

# Liquid Waste Management Plan

## Stage 3

Village of Kaslo



September 2018

Project No. 983-063

ENGINEERING ■ PLANNING ■ URBAN DESIGN ■ LAND SURVEYING

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## Revision Log

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## Report Submission

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# Executive Summary

A Liquid Waste Management Plan (LWMP) comprises a comprehensive strategy to protect public health and the environment through the management, resource recovery and disposal of treated waste. It is a long term plan for building, financing and managing liquid waste infrastructure.

In the past, the Village has received (and continues to receive) requests for sewer service from property owners outside of Specified Sewer Area #1 (SSA-1). The existing sewer bylaws are not conducive to expansion of the sewer area. However, the Village has allowed some sewer connections from outside of the original sewer area where they were deemed to be in the public interest (such as the RCMP building). The Village's Official Community Plan also supports development / redevelopment in areas where services are established or could be established where appropriate. As a result, the LWMP process was initiated by Village council to review wastewater management practices and support land use planning strategies within the Village.

The Village of Kaslo embarked on Stage One of its Liquid Waste Management Plan in 2012. Historically, only a small part of Kaslo (less than 30%) has been provided with municipal sewer service. The rest of Kaslo treats and disposes of wastewater using private on-site septic systems. The Stage One work broadly considered the continued use of private septic systems and operation of the municipal sewer system. The lack of community sewerage was found to be a hindrance to growth and redevelopment of the community core. In addition, partly as a result of small lot sizes and soil conditions in certain areas of the community, the on-site systems were thought to represent a potential risk to public health and the environment. Replacement of septic fields on smaller properties or properties with unfavourable soil conditions is also difficult to accomplish, leading to differing costs and levels of service available to community members. The Stage One report recommended that the Village explore options to expand the municipal sewage collection and treatment systems. During Stage One, feedback from residents was encouraged online, through email, or at one of two public consultation sessions and an open house event. The feedback was generally positive; however, there were concerns raised about the impact of discharging treated effluent into Kootenay Lake and the cost of expanding the municipal sewer system.

The Stage One report was completed in November 2013 and approved by the Ministry of Environment (MoE) in March 2014.

The Village's Stage Two report considers options for providing community sewer expansion and increasing the capacity of the wastewater treatment system to incorporate more of Kaslo into the municipal collection system. It was recommended that the Lower Kaslo area be prioritized for future sewer expansion over other areas of the community. The existing treatment plant would be maintained and upgraded at the current location. Consideration was given to environment impacts through review of past literature, and future changes to operational permitting conditions were discussed. An Archaeological Overview Assessment was completed for the municipal

wastewater treatment location, and input was sought from First Nations organizations. Planning input was gathered via a public open house and feedback from the Advisory Committee. The Stage Two report recommended that during Stage Three the Village should:

- strive to enhance the public consultation program,
- prepare an Environmental Impact Study,
- incorporate applicable recommendations from a *Sewer Servicing Cost Recovery Structure* which was completed simultaneous to the Stage Two work, and
- prepare an implementation plan with consideration for potential 'triggers' for phasing expansion of the sewage collection system.

The Village's Stage Two report was initially submitted to the Ministry of Environment for approval in March 2017. Subsequent to that submission, the Village requested and received approval from MoE in June 2017 to withdraw the Stage Two report and combine Stage Two and Three submissions. Although the Stage Two work was complete, the Village made this request to allow continued progress on the LWMP initiative without unnecessary delay.

Around the same time, the Village submitted a grant application to take advantage of a sewer expansion concept and the potential for a 100% funded project which could add properties to the sewer system as affordably as possible. In March 2018, the Village learned that it was successful with this grant application. Although beneficial, the scheduling overlap between the sewer expansion project and the Stage Three LWMP has complicated completion of the LWMP process.

Stage Three of the LWMP was initiated in July 2017. Based on information gathered and reviewed to date, the recommended direction for Kaslo is to extend sewer service through Lower Kaslo and undertake improvements to the existing WWTP. In the future, sewer service could be extended to Upper Kaslo. At that time the existing WWTP would be upgraded to double the existing treatment capacity. Also, flows will increase beyond the level allowed for by the existing permit. Concurrent with the design for treatment plant expansion, the Ministry of Environment should be approached to consider changes to some aspects of the discharge permit to reflect the increased flows, the addition of backup treatment systems at the plant and the excellent performance of the ultraviolet disinfection system.

Allocation of cost to the community is one of the key elements of this Stage 3 report. It is expected that future sewerage costs will be born by benefitting properties, and paid through a combination of user fees (for operating costs) and parcel taxes (for capital improvements and infrastructure renewal reserve funding). In addition, a capital charge is proposed for all future sewer connections outside of SSA-1 for wastewater treatment capacity that has been paid for by the SSA-1 portion of the community. A Sewage Education and Monitoring tax is also proposed, to fund public education initiatives and gather data on wastewater system performance (both the municipal treatment plant, and the 'global' performance of private septic systems). That sewage education and monitoring tax would include community-wide contributions from general taxation.

A summary of estimated costs associated with the LWMP implementation is described in the tables below.

The estimated cost for sewer connection to an ‘average’ residential property would be as follows:

**TABLE 7-7 INITIAL SEWER CONNECTION COSTS (ONE-TIME COSTS)**

	SSA-1	SSA-2
Capital Charge (for wastewater treatment reserves)	\$0	\$3,475 <sup>1</sup>
Septic system decommissioning	\$2,500 <sup>2</sup>	\$2,500 <sup>2</sup>
Building sewer pipe from home to property line (edge of road/lane)	\$2,000 <sup>3</sup>	\$2,000 <sup>3</sup>
<b>Initial Sewer Connection Costs (approximate)</b>	<b>\$4,500</b>	<b>\$8,000</b>

Notes:

1. Capital charge amount is expected to be dependant on land use and estimated impacts on wastewater treatment capacity. This amount would be reviewed by the Village in creation an applicable bylaw.
2. Septic system decommissioning estimated costs include filing with Interior Health, septic tank pumping, and septic tank decommissioning (install drain holes in tank base, fill with gravel, repair landscaping). Septic tank pumping and decommissioning would be arranged by property owners.
3. Building sewer costs include Plumbing Permit fee (RDCK). Building sewer construction costs are expected to vary widely, and will be depending on factors specific to each property (length of service, depth of service, obstacles, surface restorations). Building sewer pipe installation would be arranged by property owners.

Also, the projected annual sewer cost for an ‘average’ residential property would be as follows:

**TABLE 7-8 PROPOSED ANNUAL SEWER COSTS FOR A RESIDENTIAL PROPERTY**

	SSA-1	SSA-2	Remainder of Village
Sewage Education and Monitoring	\$25	\$25	\$25
User Fees (Operating Charges)	\$425 <sup>1</sup>	\$425 <sup>1</sup>	\$0
Renewal Reserve Funding			
- Sewage Collection	\$90	\$90	\$0
- Sewage Treatment	\$60	\$60	\$0
<b>Proposed Annual Sewer Costs</b>	<b>\$600/year</b>	<b>\$600/year</b>	<b>\$25/year</b>

Notes:

1. User fee categories are expected to be dependant on land use and whether a property is connected to Village sewer or not. This amount would be reviewed by the Village in creation an applicable bylaw.

In addition to the initial connection costs annual sewer costs described in Tables 7-7 and 7-8 above, loan servicing associated with future sewer construction and future treatment upgrades would be paid by sewer areas. The potential annual loan servicing costs would be as follows:





**TABLE 7-9 POTENTIAL FUTURE ANNUAL LOAN SERVICING COSTS FOR A RESIDENTIAL PROPERTY**

	SSA-1	SSA-2	Remainder of Village
Loan servicing – sewage collection system	\$0	\$925 <sup>1</sup>	\$0
Loan servicing – sewage treatment (Phase 1)	\$140 <sup>2</sup>	\$140 <sup>2</sup>	\$0
Loan servicing – sewage treatment (Phase 2)	\$195 <sup>2</sup>	\$195 <sup>2</sup>	\$0
<b>Potential Future Annual Loan Servicing Costs</b>	<b>\$335/year</b>	<b>\$1,260/year</b>	<b>\$0/year</b>

Notes:

1. Amount would be reduced depending on level of infrastructure grant funding received. The Village is currently in receipt of 100% grant funding, which will reduce this amount to \$0 for the proposed initial expansion area (60 properties).
2. Amount would be reduced depending on level of infrastructure grant funding received. In addition, the amount would be reduced depending on the total dollar amounts collected via capital charges (example \$3,475 per residential property, as noted in Table 7-7), and reduced to some extent by renewal reserve funding collected (as noted in Table 7-8).

As noted in Table 7-9, future loan servicing costs are highly dependant on receipt of infrastructure grant funding. Further, the Village has established ‘borrowing targets’ for any capital expansion or renewal project within the scope of this LWMP:

- Village Council aspire to limit its borrowing to 33% of projects over \$250,000, requiring grant aid or reserves to fund the other costs.
- Given the limitations of Kaslo’s borrowing capacity across all needs and the scale of costs involved in expanding wastewater for the entire municipality, it is recommended that the maximum amount that can be borrowed by the Village for wastewater expansion or renewal on an ongoing basis is limited to \$1.5 million.

Community consultation is a requirement for any Liquid Waste Management Plan. It is this consultation that would allow the Village to borrow funds, create service areas and impose parcel taxes within those service areas for implementation of the plan - without further public consultation or referendum, or the need for a petition, council initiative subject to a petition against, or assent of the electors. The Village’s Stage Three public consultation program was guided by personnel with specific public consultation expertise. In addition to the Advisory Committee meetings, the public consultation included an initial awareness and information dissemination period and a public engagement component. The public engagement included an open house, followed by information exchanges including focus meetings with owners from existing SSA-1 and an initial proposed sewer expansion are (referred to as SSA-2). Feedback gathered from the committee meetings, open house, focus group sessions, and general public input has been incorporated into this Stage Three report.

Although expansion of the sewer system has been a major focus within the LWMP, it must be noted that completion and approval of this LWMP by the Ministry of Environment would not compel the Village to proceed with sewer system expansion. Community sewerage expansion is



anticipated to occur on an incremental basis over the next 10 – 20 years. Factors to be considered in advance of sewerage expansions include:

- Advancing long term community goals.
- Project cost and resulting 'cost per property'.
- Documentation of private septic system issues and impacts.
- Public initiatives.

Since sewerage expansion is anticipated to be a long term process, the following components of the LWMP are the highest priorities going forward:

1. Public education and monitoring work to be completed, to support continued use of hundreds of private septic systems throughout the Village.
2. Updates to existing sewer service area bylaws to improve the Village's ability to manage the community sewer area through: a restructure of sewer user fees, updates to sewage regulation (and source control), and implementation of sewer reserve funding.
3. Administrative changes to manage costs associated with tax exempt properties within the sewer area, through 'payments in lieu of taxes'.

# 1.0 Introduction

The Village of Kaslo engaged TRUE Consulting to commence Stage Three of a three stage process in developing a communitywide Liquid Waste Management Plan (LWMP). This follows on from Stages One and Two. When complete, this plan will evaluate the overall effectiveness of current liquid waste disposal practices in Kaslo and create a new comprehensive long-term plan for managing the community's liquid waste, going well into the future.

Stages of the Liquid Waste Management Plan:

Stage 1: Broad List of Options

Stage 2: Detailed Evaluation of Options

Stage 3: Summary, Financing, and Implementation Schedule

A LWMP comprises a comprehensive strategy to ensure the protection of public health and the environment through management, resource recovery and disposal of treated waste. It is a long term plan for building, financing and managing liquid waste infrastructure.

General objectives of Stage Three of the Liquid Waste Management Plan:

1. Continue public consultation process
2. Carry out site-specific studies (Environmental Impact Study)
3. Further develop the recommended option, costs, and financing in more detail
4. Draft proposed operational certificate requirements for facility operation and environmental monitoring

The LWMP is based on community objectives and involves public consultation as a primary objective. Development of the plan is guided by members of the community and the objectives of the Official Community Plan (OCP). The plan takes into consideration issues associated with growth, development and the environment. It provides servicing strategy options and opportunities for conservation.

As described in the Ministry of Environment (MoE) *Interim Guidelines for Preparing Liquid Waste Management Plans*, the Environmental Management Act (EMA) allows local governments to develop a LWMP for approval by the Minister of Environment. Once a Stage 3 LWMP is approved by the Minister, the local government will be authorized to proceed with measures in the plan to accommodate existing or future development with a strategy to ensure the management, resource recovery and disposal of treated waste is sufficiently protective of public health and environment. This means the Village will be able to borrow funds, create service areas and impose parcel taxes within those service areas for implementation of the plan - without further public consultation or referendum, or the need for a petition, council initiative subject to a petition against, or assent of the electors. The provincial objectives for the LWMP are focused on protecting public health and the environment while ensuring that the public has been properly consulted.

