than in 2023, and about the same as the 10-year average. The monthly flows show lowest flows in the summer months when there is less rain, but the more significant variation occurs in the winter due to inflow and infiltration (where January had two-times the flow as July).

The Municipal Wastewater Regulation (MWR) contains requirements for the treatment, reuse and discharge of municipal wastewater effluent. The regulation includes a requirement that sewer flows reaching treatment plants should not exceed 2.0 times “average dry weather flow” during storm events with less than a 5-year return period. Based on the measured flow rates, the Magic Lake Estates sewer system does not meet that requirement.

The peak winter flows have also resulted in a number of total daily flow exceedances at each treatment plant as shown in Figure 8 below. Most of the exceedances occurred before the wastewater upgrades were completed at Cannon and Schooner WWTP. It is expected in future years that there will be no more exceedances at Cannon WWTP, and significantly fewer at Schooner WWTP. During large storm events there still will be some blending of screened and tertiary treated effluent (which may meet the regulatory effluent requirements but will be reported when blending occurs). Non-compliances due to power outages should be eliminated at Schooner WWTP due to the permanent standby generator.

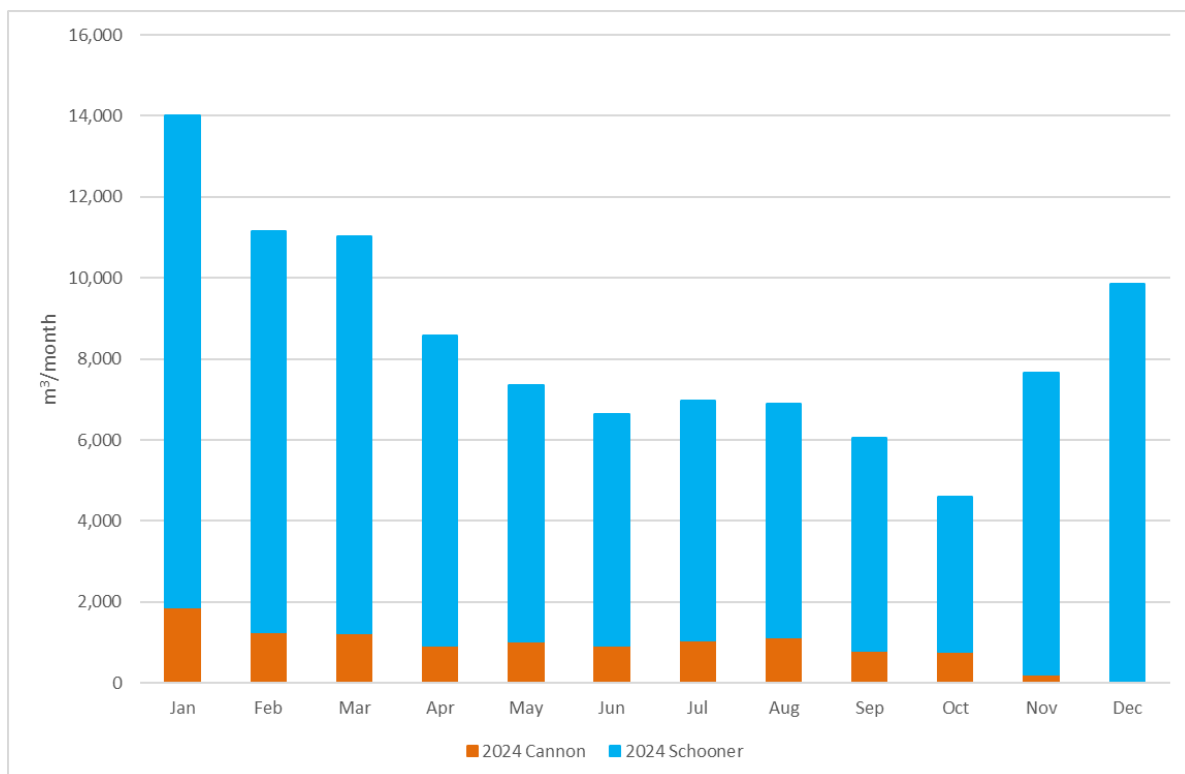


Figure 6: Total Monthly Flows (m³/month)

