LIQUID WASTE MONITORING COMMITTEE AGENDA

DATE: 2023.04.17 LOCATION: Council Chambers – City Hall
TIME: 11:00 a.m. 413 Fourth Street, Kaslo

1. Call to Order

2. Election of Chair
- 2.1 Nominations
- 2.2 Election
- 2.3 Declaration

3. Adoption of the Agenda
- 3.1 Adoption of the Agenda for the 2023.04.17 Liquid Waste Monitoring Committee Meeting

4. Adoption of the Minutes
- 4.1 Adoption of the Minutes from the 2021.11.30 Liquid Waste Monitoring Committee Meeting

5. Information Items
- 5.1 Committee Terms of Reference
- 5.2 2022 Daily Flows
- 5.3 Sewer Expansion Update
- 5.4 Sewer Operations
- 5.5 Sewer Asset Management
- 5.6 Correspondence
  - 5.6.1 2021.12.01 from D. Russell
  - 5.6.2 2023.04.04 from A. Malik

6. Question Period

An opportunity for members of the public to ask questions or make comments relating to items on the agenda.

7. Business

7.1 **Sewer Capital Parcel Tax Amendment Bylaw 1288, 2023**
A bylaw that updates the sewer parcel tax rate being considered by Council.

7.2 **Sewer Specified Area Amendment Bylaw DRAFT**
A proposed bylaw that adds parcels to the sewer specified area.

8. Late Items

9. Next Meeting

Unless otherwise specified the next meeting will be held at the call of the Chair.

10. Adjournment

Village of Kaslo

Liquid Waste Monitoring Committee
MINUTES

Date: **2021.11.30** **Location: Council Chambers**
Time: **4:00 p.m.** **413 Fourth Street, Kaslo**

Present:	CHAIR:	Mayor Hewat
	Members:	Councillor Knoll, Councillor Lang (via Zoom), Anne Malik, David Russell, Don Scarlett
	Staff:	CAO Dunlop, Foreman Scott, CO Allaway
	Regrets:	Lynn Van Deursen
	Public:	0

---

1. Call to Order

The meeting was called to order at 4:00 p.m.

2. Delegations

Nil

3. Addition of Late Items

Nil

4. Adoption of the Agenda

a. 2021.11.30 LWMC

Moved and CARRIED
THAT the Agenda for the 2021.11.30 Liquid Waste Monitoring Committee meeting be adopted as presented.

5. Adoption of the Minutes

a. 2021.01.27 LWMC

Moved and CARRIED
THAT the Minutes for the 2021.01.27 Liquid Waste Monitoring Committee be adopted as amended to include Ms. Malik's comments.

6. Unfinished Business

Nil

7. Correspondence

a. Malik 2021.03.15

Moved and CARRIED
THAT the LWMC recommend to Council that all costs relating to the Highway 31 bridge sewer crossing be paid by future users of the sewer system.

b. Malik 2021.03.17

Moved and CARRIED
THAT the LWMC recommend to Council that the Sewer Parcel Tax be reviewed as part of the 2022 budget deliberations.

c. Malik 2021.03.23

Moved and CARRIED
THAT the correspondence dated 2021.03.23 be received for information.

d. Malik 2021.03.29

Moved and CARRIED
THAT the correspondence dated 2021.03.29 be received for information.

8. Reports

a. 2021 Sewer Report – Masse Environmental Consultants LTD

Moved and CARRIED
THAT the 2021 REMP Report prepared by Masse Environmental Consultants be received for information.

9. New Business

a. Future Sewer Capital Fund Fees or Taxation

Moved and CARRIED
THAT the LWMC recommend to Council that sewer parcel tax fees be increased.

b. Kaslo Sewer Expansion Phase 2 Survey

Moved and CARRIED
THAT the draft Sewer Expansion Phase 2 Survey be received for information.

c. Plant Pressing Odor

Foreman Scott provided information about the mitigation measures that have been implemented to reduce odor at the plant, including a new aerator. Tours of the plant are available for committee members.

d. OCP Input

Moved and CARRIED
THAT the LWMC recommend to Council that the Waterfront Development Permit Area be amended as part of the OCP review to exclude the existing sewer treatment plant and lands required for expansion.

10. Late Items

Don Scarlett noted that the poor-quality audio feed did not permit participation by those members attending via Zoom.

11. Public Question Period

Nil

12. Adjourn

The meeting was adjourned at 5:51 p.m.

CERTIFIED CORRECT:

_____ _____

LWMC Chair Corporate Officer

Recommendations to Council

THAT the LWMC recommend to Council that all costs relating to the Highway 31 bridge sewer crossing be paid by future users of the sewer system.

THAT the LWMC recommend to Council that the Sewer Parcel Tax be reviewed as part of the 2022 budget deliberations.

THAT the LWMC recommend to Council that Sewer Parcel Tax fees be increased.

THAT the LWMC recommend to Council that the Waterfront Development Permit Area be amended as part of the OCP review to exclude the existing sewer treatment plant and lands required for expansion.

Village of Kaslo

TERMS OF REFERENCE

LIQUID WASTE MONITORING COMMITTEE

EFFECTIVE DATE: January 10, 2023 RESOLUTION #: 13/2023

PURPOSE: The Liquid Waste Monitoring Committee (LWMC) is required by the Village of Kaslo's Liquid Waste Management Plan (LWMP).

Mandate

The role of the LWMC is to ensure that the commitments of the LWMP are carried out in accordance with the Implementation Schedule (Section 7.1 of the LWMP), which include:

- Advancing long term community goals

- Project cost recovery

- Monitoring & sampling of the receiving environment

- Monitoring & documentation of private septic system performance

- Incremental expansion of the system and service areas

- Assisting with public initiatives and public education

Reporting

The committee will report to Council at least annually.

Schedule

The committee will meet at least annually each November or at the call of the Chair

MEMBERSHIP: All appointments to voting positions must be made by resolution of Council.

Term

Appointments shall be for a 4 year term. Appointments may be rescinded at any time by Council and vacancies may be filled by Council resolution.

Composition

The voting members of the Committee shall be:

- The Mayor of Kaslo or their designate
- 1 additional member of Council
- 5 members of the public, 2 of whom must own property within the sewer service area

Staff may attend meetings at the discretion of the CAO, to provide procedural or subject matter advice, but will not have voting rights.

Quorum

Quorum shall be 4 voting members of the Committee.

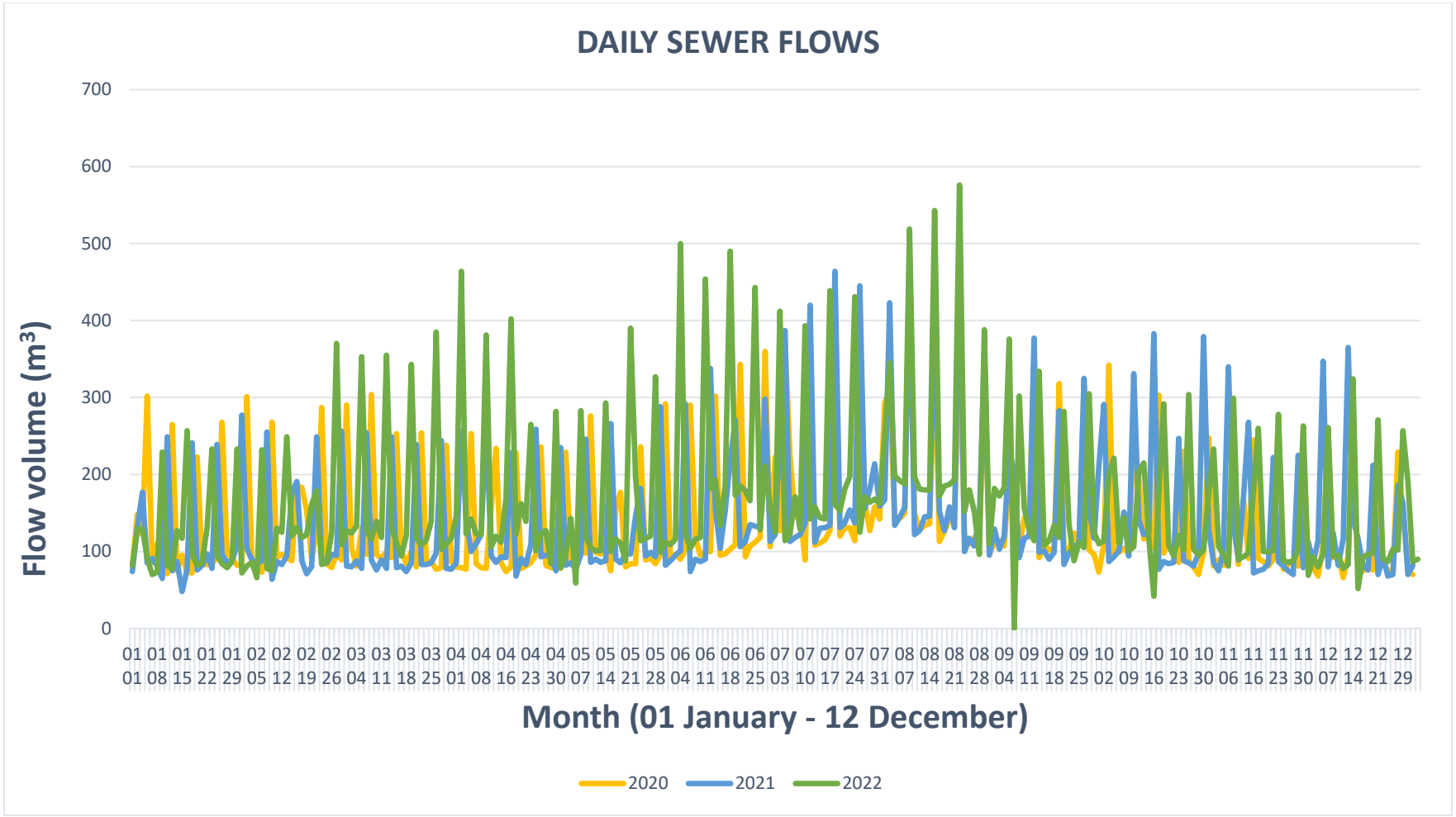
RESOURCING:

The Corporate Officer or their designate will ensure that meeting notices are posted, agenda packages are distributed, minutes are recorded, and meeting materials are available for public inspection.