Once the LWMP is approved by the Minister, the Village can adopt the borrowing bylaws, service establishing bylaws, and local service taxation bylaws without the assent of the electors.

As described in the Stage Two report recommendations, Stage Three of the Liquid Waste Management Plan should include the following scope of work:

- Consider recruitment strategies for the Advisory Committee, to ensure broad public input to the LWMP. This may include a public announcement of Stage 3 initiation and a request for Advisory Committee volunteers.
- Prepare a summary of Stage 1 and 2 reports.
- Prepare an Environmental Impact Study, with a focus on characterizing potential impact to the receiving environment resulting from the treated effluent and lake outfall.
- Prepare a draft of operational certificate requirements - including relaxation of existing suspended solids and turbidity requirements as noted in Section 13.2 of the Stage Two report.
- Further develop the recommended treatment option noted in Section 13.2 of the Stage Two report.
- Further develop tasks for septage management.
- Consider and incorporate recommendations, as applicable, from the *Sewer Servicing Cost Recovery Structure* that the Village has recently completed. That work provides guidance to:
  - Address the 'fairness' issue associated with past costs paid to construct the existing wastewater treatment plant by properties within SSA-1, and future allocation of existing unused treatment plant capacity to properties outside of SSA-1.
  - Implement new fee, tax, and regulatory bylaws subsequent to completion of the LWMP to replace the existing municipal regulations.
- Prepare a draft LWMP Implementation Plan - including discussion of potential 'triggers' for phasing expansion of the collection system.
- Continue and further expand the public consultation program, to ensure the public is adequately informed of:
  - the differences in levels of treatment achieved by and operational requirements associated with private septic systems in comparison to centralized municipal treatment;
  - the proposed implementation plan, including Village capacity for borrowing and potential timing for sewerage expansion; and,

- the anticipated annual cost per year (per household) for the phased sewerage options proposed, the potential for funding assistance from senior levels of government via infrastructure grants and any impacts this may have on the implementation plan and costs per household.

## 2.0 LWMP Stage Three Programme

A comprehensive public consultation and review process which started in Stage One of the LWMP, has continued into Stage Two. The overall Stage Three program is outlined in Figure 2.1.

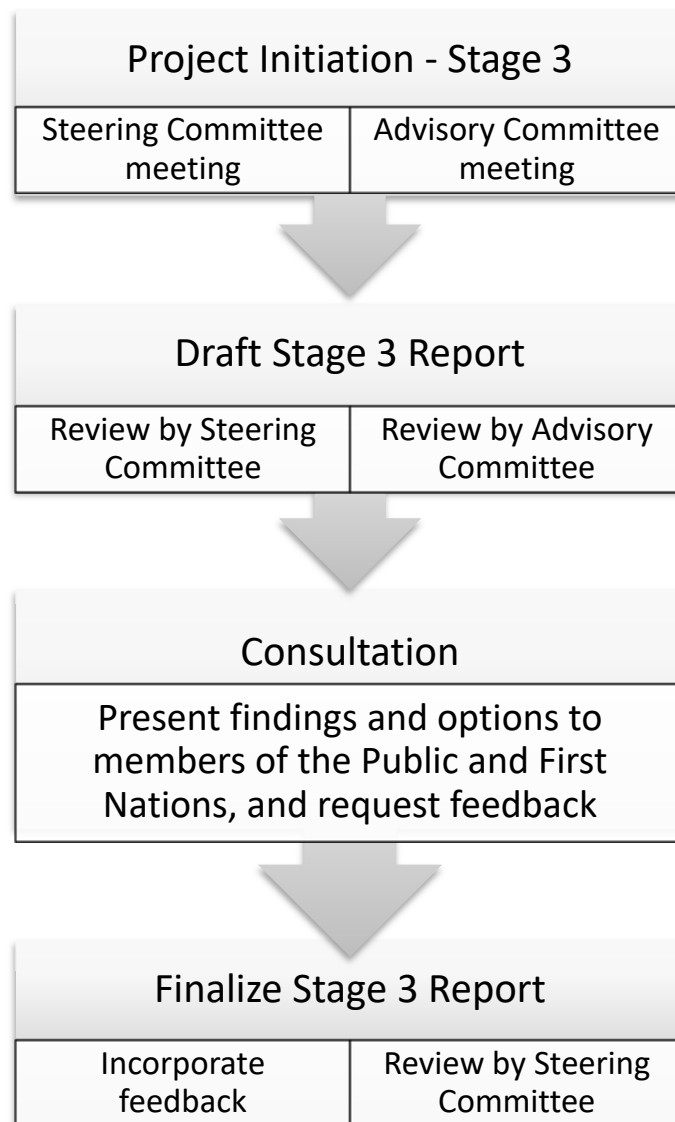


FIGURE 2-1: STAGE 3 PROGRAMME

## 2.1 Stage Three Project Committees

As endorsed by the MoE 'Interim Guidelines for Preparing Liquid Waste Management Plans', the two liquid waste committees established in Stages One and Two to represent the local government, senior government agencies and residents were reconvened.

A guiding Steering Committee for Stage Three consisting of senior political and technical representatives of the local government was advised by an Advisory Committee that reflected community and government interests. The Steering Committee members, as appointed by the Village of Kaslo Council, were as follows:

- Neil Smith CAO (Village of Kaslo)
- Councillor Kellie Knoll (Village of Kaslo)
- Councillor Rob Lang (Village of Kaslo)
- Mike Lind (Village of Kaslo)
- Ed Grifone (CTQ Consultants)
- Rob Wall (TRUE Consulting)

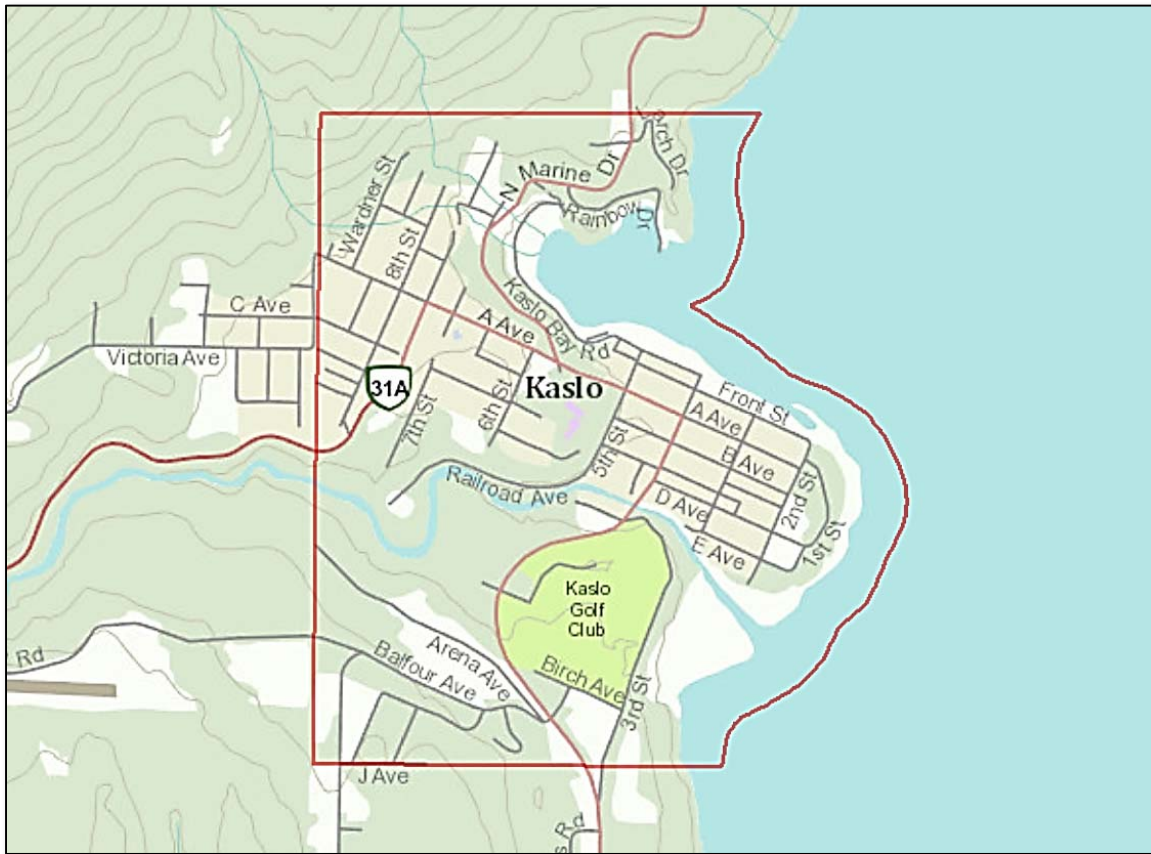
The Advisory Committee is a joint committee (similar to Stage 1 and 2), consisting of members of the public as well as technical members and regulatory agencies. The Advisory Committee members, as appointed by the Village of Kaslo Council, were as follows:

- Neil Smith CAO (Village of Kaslo)
- Stephanie Little, replaced by Bryan Vroom in January 2018, replaced by Trevor Hamelin in July 2018 (Ministry of Environment)
- Mike Adams (Interior Health Authority)
- Anita Ely (Interior Health Authority)
- Uli Wolf (Regional District of Central Kootenay)
- Stan Baker (Resident, Village of Kaslo)
- Anne Malik (Resident, Village of Kaslo)
- Lynn van Deursen (Resident, Village of Kaslo)
- David Russell (Resident, Village of Kaslo)
- Don Scarlett (Resident, Village of Kaslo)
- Scott Wallace (TRUE Consulting)

## 2.2 LWMP Monitoring Committee

In the event that the LWMP is adopted by the Village and approved by MOE, the Village will invite the members of the Advisory Committee to join a LWMP Monitoring Committee. The role of the Monitoring Committee will be to ensure that the commitments of the plan are carried out in accordance with the implementation schedule. The committee would meet once per year.

### 3.0 Plan Area



**FIGURE 3-1: KASLO LWMP PLAN AREA**

The plan area for the study is presented in Figure 3-1. Since the overall sewerage needs have not changed, the LWMP plan area is being maintained as it was during Stages One and Two.

The Village has also undertaken a process of consultation in relation to municipal lands in terms of investment attraction and community development. The ability to provide sewer service has an impact on any new development. It is currently not envisaged that there would be sewer service to land on the south side of the river, which affects the development potential of these sites.

## 4.0 Planned Wastewater System Upgrades

Alternatives were explored in Stages One and Two of the LWMP. The outcomes of that past work are described in this section. The outcome of Stage Two was that the collection system should be expanded in phases with Lower Kaslo being the highest priority, followed by Upper Kaslo in the future. The existing treatment system would be upgraded as needed to allow for this expansion.



FIGURE 4-1: SERVICE AREA CONCEPT PLAN

### 4.1 Service Area Expansion

Since the mid 1990's, less than 30% of properties within Kaslo have been provided with municipal sewer service. The rest of Kaslo treats and disposes of wastewater with private on-site systems. Replacement of septic fields on smaller properties or properties with unfavourable soil conditions is difficult to accomplish. A large percentage of the properties in Lower Kaslo are less than optimal sizing for onsite septic systems. The lack of community sewerage in these areas is a hindrance to growth and redevelopment of the community core. In addition, partly as a result of small lot sizes and soil conditions, the on-site systems as a whole represent a risk to public health and the environment. The Liquid Waste Management Plan considers options for providing sewers and



increasing the capacity of the wastewater treatment system to accommodate more of Kaslo into the municipal collection system.

Expansion of the Village’s community sewerage system is the recommended option for wastewater management into the future. A community sewer system will provide essential infrastructure supporting community development policies described in the Village’s OCP and Integrated Community Sustainability Plan. It will also reduce environmental and public health concerns with on-site systems in some areas of the community.

The Stage Two report concluded that the preferred staging strategy is an initial expansion of municipal sewage collection through the remainder of Lower Kaslo followed by expansions in the future into the Upper Kaslo neighborhood.

Figure 4-2 depicts a proposed service area boundary for the Lower Kaslo neighbourhood, and potential sewer main routes to service properties in this area. The sewer mains of the proposed collection system in Lower Kaslo would follow the roads and lanes. Because the treatment plant was constructed at a relatively low point in Kaslo, the grades are favorable for a gravity collection system. A single new lift station at the southern end of the new area and a force main to the existing WWTP have been assumed.

