

Skana Water System

2025 Annual Report



Introduction

This report provides a summary of the Skana Water Service for 2025 and 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 community of Skana is a rural residential development located on the north side of Mayne Island in the Southern Gulf Islands Electoral Area, originally serviced by a private water utility. In 2003, the service converted to the Capital Regional District (CRD). The Skana Water Service (Figure 1) is made up of 73 parcels encompassing a total area of approximately 19 hectares. Of the 73 parcels, 52 were customers of the water system in 2025.

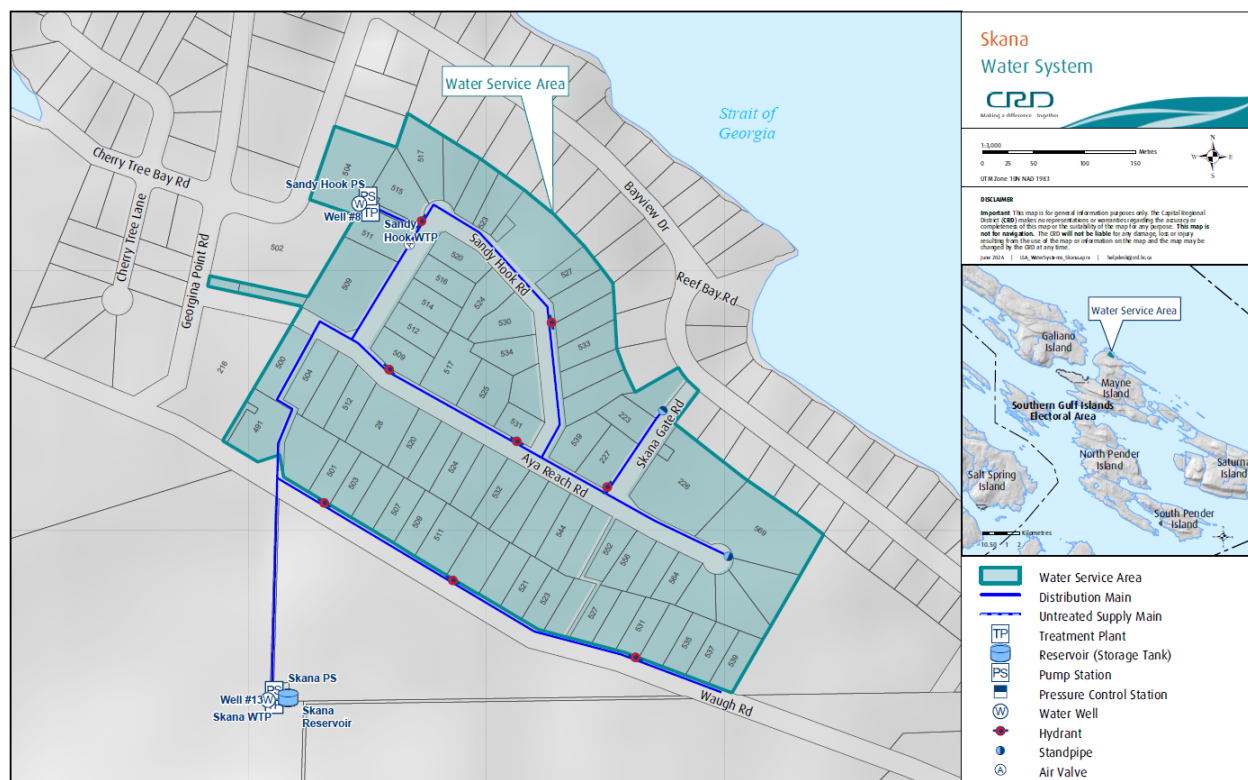


Figure 1: Map of Skana Water System

The Skana water system is primarily comprised of:

- Two groundwater wells, related pumping and control equipment and buildings (Production Wells #8 and Well #13).
- Disinfection process equipment (ultraviolet light and chlorine at each well).

