Capital Regional District

625 Fisgard St.,
Victoria, BC V8W 1R7

Notice of Meeting and Meeting Agenda
Cedar Lane Water Service Commission

Wednesday, October 16, 2024 | **10:00 AM** | **SIMS Boardroom, 124 Rainbow Road, Salt Spring Island BC**

Annual General Meeting

MS Teams Link: Click here

G.Holman, T. Boulter, J. Griffin, M. Hobbs

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

Purpose of the Annual General Meeting

The agenda for the Annual General Meeting (AGM) is approved by the members of the Commission. The purposes (and hence the agenda items) of the meeting are:

• To have the last year's AGM minutes approved (by Commission members), and to present reports on the work of the Commission on the past year's operation, maintenance, capital upgrades and financial information of the service to the service residents and owners,
• To nominate members for appointment to the Commission, and
• To enable the public to share comments on subjects which relate to the work of the Commission. The Commission can identify (under "new business") issues on which it wants feedback at the meeting. Motions raised by the public at the AGM will be considered by the commission at a subsequent regular meeting.

The Annual General Meeting is for the 2023 fiscal year

1. Territorial Acknowledgment

2. Election of Chair

3. Approval of Agenda

4. Adoption of Minutes

4.1. 24-966 Minutes of June 06, 2023 Cedar Lane Water Service Commission AGM

Recommendation: That the minutes of the June 06, 2023 meeting be adopted as circulated.

Attachments: Minutes: June 06, 2023

5. Director and Chair's Report

6. Report

6.1. 24-701 Cedar Lane Water Service Annual Report 2023

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

Attachments: Cedar Lane Annual Report 2023

7. Election of Commissioner

8. New Business

None

9. Outstanding Business

None

10. Adjournment

Next Meeting:

-Thursday, October 16, 2024, at 11:00am in the Salt Spring Island Multi Space (SIMS) Boardroom, 124 Rainbow Road, Salt Spring Island, BC V8K 2V5

Making a difference...together

Minutes of the Annual General Meeting of the Cedar Lane Water Service Commission Held June 5, 2023 for the 2022 Fiscal Year at the Salt Spring Island Multi Space (SIMS) Boardroom, 124 Rainbow Road, Salt Spring Island, BC

DRAFT

Present: **Director:** Gary Holman
Commission Members: Jason Griffin, Marianne Hobbs and Tisha Boulter
Staff: Karla Campbell, Senior Manager, Salt Spring Island Electoral Area, Dean Olafson, Manager SSI Engineering, Dan Robson, Manager, Saanich Peninsula and Gulf Islands Operations (Via Zoom), Lia Xu, Manager, Finance Services (Via Zoom), and Shayla Burnham, Recording Secretary

These minutes follow the order of the agenda although the sequence may have varied.

1. **Territorial Acknowledgement / Call Meeting to Order**

   A Territorial Acknowledgement was provided by Commissioner Griffin and the meeting was called to order at 12:33pm.

2. **Election of Chair**

   Staff called for nominations from the floor. Commissioner Griffin nominated Commissioner Boulter as Chair. After calling three times and hearing no other nominations, Commissioner Boulter was elected as Chair.

3. **Approval of Agenda**

   MOVED by Commissioner Griffin, **SECONDED** by Commissioner Boulter, that the Cedar Lane Water Service Commission approve the Monday, June 5, 2023 Annual General Meeting agenda for the 2022 fiscal year as presented.

   CARRIED

4. **Adoption of Minutes of the 2021 Annual General Meeting held on June 20, 2022**

   MOVED by Commissioner Griffin, **SECONDED** by Commissioner Hobbs, that the Cedar Lane Water Service Commission adopt the minutes of the 2021 Annual General Meeting held on June 20, 2022 as presented.

   CARRIED

5. **Director and Chairs Report**

   Director Holman briefly reported:

   - Salt Spring Island Local Community Commission elected on Saturday, May 27, with the inaugural meeting scheduled on Tuesday, June 20, 2023.

- Islands Trust hosting Open Houses as part of the engagement process of Proposed Bylaw No. 530 – Accessory Dwelling Units on Tuesday, June 6 and Saturday, June 10, 2023.
- Salt Spring Island Watershed Protection Alliance (SSIWPA) budget approved.

Chair Boulter – no report

Commissioner Griffin briefly reported:

- The service did not run out of water.
- Acknowledged staffs commitment to ongoing operational needs and future service upgrades.

6. Report

6.1 Annual Report for the 2022 Fiscal Year

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

Lia Xu joined the meeting electronically at 12:42pm.

Director Holman joined the meeting at 12:49pm.

