

**REGULAR MEETING OF COUNCIL
AGENDA**

DATE: December 5, 2022
TIME: 4:30 p.m.
LOCATION: Council Chambers, Enderby City Hall

The public may attend this meeting in person or by means of electronic facilities.

Please contact Enderby City Hall at 250-838-7230 or info@cityofenderby.com by 3:30 pm on the day of the meeting to obtain access codes to attend the meeting electronically.

The City of Enderby uses Zoom for its electronic facilities and encourages those who are unfamiliar with the application to test it in advance; for technical support, please contact Zoom.

If you would like to attend this meeting by means of electronic facilities and do not have a computer or mobile phone capable of using Zoom, please let us know and we can provide you with a number that you can call in from a regular telephone.

When applicable, public hearing materials are available for inspection at www.cityofenderby.com/hearings/

1. APPROVAL OF AGENDA

2. ADOPTION OF MINUTES

2.1 Meeting Minutes of November 21, 2022

Page 3

3. DELEGATIONS

3.1 Superintendent Shawna Baher and Staff Sergeant Steve Manchini
Vernon/North Okanagan Detachment, RCMP

**4. CONTINUING BUSINESS AND BUSINESS ARISING FROM COMMITTEES
AND DELEGATIONS**

5. REPORTS

5.1 Mayor and Council Reports

5.2 Area F Director Report

5.3 Chief Administrative Officer Report

5.3.1 Council Inquiries

5.5 City of Enderby Wastewater System Annual Report 2021
Memo prepared by Chief Administrative Officer dated November 25, 2022

Page 12

5.6 City of Enderby Drinking Water Annual Report 2021
Memo prepared by Chief Administrative Officer dated November 29, 2022

Page 35

6. NEW BUSINESS

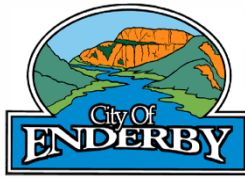
- 6.1 Community Marketing Video – Support in Principle for Award of Contract Page 48
Memo prepared by Planner dated November 23, 2022
- 6.2 Gardens and Grounds Contract 2023-25 Recommendation of Award Page 50
Memo prepared by Chief Administrative Officer dated November 30, 2022
- 6.3 Designation of Saksham Meenia as Bylaw Enforcement Officer and Animal Page 55
Control Officer
Memo prepared by Planner dated November 29, 2022
- 6.4 Enderby & District Garden Club Page 56
Correspondence from President dated November 21, 2022

7. CORRESPONDENCE AND INFORMATION ITEMS

- 7.1 Okanagan College Page 57
Correspondence from President dated November 10, 2022
- 7.2 The Shuswap Trail Alliance Page 59
Correspondence from Executive Director dated November 24, 2022

8. PUBLIC QUESTION PERIOD

9. ADJOURNMENT



THE CORPORATION OF THE CITY OF ENDERBY

Minutes of a **Regular Meeting** of Council held on Monday, November 21, 2022 at 4:30 p.m. in Council Chambers.

Present: Acting Mayor Tundra Baird
Councillor Roxanne Davyduke
Councillor David Ramey
Councillor Shawn Shishido
Councillor Sarah Yerhoff

Absent: Mayor Huck Galbraith
Councillor Brian Schreiner

Staff: Chief Administrative Officer – Tate Bengtson
Chief Financial Officer – Jennifer Bellamy
Planner – Kurt Inglis
Clerk-Secretary – Andraya Holmes

Other: Press and Public

APPROVAL OF AGENDA

Moved by Councillor Davyduke, seconded by Councillor Yerhoff
“THAT the November 21, 2022 Council Meeting agenda be approved as circulated.”

CARRIED

ADOPTION OF MINUTES

Meeting Minutes of November 7, 2022

Moved by Councillor Shishido, seconded by Councillor Ramey
“THAT the November 7, 2022 Council Meeting minutes be adopted as circulated.”

CARRIED

DELEGATIONS

Leigha Horsfield, Executive Director and Danielle Guetter, Business Services Advisor - Community Futures North Okanagan

Ms. Horsfield introduced Community Futures North Okanagan. Some key points from the presentation were as follows:

- Current unemployment rate is the lowest in 15 years.
- Only 33% of people in the North Okanagan are of prime working age (25-54).
- Largest labour force losses are in fields of construction, healthcare, manufacturing, finance, and insurance.

- North Okanagan Shuswap Rural and Northern Immigration Pilot has brought 652 newcomers to the area so far.
- There will be a housing awareness campaign launching in January in partnership with the RDNO.

Councillor Davyduke asked if finding housing has been an issue for workers coming to the area with the Rural Northern Immigration Pilot.

Ms. Horsfield responded that housing has not been an issue for these workers so far.

Councillor Ramey asked about credentialing barriers faced by skilled workers from other countries to practice their trade or profession in Canada.

Ms. Horsfield responded that this issue remains a challenge because the standards to practice certain trades and professions in Canada are not set by the government, but by associations or credentialing bodies specific to the field of work.

Councillor Shishido asked why there is a shortage of local workers.

Ms. Horsfield responded that the pandemic accelerated the baby boom generation's exit from the workforce, and as more members of that generation retire, not enough people are entering the workforce to replace them.

Ms. Guetter thanked Council for taking the time to interact with and get to know her. Explained that she is at City Hall on Tuesdays from 10 a.m. to 3 p.m. providing business services to small businesses within the community.

There are 2 clients from Enderby in the Self Employment Program.

Ms. Guetter has followed up with all businesses that indicated at the time of the Business Walk that they would like further assistance. A common request in the community is help with marketing, specifically how to use social media.

Councillor Davyduke asked if the workshop put on by Community Futures for business owners to help them learn to recruit and retain employees has been well attended.

Ms. Guetter responded that the program is now running monthly and that each has had employers participating.

DEVELOPMENT MATTERS AND RELATED BYLAWS

Development Variance Permit #0052-22-DVP-END

The Planner gave an overview of the application.

Acting Mayor Baird asked if any member of the public would like to make representation.

There were no members of the public who wished to speak.

Acting Mayor Baird asked if there were any written submissions.

There were no written submissions.

Acting Mayor Baird asked if the applicant was present and would like to make representation.

The applicant was not present.

Councillor Shishido expressed that this is a good way to add housing inventory in the community.

Councillor Ramey asked if there is information available regarding the use of the new shop.

Planner responded that the applicant has stated that the shop space will be used in a similar fashion to an attached garage.

Acting Mayor Baird asked if snow is a concern with the sloped style of the roof, given the shop's proximity to the property line. Will snow be contained on the applicant's land?

Planner responded that the siting of the new building is in compliance with setbacks such that snow falling off the roof should be contained on the applicant's land.

Moved by Councillor Shishido, seconded by Councillor Davyduke

“THAT Council authorizes the issuance of a Development Variance Permit for the properties legally described as i) LOT 2 BLOCK 5 DISTRICT LOT 150 KAMLOOPS (FORMERLY OSOYOOS) DIVISION YALE DISTRICT PLAN 211B and, ii) LOT 3 BLOCK 5 DISTRICT LOT 150 KAMLOOPS (FORMERLY OSOYOOS) DIVISION YALE DISTRICT PLAN 211B, located at 725 Knight Avenue, Enderby B.C., to permit a variance to the following Sections of the City of Enderby Zoning Bylaw No. 1550, 2014:

- *308.4.a.iii by reducing the minimum setback between an accessory residential building and any other building or structure from 3 m (9.842 feet) to 1.5 m (4.921 feet);*
- *308.4.b by increasing the maximum floor area for a domestic garage or shop from 80.3 m² (862 square feet) to 102.19 m² (1,100 square feet);*
- *308.4.b by increasing the maximum horizontal dimension for a domestic garage or shop from 11 m (36.1 feet) to 12.19 m (40 feet); and*
- *308.4.c by increasing the maximum height of an accessory residential building from 5 m (16.40 feet) to 6.15 m (20.17 feet).”*

CARRIED

Development Variance Permit #0053-22-DVP-END

The Planner gave an overview of the application.

Acting Mayor Baird asked if any member of the public would like to make representation.

Margo Boyle, 800 Sicamous Street, Enderby BC

- Concerns about dirt sloughing from the development site onto her property.
- Project has been very noisy, disrupting her and her husband's enjoyment of their property.
- Concerns about trees being removed on the steep slope above her property.

- Issues with water and drainage at her property.
- Concerns about fire truck access and evacuation ability of the new development.
- Blasting from the development has covered her yard in dust and dirt.
- Concerns about herons that have left the area because of the development.

Councillor Shishido asked who is responsible if water run-off from the development affects homes below the development.

Planner responded that in cases where a developer directs water toward another property there could be a basis for legal action. In this case, the development is required to tie into the City stormwater system and the road as constructed will help direct water away from properties below.

Acting Mayor Baird thanked Ms. Boyle for attending the meeting and voicing her concerns. Explained that at this stage Council is only making a decision on varying the front yard setbacks of the lots within the development.

Acting Mayor Baird asked if there were any written submissions

The Planner read out the following written submissions:

Margo and Vern Boyle, 800 Sicamous Street, Enderby BC

- Concerns that the maps included in the report do not show elevations.
- Would like photos included in the report.
- Expressed that retaining walls are needed.
- Concerns that there is no green space within the development.
- Concerns about parking within the development and spreading onto adjacent streets.
- Concerns that there is only one entrance/exit from the development.
- Concerns about the noise and dust and dirt coming from the development.
- Noted that blue heron are returning to the area.
- Asked Council to deny the variance.

Anthony, Patricia, and Stuart Vetter, 806 Sicamous Street, Enderby BC

- Concerns that the variance allows driveways to be too short for large vehicles.
- Concerns vehicles from the development will park on neighbouring streets that are too narrow to accommodate extra parking.
- Concerns that vehicles will be sticking out from short driveways onto the street causing safety and snow-clearing concerns.

Acting Mayor Baird asked if the applicant would like to speak to the application.

Brandon Mazur explained that storm drains are or will be installed that will address drainage. Noted that this variance will allow homes to be built closer to the front property line and therefore further from properties on Sicamous Street. Explained that this setback is to the property line and not the constructed road, so the distance between the property line and the constructed road will help with parking concerns.

Councillor Ramey asked how concerns about parking within the development will be addressed.

Chief Administrative Officer responded that if vehicles are parked outside of the development this would be a bylaw issue that would be enforced.

Councillor Baird asked if there is a building scheme in place for the development.

Planner responded that there is not a building scheme in place at this time but that at the building permit stage, the builder or developer will have to show that each single-family dwelling has at least two off-street parking spaces available.

Councillor Shishido asked if the photos taken by Margo Boyle are something that Council or Staff should view and consider.

Chief Administrative Officer responded that although they are outside the scope of the matter at hand, the photos are of interest and asked Ms. Boyle to submit them for further investigation.

Councillor Davyduke asked about how the setback is measured from the road.

Chief Administrative Officer responded that the setback would be measured from the property boundary along the internal strata road.

Acting Mayor Baird asked how large the distance is from the property line to the road.

Planner responded that he does not have those measurements exactly, but that the distance is likely several feet.

Moved by Councillor Shishido, seconded by Councillor Davyduke

“THAT Council authorizes the issuance of a Development Variance Permit for the properties legally described as STRATA LOTS 1-9 SECTION 26 TOWNSHIP 18 RANGE 9 WEST OF THE 6TH MERIDIAN KAMLOOPS DIVISION YALE DISTRICT STRATA PLAN EPS8273 TOGETHER WITH AN INTEREST IN THE COMMON PROPERTY IN PROPORTION TO THE UNIT ENTITLEMENT OF THE STRATA LOT AS SHOWN ON FORM V and located at Units 101-109 806 Cliff Avenue, Enderby BC to permit a variance to Section 604.10.b.iii of the City of Enderby Zoning Bylaw No/ 1550, 2014 by reducing the minimum front yard setback area for single-family dwellings from 6 m (19.68 feet) to 4.5 m (14.76 feet);

AND THAT issuance of the Development Variance Permit be subject to the property owner registering a covenant on the titles of each of the strata lots which releases, indemnifies, and holds harmless, including litigation costs, the City of Enderby for all matters related to or arising from the issuance of the Development Variance Permit.”

CARRIED

REPORTS

Mayor and Council Reports

Councillor Shishido

Attended the most recent meeting of the Enderby & District Museum Society. They are planning for the Museum's 50th Anniversary and they are selling post cards and calendars. There are

currently sixteen volunteers helping to run the Museum. One of the volunteers, Geri Danforth is turning 98 this year and has been volunteering with the Museum since its inception.

The Enderby & District Museum Society is hosting a silent auction until December 14, as well as a bake sale on December 2³.

Representatives from the Museum would like to attend a Council Meeting as a delegation in the new year. Council asked staff to reach out to schedule.

Also reported that both temperature and pressure in the showers at the Arena have improved.

Councillor Davyduke

Reported that the George Cuff presentation on November 8 was excellent.

Attended the Remembrance Day Ceremony.

Met with the Enderby & District Community Resource Centre. There is a Christmas luncheon taking place on December 2. There is a youth art program ongoing and there are plans in the new year to organize sports activities for teens. There are also programs such as the Good Food Box and Senior Tech Connect, that helps senior citizens learn to use devices, available.

There is a Community Support Worker who provides resources and referrals to members of the public in crisis.

The Enderby & District Community Resource Centre will be putting on Santa photos with the Legion on December 3rd.

This year the Harvest Hut helped distribute 3093 kg of produce.