- Two steel storage tanks (total volume is 91 cubic meters).
- Distribution system (approx. 1,970 meters of water mains).
- Other water system assets: 52 service connections and meters, eight flushing hydrants, two flushing standpipes, 15 gate valves, one air release valve, Supervisory Control and Data Acquisition (SCADA) system and auxiliary generator.

Water Supply

Groundwater supply monthly water levels are highlighted for 2025 in Figure 2. The data reflects well level drawdown in the summer months and into the fall consistent with historical seasonality effects due to drought.

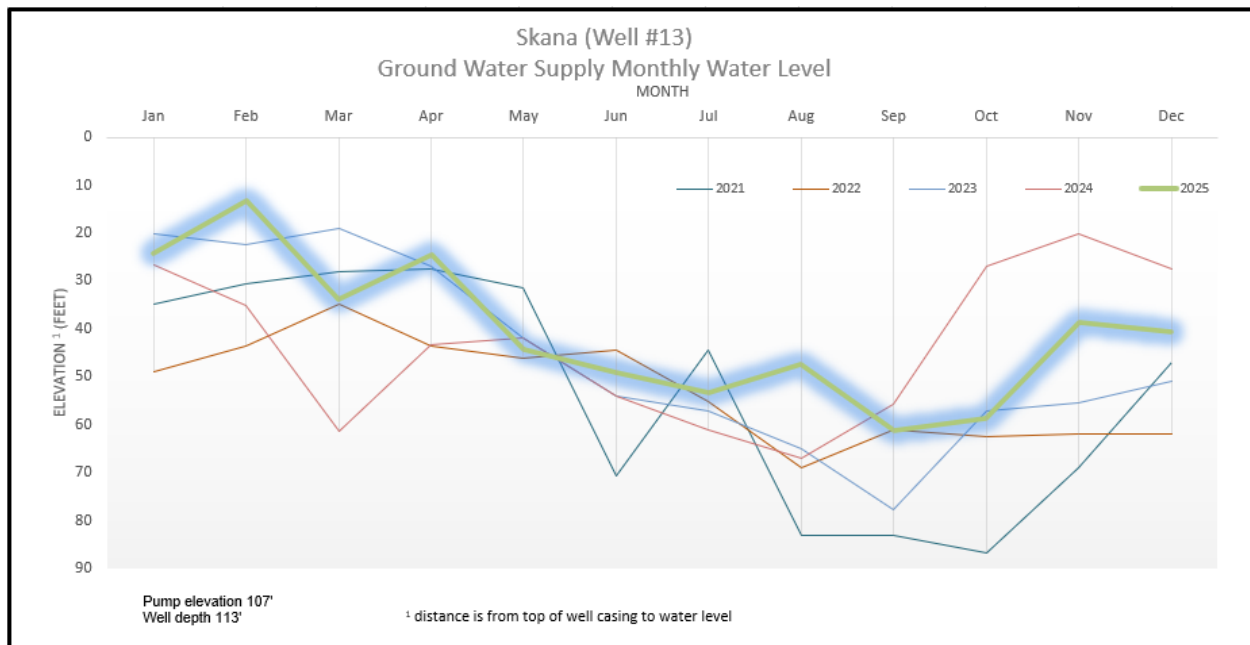


Figure 2: Skana Well #13 Groundwater Supply Monthly Water Level

Water Production and Demand

Referring to Figure 3; 3,416 cubic meters of water were extracted (water production) from the groundwater source (Well #13 and Well #8) in 2025; a 9% decrease from the previous year and a 22% decrease from the five-year average. Water demand (customer water billing) for the service totaled 2,721 cubic meters of water; a 6% decrease from the previous year and an 18% decrease from the five-year average.

