



Tiny TOWNSHIP OF / CANTON DE

The Corporation of the Township of Tiny

Water Department

**Annual Summary and QMS
Management Report
2021**



2021 Annual Summary Report and QMS Management Review

Contents:

Summary Report Requirements.....	3
Compliance	3
a) Incidents of Regulatory Non-Compliance	3
b) Incidents of Adverse Drinking Water Tests and Other Problems	4
c) Deviations from critical control-point (CCP) limits and response actions	6
d) The Efficacy of the Risk Assessment Process	6
e) Internal and third-party audit results.....	7
f) Results of emergency response testing	7
g) Operational performance.....	8
h) Raw water supply and drinking water quality trends	10
i) Follow-up on action items from previous management reviews	11
j) Follow-up on action items identified between reviews.....	12
k) Changes that could affect the QMS	13
l) Consumer feedback	13
m) The resources needed to maintain the QMS.....	13
n) The results of the infrastructure review	14
o) Operational plan currency, content and updates.....	14
p) Staff suggestions.....	15
q) Supplier performance	15
Conclusion	16

Appendix A: Tables and Charts

Bluewater Drinking Water System	18
Castle Cove Drinking Water System.....	20
Cook's Lake Drinking Water System.....	23
Georgian Bay Estates Drinking Water System.....	25
Lafontaine Drinking Water System.....	27
Lefaive Drinking Water System	31
Pennorth Drinking Water System.....	32
Perkinsfield Drinking Water System	34
Rayko Drinking Water System	36
Sawlog Bay Drinking Water System	37
Tee Pee Point Drinking Water System.....	39
Thunder Bay Drinking Water System	40
Vanier Woods Drinking Water System	42
Whippoorwill Drinking Water System	43
Woodland Beach Drinking Water System	45
Wyevale Drinking Water System.....	46

Summary Report Requirements

A management review of the Quality Management System (QMS) was held in accordance with the requirements of the Drinking Water Quality Management Standard for data collected in the 2021 calendar year. A report to Council summarizing that review is required under the Drinking Water Quality Management System.

The Safe Drinking Water Act requires municipalities to prepare an Annual Summary Report in accordance with Schedule 22 of O. Reg. 170/03 and provide a copy to each Member of Council prior to March 31st of the following year.

The following report meets the requirements of the QMS Management Review summary and the Annual Summary Reports for each system.

Compliance

The 16 Drinking Water Systems in the Township of Tiny are operated in accordance with the Safe Drinking Water Act and regulations, Municipal Drinking Water Licenses, Municipal Drinking Water Works Permits, and Permits to Take Water.

In 2021 we provided a safe, reliable source of potable water to our consumers and we will continue to do so in 2022.

a) Incidents of Regulatory Non-Compliance

➤ *Identified by the Water Department*

○ **Georgian Bay Estates- Missed Schedule 24 VOC testing**

Georgian Bay Estates has two wells that are considered potentially GUDI due to the proximity to the Georgian Bay Shore Line. GUDI is an acronym for Groundwater Under Direct Influence of surface water and refers to wells that may be subject to surface water contamination. Schedule 13 of O. Reg 170/03 requires wells such as these to be tested for Schedule 23 Inorganics and Schedule 24 Organics every twelve months. In 2021 all samples were taken and sent to the accredited laboratory for processing, but due to an omission on the chain of custody the lab technician assumed the volatile organic compounds (VOCs) were not to be processed. When township staff received the reports for each system, all pages were received but they were not checked for each test result in each parameter. It was not discovered that the tests were missing until compiling information for annual reporting, therefore will not show up in the Ministry of Environment, Conservation and Parks (MECP) inspection reports until 2022.

➤ *Identified during Ministry Inspections*

- Each of the Tiny Township drinking water systems were inspected by the Ministry of the Environment, Conservation and Parks (MECP) in 2021. The inspectors found no issues of non-compliance and no recommendations or best management practices were suggested in the final reports.

b) Incidents of Adverse Drinking Water Tests and Other Problems

Corrective actions related to adverse water quality incidents (AWQI) were completed in accordance with O.Reg. 170/03, Schedule 17. The water department resolved the AWQIs in consultation with the Simcoe Muskoka District Health Unit (SMDHU) and the MECP in a timely manner. The AWQIs and associated corrective actions that occurred during this reporting period are summarized in the table below.

#	Date	System	Description	Corrective Action	Re-sample Results Negative
1	Mar. 11	Wyevale DWS-17	Low chlorine at PH 17 caused by main duty chlorine pump tube rupture.	Simcoe Muskoka District Health Unit (SMDHU), and Spills Action Centre (SAC) notified. Tube replaced and chlorine lines primed. Back flushed contact main, flushed distribution and pressure tanks. No further action required.	N/A
2	Mar 15	Lafontaine DWS-2	Low chlorine at PH 02 caused by main duty chlorine pump failure.	Simcoe Muskoka District Health Unit SMDHU, and SAC notified. Repaired pump and primed chlorine lines. Back flushed low residual from contact main. No further action required.	N/A
3	Mar 24	Castle Cove DWS- 13	Total Coliform (TC) colony count of 1 in treated sample.	SMDHU, and SAC notified. Re-sample results showed zero counts of TC, E. coli and background at AWQI and downstream locations. No further action required.	Yes
4	May 22	Georgian Bay Estates DWS	Power surge causing full highlift pump failure resulting in no pressure in the system and water that did not meet disinfection requirement was directed to system users.	SMDHU, and SAC notified. Wells wired to run on hand and reservoir bypassed to supply the system. Boil water advisory issued due to not meeting CT requirements. Pumps repaired and replaced. System flushed and sampled. Sample results showed zero counts of TC, E. coli and background at pumpstation and downstream. No further action required.	Yes
5	Jul. 14	Bluewater DWS-Leone sample tap	Total Coliform (TC) colony count of 1 at distribution sample location.	SMDHU, SAC notified. Re-sample results showed zero counts of TC, E. coli and background at AWQI and upstream locations. No further action required.	Yes



2021 Annual Summary Report and QMS Management Review

#	Date	System	Description	Corrective Action	Re-sample Results Negative
6	Aug. 27	Sawlog Bay DWS-Ojibway sample tap.	Lab reported lead adverse of 14.4 mg/L.	SMDHU, SAC notified. Flushed and re-sample, results showed 0.00006 mg/L comparable to historic values. No further action required.	Yes
7	Nov. 13	Perkinsfield DWS-Asselin sample tap	Total Coliform (TC) colony count of 1 at distribution sample location	SMDHU, SAC notified. Re-sample results showed zero counts of TC, E. coli and background at AWQI and upstream locations. No further action required.	Yes

There are no adverse events or non-compliance issues to report for the following drinking water systems:

Lefaive
Pennorth
Perkinsfield
Rayko
Tee Pee Point

Thunder Bay
Vanier Woods
Whippoorwill
Woodland Beach

➤ **Ministry of the Environment Inspections:**

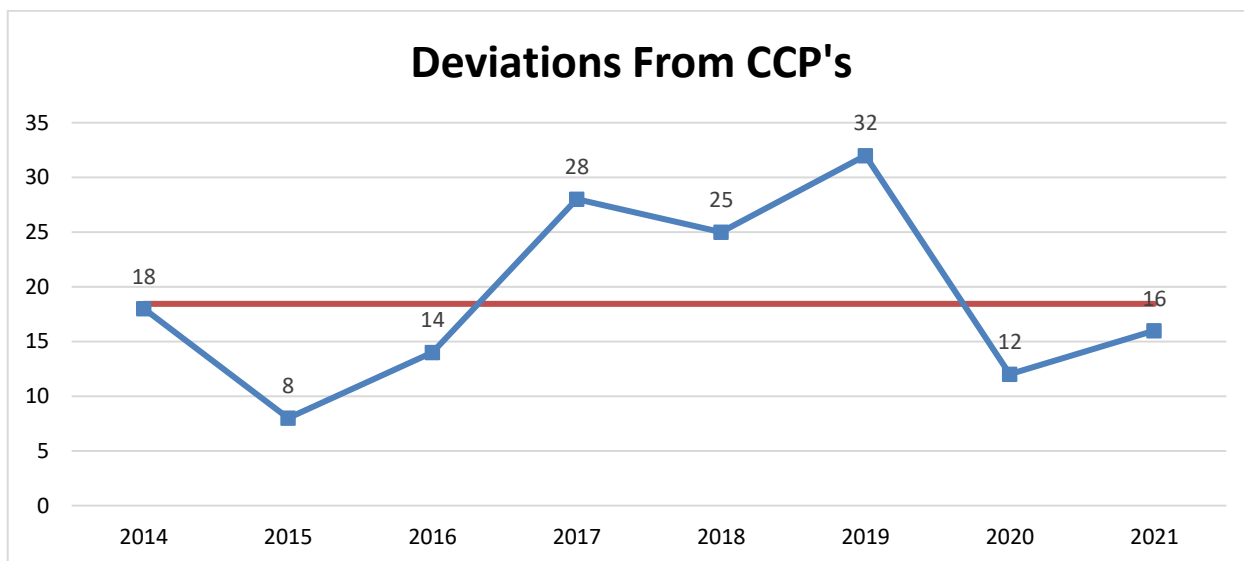
The Ministry of the Environment conducts annual inspections on each Drinking Water System (DWS) and rates each system accordingly. Listed below is a table that summarizes the results of the Ministry's inspections in 2020.

Water System	Inspection Rating
Bluewater	100%
Castle Cove	100%
Cooks Lake	100%
Georgian Bay Estates	100%
Lafontaine	100%
Lefaive	100%
Pennorth	100%
Perkinsfield	100%
Rayko	100%
Sawlog Bay	100%
Tee Pee Point	100%
Thunder Bay	100%
Vanier Woods	100%

Water System	Inspection Rating
Whippoorwill	100%
Woodland Beach	100%
Wyevale	100%

c) Deviations from critical control-point (CCP) limits and response actions

In 2021 we saw a slight increase in deviations from CCP's but still well below historical values as seen in the graph below. All but one of the deviations were due to low chlorine events, with half of these events happening at Lafontaine pump station 2 and Castle Cove pump station 13. In Lafontaine with the addition of a pre-contact chlorine analyzer and SCADA programming this issue was resolved and the risk of reoccurrence eliminated. At Castle Cove 13 repeated deviations were due to main duty chlorine pump failure when the peristaltic tubes ruptured. In discussion with the chlorine pump supplier a different type of pump was installed at this station and there has not been a low chlorine event since. The remainder of the CPP events are considered to be an acceptable level given the number of stations in the Township.



d) The Efficacy of the Risk Assessment Process

A 12-month review of the risk assessment tables was conducted to ensure currency and validity of the information in April and no changes were made. After the incident at Georgian Bay Estates on May 22, 2021 'Highlift Pump Failure' was added to the Risk

Assessment tables as a potential failure that could include hazards resulting in loss of disinfection, supply shortfall and damage to equipment. The likelihood and detection were ranked low as there is redundancy in each station with highlift pumps and a monthly check of operations for each. The severity was ranked high as it would have a major impact if it was to occur.

The risk assessment and control processes were effective in monitoring and responding to adverse events. The last complete 36-month risk assessment was conducted in April 2019 and the next one is due in April of 2022.

e) Internal and third-party audit results

In 2021 internal audits revealed one opportunity for improvement (OFI) for better communications between the fire and water departments. It was recommended that a process be put in place for when water is drawn after hours so that the on-call water operator can monitor plant operations.

The external audit resulted in two minor non-conformances and six OFIs. Both minor non-conformances were resolved to the satisfaction of the external auditor. The OFIs were reviewed and three of the recommendations have been implemented. The remaining three are still ongoing and will be complete by the next scheduled external audit in July 2022.

f) Results of emergency response testing

Water department staff participated in a table top discussion on September 22, 2021 and reviewed response actions and outcomes from the Georgian Bay Estates pump station failure in May AWQI 154113. Potential opportunities for improvement were discussed for QP 18-01 Emergency Response Procedure and WI-18-09 Responding to Power Failure. All staff agreed that the emergency was handled efficiently and no improvements suggested. Other outcomes of the emergency:

- The department verified communications between staff were effective in an emergency situation on a holiday weekend.
- All third-party contractors were immediately available to assist on a holiday weekend.
- Staff discussed potential opportunities for improvement to the Emergency response procedure and WI-18-09 Responding to Power Failure. All staff agreed that the emergency was handled efficiently and no improvement were suggested.
- Positive feedback received from the system residents on the handling of the situation and the timeliness of repairs.



2021 Annual Summary Report and QMS Management Review

g) Operational performance

In previous years this section reviewed work order numbers and alarm statistics, in an effort to show the actual performance of the drinking water systems this section has been revised to include:

- Water Treatment Maintenance Activity
- Water Distribution Maintenance Activity
- Alarm Summary
- Total Yearly Consumption Comparisons Chart
- Boil Water Notice Summary

Water Treatment and Distribution Maintenance Activity

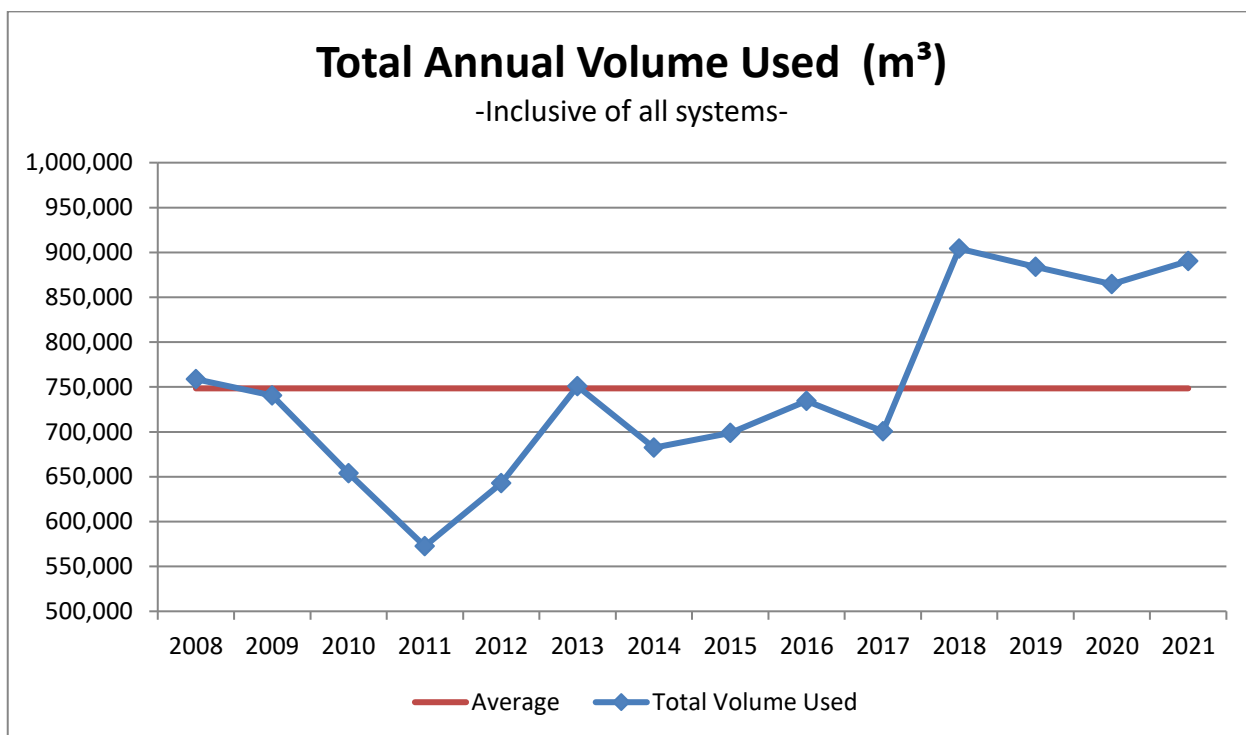
2021 System Maintenance and Expenditures:	
Program	Results
Flushing Program	All systems flushed once, Perkinsfield full flush twice, Whippoorwill dead ends flushed twice
Valve Maintenance Program	All system valves exercised and valves numbered for ease of reference in future
Well Inspection/Rehabilitation Program	Well 3-2, 3-3, and 13-2 rehabilitated, All wells inspected in spring and fall
Hydrant inspection and Maintenance	All hydrants inspected and maintenance performed, 31 hydrants repaired
Leak Detection Program	17 leak investigations- 6 township responsibility and 11 homeowner responsibility
Locates	Approx. 886 locates conducted
Water Meter Project	276 meters installed, 38 needing install in 2022 incl. commercial
Water Service Maintenance	20 curb stops repaired, 6 services repaired
Watermain Maintenance	No breakages on watermain in 2021
Nitrate Blending Project	Well 1-1 piped to PH 14 for blending to further lower nitrates in distribution
Reservoir Cleaning	Vanier cell A and B completed
Pump Replacement and Rehabilitation	Bluewater jockey pump replaced, Georgian Bay Estates Highlift pumps rebuilt, Well 13-2 pump replaced
Facility Repairs	Various, see annual reports for breakdown
Facility Upgrades	Various, see annual reports for breakdown