The cost for this expansion of the collection system through the remainder of Lower Kaslo was calculated as follows;

**Lower Kaslo Sewer Construction Costs (Class ‘C’ Estimate)**

Sewer Construction	\$2,830,000
Lift Stations	\$650,000
Watermain Relocation*	\$120,000
Roadworks and Restoration	\$1,050,000
<b>TOTAL PROJECT (c/w rounding)</b>	<b>\$4,650,000</b>

\* Minor watermain relocations

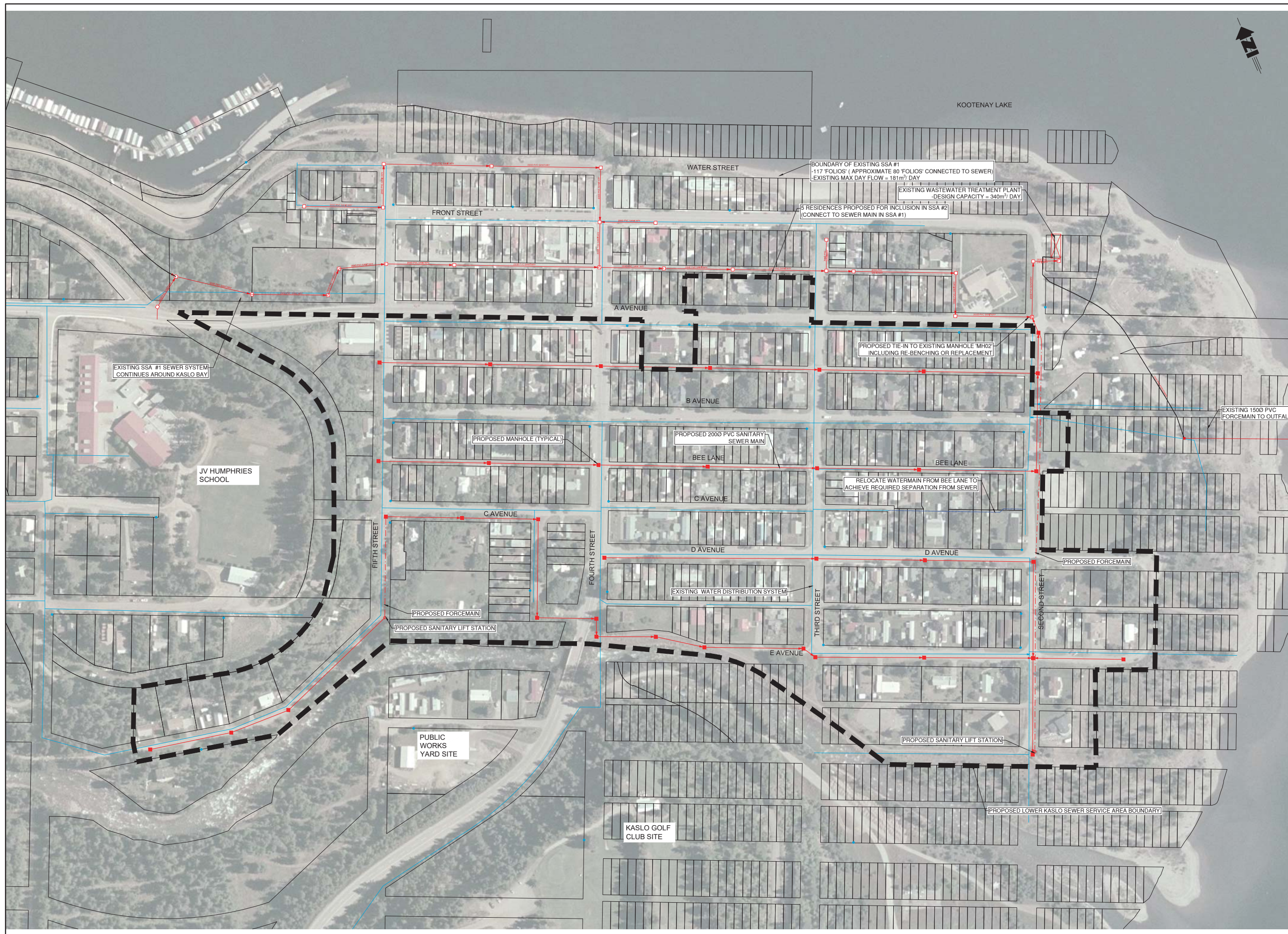
The following cost estimates for the Upper Kaslo area were developed with less consideration for site specific constraints, and are therefore expected to be less accurate than the cost estimate associated with sewerage Lower Kaslo.


**Upper Kaslo Sewer Construction Costs (Class ‘D’ Estimate)**

Sewer Construction	\$5,500,000
Lift Stations	\$420,000
Roadworks and Restoration	\$2,300,000
<b>TOTAL PROJECT (c/w rounding)</b>	<b>\$8,220,000</b>

There is thought to be less risk to public health and the environment from on-site systems in most of Upper Kaslo due to larger lot sizes and separation distance from receiving environment. Therefore, there is expected to be less benefit from extending sewer service to Upper Kaslo. In

addition, the Upper Kaslo sewer main extension 'cost per lot' will be higher than for Lower Kaslo. This is due to less dense development in Upper Kaslo and an anticipated need for more extensive pavement restoration.



No.	DATE	DESCRIPTION	BY	APP'D
ISSUES / REVISIONS				
CONSULTANT SEAL				
 201 - 2079 Falcon Road • Kamloops BC • V2C 4J2 tel 250.828.0881 • fax 250.828.0717 info@TRUE.bc.ca				
<b>VILLAGE OF KASLO</b> <b>STAGE 2 LIQUID WASTE MANAGEMENT PLAN</b>				
<b>LOWER KASLO SEWER SERVICE AREA CONCEPT PLAN</b>				
SCALE		1:1500 (24x36)		
DESIGN BY		SW/RW		
DRAWN BY		DL		
DATE		NOV 2016		
PROJECT REFERENCE No.		983-062.dwg		
DRAWING No.	983-063	SHEET	OF	
	Fig 4-2	REVISION		

## 4.2 Source Control

A source control bylaw serves to limit the disposal of wastes that are harmful to the sanitary sewer system or the wastewater treatment process. It also serves to limit discharges that would have an unfair impact on system operating costs, and recover those costs as appropriate.

The source control bylaw function is currently served in Kaslo by Village Bylaw 1211 “*A Bylaw To Regulate The Provision, Operation And Administration And To Provide For The Imposition And Collection Of Rates For The Use Of The Village Of Kaslo Sewage System*”. Schedule D of the bylaw “*Regulations Governing the Admission of Wastes Into Sewers*” describes both prohibited and restricted wastes.

At present the waste discharges per capita are generally in line with expectations and do not indicate that prohibited or restricted wastes are being discharged in detectable quantities by most users. Exceptions to this may include:

- Discharge of grease to the sewer system from restaurant kitchens.

Bylaw 1211 lists ‘*water or waste which contains grease*’ amongst the restricted wastes. In the Stage 1 LWMP report, sections 4.4.2 and 11.2 described operational incidents involving sewer blockages resulting from fats/oils/grease buildup, and difficulties with enforcement of the Bylaw. When properly located and sized, well maintained grease traps can effectively control grease entering the sewer from commercial premises. As described in the Stage 1 LWMP report, creation of an education program is suggested as an additional means to improve the quality of wastewater received by the municipal collection system.

- Discharge of waste to the sewer system from porta-potties.

Schedule D of Bylaw 1211 describes prohibited sewer wastes including ‘*any solid viscous substance which, in the opinion of the PWS, is capable of obstructing sewage flow or interfering with the operation of the sewage works or treatment facilities*’. Schedule D describes restricted sewer wastes including ‘*any water or waste containing a toxic or poisonous substance, in sufficient quantity to, in the opinion of the PWS, injure or interfere with any sewage treatment process...*’. Porta-potty waste can cause issues at the headworks of the municipal treatment plant. Further, some chemicals used in porta-potties can be detrimental to operation of the biological process at the municipal treatment plant.

- The operation of micro-breweries in the service area.

A portion of the existing sewer service area is comprised of the commercial core ‘C2’ zoning. The Village’s Land Use Bylaw permits Light Industrial in the C2 zone. A microbrewery recently opened within the sewer service area, which is consistent with the activities permitted in this zone. However, spent grain and hops are listed in Schedule D of Bylaw 1211 amongst

the prohibited sewer wastes along with *'any solid viscous substance which, in the opinion of the PWS, is capable of obstructing sewage flow or interfering with the operation of the sewage works or treatment facilities'*. Further, the Bylaw includes guidance for pH, total suspended solids, and biochemical oxygen demand characteristics associated with restricted sewer wastes.

As such, during Stage Three, further investigation has been undertaken into the potential use of Codes of Practice for industry sectors as part of a source control monitoring and enforcement program.

The Capital Regional District Regional Source Control Program have an existing document: *"Environmental Regulations & Best Management Practices Fermentation Operations in the Capital Regional District"*. With the permission of the CRD, the Village proposes to adopt this Best Management Practice.

Metro Vancouver have also recently adopted their *Fermentation Operations Bylaw No. 294, 2015* which includes an annual treatment fee based on annual production. There is a strong argument for dischargers of higher strength wastes to pay a fee based on the costs resulting from their discharge.

The Codes of Practice and bylaws described above are included in **Appendix H**.

## 4.3 Wastewater Treatment

The existing Wastewater Treatment Plant has a design capacity of 340m<sup>3</sup>/day and is permitted by the Ministry of Environment to discharge up to 370m<sup>3</sup>/day. In 1995, the plant designers stated that 74% of the design capacity (250m<sup>3</sup>/day) was for estimated flows from the service area at that time including an infiltration allowance and 26% of the design capacity (88m<sup>3</sup>/day) available for future development in the specified area. The allowance for future growth did not reference any specific proposed development within the specified area.

As the collection system increases in size, the available treatment capacity must increase with it.

In order to treat the additional wastewater flow from the expanded service area, various treatment alternatives were investigated. The general outcome of the work examining the existing WWTP was that the plant can accommodate the expected future flows including 2% growth using the current technology by expanding the footprint slightly and repurposing the existing tanks, or if alternative treatment technology is used, the existing footprint would be sufficient.

### 4.3.1 Expansion of the Existing RBC Plant

An upgrade making use of the existing process has been considered and the details of this scenario are described as follows. The expected footprint of the upgrade including an additional rotating biological contactor is shown in Figure 4-3 and Figure 4-4.

#### **Short Term Upgrade (Phase 1)**

Expansion of the existing treatment system allows for the phasing of the improvements. The 'Phase 1' upgrade is suggested to occur prior to collection of flows totalling approximately 350m<sup>3</sup>/d of domestic strength wastewater (equivalent to sewerage all of Lower Kaslo), including construction of the above ground building to house a primary filter and the sludge dewatering belt press.

**TABLE 4-1: SHORT TERM UPGRADE (PHASE 1)**

1.0	Primary Treatment	\$360,000
2.0	Sludge Dewatering Relocation	\$30,000
3.0	Buildings	\$270,000
4.0	Electrical	\$90,000
	<b>TOTAL PROJECT (c/w rounding)</b>	<b>\$750,000</b>

Comparative Cost (Class 'C' Estimate)

#### **Long Term Upgrade (Phase 2)**

Costs for the long term upgrade of the wastewater treatment plant are presented below. This upgrade will continue to match current effluent quality performance at the projected ultimate future flow totalling approximately 500m<sup>3</sup>/d of domestic strength wastewater. This capacity upgrade

would involve duplication of several components including the biological contactor, clarifier, and effluent filtration units. Pumping capacity improvements are also expected.

**TABLE 4-2: LONG TERM UPGRADE (PHASE 2)**

1.0	Rotating Biological Contactor	\$740,000
2.0	Clarifier	\$180,000
3.0	Effluent Filtration	\$400,000
4.0	Influent / Effluent Pump Stations	\$130,000
5.0	Electrical	\$300,000
	<b>TOTAL PROJECT (c/w rounding)</b>	<b>\$1,750,000</b>

Comparative Cost (Class 'C' Estimate)

#### 4.3.2 Impact of Industrial Discharges

Subsequent to writing the Stage Two report, a micro-brewery commenced operation within the existing sewer service area. The brewing process is undertaken in batches, with the wastewater flows being highly variable in volume and concentration. This means that the load from a brewery could make up a significant part of the total load at the treatment plant. Village staff have observed that the loading rate on the wastewater treatment plant has increased significantly due to this light industrial operation.

Impacts to the wastewater treatment plant capacity are currently difficult to quantify and will vary with the rate and methods of production. As a result, Stage Three has proceeded on the basis of the Stage Two concepts, with the expectation that source control measures would be implemented, if needed, to improve the brewery wastewater to acceptable levels.

The Village has been proactive in providing regulatory information and 'best practices' guidelines to the brewery to curb potential impacts on the treatment plant. Impacts on the treatment plant will continue to be monitored into the future, including sampling of brewery wastewater. Sewer rates can also be adjusted to reflect the operational impacts of discharges from various wastewaters throughout the community.