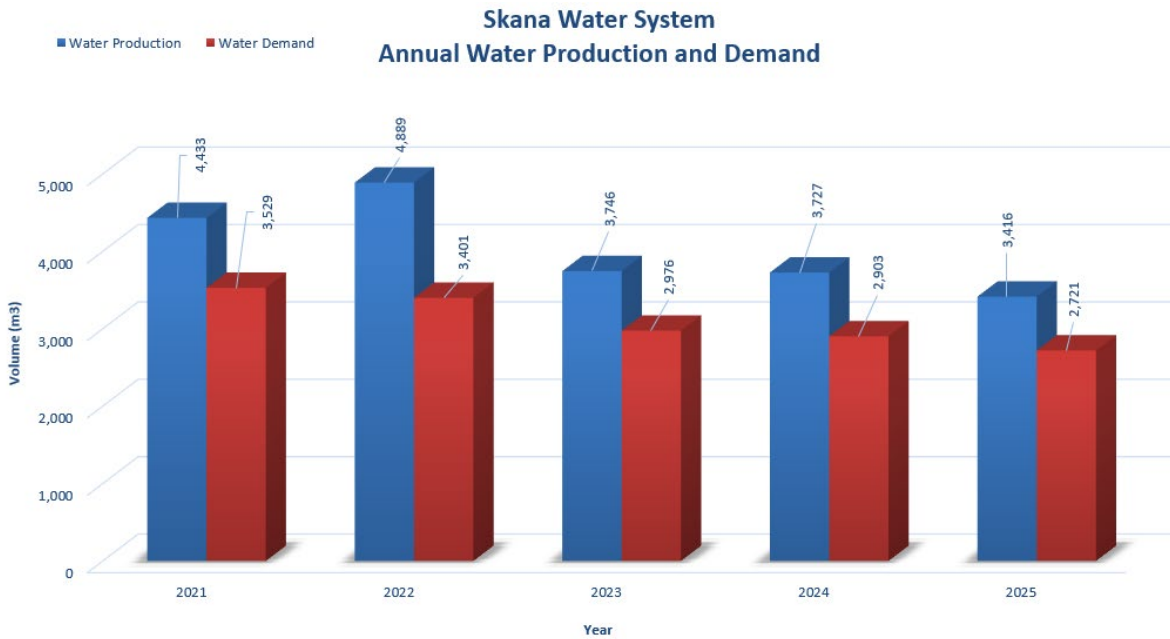


Figure 3: Skana Water Service Annual Water Production and Demand

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 2025 non-revenue water (695 cubic meters) represents approximately 20% of the total water production for the service area. However, approximately 600 cubic meters is attributed to operational use resulting in a non-revenue water volume of approximately 95 cubic meters or 3.0%.

Figure 4 below illustrates the monthly water production for 2025 along with the historical water production information. The monthly water production trends are typical for small water systems such as the Skana water system. However, water production in February/March, 2025 was abnormally higher because of water system leaks that were located and repaired.