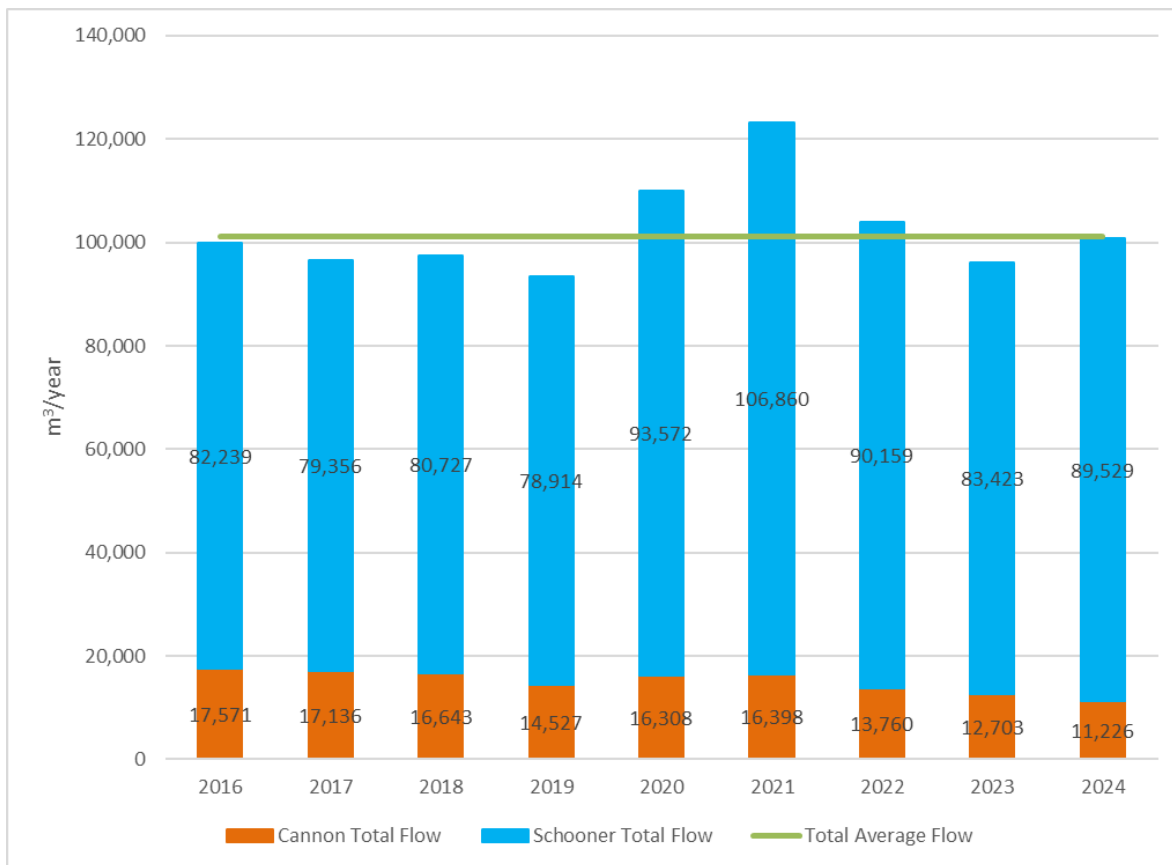


Figure 7: Total Wastewater Flows (m³/year)

Treated Effluent – Regulatory Compliance

Flow and effluent quality are assessed for compliance with the federal regulatory limits (Schooner only) and provincial discharge permits (both Schooner and Cannon) on a daily and monthly basis, respectively. In 2024, treated wastewater from Cannon met all regulatory limits for total suspended solids (TSS) and carbonaceous biochemical oxygen demand (CBOD), but had 10 flow exceedances. As noted above, there should be no more exceedances at Cannon WWTP as it now pumps to Schooner WWTP.

At Schooner, there were 5 presumed or documented compliance exceedances due to power outages, as well as 2 fecal coliform exceedances and 3 flow exceedances. Flow exceedances at both plants occurred during storm events when inflow and infiltration occurs and neither plant had been upgraded yet. Figure 8 shows the number of exceedances at each plant along with the annual precipitation. In 2024 there were 17 flow exceedances, (with 7 at Schooner and 10 at Cannon). In 2023, there were 16 flow exceedances but that was an abnormally dry year. In 2021, there were 73 flow exceedances. As noted, flow exceedances are primarily driven by volume and intensity of precipitation in each year. Now that the wastewater upgrades have been completed, there should be fewer flow exceedances. During large storm events there still will be some blending of screened and tertiary treated effluent at Schooner WWTP (which may still meet the regulatory effluent requirements but will be reported regardless).