#### 4.3.3 Impact of 3<sup>rd</sup> Party Users

The existing municipal sewer system provides service primarily to residential, commercial and institutional properties. The Village's wastewater treatment plant was designed with consideration given to typical sewage discharges from those land uses. The Village's Sewer Regulation Bylaw 1121 was also created based on those anticipated sewage discharges.

In addition to the wastewater collected from the services within SSA-1, the Village has also allowed some '3<sup>rd</sup> party' access to the sewer system. These 3<sup>rd</sup> party users are described as intermittent wastewater discharges to the sewer system, over which the Village has direct

ownership or control – such as discharge of porta-potties from festival weekends or other community events.

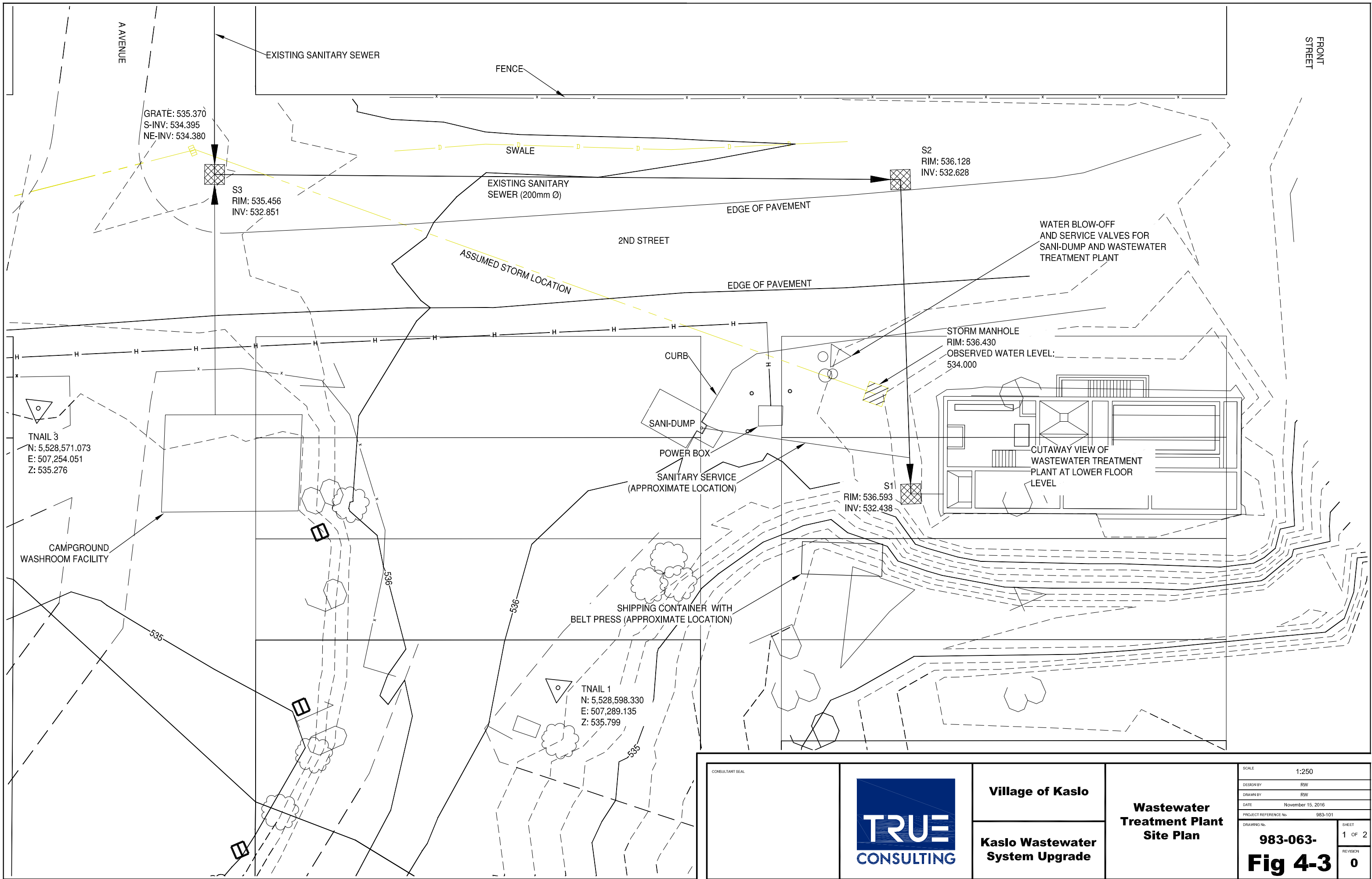
The main impacts of 3<sup>rd</sup> party users that the Village will have consideration for are:

- Operational impacts resulting from this wastewater collection
- Treatment capability to handle this wastewater on a daily basis
- Treatment plant capacity that is ‘used’ by these contributions

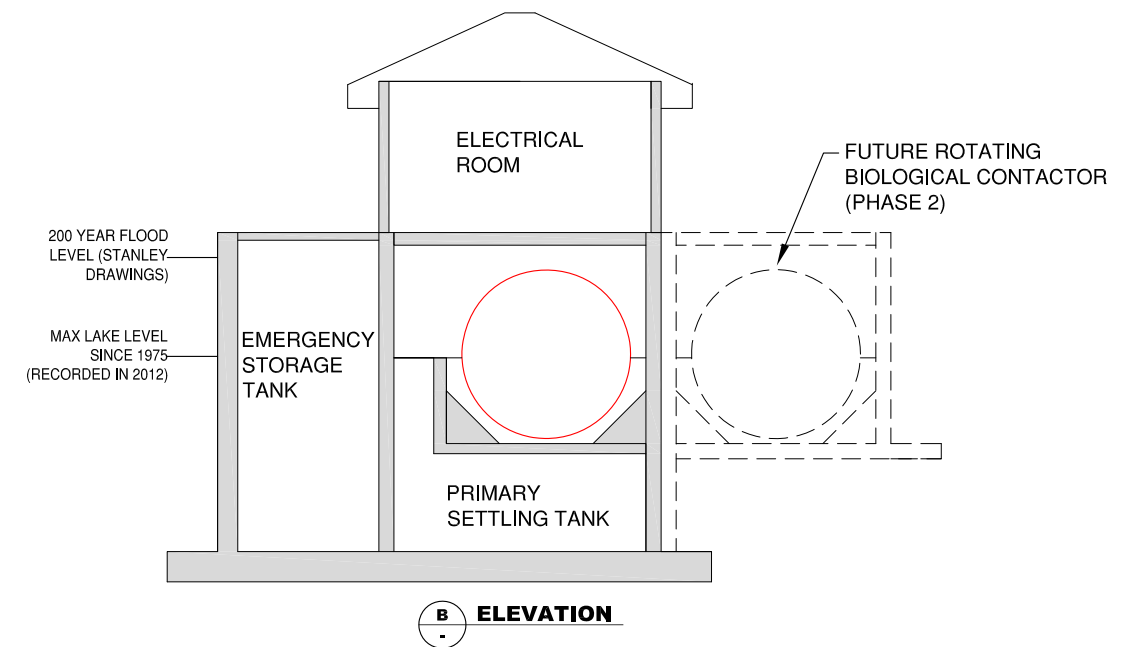
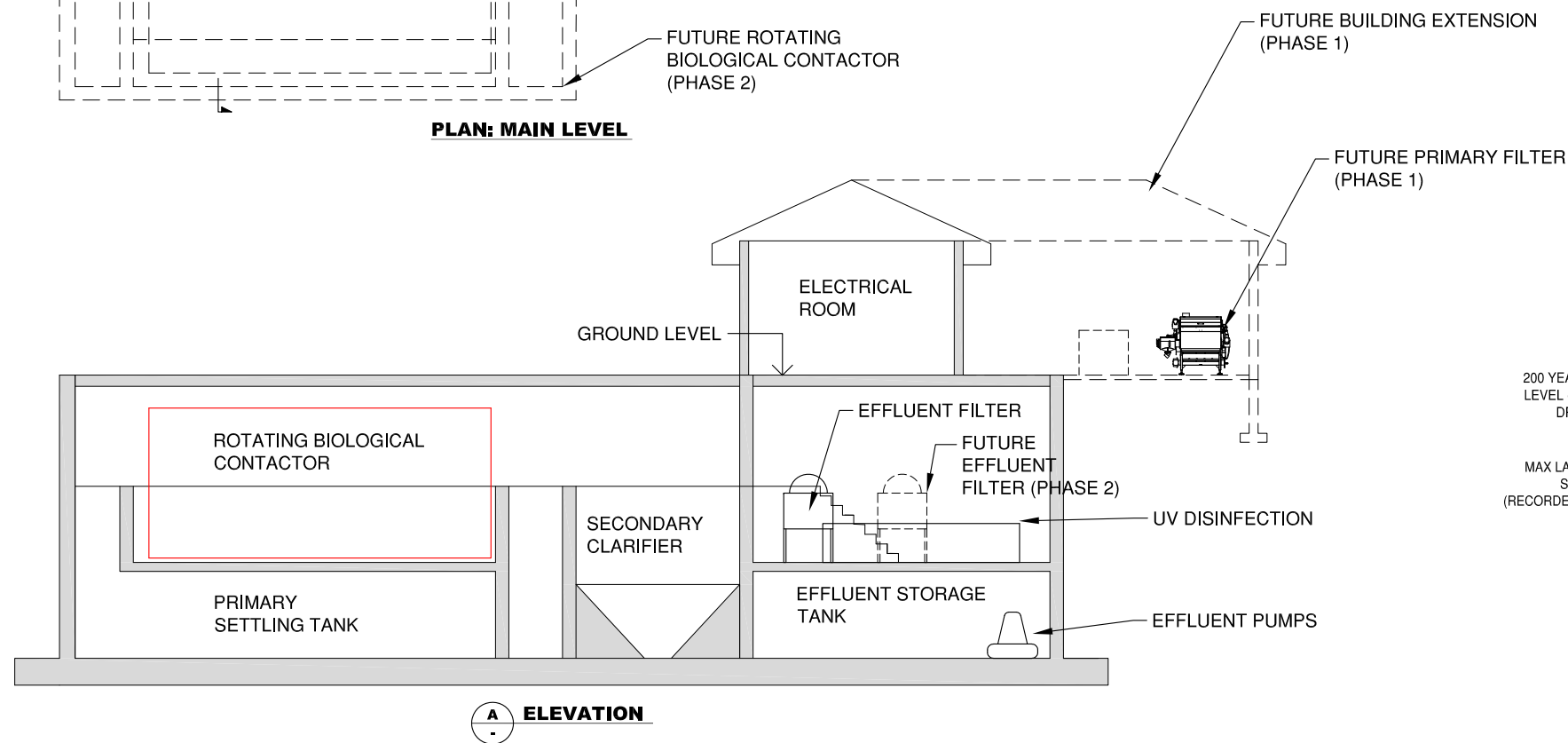
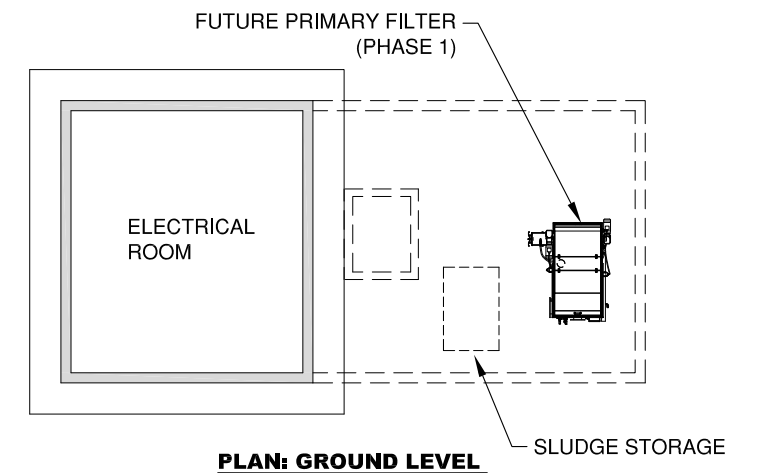
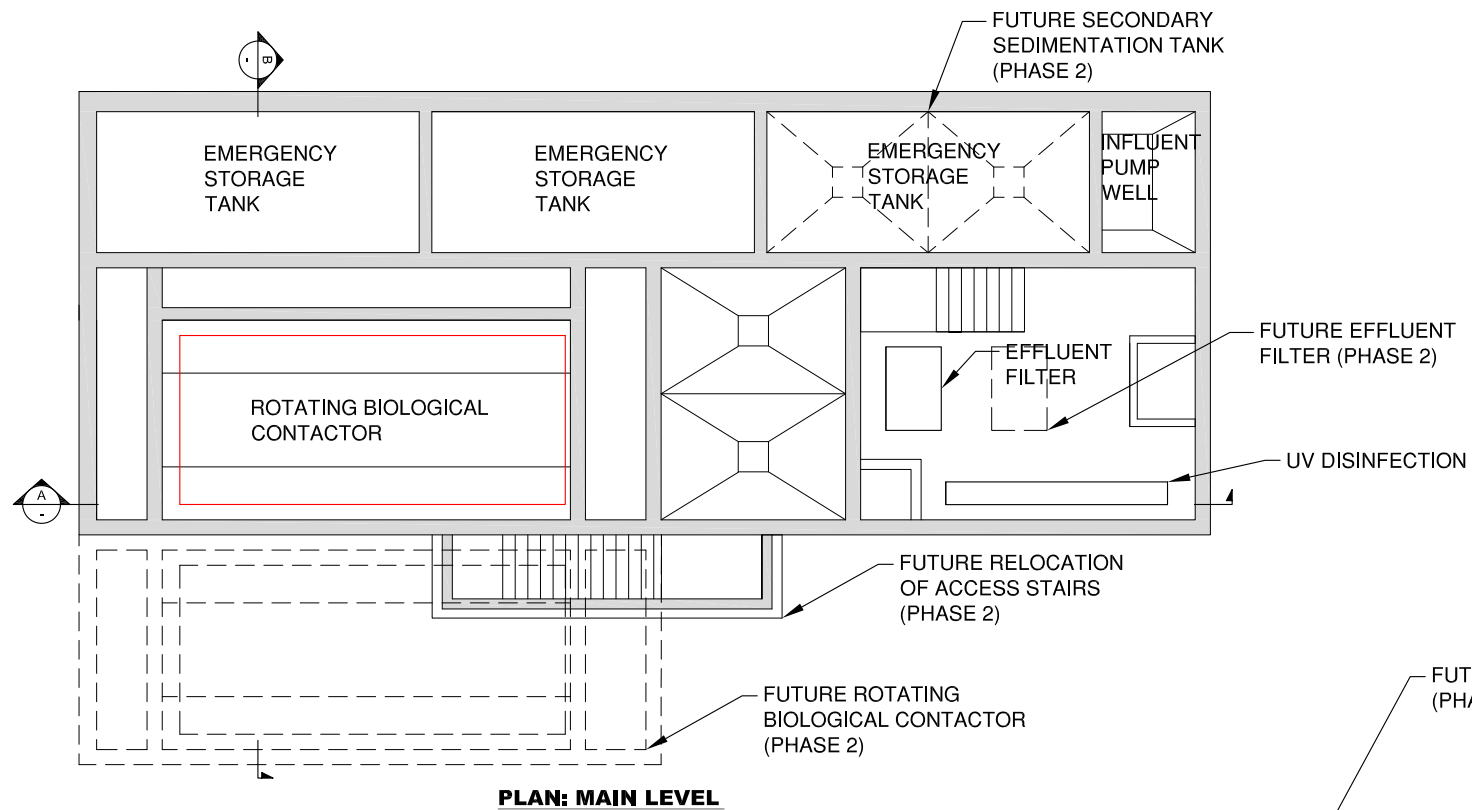
In the case of porta-potties, often these facilities end up as receiving basins for unsuitable wastes and trash. In addition, porta-potties typically contain chemicals that reduce bacterial activity as a means to control odour; those same chemicals can be detrimental to the operation of the municipal treatment plant (which relies on bacterial growth to treat wastewater). Further, the rate at which these porta-potties are discharged must be monitored, to avoid ‘shock loading’ the treatment plant.