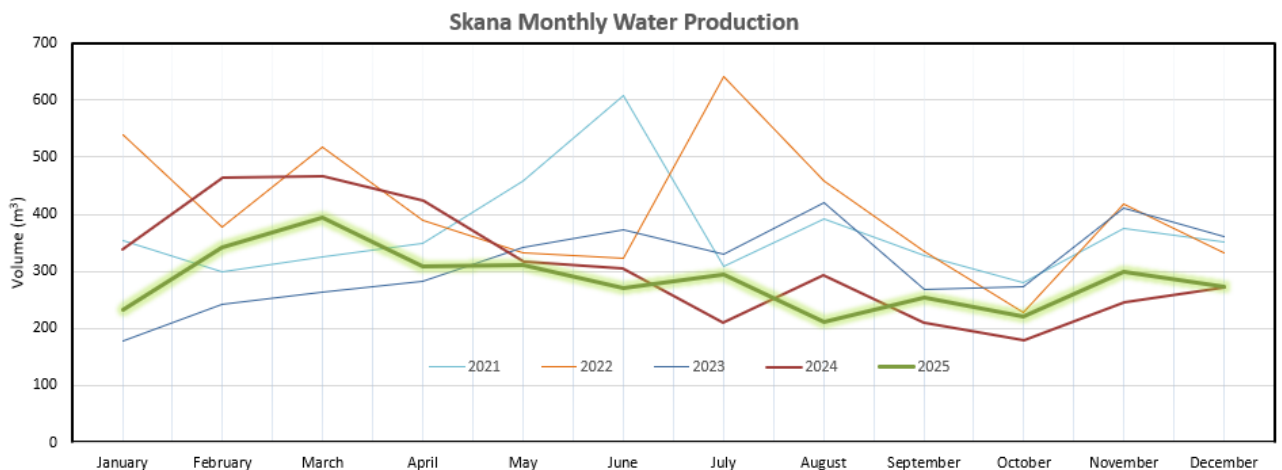


Figure 4: Skana Water Service Monthly Water Production

Drinking Water Quality

Staff completed the water quality monitoring program at Skana based on regulatory requirements and system specific risks. Samples were collected at regular frequencies from the raw water, at the treatment plant as well as from several sampling stations in the distribution system. The samples were shipped for various analyses to the CRD's Water Quality Lab or to external laboratories for special analyses such as disinfection by-products or metals.

The water system generally supplied drinking water of good quality to the community in 2025. The main source Well #13 ran low during the peak of summer and fall period, and backup Well #8 had supplemented the supply. Several parameters that had been problematic in past years showed improvement in 2025. There were no manganese exceedances, and disinfection by-product concentrations remained low throughout the year. While Well #13 still shows clear signs of surface water influence, the impact of rainfall events on well water quality appears reduced following the removal of several abandoned wells in the area.

The data below provides a summary of the water quality characteristics in 2025:

Raw Water:

- Well #13, the primary source, and Well #8, the backup and supplemental well, were both free of any indicator bacteria in 2025.
- Source water from both wells consistently had turbidity levels below 1 NTU. This represents an improvement over previous years, when turbidity tended to rise during drought conditions and periods of rapid aquifer recharge. During the summer, source supply was supplemented with water from Well #8, the utility's backup water source. The median raw water turbidity was 0.48 NTU. This was slightly lower than in previous years.
- The raw water was hard (hardness 86.7 mg/L CaCO₃).
- The total organic carbon (TOC) concentration in the raw water ranged from 0.9 to 4.7 mg/L with the higher concentrations recorded in the winter during rainy periods. Episodes of high TOC have the potential for high disinfection by-product concentrations. TOC levels of 4.7 mg/L are also not typical for a true groundwater source and therefore evidence of surface water influence.
- Water colour was low and consistently below the GCDWQ aesthetic objective throughout the year.
- Manganese concentrations were slightly elevated in May in Well #8 and in August in Well #13.

Treated Water:

- The treated water was safe to drink with no E. coli or total coliform bacteria positive test results.
- The disinfection by-products total trihalomethanes (TTHM) and haloacetic acids (HAA) remained consistently below their MACs of 100 µg/L and 80 µg/L, respectively, at all sampling locations. This represents a significant improvement over previous years.
- In February and May, iron concentrations in the treated water leaving the treatment plant, and in the distribution system on Skana Gate Road, were well above the GCDWQ aesthetic objective. Because raw water iron levels remained low throughout the year, these elevated concentrations were attributed to accumulation in the distribution system and in the storage tanks. This also resulted in water discolouration above the aesthetic objective during the first half of the year. However, no customer complaints were received. Spot flushing at strategic locations in the distribution system and tank cleaning during spring would be adequate to prevent the accumulation of iron precipitates.
- The median treated water turbidity was 0.50 NTU. During the winter months, several distribution system samples recorded slightly elevated turbidity levels. This is likely also related to the accumulation of metal precipitates during the low demand season.

- Manganese concentrations remained low all year.
- The free chlorine residual concentrations ranged from 0.07 to 1.94 mg/L with a median of 0.78 mg/L in the distribution system indicating satisfactory secondary disinfection.