With the approval of the CAO, municipal staff will prepare reports and analysis as requested by the committee.

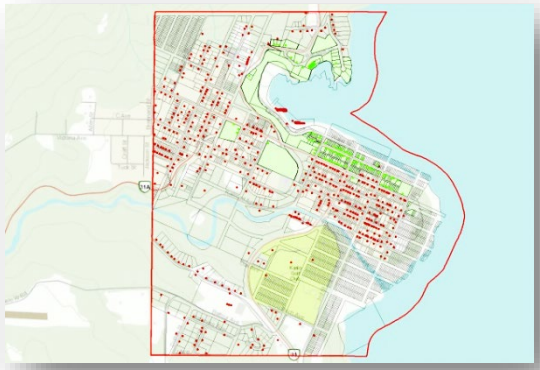
PROCEDURE:

The Mayor shall act as Chair of the committee. If the Mayor is not present, staff will call for a chair to be selected by the members present at the meeting.
The following non-voting members may have privilege of the floor on any matter before the committee:
- The CAO and Foreman or their designates
- A representative of IHA
- A representative of the RDCK
- A representative of the Ministry of Environment


DAILY SEWER FLOWS
Flow volume (m³)
700
600
500
400
300
200
100
0
01 01 01 01 01 02 02 02 02 03 03 03 03 04 04 04 04 04 05 05 05 05 06 06 06 06 07 07 07 07 07 08 08 08 08 09 09 09 09 10 10 10 10 10 11 11 11 11 12 12 12 12
01 08 15 22 29 05 12 19 26 04 11 18 25 01 08 16 23 30 07 14 21 28 04 11 18 25 03 10 17 24 31 07 14 21 28 04 11 18 25 02 09 16 23 30 06 16 23 30 07 14 21 29
Month (01 January - 12 December)
2020
2021
2022

WWTP Upgrade – Project Brief

Village of Kaslo



June 2022

Project No. 983-093

ENGINEERING ■ PLANNING ■ URBAN DESIGN ■ LAND SURVEYING

2-860 Eldorado St | Trail BC | V1R 3V4 | www.true.bc.ca | tel 250.368.8707 | fax 250.368.8708

Distribution List

# of Hard Copies	PDF Required	Association / Company Name
0	Yes	Village of Kaslo

Revision Log

Revision #	Revised by	Date	Issue / Revision Description

Report Submission

Report Prepared By:

Permit to Practice
No. 1000129

2022-06-27

Rob Wall, P. Eng.
Project Engineer

Report Reviewed By:

Nathan Lee, P. Eng., PMP
Project Review

R:\Clients\900-999\983\983-093\05 Reports\Project Brief 2022\983-093 - Kaslo - WWTP Upgrade Project Brief - 2022 06 20.docx

Table of Contents

APPENDICES

List of Tables

List of Figures

List of Acronyms

LWMP	Liquid Waste Management Plan
PDF	Peak Daily Flow
OCP	Official Community Plan
TRUE	TRUE Consulting
Village	Village of Kaslo
WWTP	Wastewater Treatment Plant

Referenced Reports

1 Village of Kaslo – Liquid Waste Management Plan Stage 1. TRUE Consulting, November 2013.

2 Village of Kaslo – Liquid Waste Management Plan Stage 2. TRUE Consulting, February 2017.

3 Village of Kaslo – Liquid Waste Management Plan Stage 3. TRUE Consulting, September 2018.

4 Letter re: Archaeological Overview Assessment (AOA) of the Village of Kaslo Liquid Waste Management Plan (Stage 2), Wastewater Treatment Plant options, Kaslo, BC. Ursus Heritage Consulting, July 2016.

5 Village of Kaslo – Sanitary Sewer System Expansion Phase 2 – Project Brief. TRUE Consulting, October 2020.

1.0 Purpose

The Village of Kaslo (Village) owns and operates a municipal sewage system that serves approximately 35% of the properties in the Village. The remainder of the properties treat and dispose wastewater with private on-site sewerage systems. Partly as a result of small lot sizes and soil conditions, there is potential for risk to public health and the environment from septic systems. In addition, as described in the Official Community Plan, the lack of a public sewage collection system is a hindrance to growth management in certain areas of the Village.

In January 2020, the Province approved Stage 3 of the Village's Liquid Waste Management Plan (LWMP), which includes consideration for sewer system expansion and upgrades to the existing wastewater treatment plant (WWTP). This project brief provides information describing how the Village intends to accomplish the long-term objectives of the LWMP via sewer system expansion.

The Village's LWMP identified Lower Kaslo as a priority area for sewer expansion. A first phase of sewer expansion was completed in 2019 to extend sewer service to approximately 60 previously unsewered parcels in the Lower Kaslo area. Future phases of the sewer system expansion will continue as needed to accommodate growth and redevelopment of the community.

It is intended that the existing wastewater treatment plant will be maintained and upgraded as needed to accommodate the additional flow. So far, there have been no capacity upgrades to the WWTP. It is now recommended that the WWTP be upgraded in order to accommodate further increases in plant flow.

Upgrades to the existing wastewater treatment plant are proposed to include the Short-Term upgrades recommended in the LWMP as well as balancing storage to mitigate the effect of brewery waste and recently observed increases to seasonal maximum daily flows. The Long-Term upgrades discussed in the LWMP will also be required eventually.

2.0 Background

2.1 Recent History

The Village of Kaslo is a popular tourist destination with seasonally high flows in the summer months. A Liquid Waste Management Plan was completed in 2017 setting out a broad plan for development of the wastewater system. The Stage 3 LWMP proposed upgrades that were to occur prior to collection flows totalling approximately 350 m^3/d of domestic strength wastewater.

Flows and loads have increased as a result of many factors, including:

- Opening of a local craft brewery in January 2018;
- Rising attendance at the Kaslo Jazz Fest, with significant increases in August of 2018 and 2019; and,
- Expansion of the sewer collection system along the lane between A Avenue and B Avenue (Phase 1 Sanitary Sewer System Expansion) in 2019.

There were dramatic increases to the seasonal peak daily flows in the years immediately since the LWMP was completed. The flows fell in 2020 and 2021 with the COVID19 pandemic but are expected to rise again with the return to normal travel and activities. In addition, a craft brewery commenced operation, producing high strength wastewater.

The increased flows and loads have led the Village's long-time operator to raise concerns about developing treatment process issues. The combination of increases to seasonal peaks in flow and increases to wastewater strength mean that the planned upgrades are needed earlier than previously expected.

2.2 Flow and Load Summary

Peak day flow from the original sewer collection area (SSA #1), constructed in 1996, was reported in the Village's Stage 1 LWMP as 181 m^3/d. The corresponding average day flow was 113 m^3/d. Annual average daily flows have seen the effect of increases in the size of the service area after the 2019 sewer extension. The peak flows also increased significantly during the summer months in 2018 and 2019.

Peak flows during 2018 and 2019 approached double the previous typical summer flow. The sustained summer flow also appears to be increasing.