Councillor Davyduke reported she will follow up with Ms. Guetter of Community Futures about making a driving program available to students at A.L. Fortune Secondary.

Councillor Yerhoff

Reported that it was an honour to be part of the Remembrance Day Ceremony and that the ceremony was well attended.

Attended a meeting of the Heritage Committee.

Councillor Ramey

Went to the Enderby branch of the Okanagan Regional Library to introduce himself as the new member serving on the Okanagan Regional Library Board.

Will be attending a meeting of the Enderby & District Arts Council next week.

Reported that he received complaints from members of the public regarding the actions of the Mayor during the singing of “God Save the King” at the Remembrance Day Ceremony.

Acting Mayor Baird

Attended the Remembrance Day Ceremony. It was an honour to be part of the Ceremony and noted that it was touching to see the drums and pipes involved as well.

Attended the Splatsin Remembrance Day Ceremony on November 9th and laid a wreath on behalf of the City.

The next Rail Trail Governance Advisory Committee meeting has been postponed until January.

Christmas events will be taking place next weekend. Ideally the Mayor will be in attendance for the light up at 5:30 p.m. on December 2nd, but asked that some Councillors attend as well to help.

Asked Councillor Davyduke to oversee candy for the Christmas parade.

Asked for a City truck to lead the parade starting at 6 p.m.

There will be a Hot Chocolate with Santa and Mrs. Clause event happening Tuesday November 29th from 12:30 – 2:30 p.m. Students are coming from M.V. Beattie Elementary as well as from Splatsin and homeschools. Expecting about 400 kids in attendance and asked if any members of Council are available to attend and help out with the event. Hot chocolate and cookies are being donated by Hungry Jacks and The Small Axe. Students are also making snowflakes that will be distributed to businesses downtown for decoration.

The Legion is hosting an event with hot dogs, crafts, and colouring. Hot dogs and buns are being donated by IGA and Sutherlands.

Asked for Council to give input and help finalize a design for an Enderby signature card to be sent out at holidays and to volunteers in the community. Acting Mayor Baird will follow up with an email to Council.

Asked Council if they would like to put on the pancake breakfast for M.V. Beattie Elementary and A.L. Fortune this year, and if so, which dates would work.

Council tentatively decided on December 14th for M.V. Beattie and December 15th for A.L. Fortune. Acting Mayor Baird will check in with the schools to confirm this will work for them.

Chief Administrative Officer

Attended the Remembrance Day Ceremony. Noted that it was moving to hear reconciliation discussed in the context of Remembrance Day.

There will be a presentation from the Regional District of North Okanagan at the December 19th meeting to discuss landscaping and maintenance of the rail trail corridor.

The Alertable app has been launched and will provide alerts and time sensitive information during emergencies. Asked Council to encourage members of the public to sign up.

A second mandatory site meeting was held for prospective contractors for the garden contract. Two contractors have now attended and Chief Administrative Officer is feeling optimistic that there will be competitive bids for the contract.

There is an advertisement upcoming for casual parks and arena workers.

Parts have arrived to fix the scoreboard at the arena. The repair should be completed this week.

Riverside RV Park had a successful year, with higher revenues than the prior year. However, expenses were also higher due to mould remediation in the campground manager’s house.

Public Works has started decorating the City streets for Christmas.

Fire hydrant testing for the year has been completed. Explained that all hydrants are tested each year, and half of the hydrants in town are torn down and rebuilt annually to ensure they are in good working order.

Staff now have their estimate for mechanical works associated with a grant for expansion of the Water Treatment Plant.

Council Inquiries

Councillor Ramey asked about the ditch across from the Musebo and expressed concern that it is wider and deeper than before. Could be a safety hazard.

Chief Administrative Officer responded that there was some water work done in the area over the summer and that it is possible some of the backfill has sloughed. Will have Public Works take a look and fill in more if necessary or otherwise refer the matter to AIM Roads.

Councillor Shishido asked about lighting up downtown more for Christmas. Suggested lights be strung from fixture to fixture.

Acting Mayor Baird responded that there was \$2000.00 provided to the Christmas Committee by the City last year and that businesses in the area have also expressed interest in contributing funds to create more of a “Hallmark Christmas” look downtown. Suggested that Council re-visit the idea in the spring when there would be time to plan, order, and execute more lighting for next Christmas.

RDNO Building Permit Report – October 2022

Moved by Councillor Shishido, seconded by Councillor Ramey
“THAT the RDNO Building Permit Report – October 2022 be received and filed.”

CARRIED

Community Futures Quarter 3 Update

Moved by Councillor Shishido, seconded by Councillor Davyduke
“THAT the Community Futures Quarter 3 Update be received and filed.”

CARRIED

NEW BUSINESS

2023 Elected Officials Seminar – SILGA Region

Moved by Councillor Shishido, seconded by Councillor Davyduke
“THAT Council approves the use of \$14,000 from prior years surplus for the Elected Officials Seminar in 2023.”

CARRIED

Extreme Heat Risk Mapping, Assessment, and Planning Process – Award of Contract

Moved by Councillor Shishido, seconded by Councillor Davyduke
“THAT Council awards the contract for undertaking an Extreme Heat Risk Mapping, Assessment, and Planning process for the City of Enderby to Innomergence in the amount of \$25,500 (including PST).”

CARRIED

PUBLIC QUESTION PERIOD

There were no questions from the public.

ADJOURNMENT

Moved by Councillor Davyduke, seconded by Councillor Ramey
“THAT the regular meeting of November 21, 2022 adjourn at 6:39 p.m.”

CARRIED

MAYOR

CORPORATE OFFICER



MEMO

To: Mayor and Council
From: Tate Bengtson, CAO
Date: November 25, 2022
Subject: City of Enderby Wastewater System Annual Report 2021

RECOMMENDATION

THAT Council receives and files the City of Enderby Wastewater System Annual Report 2021.

BACKGROUND

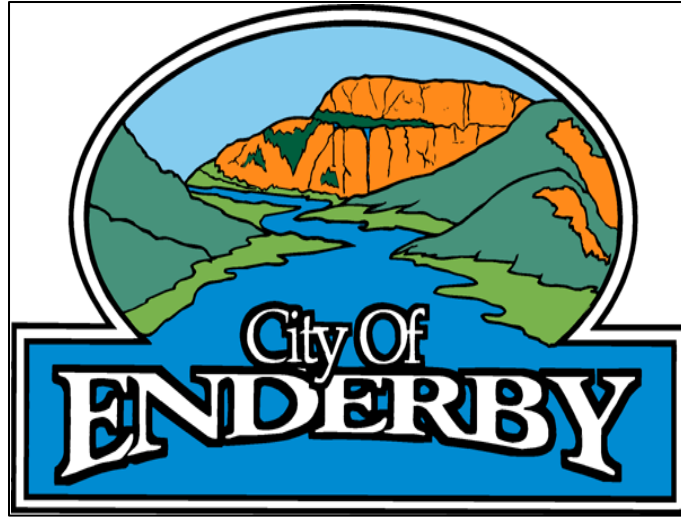
The City of Enderby operates a wastewater treatment and collection system. As a condition of its discharge permit, issued under the *Environmental Management Act*, the City must submit an annual report to the Ministry of Environment detailing its performance relative to permit conditions.

In addition to the submission to the Director, the Wastewater System Annual Report 2021 is being submitted to Council for its information.

Respectfully submitted,

A handwritten signature in blue ink, appearing to be "Tate Bengtson".

Tate Bengtson
Chief Administrative Officer



CITY OF ENDERBY WASTEWATER SYSTEM

ANNUAL REPORT 2021

November 15, 2022

CONTENTS

Executive Summary.....	3
Overview.....	4
Permit.....	5
Operators.....	6
Major Events.....	7
Events.....	7
Excess Discharges	7
Overflows.....	7
Inflow and Infiltration.....	7
Infrastructure Value, Deficit and Renewal.....	8
Flow Data Monthly and Historical Trends	9
Compostable Sludge Volume and Laboratory Analytics	10
Influent Laboratory Analytics	11
Effluent Laboratory Analytics	15
Receiving Environment Laboratory Analytics	22

EXECUTIVE SUMMARY

The Wastewater Annual Report is produced pursuant to Section 5.3 of Waste Discharge Permit 203, issued by the Ministry of Environment to the City of Enderby. The City of Enderby possesses a Class II Wastewater Collections System and a Class III Wastewater Reclamation Facility (WWRP). It provides primary and secondary treatment, as well as disinfection, prior to discharge to the receiving environment.

The average daily flow for 2021 was 1,720 m³ per day, which is a decrease of 516 m³ per day over the 2020 value. This reduction is consistent with the relatively dry 2021 conditions, when there was no overland flooding, excessive groundwater pumping, or infiltration from high water tables to drive up flows. The maximum daily flow was 2,689 m³ and occurred on November 15, 2021.

There were 0 days in 2021 when the WWRP was over its permitted discharge of 3,400 m³ per day. There were no spills or overflow event from either the WWRP or the collection system in 2021.

The City of Enderby has a Chief Operator certified at Level III Wastewater Treatment, which meets the legislative requirements for oversight of the treatment facility.

OVERVIEW

The City of Enderby is in the North Okanagan region of British Columbia. It is 4.26 km² in size and has a population of 3,028 persons (2021 Census).

The City of Enderby possesses a Class II Wastewater Collection System and a Class III Wastewater Reclamation Facility (WWRP).

The WWRP was built in 1967 and services the population of the City of Enderby as well as several Splatsin residential and commercial parcels. The WWRP provides primary and secondary treatment, as well as disinfection, prior to discharge into the receiving environment. The receiving environment is the Shuswap River. The discharge is located at 50°33'47.7"N 119°08'18.0"W.

The City of Enderby Public Works staff operates the WWRP. In 2003, the facility was upgraded with the addition of UV disinfection, which enabled the City to shift towards only using chlorine disinfection when it was necessary to supplement UV. In 2009, the WWRP commissioned a new clarifier. In 2011, the WWRP had a centrifuge installed to improve sludge handling.

The collection system consists of 23,750 meters of pipe and 8 lift stations located at: Peacher Crescent; Red Rock Crescent; Meadow Crescent; Brickyard Road; Kate Street; Kildonan Avenue; Riverdale Drive; and McGowan Street.

Despite localized deficiencies, the collection system is operating reasonably well considering its age. The City has an asset management program in place and is steadily replacing its aging collection system. The system is negatively affected by inflow and infiltration, for which the City has an inflow and infiltration plan to help address this problem.

The City of Enderby is compliant with the federal Effluent Regulatory Reporting requirements, which includes the submission of quarterly Monitoring Reports.

PERMIT

Waste Discharge Permit 203 was issued on October 4, 1967. It was most recently amended on May 13, 2015. In accordance with Permit 203, the City of Enderby is authorized to discharge effluent to the Shuswap River from a municipal sewage plant subject to the following conditions:

1. The maximum authorized rate of discharge is 3,400 m³ per day.
2. The characteristics of the effluent shall be equivalent or better than:
 - a. 5-day Biochemical Oxygen Demand of 45 mg/L;
 - b. Total Suspended Solids of 45 mg/L;
 - c. When chlorine is used, a total chlorine residual of between 0.5 mg/L and 1.0 mg/L and not less than one hour's contact time at average flow rates must be achieved; and
 - d. When chlorine is used, it must be dechlorinated prior to discharge to reduce the total chlorine residual below detectable limits.
3. A monthly sample that is analysed for:
 - a. Total Suspended Solids;
 - b. Biochemical Oxygen Demand;
 - c. Ammonia;
 - d. Total Nitrogen;
 - e. Total Phosphorus and Orthophosphate;
 - f. pH;
 - g. Temperature.
4. A bi-monthly sample for E. coli;
5. A quarterly sample of the receiving environment upstream and downstream of the outfall for ammonia, total nitrogen, total phosphorous, orthophosphate, and E. coli;
6. A bi-annual sample of the compostable sludge.

Under the permit, the WWRP only needs to use chlorine when its UV system cannot disinfect adequately; this is typically the result of high flows or high turbidity.

The permit also specifies spill reporting requirements and response procedures in the event of compromised operations.

OPERATORS

During 2021, the City of Enderby had the following Public Works employees with EOCP certifications:

Operator	Position	Certification
Clayton Castle	Lead Hand	WWC I, WWT II
Damon Kipp	Systems Operator II	WWT III
Ray Brown	Utility Operator III	WWC I, WWT I
WWT – Wastewater Treatment, WWC – Wastewater Collection		

MAJOR EVENTS

EVENTS

There were no major events affecting the WWRP.

EXCESS DISCHARGES

There were 0 days in 2021 when the WWRP was over its permitted discharge of 3,400 m³ per day.

OVERFLOWS

There were no overflow or spill events at the WWRP or from the collection system.

INFLOW AND INFILTRATION

Inflow & Infiltration (I/I) refers to water entering the collection system through defects associated with design, degradation of the system, and unlawful connections or discharges. Measures are being undertaken to reduce I/I where possible, primarily through the replacement of aging collection system infrastructure, the separation of combined sewers where they exist, and taking additional measures to slow the rate of infiltration when overland flooding is occurring.

A base infiltration rate of 20-25% of average daily flows is common in most municipalities. Given Enderby's 23.75 kilometers of sanitary sewer line, the textbook calculation would expect a base infiltration rate of 285 m³ per day (based on 12 m³ per day per kilometer of sanitary sewer line). Assuming an average daily flow of 1,200 m³ per day, Enderby's base infiltration should be 240-300 m³ per day; however, base infiltration is approximately 500 m³ per day, which is higher than the expected value.