Table 1 and 2 below provide a summary of the 2025 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 by CRD Infrastructure and Water Services staff:

- Investigate discoloured water following reservoir cleaning in late 2024
- Operational response and leak detection due to high demand in February resulting in multiple repairs on private side by homeowners.
- Uni-directional water system flushing performed by Operations in May/June.
- Well pump 13 failed and was replaced.
- Multiple sample ports were rebuilt.

Capital Projects Update

The Capital Projects that were in progress or completed in 2025 include:

- Storage Tank Options Assessment (24-02) – CRD finalized the options assessment for the replacement of the Skana water storage tanks to support a petition process for debt authorization.
- Source Water Surveillance & Well #8 Upgrades (24-01 & 17-04) - Preliminary coordination to inform scope sufficient to inform petition process and budget for future year improvement.
- Petition Process - Under the Local Government Act, participating area approval is required for loan authorization. A petition process was conducted within the Skana community service area to seek approval to borrow funds for critical capital works, including replacement of the two water storage tanks. Outreach and community engagement included door knocking, phone calls, information mailouts and public meetings. The petition process requires a majority of property owners to submit petitions to CRD, indicating their support for the borrowing. The 2025 petition process was unsuccessful. Without loan authorization, there is no funding and the CRD is unable to advance storage tank replacements at this time. Next steps to advance a new petition process need to be considered and funded in 2027.

Financial Report

Please refer to the attached 2025 Statement of Operations and Reserve Balances.

Revenue includes parcel taxes (*Transfers from Government*), fixed user fees (*User Charges*), interest on savings (*interest earnings*), transfer from the *Operating Reserve Fund*, and miscellaneous revenue such as late payment charges (*other revenue*).

Expenses include all the 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 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 next year's financial plan.