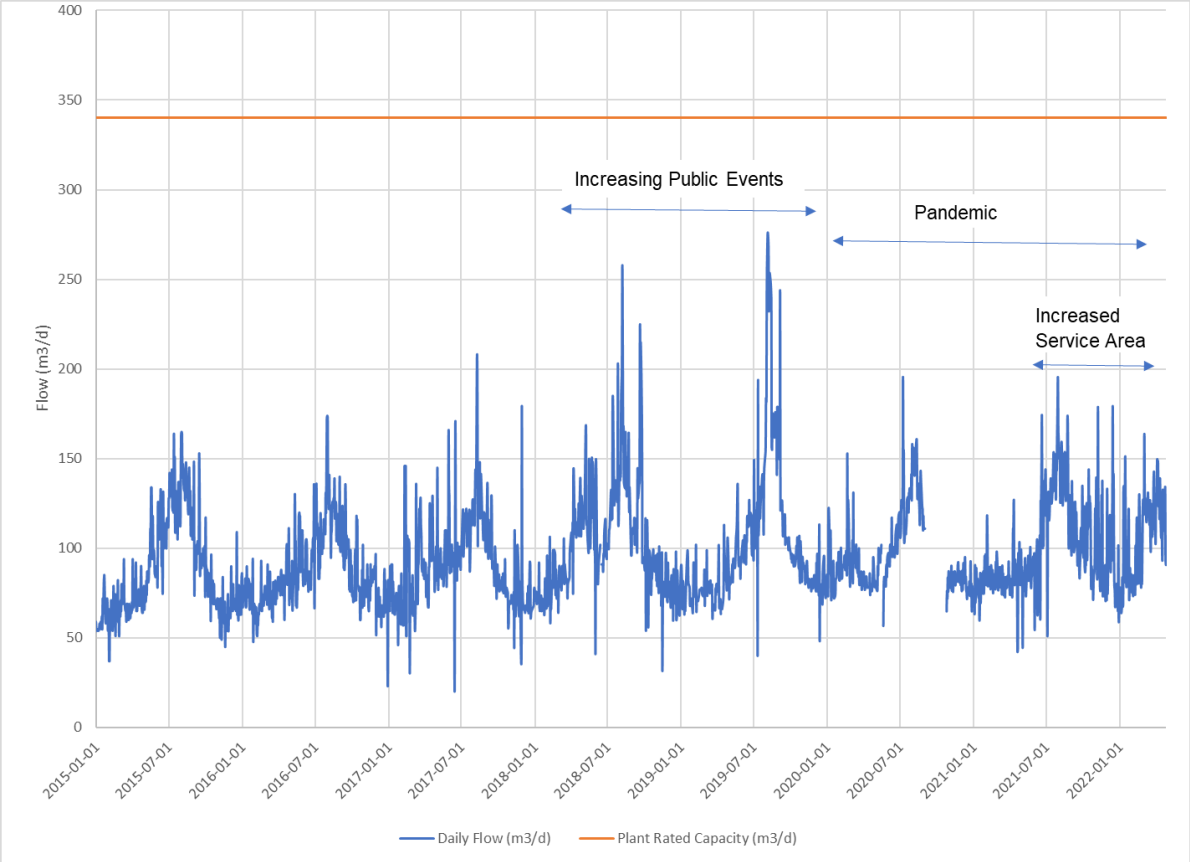


FIGURE 2-1. VILLAGE OF KASLO DAILY WASTEWATER FLOW

Future flow from the remainder of the original service area that is not currently connected is estimated to be 96 m^3/d. The lower Kaslo sewer expansion in 2019 is estimated to contribute a peak daily flow of approximately 90 m^3/d when all of the properties are connected. Therefore, at present the allocated plant capacity is estimated to be around 367 m^3/d based on LWMP figures. Table 2-1 summarizes these flows in Column A. The potential peak daily flow based on allocated capacity increases to 462 m^3/d based on the peak observed in 2019.

TABLE 2-1. VILLAGE OF KASLO - WASTEWATER FLOW SUMMARY

	Column A	Column B
	PDF[1] *from Liquid Waste Management Plan* [m^3/d]	**PDF[1]** *observed during 2019 event* [m^3/d]
Observed PDF[1] from SSA #1[2]	181	276
Estimated Future Flow Allocated to Remainder of SSA #1[2]	96	96
Estimated PDF[1] from Phase 1 Expansion (at build out)	90	90
Total:	***367***	***462***

Note 1: Peak Daily Flow (PDF)

Note 2: Specified Sewer Area No. 1 (SSA #1) is the area serviced by the original sewer system construction in 1996. It includes approximately 117 'folios' of which approximately 80 are currently connected to the sewage collection system. The total estimated future flow from the remainder of SSA #1 was estimated in the Stage 1 LWMP as 96 m^3/d.

The new brewery has a particularly adverse impact on the treatment process as product is made in batches and brewery waste is typically 20 to 100+ times the strength of domestic wastewater. This means that highly concentrated waste flows arrive at the plant in short bursts, which overwhelms the ability of the plant to treat the material. It is understood that the brewery waste does not include spent grain and hops, which are separated out for use as animal feed. Spent grain and hops are defined as prohibited waste under Schedule D of Village of Kaslo Bylaw 1121 due to their high strength and tendency to cause sewer blockages. The remainder of the brewery waste is classified as restricted waste and is accepted by specific permission of the Village.

The WWTP also treats waste from the camping grounds and the associated sani-dump. Sani-dump waste can contain disinfecting chemicals, such as formaldehyde, that adversely affect the treatment process.

As domestic flows increase, they will tend to reduce the average strength of the wastewater arriving at the plant, improving treatability.

3.0 Proposed WWTP Upgrade

3.1 Proposed Treatment Upgrades

While the maximum daily flow reported in the Stage 1 LWMP was 181 m^3/d, flows in 2018 and 2019 include peaks in daily flow up to 276 m^3/d as shown on Figure 2-1. The highest peaks occur over busy tourist event weekends. While these flows are less than the plant design capacity, the hourly peaks in flow are more severe than the plant was intended to treat. Flow balancing is

needed to smooth out these peaks. This will allow the treatment process to operate more continuously and effectively.

Balancing the flow also spreads out the impact of high strength waste discharges.

The proposed treatment plant upgrades will comprise the following;

- 170m^3 filtered influent storage tank for flow equalization including pumps to transfer wastewater back to the treatment process;
- Variable frequency drives on all sewage and effluent pumps;
- A single primary filter in a new above ground building. The existing sludge dewatering belt press will be relocated to this building.

The purpose of these initial upgrades is to increase the resiliency and capacity of the plant to cope with increased peak flows and higher wastewater concentrations.

The morning peak flow into the plant comes after a long period of little to no flow. This overwhelms the bioreactor and clarifier units The flow balancing tank will transfer the peak flows to low flow periods to achieve a relatively constant flow over 24 hours and under normal daily flow conditions. This has the effect of greatly increasing the practical treatment capacity of the WWTP.

In addition, the balancing tank will spread out peak loads from high concentration wastes. This further increases the effective capacity of the treatment process.

The balancing storage required to completely smooth out flows on peak tourist weekends would be very large. In consideration of the size of project that would be required to achieve this, it is instead recommended that balancing storage be constructed to smooth out daily flows and the load on the WWTP. A ~170 m^3 tank (1/3 of the future 500 m^3 peak day flow provided in the Village's LWMP) would be sufficient to store flow exceeding the average during the 16 daytime hours. This flow would then be treated overnight when flows decrease again. This will give the biological treatment process sufficient time to treat the wastewater and greatly decreases the flow over the weirs in the effluent clarifiers. The associated increase in effective capacity should increase the total effective WWTP design capacity by roughly 100 m^3/d (based on domestic strength wastewater).

With the addition of the new flow balancing system, the existing emergency storage could more easily be pumped back gradually to the treatment process after a breakdown.

In order to optimize the flow balancing function, variable frequency drives will be fitted to the influent pumps, equalization tank pumps and the effluent pumps. This will allow flow to be ramped up and down, rather than starting and stopping the plant. This will be less disruptive to the treatment process and will make the best use of available capacity.

Upgraded pre-treatment is proposed using a grinder and Salsnes type filter. This is the same design as is used at the Enderby WWTP (shown in Figure 3-1) and the Lillooet WWTP. The Salsnes filter can operate with unscreened influent but should be protected from objects that will

damage the belt. It is expected that the filter will remove 20% of BOD and 50% of suspended solids. The solids are compressed into a ‘sausage’ of dewatered material that can be efficiently disposed of to landfill. This process is expected to reduce the quantity of grit and solids collected in the existing primary tank and lead to increased total recovery of solids prior to the rotating biological contactor.

A new building will be required to house the Salsnes filter. The Village operates a belt press to dewater solids. It is currently located in a shipping container in an area below the 200-year flood elevation. The building will include space to house this equipment at a safe location.

The layout of the proposed system is presented in drawings included in **Appendix A**.

3.2 Future Treatment Upgrade

As flows increase further, a long-term upgrade of the wastewater treatment plant will be required. This upgrade will continue to match current effluent quality performance at the projected ultimate future flow totalling approximately 500 m^3/d of domestic strength wastewater. This capacity upgrade would involve duplication of several components including the biological contactor, clarifier, and effluent filtration units.

The duplication will increase plant capacity and improve the overall reliability and maintainability of the process. Process duplication is a requirement of the Municipal Wastewater Regulation. At present the plant has a spare shaft for the rotating biological contactor in case the existing shaft breaks unexpectedly, as well as 24 hours of emergency wastewater storage. Once the treatment process is duplicated in the future, these features will not be needed.

FIGURE 3-1: EXAMPLE - ENDERBY SALSNES FILTER

FIGURE 3-2: VILLAGE OF KASLO - EXISTING BELT PRESS LOCATION

4.0 Project Risks

Given that this is an existing WWTP site, and extensive consultation has been undertaken during the Liquid Waste Management Plan period, it is not expected that there will be opposition to the project by the public or First Nations.

The project design will require approval by the Ministry of Environmental and Climate Change Strategy. Given that the proposed upgrades were described in the approved liquid waste management plan, it is not anticipated that substantial revisions will be required. Nevertheless, it is possible that the Province could require elements such as the duplication of treatment processes to be added to the project scope. If this were to occur, the Village would need to re-evaluate the project and its feasibility.