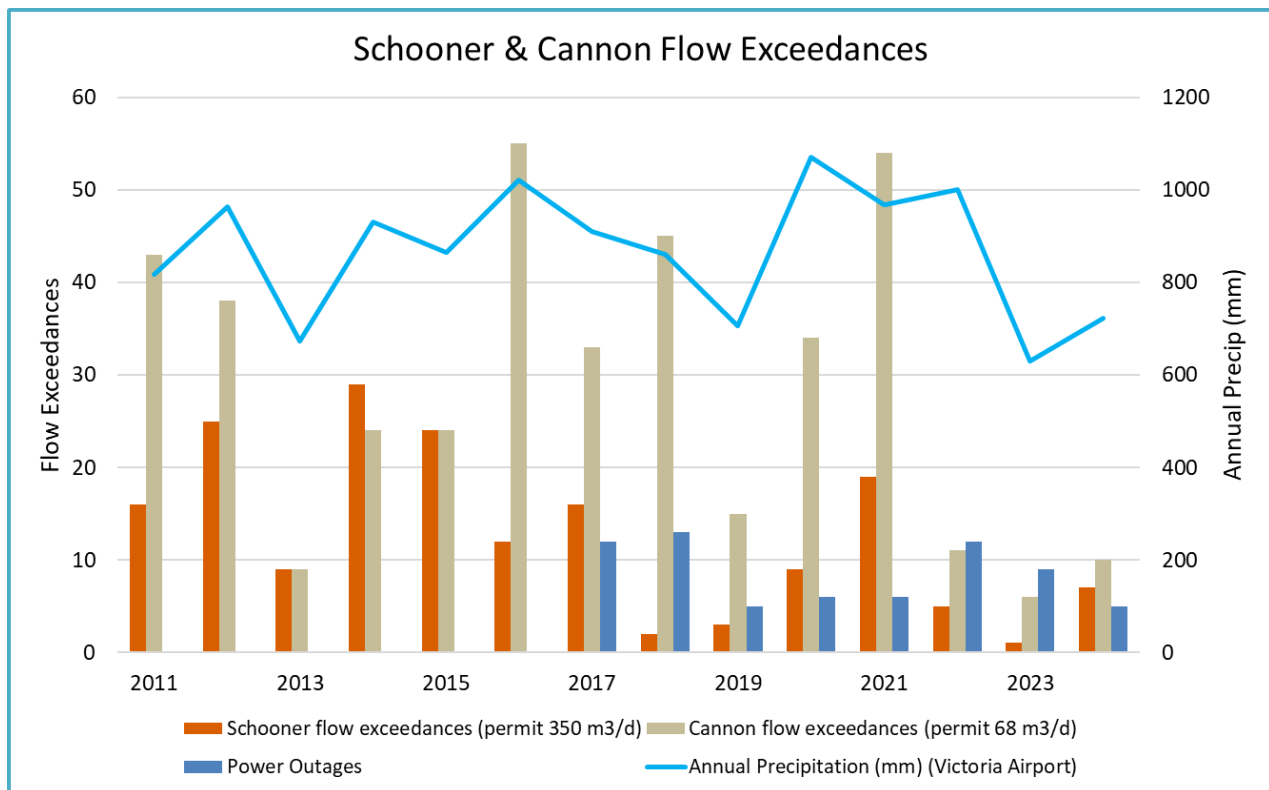


Figure 8: Schooner and Cannon WWTP Flow Exceedances

Receiving Water

Routine receiving water monitoring is required every four years at both Magic Lake Estates WWTP's, with 2024 being a sampling year. This sampling involves collecting 5 samples in a 30-day period for comparison to provincial guidelines set to protect people who are recreating in the vicinity of the marine outfall. The 2024 receiving water sampling results were all well below water quality guidelines. An enhanced monitoring program will be in place for 2 years, as required by The Ministry of Environment and Parks after commissioning of the new Schooner WWTP. This program will consist of additional 5-in-30 sampling events, happening in summer 2025, winter 2025 and summer 2026.

Receiving water sampling is also required if there are planned bypasses, plant failures/overflows, or wet weather overflows that exceed 3 days duration in the winter or 1 day duration in the summer. There was no non-routine receiving water sampling required in 2024.

Sewer Service Operational Highlights

The following is a summary of the major operational issues that were addressed by CRD Infrastructure and Water Services staff:

- Schooner Wastewater Treatment Plant
 - Significant operational effort and support as part of the Schooner Wastewater Treatment Plant capital upgrade project though commissioning and operational handover.
 - Corrective maintenance of the air blower equipment (now decommissioned).
- Buccaneers Pump Station control float replacement.
- Cutlass Court Pump Station corrective maintenance that included replacement of non-repairable pump.

- Collection system emergency response to sewer system backups because of blockages.

Sewer Service Capital Project Updates

After public consultation, a referendum was held on November 23, 2019, to borrow up to \$6 million to use along with a \$5.65 million “Investing in Canada Infrastructure” grant to complete some sewer replacement; and renewal of some pump stations and the Schooner WWTP.

The Capital Projects that were in progress or completed in 2024 included:

1. Wastewater Infrastructure Renewal – Sewer Replacement (Phase 1)
In 2021-2022 about 3km of sewer pipe and 35 manholes were replaced in various locations in the sewer service area.
2. Wastewater Infrastructure Renewal – Pump Station and Treatment Plant Upgrades (Phase 2 & 3)

The following items were completed and commissioned in 2024:

- Galleon Pump Station was commissioned on May 27, 2024, and includes new mechanical and electrical equipment including a new standby generator;
- Schooner Pump Station was commissioned on June 7, 2024, and includes new mechanical and electrical equipment including a new standby generator;
- Cannon Pump Station was commissioned on November 5, 2024. It is a brand-new pump station and now pumps wastewater to Schooner WWTP. The old Cannon WWTP is no longer in service; and
- Schooner WWTP was substantially complete on December 10, 2024, and includes new headworks, equalization tank, membrane bioreactor treatment processes, sludge holding tank, a new operations building with blowers, pumps, electrical room, and control room.
- The entire project was substantially complete on December 10, 2024.