In 2018, the City completed a renewal project on Salmon Arm Drive, a major collector road, which replaced approximately 680 meters of the sanitary sewer collection system and reduced infiltration. In 2019, the City rebuilt Reservoir Road and Revel Crescent. During the work, it extended storm sewer down Revel Crescent and separated a catch basin that was connected to the wastewater collection system. In 2020-21, the City rebuilt 3rd Avenue, Hubert Avenue from George Street to Sicamous Street, and Knight Avenue from Belvedere Street to George Street, and replaced the sanitary sewer mains on each, which reduced infiltration.

The City is working to complete a design and cost estimate in order to separate combined storm/sanitary sewer on the hillside. For works of this magnitude, the City will need grant funding from senior government in order to proceed.

INFRASTRUCTURE VALUE, DEFICIT AND RENEWAL

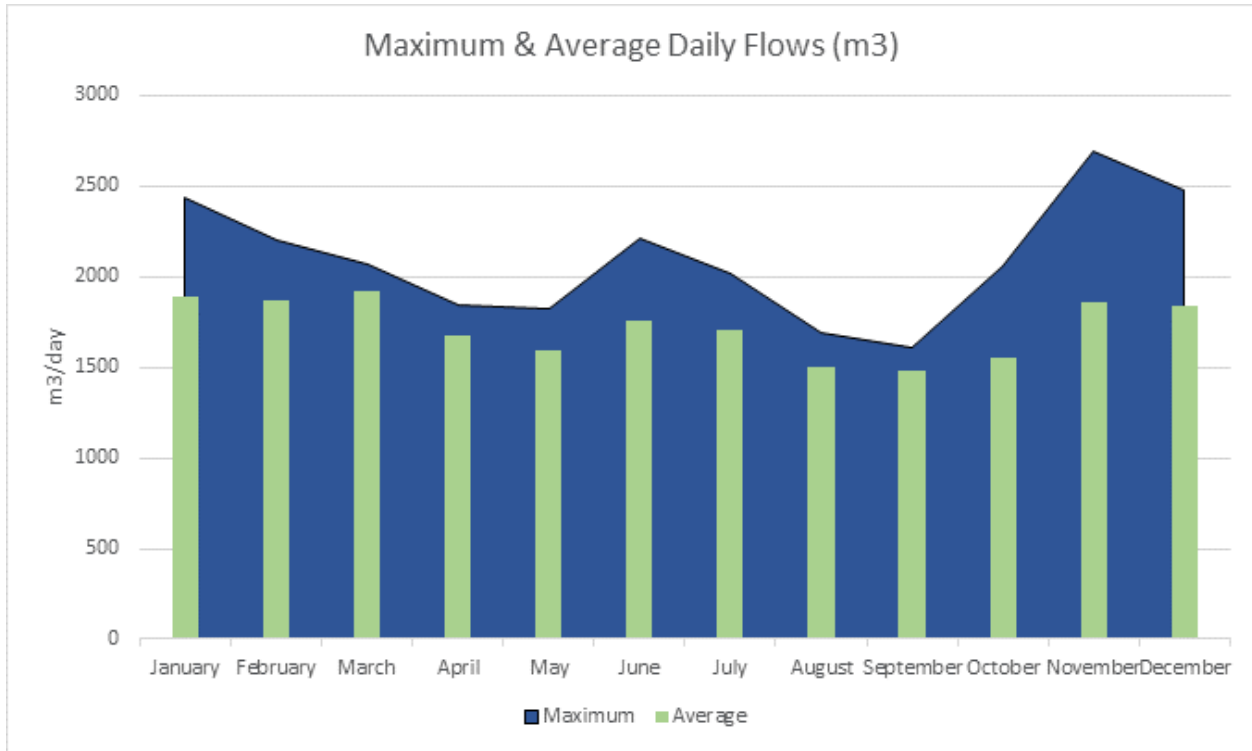
The City of Enderby's wastewater system, inclusive of treatment and collection, has a replacement value of \$28,820,887. The total loss in value to the system, representing the City's infrastructure deficit, is \$15,569,934. In 2021, the City contributed \$176,227 to its sewer reserve fund and withdrew \$535,325. After adding interest earned, the balance as of December 31, 2021 was \$677,621.

The anticipated 2021 contribution to sewer reserves is \$220,941.

In order to deal with its infrastructure deficit, the City has committed to increasing its sewer asset management revenues by 1% per year. While this amount represents a relatively small proportion of the shortfall, the commitment to infrastructure renewal and asset management positions the City to partner with senior government on future grants.

FLOW DATA MONTHLY AND HISTORICAL TRENDS

The below charts show monthly flow data for 2021, as measured at the WWRP discharge:



The historical average and maximum daily flows are as follows:

Year	Average Daily Flow (m3)	Maximum Daily Flow (m3)
2021	1720	2689
2020	2236	4371
2019	1722	2928
2018	2147	5321
2017	1992	5216
2016	1661	2477
2015	1855	5368
2014	2033	3683
2013	2010	4551
2012	2165	5681
2011	1954	3305

COMPOSTABLE SLUDGE VOLUME AND LABORATORY ANALYTICS

The total volume of compostable sludge in 2021 was approximately 132 tonnes. The 2021 volume was lower than typical due to a failure of the WWRP centrifuge, which necessitated the use of the back-up drying beds.

All compostable sludge must not exceed Class B Biosolids criteria under the Organic Matter Recycling Regulation (OMRR). Compostable sludge is tested twice per year to verify its quality.

Parameter (mg/kg)	April 21	July 7	OMRR
Arsenic	1.37	1.15	75
Cadmium	0.858	0.911	20
Chromium	15.8	13.6	1060
Cobalt	2.19	2.41	150
Copper	365	396	2200
Lead	8.96	13.3	500
Mercury	0.312	0.551	15
Molybdenum	5.02	7.92	20
Nickel	13.3	14.6	180
Selenium	3.25	6.1	14
Zinc	293	426	1850

INFLUENT LABORATORY ANALYTICS

Date	Test	WWRP Influent
January 6, 2021	Ammonia, Un-Ionized (as N)	0.075
January 6, 2021	Temperature, at pH	27.1
January 6, 2021	Alkalinity, Total (as CaCO3)	352
January 6, 2021	Alkalinity, Phenolphthalein (as CaCO3)	<1.0
January 6, 2021	Alkalinity, Bicarbonate (as CaCO3)	352
January 6, 2021	Alkalinity, Carbonate (as CaCO3)	<1.0
January 6, 2021	Alkalinity, Hydroxide (as CaCO3)	<1.0
January 6, 2021	Ammonia, Total (as N)	36.3
January 6, 2021	BOD, 5-day	241
January 6, 2021	Chemical Oxygen Demand	404
January 6, 2021	Nitrogen, Total Kjeldahl	62.6
January 6, 2021	Phosphorus, Total (as P)	7.7
January 6, 2021	Solids, Total Suspended	214
January 6, 2021	Solids, Volatile Suspended	210
January 6, 2021	pH	6.5
February 3, 2021	Nitrate (as N)	<0.010
February 3, 2021	Nitrite (as N)	<0.010
February 3, 2021	Phosphate (as P)	2.42
February 3, 2021	Ammonia, Un-Ionized (as N)	0.043
February 3, 2021	Nitrate+Nitrite (as N)	<0.0100
February 3, 2021	Nitrogen, Total	50.5
February 3, 2021	Temperature, at pH	22.4
February 3, 2021	Alkalinity, Total (as CaCO3)	269
February 3, 2021	Alkalinity, Phenolphthalein (as CaCO3)	<1.0
February 3, 2021	Alkalinity, Bicarbonate (as CaCO3)	269
February 3, 2021	Alkalinity, Carbonate (as CaCO3)	<1.0
February 3, 2021	Alkalinity, Hydroxide (as CaCO3)	<1.0
February 3, 2021	Ammonia, Total (as N)	24.6
February 3, 2021	BOD, 5-day	352
February 3, 2021	Chemical Oxygen Demand	531
February 3, 2021	Nitrogen, Total Kjeldahl	50.5
February 3, 2021	Phosphorus, Total (as P)	5.91
February 3, 2021	Solids, Total Suspended	220
February 3, 2021	Solids, Volatile Suspended	194
February 3, 2021	pH	6.57
March 3, 2021	Ammonia, Un-Ionized (as N)	0.098
March 3, 2021	Temperature, at pH	22.9
March 3, 2021	Alkalinity, Total (as CaCO3)	334
March 3, 2021	Alkalinity, Phenolphthalein (as CaCO3)	<1.0
March 3, 2021	Alkalinity, Bicarbonate (as CaCO3)	334
March 3, 2021	Alkalinity, Carbonate (as CaCO3)	<1.0
March 3, 2021	Alkalinity, Hydroxide (as CaCO3)	<1.0
March 3, 2021	Ammonia, Total (as N)	38.5
March 3, 2021	BOD, 5-day	307
March 3, 2021	Nitrogen, Total Kjeldahl	69.7

Date	Test	WWRP Influent
March 3, 2021	Phosphorus, Total (as P)	8.79
March 3, 2021	Solids, Total Suspended	358
March 3, 2021	Solids, Volatile Suspended	282
March 3, 2021	pH	6.72
April 7, 2021	Ammonia, Un-Ionized (as N)	0.078
April 7, 2021	Temperature, at pH	25.1
April 7, 2021	Alkalinity, Total (as CaCO3)	353
April 7, 2021	Alkalinity, Phenolphthalein (as CaCO3)	<1.0
April 7, 2021	Alkalinity, Bicarbonate (as CaCO3)	353
April 7, 2021	Alkalinity, Carbonate (as CaCO3)	<1.0
April 7, 2021	Alkalinity, Hydroxide (as CaCO3)	<1.0
April 7, 2021	Ammonia, Total (as N)	39.5
April 7, 2021	BOD, 5-day	379
April 7, 2021	Nitrogen, Total Kjeldahl	64.9
April 7, 2021	Phosphorus, Total (as P)	8.55
April 7, 2021	Solids, Total Suspended	308
April 7, 2021	Solids, Volatile Suspended	246
April 7, 2021	pH	6.54
May 4, 2021	Ammonia, Un-Ionized (as N)	0.07
May 4, 2021	Temperature, at pH	24.7
May 4, 2021	Alkalinity, Total (as CaCO3)	334
May 4, 2021	Alkalinity, Phenolphthalein (as CaCO3)	<1.0
May 4, 2021	Alkalinity, Bicarbonate (as CaCO3)	334
May 4, 2021	Alkalinity, Carbonate (as CaCO3)	<1.0
May 4, 2021	Alkalinity, Hydroxide (as CaCO3)	<1.0
May 4, 2021	Ammonia, Total (as N)	43.5
May 4, 2021	BOD, 5-day	311
May 4, 2021	Chemical Oxygen Demand	623
May 4, 2021	Nitrogen, Total Kjeldahl	73.8
May 4, 2021	Phosphorus, Total (as P)	8.92
May 4, 2021	Solids, Total Suspended	322
May 4, 2021	Solids, Volatile Suspended	272
May 4, 2021	pH	6.46
June 2, 2021	Ammonia, Un-Ionized (as N)	0.556
June 2, 2021	Temperature, at pH	22.1
June 2, 2021	Alkalinity, Total (as CaCO3)	327
June 2, 2021	Alkalinity, Phenolphthalein (as CaCO3)	<1.0
June 2, 2021	Alkalinity, Bicarbonate (as CaCO3)	327
June 2, 2021	Alkalinity, Carbonate (as CaCO3)	<1.0
June 2, 2021	Alkalinity, Hydroxide (as CaCO3)	<1.0
June 2, 2021	Ammonia, Total (as N)	41.8
June 2, 2021	BOD, 5-day	344
June 2, 2021	Chemical Oxygen Demand	507
June 2, 2021	Nitrogen, Total Kjeldahl	68.2
June 2, 2021	Phosphorus, Total (as P)	9.28
June 2, 2021	Solids, Total Suspended	229
June 2, 2021	Solids, Volatile Suspended	179