Table 1

Table 1: 2025 Summary of Raw Water Test Results, Skana Water System										
PARAMETER		2025 ANALYTICAL RESULTS				CANADIAN GUIDELINES	2015-2024 ANALYTICAL RESULTS			
Parameter Name	Units of Measure	Annual Median	Samples Analyzed	Range		≤ = Less than or equal to	Median	Samples Analyzed	Range	
				Minimum	Maximum				Minimum	Maximum
ND means Not Detected by analytical method used										
Physical Parameters										
Hardness as CaCO ₃	mg/L	86.7	6	38	100	No Guideline Required	85.85	32	27.5	114
Colour, True	TCU	5	18	< 2	14		4	52	1.3	21
Turbidity	NTU	0.3	19	0.05	0.9		0.55	122	0.1	70
Water Temperature	deg C	11.2	30	10.2	18.1		8.3	285	5.1	21.3
pH	pH units	6.75	2	6.7	6.8	AO pH 7.0 -10.5	7.155	22	6.6	8.04
Total Organic Carbon	mg/L	1.75	6	0.9	4.7		2.35	34	1.1	6.09
Metals										
Aluminum	ug/L as Al	8.8	6	< 3	79.8	2900 MAC / 100 OG	12.95	32	< 3	110
Antimony	ug/L as Sb	< 0.5	6	< 0.5	< 0.5	6 MAC	< 0.5	32	< 0.5	< 0.5
Arsenic	ug/L as As	0.165	6	0.15	0.66	10 MAC	0.18	32	0.12	0.99
Barium	ug/L as Ba	2	6	1.5	2.5	1000 MAC	2.2	32	1.3	2.7
Beryllium	ug/L as Be	< 0.1	6	< 0.1	< 0.1		< 0.1	32	< 0.1	< 0.1
Bismuth	ug/L as Bi	< 1	6	< 1	< 1		< 1	32	< 1	< 1
Boron	ug/L as B	126.5	6	59	349	5000 MAC	123.5	32	61	345
Cadmium	ug/L as Cd	< 0.01	6	< 0.01	< 0.01	7 MAC	< 0.01	32	< 0.01	< 0.01
Calcium	mg/L as Ca	26.7	6	14	31.8	No Guideline Required	27.05	32	10.1	36
Chromium	ug/L as Cr	< 1	6	< 1	< 1	50 MAC	< 1	32	< 1	1.9
Cobalt	ug/L as Co	< 0.2	6	< 0.2	< 0.2		< 0.2	32	< 0.2	< 0.5
Copper	ug/L as Cu	6.195	6	4.65	22.8	2000 MAC / ≤ 1000 AO	7.32	32	1.48	30.2
Iron	ug/L as Fe	22.3	6	15.9	69.9	≤ 100 AO	16.15	32	< 5	464
Lead	ug/L as Pb	0.785	6	0.38	1.38	5 MAC	0.385	32	< 0.2	3.7
Lithium	ug/L as Li	10.05	6	8.3	18.6		10	20	7.3	15.9
Magnesium	mg/L as Mg	4.79	6	0.745	5.09	No Guideline Required	4.415	32	0.566	5.85
Manganese	ug/L as Mn	11.65	6	3.8	29	120 MAC / ≤ 20 AO	6.8	32	< 1	48.6
Molybdenum	ug/L as Mo	< 1	6	< 1	< 1		< 1	32	< 1	1.1
Nickel	ug/L as Ni	< 1	6	< 1	< 1		< 1	32	< 1	< 1
Potassium	mg/L as K	0.2355	6	0.178	0.263		0.2275	32	0.163	0.348
Selenium	ug/L as Se	< 0.1	6	< 0.1	< 0.1	50 MAC	< 0.1	32	< 0.1	< 0.1
Silicon	ug/L as Si	7700	6	7120	10000		8500	32	6750	9210
Silver	ug/L as Ag	< 0.02	6	< 0.02	< 0.02	No Guideline Required	< 0.02	32	< 0.02	< 0.02
Sodium	mg/L as Na	44.45	6	25.1	100	≤ 200 AO	41.35	32	23.6	86.5
Strontium	ug/L as Sr	85.5	6	58.7	118	7000 MAC	75.6	32	54.4	99.7
Sulfur	mg/L as S	9.3	6	4	9.6		8.65	32	3.2	12.6
Thallium	ug/L as Tl	< 0.01	6	< 0.01	0.012		< 0.01	32	< 0.01	< 0.05
Tin	ug/L as Sn	< 5	6	< 5	< 5		< 5	32	< 5	< 5
Titanium	ug/L as Ti	< 5	6	< 5	< 5		< 5	32	< 5	5.2
Uranium	ug/L as U	0.12	6	< 0.1	0.14	20 MAC	< 0.1	32	< 0.1	0.18
Vanadium	ug/L as V	< 5	6	< 5	< 5		< 5	32	< 5	< 5
Zinc	ug/L as Zn	31.3	6	8.5	65.5	≤ 5000 AO	8.3	32	< 5	40.7
Zirconium	ug/L as Zn	< 0.1	6	< 0.1	0.28		< 0.1	32	< 0.1	< 0.5
Microbial Parameters										
Indicator Bacteria										
Coliform, Total	CFU/100 mL	< 1	19	< 1	< 1		< 1	166	< 1	200
<i>E. coli</i>	CFU/100 mL	< 1	19	< 1	< 1		< 1	166	< 1	11
Heterotrophic bacteria, 7 day	CFU/mL	Not analyzed in 2024					10	1	10	10
Parasites										
<i>Cryptosporidium</i> , Total oocysts	oocysts/100 L	Last tested in 2014				Zero detection desirable	Last tested in 2014			
<i>Giardia</i> , Total cysts	cysts/100 L	Last tested in 2014				Zero detection desirable	Last tested in 2014			