In the near future, upgrades will have to be made to Buccaneer, Capstan, Cutlass and Masthead Pump Stations and additional sewer pipe replacement.

Financial Report

Please refer to the attached 2024 Statement of Operations and Reserve Balances.

Revenue includes parcel taxes (Transfers from Government), fixed user fees (User Charges), interest on savings (Interest earnings), a transfer from the maintenance reserve account, and miscellaneous revenue such as late payment charges (Other revenue).

Expenses include all costs of providing the service. General Government Services include budget preparation, financial management, utility billing and risk management services. CRD Labour and Operating Costs include CRD staff time as well as the cost of equipment, tools, and vehicles. Debt servicing costs are interest and principal payments on long term debt. Other Expenses include other costs to administer and operate the water and sewer systems, including insurance, water testing and electricity.

The difference between Revenue and Expenses is reported as Net revenue (expenses). Any transfers to or from capital or reserve funds for the service (Transfers to own funds) are deducted from this amount and it is then added to any surplus or deficit carry forward from the prior year, yielding an Accumulated Surplus (or deficit). In alignment with *Local Government Act* Section 374 (11), any deficit must be carried forward and included in next year's financial plan.

Submitted by:	Jason Dales, B.Sc., WD IV, Senior Manager, Wastewater Infrastructure Operations
	Joseph Marr, P.Eng., Senior Manager, Infrastructure Planning and Engineering
	Varinia Somosan, CPA, CGA, Senior Manager, Financial Services / Deputy CFO
Concurrence:	Glenn Harris, Ph.D., R.P.Bio., Acting General Manager, Parks, Recreation & Environmental Services
	Alicia Fraser, P.Eng., General Manager, Infrastructure and Water Services

Attachments: Table 1
Table 2
Appendix A: 2024 Statement of Operations and Reserve Balances

For questions related to this Annual Report please email IWSAdministration@crd.bc.ca