The Village has been pro-active in working with 3<sup>rd</sup> party users to manage impacts to the municipal treatment plant. Going forward, the Village should continue to monitor volumes and quality of wastewater received from 3<sup>rd</sup> party users, determine whether such wastes are suitable to receive (or set appropriate limits), and set rates for receiving this waste to fully cover the operational impacts as well as the use of the treatment plant capacity.





CONSULTANT SEAL		<b>Village of Kaslo</b>	<b>Wastewater Treatment Plant Site Plan</b>		
			<b>Kaslo Wastewater System Upgrade</b>		
		SCALE: 1:250		DESIGN BY: RW	SHEET: 1 OF 2
		DRAWING NO.: 983-063- <b>Fig 4-3</b>		DRAWN BY: RW	
DATE: November 15, 2016		PROJECT REFERENCE No.: 983-101		REVISION: 0	



CONSULTANT SEAL		Village of Kaslo	<b>Wastewater Treatment Plant Details</b>	SCALE: 1:150
		<b>Kaslo Wastewater System Upgrade</b>		DESIGN BY: RW
				DRAWN BY: RW
		DATE: OCT 18, 2017		
				PROJECT REFERENCE No. 983-063
				<b>983-063- Fig 4-4</b>
				SHEET 1 OF 2
				REVISION 0

## 5.0 Environment and Archaeology

### 5.1 Environmental Impact Study

As noted in the provincial *Interim Guidelines for Preparing Liquid Waste Management Plans*, consideration should be given to conducting an environmental impact study to further refine options being considered.

The original application for a Waste Management Permit was submitted to the Ministry of Environment for SSA#1 in May 1995 by Stanley Associates. This included an assessment of the proposed wastewater treatment plant and marine outfall.

An engineering re-assessment was completed after the initial application. This included alterations to the proposed treatment plant and outfall to the current location. In the technical report prepared by the Ministry of Environment in February 1996, the Ministry concluded the following with regard to the disposal of treated effluent to Kootenay Lake at the current outfall location:

- Conclusions presented in the Stanley Associates engineering report are accepted as conservative estimates of mixing and dispersion.
- The high quality of effluent and substantial mixing would render no measurable change in water quality outside the initial dilution zone (100m around the outfall).
- It is highly unlikely that any downstream users will ever be impacted by this discharge given the high degree of treatment and disinfection being proposed and concurrent dilution in the lake.

Based on long term estimates of treated effluent discharge volumes as well as past engineering reviews of the treated effluent discharge to Kootenay Lake, the Village has completed an updated Environmental Impact Study (July 11, 2017; Masse Environmental Consultants Ltd.) specific to the planned public sewer expansion option. This update uses the original EIS and actual WWTP performance data along with other monitoring information. This allows the original assumptions to be validated and also considers slight increases to the discharge quantity. This is expected to be acceptable to MoE for the required permit amendment. The EIS is included in **Appendix F**, with the following conclusions:

- *‘The plant is operating well within its design capacity, and has room to accommodate increased volumes of effluent.’*
- *‘The potential effects of nutrient loading were also considered... and the potential for significant increases in productivity in the vicinity of the outfall are therefore considered unlikely.’*

- *'The current effluent monitoring program meets the minimum requirements of the MWR for a discharge of less than 500 m<sup>3</sup>/day.'*
- *'No receiving environment monitoring program is proposed.'*

## 5.2 Archaeological Overview Assessment

The two primary options being considered for long term wastewater treatment and discharge are located adjacent to Kootenay Lake and/or the mouth of Kootenay River. As such, an Archaeological Overview Assessment (AOA) was completed in Stage Two to inform the LWMP process. No further archaeological work is planned at this time.

## 6.0 Consultation

During Stage Two of the LWMP, the Advisory Committee recommended that the Village enhance the public consultation program. The Village hired CTQ Consultants to prepare and assist TRUE Consulting to deliver the Stage Three public consultation program. Consultation during the Stage Three process included input from the Steering and Advisory Committees, the general public within the Village of Kaslo, and First Nations groups. This consultation is described further in the following sections.

### 6.1 Committee Meetings

Stage Three meetings were held with both the Steering and Advisory Committees. Meeting minutes are included in **Appendix B** of this report. The committee meetings are summarized as follows:

- July 17, 2017 (Committee Meetings #1): Stage Three initiation and overview of program. Meetings were held with both the Steering Committee followed by the Advisory Committee. The purpose of the meetings was to introduce committee members and roles, review work completed during Stage Two, discuss the proposed Stage Three scope of work and public consultation, and review the intended Stage Three schedule.

Key themes and outcomes of the Steering Committee Meeting #1 included:

- General discussion of future policy areas to be reviewed;
- Committee preferences for public consultation timelines, and consideration for engagement with specific interest groups; and,
- Committee goals for Stage Three schedule.

Key themes and outcomes of the Advisory Committee Meeting #1 included:

- Discussion of redevelopment potential within the Village;
- Discussion of operational knowledge of septic systems, and options/costs considered in previous Stages One and Two for long term wastewater management;
- Discussion of future costs and Village borrowing limitations;
- Discussion of fairness issues associated with expansion of the sewered area; and,
- Discussion of a proposed public consultation concept; with a committee preference for separate public meetings for SSA-1 as well as the community as a whole. Committee preference was also noted for meeting formats which allow participants to ask questions and stimulate discussion.

- February 1, 2018 (Committee Meetings #2): Stage 3 draft report review. Meetings were held with both the Advisory Committee followed by the Steering Committee. The purpose of the meetings was to provide an update of Stage Three draft

report status, confirm scope of information to be included in the report, confirm cost allocation methods and means of presenting costs, confirm public consultation format and information, discuss Stage Three schedule.

Key themes and outcomes of the Advisory Committee Meeting #2 included:

- Justification for the LWMP must be made clear – why the Village chose to initiate the process, and how the current plan was developed; and,
- Options for use of community-wide taxation were discussed; committee members generally felt that such a tax would be supported by the community for items like education and monitoring, if the amount was relatively low.

Key themes and outcomes of the Steering Committee Meeting #2 included:

- Confirmation that the LWMP was a council-initiated process, but justification for the current plan involving sewer expansion must be described; and,
- Mixed opinions were given regarding use of community-wide sewer taxes, with some preference to taxation only on those receiving direct benefit or service; and,
- Information needs to be presented in a simplified manner to make it easier to find key information.

- April 5 and 6, 2018 (Committee Meetings #3): Public consultation program review, and Stage 3 draft report review.

Meetings were held with both the Advisory Committee on April 5 followed by the Steering Committee on April 6. The purpose of the meetings was to discuss the public consultation program, gain feedback on a public Information Bulletin, and review options for sewer capital cost recovery and associated ‘fairness’, and obtain approval to issue the draft Stage Three report for general public input.

Key themes and outcomes of the Advisory Committee Meeting #3 included:

- Discussion of recent announcement for 100% grant funded sewer expansion project, and potential for impact on Stage Three LWMP due to schedule overlap. Options for engaging the proposed sewer expansion area were discussed, including possibility of a focus group meeting with those property owners; and,
- Discussion of Village council decision to not support a community-wide tax for the wastewater treatment plant, and impacts / revisions required to the Stage Three report. Concerns were raised regarding how to create fairness in costs for the proposed sewer expansion, with consideration for past wastewater treatment costs paid by SSA-1. Options for capital charges on services outside of SSA-1 were discussed, as were the role of reserve funding and past reserve underfunding; and,
- Discussion of whether sewer connections in future expansion areas should be mandatory or not. The general consensus was to not require mandatory connections unless there was justification (environment or public health); and,
- Discussion about timing and location for a proposed public Open House.

Key themes and outcomes of the Steering Committee Meeting #3 included:

- Discussion regarding the recent announcement for 100% grant funded sewer expansion, and the benefits created by sewer expansion; and,
- Discussion regarding light industrial sewage impacts on the treatment plant, as well as seasonal loading from the sani-dump; and,
- Discussion regarding timing of future sewer connections (should they be mandatory), and issues of fairness (options for capital charges outside of SSA-1 and levels to avoid discouraging property owner connections).

▪ September 13, 2018 (Advisory Committee Meeting #4): Stage 3 report review.

A meeting was held with the Advisory Committee. The purpose of the meeting was to summarize public consultation works completed, review revisions and updates to the Stage Three report resulting from consultation work, and discuss any remaining issues as viewed by the committee.

Key themes and outcomes of the Advisory Committee Meeting #4 included:

- Discussion of overlap between LWMP process and sewer expansion project, and challenges that have resulted with the LWMP as a result of the sewer project timing;
- Discussion of review comments provide by Village legal counsel, including:
  - o Additional documentation regarding consultation works completed and outcomes
  - o Specific revisions/wording regarding creation of service areas
  - o Allow more flexibility in funding strategies
  - o Sewage education and monitoring tax funding revision
  - o Potential use of a Development Cost Charge structure instead of a fee for the wastewater treatment capital charge
- Discussion of the public consultation completed, benefits of the SSA-1 engagement that occurred, and potential shortcomings of consultation with future sewer areas.
- Committee member closing comments. Although the meeting was not attended by the full committee, members who did attend were generally supportive of the Stage 3 report (July 27 draft version).

## 6.2 Public Consultation

The Stage Three LWMP public consultation involved creation and dissemination of public awareness and information pieces. The consultation work also included a number of public engagement components. Copies of the public consultation materials created, are included in **Appendix C** of this report. Public feedback received by the Village is included in **Appendix D**. Village responses and public engagement documentation are included in **Appendix E**. A summary of the public consultation works completed is as follows.