7. New Business – None

8. Outstanding Business – None

9. Next Meeting – TBD

10. Adjournment

MOVED By Commissioner Griffin, that the Cedar Lane Water Service Commission adjourn the meeting at 12:59pm.

_____
CHAIR

_____
SENIOR MANAGER

Cedar Lane Water Service

2023 Annual Report

CRD | Drinking Water

INTRODUCTION

This report provides a summary of the Cedar Lane Water Service for 2023. It includes a description of the service, summary of the water supply, demand, and production, drinking water quality, operations highlights, capital project updates and financial report.

SERVICE DESCRIPTION

The Cedar Lane Water Utility is a rural residential community located on Salt Spring Island. The service was created in 1970 and became a CRD service in 2007. The Cedar Lane Water Utility (Figure 1) is comprised of 37 parcels of land connected to the system with 39 single-family equivalents (SFE) as the use on some parcels represents more than one dwelling.

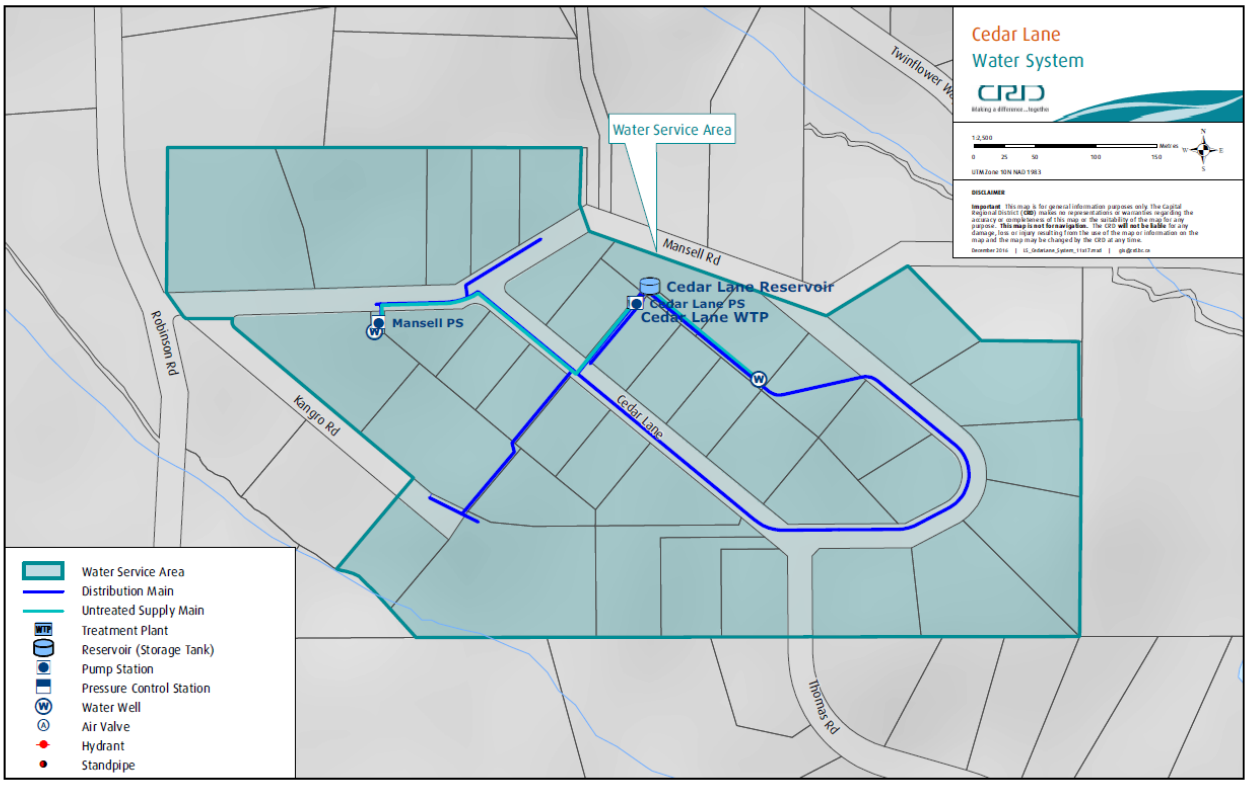

Figure 1: Cedar Lane Water Service

The Cedar Lane water system is primarily comprised of:

- two ground water source wells (#1 and #5)
- a water treatment plant (WTP) that provides primary disinfection with ultraviolet

- (UV) radiation and residual disinfection using sodium hypochlorite
- 1 water reservoir – 136 m^3 (30,000 Ig)
- 1,260 metres of water distribution pipe
- fire hydrant, standpipes, and gate valves
- water service connections complete with water meters

WATER PRODUCTION AND DEMAND

Referring to Figure 2, 3,430 cubic meters (m^3) of water was extracted (water production) from two groundwater wells in 2023; a 6% increase from the previous year and a 2% decrease in the five-year rolling average. Water demand (customer water billing) for the service totalled 3,264 m^3 of water; a 1% increase from the previous year and a 1% decrease in the five-year rolling average.