Date	Test	WWRP Influent
June 2, 2021	pH	7.47
July 7, 2021	Ammonia, Un-Ionized (as N)	1.15
July 7, 2021	Temperature, at pH	23.3
July 7, 2021	Alkalinity, Total (as CaCO3)	283
July 7, 2021	Alkalinity, Phenolphthalein (as CaCO3)	<1.0
July 7, 2021	Alkalinity, Bicarbonate (as CaCO3)	283
July 7, 2021	Alkalinity, Carbonate (as CaCO3)	<1.0
July 7, 2021	Alkalinity, Hydroxide (as CaCO3)	<1.0
July 7, 2021	Ammonia, Total (as N)	41.4
July 7, 2021	BOD, 5-day	218
July 7, 2021	Chemical Oxygen Demand	813
July 7, 2021	Nitrogen, Total Kjeldahl	67.6
July 7, 2021	Phosphorus, Total (as P)	7.79
July 7, 2021	Solids, Total Suspended	218
July 7, 2021	Solids, Volatile Suspended	200
July 7, 2021	pH	7.76
August 4, 2021	Ammonia, Un-Ionized (as N)	1.12
August 4, 2021	Temperature, at pH	22.8
August 4, 2021	Alkalinity, Total (as CaCO3)	311
August 4, 2021	Alkalinity, Phenolphthalein (as CaCO3)	<1.0
August 4, 2021	Alkalinity, Bicarbonate (as CaCO3)	311
August 4, 2021	Alkalinity, Carbonate (as CaCO3)	<1.0
August 4, 2021	Alkalinity, Hydroxide (as CaCO3)	<1.0
August 4, 2021	Ammonia, Total (as N)	47.4
August 4, 2021	BOD, 5-day	285
August 4, 2021	Chemical Oxygen Demand	806
August 4, 2021	Nitrogen, Total Kjeldahl	68.6
August 4, 2021	Phosphorus, Total (as P)	7.98
August 4, 2021	Solids, Total Suspended	274
August 4, 2021	Solids, Volatile Suspended	228
August 4, 2021	pH	7.7
September 1, 2021	Ammonia, Un-Ionized (as N)	0.909
September 1, 2021	Temperature, at pH	22.6
September 1, 2021	Alkalinity, Total (as CaCO3)	276
September 1, 2021	Alkalinity, Phenolphthalein (as CaCO3)	<1.0
September 1, 2021	Alkalinity, Bicarbonate (as CaCO3)	276
September 1, 2021	Alkalinity, Carbonate (as CaCO3)	<1.0
September 1, 2021	Alkalinity, Hydroxide (as CaCO3)	<1.0
September 1, 2021	Ammonia, Total (as N)	45.5
September 1, 2021	BOD, 5-day	366
September 1, 2021	Chemical Oxygen Demand	547
September 1, 2021	Nitrogen, Total Kjeldahl	81.3
September 1, 2021	Phosphorus, Total (as P)	9.17
September 1, 2021	Solids, Total Suspended	335
September 1, 2021	Solids, Volatile Suspended	280
September 1, 2021	pH	7.63
October 6, 2021	Ammonia, Un-Ionized (as N)	0.684

Date	Test	WWRP Influent
October 6, 2021	Temperature, at pH	18.9
October 6, 2021	Alkalinity, Total (as CaCO3)	313
October 6, 2021	Alkalinity, Phenolphthalein (as CaCO3)	<1.0
October 6, 2021	Alkalinity, Bicarbonate (as CaCO3)	313
October 6, 2021	Alkalinity, Carbonate (as CaCO3)	<1.0
October 6, 2021	Alkalinity, Hydroxide (as CaCO3)	<1.0
October 6, 2021	Ammonia, Total (as N)	44
October 6, 2021	BOD, 5-day	208
October 6, 2021	Chemical Oxygen Demand	601
October 6, 2021	Nitrogen, Total Kjeldahl	77.4
October 6, 2021	Phosphorus, Total (as P)	8.49
October 6, 2021	Solids, Total Suspended	248
October 6, 2021	Solids, Volatile Suspended	222
October 6, 2021	pH	7.64
November 3, 2021	Ammonia, Un-Ionized (as N)	0.957
November 3, 2021	Temperature, at pH	20.5
November 3, 2021	Alkalinity, Total (as CaCO3)	251
November 3, 2021	Alkalinity, Phenolphthalein (as CaCO3)	<1.0
November 3, 2021	Alkalinity, Bicarbonate (as CaCO3)	251
November 3, 2021	Alkalinity, Carbonate (as CaCO3)	<1.0
November 3, 2021	Alkalinity, Hydroxide (as CaCO3)	<1.0
November 3, 2021	Ammonia, Total (as N)	41.4
November 3, 2021	BOD, 5-day	132
November 3, 2021	Chemical Oxygen Demand	809
November 3, 2021	Nitrogen, Total Kjeldahl	62.6
November 3, 2021	Phosphorus, Total (as P)	7.58
November 3, 2021	Solids, Total Suspended	272
November 3, 2021	Solids, Volatile Suspended	234
November 3, 2021	pH	7.76
December 1, 2021	Ammonia, Un-Ionized (as N)	1.69
December 1, 2021	Temperature, at pH	21.5
December 1, 2021	Alkalinity, Total (as CaCO3)	361
December 1, 2021	Alkalinity, Phenolphthalein (as CaCO3)	<1.0
December 1, 2021	Alkalinity, Bicarbonate (as CaCO3)	361
December 1, 2021	Alkalinity, Carbonate (as CaCO3)	<1.0
December 1, 2021	Alkalinity, Hydroxide (as CaCO3)	<1.0
December 1, 2021	Ammonia, Total (as N)	38.1
December 1, 2021	BOD, 5-day	237
December 1, 2021	Chemical Oxygen Demand	430
December 1, 2021	Nitrogen, Total Kjeldahl	63
December 1, 2021	Phosphorus, Total (as P)	8.15
December 1, 2021	Solids, Total Suspended	224
December 1, 2021	Solids, Volatile Suspended	201
December 1, 2021	pH	8.02

EFFLUENT LABORATORY ANALYTICS

Date	Test	WWRP Effluent
January 6, 2021	Nitrate (as N)	2.61
January 6, 2021	Nitrite (as N)	0.048
January 6, 2021	Phosphate (as P)	2.18
January 6, 2021	Ammonia, Un-Ionized (as N)	0.004
January 6, 2021	Nitrate+Nitrite (as N)	2.66
January 6, 2021	Nitrogen, Total	4.02
January 6, 2021	Temperature, at pH	22.1
January 6, 2021	Alkalinity, Total (as CaCO3)	143
January 6, 2021	Alkalinity, Phenolphthalein (as CaCO3)	<1.0
January 6, 2021	Alkalinity, Bicarbonate (as CaCO3)	143
January 6, 2021	Alkalinity, Carbonate (as CaCO3)	<1.0
January 6, 2021	Alkalinity, Hydroxide (as CaCO3)	<1.0
January 6, 2021	Ammonia, Total (as N)	0.171
January 6, 2021	BOD, 5-day	<6.7
January 6, 2021	BOD, 5-day Carbonaceous	<6.6
January 6, 2021	Chemical Oxygen Demand	<20
January 6, 2021	Nitrogen, Total Kjeldahl	1.37
January 6, 2021	Phosphorus, Total Dissolved	2.39
January 6, 2021	Solids, Total Suspended	<2.0
January 6, 2021	Solids, Volatile Suspended	2
January 6, 2021	Turbidity	1.2
January 6, 2021	pH	7.75
January 6, 2021	Conductivity (EC)	479
January 6, 2021	Coliforms, Fecal	<1
January 6, 2021	E. coli	<1
January 21, 2021	Coliforms, Fecal	1
January 21, 2021	E. coli	1
February 3, 2021	Nitrate (as N)	1.43
February 3, 2021	Nitrite (as N)	0.03
February 3, 2021	Phosphate (as P)	2
February 3, 2021	Nitrate+Nitrite (as N)	1.46
February 3, 2021	Nitrogen, Total	2.78
February 3, 2021	Alkalinity, Total (as CaCO3)	167
February 3, 2021	Alkalinity, Phenolphthalein (as CaCO3)	<1.0
February 3, 2021	Alkalinity, Bicarbonate (as CaCO3)	167
February 3, 2021	Alkalinity, Carbonate (as CaCO3)	<1.0
February 3, 2021	Alkalinity, Hydroxide (as CaCO3)	<1.0
February 3, 2021	Ammonia, Total (as N)	0.176
February 3, 2021	BOD, 5-day Carbonaceous	<5.6
February 3, 2021	Chemical Oxygen Demand	<20
February 3, 2021	Nitrogen, Total Kjeldahl	1.31
February 3, 2021	Phosphorus, Total Dissolved	2.24
February 3, 2021	Solids, Total Suspended	<2.0
February 3, 2021	Solids, Volatile Suspended	<2.0
February 3, 2021	Turbidity	1.29

Date	Test	WWRP Effluent
February 3, 2021	pH	7.8
February 3, 2021	Conductivity (EC)	568
February 3, 2021	Coliforms, Fecal	<1
February 3, 2021	E. coli	<1
February 17, 2021	Coliforms, Total	26
February 17, 2021	E. coli	1
March 3, 2021	Nitrate (as N)	0.012
March 3, 2021	Nitrite (as N)	<0.010
March 3, 2021	Phosphate (as P)	2.14
March 3, 2021	Ammonia, Un-Ionized (as N)	0.006
March 3, 2021	Nitrate+Nitrite (as N)	0.0115
March 3, 2021	Nitrogen, Total	1.63
March 3, 2021	Temperature, at pH	21.7
March 3, 2021	Alkalinity, Total (as CaCO3)	185
March 3, 2021	Alkalinity, Phenolphthalein (as CaCO3)	<1.0
March 3, 2021	Alkalinity, Bicarbonate (as CaCO3)	185
March 3, 2021	Alkalinity, Carbonate (as CaCO3)	<1.0
March 3, 2021	Alkalinity, Hydroxide (as CaCO3)	<1.0
March 3, 2021	Ammonia, Total (as N)	0.242
March 3, 2021	BOD, 5-day Carbonaceous	<6.6
March 3, 2021	Nitrogen, Total Kjeldahl	1.62
March 3, 2021	Phosphorus, Total Dissolved	2.4
March 3, 2021	Solids, Total Suspended	2.4
March 3, 2021	Solids, Volatile Suspended	2.8
March 3, 2021	Turbidity	1.72
March 3, 2021	pH	7.77
March 3, 2021	Conductivity (EC)	532
March 3, 2021	Coliforms, Total	38
March 3, 2021	Coliforms, Fecal	5
March 3, 2021	E. coli	3
March 17, 2021	Coliforms, Total	413
March 17, 2021	E. coli	<1
April 7, 2021	Nitrate (as N)	0.231
April 7, 2021	Nitrite (as N)	0.06
April 7, 2021	Phosphate (as P)	3.98
April 7, 2021	Ammonia, Un-Ionized (as N)	0.008
April 7, 2021	Nitrate+Nitrite (as N)	0.291
April 7, 2021	Nitrogen, Total	1.63
April 7, 2021	Temperature, at pH	21
April 7, 2021	Alkalinity, Total (as CaCO3)	201
April 7, 2021	Alkalinity, Phenolphthalein (as CaCO3)	<1.0
April 7, 2021	Alkalinity, Bicarbonate (as CaCO3)	201
April 7, 2021	Alkalinity, Carbonate (as CaCO3)	<1.0
April 7, 2021	Alkalinity, Hydroxide (as CaCO3)	<1.0
April 7, 2021	Ammonia, Total (as N)	0.245
April 7, 2021	BOD, 5-day Carbonaceous	16.3
April 7, 2021	Nitrogen, Total Kjeldahl	1.34

Date	Test	WWRP Effluent
April 7, 2021	Phosphorus, Total (as P)	4.56
April 7, 2021	Phosphorus, Total Dissolved	4.46
April 7, 2021	Solids, Total Suspended	<2.0
April 7, 2021	Solids, Volatile Suspended	<2.0
April 7, 2021	Turbidity	1.09
April 7, 2021	pH	7.88
April 7, 2021	Conductivity (EC)	556
April 7, 2021	Coliforms, Fecal	<1
April 7, 2021	E. coli	<1
April 21, 2021	Coliforms, Fecal	<1
April 21, 2021	E. coli	<1
May 4, 2021	Nitrate (as N)	5.81
May 4, 2021	Nitrite (as N)	0.757
May 4, 2021	Ammonia, Un-Ionized (as N)	0.007
May 4, 2021	Nitrate+Nitrite (as N)	6.56
May 4, 2021	Nitrogen, Total	8.12
May 4, 2021	Temperature, at pH	24
May 4, 2021	Alkalinity, Total (as CaCO3)	138
May 4, 2021	Alkalinity, Phenolphthalein (as CaCO3)	<1.0
May 4, 2021	Alkalinity, Bicarbonate (as CaCO3)	138
May 4, 2021	Alkalinity, Carbonate (as CaCO3)	<1.0
May 4, 2021	Alkalinity, Hydroxide (as CaCO3)	<1.0
May 4, 2021	Ammonia, Total (as N)	0.126
May 4, 2021	BOD, 5-day	2.1
May 4, 2021	BOD, 5-day Carbonaceous	4.7
May 4, 2021	Chemical Oxygen Demand	32
May 4, 2021	Nitrogen, Total Kjeldahl	1.55
May 4, 2021	Solids, Total Suspended	<5.0
May 4, 2021	Solids, Volatile Suspended	<5.0
May 4, 2021	Turbidity	0.78
May 4, 2021	pH	8.03
May 4, 2021	Conductivity (EC)	505
May 4, 2021	Coliforms, Fecal	<1
May 4, 2021	E. coli	<1
May 19, 2021	Coliforms, Fecal	<1
May 19, 2021	E. coli	<1
June 2, 2021	Nitrate (as N)	10.6
June 2, 2021	Nitrite (as N)	0.047
June 2, 2021	Phosphate (as P)	4.02
June 2, 2021	Ammonia, Un-Ionized (as N)	0.003
June 2, 2021	Nitrate+Nitrite (as N)	10.7
June 2, 2021	Nitrogen, Total	12
June 2, 2021	Temperature, at pH	22.2
June 2, 2021	Alkalinity, Total (as CaCO3)	86.9
June 2, 2021	Alkalinity, Phenolphthalein (as CaCO3)	<1.0
June 2, 2021	Alkalinity, Bicarbonate (as CaCO3)	86.9
June 2, 2021	Alkalinity, Carbonate (as CaCO3)	<1.0