### 6.2.1 [Public Awareness and Information](#)

The following is a summary of public awareness and information pieces prepared as a part of the Stage Three consultation process:

- Social media. Once the project was initiated, the Village began adding posts to its Facebook page to inform the public of the Stage Three progress. Links were also created to a dedicated LWMP page on the Village's website.
- The Village hosted an initial Open House on July 18, 2017 to provide information on the status of the LWMP in concert with a concurrent Municipal Lands Assessment project that was underway. Information posters were displayed, and staff from TRUE Consulting, CTQ Consulting, and the Village were present to answer questions and discuss the LWMP project.
- Press release – March 9, 2018. The Village was successful in receiving grant funding (Gas Tax Strategic Priorities Fund) for an initial incremental phase of sewer system expansion. This press release, posted to the Village's Facebook page, included information on the Village's ongoing LWMP activities.
- Soft announcement and messaging – April 18, 2018. The Village posted messaging on its Facebook page regarding status of the Stage 3 LWMP, requesting the community to 'stay informed'. This messaging reached over 600 Facebook users, and was read by over 90.
- Public Information Bulletin and initial Q&A document – May 2018. These documents were prepared for public information in advance of the May 23 Open House. The Information Bulletin and Q&A document were posted to the Village website and Facebook, and were available in hard copy for pick-up at the Open House and the Village office.
- Open House advertisement – May 2018. Open house advertisements were posted on the Village website and Facebook page, and ran for two weeks in the local *Pennywise* newspaper.
- Tax bill insert – May 17, 2018. The Village included a 2-page information newsletter along with tax bills that were mailed to all Village taxpayers. The tax bill insert included information about the LWMP public consultation with links to the Village's LWMP web page.

### 6.2.2 [Public Engagement: Open House](#)

The Village hosted an Open House on May 23, 2018 to provide information from the draft Stage 3 report to the public. Approximately 40 citizens attended this Open House. The Open House included viewable information display boards (prepared by CTQ, with input from TRUE), and 'take home' documentation including an Information Bulletin and Q&A document. Hard copies of the Stage 1, 2, and 3 (draft) reports were also available for public viewing. Comment Sheets were distributed for written public feedback. A short presentation was given by TRUE Consulting to provide an overview of the LWMP process, past reports, and the Stage 3 draft report. Staff members from TRUE Consulting, CTQ Consultants, and the Village of Kaslo were in attendance to answer questions and discuss the LWMP with members of the public. An informal question



and answer session occurred later in the Open House; this Q&A period (primarily between members of the public and TRUE Consulting staff) was moderated by CTQ Consultants.

### Comment Sheet submissions

The Village received 26 Comment Sheets - 18 of which were submitted at the Open House, and the remainder submitted to the Village office in the weeks following the Open House. The Comment Sheet included a 'check box' section which covered a number of questions, and a general comments section. Responses for the 'check box' section are summarized as follows:

- |                                                              |                           |
|--------------------------------------------------------------|---------------------------|
| 1. Attended the presentation at 6:30pm                       | = 19 (73% of respondents) |
| 2. Attended the drop-in from 4-6pm                           | = 5 (19% of respondents)  |
| 3. My questions/concerns were addressed by the consultant    | = 8 (31% of respondents)  |
| 4. I still have questions/concerns                           | = 9 (35% of respondents)  |
| 5. and 6. I own property that benefits from the sewer system | = 12 (46% of respondents) |
| 7. I am interested but do not own property in Kaslo          | = 2 (8% of respondents)   |
| 8. My property is serviced by a septic system                | = 14 (54% of respondents) |

Question 9 asked the respondents to indicate the street where they lived; approximately 22 or 23 (around 85% of the respondents) appear to be located in the lower Kaslo area, 2 respondents were from the upper Kaslo area, and 1 respondent lived south of Kaslo River.

Key information gathered from the Comment Sheets is summarized as follows:

- Most Open House attendees heard the presentation provided by TRUE.
- Almost all Open House attendees were from the lower Kaslo area; half were from within SSA-1. These facts supported previous Advisory Committee discussions and direction to set up focus group meetings with SSA-1 and the proposed initial sewer expansion area residents.
- Five (9% of respondents) provided general comments directly in support of sewer expansion.
- Of the 9 respondents who still had questions/concerns (check box #4), themes of their general comments included:
  - Fairness to SSA-1 property owners must be ensured
  - Concerns with the public consultation process
  - Sewer expansions should be paid for by property owners in the expansion areas
  - Concerns over whether expansion of the sewer system is needed or justified

### Post Open House Email/Letter Submissions

The Village also received letters or emails with questions about the LWMP from 9 residents (multiple submissions from a few residents). The Village acknowledged all letters and emails. TRUE reviewed all comments and questions received by the Village.

## Post Open House – Frequently Asked Questions document

In response to comments and questions received at and subsequent to the Open House, TRUE prepared a **Frequently Asked Questions** document on June 21, 2018. This FAQ document included discussion on 30 questions involving the following themes:

- Consultation
- Justification for the LWMP
- Housing and future development
- Environment
- Infrastructure and Treatment Capacity
- Connection to the Sewer System (expansion)
- Bylaws
- Billing
- SSA#1 Fairness

The FAQ document was posted to the Village website, linked to the Facebook page, and disseminated via email to a group of SSA-1 property owners.

### 6.2.3 Public Engagement: SSA-1

Subsequent to the Open House, the Village received several letters from property owners within SSA-1. Over the course of several weeks, approximately 20 SSA-1 owners formed a working group, and selected Anne Malik (a LWMP Advisory Committee member) and Mike Jones to act as spokespersons for the group. The Village received the following key pieces of correspondence from this group of SSA-1 property owners:

- SSA-1 Response Package – June 8, 2018. The Village received this formalized letter on June 8, which compiled issues and questions from several other letters previously submitted by SSA-1 individuals.
- SSA-1 letter to Village – July 2, 2018. This letter to the Village (Mayor and Council) focusses on perceived past financial inequities within SSA-1. The letter was prepared by the group of SSA-1 property owners and requests a remedy to redress a calculated financial inequity from the past. This letter has been acknowledged by the Village, but the ‘redress’ portion of the submission is beyond the scope of the LWMP process.

## SSA-1 Questions and Concerns document

Subsequent to the June 8<sup>th</sup> submission, TRUE Consulting and Village staff prepared an **SSA-1 Questions and Concerns** document on July 13, 2018. This document was posted to the Village’s LWMP web page and disseminated via email to the SSA-1 property owner group. It includes discussion on the following themes, in direct response to the SSA-1 June 8 submission:

- Fairness given the fully allocated WWTP capacity
- Fairness given a Specified Area System

- Fairness given 3<sup>rd</sup> Party Users and Plant Capacity
- Reserve Funding
- Development within SSA-1

### Steering Committee Meeting with SSA-1

Options were considered in trying to arrange a LWMP focus group meeting with the SSA-1 property owners. In the end, the group of SSA-1 property owners requested a meeting with the Steering Committee. An invitation for this meeting was posted via Facebook and disseminated via email to the SSA-1 property owner group. This meeting was hosted by the Village on July 19, 2018 to provide opportunity to discuss LWMP questions and concerns with property owners from SSA-1. Several members of Village council were present in addition to the Steering Committee members. Approximately 15 property owners from SSA-1 were in attendance. Mrs. Malik and Mr. Jones (spokepersons) initiated the dialogue on behalf of the SSA-1 owners, with additional comments and questions received during the meeting from other SSA-1 owners in attendance. Key discussion points included the following, as documented by Mrs. Malik on behalf of the SSA-1 owners (correspondence to Steering Committee dated July 20, 2018):

- a) Implementation of a capital charge for use of the wastewater treatment plant
- b) Payment in lieu of taxes by the Village for any municipal, provincial, federal, and any other property granted a 'permissive tax exemption' within the specified sewer area
- c) Addition of information to the Stage 3 report regarding '3<sup>rd</sup> Party Users'
- d) Revised footnote to clarify recognition of functional and modern septic systems in the example User Fee table
- e) Preparation of a 'synopsis of sewer affairs' to be included with annual billing
- f) Review of the sewer roll by either volunteers or members of the LWMP Implementation Committee
- g) Engagement with sewer owners during bylaw re-writes
- h) The issue of grease from commercial sewer connections (previously discussed in Stage One) to be included in the Stage Three report

With the exception of f) and g), all of the above points have been incorporated directly into the Stage Three LWMP report. Since the LWMP already recommends that the Village change to a simpler bylaw structure, the need for item f) will be left for Village staff and council to discuss in the future. Item g) may also be accomplished as desired by the Village; some bylaws (such as DCCs) require an inherent level of public consultation in order to receive approval from the province.

#### 6.2.4 Public Engagement: SSA-2

The Village has been approved for 100% grant funding (UBCM Gas Tax – Strategic Priorities Fund) to construct a sewer expansion to approximately 60 properties adjacent to SSA-1. As a part of the initial information gathering exercise for that sewer expansion project, letters were mailed to all 60 property owners on July 23. The letter provided an overview of the proposed

sewering expansion project, included a questionnaire to gather septic-related information for sewer design. In addition, the letter included a meeting invitation to property owners.

Staff from TRUE Consulting and the Village of Kaslo met with SSA-2 property owners at the Village office on August 7 to provide an overview of the proposed sewer project, give context to the project as it relates to the LWMP, and answer questions from property owners. Attendance at the meeting included approximately 5 residents from the proposed sewer area and another 5 from elsewhere in the Village. Generally, residents were interested in project specifics, such as:

- Construction schedule and when sewer connections would be possible
- Initial cost to connect to sewer, and ongoing fees and taxes amounts
- User fee specifics (sewer charges for rental suites, multiple properties with one dwelling)
- Sewer connection process and responsibilities

The Village is planning to work through the project design this fall, and start construction next spring. The grant funding program requires that construction be completed by end of 2019. It is recommended that the Village continue to engage the residents in the proposed sewer expansion area as information regarding process and costs become more well defined in the coming months.

## 6.3 First Nations Consultation

During Stage Two of the LWMP, an information package was mailed and emailed to coordinators at seven First Nations groups. The Stage Two information package included an overview of the LWMP process, links to information on the Village website, Stage Two report summary pages, and an Archaeological Overview Assessment. At that time, an option was provided for participation in an online First Nations workshop, as well as requesting written feedback regarding the Village's LWMP.

During Stage Three, a letter providing an overview of the Stage Three process and draft report was emailed and hard copies mailed to the same seven First Nations groups on July 18, including:

- Ktunaxa Nation Council; based in Cranbrook, BC
- Okanagan Nation Alliance; based in Westbank, BC
- Shuswap Band; based in Invermere, BC
- Neskonlith Indian Band; based in Chase, BC
- Upper Nicola Indian Band; based in Merritt, BC
- Okanagan Indian Band; based in Vernon, BC
- Lower Similkameen Indian Band; based in Keremeos, BC

Responses were requested by August 31, 2018.

The Upper Nicola Band replied:

*“we have no comment at this time as this is not in Upper Nicola Band’s core area of responsibility will defer your information to the Okanagan Nation Alliance to review and reply with support from UNB.”*

In mid September, TRUE staff phoned the other First Nations organizations as a follow-up. The Neskonlith Indian Band noted that they had received the referral letter, had not yet reviewed it, but may defer comment to the Shuswap Band due to the nature and location of the referral. At the time of writing, no other responses have been received from the First Nations groups.

Copies of the Stage Three letter sent to the First Nations organizations are included in **Appendix C** of this report.

## 7.0 LWMP Implementation Plan

### 7.1 Schedule

Stage Two considered broad phasing to sewer Lower and Upper Kaslo based on suitability for long term use of private septic fields.

Implementation of the LWMP is generally anticipated to follow that Lower / Upper Kaslo phasing, with priority given to the Lower Kaslo area due to high dwelling density, floodplain considerations, free draining soil conditions and proximity to the receiving environment. However, costs associated with widespread sewerage as bulk projects are not expected to be attainable for the Village. As such, sewer expansion will most likely occur on an incremental basis over the next 10 to 20 years. Additional factors should then be considered when planning for future incremental sewerage expansions. These factors would include:

- Advancing long term community goals, such as priorities identified in the Village's *Integrated Community Sustainability Plan* and policies in the *Official Community Plan*.
- Project cost and resulting 'cost per property'. Since sewerage is primarily linear infrastructure, costs are dependant on the length of sewer and number of properties to be served by that sewer expansion. Cost will also be impacted by the proximity of the area proposed for service (ie. location) relative to the existing sewer system.
- Monitoring and documentation of private septic system performance. To some extent, this information can be gathered via records of sewerage system construction and repair filings at Interior Health – but those records will not describe issues experienced by owners. It is proposed that future monitoring and documentation include:
  - Village-wide public survey (questionnaire) to gather septic system performance information on an area or block-by-block basis. The last time a similar survey was completed in Kaslo was in 1992. Future similar surveys could be focussed on areas of interest or areas of expected public/environmental health priority.
  - Monitoring and sampling of the receiving environment; this could include lake water quality monitoring along the foreshore, as well as installation of groundwater monitoring wells if needed for areas of specific interest.
- Public initiatives. It is possible that groups of property owners could assemble and petition the Village for sewerage their area of the community. In that scenario, the Village should strive to:
  - Develop projects of sufficient size to justify sewer expansion. Each sewerage area will result in an added level of financial planning and administration for the Village.