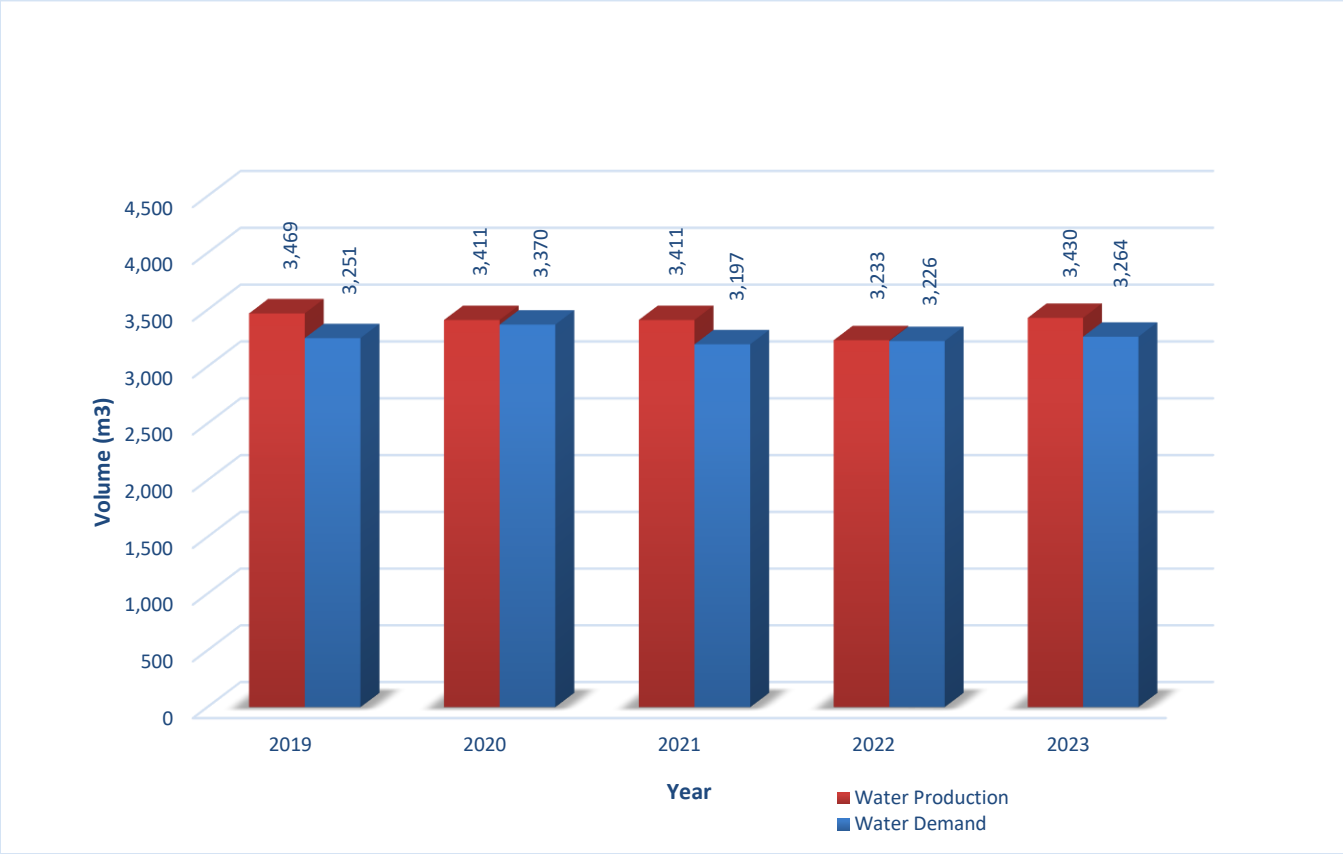

Figure 2: Cedar Lane Water Service Annual Water Production and Demand

Water production by month for the past five years is shown in Figure 3. Water consumption, for most water systems, is greatest during the summer months. Water usage for Cedar Lane is fairly consistent throughout the year likely the result of conservative indoor and outdoor water use.