Date	Test	WWRP Effluent
June 2, 2021	Alkalinity, Hydroxide (as CaCO3)	<1.0
June 2, 2021	Ammonia, Total (as N)	0.131
June 2, 2021	BOD, 5-day	9
June 2, 2021	BOD, 5-day Carbonaceous	8
June 2, 2021	Chemical Oxygen Demand	21
June 2, 2021	Nitrogen, Total Kjeldahl	1.26
June 2, 2021	Phosphorus, Total Dissolved	4.61
June 2, 2021	Solids, Total Suspended	<2.5
June 2, 2021	Solids, Volatile Suspended	<2.5
June 2, 2021	Turbidity	1.06
June 2, 2021	pH	7.75
June 2, 2021	Coliforms, Total	517
June 2, 2021	Coliforms, Fecal	1
June 2, 2021	E. coli	1
June 16, 2021	Coliforms, Total	> 2420
June 16, 2021	E. coli	<1
July 7, 2021	Nitrate (as N)	13.4
July 7, 2021	Nitrite (as N)	0.152
July 7, 2021	Phosphate (as P)	3.87
July 7, 2021	Ammonia, Un-Ionized (as N)	0.003
July 7, 2021	Nitrate+Nitrite (as N)	13.6
July 7, 2021	Nitrogen, Total	15
July 7, 2021	Temperature, at pH	23.4
July 7, 2021	Alkalinity, Total (as CaCO3)	57.7
July 7, 2021	Alkalinity, Phenolphthalein (as CaCO3)	<1.0
July 7, 2021	Alkalinity, Bicarbonate (as CaCO3)	57.7
July 7, 2021	Alkalinity, Carbonate (as CaCO3)	<1.0
July 7, 2021	Alkalinity, Hydroxide (as CaCO3)	<1.0
July 7, 2021	Ammonia, Total (as N)	0.265
July 7, 2021	BOD, 5-day	<6.6
July 7, 2021	BOD, 5-day Carbonaceous	<5.1
July 7, 2021	Chemical Oxygen Demand	83
July 7, 2021	Nitrogen, Total Kjeldahl	1.36
July 7, 2021	Phosphorus, Total Dissolved	4.39
July 7, 2021	Solids, Total Suspended	<2.0
July 7, 2021	Solids, Volatile Suspended	<2.0
July 7, 2021	Turbidity	0.64
July 7, 2021	pH	7.38
July 7, 2021	Conductivity (EC)	420
July 7, 2021	Coliforms, Total	12000
July 7, 2021	Coliforms, Fecal	8
July 7, 2021	E. coli	8
July 20, 2021	Coliforms, Total	5170
July 20, 2021	E. coli	6
August 4, 2021	Nitrate (as N)	12.2
August 4, 2021	Nitrite (as N)	0.066
August 4, 2021	Phosphate (as P)	4.99

Date	Test	WWRP Effluent
August 4, 2021	Ammonia, Un-Ionized (as N)	0.002
August 4, 2021	Nitrate+Nitrite (as N)	12.3
August 4, 2021	Nitrogen, Total	13.7
August 4, 2021	Temperature, at pH	23.2
August 4, 2021	Alkalinity, Total (as CaCO3)	68
August 4, 2021	Alkalinity, Phenolphthalein (as CaCO3)	<1.0
August 4, 2021	Alkalinity, Bicarbonate (as CaCO3)	68
August 4, 2021	Alkalinity, Carbonate (as CaCO3)	<1.0
August 4, 2021	Alkalinity, Hydroxide (as CaCO3)	<1.0
August 4, 2021	Ammonia, Total (as N)	0.156
August 4, 2021	BOD, 5-day	<6.0
August 4, 2021	BOD, 5-day Carbonaceous	<4.8
August 4, 2021	Chemical Oxygen Demand	66
August 4, 2021	Nitrogen, Total Kjeldahl	1.42
August 4, 2021	Phosphorus, Total (as P)	7.32
August 4, 2021	Phosphorus, Total Dissolved	6.24
August 4, 2021	Solids, Total Suspended	<2.0
August 4, 2021	Solids, Volatile Suspended	<2.0
August 4, 2021	pH	7.39
August 4, 2021	Conductivity (EC)	440
August 4, 2021	Coliforms, Total	8160
August 4, 2021	Coliforms, Fecal	20
August 4, 2021	E. coli	8
August 17, 2021	Coliforms, Total	8660
August 17, 2021	E. coli	<1
September 1, 2021	Nitrate (as N)	10.5
September 1, 2021	Nitrite (as N)	0.073
September 1, 2021	Phosphate (as P)	5.8
September 1, 2021	Ammonia, Un-Ionized (as N)	0.002
September 1, 2021	Nitrate+Nitrite (as N)	10.6
September 1, 2021	Nitrogen, Total	12.2
September 1, 2021	Temperature, at pH	22.5
September 1, 2021	Alkalinity, Total (as CaCO3)	64.8
September 1, 2021	Alkalinity, Phenolphthalein (as CaCO3)	<1.0
September 1, 2021	Alkalinity, Bicarbonate (as CaCO3)	64.8
September 1, 2021	Alkalinity, Carbonate (as CaCO3)	<1.0
September 1, 2021	Alkalinity, Hydroxide (as CaCO3)	<1.0
September 1, 2021	Ammonia, Total (as N)	0.312
September 1, 2021	BOD, 5-day	<5.4
September 1, 2021	BOD, 5-day Carbonaceous	<5.2
September 1, 2021	Chemical Oxygen Demand	89
September 1, 2021	Nitrogen, Total Kjeldahl	1.6
September 1, 2021	Solids, Total Dissolved	282
September 1, 2021	Solids, Total Suspended	<3.3
September 1, 2021	Solids, Volatile Suspended	<3.3
September 1, 2021	Turbidity	0.57
September 1, 2021	pH	7.22

Date	Test	WWRP Effluent
September 1, 2021	Conductivity (EC)	425
September 1, 2021	Coliforms, Total	4350
September 1, 2021	E. coli	1
September 15, 2021	Coliforms, Total	4610
September 15, 2021	E. coli	<1
October 6, 2021	Nitrate (as N)	3.19
October 6, 2021	Nitrite (as N)	0.027
October 6, 2021	Phosphate (as P)	4.8
October 6, 2021	Ammonia, Un-Ionized (as N)	0.003
October 6, 2021	Nitrate+Nitrite (as N)	3.22
October 6, 2021	Nitrogen, Total	4.63
October 6, 2021	Temperature, at pH	22.4
October 6, 2021	Alkalinity, Total (as CaCO3)	96.5
October 6, 2021	Alkalinity, Phenolphthalein (as CaCO3)	<1.0
October 6, 2021	Alkalinity, Bicarbonate (as CaCO3)	96.5
October 6, 2021	Alkalinity, Carbonate (as CaCO3)	<1.0
October 6, 2021	Alkalinity, Hydroxide (as CaCO3)	<1.0
October 6, 2021	Ammonia, Total (as N)	0.178
October 6, 2021	BOD, 5-day	<6.8
October 6, 2021	BOD, 5-day Carbonaceous	<4.6
October 6, 2021	Chemical Oxygen Demand	30
October 6, 2021	Nitrogen, Total Kjeldahl	1.41
October 6, 2021	Solids, Total Dissolved	247
October 6, 2021	Solids, Total Suspended	<2.0
October 6, 2021	Solids, Volatile Suspended	<2.0
October 6, 2021	Turbidity	0.68
October 6, 2021	pH	7.54
October 6, 2021	Conductivity (EC)	404
October 6, 2021	Coliforms, Total	1730
October 6, 2021	Coliforms, Fecal	2
October 6, 2021	E. coli	<1
October 20, 2021	Coliforms, Total	735
October 20, 2021	E. coli	<1
November 3, 2021	Nitrate (as N)	2.61
November 3, 2021	Nitrite (as N)	0.016
November 3, 2021	Phosphate (as P)	3.55
November 3, 2021	Ammonia, Un-Ionized (as N)	0.001
November 3, 2021	Nitrate+Nitrite (as N)	2.62
November 3, 2021	Nitrogen, Total	3.72
November 3, 2021	Temperature, at pH	20.7
November 3, 2021	Alkalinity, Total (as CaCO3)	99.5
November 3, 2021	Alkalinity, Phenolphthalein (as CaCO3)	<1.0
November 3, 2021	Alkalinity, Bicarbonate (as CaCO3)	99.5
November 3, 2021	Alkalinity, Carbonate (as CaCO3)	<1.0
November 3, 2021	Alkalinity, Hydroxide (as CaCO3)	<1.0
November 3, 2021	Ammonia, Total (as N)	0.069
November 3, 2021	BOD, 5-day	<7.0

Date	Test	WWRP Effluent
November 3, 2021	BOD, 5-day Carbonaceous	<7.0
November 3, 2021	Chemical Oxygen Demand	63
November 3, 2021	Nitrogen, Total Kjeldahl	1.1
November 3, 2021	Phosphorus, Total Dissolved	4.41
November 3, 2021	Solids, Total Suspended	<2.0
November 3, 2021	Solids, Volatile Suspended	<2.0
November 3, 2021	Turbidity	0.68
November 3, 2021	pH	7.73
November 3, 2021	Conductivity (EC)	379
November 3, 2021	Coliforms, Total	654
November 3, 2021	Coliforms, Fecal	<1
November 3, 2021	E. coli	<1
November 17, 2021	Coliforms, Total	82
November 17, 2021	E. coli	1
December 1, 2021	Nitrate (as N)	1.39
December 1, 2021	Nitrite (as N)	0.044
December 1, 2021	Phosphate (as P)	3.12
December 1, 2021	Ammonia, Un-Ionized (as N)	0.003
December 1, 2021	Nitrate+Nitrite (as N)	1.43
December 1, 2021	Nitrogen, Total	2.57
December 1, 2021	Temperature, at pH	21.5
December 1, 2021	Alkalinity, Total (as CaCO3)	164
December 1, 2021	Alkalinity, Phenolphthalein (as CaCO3)	<1.0
December 1, 2021	Alkalinity, Bicarbonate (as CaCO3)	164
December 1, 2021	Alkalinity, Carbonate (as CaCO3)	<1.0
December 1, 2021	Alkalinity, Hydroxide (as CaCO3)	<1.0
December 1, 2021	Ammonia, Total (as N)	0.103
December 1, 2021	BOD, 5-day	10
December 1, 2021	BOD, 5-day Carbonaceous	<7.2
December 1, 2021	Chemical Oxygen Demand	<20
December 1, 2021	Nitrogen, Total Kjeldahl	1.14
December 1, 2021	Phosphorus, Total Dissolved	3.38
December 1, 2021	Solids, Total Suspended	<2.0
December 1, 2021	Solids, Volatile Suspended	<2.0
December 1, 2021	Turbidity	0.58
December 1, 2021	pH	7.85
December 1, 2021	Conductivity (EC)	484
December 1, 2021	Coliforms, Total	103
December 1, 2021	Coliforms, Fecal	1
December 1, 2021	E. coli	1
December 15, 2021	Coliforms, Total	36
December 15, 2021	Coliforms, Fecal	<1
December 15, 2021	E. coli	<1

RECEIVING ENVIRONMENT LABORATORY ANALYTICS

Date	Test	Upstream	Downstream
January 18, 2021	Nitrate (as N)	0.15	0.086
January 18, 2021	Nitrite (as N)	<0.010	<0.010
January 18, 2021	Phosphate (as P)	<0.0050	<0.0050
January 18, 2021	Nitrate+Nitrite (as N)	0.15	0.0859
January 18, 2021	Nitrogen, Total	0.234	0.0859
January 18, 2021	Ammonia, Total (as N)	<0.050	<0.050
January 18, 2021	Nitrogen, Total Kjeldahl	0.084	<0.050
January 18, 2021	Phosphorus, Total (as P)	0.0125	0.0062
January 18, 2021	Coliforms, Total (MPN)	9.2	9.2
January 18, 2021	E. coli (MPN)	<1.1	6.9
April 14, 2021	Nitrate (as N)	0.06	0.064
April 14, 2021	Nitrite (as N)	<0.010	<0.010
April 14, 2021	Phosphate (as P)	<0.0050	<0.0050
April 14, 2021	Nitrate+Nitrite (as N)	0.06	0.0642
April 14, 2021	Nitrogen, Total	0.198	0.178
April 14, 2021	Ammonia, Total (as N)	<0.050	<0.050
April 14, 2021	Nitrogen, Total Kjeldahl	0.138	0.114
April 14, 2021	Phosphorus, Total (as P)	0.0176	0.0111
April 14, 2021	Coliforms, Total	210	67
April 14, 2021	E. coli	1	2
August 25, 2021	Nitrate (as N)	<0.010	0.033
August 25, 2021	Nitrite (as N)	<0.010	<0.010
August 25, 2021	Phosphate (as P)	<0.0050	<0.0050
August 25, 2021	Nitrate+Nitrite (as N)	<0.0100	0.0328
August 25, 2021	Nitrogen, Total	0.145	0.106
August 25, 2021	Ammonia, Total (as N)	<0.050	<0.050
August 25, 2021	Nitrogen, Total Kjeldahl	0.145	0.073
August 25, 2021	Phosphorus, Total (as P)	0.0069	0.0289
August 25, 2021	E. coli	122	12
November 11, 2021	Nitrate (as N)	0.016	0.013
November 11, 2021	Nitrite (as N)	<0.010	<0.010
November 11, 2021	Phosphate (as P)	<0.0050	<0.0050
November 11, 2021	Nitrate+Nitrite (as N)	0.0161	0.0134
November 11, 2021	Nitrogen, Total	0.243	0.259
November 11, 2021	Ammonia, Total (as N)	<0.050	0.098
November 11, 2021	Nitrogen, Total Kjeldahl	0.227	0.246
November 11, 2021	Phosphorus, Total (as P)	0.0154	0.0159
November 11, 2021	E. coli	9	<1

MEMO

To: Mayor and Council
From: Tate Bengtson, CAO
Date: November 29, 2022
Subject: Drinking Water Annual Report 2021

RECOMMENDATION

THAT Council receives and files the City of Enderby Drinking Water Annual Report 2021.