An Environmental Impact Study for the discharge was completed in 2017 for the Liquid Waste Management Plan. It is not expected that an update to the environmental study will be required.

Studies will be needed to address certain project risks associated with the construction site. An environmental assessment of the site will be needed. Initial discussions with an environmental consultant familiar with the site suggest the environmental values are low because of the previously disturbed nature of the site. However, the natural boundary of the lake may reach within the proposed project area. This could result in a requirement for a Water Sustainability Act Section 11 permit application. An allowance of $5,000 for confirmation of the natural boundary and $10,000 for an environmental assessment and Section 11 application is suggested.

The potential for discovery of archeological artefacts at the site also represents a risk to the project. An Archaeological Overview Assessment (AOA) was completed by Ursus Heritage Consulting during preparation of the Liquid Waste Management Plan. At that time, the site around the WWTP:

> *…would have been assessed with high potential for the presence of archaeological sites based primarily on the proximity to the former Kaslo River channel and the shores of Kootenay Lake and its setting on a relatively level alluvial fan. However, the proposed construction will be confined to the previously developed plant area and take place within the imported fill used in the original building construction. Therefore, based on the extensive disturbance and presence of imported fill within the proposed construction area, Alternatives 1a and 1b are assessed with low potential for the presence of archaeological sites.* [4]

The need for an Archaeological Impact Assessment (AIA) will depend on the project details and whether the construction footprint extends beyond the previously disturbed areas. Based on discussion with the author of the AOA, an allowance of $15,000 is suggested to accommodate further archaeological work, if necessary.

An allowance for environmental and archaeological work of $30,000 has been added to construction and engineering project costs provided in Section 6.0.

5.0 Schedule

Depending on the resources available to the contractor, we expect that the project will require a 6 month (+/-) construction period. Based on timing of funding approval, and with intention of obtaining competitively bid construction costs, a project schedule is suggested as follows:

- Preliminary design = Fall 2022 (depending on timing of funding approval)
- Detailed design = Winter/Spring 2023
- Construction procurement and contract award (long lead equipment ordered) = Summer 2023
- Construction period = April to October 2024
- Project Completion = November 2024

6.0 Project Cost Estimate

TRUE has prepared a detailed project cost estimate based on the following:

- Conceptual design drawings (**Appendix A**) and corresponding quantities.
- Site inspection of existing conditions.
- Construction cost records in both the Village of Kaslo and surrounding communities during the past ten years.
- Recent unit rates based on advice from local contractors and from equipment suppliers.

The cost estimate is included in **Appendix B**, and is summarized below.

Wastewater Treatment Plant Upgrades (Class 'C')

Construction	
- General	$85,000
- Process Mechanical	$850,500
- Civil and Buildings	$696,900
- Electrical	$426,000
Subtotal Construction	$2,058,400
Design (5% of construction cost)	$102,920
Project management / engineering (10% of construction cost)	$205,840
Environmental and archaeological work	$30,000
Contingency (30%)	$719,148
Total Cost Estimate (not including GST)	**$3,116,308**

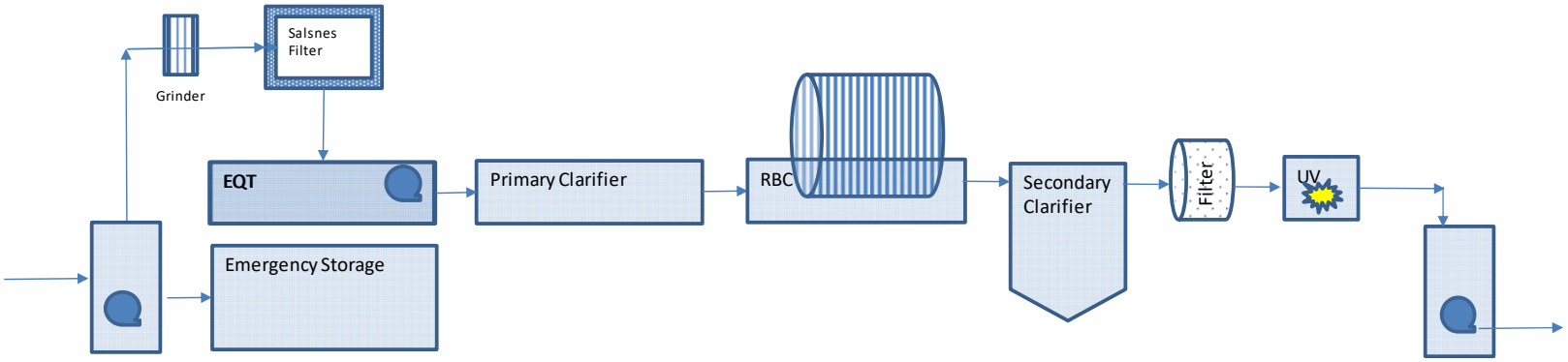
The project cost estimate is considered Class 'C', as described in EGBC's *Budget Guidelines for Consulting Engineering Services (2009):*

> ***"Class C** estimate (±25-40%): An estimate prepared with limited site information and based on probable conditions affecting the project. It represents the summation of all identifiable project elemental costs and is used for program planning, to establish a more specific definition of client needs and to obtain preliminary project approval."*

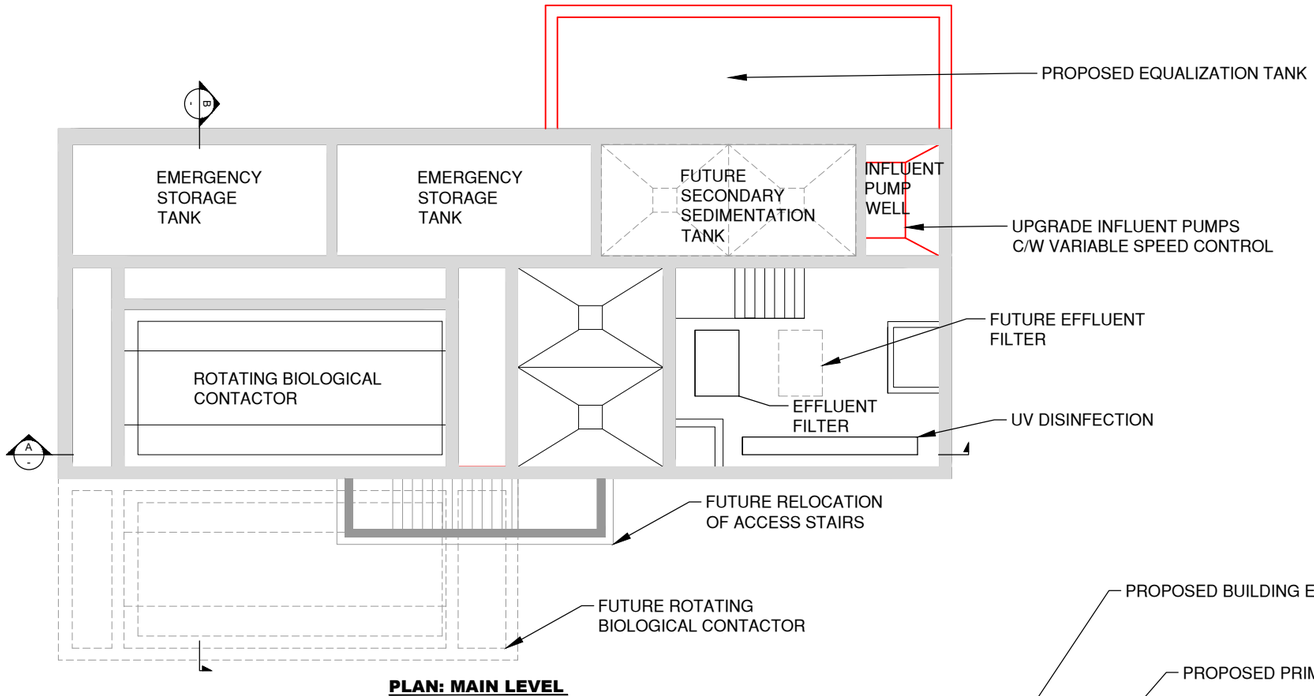
APPENDIX A

Figures

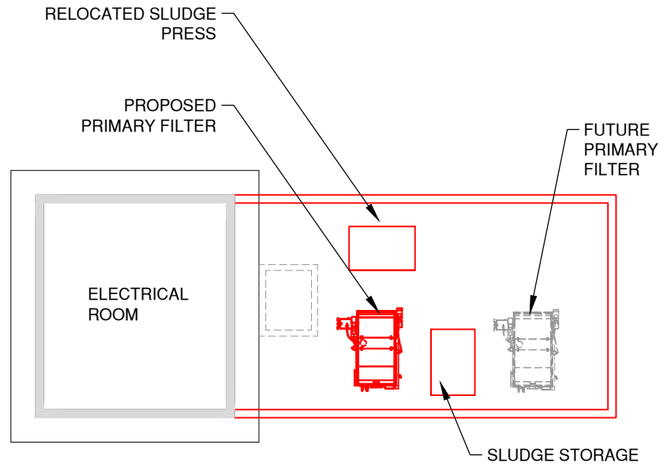
Process Flow Diagram for Proposed Design