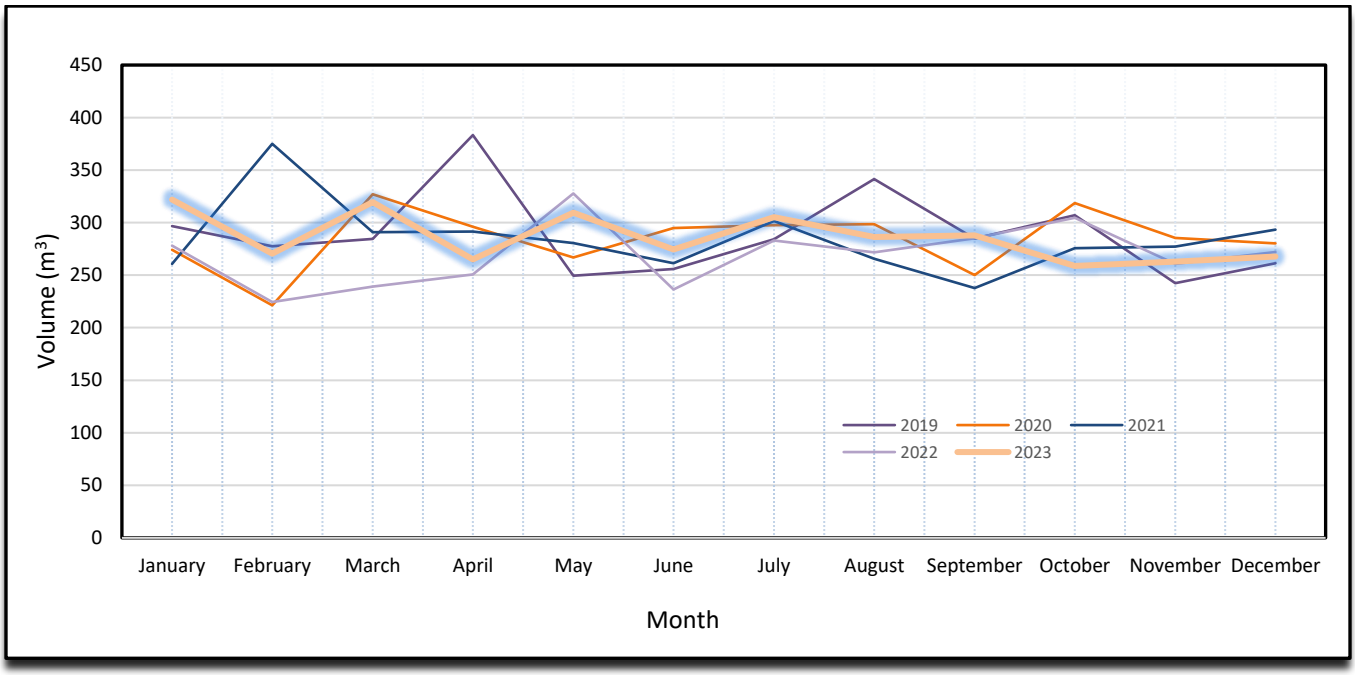

Figure 3: Cedar Lane Water Service Monthly Water Production

The Cedar Lane Water System is fully metered, and water meters are read quarterly. Water meter information enables water production and consumption to be compared in order to estimate leakage losses in the distribution system. The difference between water produced and water demand (total metered consumption) is called non-revenue water and includes distribution leaks, meter error, and unmetered uses such as fire hydrant usage, distribution system maintenance and process water for the treatment plant. Non-revenue water for 2023 is under 5% which is an indicator of a very tight water system with no appreciable leaks.

WATER QUALITY

The analytical results (biological, chemical and physical parameters) of water samples collected in 2023 from the Cedar Lane Water System indicated that the water was biologically safe to drink. Naturally high manganese concentrations in the well water remain insufficiently treated and regularly exceeded the aesthetic limits in most parts of the system, and frequently, in certain parts of the system, the health limits established in the Guidelines for Canadian Drinking Water Quality (GCDWQ). Particularly, areas immediately downstream from the treatment plant are vulnerable to manganese concentrations in exceedance of the health limit. Iron and manganese precipitates have been a significant nuisance problem in parts of the Cedar Lanewater system and have caused discolouration of the drinking water. In order to meet the newly introduced health limit for manganese concentrations in drinking water, the existing treatment system must be upgraded, or a new water source must be found. A public advisory for manganese exceedance in the drinking water has been in place since July 2021.

Both wells ran very low during the dry summer and fall months. Well #1 exhibited repeatedly elevated turbidity throughout the summer and fall and cause turbidity excursions at the treatment plant and at the far end of the distribution system.