BACKGROUND

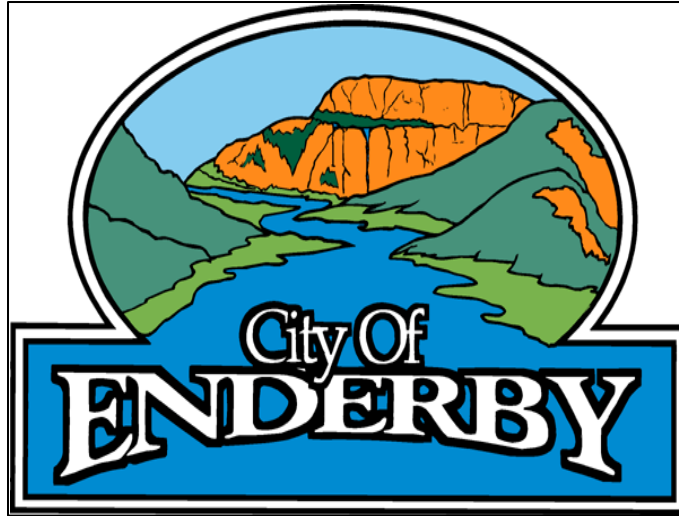
Pursuant to the British Columbia Drinking Water Protection Act and Regulation, the City of Enderby is required to publish an annual drinking water report.

This report has also been submitted to the Interior Health Drinking Water Officer responsible for the City of Enderby water system.

Respectfully submitted,



Tate Bengtson
Chief Administrative Officer



CITY OF ENDERBY DRINKING WATER SYSTEM

ANNUAL REPORT 2021

November 25, 2022

CONTENTS

Executive Summary.....	3
Introduction.....	4
Water System Overview	4
Annual Consumption Data.....	5
Drinking Water Cost Breakdown.....	6
Water System Assessment and Infrastructure Deficit	7
Completed Major Projects and Forthcoming Major Projects	7
Major Events.....	8
Water Quality Monitoring.....	8
Environmental Operators Certification.....	11
Water Conservation Plan.....	11
Cross Connection Control Program	12
Source Protection Plan.....	12
Emergency Response Plan.....	12

EXECUTIVE SUMMARY

The City of Enderby operates and maintains a community drinking water system in accordance with the Drinking Water Protection Act and the *Guidelines for Canadian Drinking Water Quality*.

In 2021, the total water distributed from the Water Treatment Plant was 541,433 m³. The maximum one-day demand was on July 1, 2021 at 2,960 m³. By contrast, in 2020, the total water distributed from the Water Treatment Plant was 462,316 m³ and the maximum one-day demand was on August 28, 2020 at 3,146 m³.

In 2021, the City of Enderby spent \$953,582 to operate and maintain the community drinking water system. Of that value, capital investment represents 36% of the total expended by the City of Enderby in 2021.

The City continues its water quality monitoring program. Nothing of concern was discovered in the drinking water system in 2021.

The City's Public Works staff are certified to meet the legislative requirements of operating the Water Treatment Plant and distribution system.

The City has completed its Source Protection Plan for both sources and has taken action to implement its short-term recommendations. The City also completed its annual update to its Drinking Water Emergency Response Plan.

INTRODUCTION

The City of Enderby operates and maintains a community drinking water system in accordance with the Drinking Water Protection Act and Regulations, as well as the *Guidelines for Canadian Drinking Water Quality*. Pursuant to Section 15(b) of the British Columbia Drinking Water Protection Act and Section 11 of the British Columbia Drinking Water Protection Regulation, the City of Enderby provides the following Annual Drinking Water Report for 2021.

The goal of the City of Enderby is to provide clean, safe, and reliable drinking water. This means that the drinking water quality meets the standards specified in the *Guidelines for Canadian Drinking Water Quality* and the operation of the drinking water system is consistent with the BC Drinking Water Protection Act and Drinking Water Protection Regulation.

High quality drinking water must meet requirements with respect to the following:

- Maximum acceptable concentrations of microbiological contaminants such as bacteria, protozoa, and viruses such as *Giardia*, *Cryptosporidium*, and *Escherichia coli*;
- Maximum acceptable levels of turbidity;
- Maximum acceptable chemical and physical parameters; and
- Aesthetic objectives related to taste, colour, and odour.

The City accomplishes these requirements through a multi-barrier approach to treatment. A multi-barrier approach is required as “the limitations or failure of one or more barriers may be compensated for by the effective operation of the remaining barriers. This compensation minimizes the likelihood of contaminants passing through the entire system and being present in sufficient amounts to cause illness to consumers.”¹

There are a variety of potential hazards to drinking water, most of which involve chemical and microbiological contaminants that may be introduced at the source or intake, during treatment, or during distribution. The City has implemented a water quality monitoring regime and uses multi-barrier treatment to manage the risks to public health. The City has a Drinking Water Emergency Response Plan and a Source Protection Plan for both of its sources.

WATER SYSTEM OVERVIEW

The Enderby water system consists of two sources:

Shuswap Well (ground water; suspected of being under the direct influence of surface water);
and
Shuswap River (surface water).

The total amount of pipe in the distribution system is 30,962 meters. There are booster stations by the Bawtree Bridge, at the bottom of Gunter-Ellison Road, and between the upper and lower reservoirs.

¹ Federal-Provincial-Territorial Committee on Drinking Water and the CCME Water Quality Task Group, “From Source to Tap: Guidance on the Multi-Barrier Approach to Safe Drinking Water” (Ottawa, Ontario: 2004), 17.

All water is chlorinated prior to distribution. The Shuswap River surface water is filtered through a two-stage rapid filtration system which reduces turbidity and minimizes the threat of giardia and cryptosporidium. The Shuswap Well is normally piped to the Water Treatment Plant clearwell, where it receives ultraviolet treatment in addition to the chlorination received on-site.

Under normal operation, water from the Shuswap River is filtered and chlorinated, then pumped from the clearwell through the UV disinfection system and into the distribution system to a water reservoir. Water from the Shuswap Well is chlorinated on-site and pumped to the clearwell, then through the UV disinfection system and to the reservoirs. There is a total of 3,782 m³ of reservoir capacity. Each system can be isolated and run to the reservoirs alone.

It should be noted that, when the Shuswap Well is supplying water, a number of customers east of the Bawtree Bridge may receive water that is only disinfected with chlorine, meaning that it does not receive the two forms of treatment required for surface water (the Shuswap Well is suspected of being under the influence of surface water). However, when the supply of water is from the Water Treatment Plant, all customers receive fully treated water.

Under current operating parameters, the combined source capacity of the Shuswap River and the Shuswap Well is 4,753 m³ per day. The maximum production capacity of the Water Treatment Plant is 3,150 m³ per day under normal operating conditions at peak demand, although the rate of production is affected by source water turbidity, which increases backwashing frequency and reduces available production time. The ultimate planned source capacity, with expanded infrastructure, operational changes, and assuming the capability to run the Shuswap Well for twenty-four hours per day, is 6,135 m³.

ANNUAL CONSUMPTION DATA

Note: the below figures only describe the Water Treatment Plant flow meter; this does not reflect the full quantity of water sent from the Shuswap Well, some of which is distributed to residents east of the Bawtree Bridge without being captured by the flow meter.

In 2021, the total water distributed from the Water Treatment Plant was 541,433 m³. The maximum one-day demand was on July 1, 2021 at 2,960 m³. By contrast, in 2020, the total water distributed from the Water Treatment Plant was 462,316 m³ and the maximum one-day demand was on August 28, 2020 at 3,146 m³.

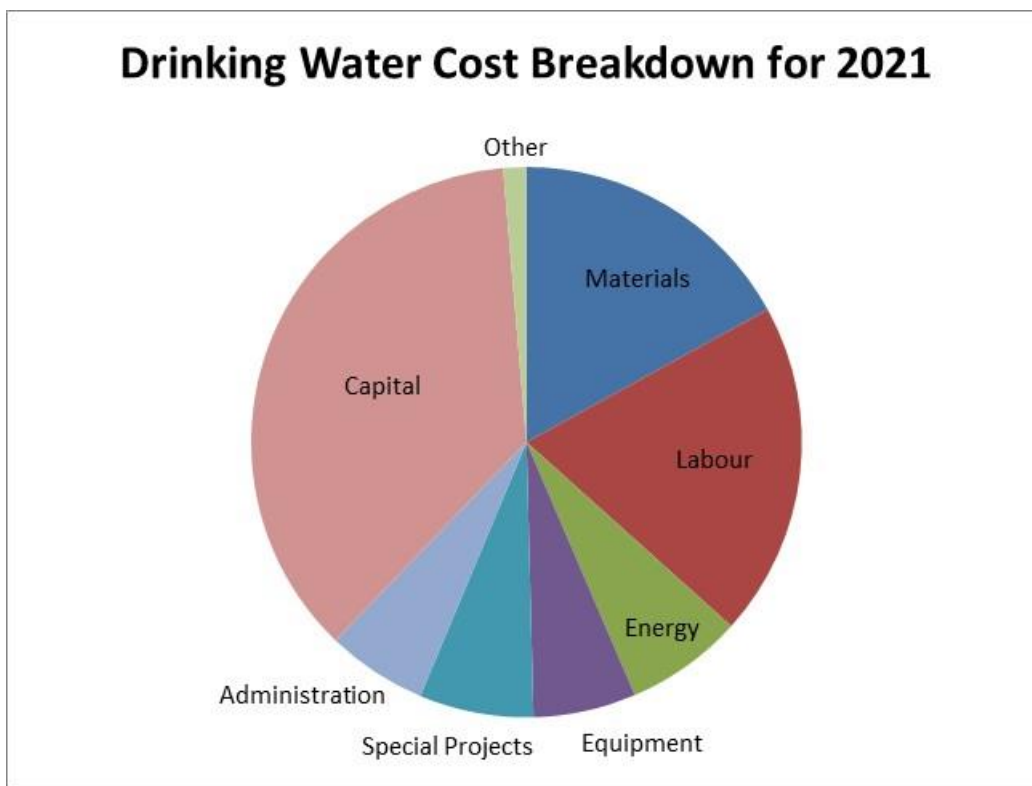
The following chart shows maximum and average daily demands from the Water Treatment Plant by month for 2020 and 2021.

Month	2021 Max. Daily Demand (m ³)	2021 Avg. Daily Demand (m ³)	2020 Max. Daily Demand (m ³)	2020 Avg. Daily Demand (m ³)
January	1227	1023	1225	989
February	1304	1077	1204	932
March	1218	1064	1370	1037
April	1634	1253	1368	1028
May	2247	1586	2474	1303
June	2901	2019	2032	1372
July	2960	2523	2536	1747
August	2588	2242	3146	2015
September	2117	1569	2451	1598
October	1473	1239	1493	1120
November	1266	1122	1654	1019
December	1265	1112	1325	1008

Year-to-year variations in demand tend to be influenced by the impact of weather upon consumption habits, particularly irrigation, while longer-range trends are influenced by the population growth rate offset by demand management initiatives such as water rates.

DRINKING WATER COST BREAKDOWN

In 2021, the City of Enderby spent \$953,582 to operate and maintain the community drinking water system. Of that value, capital investment represents 36% of the total expended by the City of Enderby in 2021.



The following chart describes the dollar value associated with each expense category and compares the values to 2021:

Category	2021 Value	2020 Value
Materials	162,084	118,517
Labour	187,439	159,755
Energy	65,846	58,912
Equipment	57,583	52,524
Special Projects	64,011	12,097
Interest	-	-
Administration	56,250	52,393
Capital	347,390	646,417
Other	12,979	9,799
Total	953,582	1,110,414

WATER SYSTEM ASSESSMENT AND INFRASTRUCTURE DEFICIT

The total replacement value for the water distribution system (such as pipes and pumps) is \$27,237,561. As of December 31, 2021, the total depreciation is \$12,170,949.

The total replacement value for the City of Enderby water treatment system (such as buildings, clarifier, chlorinators, and ultraviolet bank) is \$7,833,763. As of December 31, 2021, the total depreciation is \$3,850,953.

The replacement values for both the water distribution system and the water treatment system were substantially revised from the 2018 values to reflect a 2019 appraisal.

In 2021, \$238,676 was contributed to the City of Enderby water reserve fund and \$299,802 was withdrawn, for a balance at the end of the year of \$401,398.

In order to address its infrastructure deficit, the City has committed to an incremental tax increase of 1% per year to the water utility. This amount is dedicated to asset management. The anticipated 2022 contribution to water reserves is \$243,423.

COMPLETED MAJOR PROJECTS AND FORTHCOMING MAJOR PROJECTS

There were a number of major water projects completed or forthcoming as of December 31, 2021:

1. Filter media replacement.
2. 3rd Avenue water main and service renewal.
3. Hubert Avenue from George Street to Sicamous Street water main and service renewal.
4. Knight Avenue from George Street to Belvedere Street water main and service renewal.
5. Mill Avenue from George Street to Sicamous Street water main and service renewal (forthcoming).
6. Planning for Water Treatment Plant expansion (forthcoming).