Alarm Summary

The number of alarms rose significantly in 2021 with the total number being 86 incidents. These events include pump station alarms for chlorine residual deviations, reservoir fluctuations outside of normal operating ranges, and communications alarms that occur when communications fail between the PLCs at the pump stations and the SCADA system at the office. These communications are emitted through cell signal so can be interrupted by severe weather, natural obstructions such as trees or geographic features, or equipment failure within the station or at the cell towers.

In previous years communications alarms were not documented if it was of a short duration and did not require a site visit, this year staff were instructed to record all incidents of communications alarms to try and track where communications issues can be improved upon. The breakdown of the alarm incidents is 86 total, 46 communications alarms, and 40 operational alarms. The operational alarms did increase slightly in 2021, as well as the critical control point deviations but the number of adverse incidents is lower, proving the alarming system in place is effective.

Total Annual Volume Used (m³)



Boil Water Notices

There were two Boil Water Advisories issued in 2021. The first was issued for the Georgian Bay Estates drinking water system required by the Simcoe Muskoka District Health Unit. The advisory took effect after the power surge and pumpstation failure on

May 22nd and was lifted May 24th after CT was restored and staff received negative bacteriological sample results back from an accredited laboratory.

The second incident was a precautionary boil water advisory for Sawlog Bay drinking water system issued by Township staff after pumpstation upgrades had been conducted. The Advisory was on from November 3rd to November 6th and was lifted after staff received negative results back from the accredited laboratory for bacteriological testing in the pumpstation and distribution.

h) Raw water supply and drinking water quality trends

➤ *Water consumption compared to capacity*

The chart below shows the average and maximum day usage and compares these figures to the capacity of the system. The capacity is based on the allowable limits set out in the Permits to Take Water and the Municipal Drinking Water Licenses.

The usage shown is for existing lots. There are many undeveloped lots in each system. Excess capacity is required to provide these designated lots with service when they connect.

Please see Appendix “A” for monthly average and maximum quantity of water taken for each well in each system.

Water System	Average Day m ³	Maximum Day m ³	Capacity m ³	Capacity based on average day	Capacity based on max day
Bluewater	207	638	1176.48	23%	70%
Castle Cove	128	390	1392	15%	47%
Cooks Lake	88.97	142	200	50%	80%
Georgian Bay Estates	178	526	949.2	26%	78%
Lafontaine	1011	1931	3501.7	32%	60%
Lefaive	33	89	308.7	13%	36%
Pennorth	17	63	135	15%	57%
Perkinsfield	192	543	1481.64	13%	38%
Rayko	30	76	194.4	20%	51%
Sawlog Bay	27	74	260.64	15%	41%
Tee Pee Point	51	113	177.5	30%	66%
Thunder Bay	17	80	203	13%	62%
Vanier Woods	39	127	360	15%	50%
Whippoorwill	94	468	529.5	18%	91%
Woodland Beach	30	96	295.2	13%	43%
Wyevale	297	865	1182	27%	79%

Note: Cook’s Lake DWS capacity based on maximum day has been over 100% since 2018. It was suspected that there were multiple leaks throughout the system. Township staff have been working to identify these leaks and have them repaired. In 2021, the capacity based on maximum day finally fell below 100%.

➤ *Drinking water quality trends*

After scheduling and program changes in Lafontaine the Nitrate concentration levels were kept below the maximum allowable capacity (MAC) in 2020, and further reduced after the pump station 1 to 14 interconnection was completed in May 2021. As a best management practice bi-monthly testing is continuing at each Lafontaine pump station and monitored closely.

In O. Reg 170/03 under Section 13-2 and 13-4, sampling requirements for inorganics and organics is once every 36 months and tested for every parameter listed in O. Reg 170/03, Schedules 23 and 24. Results from these tests, with the exception of systems with known elevated levels of Nitrates, Trihalomethanes, Haloacetic Acid and Barium, all parameters met requirements and did not exceed half the maximum allowable concentration set out in Schedule 2 of the Ontario Drinking Water Quality Standards O.Reg. 169/03.

In drinking water systems with known trihalomethane, haloacetic acids, and Barium levels that are consistently above half the maximum allowable concentration, no significant changes have occurred since the last review.

i) Follow-up on action items from previous management reviews

Management review meetings were held on February 17, 2020 and then again on February 18, 2021. There were four action items resulting from the 2020 management review, three have been completed and the final one with a long-term plan to achieve. (Item 1-4). The 2021 management review resulted in five new action items (Item 5-10). The table below includes all action items from both meetings.

Action Items from Management Reviews:		
Item #	Status	Description
1	Completed 2021-05-07	Review flushing procedure with staff annually before spring flush to prevent low pressure/Cl ₂ situations from aggressive flushing.
2	CAR 19-02a Completed 2022-02-01	Cook's Lake- multiple leaks repaired in distribution since 2018. Verified Capacity based on maximum day is down to 8% use from 105%. Objective was to get below 100%.
3	Completed 2021-02-22	Update Owner Commitment- New CAO hired
4	In progress- long term plan	Work on long term open action reports-CL ₂ line issues, correcting with pump station piping projects. Work order system 75% implemented.
5	Due 2022-12	Update website to be more informative for residents.
6	Due 2022-12	Asset Management- review infrastructure excel files and compile list of assets for Township Asset Management program in 2023
7	Due 2022-08	Create schedule for pre-chlorine analyzer installations

8	Due 2022-02 In progress	Update QP 15-01 to reflect new information being presented in management review
9	Due 2022-07	Further define Administrative Assistant Duties
10	Due 2022-02 In progress	Add Due date or completion date to Annual summary report to make it clear the status of suggestions being implemented

j) Follow-up on action items identified between reviews

The tables summarize action items that have been identified by Water Department staff or through the external audit between the Management review in 2021 and 2022.

2021 Open Action Items Summary:				
	Summary	Resolution	Date Issued	Status
1	Spikes in flows on SCADA report/trending	Caused by electrical fluctuations or air, increased polling time to eliminate false readings	2020-01-09	Waiting verification
2	Work Order process ineffective	Establish electronic work order system- to be completed in 2022	2017-01-20	Ongoing-expected completion 2022-06
3	Perkinsfield Dirty Water Issues	Flushed 2/year, swabbing to be scheduled in 2022	2020-05-28	Ongoing-expected completion 2022-09
4	Datalogger Review Missed	Replace all Veriteq dataloggers with DAQ as flow meters get replaced.	2020-10-01	Ongoing-expected completion 2022-12
5	Georgian Bay Estates- Sched 24 missed VOC's	Create checklist for every parameter tested	2022-01-12	Ongoing-expected completion 2022-02
6	Forms not retrievable- January '22 Internal Audit	Create policy to update forms on the internal network only, not on hard drives	2022-01-31	Ongoing-expected completion 2022-06

2021 Closed Action Items Summary:			
	Summary	Completion Date	Verified Date
1	Raw water sample taps dump onto floor- slip hazard	2020-09-20	2021-03-21
2	Repeated low Cl2 at PH 02	2021-06-21	2021-12-18
3	Document not retrievable- lost packing slip	2021-06-23	2021-12-20
4	Colorimeter form not filed out properly, one unit failed	2021-07-23	2022-01-19

k) Changes that could affect the QMS

➤ **Staff changes**

- Three licensed co-op students were hired for summer staff- necessary to cover full-time staff vacations and allow for mechanical/piping projects to be completed.

➤ **Regulations changes**

- The new Ontario Watermain Disinfection Procedure Aug 2020. Took effect as of February 1, 2021. Work instruction WI-18-01 and WF-18-01a were updated to reflect the changes.

➤ **System changes**

- Lafontaine well 1-1 was piped to pumpstation 14 for mixing prior to being sent to the distribution system and the Lafontaine reservoir. This is in an effort to further reduce nitrate level in the system. Pumpstation 1 is scheduled to be decommissioned in 2022.

➤ **Drinking Water License and Permits**

- Permits to take water (PTTWs) for Castle Cove, Cook's Lake, Georgian Bay Estates, and Pennorth were all renewed. All capacities and parameters stayed the same as the previous permits.

l) Consumer feedback

There was a total of twenty-six complaints over the course of the year with eight of them being Township responsibility. The complaints varied from dirty water calls to low pressure. Each issue was dealt with by staff as quickly and efficiently as possible. The remainder of the complaints were the responsibility of the homeowner with the majority being for low pressure. Staff determined it would be beneficial to add a "Frequently Asked Questions" section to the Township website that would include reminders to check/change indoor water filters every 6 months or as needed. This is the number one issue found by staff at the low-pressure call outs. Other need to know information could also be added to the website such as connected lot mapping, and water quality testing results.

m) The resources needed to maintain the QMS

The Water Compliance Auditor in conjunction with the Water Supervisor administer the QMS as well as oversee daily operations, but it is the responsibility of all staff to ensure that it is carried out effectively. In an effort to maintain and continually improve the DWQMS, resources are required and can include personnel, physical work environments, and financial resources. Two minor non-conformances were issued in 2021 highlighting an area that can be improved upon, both were issues in administration duties. An Administrative Assistant is budgeted for the Water

Department in 2022 to ensure that reporting and documentation requirements will be met in future.

Operational challenges such as aging infrastructure, the need to increase water supply in some systems to meet future demands and distribution system issues are also causing the need for additional resources.

n) The results of the infrastructure review

The infrastructure review was completed on February 18, 2022.

Detailed records of infrastructure age, type, condition and lifespan were reviewed.

Priorities were established for 2022. The table below includes all outstanding action items from previous infrastructure reviews and actions identified during the 2022 review.

Previous Infrastructure Review Action Items Summary:				
Item	Date Due	Summary	Issued to	Status
1	2020-12-31	Review of the Infrastructure Maintenance, Rehabilitation and Renewal programs	Rebecca Raymond	Ongoing-expected completion 2022-12
2	2020-12-31	Lafontaine interconnection project	Rebecca Raymond	Complete 2021-05-20
3	2022-07	Well replacement schedule	Rebecca Raymond	Ongoing
4	2022-12	Finish reservoir tab in the infrastructure review	Rebecca Raymond	Ongoing
5	2022-07	HLP review- including replacement, rebuild, accessibility, etc.	Rebecca Raymond/ Mac Zelazny	Ongoing
6	2022-07	Update QP-15-01 Maintenance management procedure to require bi-annual meetings	Christy Cooper	Complete 2022-02-28

o) Operational plan currency, content and updates

The operational plan was released in 2008 and has been revised regularly. Procedures and forms continue to be revised as required to meet the QMS objectives. The following revisions have been made in 2021:

Revision Description	Rev. #	Date
All Procedures, Work Instructions and forms updated with international standard dating system	Varies	2021-12
WI-18-01 Watermain Repair and Maintenance updated to new Ontario standard	4	2021-02-04
WF-18-01a Watermain Repair and Maintenance- updated	5	2021-02-04
QF-07-01(a-q) Risk assessment Tables- HLP failure added	Varies	2021-06
QF-15-01h Infrastructure/Staff suggestion form created	1	2021-06-01
QP-13-02 Receiving Essential Supplies- designated a receiver	5	2021-07-16
WI-17-03 Turbidity Meter Calibration- removed unnecessary step	14	2021-09-15
WI-17-04 Calibrating pH Meter- changed buffer numbering	7	2021-07-16



2021 Annual Summary Report and QMS Management Review

Revision Description	Rev. #	Date
Calibration forms changed to simplify and standardize (QF-17-02,03,04)	Varies	2021-07
Removed references to PH 01 from all forms	Varies	2021-06

p) Staff suggestions

Input from operators is an integral part of our operations and is an essential part of our continual improvement in Process efficiency and also Health and Safety. Below is a list of various improvement items that were presented by staff.

Health and Safety Suggestions:	
Yellow salt/sand bin installed at front door of new office location for de-icing.	Complete
Davit arm purchase installation at stations with underground reservoirs.	Complete
Contractor hired for mold abatement in pumpstation 24, put on hold due to Covid till 2022.	Deferred to 2022 due to Covid
Process and Efficiency Suggestions:	
Moved office location to pump station 26, one start location for all staff where the majority of supplies are stored.	Complete
Extend operator rotation from one week to one month per section to increase responsibility and awareness of issues that arise.	Complete
Hydrant maintenance added to the electronic work order system for easy verification on what equipment has been serviced, while in the field. Eliminates redundant maintenance being done.	Complete
Alarm for communications failure extended to two hours, which will eliminate some unnecessary call-outs.	Ongoing-expected completion 2022
Plan and engineer for the use of Cook's Lake reservoir was suggested in 2020, the suggestion was approved for the 2022 budget.	Ongoing-expected completion 2022

q) Supplier performance

During 2021, there remained a concern throughout the year of possible supply shortages due to Covid 19. Staff ensured adequate amounts of all essential items were kept on hand and management regularly checked with the Township's supplier's for imminent disruptions to the supply chain.

There were however two separate supplier incidents recorded, both for issues in dealing with Caduceon Environmental Laboratories. The first supplier incident report was



2021 Annual Summary Report and QMS Management Review

recorded in June 2021 and was for missed HPC sampling. It was not the first time the samples had been missed, in December of 2020 the HPC samples were not run as well but were caught within holding time and there were no repercussions for the Water Department, therefore no incident report was filed. In June of 2021 the same mistake happened again and due to the holding time having expired staff had to resample. These incidents could lead to potential non-compliance and so deemed to be a major issue. Staff considered the percent for sampling failure was minimal as the lab runs thousands of tests for the Township on a yearly basis and some margin for human error should be given. It was decided that if two or more incidents of the same failure were to occur in the same calendar year an inquiry into lab practices would be started.