Typical Cedar Lane Water System drinking water quality characteristics for 2023 are summarized as follows:

- Source water from both wells was free of *E. coli* bacteria. One sample in December collected from Well #5 recorded a very low concentration of total coliform bacteria.
- Well #1 registered periods with elevated turbidity throughout the year. The periods were as usual predominantly during the summer months when the well levels were the lowest. The highest turbidity peak in the water from this well occurred in September with 15 NTU recorded. A treated water turbidity exceedance at the treatment plant occurred on November 15 when the turbidity in Well #1 reached 7.9 NTU. While this event was short-lived and the risk of inadequate disinfection was low due to a low pathogen load in groundwater, the increasing frequency and severity of turbidity excursions in the source water may become a public health concern for this utility. Well #5 registered for the first time in several years no turbidity greater than 1 NTU.
- Source water is characterized as hard (137.5 mg/L $CaCO_3$).
- Both wells exhibited elevated iron and especially high manganese concentrations throughout the year.
- Treated water was bacteriologically safe to drink. No sample tested positive for *E.coli* bacteria. One sample from the distribution system on May 17 registered a low concentration of total coliform bacteria. The resample was free of total coliforms and therefore no actual drinking water contamination occurred.
- Besides the one aforementioned turbidity exceedance at the treatment plant, there were several turbidity exceedances in the distribution system at the end of Mansell Road during the summer and fall, indicating an accumulation of particles in the far ends of the piping system. This should be addressed by regular flushing in strategic locations.
- Free chlorine residual concentrations, albeit lower than in previous years, were still acceptable and within the desired range (i.e., 0.23 – 1.27 mg/L)
- Disinfection by-products: annual average trihalomethanes (THM) were well below (28 µg/L) the GCDWQ limit of 100 µg/L, haloacetic acids (HAA) were not tested in 2023. Typically, when THM concentrations are low, HAA concentrations are also low.
- Metals were typically below all limits except for elevated manganese concentrations. The median annual manganese concentration of 69 µg/L in the treated water indicates consistent exceedance of the aesthetic objective in the GCDWQ (20 µg/L) and also frequent exceedances of the health limit 120 µg/L. The health concerning exceedances occurred mostly in parts of the system that are immediately downstream of the treatment plant. A public health advisory has been in place since July 2021. CRD staff are working on mitigation strategies for this issue.
- Between June and September, the water temperature was in exceedance of the aesthetic objective (15ºC) in the distribution system.

Table 1 and 2 below provide a summary of the 2023 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

OPERATIONAL HIGHLIGHTS

The following is a summary of the major operational issues that were addressed during the 2023 operating period:

- Water meters were individually flushed and cleaned in addition to routine annual water system flushing.
- Well Pump 1 was inspected and cleaned.
- Replacement of failed Variable Frequency Drive (VFD)
- Some additional monitoring and sampling during elevated raw water turbidity event that occurred in early January.

CAPITAL IMPROVEMENTS

The following is a summary of the major capital improvements, including year-end spending for 2023:

Back-up Power Design (CE.735.4503): The work scope includes a study to provide back-up power to the service.

Project	Spending
Budget	$5,000
Project Management	($49)
Balance Remaining	**$4,951**

Manganese Treatment System Design (CE.780.4501): This work scope includes the preliminary and detailed design for a manganese treatment system for the service.

Project	Spending
Budget	$156,500
Project Management	($25,933)
Study and Design	($52,097)
Balance Remaining	**$78,470**

Public Engagement for Manganese Treatment Project (CE.780.4502): Prepare and conduct public engagement presentations to inform residents of the project to seek their approval.

Project	Spending
Budget	$5,000
Project Management	($0)
Balance Remaining	**$5,000**

Referendum or AAP for Manganese Treatment Project (CE.780.4503): Undertake a referendum or AAP to borrow funds to carry out the construction of the manganese treatment project.

Project	Spending
Budget	$5,000
Project Management	($0)
Balance Remaining	**$5,000**

2023 FINANCIAL REPORT

Please refer to the attached 2023 Statement of Operations and Reserve Balances.

Revenue includes parcel taxes (Transfers from Government), fixed user fees (User Charges), water sales (Sale-Water), interest on savings (Interest earnings), transfers from the Operating Reserve Fund, and miscellaneous revenue such as late payment charges (Other revenue).

Expenses include all costs of providing the service. General Government Services includes budget preparation, financial management, utility billing and risk management services. CRD Labour and Operating Costs include CRD staff time as well as the costs of equipment, tools, and vehicles. Debt servicing costs are interest and principal payments on long-term debt. Other Expenses include all other costs to administer and operate the water system, including insurance, supplies, 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 the next year's financial plan.