- Ensure that the boundaries of sewer areas are uniform, and all properties within a sewer area are included in the service (avoid 'holes' or 'gaps' in the service areas)

As an example, the initial incremental sewer expansion proposed by the Village would include properties bounded by A Avenue, B Avenue, 2nd Street, and 5th Street. This area has been selected for a number of reasons, including proximity to the existing sewer area, and land use (commercial core). The sewermain would be constructed in the gravelled lane between A Avenue and B Avenue. It would include 660m of sewermain and provide service to approximately 60 properties. If that sewer expansion occurs as a new service area (as opposed to expansion of an existing service area), then the new service area would be created by bylaw, with local service area parcel taxes and user fees imposed.

The community sewer system expansion would continue over a number of years. It is envisioned that the Lower Kaslo area would generally be sewer within the next 10 years.

The Phase One wastewater treatment upgrade will be completed part way through this period of system expansion based on the treatment requirements generated by actual system flows.

The Phase Two wastewater treatment upgrade would be required to extend service beyond flows of 350 m<sup>3</sup>/day. Timing of that treatment upgrade will depend on the rate with which the incremental sewer expansions occur.

## 7.2 Public Education

The LWMP does not propose to eliminate all private septic systems within the Village. Of the approximately 450 septic fields within the Village, the lands to the south of Kaslo River (around 70 septic fields) are not proposed to be sewer by the Village as a part of this LWMP. In addition, it could be a number of years before the 220 septic fields in the upper Kaslo area are replaced by a public sewer system. The following information is taken from the Ministry of Environment Environmental Protection Division website:

*Poorly maintained septic systems are more likely to fail than systems which are inspected regularly and pumped out as required. Sludge and scum can plug the tile field causing system failure, which typically results in ponding of effluent above the field. Failing septic systems are expensive to repair or replace and poor maintenance is a common cause of early system failures. The cost of maintenance is very little in comparison to repair or replacement.*

*When septic systems fail, inadequately treated household wastewater is released into the environment. Any contact with untreated human waste can pose significant health risks and untreated wastewater from failing septic systems can contaminate nearby wells, ground water and drinking water sources.*

*Chemicals disposed of in a septic system can also pollute local water sources and contribute to system failures. It is important for homeowners to educate themselves on what should and*

*should not be disposed of through a septic system. Septic tank additives or "starters" should never be used; they are unnecessary, expensive and may cause pollution.*

*Improperly maintained septic systems can impact the economic health of the community. Failed septic systems can reduce property values and contribute to the pollution of local waterbodies used for commercial and recreational activities<sup>1</sup>.*

The service life of septic fields are variable and depend on a number of factors including design, construction, use, and maintenance. The porous free draining soil conditions in parts of Kaslo lead to longer services lives, but it remains to be seen whether the community-wide use of septic systems have any significant adverse effect on the receiving environment. Accordingly, consideration should be given to the ongoing operations of septic fields within the Village, to reduce risks associated with impacts to public health and the environment. It is recommended that public education regarding septic field operation and maintenance is incorporated into the Village's Implementation Plan.

The Capital Regional District as well as Columbia Shuswap Regional District have advanced public education programs to assist in long term operations of private septic systems. Examples of those programs can be found at the links below:

- <https://www.crd.bc.ca/education/stormwater-wastewater-septic/at-home/protecting-septic-system>
- <http://www.csr.d.bc.ca/septicmart>

Further to the education regarding operation of private septic systems - as described in Section 4.2 Source Control, additional public education is recommended as a means to improve the wastewater quality received by the municipal collection system.

The Village's public education program could include a number of forums to disseminate information:

- Village website;
- Social media posts;
- Bulletins / flyers;
- Preparation of an annual 'wastewater management' synopsis which could be distributed to all property owners concurrent with tax bills;
- Community outreach through the local school;
- Guided tours of the municipal wastewater treatment plant, to further public knowledge on how the community wastewater treatment plant functions.

<sup>1</sup> NSFC. 1995a. National Small Flows Clearinghouse. Pipeline, Fall 1995, Vol. 6, No. 4. Small Community Wastewater Issues Explained to the Public.



## 7.3 Funding Approach

The Village encourages a forward-looking LWMP that fulfills the Provincial objective to safeguard public health and the environment while promoting the Village's *Official Community Plan* objective of increased residential infill and densification.

However, it is also the objective of the project planning team, the Committees, Village Staff and Council to arrive at a realistic and affordable proposal for user fees, parcel taxes and Development Cost Charges (where applicable) that offer cost-effective services today and responsible asset management tomorrow.

It is recommended to adopt a user-pay funding approach whereby those entities that benefit from the proposed works also pay their fair share for making the program a reality. This would include the following:

<b>Funding Approach</b>	<b>Applicable to</b>
Local Service Area Taxes	Sewage collection and treatment infrastructure expansion debt and interest; infrastructure rehabilitation and renewal within Specified Service Areas
Community-wide Sewage Education and Monitoring Tax	Public education, monitoring, and documentation of community wastewater treatment performance (including 'global' performance of private septic systems and the public wastewater treatment plant)
Development Cost Charges / Latecomer / Extended Service Agreements	Collection and treatment investments facilitating development outside current service scope
Partnership agreements pursuant to Section 21 of the Community Charter that are deemed equitable and in the interest of the Sewer Utility and its users.	Collection and treatment investments facilitating development outside current service scope
User Fees	Operation of all collection and treatment infrastructure, applied equally across all Serviced Areas

### 7.3.1 Governance structure priorities

Not all of the funding approaches described in the previous table would be advanced immediately. The existing specified sewer area is challenged with bylaws which are difficult to administer. Going forward, the Village should strive to balance the goals of providing equitable charges to various users, with the need to simplify bylaw administration. To accomplish the initial bylaw improvement and sewer expansion funding arrangements, the Village would:

- Eliminate all remaining loan debt within SSA-1 in September 2018, through the following actions (or at the same time):
  - Transfer monies from the SSA-1 Operating Fund into the Reserve Fund
  - Deposit SSA-1 Commuted Trust Fund monies into the Reserve Fund
  - Use the SSA-1 Reserve Fund to pay out the SSA-1 MFA loan debt
- Establish a Local Service parcel tax bylaw to continue to contribute to the current SSA-1 ‘Sewer Reserve’ fund, to collect monies for major repairs, upgrading and future replacement of the SSA-1 sewage collection system.
- Establish a Local Service parcel tax bylaw which would apply to each sewer area as expansions occur (ie. existing SSA-1, future examples SSA-2 and SSA-3, etc) to collect monies for major repairs, upgrading, and future renewal of the sewage treatment plant.
- Establish additional new Local Service parcel tax bylaws when needed to borrow funds for the capital construction of sewage collection system expansions (ie. future examples SSA-2 and SSA-3 etc). These bylaws could also collect monies for major repairs, upgrading and future replacement of each sewage collection system expansion.
- Enact a new bylaw to authorize User Fees based on the type of use, i.e. residential, commercial, light industrial. This new User Fee bylaw would be applied to all sewer service areas including existing SSA-1, future examples SSA-2 and SSA-3, etc. and would be used to pay for operating and maintenance costs associated with the community sewer system (sewage collection and treatment).

### 7.3.2 Community-wide property tax for wastewater treatment

The *Sewer Servicing Cost Recovery Structure*<sup>2</sup> describes a Village-wide Environmental Property Tax for the purpose of funding community wastewater treatment plant improvements. That funding strategy is currently not being advanced by the Village. Instead, as described further throughout this document, the Village would:

- Create a Local Service parcel tax on all sewer areas to collect monies for major repairs, upgrades, and renewal of the wastewater treatment plant.
- Create a Local Service parcel tax on all sewer areas, including a portion of funding from general taxation, for Sewage Education and Monitoring to collect monies for public education, monitoring, and documentation of wastewater treatment performance (including ‘community-wide’ performance of private septic systems and the public wastewater treatment plant)
- Initiate a capital charge on all future sewer connections outside of SSA-1 to create parity for use of and access and to the existing sewage treatment capacity, as described later in this document (Section 7.5.3).

Future wastewater treatment plant expansions would most logically be completed in two major phases. Unless significant infrastructure grant funding is received, these treatment expansions are not likely to occur simultaneous with sewer expansion to the full capacity of the corresponding treatment. There is also likely to be overlap in treatment improvements that are

needed for operational or infrastructure renewal reasons, which also accomplish an increase in treatment capacity. As such, the community-wide property tax as recommended by the *Sewer Servicing Cost Recovery Structure* (or a reserve contribution from general revenue) could be considered by the LWMP Implementation Monitoring Committee and the sitting Council at such time as treatment plant expansion is required to further advance sewer collection expansion elsewhere in Kaslo.

### 7.3.3 Tax-exempt properties

Based on the *Fred Banham & Associates* report <sup>1</sup>, it is proposed that the capital and operating costs for the expansion of the sewer network should be funded by the property owners located in each new service area. There may be a portion of these costs funded from general taxation as a reflection of the public good derived from the work. For example, there a number of properties in the existing and proposed sewer expansion areas which would be exempt from taxation, summarized as follows:

- Properties which are granted permissive tax exemptions;
- Village owned properties;
- Provincial buildings, such as the school and hospital;
- Federal buildings, such as the RCMP and post office.

These properties represent a significant portion (approximately 23% of the 'taxable frontage') of the existing sewer service area. Accordingly, 'payments in lieu of taxes' should be made to cover the full costs of debt servicing, reserve funding and operations equal to any other property owner within the sewered areas. In some cases (such as Village owned properties and some senior government properties), this will be accomplished by a contribution from the Village's general taxation. As described in the *Sewer Servicing Cost Recovery Structure*, this should be done so that true costs of municipal facilities are shared by the entire community who benefits and so that the community's sewage collection and treatment costs are not born only by the specified sewer area properties.

## 7.4 Funding Capital Projects

Large municipal projects are commonly funded through loans in order to manage short term financial impact as well as to distribute cost through time meaning that the costs are recovered as users receive the benefits of the project. The Village would borrow funds required to implement the LWMP from the Municipal Finance Authority or from the private sector, to ensure the most favorable rates and repayment schedule. If the Village wants to offer a commuted loan payment opportunity to property owners within new sewered areas (ie. future examples SSA-2 and SSA-3), that opportunity would only be available on new sewer collection expansion infrastructure debt

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<sup>2</sup> Fred Banham & Associates, *Sewer Servicing Cost Recovery Structure*. (2016)

if the funds are paid in full by property owners and applied to the capital construction costs before any long term capital debt is borrowed by the Village.

The affordability of sewage collection expansion (and the eventual need to expand the waste water treatment capacity as the service areas grow) involves significant financial challenges. The community expects some assurances that this LWMP is not a license to impose substantial new Local Service Taxes for capital projects without regard to the taxpayer's ability to pay. Kaslo is a Village with a roughly static population and tax base, with the capital costs of sewer asset renewal and expansion increasing over time with inflation and technological change.

Through discussion with Village staff, it is recommended that, in any capital expansion or renewal project within the scope of this LWMP:

1. Village Council aspire to limit its borrowing to 33% of projects over \$250,000, requiring grant aid or reserves to fund the other costs. However, this cannot be a hard or established policy, as the Province does not encourage Liquid Waste Management Plans that are completely dependent or reliant upon grant aid for infrastructure expansion or renewal.
2. Given the limitations of Kaslo's borrowing capacity across all needs and the scale of costs involved in expanding wastewater for the entire municipality, it is recommended that the maximum amount that can be borrowed by the Village for wastewater expansion or renewal on an ongoing basis is limited to \$1.5 million.

The recommendations noted above might not apply to three distinct scenarios:

- Emergency repair or replacement where an unexpected existing capital failure or imminent critical failure cannot safely await the outcome of speculative grant aid submissions;
- A petition for a feasible collection service expansion (within the Village's ability to borrow and treatment plant capacity) where the petitioners agree to Local Service Tax imposition that fully covers all capital, debt servicing and future renewal costs;
- Development Cost Charges / Latecomer / Extended Service Agreement investments that make a larger project within the scope of this LWMP (in the public interest) financially viable in the view of Council. This might apply to credible developer-initiated proposals concerning larger tracts of undeveloped or underdeveloped property beyond the reach of existing collection infrastructure or plant capacity.