The second incident report filed against Caduceon labs is dated for January 2022 when the mistake was discovered, but the incident happened in May of 2021. This issue will cause a non-compliance on the MECP inspection report for Georgian Bay Estates in 2022. Staff conducted the 36-month chemical testing in the second quarter. And each system was tested for the O. Reg. 170/03, Schedule 23 and 24 parameters. On the chain of custody for these tests some Volatile Organic Compounds (VOCs) were omitted by township staff for the Georgian Bay Estates drinking water system, the lab technician took this to mean that all VOC testing for this system were to be omitted. When staff received the result reports for each system a checklist was verified for each page of the reports in lieu of checking all fifty-six parameters for each system were accounted for. Due to work load and time constraints Township staff did not find this error until inputting all results into the annual report spreadsheet in January. CAR 22-01a was created to eliminate the risk of re-occurrence, in future there will be a deadline established to input testing results into Township databases, allowing for resampling if another mistake is found.

Conclusion

This summary reflects the cumulative results of all 16 water systems and 24 pump stations.

In 2021 we provided a safe, reliable source of potable water to our consumers and we will continue to do so in 2022.

A handwritten signature in purple ink, appearing to read "Christy Cooper".

Christy Cooper
Water Compliance Auditor

A handwritten signature in purple ink, appearing to read "R. Raymond".

Rebecca Raymond
Water Supervisor



2021 Annual Summary Report and QMS Management Review

Appendix A: Tables and Charts



2021 Annual Summary Report and QMS Management Review

In order to assist the Township in assessing the capability of each system to meet existing and planned uses, the following tables and graphs summarize the quantities of water supplied during the reporting period, including monthly average and maximum daily flows.

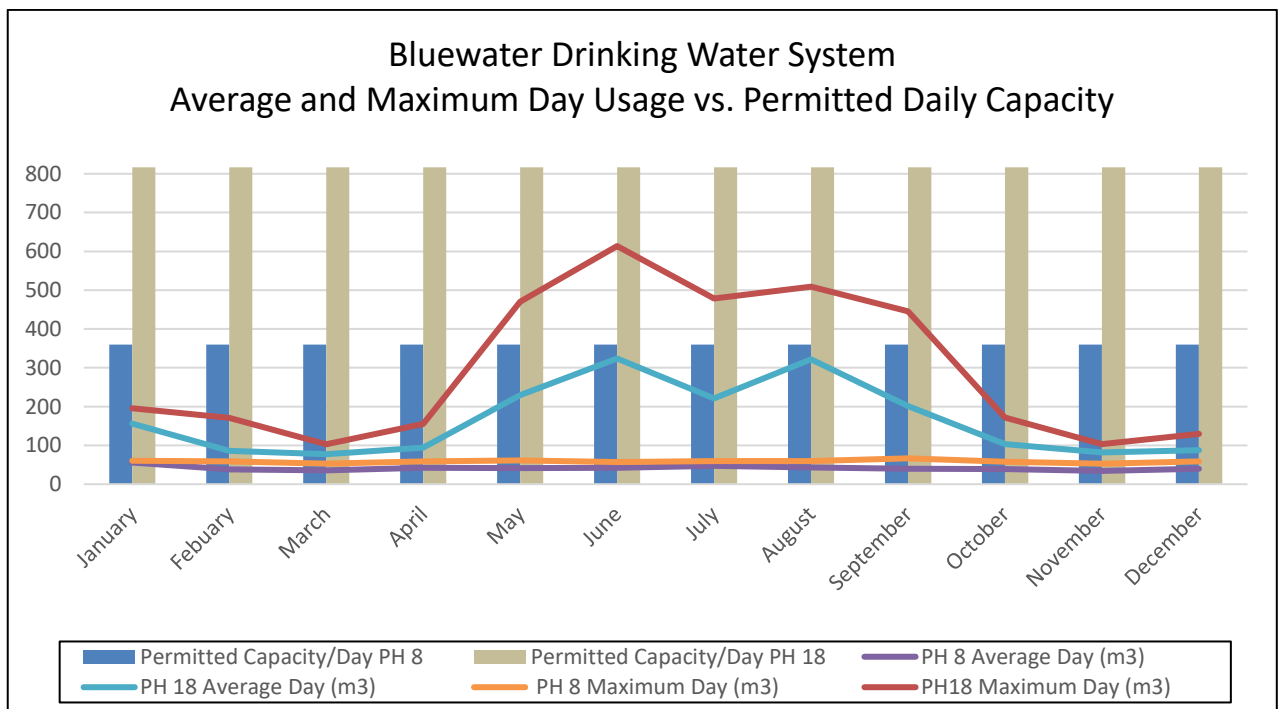
➤ *Bluewater Drinking Water System*

Raw Summary	Total Raw Flow (m ³)	Average Day (m ³)	Maximum Day (m ³)
Well 8-1 – Approved Capacity: 360.0 m³/day			
January	1729.36	55.79	60.74
February	1076.89	38.46	58.39
March	1115.09	35.97	41.92
April	1257.53	41.92	58.99
May	1292.13	41.68	61.07
June	1261.70	42.06	56.73
July	1458.39	47.04	59.54
August	1338.44	43.18	59.46
September	1190.87	39.70	66.61
October	1217.57	39.28	57.90
November	1027.02	34.23	52.79
December	1237.01	39.90	58.99
Well 18-1 – Approved Capacity: 816.48 m³/day combined			
January	2401.85	77.48	79.54
February	1181.88	42.21	84.97
March	1247.06	40.23	82.27
April	1416.42	47.21	102.11
May	3407.84	109.93	182.18
June	5262.74	175.42	405.43
July	3522.86	113.64	415.17
August	5144.65	165.96	260.40
September	3154.48	105.15	256.83
October	1580.61	50.99	127.79
November	1180.26	39.34	85.78
December	1338.79	43.19	90.04
Well 18-2 – Approved Capacity: 816.48 m³/day combined			
January	2440.62	78.73	114.42
February	1217.03	43.47	83.35
March	1150.10	37.10	52.05
April	1405.26	46.84	81.74
May	3693.04	119.13	306.69
June	4454.91	148.50	280.89
July	3345.20	107.91	229.52
August	4819.34	155.46	294.44
September	2878.37	95.95	205.76
October	1620.34	52.27	90.85
November	1272.84	42.43	51.16
December	1371.49	44.24	72.55



2021 Annual Summary Report and QMS Management Review

System Totals	Total Flow (m ³)	Average Day (m ³)	Maximum Day (m ³)
System- Approved Capacity: 1176.48 m³/day all wells combined			
January	6571.83	211.99	247.70
February	3475.80	124.14	229.32
March	3512.25	113.30	151.28
April	4079.21	135.97	212.00
May	8393.01	270.74	495.46
June	10979.34	365.98	637.72
July	8326.45	268.60	502.38
August	11302.43	364.59	532.30
September	7223.71	240.79	473.17
October	4418.51	142.53	229.20
November	3480.12	116.00	152.18
December	3947.28	127.33	188.43



2021 Annual Summary Report and QMS Management Review

➤ *Castle Cove Drinking Water System*

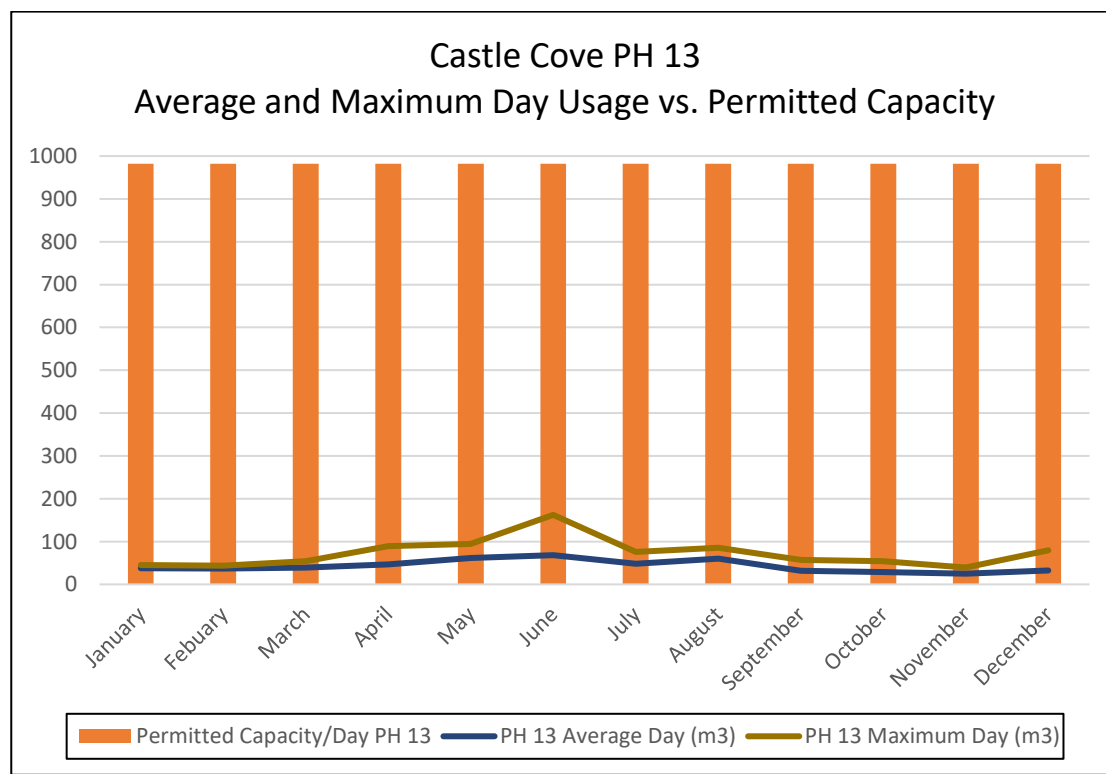
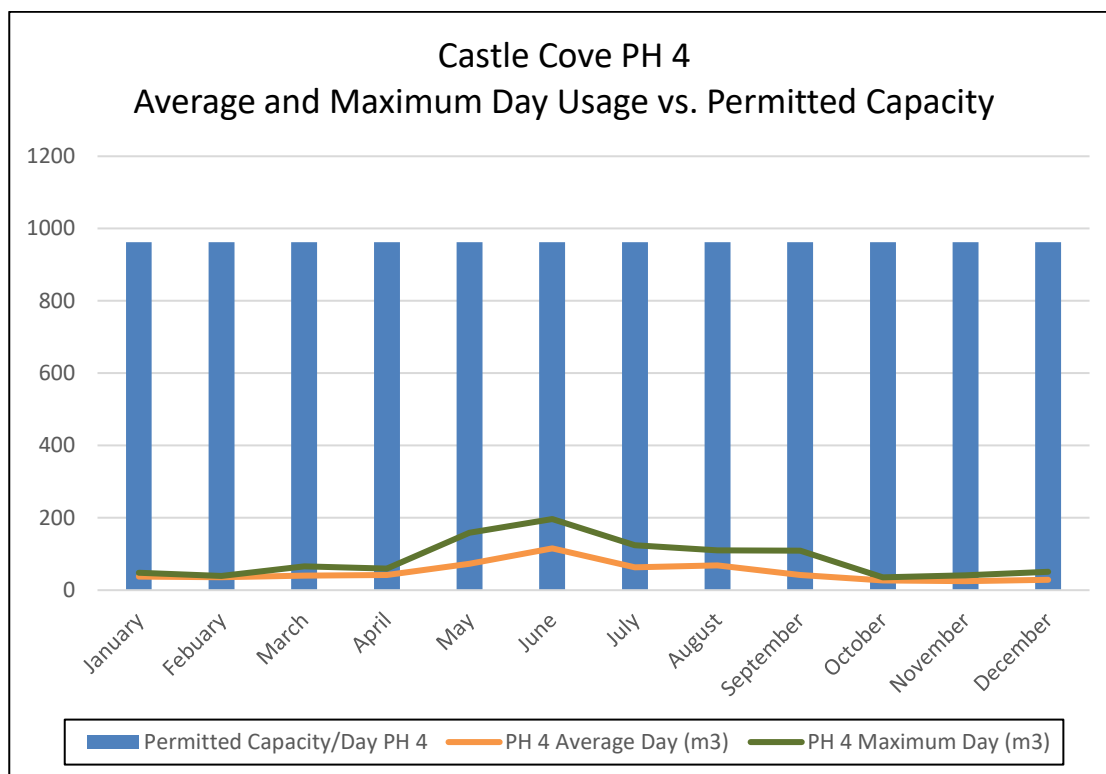
Raw Summary	Total Raw Flow (m ³)	Average Day (m ³)	Maximum Day (m ³)
Well 4-1 – Approved Capacity: 752 m³/day			
January	1163.67	37.54	48.28
February	993.43	35.48	39.32
March	1248.22	40.27	65.64
April	1256.14	41.87	59.65
May	2260.63	72.92	158.46
June	3467.54	115.58	196.70
July	1958.53	63.18	124.17
August	2136.35	68.91	109.82
September	1246.75	41.56	109.59
October	826.78	26.67	35.51
November	748.64	24.95	40.78
December	902.56	29.11	50.84
Well 13-1 – Approved Capacity: 490 m³/day combined			
January	486.95	15.71	19.50
February	436.09	15.57	19.11
March	480.45	15.50	20.36
April	596.67	19.89	40.18
May	843.51	27.21	61.71
June	814.26	27.14	89.09
July	682.88	22.03	45.01
August	898.90	29.00	78.35
September	398.69	13.29	23.45
October	372.73	12.02	22.47
November	314.92	10.50	18.80
December	413.61	13.34	22.47
Well 13-2 – Approved Capacity: 490 m³/day combined			
January	686.85	22.16	26.20
February	604.01	21.57	25.23
March	722.45	23.30	47.61
April	799.11	26.64	49.00
May	1067.89	34.45	73.02
June	1230.90	41.03	126.54
July	819.10	26.42	39.26
August	971.67	31.34	64.49
September	555.77	18.53	33.48
October	524.77	16.93	31.32
November	434.75	14.49	21.78
December	584.11	18.84	57.43