MAJOR EVENTS

The 2021 heat dome in late June/early July significantly drove up the City's daily water usage and illustrated demand challenges associated with climate change. This placed significant stress upon the City's water treatment and particularly distribution system, as the latter has insufficient storage capacity for prolonged high demand.

WATER QUALITY MONITORING

Daily samples are collected at the Shuswap Well and River and tested for pH, temperature, and turbidity. Daily samples are also collected at the Water Treatment Plant and tested for pH, temperature, turbidity, and colour. The clearwell is tested on a daily basis for pH, temperature, turbidity, colour, and free and total chlorine.

Weekly system checks and distribution samples are tested for chlorine residuals to ensure a minimum of 0.20 mg/L of free chlorine is found throughout the distribution system. Chlorine residuals were above the minimum threshold for all sample locations and dates.

At least once per month, samples are collected at 10 monitoring stations within the distribution system for microbiological testing. There was one positive test for coliforms on August 11, 2021 at both the Peacher and Booster 2 sample stations; per response guidelines, these stations were re-sampled the following week and both were returned negative for coliforms. No E. Coli was detected at any of the sample points within the distribution system.

The filter backwash is sampled on a bi-monthly schedule for pH, conductivity, turbidity, total suspended solids, aluminum, and microbiology.

On a quarterly basis, trihalomethane (THM) samples are collected from the Brash PRV, Booster #1, and Valcain stations (the sample station at 487 Enderby-Mabel Lake Road was also tested for THMs in September and December of 2021 to help characterize the drinking water within this portion of the distribution system). THMs are by-products caused by the chemical reaction between chlorine and organic matter naturally present in water. High levels of THMs can have adverse health effects and, as a result, the *Guidelines for Canadian Drinking Water Quality* set a maximum acceptable concentration of 0.1 mg/L. All THM tests from the above sample stations reported below the maximum acceptable concentration, with concentrations never exceeding 0.0539 mg/L.

The Shuswap Well is tested monthly for nitrogen levels (including nitrates and nitrites) and microbiology. The Shuswap River is sampled monthly for microbiology. Both sources are sampled quarterly for total organic carbon.

The Shuswap River is sampled annually for comprehensive testing. The Shuswap Well is sampled every second year for comprehensive testing. Both sources were tested in 2021. The results are as follows.

Parameter	River	Well
Chloride	0.38	1.36
Fluoride	<0.10	0.17

Nitrate (as N)	<0.010	0.203
Nitrite (as N)	<0.010	<0.010
Sulfate	5.5	5.8
EPHw10-19	<250	<250
EPHw19-32	<250	<250
LEPHw	<250	<250
HEPHw	<250	<250
Langelier Index	-0.9	-0.9
Hardness, Total (as CaCO3)	42.8	49.4
Solids, Total Dissolved (calc)	51.4	62.9
Temperature, at pH	22.1	22.1
Colour, True	7.4	<5.0
Alkalinity, Total (as CaCO3)	45.1	54.1
Alkalinity, Phenolphthalein (as CaCO3)	<1.0	<1.0
Alkalinity, Bicarbonate (as CaCO3)	45.1	54.1
Alkalinity, Carbonate (as CaCO3)	<1.0	<1.0
Alkalinity, Hydroxide (as CaCO3)	<1.0	<1.0
Cyanide, Total	<0.0020	<0.0020
Turbidity	0.5	0.14
pH	7.7	7.68
Conductivity (EC)	91.4	113
Coliforms, Total	1300	<1
E. coli	13	<1
Acenaphthene	<0.050	<0.050
Acenaphthylene	<0.200	<0.200
Acridine	<0.050	<0.050
Anthracene	<0.010	<0.010
Benz(a)anthracene	<0.010	<0.010
Benzo(a)pyrene	<0.010	<0.010
Benzo(b+j)fluoranthene	<0.050	<0.050
Benzo(g,h,i)perylene	<0.050	<0.050
Benzo(k)fluoranthene	<0.050	<0.050
2-Chloronaphthalene	<0.100	<0.100
Chrysene	<0.050	<0.050
Dibenz(a,h)anthracene	<0.010	<0.010
Fluoranthene	<0.030	<0.030
Fluorene	<0.050	<0.050
Indeno(1,2,3-cd)pyrene	<0.050	<0.050
1-Methylnaphthalene	<0.100	<0.100
2-Methylnaphthalene	<0.100	<0.100
Naphthalene	<0.200	<0.200
Phenanthrene	<0.100	<0.100
Pyrene	<0.020	<0.020
Quinoline	<0.050	<0.050
Aluminum, total	0.0252	<0.0050
Antimony, total	<0.00020	<0.00020
Arsenic, total	<0.00050	<0.00050
Barium, total	0.0131	0.0101

Boron, total	<0.0500	<0.0500
Cadmium, total	<0.000010	0.00001
Calcium, total	14	15.1
Chromium, total	0.00066	0.00075
Cobalt, total	<0.00010	<0.00010
Copper, total	0.00251	0.00988
Iron, total	0.044	<0.010
Lead, total	<0.00020	0.00122
Magnesium, total	1.89	2.87
Manganese, total	0.00463	<0.00020
Mercury, total	<0.000010	<0.000010
Molybdenum, total	0.00074	0.00155
Nickel, total	<0.00040	0.00046
Potassium, total	0.84	1.11
Selenium, total	<0.00050	<0.00050
Sodium, total	1.31	2.76
Strontium, total	0.0653	0.0716
Uranium, total	0.000328	0.000247
Zinc, total	<0.0040	0.0065
Benzene	<0.5	<0.5
Bromodichloromethane	<1.0	<1.0
Bromoform	<1.0	<1.0
Carbon tetrachloride	<0.5	<0.5
Chlorobenzene	<1.0	<1.0
Chloroethane	<4.0	<4.0
Chloroform	<1.0	<1.0
Dibromochloromethane	<1.0	<1.0
1,2-Dibromoethane	<0.3	<0.3
Dibromomethane	<1.0	<1.0
1,2-Dichlorobenzene	<0.5	<0.5
1,3-Dichlorobenzene	<1.0	<1.0
1,4-Dichlorobenzene	<1.0	<1.0
1,1-Dichloroethane	<1.0	<1.0
1,2-Dichloroethane	<1.0	<1.0
1,1-Dichloroethylene	<1.0	<1.0
cis-1,2-Dichloroethylene	<1.0	<1.0
trans-1,2-Dichloroethylene	<1.0	<1.0
Dichloromethane	<3.0	<3.0
1,2-Dichloropropane	<1.0	<1.0
1,3-Dichloropropene (cis + trans)	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Methyl tert-butyl ether	<1.0	<1.0
Styrene	<1.0	<1.0
1,1,2,2-Tetrachloroethane	<0.5	<0.5
Tetrachloroethylene	<1.0	<1.0
Toluene	<1.0	<1.0
1,1,1-Trichloroethane	<1.0	<1.0
1,1,2-Trichloroethane	<1.0	<1.0

Trichloroethylene	<1.0	<1.0
Trichlorofluoromethane	<2.0	<2.0
Vinyl chloride	<1.0	<1.0
Xylenes (total)	<2.0	<2.0

ENVIRONMENTAL OPERATORS CERTIFICATION

Interior Health requires that the City has a Chief Operator certified at a level that matches the facility classification for Water Treatment and Water Distribution.

In November 2020, the Water Treatment Plant was reclassified from Class III to Class II. In December 2020, the Water Distribution system was reclassified from Class II to Class I.

During 2021, City of Enderby employed the following certified operators:

Name	Title	Water Treatment	Water Distribution
Clayton Castle	Lead Hand	Level II	Level I
Damon Kipp	Systems Operator II	Level II	-
Ray Brown	Utility Worker III	Level I	Level I

WATER CONSERVATION PLAN

The City of Enderby's Water Conservation Plan establishes strategies to reduce water demand throughout the community. Reducing water demand helps to protect our water resources, mitigate requirements for infrastructure expansion, and reduce operating and maintenance costs.

As of December 31, 2021, the City of Enderby has achieved a number of strategies within its Water Conservation Plan, including:

1. Education
 - a. Implementing a Water Conservation Education program.
 - b. Continuing compliance patrols and enforcement of sprinkling regulations.

2. Metering and Rates
 - a. Adopted a rate structure which balances conservation and equity.
 - b. Amended the Building Inspection Bylaw to include requirements for water meters.
 - c. Amended policies and agreements for out-of-town service connections to require water meters.
 - d. Completed water meter installations on all residential, commercial, industrial and civic properties.

Loss Control

- e. Completed a Loss Control Program in 2012, which estimated the total Unaccounted For Water at 6.5% or 12.05 m³ per hour.
- f. Completed a Leak Detection Audit to identify and repair water leaks within municipal infrastructure.

Planning for the Future

- g. Developing infrastructure upgrade plans for both treatment and distribution, in order to pursue grant funding.

CROSS CONNECTION CONTROL PROGRAM

In 2003, Interior Health required all large water purveyors (City of Enderby included) to implement a cross connection control program as a condition of operating permit. The purpose of the program is to protect public health by ensuring that the drinking water provided by the City of Enderby is not contaminated due to a backflow incident.

The City adopted a Cross Connection Control Program in 2004 and began the program implementation with assessments of a number of commercial, industrial, institutional and agricultural customers in June, 2004. Under Enderby's program, owners were expected to implement the recommendations in a timely manner and were responsible for all costs associated with their backflow prevention systems.

For a number of reasons, including cost and internal capacity limitations, the Cross Connection Control Program has not been fully implemented. The City of Enderby intends to increase compliance with its Cross Connection Control program in 2023 and will follow a risk-based approach focusing on premises isolation.

SOURCE PROTECTION PLAN

In February 2017, the City completed its Source Protection Plan for both the surface water intake and the Shuswap Well. The Source Protection Plan characterized the sources, provided an inventory of potential contaminants and threats, characterized risks, and recommended various actions to mitigate risk. As a result of this plan, the City has completed analyses of both sources for herbicides, pesticides, and petroleum in order to characterize the source water better. The City has also reached out to relevant third parties to inform them of the locations of the City's drinking water sources and request that they notify the City in the event of an accident, spill, fire, or natural disaster. The City has also requested that the Regional District of North Okanagan refer development applications within the designated groundwater protection area.

EMERGENCY RESPONSE PLAN

The City of Enderby Drinking Water Emergency Response Plan was completed in 2013. The Emergency Response Plan includes provisions for public notification and response procedures for emergency situations, such as backflow incidents, broken water mains, chlorinator failure, source and/or reservoir contamination, and spills or vehicle accidents affecting the distribution system. It also provides an emergency contact directory.

The Emergency Response Plan was updated on January 7, 2022.

THE CORPORATION OF THE CITY OF ENDERBY

MEMO

To: Tate Bengtson, Chief Administrative Officer
From: Kurt Inglis, Planner
Date: November 23, 2022
Subject: Community Marketing Video – Support in Principle for Award of Contract

RECOMMENDATION

THAT Council supports in principle the award of the contract for developing a community marketing video to Sproing Creative;

AND THAT Council appoints two Council representatives to work with City Staff and Sproing Creative to develop a terms of reference for the project, which would inform a final project budget;

AND FURTHER THAT final award of the contract to Sproing Creative be subject to Council approving an acceptable terms of reference and final project budget.

ALTERNATE RESOLUTION

THAT Council does not proceed with developing a community marketing video at this time.

BACKGROUND

At its Regular Meeting of August 15, 2022, Council directed Staff to explore the potential costs associated with developing a community marketing video, for the purposes of physician recruitment and economic development. Staff then engaged with a video production company to get a high-level estimate on the costs of producing an approximately 3-minute long community marketing video, complete with music, narration and editing, with the company confirming that this type of product would likely be in the range of \$5,000-\$7,000. Council resolved to allocate \$7,000 from the Community Enhancement Fund as an estimate for procurement purposes, with such costs to be refined in conjunction with the supplier who is awarded the work.

Staff have recently put out a Request for Information seeking responses from parties who are proficient in developing community marketing videos; the interested parties were asked to provide the following information:

- An overview of the project team and the range of services offered;
- An overview of related experience and examples of similar projects (including links to videos developed by the applicant);
- Two client references; and
- A summary of rates.

The City received a total of 8 submissions, which were ranked based on the criteria of cost, experience, range of services, quality of production, and geographical proximity; the top ranking submission was from Sproing Creative, which is based out of Vernon.

Staff are recommending that Council supports in principle the award of the contract for developing a community marketing video to Sproing Creative. Staff are also recommending that Council appoint two Council representatives to work with City Staff and Sproing Creative to develop a terms of reference for the project, which would inform a final project budget; as part of developing the terms of reference, the following elements would need to be decided upon, which would influence the scope and cost of the project:

- Whether the video will be shot using only handheld cameras or will also include drones;
- Whether the video will include interviews with business owners, elected officials, etc.;
- The degree to which existing footage will be used; and
- Whether the footage will be captured over a short period of time (i.e. one or two days) or spread out over a longer period (months) in order to showcase a broader range of activities and seasons.

Once the terms of reference and project budget have been finalized, these items would be brought back to Council for consideration and if Council is supportive, the contract would be awarded to Sproing Creative on that basis. Should Council choose to not proceed with the development of a community marketing video after having considered the terms of reference and project budget, no contract would be awarded but Sproing Creative would be compensated for their time spent engaging with the City up to that point on the development of a terms of reference and project budget, based on their hourly rate.