Table 1

Table 1: 2024 Summary of Raw Water Test Results, Magic Lake Estates Water System										
PARAMETER		2024 ANALYTICAL RESULTS				CANADIAN GUIDELINES	2014 - 2023 ANALYTICAL RESULTS			
Parameter	Units of	Annual	Samples	Range		≤ = Less than or equal to	2014	Samples	Range	
Name	Measure	Median	Analyzed	Minimum	Maximum		Median	Analyzed	Minimum	Maximum
(ND means Not Detected by analytical method used)										
Physical/Biological Parameters										
Buck Lake										
Carbon, Total Organic	mg/L	6.95	12	6.3	8.1	≤ 15 AO	6.695	102	5.3	9.84
Colour, True	TCU	15	17	11	26		12	149	7	29
Hardness as CaCO ₃	mg/L	66.95	4	65	67.6	No Guideline Required	65.1	42	57.9	91.9
pH	pH units	7.58	1	7.58	7.58	7.0 - 10.5 AO	7.66	25	6.86	8.68
Turbidity	NTU	0.55	16	0.4	2.00		0.95	163	0.36	10
Magic Lake										
Carbon, Total Organic	mg/L	9.65	12	8.7	11	≤ 15 AO	8.7	98	6.4	11
Colour, True	TCU	28	17	24	93		24	140	6	50
Hardness as CaCO ₃	mg/L	56.55	4	53.7	63.2	No Guideline Required	60.2	39	50.7	96
pH	pH units	7.23	1	7.23	7.23	7.0 - 10.5 AO	7.4	20	6.9	8.03
Turbidity	NTU	1.625	16	0.8	9.2		1.6	148	0.49	24.5
Non-Metallic Inorganic Chemicals										
Buck Lake										
Silicon	mg/L as Si	4705	4	4440	5370		5125	42	4.6	11900
Magic Lake										
Silicon	mg/L as Si	2500	4	1790	2580		1290	39	281	5760
Metals										
Buck Lake										
Aluminum	ug/L as Al	7.05	4	3.1	49	2900 MAC / 100 OG	< 10	42	< 3	95.6
Antimony	ug/L as Sb	< 0.5	4	< 0.5	< 0.5	6 MAC	< 0.5	42	0.041	< 0.5
Arsenic	ug/L as As	0.37	4	0.33	0.43	10 MAC	0.4	42	0.31	0.654
Barium	ug/L as Ba	11.15	4	9.2	13	1000 MAC	9.95	42	7.5	21.9
Beryllium	ug/L as Be	< 0.1	4	< 0.1	< 0.1		< 0.1	42	< 0.01	< 3
Bismuth	ug/L as Bi	< 1	4	< 1	< 1		< 1	40	0.074	< 1
Boron	ug/L as B	< 50	4	< 50	< 50	5000 MAC	< 50	42	< 50	< 50
Cadmium	ug/L as Cd	< 0.01	4	< 0.01	< 0.01	7 MAC	< 0.01	42	< 0.005	< 0.1
Calcium	mg/L as Ca	18.3	4	17.5	18.7	No Guideline Required	18	42	13.9	21.4
Chromium	ug/L as Cr	< 1	4	< 1	< 1	50 MAC	< 1	42	< 0.1	< 10
Cobalt	ug/L as Co	< 0.2	4	< 0.2	< 0.2		< 0.2	42	0.089	0.2
Copper	ug/L as Cu	0.605	4	0.51	0.76	2000 MAC / ≤ 1000 AO	0.9	42	0.35	37.3
Iron	ug/L as Fe	64.5	4	25.8	138	≤ 100 AO	72.3	42	14.2	507
Lead	ug/L as Pb	< 0.2	4	< 0.2	< 0.2	5 MAC	< 0.2	42	< 0.2	3.7
Lithium	ug/L as Li	< 2	4	< 2	< 2		< 2	26	0.88	< 5
Magnesium	mg/L as Mg	5.1	4	4.99	5.34	No Guideline Required	4.96	42	4.26	9.34
Manganese	ug/L as Mn	67.3	4	15.2	158	120 MAC / ≤ 20 AO	43.25	42	11	506
Molybdenum	ug/L as Mo	< 1	4	< 1	< 1		< 1	42	0.065	< 20
Nickel	ug/L as Ni	< 1	4	< 1	< 1		< 1	42	< 0.5	< 50
Potassium	mg/L as K	1.255	4	1.23	1.3		1.17	42	0.509	1.38
Selenium	ug/L as Se	< 0.1	4	< 0.1	< 0.1	50 MAC	< 0.1	42	0.047	< 0.5
Silver	ug/L as Ag	< 0.02	4	< 0.02	< 0.02	No Guideline Required	< 0.02	42	< 0.001	< 10
Sodium	mg/L as Na	11.4	4	11.2	11.8	≤ 200 AO	11	42	9.95	12.7
Strontium	ug/L as Sr	124.5	4	124	132	7000 MAC	118.5	42	106	134
Sulphur	mg/L as S	< 3	4	< 3	4		< 3	40	< 3	4.1
Tin	ug/L as Sn	< 5	4	< 5	< 5		< 5	42	< 0.2	< 20
Titanium	ug/L as Ti	< 5	4	< 5	< 5		< 5	42	< 0.5	< 10
Thallium	ug/L as Tl	< 0.01	4	< 0.01	< 0.01		< 0.01	40	< 0.002	< 0.05
Uranium	ug/L as U	< 0.1	4	< 0.1	< 0.1	20 MAC	< 0.1	40	0.012	< 0.1