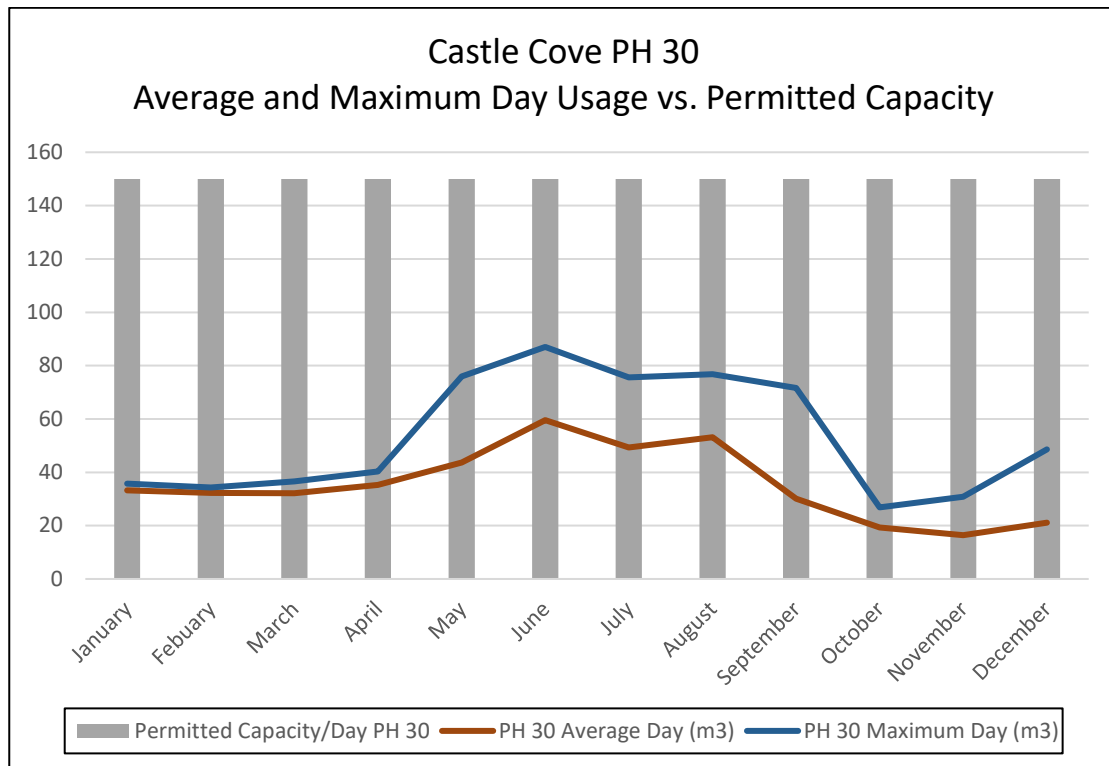


2021 Annual Summary Report and QMS Management Review

Raw Summary	Total Raw Flow (m ³)	Average Day (m ³)	Maximum Day (m ³)
Well 30-1 – Approved Capacity: 150 m³/day combined			
January	484.14	15.62	17.07
February	423.99	15.14	16.21
March	468.57	15.12	17.14
April	547.74	18.26	21.04
May	703.68	22.70	39.92
June	941.84	31.39	46.33
July	801.05	25.84	40.06
August	866.26	27.94	40.83
September	468.02	15.60	36.72
October	309.53	9.98	13.93
November	252.46	8.42	15.93
December	336.68	10.86	25.34
Well 30-2 – Approved Capacity: 150 m³/day combined			
January	545.98	17.61	19.02
February	480.45	17.16	18.26
March	529.18	17.07	19.45
April	510.75	17.02	19.22
May	650.79	20.99	35.99
June	844.82	28.16	40.68
July	726.26	23.43	35.49
August	780.74	25.19	36.01
September	434.59	14.49	34.90
October	290.74	9.38	12.92
November	240.02	8.00	14.89
December	316.42	10.21	23.22

System Totals	Total Flow (m ³)	Average Day (m ³)	Maximum Day (m ³)
System- Approved Capacity: 1392 m³/day all wells combined			
January	3364.77	108.54	119.05
February	2925.85	104.49	113.16
March	3437.00	110.87	137.35
April	3661.46	122.05	145.54
May	5386.66	173.76	289.90
June	7426.93	247.56	389.58
July	5105.97	164.71	249.39
August	5621.28	181.33	261.04
September	3173.13	105.77	224.37
October	2261.36	72.95	96.78
November	1928.33	64.28	106.78
December	2476.44	79.89	150.52





➤ Cook's Lake Drinking Water System

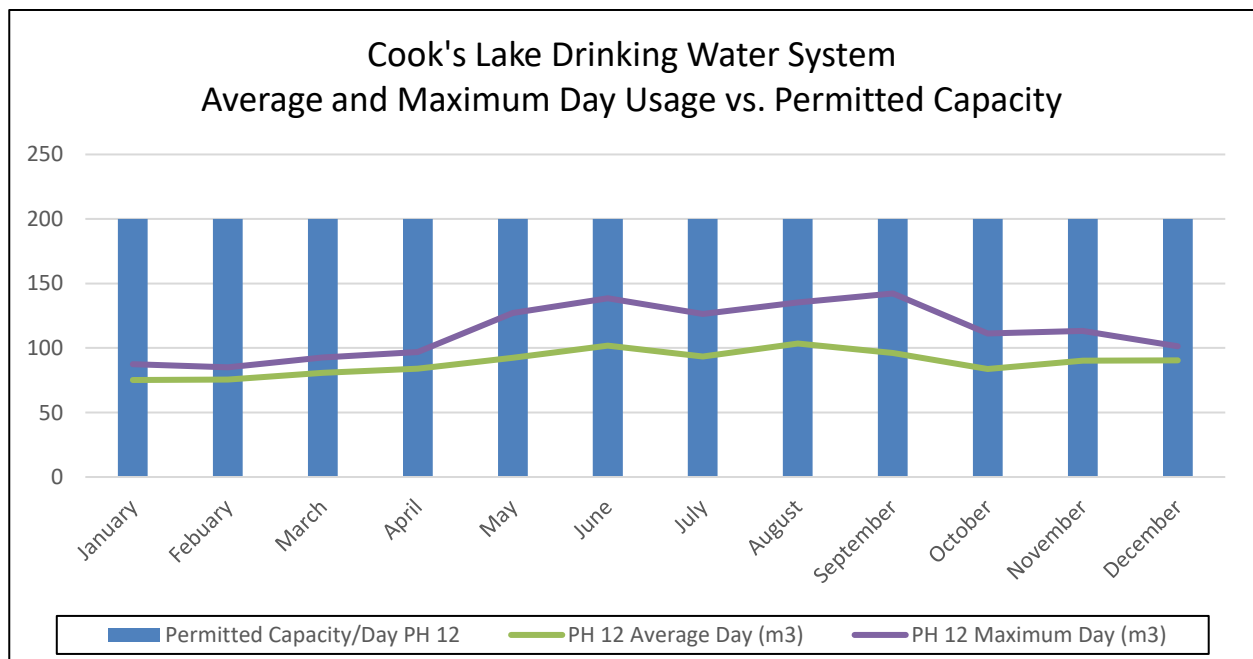
Raw Summary	Total Raw Flow (m³)	Average Day (m³)	Maximum Day (m³)
Well 12-1 – Approved Capacity: 200 m³/day combined			
January	1798.89	58.03	68.06
February	1449.70	49.99	63.15
March	1696.58	54.73	125.94
April	977.54	32.58	52.15
May	1087.17	35.07	47.76
June	1225.55	40.85	50.87
July	1328.84	42.87	56.91
August	1317.41	42.50	49.87
September	1124.87	37.50	45.35
October	1107.51	35.73	50.20
November	1048.56	34.95	47.65
December	1108.64	35.76	41.21



2021 Annual Summary Report and QMS Management Review

Raw Summary	Total Raw Flow (m ³)	Average Day (m ³)	Maximum Day (m ³)
Well 12-2 – Approved Capacity: 200 m³/day combined			
January	2477.84	79.93	116.77
February	2003.91	69.10	193.37
March	2245.63	72.44	212.58
April	1120.85	37.36	60.30
May	1193.59	38.50	50.52
June	1339.07	44.64	59.43
July	1538.19	49.62	87.98
August	1415.28	45.65	54.40
September	1233.24	41.11	79.26
October	1174.81	37.90	52.44
November	1108.59	36.95	45.57
December	1241.88	40.06	48.05

System Totals	Total Flow (m ³)	Average Day (m ³)	Maximum Day (m ³)
System- Approved Capacity: 200 m³/day all wells combined			
January	4276.73	137.96	184.83
February	2980.63	110.39	171.54
March	3375.54	116.40	141.86
April	2098.39	69.95	112.45
May	2280.76	73.57	98.28
June	2564.62	85.49	110.30
July	2867.03	92.48	143.73
August	2732.69	88.15	104.27
September	2358.11	78.60	111.97
October	2282.32	73.62	102.64
November	2157.15	71.91	87.97
December	2350.52	75.82	86.39





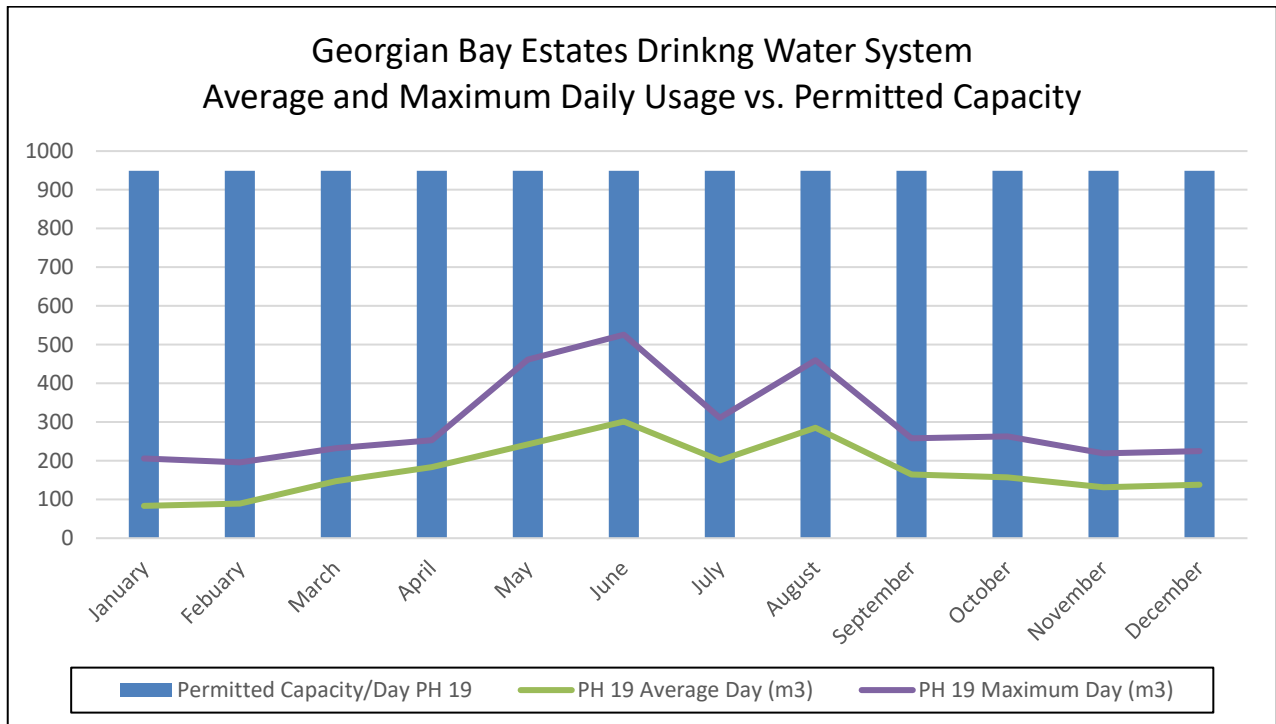
2021 Annual Summary Report and QMS Management Review

➤ *Georgian Bay Estates Drinking Water System*

Raw Summary	Total Raw Flow (m ³)	Average Day (m ³)	Maximum Day (m ³)
Well 19-1 – Approved Capacity: 425.5 m³/day			
January	949.99	30.64	78.07
February	1044.55	37.31	81.44
March	1868.23	60.27	95.16
April	2266.34	75.54	105.07
May	3117.83	100.58	191.22
June	3730.19	124.34	219.31
July	2628.00	84.77	131.45
August	3787.84	122.19	187.64
September	2130.33	71.01	112.40
October	2101.02	67.77	113.56
November	1702.88	56.76	95.11
December	1854.95	59.84	97.24
Well 19-4 – Approved Capacity: 327.3 m³/day			
January	782.00	25.23	99.46
February	695.95	24.86	54.30
March	1284.45	41.43	65.21
April	1539.39	51.31	70.62
May	2093.94	67.55	128.85
June	2492.72	83.09	144.48
July	1679.27	54.17	83.47
August	2348.60	75.76	127.70
September	1289.86	43.00	66.85
October	1275.81	41.16	69.61
November	1020.13	34.00	56.63
December	1112.45	35.89	58.21
Raw Summary	Total Flow (m ³)	Average Day (m ³)	Maximum Day (m ³)
Well 19-5 – Approved Capacity: 196.4 m³/day			
January	856.94	27.64	106.79
February	769.13	27.47	60.05
March	1416.55	45.70	71.81
April	1693.96	56.47	77.54
May	2303.20	74.30	141.61
June	2814.62	93.82	161.93
July	1932.67	62.34	95.66
August	2704.34	87.24	144.70
September	1508.07	50.27	78.47
October	1500.89	48.42	79.90
November	1212.65	40.42	67.54
December	1326.85	42.80	69.35

2021 Annual Summary Report and QMS Management Review

System Totals	Total Flow (m ³)	Average Day (m ³)	Maximum Day (m ³)
System- Approved Capacity: 949.2 m³/day all wells combined			
January	2588.92	83.51	206.25
February	2509.64	89.63	195.79
March	4569.23	147.39	232.18
April	5499.69	183.32	253.22
May	7514.97	242.42	461.68
June	9037.52	301.25	525.71
July	6239.94	201.29	310.58
August	8840.78	285.19	460.04
September	4928.25	164.28	257.72
October	4877.71	157.35	263.07
November	3935.66	131.19	219.28
December	4294.24	138.52	224.81



➤ *Lafontaine Drinking Water System*

Raw Summary	Total Raw Flow (m ³)	Average Day (m ³)	Maximum Day (m ³)
Well 1-1 – Approved Capacity: 328.3 m³/day			
January	4407.17	142.17	192.69
February	4172.65	143.88	162.96
March	4670.61	150.66	247.11
April	5034.96	167.83	250.01
May	5898.06	190.26	245.67
June	5626.02	187.53	274.09
July	7692.21	248.14	290.80
August	7291.96	235.22	289.99
September	5931.60	197.72	237.33
October	5182.97	167.19	203.00
November	4605.83	153.53	179.29
December	228.78	7.38	148.39
Well 2-1 – Approved Capacity: 982 m³/day, 1506 m³/day combined			
January	11266.18	375.54	418.97
February	11012.65	379.75	425.42
March	11785.04	392.83	438.00
April	11038.74	367.96	553.57
May	12792.89	426.43	629.98
June	17657.25	588.58	681.44
July	17682.85	589.43	689.26
August	16735.06	557.84	688.99
September	14177.21	472.57	566.60
October	12027.60	400.92	487.15
November	11517.32	383.91	441.71
December	14184.87	472.83	562.31
Well 2-2 – Approved Capacity: 524.2 m³/day, 1506 m³/day combined			
January	5689.05	189.64	251.36
February	5871.33	202.46	231.76
March	6561.64	218.72	299.36
April	7703.08	256.77	401.98
May	7692.23	256.41	399.69
June	9763.55	325.45	385.07
July	9752.07	325.07	390.71
August	9188.47	306.28	385.91
September	7487.64	249.59	305.70
October	6181.28	206.04	258.61
November	5827.30	194.24	230.37
December	7533.20	251.11	307.68

Note: Pumpstation 01 was shut down on December 2nd 2020 and restarted May 20th 2021 for the Lafontaine interconnection piping project.