Respectfully Submitted,



Kurt Inglis
Planner

MEMO

To: Mayor and Council

From: Tate Bengtson, CAO

Date: November 30, 2022

Subject: Gardens and Grounds Contract 2023-25 Recommendation of Award

RECOMMENDATION

THAT Council awards the Gardens and Grounds Maintenance Contract for 2023-25 to Grounds Guys of Okanagan & Shuswap;

AND THAT Council authorizes the Mayor and Corporate Officer to execute the Gardens and Grounds Maintenance Contract for 2023-25 with Grounds Guys of Okanagan & Shuswap.

BACKGROUND

The City contracts for maintenance of certain gardens and grounds, with the bulk of the work occurring between April 1 and October 15 of each year. A list of the areas covered by the contract is attached as Appendix 'A'. Additional projects or changes to service levels may be added through subsequent negotiations with the contractor.

The previous contractor advised the City earlier in the fall that she would not be seeking to extend her contract due to a career change. The City issued a request for quote seeking bids from qualified contractors. The closure date of the request for quote was extended by several weeks due to only one contractor attending the first site meeting.

Two contractors submitted quotes for the work. Note that the quote value excludes the costs of flowers, mulch, topsoil, irrigation repair, and extraordinary pruning; these costs are funded outside of the maintenance contract. The quotes are lump sum prices for each of the three years of the contract and were bid as follows:

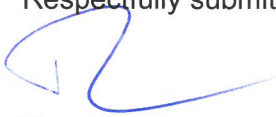
	2023	2024	2025
Grounds Guys	65,975	68,600	70,670
Okanagan Property Services	82,000	84,460	86,993

Both contractors demonstrated relevant prior experience. Staff performed two reference checks on the lowest bidder, which confirmed that the company has the expertise and capacity to meet

the performance requirements of the contract. The City has used the Grounds Guys for its road shoulder mowing program for several years.

That said, Council should be advised that the Gardens and Grounds Maintenance Contract is particularly intensive with respect to management time in its first year, as performance monitoring takes on a more significant role as work routines are developed, expectations are communicated, and the particular nuances of each area are learned.

Respectfully submitted,



Tate Bengtson
Chief Administrative Officer

APPENDIX 'A'

Sites and Responsibilities

General Duties

The Contractor is not required to provide Services in the off-season, from October 15 to April 1 of the following year, except for Cenotaph Park maintenance prior to Remembrance Day.

The Contractor shall perform the Services at all sites within the City of Enderby:

- Gardens (including beds, planters (approx. 80), baskets, shrubs, and similar foliage) at various locations throughout city, including planting, watering, weeding, deadheading, and trimming
- Grounds maintenance (including irrigating, weekly mowing and removal of grass clippings, weedeating, general clean-up and maintenance, and other activities incidental to this contract) at various locations throughout the city
- Collect and dispose of litter daily at various locations throughout the city (note: Public Works and Parks departments maintain garbage receptacles)
- Ensure benches and picnic tables are kept clean at all sites
- Fertilizing grounds
- Prune branches impeding or obscuring pedestrian or vehicle traffic
- Arranging for professional weed or pest control in conjunction with City Hall
- Document and report any vandalism or damage to City properties, including graffiti
- Remove unauthorized signs from utility poles and City property along George Street, Cliff Avenue, Mill Avenue, and Belvedere Street

Sites

- City Hall and Museum (garden beds; mowing and irrigating western lawn; sweep and clean entrance to City Hall and wash when required)
- City-owned parking lots (north side of Russell Avenue, behind City Hall, and east side of Maud Street)
- City entrance signs at north and south ends of the city, including surrounding gardens and grounds
- City of Enderby Water Treatment Plant area, including adjacent open space and around utility shed
- Cliff Avenue, Mill Avenue, Belvedere Street, George Street hanging baskets, planters, and garden beds
- Drill Hall garden beds, planters and grounds
- Fire Hall grounds and garden beds
- Belvedere Park garden beds and grounds, including those surrounding the Visitor Centre and the Belvedere Hand-Launch area
- Barnes Park planters and weedeat the bank to the west of the park adjacent to George Street (note: Barnes Park is maintained by Parks staff and is excluded from the scope of this contract except for what is listed herein)
- Garden bed at the intersection of Evergreen Street and George Street
- Breezeway between Cliff Avenue and Russell Avenue parking lot
- Cenotaph Park, including maintenance no more than three days prior to Remembrance Day

- Weedeat approximately 1m (this will vary so as to tie into variations in adjacent landscaping) on each side of the Riverwalk, trim back any brush or branches interfering with pedestrians, and maintain the southern garden bed and stairwell garden bed adjacent to campground
- Weed-eat road shoulders on George Street
- Salmon Arm Drive walking path, including weedeating the adjacent grounds between road and path
- Norleen Lane trail weedeating
- Sweep and clean Cliff Avenue sidewalks within the commercial section – wash when required in addition to and prior to a scheduled street sweeping or downtown event

In addition to the above duties, the following duties shall be carried out in the Spring:

- Arrange to have irrigation turned on
- General spring clean up
- Prepare gardens for planting
- Document and report any damaged City property requiring repair or replacement
- Soil replacement or amendment for all planters every year and garden beds on an as-needed basis
- Mulch for garden beds on an annual basis

In addition to the above duties, the following duties shall be carried out in the Fall:

- Rake leaves
- Winterize irrigation systems
- General fall clean up
- Prepare garden beds and planters for winter/spring
- Clean-up and mow Cenotaph Park no more than three days before Remembrance Day

All litter, grass clippings, and leaves, may be disposed at the Public Works Yard.

City-Provided Materials and Reimbursable Costs

All costs associated with the Services are incidental to the contract and shall form part of the Contractor's quote, except for the following items which will be provided or reimbursed by the City, provided such purchase is authorized in advance:

- Approved purchase of flowers, plants and shrubs and other related materials. The budget is \$8-10,000 plus GST
 - Costs for flower replacement due to inadequate care and maintenance will be the responsibility of the Contractor; costs for flower replacement due to vandalism, theft, or other matter out of the control of the Contractor will be the responsibility of the City
- Mulch
- Topsoil
- Irrigation repair (except for repairs caused by the Contractor's failure to winterize properly)

- Professional weed and pest control for extraordinary treatments or applications
- Extraordinary pruning (e.g. it cannot be reached with a ladder and pole saw) and bush or tree removal requiring heavy equipment
- Water use incidental to this contract
- Garbage disposal at Public Works Yard

Performance Objectives

The City has set the following performance objectives for the contract:

- High profile floral areas are bright, attractive, and highly visible;
- Flora is consistent in design and selected with consideration given to the soil, shade, and moisture conditions;
- Flora in planters should consider cascading, blooming foliage in order to soften exteriors;
- Legacy perennials are replaced or transplanted to compliment annual and semi-annual plantings, and overmature perennials are replaced;
- Garden beds are designed to provide textural interest and colour drama from the early spring until mid-autumn;
- Soil is replaced or amended as needed;
- During planting, young plants are given adequate water, fertilizer, and organic material to promote health and aesthetics;
- Fertilizer is applied as needed and in accordance with the particular health and aesthetic requirements of the flora;
- Weeding, deadheading, thinning, and mulching are occurring on a regular basis;
- Grounds are top dressed as necessary;
- Pruning is occurring regularly and in accordance with the particular health and aesthetic requirements of a given shrub, bush, or tree;
- Litter is removed from beds, planters, and areas of dense foliage regularly;
- Potential efficiencies are identified and discussed with the City, particularly as this relates to reducing the costs associated with low-visibility flora or substituting for drought-resistant perennials with colourful foliage; and
- Problems involved or related to this contract are observed, reported, and rectified immediately.

THE CORPORATION OF THE CITY OF ENDERBY

AGENDA

MEMO

To: Tate Bengtson, Chief Administrative Officer
From: Kurt Inglis, Planner
Date: November 29, 2022
Subject: Designation of Saksham Meenia as Bylaw Enforcement Officer and Animal Control Officer

RECOMMENDATION

THAT Council designates Saksham Meenia as a Bylaw Enforcement Officer and Animal Control Officer for the City of Enderby.

BACKGROUND

The City of Enderby currently contracts with Salmon Arm Security to provide bylaw enforcement and dog control services. Jonathan Hutton has been appointed to serve as the primary Bylaw Enforcement Officer and Animal Control Officer for the City and has been serving in this role since 2020. Salmon Arm Security has recently trained Saksham Meenia to serve as a back-up Officer in Mr. Hutton's absence.

Staff are recommending that Council designates Mr. Meenia as a Bylaw Enforcement Officer so that he has the powers of such an Officer, pursuant to Section 264 of the *Community Charter* which states:

(1) *A Council may, by bylaw,*

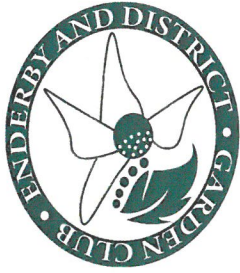
(b) *designate as a bylaw enforcement officer a person who comes within a class of persons prescribed by regulation[...]*

Furthermore, it is recommended that Council designates Mr. Meenia as an Animal Control Officer so that he has the powers granted to an Animal Control Officer under Section 49 [Special powers in relation to dangerous dogs] of the *Community Charter*.

Respectfully submitted,



Kurt Inglis
Planner



AGENDA

2022/11/21

To Mayor Galbraith and City Council.

My name is Di Macdonald and I am the President of Enderby and District Garden Club. One of the mandates of our organization is to assist with beautification projects in our City. You are perhaps already aware of our work in maintaining the Cornerstone Garden, which, even in winter, remains a space of peace and tranquility in the downtown.

We are contemplating undertaking a project next fall which is to plant an assortment of bulbs along the Riverwalk. We have yet to do our detailed research but are tentatively planning the following:-

- Purchasing and planting approximately 300 bulbs along the Riverwalk
- We anticipate a mix of daffodils, narcissus and tulips.
- These would be planted approximately 2 feet off the east side of the pathway
- The planting would be done in the fall of 2023 by a group of EDGC volunteers
- The bulbs would need no further maintenance, other than dead heading and removal of the dead leaves after flowering in the Spring of 2024
- Club volunteers would also carry out this task.

In the event that we are able to commit to this undertaking, we hereby request permission from council to do so.

Respectfully,

Di Macdonald
President EDGC



AGENDA

November 10, 2022

Mayor Huck Galbraith
City of Enderby
619 Cliff Avenue, P.O. Box 400
Enderby, BC V0E 1V0

Dear Mayor Galbraith and City of Enderby councillors,

I am pleased to extend congratulations to you on your recent election to Enderby Council.

Your decision to run for office and to serve as an elected official speaks to your personal commitment to your community and our region. As you prepare to take up the challenges ahead, know that your leadership is broadly recognized and valued.

This year, the B.C. Labour Market Outlook forecasted more than one million job openings provincially over the next decade, with nearly 80 per cent of those future jobs requiring post-secondary education and training. In our region alone, it is anticipated we'll see over 115,000 new positions due to economic growth and retirements of existing workers. As we know, the Okanagan's population is also expanding, adding pressure to current services and industries.

For these reasons, Okanagan College is committed to working with you to make it easier for people in our region to access affordable, local learning opportunities that prepare and enable them for meaningful employment. In turn, we know this strengthens other aspects of community living, including cost of living, accessibility, wellbeing and health. By partnering and working together, we can make positive impacts today and years into the future.

In 2023, we invite you to join Okanagan College as we mark our 60th anniversary. Since 1963, thousands of people have completed credentials and programs at OC and put their education and training into action in a range of professions and workplaces. Their collective impact is immeasurable: over six decades, OC students and graduates are leaders and change-makers in business, trades, science and technology, hospitality, health care, the arts and beyond. To those of you who are OC alumni and who have connections as family and friends, we look forward to celebrating next year!

Once again, on behalf of Okanagan College, congratulations on your recent election. The City of Enderby is a key partner to the College, and together we strive to improve the quality of life for all residents, establishing the Okanagan as a world-class region and destination for innovation, talent and learning.

I would be pleased to arrange an opportunity for you to visit our Vernon campus for further discussion about our shared objectives, and/or to present this information at an upcoming Council meeting. If this is of interest, please contact Joanna Campbell at jcampbell@okanagan.bc.ca or 250-862-5403.

Sincerely,



Neil Fassina, PhD, CPHR, ICD.D
President

The Shuswap Trail Alliance
PO Box 1531, Salmon Arm, BC V1E 4P6
Phone: 250-832-0102
Email: info@shuswaptrails.com
www.shuswaptrailalliance.com

November 24, 2022

Attn: City of Enderby Mayor and Council

Dear Mayor Huck Galbraith and Council,

The City of Enderby is a signed participating government in the Shuswap Regional Trails Strategy and Roundtable leadership, and an operational partner with the Shuswap Trail Alliance.

As your new Boards and Councils gather to begin the next four-year term, we would welcome an opportunity to meet with you and report on the Shuswap Trails Strategy, Roundtable, and Alliance.

Secwepemc, municipal, regional, and provincial leadership are working together with stewardship organizations, industry partners, businesses, and other sector agencies to better manage how we live together and move within our communities and the wider landscape. Currently over 70 projects are underway throughout the wider region addressing issues of community active transportation, recreational trail access, First Nations presence, values and rights, and environmental stewardship. Many are precedent setting, and several are legacy scale initiatives.

Thank you for your commitment of leadership and time in service of our communities and region. We look forward to working with you over the next four years. Please let us know when we might schedule a time to present.

Sincerely,



Jen Bellhouse
Executive Director, The Shuswap Trail Alliance
And on behalf of the wider Shuswap Regional Trails Roundtable
250-804-3530
jen@shuswaptrails.com