WATER SYSTEM PROBLEMS - WHO TO CALL:

To report any event or to leave a message regarding the Cedar Lane water system, call either:

CRD water system emergency call centre: **1-855-822-4426 (toll free)**
1-250-474-9630 (toll)
CRD water system general enquiries (toll free): **1-800-663-4425**

When phoning with respect to an emergency, please specify to the operator, the service area in which the emergency has occurred.

Submitted by:	Jason Dales, Senior Manager B.Sc, WD IV, Infrastructure Operations
	Glenn Harris, Ph.D., R.P.Bio., Senior Manager, Environmental Protection
	Dan Ovington, BBA , Senior Manager, Salt Spring Island Electoral Area
	Angela Linwood, CPA, CMA, Controller, Financial Services
Concurrence:	Ted Robbins, B. Sc., C. Tech., Chief Administrative Officer

Attachment: 2023 Statement of Operations and Reserve Balances

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

Table 1: 2023 Summary of Raw Water Test Results, Cedar Lane Water System										
PARAMETER		**2023 ANALYTICAL RESULTS**				**CANADIAN GUIDELINES**	**2013 - 2022 ANALYTICAL RESULTS**			
Parameter Name	Units of Measure	Annual Median	Samples Analyzed	Range Minimum	Range Maximum	≤ = Less than or equal to	Median	Samples Analyzed	Range Minimum	Range Maximum
ND means Not Detected by analytical method used										
Physical Parameters/Biological										
Colour, True	TCU	Last analyzed in 2013				≤ 15 AO	2.785	2	2.49	3.08
Hardness as $CaCO_3$	mg/L	**137.5**	8	105	166	No Guideline Required	131	68	98.1	188
pH	pH Units	**7.3**	2	7.2	7.4	7.0-10.5 AO	7.4	52	6.1	8.6
Total Organic Carbon	mg/L	**0.99**	8	0.82	1.2	Guideline Archived	1.1	48	< 0.5	2.35
Turbidity	NTU	**0.675**	24	0.1	15	1.0 NTU	0.55	119	0.05	23
Water Temperature	Degrees C	**13**	72	10	17	≤ 15 AO	12.5	270	5	17
Microbial Parameters										
Indicator Bacteria										
Coliform, Total	CFU/100 mL	**< 1**	24	< 1	1	0 MAC	< 1	222	<1	800
E. coli	CFU/100 mL	**< 1**	24	< 1	< 1	0 MAC	< 1	221	<1	19
Hetero. Plate Count, 35C (2 day)	CFU/1 mL	Last tested in 2014					28	1	28	28
Parasites										
Cryptosporidium , Total oocysts	oocysts/100 L	Last tested in 2014				Zero detection desirable	<1	1	<1	<1
Giardia , Total cysts	cysts/100 L	Last tested in 2014				Zero detection desirable	<1	1	<1	<1
Metals										
Aluminum	ug/L as Al	**< 3**	8	< 3	3.1	2900 MAC / 100 OG	< 3	68	< 3	96
Antimony	ug/L as Sb	**< 0.5**	8	< 0.5	< 0.5	6 MAC	< 0.5	68	< 0.5	< 0.5
Arsenic	ug/L as As	**0.32**	8	0.18	0.42	10 MAC	0.365	68	0.14	1.64
Barium	ug/L as Ba	**8.15**	8	4.7	11.5	1000 MAC	9.1	68	4.4	15
Beryllium	ug/L as Be	**< 0.1**	8	< 0.1	< 0.1		< 0.1	68	< 0.1	< 3
Bismuth	ug/L as Bi	**< 1**	8	< 1	< 1		< 1	64	< 1	< 1
Boron	ug/L as B	**54**	8	< 50	62	5000 MAC	56	68	< 50	494
Cadmium	ug/L as Cd	**< 0.01**	8	< 0.01	< 0.01	7 MAC	< 0.01	68	< 0.01	< 0.1
Calcium	mg/L as Ca	**41.75**	8	31	51.2	No Guideline Required	39.65	68	29.1	58.3
Chromium	ug/L as Cr	**< 1**	8	< 1	< 1	50 MAC	< 1	68	< 1	< 10
Cobalt	ug/L as Co	**< 0.2**	8	< 0.2	< 0.2		< 0.2	68	< 0.2	< 20
Copper	ug/L as Cu	**2.115**	8	0.83	7.05	2000 MAC / ≤ 1000 AO	2.32	68	0.46	21.5
Iron	ug/L as Fe	**186.5**	8	112	926	≤ 300 AO	115	68	11.4	4170
Lead	ug/L as Pb	**0.41**	8	0.23	2.99	5 MAC	< 0.5	68	< 0.2	9.29
Lithium	ug/L as Li	**18.5**	8	16.5	19.7		17.5	39	14.5	21.4
Magnesium	mg/L as Mg	**8.045**	8	6.56	9.32	No Guideline Required	7.94	68	6.15	10.8
Manganese	ug/L as Mn	**396**	8	354	419	120 MAC / ≤ 20 AO	395.5	78	4.1	1140
Molybdenum	ug/L as Mo	**< 1**	8	< 1	< 1		< 1	68	< 1	< 20
Nickel	ug/L as Ni	**1.05**	8	< 1	4.6		< 1	68	< 1	< 50
Potassium	mg/L as K	**0.246**	8	0.211	0.286		0.255	68	< 0.03	0.44
Selenium	ug/L as Se	**< 0.1**	8	< 0.1	< 0.1	50 MAC	< 0.1	68	< 0.1	< 0.5
Silicon	mg/L as Si	**9875**	8	8620	11000		9645	68	7260	11700
Silver	ug/L as Ag	**< 0.02**	8	< 0.02	< 0.02	No Guideline Required	< 0.02	68	< 0.02	< 10
Sodium	mg/L as Na	**53.4**	8	47.1	60.4	≤ 200 AO	53.2	68	37.6	78.9
Strontium	ug/L as Sr	**427.5**	8	335	530	7000 MAC	401.5	68	294	578
Sulphur	mg/L as Si	**5.6**	8	4.5	7.7		6.4	64	3.7	8.8
Tin	ug/L as Sn	**< 5**	8	< 5	< 5		< 5	68	< 5	< 20
Titanium	ug/L as Ti	**< 5**	8	< 5	< 5		< 5	68	< 5	< 10
Thallium	ug as Tl	**< 0.01**	8	< 0.01	< 0.01		< 0.01	64	< 0.01	< 0.05
Uranium	ug/L as U	**< 0.1**	8	< 0.1	< 0.1	20 MAC	< 0.1	64	< 0.1	0.14
Vanadium	ug/L as V	**< 5**	8	< 5	< 5		< 5	68	< 5	< 10
Zinc	ug/L as Zn	**6.3**	8	< 5	13.9	≤ 5000 AO	9.2	68	< 1	211
Zirconium	ug/L as Zr	**< 0.1**	8	< 0.1	< 0.1		< 0.1	64	< 0.1	< 0.5