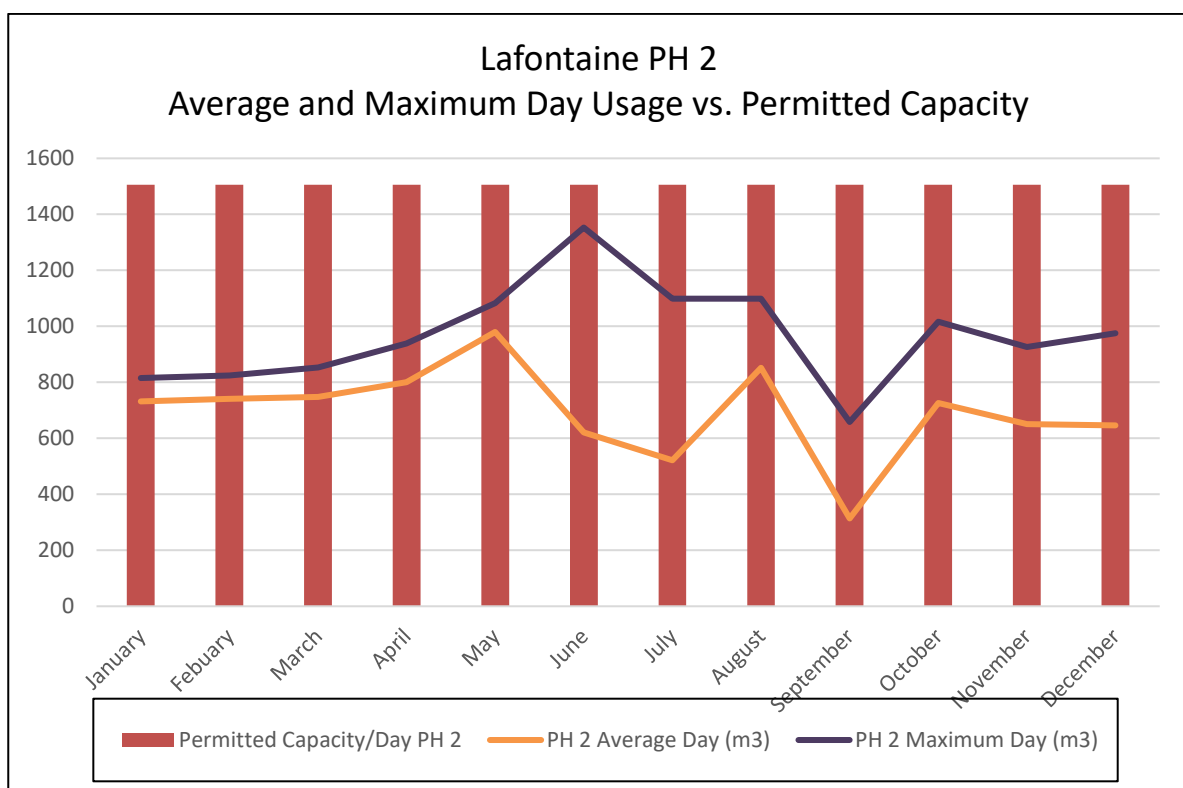
2021 Annual Summary Report and QMS Management Review

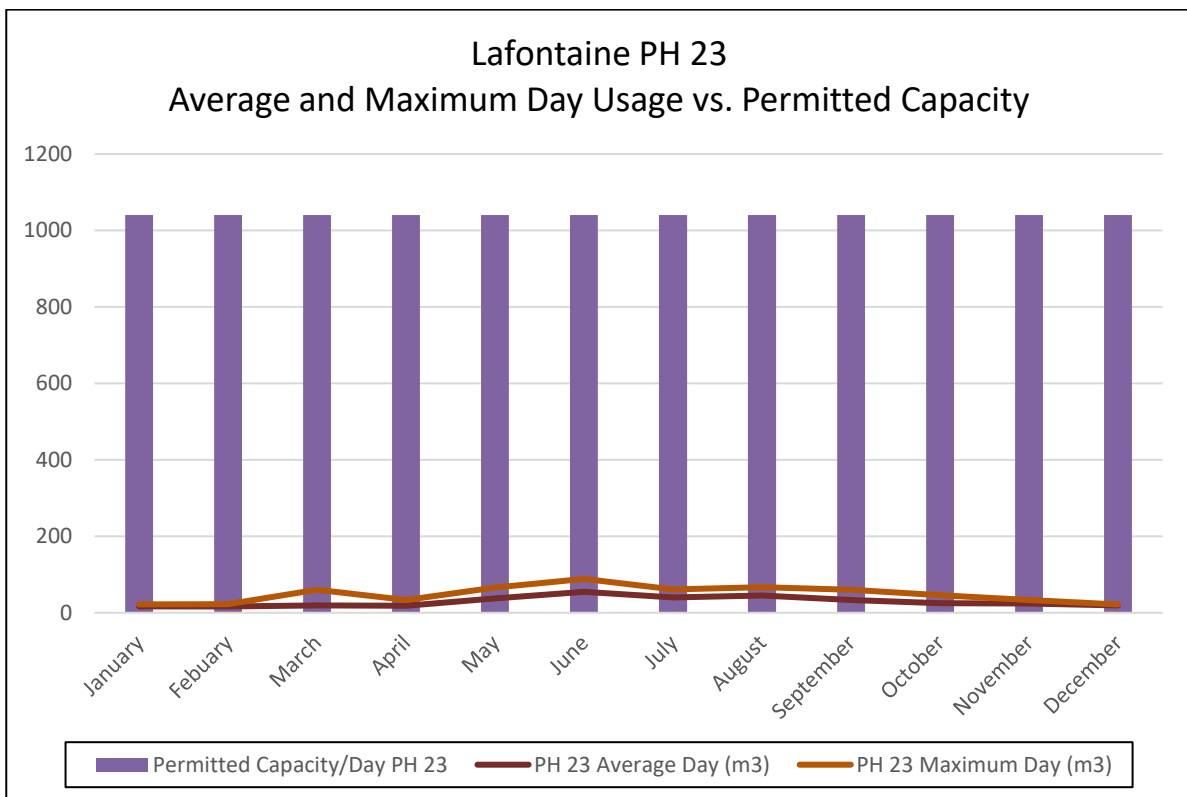
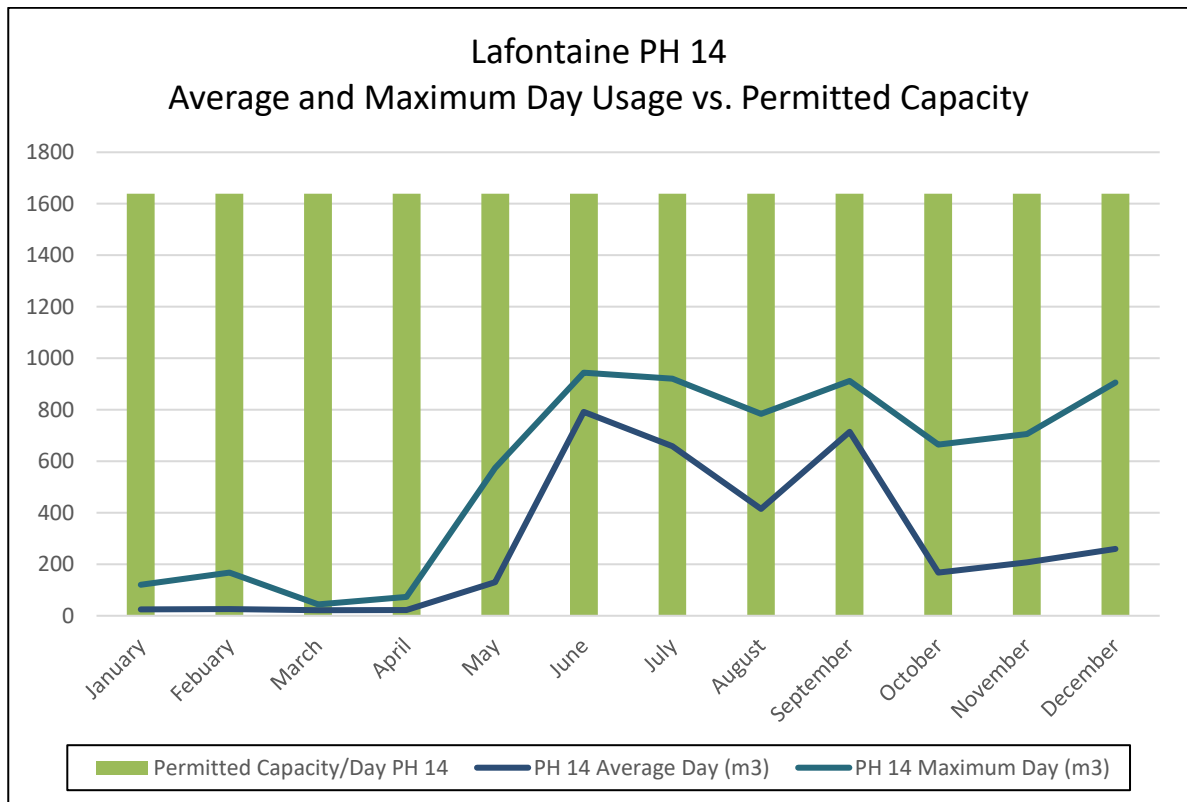
Raw Summary	Total Raw Flow (m ³)	Average Day (m ³)	Maximum Day (m ³)
Well 14-1 – Approved Capacity: 1310.4 m³/day			
January	0.00	0.00	0.00
February	0.00	0.00	0.00
March	0.00	0.00	0.00
April	263.67	8.79	144.62
May	1069.95	34.51	227.02
June	2918.30	97.28	352.16
July	3430.59	110.66	531.39
August	769.30	24.82	128.48
September	812.94	27.10	125.90
October	624.57	20.15	63.95
November	550.18	18.34	48.17
December	862.84	27.83	296.65
Well 23-1 – Approved Capacity: 648 m³/day, 392.77 m³/day combined			
January	271.57	9.05	21.89
February	276.31	9.53	21.57
March	266.13	8.87	21.07
April	269.69	8.99	21.30
May	389.36	12.98	24.43
June	779.54	25.98	49.62
July	714.92	23.83	61.45
August	620.31	20.68	32.76
September	452.25	15.08	24.95
October	308.05	10.27	22.11
November	282.85	9.43	21.55
December	273.38	9.11	22.51
Well 23-4 – Approved Capacity: 392.77 m³/day			
January	288.04	9.60	22.11
February	270.44	9.33	24.22
March	260.00	8.67	20.81
April	260.68	8.69	16.47
May	423.80	14.13	26.23
June	760.57	25.35	50.08
July	683.58	22.79	46.34
August	522.04	17.40	27.12
September	391.53	13.05	22.37
October	299.94	10.00	21.86
November	234.86	7.83	11.75
December	222.64	7.42	13.35



2021 Annual Summary Report and QMS Management Review

System Totals	Total Flow (m ³)	Average Day (m ³)	Maximum Day (m ³)
System- Approved Capacity: 3501.7 m³/day all wells combined			
January	21781.58	726.05	790.88
February	21603.38	744.94	841.14
March	23296.31	776.54	856.00
April	24570.82	819.03	1046.62
May	28092.37	936.41	1251.27
June	37505.23	1250.17	1691.89
July	39639.37	1321.31	1969.39
August	34882.13	1162.74	1427.36
September	29253.17	975.11	1162.56
October	24436.33	814.54	989.20
November	23018.34	767.28	864.88
December	23291.00	776.37	1187.34

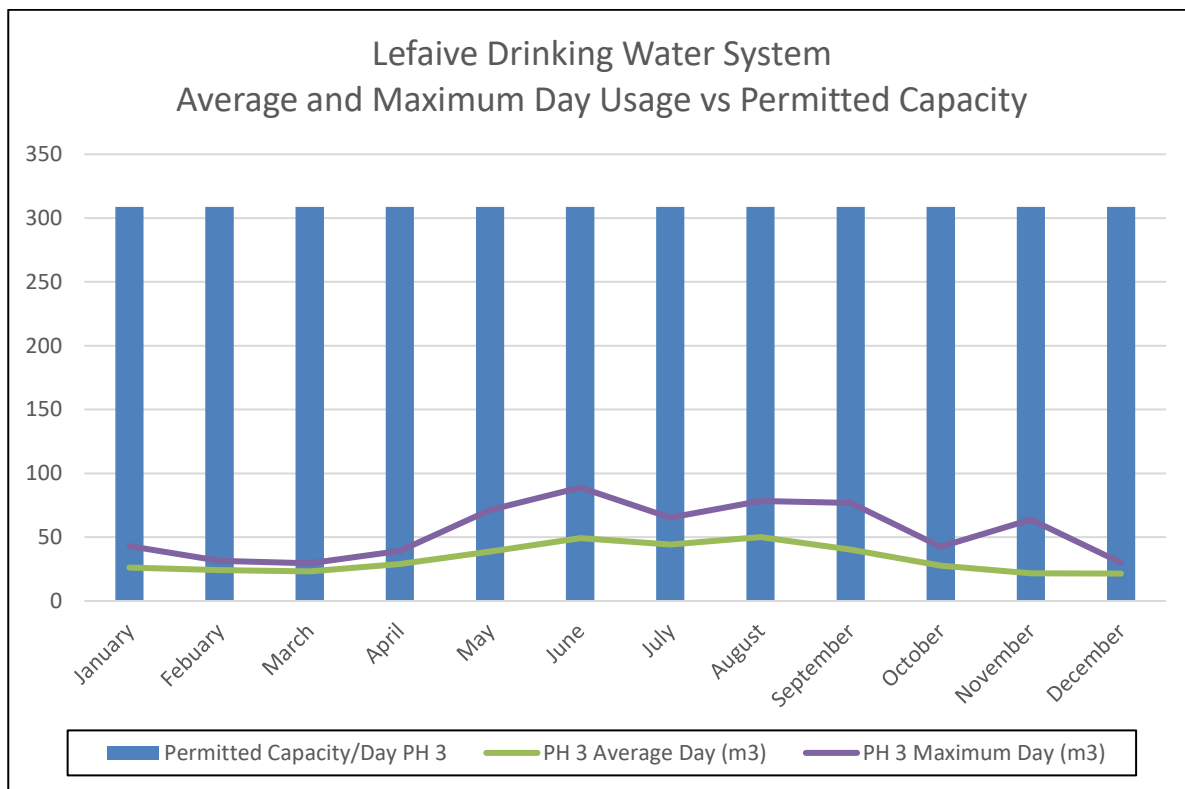




➤ *Lefaive Drinking Water System*

Raw Summary	Total Raw Flow (m ³)	Average Day (m ³)	Maximum Day (m ³)
Well 3-2 – Approved Capacity: 308.7 m³/day combined			
January	400.39	12.92	22.02
February	332.02	11.86	15.57
March	359.94	11.61	14.83
April	432.47	14.42	19.88
May	587.93	18.97	34.50
June	679.06	22.64	42.74
July	690.37	22.27	39.80
August	717.34	23.14	39.24
September	829.43	27.65	53.92
October	829.11	26.75	42.37
November	336.01	11.20	19.42
December	323.46	10.43	15.00
Well 3-3 – Approved Capacity: 280.8 m³/day			
January	407.99	13.16	21.01
February	341.56	12.20	15.78
March	362.07	11.68	14.69
April	432.25	14.41	19.21
May	608.51	19.63	37.05
June	798.66	26.62	46.17
July	682.34	22.01	33.29
August	834.28	26.91	46.91
September	378.94	12.63	46.75
October	31.72	1.02	16.49
November	311.71	10.39	45.87
December	341.80	11.03	15.01