Vanadium	ug/L as V	< 5	4	< 5	< 5		< 5	42	0.28	< 10
Zinc	ug/L as Zn	< 5	4	< 5	< 5	≤ 5000 AO	< 5	42	< 1	205
Zirconium	ug/L as Zr	< 0.1	4	< 0.1	< 0.1		< 0.1	40	< 0.1	< 0.5
Magic Lake										
Aluminum	ug/L as Al	11.4	4	4.7	68.3	2900 MAC / 100 OG	20.9	39	< 0.01	713
Antimony	ug/L as Sb	< 0.5	4	< 0.5	< 0.5	6 MAC	< 0.5	39	< 0.5	< 0.5
Arsenic	ug/L as As	0.445	4	0.4	0.72	10 MAC	< 0.5	39	0.35	2.75
Barium	ug/L as Ba	13.95	4	12.5	15	1000 MAC	14.9	39	< 9	84.9
Beryllium	ug/L as Be	< 0.1	4	< 0.1	< 0.1		< 0.1	39	< 0.1	< 3
Bismuth	ug/L as Bi	< 1	4	< 1	< 1		< 1	37	< 1	< 1
Boron	ug/L as B	< 50	4	< 50	< 50	5000 MAC	< 50	39	< 50	64
Cadmium	ug/L as Cd	< 0.01	4	< 0.01	< 0.01	7 MAC	< 0.01	39	< 0.01	0.01
Calcium	mg/L as Ca	14.4	4	13	16	No Guideline Required	15.1	39	12.7	19.8
Chromium	ug/L as Cr	< 1	4	< 1	< 1	50 MAC	< 1	39	< 1	< 10
Cobalt	ug/L as Co	< 0.2	4	< 0.2	< 0.2		< 0.2	39	< 0.2	< 20
Copper	ug/L as Cu	0.925	4	0.32	1.53	2000 MAC / ≤ 1000 AO	1.2	39	0.28	8.12
Iron	ug/L as Fe	137.5	4	111	199	≤ 100 AO	224	39	48.6	4260
Lead	ug/L as Pb	< 0.2	4	< 0.2	< 0.2	5 MAC	< 0.2	39	< 0.2	0.69
Lithium	ug/L as Li	< 2	4	< 2	< 2		< 2	28	< 2	< 5
Magnesium	mg/L as Mg	5.085	4	4.97	5.65	No Guideline Required	5.47	39	4.5	11.5
Manganese	ug/L as Mn	37.35	4	19.5	53.4	120 MAC / ≤ 20 AO	42.3	39	2.8	5000
Molybdenum	ug/L as Mo	< 1	4	< 1	< 1		< 1	39	< 1	< 20
Nickel	ug/L as Ni	< 1	4	< 1	< 1		< 1	39	< 1	< 50
Potassium	mg/L as K	1.0395	4	0.709	1.32		1.13	39	0.17	1.62
Selenium	ug/L as Se	< 0.1	4	< 0.1	< 0.1	50 MAC	< 0.1	39	< 0.1	< 0.5
Silver	ug/L as Ag	< 0.02	4	< 0.02	< 0.02	No Guideline Required	< 0.02	39	< 0.02	< 10
Sodium	mg/L as Na	11.55	4	11.4	12.3	≤ 200 AO	11.2	39	9.79	15.4
Strontium	ug/L as Sr	104.5	4	96.9	121	7000 MAC	108	39	86	158
Sulphur	mg/L as S	< 3	4	< 3	< 3		< 3	37	< 3	3.7
Tin	ug/L as Sn	< 5	4	< 5	< 5		< 5	39	< 5	< 20
Titanium	ug/L as Ti	< 5	4	< 5	< 5		< 5	39	< 5	22
Thallium	ug/L as Tl	< 0.01	4	< 0.01	< 0.01		< 0.01	37	< 0.01	< 0.05
Uranium	ug/L as U	< 0.1	4	< 0.1	< 0.1	20 MAC	< 0.1	37	< 0.1	0.19
Vanadium	ug/L as V	< 5	4	< 5	< 5		< 5	39	< 5	< 10
Zinc	ug/L as Zn	< 5	4	< 5	< 5	≤ 5000 AO	< 5	39	< 1	215
Zirconium	ug/L as Zr	< 0.1	4	< 0.1	0.1		< 0.1	37	< 0.05	< 0.5
Microbial Parameters										
Indicator Bacteria (Buck Lake)										
Coliform, Total	CFU/100 mL	46	17	3	1100	0 MAC	73	181	<1	4700
<i>E. coli</i>	CFU/100 mL	< 1	17	< 1	8	0 MAC	< 2	181	<1	34
Hetero. Plate Count, 7 day	CFU/1 mL	Not tested in 2024				No Guideline Required	1345	64	330	5800
Indicator Bacteria (Magic Lake)										
Coliform, Total	CFU/100 mL	840	16	17	63000	0 MAC	411	142	2	6000
<i>E. coli</i>	CFU/100 mL	4	17	< 1	80	0 MAC	< 2	150	<1	115
Hetero. Plate Count, 7 day	CFU/1 mL	Not tested in 2024				No Guideline Required	2600	59	370	20000
Parasites (Buck Lake)										
<i>Cryptosporidium</i> , Total oocysts	oocysts/100 L	<1	2	<1	<1	Zero detection desirable	< 1	22	< 1	1.45
<i>Giardia</i> , Total cysts	cysts/100 L	<1	2	<1	<1	Zero detection desirable	< 1	22	< 1	< 1
Parasites (Magic Lake)										
<i>Cryptosporidium</i> , Total oocysts	oocysts/100 L	<1	2	<1	<1	Zero detection desirable	< 1	22	< 1	5.3
<i>Giardia</i> , Total cysts	cysts/100 L	<1	2	<1	<1	Zero detection desirable	< 1	22	< 1	< 1