Table 2: 2023 Summary of Treated Water Test Results, Cedar Lane Water System										
PARAMETER		**2023 ANALYTICAL RESULTS**				**CANADIAN GUIDELINES**	**2013 - 2023 ANALYTICAL RESULTS**			
Parameter Name	Units of Measure	Annual Median	Samples Analyzed	Range Minimum	Range Maximum	≤ = Less than or equal to	Median	Samples Analyzed	Range Minimum	Range Maximum
ND means Not Detected by analytical method used										
Physical Parameters										
Alkalinity, Total	mg/L	Last analyzed in 2012					211	1	211	211
Carbon, Total Organic	mg/L as C	**0.98**	4	0.83	1.1		1.1	30	< 0.3	2.52
Colour, True	TCU	Last analyzed in 2009				≤ 15 AO				
Conductivity @ 25C	uS/cm	Last analyzed in 2009								
Hardness as $CaCO_3$	mg/L	**143**	18	104	147	No Guideline Required	142	83	62.9	161
pH	pH units	**7.575**	2	7.55	7.6	7.0-10.5 AO	7.64	33	6.4	8.1
Turbidity	NTU	**0.55**	25	0.1	5.8	1 MAC and ≤ 5 AO	0.4	110	< 0.14	1.2
Water Temperature	Degress C	**11**	164	6	22.5	≤ 15 AO	12	2534	4	23
Microbial Parameters										
Indicator Bacteria										
Coliform, Total	CFU/100 mL	**< 1**	49	< 1	6	0 MAC	< 1	346	<1	120
E. coli	CFU/100 mL	**< 1**	49	< 1	< 1	0 MAC	< 1	345	<1	< 1
Hetero. Plate Count 7 day	CFU/1 mL	**20**	1	20	20	No Guideline Required	< 10	44	< 10	2600
Disinfectants										
Disinfectants										
Chlorine, Free Residual	mg/L as Cl2	**0.61**	172	0.23	1.27	No Guideline Required	0.64	2574	0.18	2.2
Chlorine, Total Residual	mg/L as Cl_2	**0.82**	32	0.4	1.51	No Guideline Required	0.73	2254	0.22	2.2
Disinfection By-Products										
Trihalomethanes (THMs)										
Bromodichloromethane	ug/L	**9.9**	4	9.5	13		10.45	33	5.29	15
Bromoform	ug/L	**< 1**	4	< 1	1.1		< 1	33	< 0.1	1.1
Chloroform	ug/L	**12**	4	11	18		17	33	5.89	180
Chlorodibromomethane	ug/L	**6.15**	4	4.7	8.1		5.4	33	<0.1	8.3
Total Trihalomethanes	ug/L	**28**	4	26	39	100 MAC	30.5	32	20	185
Haloacetic Acids (HAA)										
HAA5	ug/L	Not tested in 2023				80 MAC	6.025	6	0.958	7.4
Metals										
Aluminum	ug/L as Al	**< 3**	18	< 3	15.3	2900 MAC / 100 OG	< 3	83	< 3	73
Antimony	ug/L as Sb	**< 0.5**	18	< 0.5	< 0.5	6 MAC	< 0.5	83	< 0.5	< 0.5