System Totals	Total Flow (m ³)	Average Day (m ³)	Maximum Day (m ³)
System- Approved Capacity: 308.7 m³/day all wells combined			
January	808.38	26.08	43.02
February	673.58	24.06	31.35
March	722.01	23.29	29.51
April	864.72	28.82	39.09
May	1196.44	38.59	71.42
June	1477.72	49.26	88.91
July	1372.71	44.28	65.37
August	1551.63	50.05	78.34
September	1208.37	40.28	76.74
October	860.84	27.77	42.37
November	647.71	21.59	63.74
December	665.26	21.46	29.98



➤ **Pennorth Drinking Water System**

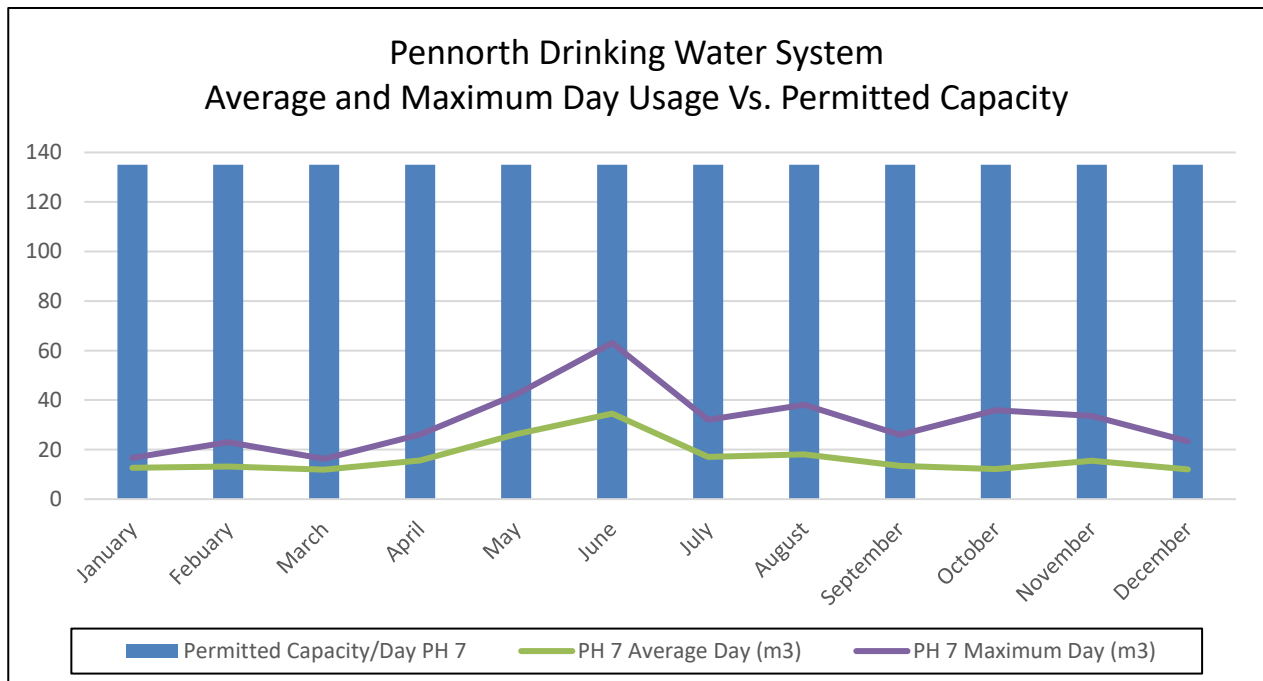
Raw Summary	Total Raw Flow (m³)	Average Day (m³)	Maximum Day (m³)
Well 7-1 – Approved Capacity: 135 m³/day combined			
January	206.75	6.67	9.45
February	196.33	7.01	12.98
March	195.24	6.30	9.09
April	243.09	8.10	13.99
May	438.94	14.16	24.52
June	611.93	20.40	46.88
July	294.44	9.50	19.64
August	316.27	10.20	25.81
September	221.61	7.39	14.40
October	181.74	5.86	12.32
November	229.65	7.66	18.84
December	199.69	6.44	12.98



2021 Annual Summary Report and QMS Management Review

Raw Summary	Total Raw Flow (m ³)	Average Day (m ³)	Maximum Day (m ³)
Well 7-2 – Approved Capacity: 135 m³/day combined			
January	185.25	5.98	7.85
February	171.94	6.14	10.02
March	173.92	5.61	7.20
April	226.29	7.54	12.09
May	373.70	12.05	17.70
June	423.99	14.13	17.07
July	235.93	7.61	12.40
August	244.08	7.87	12.30
September	183.13	6.10	11.61
October	194.84	6.29	28.63
November	234.73	7.82	14.82
December	171.40	5.53	10.46

System Totals	Total Flow (m ³)	Average Day (m ³)	Maximum Day (m ³)
System- Approved Capacity: 135 m³/day all wells combined			
January	392.00	12.65	16.64
February	368.28	13.15	23.00
March	369.17	11.91	16.28
April	469.38	15.65	26.08
May	812.64	26.21	42.21
June	1035.91	34.53	63.08
July	530.37	17.11	32.04
August	560.35	18.08	38.11
September	404.74	13.49	26.00
October	376.58	12.15	35.98
November	464.38	15.48	33.66
December	371.09	11.97	23.43



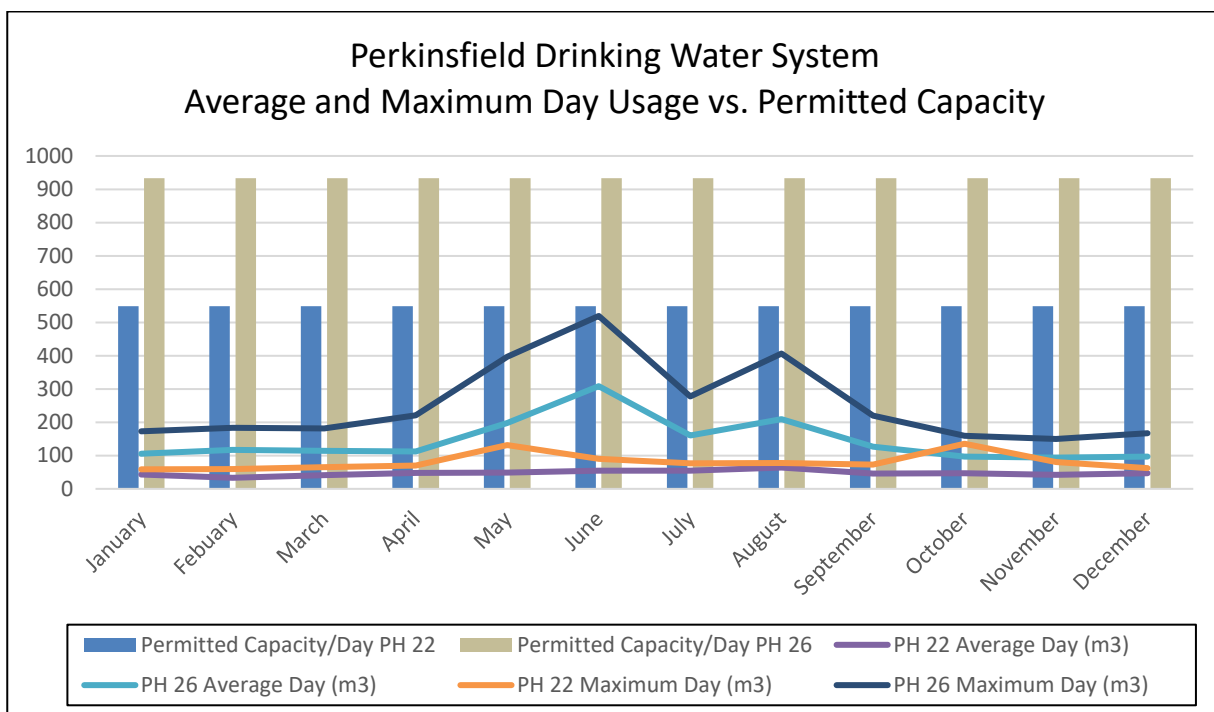
➤ *Perkinsfield Drinking Water System*

Raw Summary	Total Raw Flow (m ³)	Average Day (m ³)	Maximum Day (m ³)
Well 11-2 – Approved Capacity: 195.84 m³/day, 548.64 m³/day combined			
January	768.89	24.80	58.33
February	513.75	18.35	58.65
March	658.89	21.25	64.67
April	696.65	23.22	68.26
May	729.59	23.54	77.25
June	812.77	27.09	80.09
July	849.56	27.41	76.66
August	1086.16	35.04	77.93
September	675.44	22.51	73.16
October	710.26	22.91	59.17
November	684.15	22.81	62.52
December	742.13	23.94	62.28
Well 22-1 – Approved Capacity: 352.8 m³/day, 548.64 m³/day combined			
January	579.38	18.69	51.95
February	416.06	14.86	39.56
March	621.21	20.04	57.76
April	753.02	25.10	59.75
May	776.57	25.05	105.72
June	823.01	27.43	90.54
July	844.07	27.23	76.30
August	896.28	28.91	73.60
September	694.33	23.14	62.53
October	749.24	24.17	89.20
November	568.80	18.96	79.38
December	701.70	22.64	58.43
Raw Summary	Total Raw Flow (m ³)	Average Day (m ³)	Maximum Day (m ³)
Well 26-5 – Approved Capacity: 933 m³/day			
January	3263.76	105.28	173.08
February	3275.16	116.97	182.97
March	3535.61	114.05	181.38
April	3376.23	112.54	220.74
May	6118.94	197.39	396.71
June	9254.61	308.49	519.41
July	4960.74	160.02	277.92
August	6485.69	209.22	406.51
September	3808.88	126.96	220.13
October	2993.75	96.57	159.02
November	2815.97	93.87	149.86
December	3006.32	96.98	167.26



2021 Annual Summary Report and QMS Management Review

System Totals	Total Flow (m ³)	Average Day (m ³)	Maximum Day (m ³)
System- Approved Capacity: 1481.64 m³/day all wells combined			
January	4612.03	148.78	220.70
February	4204.97	150.18	217.08
March	4815.70	155.35	221.30
April	4825.90	160.86	238.35
May	7625.10	245.97	527.84
June	10890.39	363.01	543.04
July	6654.37	214.66	354.58
August	8468.13	273.17	480.73
September	5178.65	172.62	283.17
October	4453.25	143.65	235.35
November	4068.93	135.63	184.53
December	4450.15	143.55	220.27



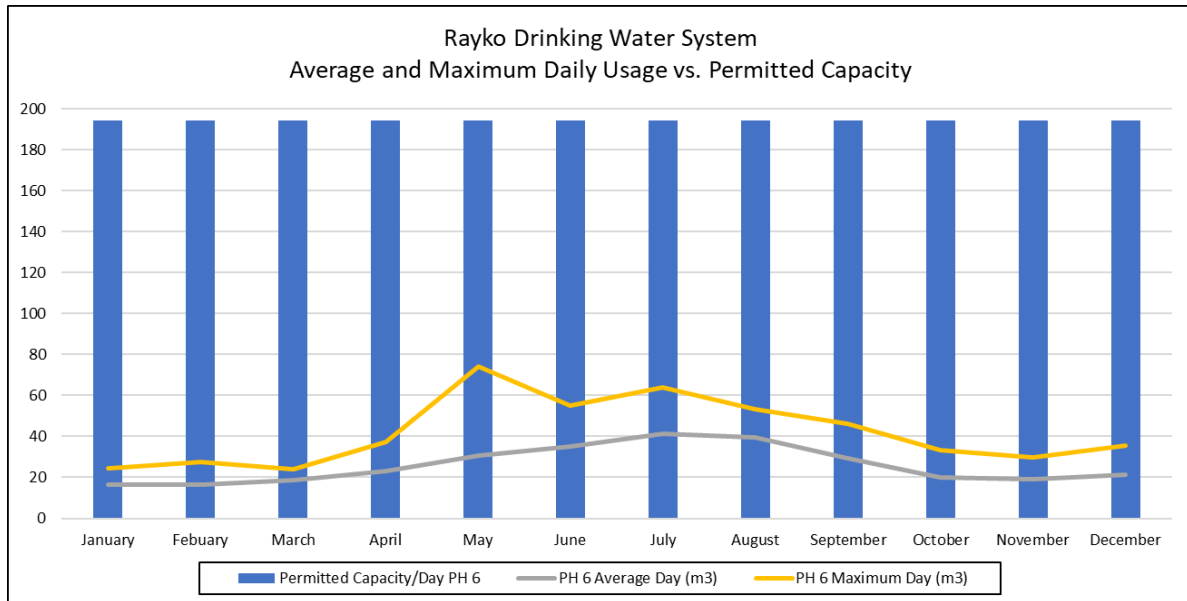
➤ *Rayko Drinking Water System*

Raw Summary	Total Raw Flow (m ³)	Average Day (m ³)	Maximum Day (m ³)
Well 6-2 – Approved Capacity: 64.8 m³/day, 194.4 m³/day combined			
January	414.19	13.36	25.48
February	392.58	14.02	22.18
March	403.91	13.03	17.81
April	454.46	15.15	20.94
May	724.47	23.37	38.28
June	1072.41	35.75	45.52
July	952.03	30.71	46.64
August	1046.49	33.76	42.60
September	755.26	25.18	40.09
October	438.46	14.14	27.34
November	434.69	14.49	23.60
December	484.64	15.63	27.82
Well 6-3 – Approved Capacity: 129.6 m³/day, 194.4 m³/day combined			
January	253.48	8.18	9.16
February	233.73	8.35	9.78
March	255.81	8.25	9.55
April	271.23	9.04	26.33
May	288.06	9.29	23.77
June	341.68	11.39	30.39
July	307.99	9.94	25.48
August	294.71	9.51	18.42
September	268.21	8.94	16.16
October	245.30	7.91	9.18
November	245.11	8.17	9.44
December	246.20	7.94	9.11

System Totals	Total Flow (m ³)	Average Day (m ³)	Maximum Day (m ³)
System- Approved Capacity: 194.4 m³/day all wells combined			
January	667.67	21.54	33.75
February	626.31	22.37	30.65
March	659.72	21.28	27.05
April	725.68	24.19	40.11
May	1012.53	32.66	61.93
June	1414.08	47.14	75.90
July	1260.02	40.65	72.11
August	1341.20	43.26	61.03
September	1023.47	34.12	55.89
October	683.76	22.06	36.06
November	679.80	22.66	33.04
December	730.84	23.58	35.78