Table 2

Table 2: 2025 Summary of Treated Water Test Results, Skana Water System										
PARAMETER		2025 ANALYTICAL RESULTS				CANADIAN GUIDELINES	2015-2024 ANALYTICAL RESULTS			
Parameter	Units of Measure	Annual Median	Samples Analyzed	Range		≤ = Less than or equal to	Median	Samples Analyzed	Range	
Name				Minimum	Maximum				Minimum	Maximum
ND means Not Detected by analytical method used										
Physical Parameters										
Hardness	mg/L as CaCO3	85.2	8	75.2	96.7	AO pH 7.0 -10.5	83	63	26.8	107
Colour, True	TCU	7	36	< 2	28		3	78	< 2	28
pH	pH units	6.8	2	6.7	6.9		7	18	6.7	7.7
Turbidity	NTU	0.5	35	0.15	2.2		0.55	231	0.11	40
Total Organic Carbon	mg/L	1.45	8	0.83	3.2		1.8	52	0.78	5
Water Temperature	deg C	11.9	132	1.0	18.4		7.7	1710	0.6	23.5
Microbial Parameters										
Indicator Bacteria										
Coliform, Total	CFU/100 mL	<1	55	<1	<1	0 MAC	< 1	428	<1	99
E. coli	CFU/100 mL	< 1	55	< 1	< 1	0 MAC	< 1	428	<1	10
Hetero. Plate Count, 7 day	CFU/1 mL	16000	1	16000	16000	No Guideline Required	< 10	47	< 10	15000
Disinfectants										
Disinfectants										
Chlorine, Free Residual	mg/L as Cl2	0.78	131	0.07	1.94		0.78	1730	0.04	4.8
Chlorine, Total Residual	mg/L as Cl2	Not analyzed in 2025					0.83	886	0.1	5.9
Disinfection By-Products										
Disinfection Byproducts										
Bromodichloromethane	ug/L	15.5	8	14	18		17	73	6	29
Bromoform	ug/L	<1	8	<1	1.4		< 1	73	< 0.1	1.2
Chloroform	ug/L	33	8	19	60		45	73	10.6	170
Chlorodibromomethane	ug/L	5.6	8	2	9.1		3.6	73	0.765	18
Total Trihalomethanes	ug/L	55.5	8	43	77	100 MAC	70.8	73	23.1	190
Haloacetic Acids (HAAs)										
HAA5	ug/L	27	4	6.9	53	80 MAC	20	19	7.4	140
Metals										
Aluminum	ug/L as Al	8.8	8	< 3	31	2900 MAC / 100 OG	19.2	63	< 3	161
Antimony	ug/L as Sb	< 0.5	8	< 0.5	< 0.5	6 MAC	< 0.5	63	< 0.5	< 0.5
Arsenic	ug/L as As	0.15	8	0.13	0.21	10 MAC	0.18	63	< 0.1	0.97
Barium	ug/L as Ba	2.05	8	1.7	2.6	1000 MAC	2.3	63	1.1	4.6
Beryllium	ug/L as Be	< 0.1	8	< 0.1	< 0.1		< 0.1	63	< 0.1	< 0.1
Bismuth	ug/L as Bi	< 1	8	< 1	< 1		< 1	63	< 1	< 1
Boron	ug/L as B	123.5	8	75	180	5000 MAC	124	63	53	347
Cadmium	ug/L as Cd	< 0.01	8	< 0.01	< 0.01	7 MAC	< 0.01	63	< 0.01	0.023
Calcium	mg/L as Ca	26.85	8	23	30.9	No Guideline Required	26.6	63	9.8	34.3
Chromium	ug/L as Cr	< 1	8	< 1	< 1	50 MAC	< 1	63	< 1	1
Cobalt	ug/L as Co	< 0.2	8	< 0.2	< 0.2		< 0.2	63	< 0.2	< 0.5
Copper	ug/L as Cu	10.3	8	6.27	20.5	2000 MAC / ≤ 1000 AO	7.6	63	3.48	118
Iron	ug/L as Fe	130.1	8	28	641	≤ 100 AO	50.8	63	9	1190
Lead	ug/L as Pb	0.59	8	0.21	1.29	5 MAC	0.39	63	< 0.2	29
Lithium	ug/L as Li	9.8	8	8	13.2		9.8	40	7.4	15.9
Magnesium	mg/L as Mg	4.74	8	4.04	4.84	No Guideline Required	4.18	63	0.55	5.15
Manganese	ug/L as Mn	7.05	8	2.9	8.9	120 MAC / ≤ 20 AO	3.5	63	< 1	344
Molybdenum	ug/L as Mo	<1	8	<1	1.1		< 1	63	< 1	1.1
Nickel	ug/L as Ni	< 1	8	< 1	< 1		< 1	63	< 1	9.1
Potassium	mg/L as K	0.2125	8	0.193	0.253		0.232	63	0.162	0.354
Selenium	ug/L as Se	<0.1	8	<0.1	<0.1	50 MAC	< 0.1	63	< 0.1	< 0.1
Silicon	ug/L as Si	7720	8	6860	8240		8460	63	6550	9240
Silver	ug/L as Ag	< 0.02	8	< 0.02	< 0.02	No Guideline Required	< 0.02	63	< 0.02	< 0.02
Sodium	mg/L as Na	45.4	8	31.6	58.5	≤ 200 AO	42.2	63	28.2	87.4
Strontium	ug/L as Sr	82.4	8	64.8	88.7	7000 MAC	72.9	63	53.5	89.7
Sulphur	mg/L as S	8.95	8	8	9.9		8.3	63	3.1	12.8
Thallium	ug/L as Tl	<0.01	8	<0.01	0.043		< 0.01	63	< 0.01	< 0.05
Tin	ug/L as Sn	<5	8	<5	<5		< 5	63	< 5	< 5
Titanium	ug/L as Ti	<5	8	<5	6.2		< 5	63	< 5	6.2
Uranium	ug/L as U	0.115	8	< 0.1	0.14	20 MAC	< 0.1	63	< 0.1	0.18
Vanadium	ug/L as V	< 5	8	< 5	< 5		< 5	63	< 5	< 5
Zinc	ug/L as Zn	18.15	8	8.5	39.3	≤ 5000 AO	12.3	63	< 5	521
Zirconium	ua/L	< 0.1	8	< 0.1	0.17		< 0.1	63	< 0.1	0.63