Arsenic	ug/L as As	**0.285**	18	0.21	9.4	10 MAC	0.28	83	0.19	0.819
Barium	ug/L as Ba	**6.8**	18	4.9	17.7	1000 MAC	6.5	83	2.9	29
Beryllium	ug/L as Be	**< 0.1**	18	< 0.1	0.79		< 0.1	83	< 0.1	< 3
Bismuth	ug/L as Bi	**< 1**	18	< 1	< 1		< 1	80	< 1	< 1
Boron	ug/L as B	**52.5**	18	< 50	67	5000 MAC	53	83	< 50	448
Cadmium	ug/L as Cd	**< 0.01**	18	< 0.01	< 0.01	5 MAC	< 0.01	83	< 0.01	< 0.1
Calcium	mg/L as Ca	**44.35**	18	30.6	47.5	No Guideline Required	44.6	83	20.7	51.5
Chromium	ug/L as Cr	**< 1**	18	< 1	13	50 MAC	< 1	83	< 1	< 10
Cobalt	ug/L as Co	**< 0.2**	18	< 0.2	< 0.2		< 0.2	83	< 0.2	< 20
Copper	ug/L as Cu	**14.1**	18	8.02	31.9	2000 MAC / ≤ 1000 AO	16.7	83	5.83	48.8
Iron	ug/L as Fe	**36.8**	18	7.3	58.4	≤ 300 AO	22.3	83	< 5	65
Lead	ug/L as Pb	**0.445**	18	< 0.2	2.32	5 MAC	0.535	82	< 0.2	2.27
Lithium	ug/L as Li	**17.25**	18	16.4	19.1		17.1	52	9.4	19.7
Potassium	ug/L as K	**0.2595**	18	0.235	0.301		0.261	83	0.236	0.467
Magnesium	mg/L as Mg	**7.795**	18	6.61	8.16	No Guideline Required	7.56	83	2.71	9.39
Manganese	ug/L as Mn	**68.95**	18	20.4	266	120 MAC / ≤ 20 AO	79.4	103	< 1	1790
Molybdenum	ug/L as Mo	**< 1**	18	< 1	< 1		< 1	83	< 1	< 20
Nickel	ug/L as Ni	**< 1**	18	< 1	3.9		< 1	83	< 1	< 50
Selenium	ug/L as Se	**< 0.1**	18	< 0.1	< 0.1	50 MAC	< 0.1	83	< 0.1	< 0.5
Silicon	ug/L as Si	**10000**	18	9410	12000		9700	83	5370	10400
Silver	ug/L as Ag	**< 0.02**	18	< 0.02	0.022	No Guideline Required	< 0.02	83	< 0.02	< 10
Sodium	mg/L as Na	**52.6**	18	49.3	57.2	≤ 200 AO	52.9	83	25.9	68
Strontium	ug/L as Sr	**424.5**	18	354	458	7000 MAC	424	83	196	497
Sulphur	mg/L as S	**5.65**	18	5.1	6.3		6.35	80	4.8	8.9
Tin	ug/L as Sn	**< 5**	18	< 5	< 5		< 5	83	< 5	< 20
Titanium	ug/L as Ti	**< 5**	18	< 5	5.6		< 5	83	< 5	< 10
Thallium	ug/L as Tl	**< 0.01**	18	< 0.01	< 0.01		< 0.01	80	< 0.01	< 0.05
Uranium	ug/L as U	**< 0.1**	18	< 0.1	< 0.1	20 MAC	< 0.1	80	< 0.1	< 0.1
Vanadium	ug/L as V	**< 5**	18	< 5	< 5		< 5	83	< 5	< 10
Zinc	ug/L as Zn	**13.1**	18	7.2	21.9	≤ 5000 AO	16.5	83	< 1	207
Zirconium	ug/L as Zr	**< 0.1**	18	< 0.1	0.44		< 0.1	80	< 0.1	< 5