2021 Annual Summary Report and QMS Management Review



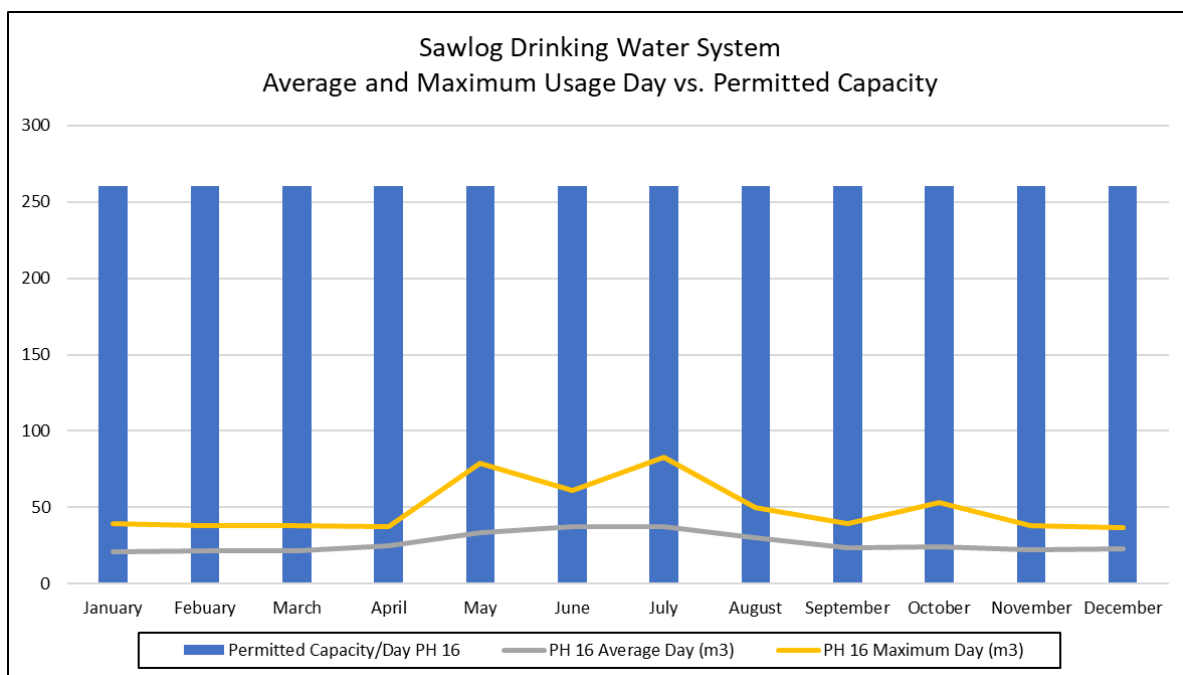
➤ Sawlog Bay Drinking Water System

Raw Summary	Total Raw Flow (m³)	Average Day (m³)	Maximum Day (m³)
Well 16-2 – Approved Capacity: 196.13 m³/day, 260.64 m³/day combined			
January	312.98	10.10	20.94
February	368.22	13.15	35.39
March	407.89	13.16	36.05
April	299.81	9.99	21.94
May	523.21	16.88	43.18
June	599.26	19.98	46.00
July	334.93	10.80	33.10
August	429.13	13.84	35.08
September	314.98	10.50	31.54
October	297.86	9.61	23.09
November	235.93	7.86	19.33
December	366.33	11.82	33.65
Well 16-3 – Approved Capacity: 260.64 m³/day, 260.64 m³/day combined			
January	385.94	12.45	36.16
February	372.19	13.29	36.64
March	448.48	14.47	36.39
April	394.61	13.15	39.28
May	606.49	19.56	53.04
June	675.98	22.53	57.73
July	482.03	15.55	27.49
August	545.13	17.58	25.71
September	320.73	10.69	36.34
October	307.53	9.92	26.05
November	425.07	14.17	35.28
December	411.36	13.27	34.14



2021 Annual Summary Report and QMS Management Review

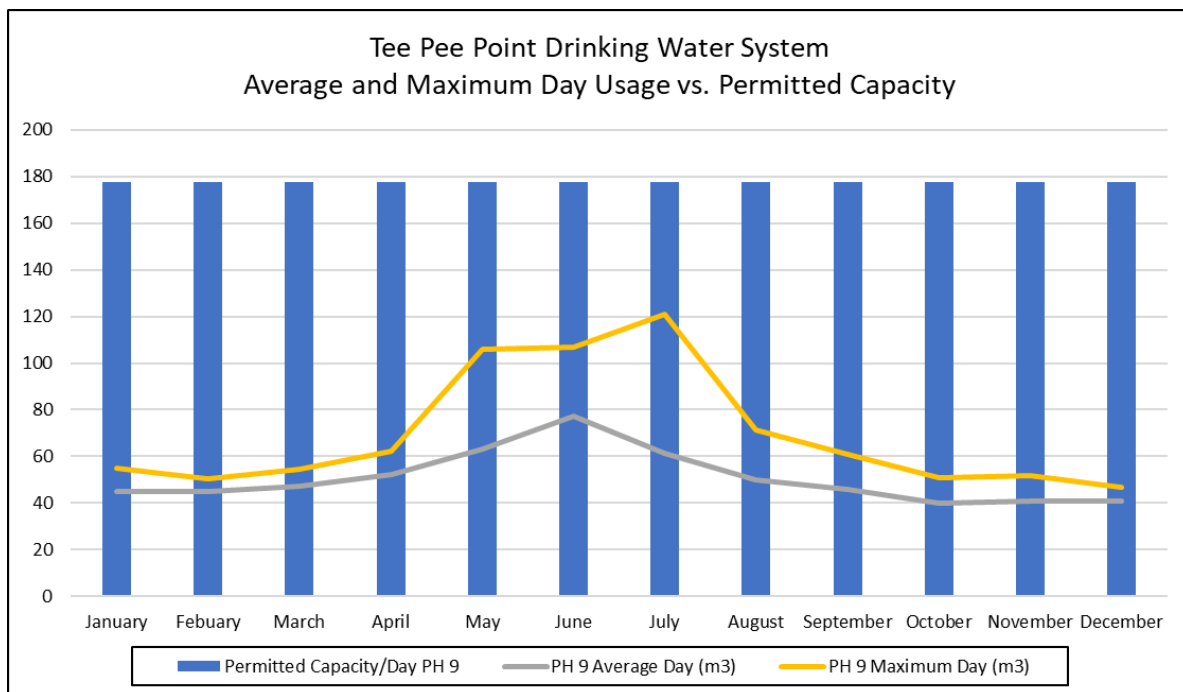
System Totals	Total Flow (m ³)	Average Day (m ³)	Maximum Day (m ³)
System- Approved Capacity: 260.64 m³/day all wells combined			
January	698.92	22.55	36.29
February	740.41	26.44	41.94
March	856.37	27.62	39.09
April	694.42	23.15	44.94
May	1129.70	36.44	74.37
June	1275.25	42.51	71.02
July	816.96	26.35	60.60
August	974.26	31.43	52.63
September	635.71	21.19	38.51
October	605.39	19.53	36.15
November	660.99	22.03	37.44
December	777.69	25.09	37.24



➤ Tee Pee Point Drinking Water System

Raw Summary	Total Raw Flow (m ³)	Average Day (m ³)	Maximum Day (m ³)
Well 9-1 – Approved Capacity: 177.5 m³/day combined			
January	582.74	18.80	21.52
February	534.73	19.10	22.01
March	593.94	19.16	24.88
April	567.49	18.92	23.58
May	849.99	27.42	71.64
June	792.45	26.42	59.16
July	720.81	23.25	32.81
August	921.62	29.73	41.39
September	612.92	20.43	23.68
October	694.49	22.40	39.07
November	580.86	19.36	23.16
December	655.85	21.16	23.38
Well 9-2 – Approved Capacity: 177.5 m³/day combined			
January	687.60	22.18	25.67
February	628.16	22.43	27.08
March	701.29	22.62	27.96
April	677.70	22.59	30.78
May	1141.57	36.82	63.39
June	1095.88	36.53	58.38
July	892.12	28.78	45.99
August	1407.81	45.41	76.68
September	750.97	25.03	31.55
October	859.02	27.71	56.58
November	700.96	23.37	29.96
December	780.20	25.17	30.76

System Totals	Total Flow (m ³)	Average Day (m ³)	Maximum Day (m ³)
System- Approved Capacity: 177.5 m³/day all wells combined			
January	1270.34	40.98	47.20
February	1162.89	41.53	47.73
March	1295.23	41.78	52.85
April	1245.19	41.51	52.94
May	1991.55	64.24	103.04
June	1888.33	62.94	109.56
July	1612.93	52.03	72.94
August	2329.43	75.14	113.13
September	1363.89	45.46	54.64
October	1553.50	50.11	95.65
November	1281.82	42.73	52.72
December	1436.05	46.32	54.13



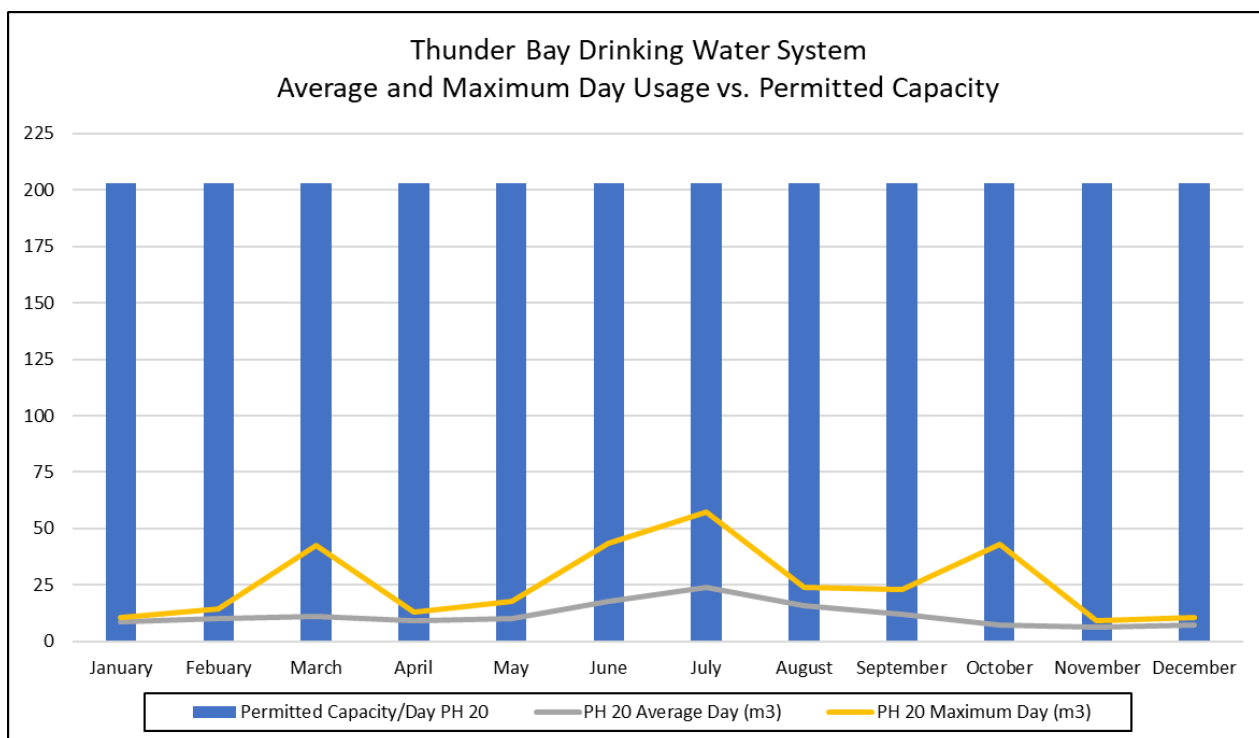
➤ **Thunder Bay Drinking Water System**

Raw Summary	Total Raw Flow (m³)	Average Day (m³)	Maximum Day (m³)
Well 20-1 – Approved Capacity: 203 m³/day combined			
January	116.75	3.77	5.16
February	119.75	4.28	7.17
March	130.22	4.20	6.77
April	126.79	4.23	6.27
May	260.62	8.41	22.99
June	423.27	14.11	20.99
July	324.87	10.48	15.82
August	386.22	12.46	22.08
September	241.07	8.04	15.05
October	242.15	7.81	41.50
November	232.78	7.76	13.09
December	253.20	8.17	9.75
Well 20-2 – Approved Capacity: 203 m³/day combined			
January	124.46	4.01	5.69
February	123.34	4.40	7.62
March	134.94	4.35	5.98
April	131.52	4.38	6.31
May	303.56	9.79	29.97
June	568.71	18.96	45.58
July	378.68	12.22	18.69
August	468.50	15.11	29.96
September	271.45	9.05	18.20
October	246.19	7.94	38.46
November	245.43	8.18	14.00
December	268.73	8.67	10.48



2021 Annual Summary Report and QMS Management Review

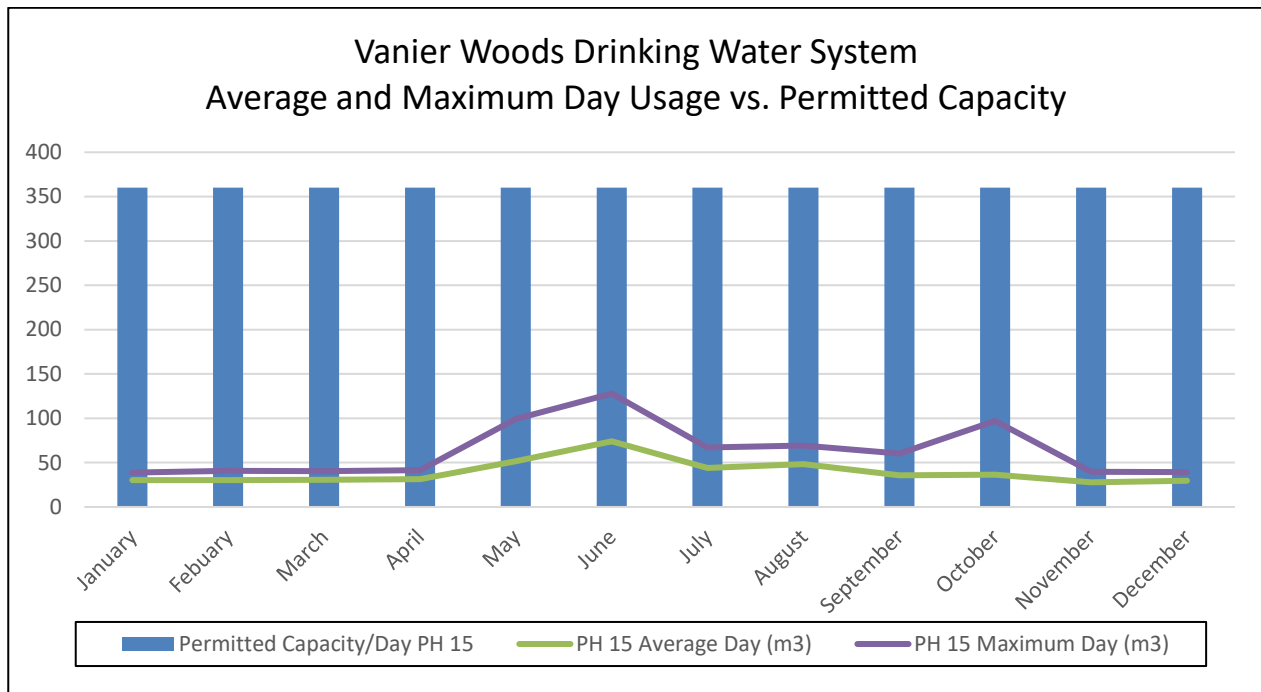
System Totals	Total Flow (m ³)	Average Day (m ³)	Maximum Day (m ³)
System- Approved Capacity: 203 m³/day all wells combined			
January	7.78	10.77	241.21
February	8.68	14.79	243.09
March	8.55	12.75	265.16
April	8.61	12.58	258.31
May	18.20	52.96	564.18
June	33.07	63.88	991.97
July	22.70	34.51	703.55
August	27.57	49.06	854.72
September	17.08	33.11	512.52
October	15.75	79.96	488.34
November	15.94	27.09	478.21
December	16.84	20.23	521.93