Table 2

Table 2: 2024 Summary of Treated Water Test Results, Magic Lake Estates Water System										
PARAMETER		2024 ANALYTICAL RESULTS				CANADIAN GUIDELINES	2014 - 2023 ANALYTICAL RESULTS			
Parameter Name	Units of Measure	Annual Median	Samples Analyzed	Range Min. Max.		≤ = Less than or equal to	Median	Samples Analyzed	Range Minimum Maximum	
ND means Not Detected by analytical method used										
Physical Parameters										
Carbon, Total Organic	mg/L as C	3.7	20	3.3	4.7		3.83	172	2.2	43.5
Colour, True	TCU	< 2	51	< 2	9	15 AO	< 2	743	< 0.7	11
Hardness as CaCO3	mg/L	65.25	12	62.8	66.9		64.7	108	56.4	72.1
pH	No units	7.03	1	7.03	7.03	7.0-10.5 AO	7.16	29	6.89	7.7
Turbidity	NTU	0.15	48	0.05	10.9	1 MAC and ≤ 5 AO	< 0.14	975	0.05	13
Water Temperature	Degrees C	11.95	296	3.6	23.9	≤ 15 C°C	10.6	4609	0	24.7
Microbial Parameters										
Indicator Bacteria										
Coliform, Total	CFU/100 mL	< 1	191	< 1	< 1	0 MAC	< 1	1378	<1	45
E. coli	CFU/100 mL	< 1	191	< 1	< 1	0 MAC	< 1	1378	<1	< 1
Hetero. Plate Count, 7 day	CFU/1 mL	45	20	< 10	380	No Guideline Required	< 10	198	< 10	6700
Disinfectants										
Disinfectants										
Chlorine, Free Residual	mg/L as Cl2	0.47	299	0.02	1.67	No Guideline Required	0.4	5017	0	4.9
Chlorine, Total Residual	mg/L as Cl2	0.675	138	0.14	1.96	No Guideline Required	0.62	4589	0.08	3.8
Disinfection By-Products										
Trihalomethanes (THMs)										
Bromodichloromethane	ug/L	16.5	8	13	22		18.5	65	12	24
Bromoform	ug/L	< 1	8	< 1	< 1		< 1	65	< 0.1	< 1
Chloroform	ug/L	42	8	33	70		54.5	2	52	57
Chlorodibromomethane	ug/L	3.35	8	2.2	4		3.25	64	<0.1	4.9
Total Trihalomethanes	ug/L	62	8	51	96	100 MAC	69	65	46	120
Haloacetic Acids (HAAs)										
HAA5	ug/L	Not tested in 2024				80 MAC	33.5	12	< 0.1	46
Metals										
Aluminum	ug/L as Al	25.1	12	14.4	51.9	2900 MAC / 100 OG	24.4	108	11.7	186
Antimony	ug/L as Sb	< 0.5	12	< 0.5	< 0.5	6 MAC	< 0.5	108	0.033	< 0.5
Arsenic	ug/L as As	0.235	12	0.18	0.28	10 MAC	0.22	108	0.14	0.36
Barium	ug/L as Ba	8.8	12	8	10.5	1000 MAC	7.9	108	5.7	10.7
Beryllium	ug/L as Be	< 0.1	12	< 0.1	< 0.1		< 0.1	108	< 0.01	0.1
Bismuth	ug/L as Bi	< 1	12	< 1	< 1		< 1	108	< 0.005	1
Boron	ug/L as B	< 50	12	< 50	< 50	5000 MAC	< 50	108	< 50	52
Cadmium	ug/L as Cd	< 0.01	12	< 0.01	< 0.01	7 MAC	< 0.01	108	< 0.005	0.035
Calcium	mg/L as Ca	17.8	12	16.8	18.3	No Guideline Required	17.4	108	15.2	19.8
Chromium	ug/L as Cr	< 1	12	< 1	< 1	50 MAC	< 1	108	< 0.1	< 1
Cobalt	ug/L as Co	< 0.2	12	< 0.2	< 0.2		< 0.2	108	0.02	< 0.5
Copper	ug/L as Cu	13.25	12	< 0.2	40.3	2000 MAC / ≤ 1000 AO	9.65	108	0.21	55.4
Iron	ug/L as Fe	6.3	12	< 5	46.2	≤ 100 AO	8.2	108	2.4	58.9
Lead	ug/L as Pb	0.675	12	< 0.2	2.39	5 MAC	0.455	108	0.057	2.21
Lithium	ug/L as Li	< 2	12	< 2	< 2		< 2	65	0.85	< 5
Magnesium	mg/L as Mg	5.065	12	4.91	5.38	No Guideline Required	5.035	108	4.31	5.7
Manganese	ug/L as Mn	1.75	12	< 1	14.2	120 MAC / ≤ 20 AO	3.25	108	< 1	190
Molybdenum	ug/L as Mo	< 1	12	< 1	< 1		< 1	108	0.05	< 1
Nickel	ug/L as Ni	< 1	12	< 1	2.4		< 1	108	0.309	2.8
Potassium	mg/L as K	1.375	12	1.28	1.48		1.37	108	1.17	1.63
Selenium	ug/L as Se	< 0.1	12	< 0.1	< 0.1	50 MAC	< 0.1	108	< 0.04	0.11
Silicon	ug/L as Si	4080	12	3620	4440		4030	108	4.13	5140
Silver	ug/L as Ag	< 0.02	12	< 0.02	< 0.02	No Guideline Required	< 0.02	108	< 0.005	< 0.02
Sodium	mg/L as Na	14.25	12	13.5	16	≤ 200 AO	13.4	108	11.6	15.3
Strontium	ug/L as Sr	121.5	12	116	132	7000 MAC	117	108	102	133
Sulphur	mg/L as S	< 3	12	< 3	4		< 3	108	< 3	4.5
Tin	ug/L as Sn	< 5	12	< 5	< 5		< 5	108	< 0.2	< 5
Titanium	ug/L as Ti	< 5	12	< 5	< 5		< 5	108	< 0.5	< 5
Thallium	ug/L as Tl	< 0.01	12	< 0.01	< 0.01		< 0.01	108	< 0.002	< 0.05
Uranium	ug/L as U	< 0.1	12	< 0.1	< 0.1	20 MAC	< 0.1	108	< 0.002	< 0.1
Vanadium	ug/L as V	< 5	12	< 5	< 5		< 5	108	< 0.2	< 5
Zinc	ug/L as Zn	9.75	12	< 5	43.8	≤ 5000 AO	5.6	108	2.02	39.7
Zirconium	ug/L as Zr	< 0.1	12	< 0.1	< 0.1		< 0.1	107	< 0.1	< 0.5