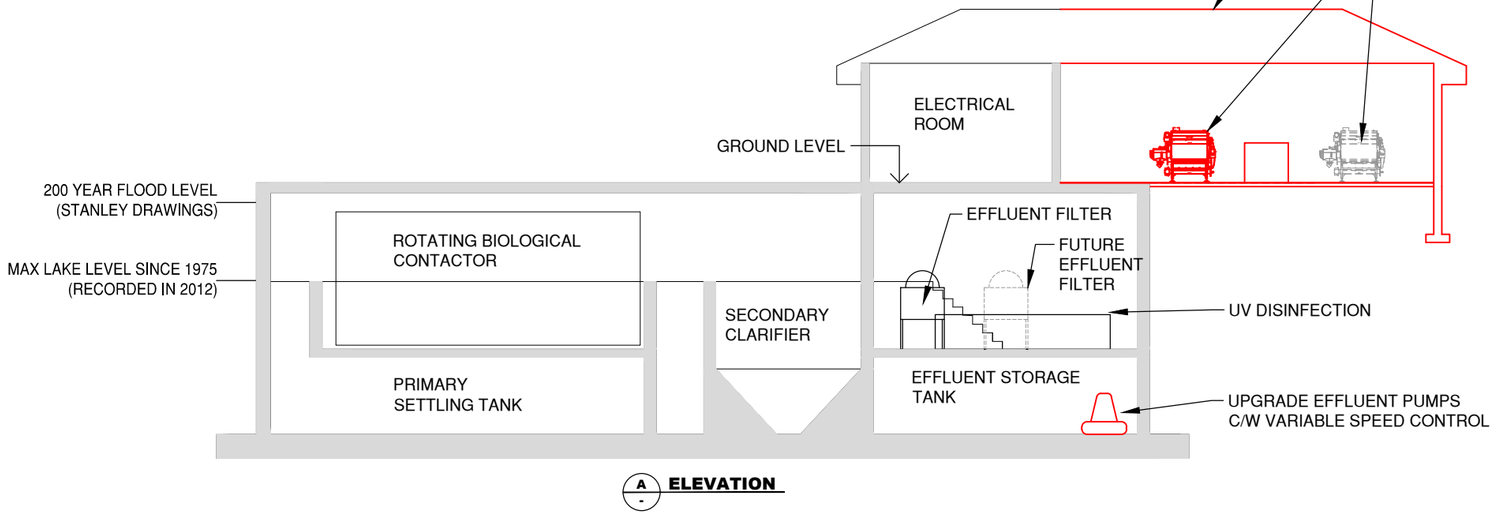
EQUIPMENT	INFLUENT PUMPS	EMERGENCY STORAGE	GRINDER	INFLUENT FILTER	EQUALIZATION TANK	EQUALIZATION PUMP	PRIMARY TANK	RBC BIOREACTOR	SECONDARY CLARIFIER	EFFLUENT FILTER	UV DISINFECTION	EFFLUENT PUMPS	BELT PRESS
NUMBER	2	1	1	1	1	2	1	1	1	1	1	2	1
MAKE & MODEL				Salsnes	-	-	-						
DESIGN CAPACITY	23 L/s	24 hour storage		15 L/s		5 - 23 L/s	340 m^3/d	700 m^3/d for 30 mg/L BOD (equalized flow)	4.3 L/s average, 8.5 L/s peak	11 L/s (assumed)	22 L/s	23 L/s	
SIZE		323 m^3			170 m^3	-	107 m^3	-	3.7m x 4.3m				
DRIVE	VFD	-	DD	12 kVA DD	-	2.5 kW DD	-	3.7 kW VFD		DD		VFD	
NEW/EXISTING	New	Existing	New	New	New	New	Existing	Existing	Existing	Existing	Existing	New	Existing



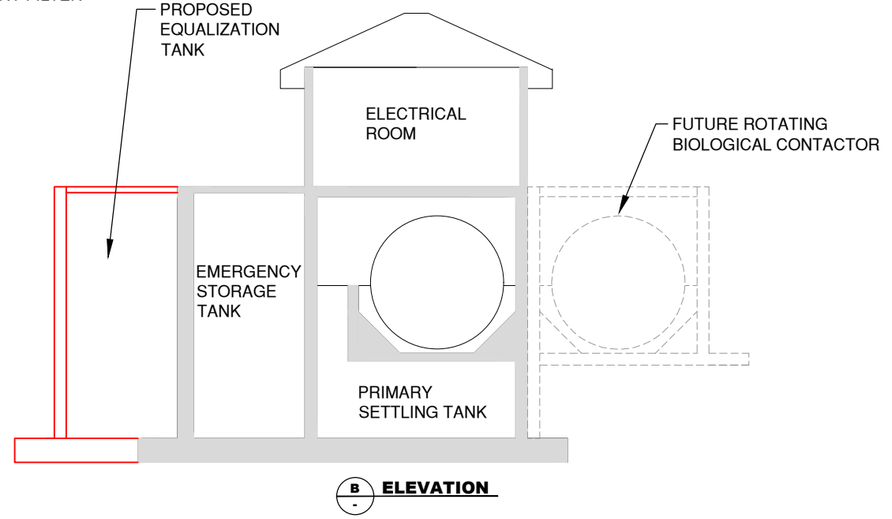
PLAN: MAIN LEVEL



PLAN: GROUND LEVEL



A ELEVATION



B ELEVATION

VILLAGE OF KASLO
PHASE 2 SEWER SYSTEM EXPANSION
WASTEWATER TREATMENT PLANT
DETAILS

TRUE CONSULTING

DESIGN BY: RW	
SCALE: 1:150	
DWG NO.: 983-093	REV:
DRAWN BY: RW	
DATE: OCT 2020	

FILE:r:\clients\900-999\983\983-093\03 drawings\cad\02 design drawings\983-093.dwg

APPENDIX B

Cost Estimate

ESTIMATE OF PROBABLE COST - WASTEWATER TREATMENT PLANT UPGRADES (CLASS 'C')

Owner: Village of Kaslo
Project: Stage One WWTP Upgrade
Date: June 10, 2022

Item #	Item Description	Unit	Quantity	Unit Price	Amount
01 - General	**Sub-Total 01**				**85,000**
1.1	Insurance and bonding	Lump Sum	1	20,000	20,000
1.2	Mobilization / De-Mobilization	Lump Sum	1	40,000	40,000
1.3	General contractor commissioning and startup services	Lump Sum	1	25,000	25,000
02 - Process Mechanical	**Sub-Total 02**				**850,500**
2.1	New sewage pumps in main lift station c/w VFD	Each	2	50,000	100,000
2.2	New effluent pumps c/w VFD	Each	2	50,000	100,000
2.3	Grinder unit	Each	1	60,000	60,000
2.4	Salsnes SF2000	Each	1	370,000	370,000
2.5	Spare Filter Belt (filter belt, rollers, bearings, wash bar, air knife, etc.)	Each	1	55,000	55,000
2.6	Pipe hot water (4-6 bar), cold water and air to filters	Each	1	3,500	3,500
2.7	Compressed air system for air knife	Each	1	2,000	2,000
2.8	Relocate and set up dewatering in new building	Lump Sum	1	50,000	50,000
2.9	New odour control system	Each	1	50,000	50,000
2.10	EQ pumps including VFDs and lifting rails	Each	2	30,000	60,000
03 - Civil and Buildings	**Sub-Total 03**				**696,900**
3.1	Building Extension (incl space for future second Salsnes filter)				
3.1.1	Precast Concrete Building - foundation	Square Metre	51	1400	71,400
3.1.2	Precast Concrete Building - structure	Square Metre	51	1,900	96,900
3.1.3	Precast Concrete Building - roofing	Square Metre	51	600	30,600
3.1.4	Reroof and paint existing building	Lump Sum	1	32,000	32,000
3.1.5	Precast Concrete Building - appurtenances (doors, hatches, and ladders)	Lump Sum	1	69,000	69,000
3.1.6	Mechanical - piping and fittings	Lump Sum	1	85,000	85,000
3.1.7	Mechanical - Plumbing	Lump Sum	1	27,000	27,000
3.1.8	Mechanical - Louvers, Fans and Dampers	Lump Sum	1	35,000	35,000
3.2	Influent balancing tank	Lump Sum	1	250,000	250,000
04 - Electrical	**Sub-Total 04**				**426,000**
4.1	Power				
4.1.1	Building Electrical (heat, lights, plugs, distribution, etc.)	Lump Sum	1	40,000	40,000
4.1.2	Motor Control Centre (MCC)	Lump Sum	1	170,000	170,000
4.1.3	Other power wiring from existing MCC	Lump Sum	1	10,000	10,000
4.1.4	Conduits in floor slab	Lump Sum	1	7,000	7,000
4.1.5	Allowance for explosive rated motors / ventilation costs	Lump Sum	1	50,000	50,000
4.2	Controls				
4.2.1	PLC, HMI, SCADA	Lump Sum	1	90,000	90,000
4.2.2	Instrumentation	Lump Sum	1	25,000	25,000
4.2.3	Power and communication cabling	Lump Sum	1	34,000	34,000

Construction Cost Subtotal			2,058,400
Design (5% of construction cost)			102,920
Project management / engineering (10% of construction cost)			205,840
Environmental and archaeological work			30,000
Contingency (30%)			719,148
Total Cost Estimate (not including GST)			3,116,308