CAPITAL REGIONAL DISTRICT

SKANA WATER

Statement of Operations (Unaudited)

For the Year Ended December 31, 2025

	2025	2024
Revenue		
Transfers from Government	28,441	26,580
User Charges	74,077	65,394
Other revenue from own sources:		
Interest Earnings	49	55
Transfer from Operating Reserve	10,000	6,000
Recovery from Claim Reimbursement	-	3,900
Other Revenue	287	195
Total Revenue	112,854	102,124
Expenses		
General Government Services	3,126	2,920
Contract for Services	22,857	2,226
CRD Labour and Operating costs	33,563	60,037
Other Expenses	24,781	19,304
Total Expenses	84,327	84,487
Net revenue (expenses)	28,527	17,637
Transfers to own funds:		
Capital Reserve Fund	22,445	17,637
Operating Reserve Fund	6,082	-
Annual surplus/(deficit)	-	-
Accumulated surplus/(deficit), beginning of year	-	-
Accumulated surplus/(deficit), end of year	\$ -	-

CAPITAL REGIONAL DISTRICT

SKANA WATER

Statement of Reserve Balances (Unaudited)

For the Year Ended December 31, 2025

	Capital Reserve	
	2025	2024
Beginning Balance	30,151	30,088
Transfer from Operating Budget	22,445	17,637
Transfer from Completed Capital Projects	38,291	1,185
Transfer to Capital Projects	(15,000)	(20,000)
Interest Income	1,104	1,241
Ending Balance	76,991	30,151

	Operating Reserve	
	2025	2024
Beginning Balance	10,311	15,572
Transfer from Operating Budget	6,082	-
Transfer to Operating Budget	(10,000)	(6,000)
Interest Income	447	739
Ending Balance	6,840	10,311