➤ **Vanier Woods Drinking Water System**

Raw Summary	Total Raw Flow (m ³)	Average Day (m ³)	Maximum Day (m ³)
Well 15-1 – Approved Capacity: 360 m³/day combined			
January	493.20	15.91	36.47
February	447.10	15.97	27.08
March	481.64	15.54	28.12
April	485.18	16.17	37.67
May	846.05	27.29	74.36
June	1138.70	37.96	83.42
July	714.43	23.05	46.63
August	796.47	25.69	49.98
September	523.40	17.45	40.41
October	626.21	20.20	84.43
November	410.00	13.67	20.67
December	468.34	15.11	20.63
Well 15-2 – Approved Capacity: 360 m³/day combined			
January	449.00	14.48	20.25
February	397.40	14.19	20.31
March	471.69	15.22	20.30
April	458.92	15.30	21.48
May	747.32	24.11	49.52
June	1082.82	36.09	76.83
July	651.30	21.01	40.50
August	696.32	22.46	48.10
September	543.81	18.13	39.23
October	506.14	16.33	31.37
November	423.20	14.11	19.59
December	449.01	14.48	19.99

System Totals	Total Flow (m ³)	Average Day (m ³)	Maximum Day (m ³)
System- Approved Capacity: 360 m³/day all wells combined			
January	942.20	30.39	38.80
February	844.50	30.16	40.66
March	953.32	30.75	40.32
April	944.10	31.47	41.37
May	1593.37	51.40	99.35
June	2221.52	74.05	127.91
July	1365.72	44.06	67.15
August	1492.79	48.15	69.32
September	1067.21	35.57	60.31
October	1132.35	36.53	96.90
November	833.20	27.77	39.55
December	917.35	29.59	39.20



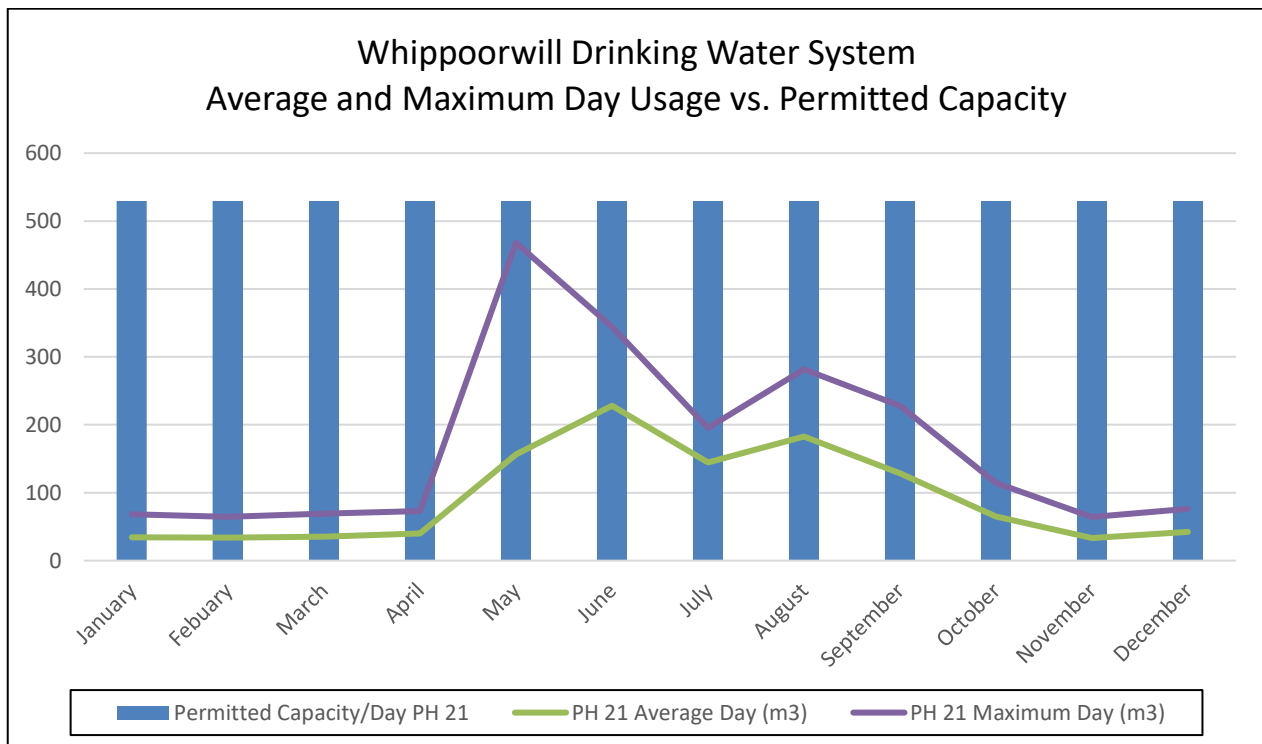
➤ *Whippoorwill Drinking Water System*

Raw Summary	Total Raw Flow (m³)	Average Day (m³)	Maximum Day (m³)
Well 21-1 – Approved Capacity: 529.5 m³/day combined			
January	568.74	18.35	37.53
February	457.34	16.33	37.18
March	542.35	17.50	69.00
April	611.02	20.37	41.27
May	2548.01	82.19	289.38
June	3073.60	102.45	199.39
July	2156.84	69.58	148.65
August	2887.38	93.14	194.21
September	1946.68	64.89	145.53
October	1011.72	32.64	69.64
November	496.02	16.53	40.34
December	702.27	22.65	38.12
Well 21-2 – Approved Capacity: 529.5 m³/day combined			
January	499.40	16.11	37.72
February	490.30	17.51	37.44
March	558.51	18.02	64.99
April	587.25	19.58	40.87
May	2300.64	74.21	178.61
June	3770.22	125.67	257.56
July	2320.29	74.85	155.53
August	2774.10	89.49	198.28
September	1911.48	63.72	134.53
October	1003.25	32.36	76.22
November	503.24	16.77	38.26
December	618.28	19.94	40.44



2021 Annual Summary Report and QMS Management Review

System Totals	Total Flow (m ³)	Average Day (m ³)	Maximum Day (m ³)
System- Approved Capacity: 529.5 m³/day all wells combined			
January	1068.13	34.46	68.20
February	947.64	33.84	64.61
March	1100.86	35.51	69.00
April	1198.27	39.94	72.84
May	4848.65	156.41	467.98
June	6843.82	228.13	344.45
July	4477.12	144.42	195.68
August	5661.48	182.63	281.51
September	3858.16	128.61	228.23
October	2014.97	65.00	114.27
November	999.25	33.31	64.30
December	1320.55	42.60	76.41



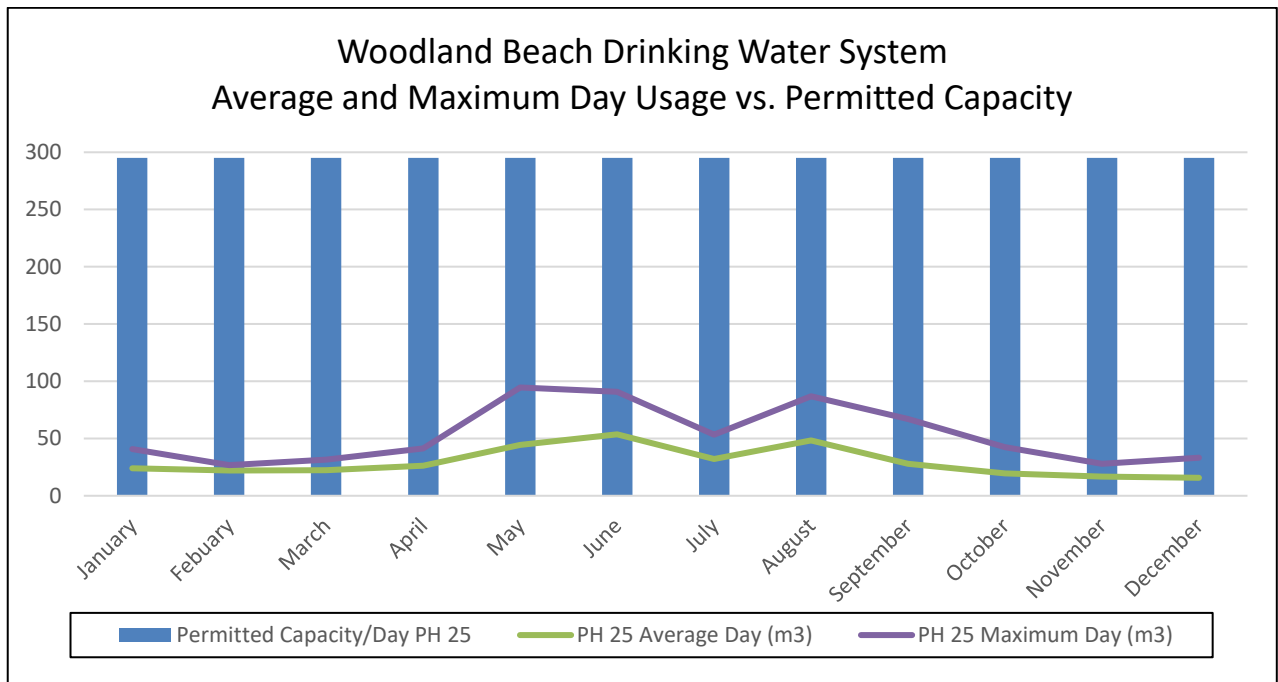
➤ *Woodland Beach Drinking Water System*

Raw Summary	Total Raw Flow (m ³)	Average Day (m ³)	Maximum Day (m ³)
Well 25-1 – Approved Capacity: 295.2 m³/day combined			
January	371.58	11.99	21.22
February	305.39	10.91	13.15
March	352.16	11.36	15.06
April	397.83	13.26	21.35
May	706.13	22.78	51.00
June	829.78	27.66	47.14
July	501.56	16.18	26.39
August	771.07	24.87	45.08
September	424.49	14.15	34.44
October	300.20	9.68	18.70
November	249.33	8.31	13.68
December	246.78	7.96	17.25
Well 25-2 – Approved Capacity: 295.2 m³/day combined			
January	372.96	12.03	19.65
February	312.25	11.15	15.47
March	343.31	11.07	16.43
April	391.49	13.05	19.89
May	672.32	21.69	45.03
June	780.19	26.01	43.71
July	494.36	15.95	26.93
August	729.94	23.55	41.83
September	415.77	13.86	32.66
October	307.05	9.90	23.84
November	251.06	8.37	14.25
December	239.86	7.74	16.09

System Totals	Total Flow (m ³)	Average Day (m ³)	Maximum Day (m ³)
System- Approved Capacity: 295.2 m³/day all wells combined			
January	744.54	24.02	40.87
February	617.64	22.06	26.77
March	695.47	22.43	31.48
April	789.32	26.31	41.24
May	1378.45	44.47	94.57
June	1609.98	53.67	90.85
July	995.93	32.13	53.31
August	1501.01	48.42	86.91
September	840.26	28.01	67.10
October	607.25	19.59	42.54
November	500.39	16.68	27.93
December	486.65	15.70	33.33



2021 Annual Summary Report and QMS Management Review



➤ *Wyevale Drinking Water System*

Raw Summary	Total Raw Flow (m³)	Average Day (m³)	Maximum Day (m³)
Well 17-1 – Approved Capacity: 259 m³/day			
January	591.10	19.07	34.39
February	518.65	18.52	53.61
March	551.14	17.78	36.02
April	591.15	19.71	42.15
May	1699.57	54.82	148.64
June	2530.56	84.35	190.27
July	1657.73	53.48	101.04
August	1958.37	63.17	120.74
September	1138.74	37.96	81.57
October	577.33	18.62	37.20
November	468.84	15.63	24.33
December	514.72	16.60	23.29
Well 17-2 – Approved Capacity: 527 m³/day, 548.64 m³/day combined			
January	1164.91	37.58	92.83
February	1082.35	38.66	63.06
March	1030.46	33.24	47.71
April	1120.52	37.35	56.08
May	3125.71	100.83	269.34
June	3836.35	127.88	341.01
July	3126.39	100.85	195.35
August	4136.60	133.44	323.54
September	2769.32	92.31	243.64
October	1161.72	37.47	56.21
November	941.87	31.40	50.30
December	1028.46	33.18	58.66



2021 Annual Summary Report and QMS Management Review

Raw Summary	Total Raw Flow (m ³)	Average Day (m ³)	Maximum Day (m ³)
Well 17-3 – Approved Capacity: 259 m³/day			
January	600.36	19.37	34.81
February	526.35	18.80	53.91
March	573.83	18.51	35.93
April	616.87	20.56	43.87
May	1752.55	56.53	152.47
June	2601.90	86.73	195.81
July	1696.30	54.72	103.37
August	1999.32	64.49	122.88
September	1168.17	38.94	82.32
October	600.40	19.37	38.68
November	486.83	16.23	25.20
December	534.61	17.25	24.19
Well 29-1 – Approved Capacity: 655 m³/day combined			
January	1141.65	36.83	47.89
February	975.94	34.86	45.46
March	1206.55	38.92	53.64
April	1268.50	42.28	54.91
May	3586.55	115.70	187.20
June	4922.79	164.09	221.13
July	3507.96	113.16	148.90
August	4042.24	130.39	176.96
September	2639.04	87.97	152.06
October	1302.20	42.01	73.27
November	1021.07	34.04	52.84
December	954.29	34.08	48.54
Well 29-2 – Approved Capacity: 655 m³/day combined			
January	1326.49	42.79	55.73
February	1123.27	40.12	53.52
March	1312.93	42.35	57.27
April	1402.26	46.74	61.96
May	4172.11	134.58	219.07
June	5787.56	192.92	258.04
July	4127.60	133.15	176.35
August	4913.54	158.50	215.69
September	3208.04	106.93	184.47
October	1590.96	51.32	88.21
November	1242.21	41.41	57.77
December	1164.15	41.58	59.04

2021 Annual Summary Report and QMS Management Review

System Totals	Total Flow (m ³)	Average Day (m ³)	Maximum Day (m ³)
System- Approved Capacity: 1182 m³/day all wells combined			
January	4824.51	155.63	190.82
February	4226.56	150.95	178.14
March	4674.90	150.80	204.27
April	4999.31	166.64	213.76
May	14336.49	462.47	747.59
June	19679.17	655.97	865.25
July	14115.97	455.35	600.82
August	17050.06	550.00	742.16
September	10923.31	364.11	629.61
October	5232.61	168.79	263.80
November	4160.82	138.69	182.51
December	4196.22	135.36	202.96