Notes:

1. *This estimate of probable costs is considered a Class C estimate (+/-25-40%) as defined in the APEGBC Budget Guidelines for Consulting Engineering Services: "An estimate prepared with limited site information and based on probable conditions affecting the project. It represents the summation of all identifiable project elemental costs and is used for program planning, to establish a more specific definition of client needs and to obtain preliminary project approval."*

REVENUE

		2023 Budget
SEWER RATES & CHARGES		
31-554-6100-470	Sewer User Rates	(136,325.00)
31-554-6100-472	WWTP Access Fee	(17,112.00)
New Account	Sewer Connection Constructior	
	Sewer Rates & Charges	
SEWER TAXATION		
31-554-6100-471	Parcel Tax Sewer	(16,800.00)
	Sewer Taxation	
SEWER OTHER REVENUE		
31-352-7100-551	Sani Dump & Campground	(5,650.47)
31-452-7600-619	Prior Year Surplus/Deficit (SU)	
31-552-7100-551	Other fees	(1,300.00)
	Sewer Other Revenue	
SEWER CAPITAL FUNDING		
31-554-7200-571	Federal/Provincial Grant (Sewe	0.00
31-554-7600-619	Transfer from Sewer Capital Re	0.00
	Sewer Capital Funding	

EXPENSE

		2023 Budget
SEWER PERSONNEL		
32-551-8000-620	Sewer Personnel Wages/Salary	63,062.67
32-551-8000-643	Benefits - Sewer Utility Dept.	16,154.00
32-551-8000-625	Staff travel and training	2,276.00
32-551-8000-639	Admin personnl chgout fr General	21,986.56
	Sewer Personnel	
SEWER OPERATING		
32-551-8000-628	Insurance	2,611.00
32-551-8000-631	Sewer office supplies	500.00
32-551-8000-634	Utilities	11,000.00
32-551-8000-672	Safety Gear & Supplies - sewer utility	1,500.00
32-551-8100-661	Legal	0.00
32-551-8100-665	Sewer Professional Services	5,000.00
32-552-8100-662	Sewer engineering services	0.00
32-552-8200-670	Sewer Maintenance	6,360.00
32-552-8200-672	Lift Station Maintenance (Sewer)	3,000.00
32-552-8200-674	Sewer maintenance servicing	5,000.00
32-552-8200-807	Sewer Connection Parts&Supplies	2,000.00
32-553-8100-663	Sewer planning and development fees	
	Sewer Operating	
SEWER DEBT SERVICING		
32-554-8800-782	Transfer to the MFA Sewer Commutatic	0.00
32-554-8800-792	Sewer Principle Payments MFA	0.00
32-554-8900-790	MFA Sewer Debt (principle)	0.00
32-554-8900-792	MFA Sewer Debt (Interest)	0.00
	Sewer Debt Servicing	
SEWER CAPITAL EXPENDITURES		
32-555-9000-802	Sewer Capital Equipment	0.00
32-555-9000-808	Sewer Capital Infrastructure	0.00
	Sewer Capital Expenditures	
TRANSFER TO/(FROM) SEWER		
32-554-8800-781	Transfer to the Sewer Capital Infrastruc	36,737.23
	Transfer to Sewer Reserve	

VILLAGE OF KASLO
SCHEDULE 10 - SANITARY SEWER UTILITY OPERATING FUND
STATEMENT OF FINANCIAL ACTIVITIES
For the Year Ended December 31, 2022
(Unaudited)

	2022	2021
REVENUE		
Sewer rates and charges	**$ 149,106**	$ 136,839
Parcel tax	**14,018**	13,048
Conditional grants	**-**	10,000
Sanidump fees	**4,640**	4,695
	167,764	164,582
EXPENDITURES		
Materials and services	**30,886**	49,055
Wages and benefits	**91,215**	114,276
Capital expenditures	**11,500**	54,708
	133,601	218,039
EXCESS OF REVENUE OVER EXPENDITURES	**34,163**	(53,457)
ACCUMULATED SURPLUS, BEGINNING OF YEAR	**808**	20,693
Transfer from Sewer Reserve Fund	**1,500**	54,708
Transfer to Sewer Reserve Fund	**(34,176)**	(33,073)
Transfer from General Operating Fund - Village own connection and use	**9,329**	10,159
Transfer from General Operating Fund - Allocation from campground	**9,258**	1,778
ACCUMULATED SURPLUS, END OF YEAR	**$ 20,882**	$ 808

Karissa Stroshein

From: David Russell [redacted]
Sent: Wednesday, December 1, 2021 9:00 PM
To: Catherine Allaway; 'Anne Malik'; dscarlett; Knoll; 'Lynn van Deursen'; RLang; Mayor
Cc: Kaslo Administration; Ian Dunlop (CAO Kaslo); Public Works; dterer1@kaslo.org
Subject: RE: LWMC 2021.11.30

Follow Up Flag: Follow up
Due By: Monday, December 6, 2021 4:00 PM
Flag Status: Flagged

This questionnaire(I think) is aimed primarily at getting input for the conceptual design of the new sewer in terms of:-

1. Depth of burial (to service basement plumbing).
2. Sewer capacity. (# of people).

If this assumption on purpose is correct, ***additional questions for residences should be added:***

- What is the current # of bedroom? (this is the dominant MOE/SPM approved methodology for estimating sewer flows)
- Do you plan to add any of the following:
  Extra bedrooms in house or basement suite.
  Carriage house or extra residence.
  If so, describe your plan & how many bedrooms?

I am hoping to learn that a much more proactive approach will be taken to the CONCEPTUAL DESIGN of this phase of the Kalso Sewer System than was taken in PHASE 1.

No opportunity to input to the CONCEPTUAL DESIGN was provided in PHASE 1 for the LWMP Monitoring Committee members. The first details were not shared until the public meeting of WED FEB 20 2019, by which time the detailed drawings were done, contracts let & there was NO OPPORTUNITY for meaningful review & input. Construction forces began mobilizing the next day!!!
Arguably, this approach lead to the Project Cost being almost $300,000 (~ 30%+) higher than it could have been since the sewer was buried much deeper than it need have been with some sensible decisions being made up front. Early Committee involvement & review could have put this opportunity on the table for careful review before things being cast in concrete. Committee intervention , late in the day, did however at least facilitate that user deep connection stub ups were all installed while the main excavation was open, saving Villagers & the Village significant future cost savings.

The Committee surely has a better purpose than a limp rubber stamp after the fact?

REQUEST to CAO:
Please add an item to the next Committee meeting: ***"PURPOSE & INVOLVEMENT EXPECTATIONS FOR THE LWMP MONITORONG COMMITTEE IN THE PHASE 2 SEWER PROJECT"***

Anne Malik, in another e-mail, raised the question of the proposed questionnaire for septic system users. This is obviously a completely separate questionnaire.
I provide comment on this attached to Annes' e-mail.
Respectfully,

David T.R.

From: Catherine Allaway <allaway@kaslo.ca>
Sent: Tuesday, November 30, 2021 9:33 PM
To: Anne Malik [redacted] David Russell [redacted] dscarlett [redacted] Lynn van Deursen [redacted] RLang <lang@kaslo.ca>; Mayor <mayor@kaslo.ca>
Cc: Kaslo Administration <admin@kaslo.ca>; Ian Dunlop (CAO Kaslo) <cao@kaslo.ca>; Public Works <publicworks@kaslo.ca>
Subject: RE: LWMC 2021.11.30

Good evening Committee Members,
Thanks for your time today! Attached please find a copy of the DRAFT survey for your review, as discussed. If you have any suggested changes, please let me know as soon as possible. I'd like to have all the responses by Friday morning but if anyone needs a bit more time, just let me know.
The plan is to seek Council approval at the December 7th Regular Meeting with distribution to follow within the week.
If you have any questions, please don't hesitate to ask.
Kind regards,

Catherine Allaway
Corporate Officer
Village of Kaslo
250-353-2311

From: Kaslo Administration <admin@kaslo.ca>
Sent: November 8, 2021 10:31 AM
To: Kaslo Administration <admin@kaslo.ca>; Anne Malik [redacted] David Russell [redacted] Kaslo Deputy <deputy@kaslo.ca>; dscarlett [redacted] Lynn van Deursen [redacted] Public Works <publicworks@kaslo.ca>; RLang <lang@kaslo.ca>; Mayor <mayor@kaslo.ca>
Subject: LWMC 2021.11.30

Hello,

The next Liquid Waste Monitoring Committee will be on Tuesday November 30 at 4:00pm.
I will be in touch closer to the date with the Agenda & Package.

Village of Kaslo is inviting you to a scheduled Zoom meeting.

Topic: Liquid Waste Monitoring Committee
Time: Nov 30, 2021 04:00 PM

Join Zoom Meeting
https://us02web.zoom.us/j/89638157565

Meeting ID: 896 3815 7565
One tap mobile
+16473744685,,89638157565# Canada
+16475580588,,89638157565# Canada

Sincerely,

Karissa Stroshein
admin@kaslo.ca
Village of Kaslo
Telephone:250-353-2311 ext. 101 Fax: 250-353-7767
PO Box 576, 413 Fourth Street, Kaslo BC, V0G 1M0
www.kaslo.ca
https://www.facebook.com/KasloBC/

Karissa Stroshein

Subject: LWMP Agenda

From: The Maliks [redacted]
Sent: Tuesday, April 4, 2023 4:59 PM
To: Karissa Stroshein <admin@kaslo.ca>
Subject: LWMP Agenda

Ask that the following be on the Agenda

- **Action taken on 2021-11-30 LWMP Meeting Recommendations**

My notes are attached.