CAPITAL REGIONAL DISTRICT

MAGIC LAKE ESTATE WATER

Statement of Operations (Unaudited)

For the Year Ended December 31, 2024

	2024	2023
Revenue		
Transfers from government	580,060	580,000
User Charges	399,766	382,615
Water Sales	28,483	23,360
Leases	8,100	8,100
Other revenue from own sources:		
Interest earnings	-	1,021
Transfer from Operating Reserve	27,172	10,000
Other revenue	5,312	4,436
Total Revenue	1,048,893	1,009,531
Expenses		
General government services	35,494	33,368
Contract for Services	31,830	14,778
CRD Labour and Operating costs	529,885	435,874
Capital Purchases	-	11,082
Debt Servicing Costs	216,983	209,147
Supplies	62,668	86,598
Other expenses	172,033	125,997
Total Expenses	1,048,893	916,844
Net revenue (expenses)	-	92,687
Transfers to own funds:		
Capital Reserve Fund	-	82,687
Operating Reserve Fund	-	10,000
Annual surplus/(deficit)	-	-
Accumulated surplus/(deficit), beginning of year	-	-
Accumulated surplus/(deficit), end of year	\$ -	-

CAPITAL REGIONAL DISTRICT

MAGIC LAKE ESTATE WATER

Statement of Reserve Balances (Unaudited)

For the Year Ended December 31, 2024

	Capital Reserves	
	2024	2023
Beginning Balance	1,176,250	1,121,385
Transfer from Operating Budget	-	82,687
Transfer from Completed Capital Projects	17	40,786
Transfer to Capital Projects	(105,000)	(120,000)
Interest Income	51,811	51,392
Ending Balance	1,123,078	1,176,250

	Operating Reserve	
	2024	2023
Beginning Balance	47,811	45,504
Transfer from Operating Budget	-	10,000
Transfer to Operating Budget	(27,172)	(10,000)
Interest Income	2,272	2,307
Ending Balance	22,911	47,811

CAPITAL REGIONAL DISTRICT

MAGIC LAKE ESTATE SEWER

Statement of Operations (Unaudited)

For the Year Ended December 31, 2024

	2024	2023
Revenue		
Transfers from government	606,635	586,010
User Charges	290,078	271,133
Allocation recovery revenue	11,590	11,200
Other revenue from own sources:		
Interest earnings	392	2,353
Other revenue	4,453	4,350
Total Revenue	913,148	875,046
Expenses		
General government services	31,285	31,122
Contract for Services	102,952	124,045
CRD Labour and Operating costs	377,648	341,401
Debt Servicing Costs	174,718	174,635
Waste Sludge Disposal	69,649	86,435
Screening Disposal	1,885	-
Repairs & Maintenance	9,984	22,110
Supplies	34,336	21,825
Other expenses	84,268	68,729
Total Expenses	886,725	870,302
Net revenue (expenses)	26,423	4,744
Transfers to own funds:		
Capital Reserve Fund	13,163	-
Operating Reserve Fund	13,260	4,744
Annual surplus/(deficit)	-	-
Accumulated surplus/(deficit), beginning of year	-	-
Accumulated surplus/(deficit), end of year	\$ -	-

CAPITAL REGIONAL DISTRICT

MAGIC LAKE ESTATE SEWER-DEBT (\$6M)

Statement of Operations (Unaudited)

For the Year Ended December 31, 2024

	2024	2023
Revenue		
Transfers from government	229,459	234,106
Other revenue	2,985	2,631
Total Revenue	232,444	236,737
Expenses		
Debt Servicing Costs	232,444	232,208
Total Expenses	232,444	232,208
Net revenue (expenses)	-	4,529
Annual surplus/(deficit)	-	4,529
Accumulated surplus/(deficit), beginning of year	-	(4,529)
Accumulated surplus/(deficit), end of year	\$ -	-

CAPITAL REGIONAL DISTRICT

MAGIC LAKE ESTATE SEWER Statement of Reserve Balances (Unaudited) For the Year Ended December 31, 2024

	Capital Reserve 2024	2023
Beginning Balance	393,385	374,653
Transfer from Operating Budget	13,163	-
Transfer from Completed Capital Projects	-	-
Transfer to Capital Projects	-	-
Interest Income	18,555	18,732
Ending Balance	425,103	393,385

	Operating Reserve 2024	2023
Beginning Balance	29,241	23,075
Transfer from Operating Budget	13,260	4,744
Transfer to Operating Budget	-	-
Interest Income	1,422	1,422
Ending Balance	43,923	29,241