- **Update on Council Motion requested**

Moved, seconded and CARRIED at July 12, 2022 Regular Council Meeting 254/2022
THAT Staff be directed to investigate and report back on adding five residential properties along the south side of A Avenue between Cross Street and Sixth Street to the Sewer Specified Area.

- **Report by Anne Malik to Committee Members on Sewer Roll**

Reviewed the 2022 sewer roll and reported errors pertaining to Municipal properties.
Reviewed the 2023 sewer roll and observed that errors have been corrected.

Village of Kaslo

REQUEST FOR COUNCIL DECISION

PREPARED BY: Catherine Allaway, Corporate Officer DATE: April 3, 2023

SUBJECT: Water Capital Parcel Tax Amendment Bylaw 1287, 2023

PURPOSE: To consider giving first and second reading to a bylaw that updates the water parcel tax rate.

OPTIONS:

Recommendation is indicated in **bold**. Implications are in *italics*.

1. **Give two readings to the bylaw.** ***The bylaw will be placed on the 2023.04.25 agenda for third reading, with final adoption scheduled for 2023.05.09***
2. Give three readings to the bylaw. *The bylaw will be placed on the 2023.04.25 agenda for final adoption. If any changes are recommended by committee, third reading will need to be rescinded prior to changes being made.*
3. Refer back to staff for further review and report.

RECOMMENDATION:

THAT Water Capital Parcel Tax Amendment Bylaw 1287, 2023 is given first and second reading.

ANALYSIS:

A. **Background**: In 2016, the Village of Kaslo introduced a Parcel Tax to collect revenues from local properties where municipal water service is available. The Parcel Tax Roll lists the affected properties and indicates the frontage that is used to calculate the amount of tax imposed on a given property. The proposed bylaw updates the tax rate for these frontages.

   The bylaw is being introduced at this time and will then be considered by the Asset Management Committee at their 2023.04.17 meeting. Any recommendations from the committee will be considered by Council at the 2023.04.25 Council Meeting.

B. **Discussion**: The funds collected by the municipality through the parcel tax are used for capital improvements to the water system. The parcel (frontage) tax rate has not increased since 2021. As costs for capital improvements are increasing significantly due to supply chain issues and high inflation, additional revenues are required to ensure the future sustainability of the water system.

   Funds raised by the parcel tax are added to the Water Capital Infrastructure Reserve. Saving up money in the reserve reduces the need to go into debt or rely on uncertain grant funding to pay for future water infrastructure projects. The A Avenue Watermain replacement project in 2022-23 and the upcoming Water Treatment Plant (WTP) Upgrades project, 2023-2025, are partly funded from the Water Capital Infrastructure Reserve. Without the increase in the parcel tax rate, the reserve fund will not cover the Village's required financial commitment to the WTP project. Future increases to the parcel tax rate will be required to maintain a state of good repair for the water distribution network and replacement of underground valve stations (PRVs).

C. **Attachments**:
    - Water Capital Parcel Tax Amendment Bylaw 1287, 2023
    - Water Capital Parcel Tax Bylaw 1263, 2021

D. **Financial Implications**: Parcel tax amounts are calculated based on frontage, as outlined in bylaw 1263. The total taxable frontage is 56,923.88 feet. The proposed bylaw reflects an increase to the rate from $1.10/foot to $1.32/foot which will bring in $12,523.25 of additional revenue for the Village in 2023. In total, the parcel tax will generate $75,132.51 in taxation for water system capital improvements this year. There is currently $350,652.43 in the reserve.

E. **Corporate Priority**: Asset management is a priority in the Corporate Strategic Plan and mentioned throughout the Official Community Plan.

F. **Environmental Implications**: Long-term maintenance and upgrading the water system is critical to environmental management by helping to minimize water loss and make the most of a limited resource.

G. **Communication Strategy**: Once adopted, a copy of the consolidated Water Parcel Tax bylaw will be available on the Village's website.

CAO Approval: 2023.04.06

VILLAGE OF KASLO

BYLAW NO. 1287

A BYLAW TO AMEND THE PARCEL TAX IMPOSED IN RELATION TO THE MUNICIPAL WATER SYSTEM

NOW, THEREFORE, Council of the Village of Kaslo, in open meeting assembled, ENACTS AS FOLLOWS:

1. Title

This Bylaw may be cited as “Water System Capital Parcel Tax Amendment Bylaw No. 1287, 2023".

2. Substantive Provisions

2.1. 2021 Water System Capital Parcel Tax Bylaw (No. 1263, 2021) is hereby amended by removing item 4, and replacing it with the following:

4. The parcel tax shall be levied in accordance with the Parcel Tax Roll that was authenticated on 2021.04.27.

2.2. 2021 Water System Capital Parcel Tax Bylaw is hereby amended by removing item 5, and replacing it with the following:

5. The annual rate shall be $1.32 per foot of taxable frontage.

3. Effective Date

This bylaw shall take effect January 1, 2023.

READ A FIRST TIME this _____ day of _____, 202_.

READ A SECOND TIME this _____ day of _____, 202_.

READ A THIRD TIME this _____ day of _____, 202_.

RECONSIDERED AND ADOPTED this _____ day of _____, 202_.

MAYOR

CORPORATE OFFICER

Certified to be a true copy of "Water System Capital Parcel Tax Amendment Bylaw No. 1287, 2023"

_____

CORPORATE OFFICER

VILLAGE OF KASLO
BYLAW NO. 1264

BEING A BYLAW TO IMPOSE A PARCEL TAX ON OWNERS OF LAND TO PROVIDE A MUNICIPAL SEWER SYSTEM, 2021

WHEREAS the *Community Charter* provides that Council may levy a parcel tax to meet the cost of works and services that benefit land within the municipality;

AND WHEREAS certain capital costs will be incurred towards improving and maintaining the sanitary sewer system to service the Specified Area within the municipality, and it is desirable and expedient to levy a parcel tax on land benefiting from such service to meet those capital costs;

NOW THEREFORE the Council of the Village of Kaslo, in open meeting assembled, enacts as follows:

1. This bylaw may be cited for all purposes as the "**2021 Sewer System Capital Parcel Tax Bylaw**".

2. In this bylaw, unless the context otherwise requires:

   "**actual frontage**" means the distance that a parcel of land abuts on the sewer system or a highway;

   "**Collector**" means the Chief Financial Officer of the Village of Kaslo;

   '**lane**" means a highway having a right-of-way width of less than 50 feet;

   "**parcel**" means any lot, including a group of lots comprising a folio, block or other area in which land is held or into which it is subdivided, but does not include a highway;

   "**taxable frontage**" means the actual frontage or, if applicable, the distance that a parcel of land is deemed to abut on the work or highway, and in respect of which parcel the parcel tax is levied;

   "**total actual frontage**" means the sum of the actual frontage of the parcels of land that abut on the work or highway.

3. A parcel tax is hereby imposed upon the owners of every parcel of land within the municipality which is capable of being connected to the sewer system, whether or not that parcel is connected to the sewer system.

4. The parcel tax shall be levied on each parcel of land described in section 3, and the amount thereof, unless otherwise provided in this bylaw, shall be the product of the taxable frontage and the annual rate.

5. The annual rate shall be **$1.10** per foot of taxable frontage.

6. The parcel tax shall remain in force and effect until the complete discharge and satisfaction by the municipality of all obligations presently incurred, and to be incurred, in respect of the service described herein.

7. For the purposes of this bylaw, a regularly shaped parcel of land is rectangular.

8. For a parcel that is irregularly shaped, to levy the parcel tax on a fair and equitable basis, the actual frontage of irregular parcels shall be determined by the Collector including:

    a. a parcel abutting the sewer system that is wholly or in part unfit for building purposes; or

    b. a parcel that does not abut the sewer system but is connected to it.

9. In determining the actual frontage for an irregular parcel, the Collector shall consider the condition, situation, value, and surficial area of the parcel as compared with regularly shaped parcels of land and the benefit derived from the sewer service.

10. The taxable frontage shall be the actual frontage, except that:

    a. the maximum taxable frontage is 120 feet; and,

    b. the minimum taxable frontage is 25 feet.

    c. In the case of all strata title parcels sharing a single connection to the Village's Water Service, the taxable frontage per parcel will be deemed 25 feet.

11. For a parcel that is exempt from taxation, a fee equivalent to the parcel tax that would otherwise apply to that parcel shall be payable from its owner or assign.

12. This bylaw shall come into full force and effect upon its final adoption.

READ A FIRST TIME this 13th day of April, 2021.

READ A SECOND TIME this 13th day of April, 2021.

READ A THIRD TIME this 4th day of May, 2021.

RECONSIDERED AND ADOPTED this 11th day of May, 2021.

_____
Mayor Hewat

_____
Chief Administrative Officer

Certified correct:

_____
Chief Administrative Officer

VILLAGE OF KASLO

BYLAW NO. 1289

A BYLAW TO ESTABLISH AND MAINTAIN THE SEWER SERVICE AREA

WHEREAS the Village of Kaslo adopted a Liquid Waste Management Plan, which involved extensive community consultation and was approved by the Minister of Environment and Climate Change Strategy,

NOW, THEREFORE, Council of the Village of Kaslo, in open meeting assembled, ENACTS AS FOLLOWS:

1. Title

This Bylaw may be cited as “Sewer Service Area Bylaw No. 1289, 2023".

2. Definitions

Benefiting Area means the area described in Schedule A to this bylaw and is the area benefited by the sewer works and services now in place and/or set forth as a future Specified Service Area.

Specified Service Area (SSA) means a portion of the Benefiting Area representing each phase of construction and planned future expansion of the sewer service, as shown on Schedule A to this bylaw.

Village means the Village of Kaslo

3. Authorization to Construct and Operate the Sewer System

3.1. The Village is hereby authorized to provide, operate, maintain, and to undertake and carry out, or cause to be carried out, the design, construction and operation of the sewer system and do all things necessary in connection therewith for the benefit of the Benefiting Area.

4. Capital Expenditure

4.1. The Village is authorized to upgrade, expand, and renew the sewer system within the Benefiting Area and may secure funds for such works by:

4.1.1. Pursuing grant opportunities;

4.1.2. Establishing local service area taxes, development cost charges, connection fees, or extended service agreements, by bylaw, which may be levied at different rates in each SSA based on the cost of works undertaken, planned, or required to maintain a good state of repair benefiting the SSA;

4.1.3. Providing the Village portion of funding by draw upon Village reserve, surplus funds or operating revenue as established in the Village's annual financial plan; and,

4.1.4. Borrowing funds, by bylaw, subject to the requirements of the Community Charter or another Act, and if required, elector approval

5. Operating Costs

5.1. The entire cost of providing the sewer service to the Benefiting Area shall be borne by the owners of real property, including land and improvements, and the users of the sewer service, and a sum sufficient therefore shall be recovered for such period of time as necessary by the imposition of:

5.1.1. User rates established in the Fees and Charges Bylaw or other bylaw;

5.1.2. Local service area taxes or other charges provided in the Community Charter; or,

5.1.3. Any combination of the above methods, which shall be imposed by Bylaw.

6. Environmental Education and Monitoring

6.1. As outlined in the Liquid Waste Management Plan, the Village may impose, by bylaw, a community-wide tax borne by all owners of real property, or other charge provided in the Community Charter, towards wastewater-related public education, receiving environment monitoring, and treatment performance including the overall performance of private sewerage systems and groundwater monitoring, which are initiatives that broadly benefit the community and environment.

7. Acquisition Authority

7.1. The Village is authorized to acquire all such real property, easements, and rights-of-way and to enter into leases and to obtain other rights and authorities as may be required or desirable in connection with the construction and maintenance of the sewer system.

8. Severability Clause

8.1. If any section, subsection or clause of this bylaw is for any reason held to be invalid by the decision of a court of competent jurisdiction, such decision will not affect the validity of the remaining portions of this bylaw.

9. Repeal

9.1. Village of Kaslo Bylaw 859, Sewer Specified Area No. 1 and all amendments thereto are hereby repealed.

10. Effective Date

10.1. This bylaw shall take effect upon adoption.

READ A FIRST TIME this _____ day of _____, 202_.

READ A SECOND TIME this _____ day of _____, 202_.

READ A THIRD TIME this _____ day of _____, 202_.

RECONSIDERED AND ADOPTED this _____ day of _____, 202_.

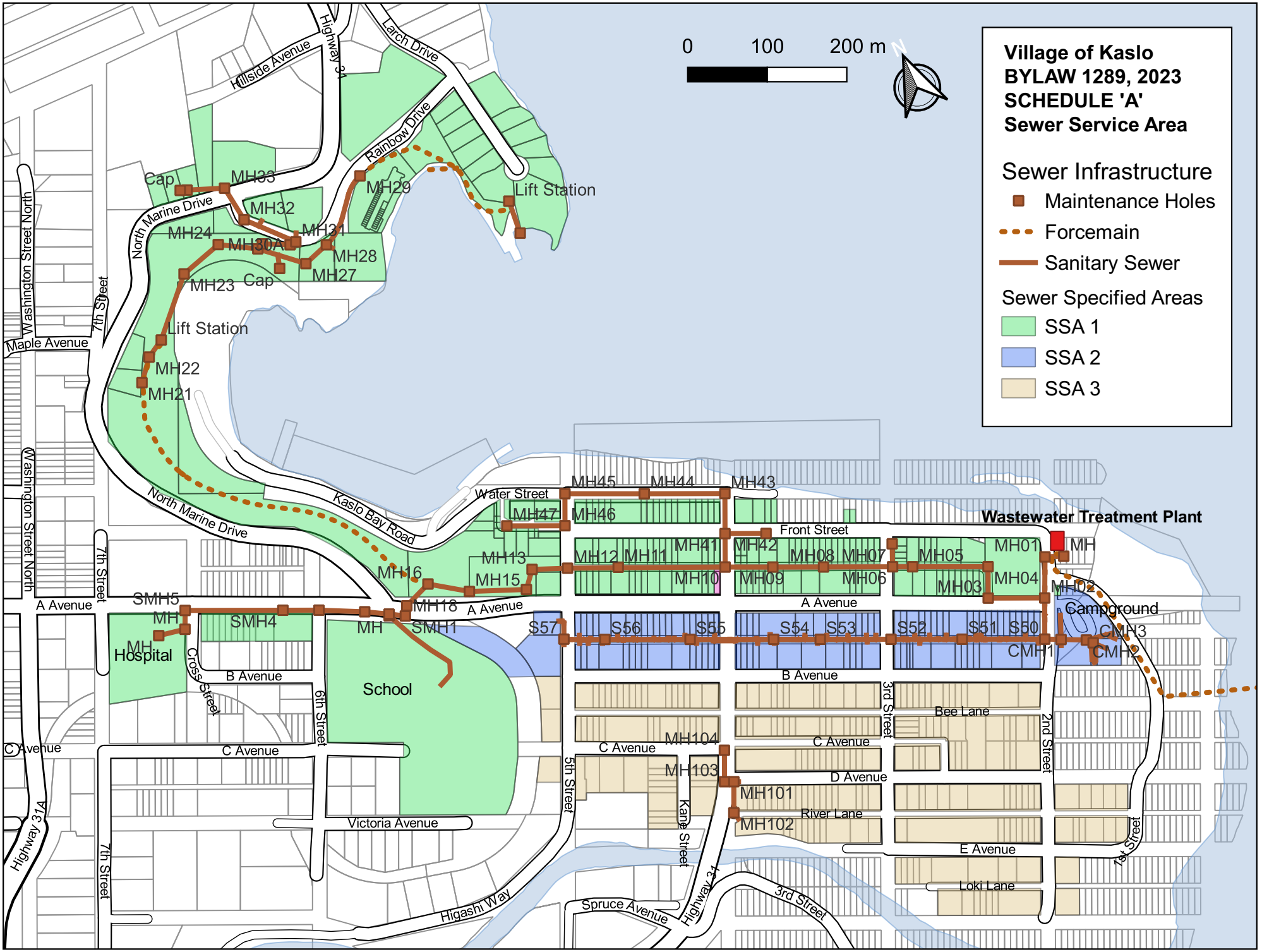
_____ _____

MAYOR CORPORATE OFFICER

Certified to be a true copy of "Sewer Service Area Bylaw No. 1289, 2023"

_____

CORPORATE OFFICER


Village of Kaslo
BYLAW 1289, 2023
SCHEDULE 'A'
Sewer Service Area
Sewer Infrastructure
Maintenance Holes
Forcemain
Sanitary Sewer
Sewer Specified Areas
SSA 1
SSA 2
SSA 3
0
100
200 m
N
Wastewater Treatment Plant
Lift Station
Lift Station
Cap
Cap
MH33
MH32
MH31
MH30A
MH29
MH28
MH27
MH24
MH23
MH22
MH21
MH45
MH44
MH43
MH47
MH46
MH41
MH42
MH12
MH11
MH10
MH09
MH08
MH07
MH06
MH05
MH03
MH01
MH04
MH02
MH
MH13
MH15
MH16
MH18
SMH5
SMH4
SMH1
MH
MH
MH
S57
S56
S55
S54
S53
S52
S51
S50
CMH1
CMH2
CMH3
MH104
MH103
MH101
MH102
Hospital
School
Campground
Highway 31
Highway 31A
Washington Street North
Washington Street North
7th Street
7th Street
7th Street
6th Street
5th Street
3rd Street
2nd Street
1st Street
Kane Street
Cross Street
Maple Avenue
North Marine Drive
North Marine Drive
Kaslo Bay Road
Water Street
Front Street
A Avenue
A Avenue
A Avenue
B Avenue
B Avenue
C Avenue
C Avenue
C Avenue
D Avenue
E Avenue
Bee Lane
River Lane
Loki Lane
Victoria Avenue
Higashi Way
Spruce Avenue
3rd Street
Hillside Avenue
Larch Drive
Rainbow Drive