This area of policy would need to be revisited if demand for sewer collection expansion remained high, but the availability of grant aid was unexpectedly low over a 10 year period following plan adoption.

#### 7.4.1 Local Sewer Service Area Taxes

The existing community Sewer Service Area (SSA-1) was built in 1998. It has been funded by the property owners with sewer service connections to the sewer system. The funding

arrangement was created under specified service area legislation and created a sewer utility owned and operated by the municipality.

It is proposed that service levels for liquid waste management will increase within the community as the service area(s) expand over time. Service area unification/consolidation is unlikely in the near or medium term given the topics explored in depth by Fred Banham & Associates, in their report, *Village of Kaslo Sewer Servicing Cost Recovery Structure*. In response to those recommendations, it is proposed that the capital costs for the expansion of the sewage collection system should be funded by the property owners in each new service area. As noted previously, there may be a small proportion funded from general taxation as a reflection of the public good derived from the work. In addition, local service area parcel taxes are currently proposed as a means to fund treatment infrastructure renewal and expansion.

Local Service Area Taxes will not be eliminated for properties within collection service areas that have fully extinguished capital debt (this includes existing SSA-1). Capital costs and depreciation (future renewal of infrastructure) must still be addressed by means other than user fee operational surpluses. It is recommended that properties within all collection areas pay an annual parcel tax, remitted to that collection area's sewer capital reserve fund. Going forward, it is important for the Village and property owners to understand that local service (parcel) taxes cannot fund debt servicing alone and ignore the requirements for small capital projects and infrastructure renewal.

During the local service area tax bylaw creation process, the Village will review the future parcel tax options and have consideration for the benefits created by different taxation options as well as the administrative implications.

It is suggested that the Village could enact sewer parcel tax bylaws to collect monies as follows:

1. Sewage collection infrastructure expansion and renewal costs could be based on length of actual parcel frontage for the following reasons:
  - Sewer expansion is a linear infrastructure; the cost to construct and renew this infrastructure is proportional to the length of sewermain in front of the property.
  - A parcel tax based on actual frontage would mimic the system used for the Village's water system, which would be familiar to Village property owners and reduce administrative burden on Village staff.
2. Sewage treatment infrastructure expansion and renewal costs could be based on length of taxable frontage. The capital costs for sewage treatment are related to the sewage flows (volume and strength). If a community-wide tax were in place, a simple property value tax could be used to account for relative impacts to treatment (bigger buildings typically generate larger sewage flows). In the absence of a property value tax for sewage treatment infrastructure, taxable frontage would provide some level of parity. The sewage treatment parcel tax could mimic the existing SSA-1 tax roll, where the minimum taxable frontage is set at 40ft to account for similar sewage flow contributions smaller residential properties.

#### 7.4.2 Community-Wide Sewage Education and Monitoring Tax

The Village should enact a Local Service parcel tax on all seweried areas, which would include a portion of funding from general taxation. This funding stream would be used to collect monies for ongoing public education, monitoring, and documentation of wastewater treatment performance (including ‘community-wide’ performance of private septic systems and the public wastewater treatment plant). An initial annual budget for this education and monitoring program is as follows:

Description	Annual Budget
Public education <ul style="list-style-type: none"><li>- Community survey (questionnaire)</li><li>- Social media postings</li><li>- Mailout (information flyer)</li></ul>	\$3,000
Wastewater treatment monitoring <ul style="list-style-type: none"><li>- Lake water quality sampling</li></ul>	\$3,500
Wastewater treatment monitoring <ul style="list-style-type: none"><li>- Treatment plant sampling</li></ul>	\$3,500
Assessment of sampling data	\$5,000
<b>Total Annual Program Costs</b>	<b>\$15,000</b>

Additional work could be done to install groundwater monitoring wells and collect data from those locations. The size and scope of a groundwater monitoring program would have much higher costs than shown in the table above. In the absence of external funding or grant aid, a groundwater monitoring program would be a future priority if additional information is required to identify areas of concern.

In creation of this Local Service parcel tax, the Village would have consideration for the portions of the annual budget which are directly applicable to the seweried areas, versus the portions of the annual budget which benefit the community as a whole – those respective portions of the budget would factor into the amount of funding from general taxation. With the above budget as an example, it is estimated that the resulting tax would be \$25/year per folio throughout the Village (\$3,750 total collected from 150 SSA-1 folios, and \$11,625 total collected from 465 folios outside of SSA-1).

#### 7.4.3 Development Cost Charges for Sewer Expansion on Bare Land

Local governments in BC can use Development Cost Charges (DCCs) levied on new projects to help fund the cost of hard infrastructure: water, sewer, drainage, road and parkland needed to accommodate growth. The Village of Kaslo does not have such a bylaw to facilitate new development of scale and no corresponding reserve. The absence of such charges being levied in the 1980s and 1990s are reflective of numerous large and small infrastructure investment impasses today that confront both property owners and the taxpayer.

DCCs are intended to reflect the capital costs that are imposed by new development. This capital burden can vary widely within a community based on factors such as the condition and capacity

of existing infrastructure, the location of new development, the type of land use, and the characteristics of development projects.

While the focus of the LWMP is on providing sewer infrastructure to existing residents and businesses, the Village does not wish to exclude the prospect of sewer reaching new development, particularly in areas south of the Kaslo River where the municipality and private interests hold significant bare land within municipal boundaries.

For example, if a developer proceeds with a development that can be facilitated by septic solutions in the immediate term, but eventual connection to sanitary sewer is aspired to, the charging of DCCs at time of permitting or subdivision will begin the road toward making that infrastructure expansion viable. It is important that developers understand that the payment of DCCs does not mean that the expansion of said infrastructure will happen upon rendering the fee, but it does mean that there are funds reserved and firewalled for the express purpose.

It is recommended that if significant and sustained development is expected, a Development Cost Charge Bylaw and corresponding reserve is drafted and implemented for new development at levels that do not discourage new development in Kaslo.

Further, a Development Cost Charge Bylaw could be a useful tool to collect monies from properties that are redeveloped within SSA-1 and from new sewer services outside of existing SSA-1. Monies collected from these charges would be put towards reserve funding for the wastewater treatment plant.

#### 7.4.4 [Working with Developers](#)

It is recommended that the door to the development of bare land or larger scale redevelopments not be closed when it comes to sewer. However, larger scale new development must be in the public interest as well. To achieve this, a template for what are known as “Gifting Agreements” around sewer is required. Two key areas for gifting agreements would be:

- Wastewater Treatment Plant expansion to accommodate new development without encumbering existing capacity (general or specific);
- Wastewater Collection expansion outside of existing service areas (general or specific).

A great example is, again, “South of the River”. Only grant aid or large-scale gift(s) would likely facilitate sewer collection reaching across the Kaslo River and into areas of substantial undeveloped, buildable land. Private developers would have to determine if such an investment would see adequate return.

Extended service and latecomer agreements are recommended to be available to developers (as well as partnership agreements), but it should be recognized that the taxpayers of Kaslo would expect private development to pay for what it requires and not place a new operating burden, capacity pressure or capital debt upon the existing tax base.

## 7.5 Financial Impact of Expansion and Renewal

There is no single answer to how costs should or will be allocated across users as there are many options and scenarios to consider. However, approximate annual tax burden can be obtained for specific scenarios. The scenarios given below are intended to illustrate how costs could be apportioned.

The Village has been fortunate to receive grant funding for capital projects in the past, which has greatly eased the financial burden related to many projects including the existing wastewater collection and treatment system. This source of funding from senior levels of government may or may not be available for future projects.

Even in a scenario with no borrowing (such as full grant funding), a reasonable Local Service Tax is required to ensure that reserve funds exist to repair, renew and enhance infrastructure in the service areas throughout the service life of the infrastructure.

This section describes alternatives for taxation under various external funding scenarios. The first scenario is where the Village taxpayers fund 100% of the project capital cost. The second scenario shown is the opposite end of the spectrum, where 100% grant funding is received for the project capital cost. It must be noted that 100% grant funding is not a common scenario, but is used here for illustrative purposes.



### 7.5.1 Sewage Collection System Costs

It is anticipated that the sewage collection system expansion will occur in incremental phases over many years.

As described in Section 7.1, the first phase that has been identified for potential sewer expansion is three blocks in Lower Kaslo. This area is a high priority due to the number of commercial properties and location – it is immediately adjacent to the existing specified service area. The sewage collection cost estimate described in Table 7-1 is for Village owned infrastructure in road right-of-ways. A grant has recently been received from the UBCM Gas Tax Strategic Funds for this three block collection expansion. Full funding was requested given existing constraints in Village bylaws.

The approximate number of folios (per BC Assessment Authority) in the proposed service area is 59, the total frontage of these properties is 3845 ft, and the Class B estimate of the cost of the works (sewer only) was calculated as a part of the grant application to be \$910,000. The sewer cost applicable to this potential initial service area has been calculated using these figures as shown in Table 7-1.

**TABLE 7-1: ANNUAL CAPITAL CHARGES FOR SEWERING WITHIN INITIAL SEWER EXPANSION AREA**

	Scenario 1		Scenario 2	
<b>Project Cost</b>	<b>\$910,000</b>		<b>\$910,000</b>	
Grant Funding	0%	\$0	100%	\$910,000
Village Funding	100%	\$910,000	0%	\$0
Contributing Folios (Properties)	59		59	
<b>Sewer Construction Cost per Folio</b>	<b>\$15,425 (average)</b>		<b>\$0</b>	
Annual Sewer Construction Loan Servicing	\$54,625 <sup>1</sup>		\$0	
<b>Annual Sewer Tax (inside expansion area)</b>	<b>\$925 per folio (on average)</b>		<b>\$0 per folio</b>	

Note 1: Interest Rate 3.26%pa, term of loan 25 years.

Further to the sewer collection loan servicing charges shown above, it is recommended that contributions to reserves are made for future infrastructure renewal. Sewage collection systems are generally installed with anticipated pipe service life of 100 years, but emerging literature suggests that PVC sewer systems could have a much longer service life. Accordingly, reserve funding is suggested to be in the range of 0.4% and 1.0% of the initial \$910,000 capital cost, as follows:

#### Sewage Collection Reserve Funding (0.4%)

- Annual contribution to reserves (allow 0.4% of capital cost) = \$3,640
- Contributing Folios = 59 folios
- Annual parcel tax for sewage collection reserve = \$3,640 / 59 = \$62/year per folio

### Sewage Collection Reserve Funding (1%)

- Annual contribution to reserves (allow 1% of capital cost) = \$9,100
- Contributing Folios = 59 folios
- Annual parcel tax for sewage collection reserve = \$9,100 / 59 = \$155/year per folio

Reserve funding amounts will change with time as the Village collects information on condition of these assets. As a starting point, sewage collection reserve funding of approximately \$90/year per folio is suggested.

The capital costs shown in Table 7-1 above would be applied to the 'new' sewer area. Existing SSA-1 would not share in the capital charges for new sewerage. Regardless of whether the sewer area is expanded or not, SSA-1 will need to contribute to an infrastructure renewal reserve fund for the SSA-1 sewer pipes and liftstations that were constructed 20 years ago. The original cost to construct that infrastructure in 1998 is estimated to be around \$1,100,000 – but the condition of that original infrastructure is not known. It is suggested that SSA-1 renewal reserve funding would match the \$90/year described above. The SSA-1 reserve funding amount would change with time as further information is gathered regarding infrastructure condition and projected remaining service life.

### 7.5.2 Future Sewage Treatment Costs

Future treatment upgrading costs must be considered. It is only practical to construct the treatment upgrades in two phases. It is currently recommended that the Phase 1 treatment upgrade occur before maximum daily flows reach 350 m<sup>3</sup>/day, and the Phase 2 treatment upgrade occur before maximum daily flows reach 500 m<sup>3</sup>/day. These figures are based on residential strength waste. The Village will continue to monitor treatment plant performance, and changes in sewage characteristics would warrant treatment upgrades sooner than the noted daily flow targets.

Depending on the timing of the treatment upgrades and corresponding sewer system expansions, it may be possible fund treatment improvements with local service area parcel tax. As described in Section 7.3, there will likely be overlap in treatment improvements that are needed for operational or infrastructure renewal reasons, which may also result in an increase in treatment capacity. For these reasons, it is currently suggested that:

- The Phase 1 treatment upgrade would be completed primarily to modernize the treatment plant and make operational improvements. These Phase 1 costs would be applied to all sewerage areas (anticipated to be required by the time all of Lower Kaslo is sewerage), as shown in Table 7-2 below.
- The Phase 2 treatment upgrade is intended to expand the treatment plant capacity. However, by the time that upgrade is required, operational improvements may also be warranted. In addition, the Phase 2 upgrades include duplication of equipment to allow for equipment failure and repairs, which are a benefit to the entire system. These Phase

2 costs would be also applied to all sewerred areas (anticipated to be required to allow sewerred of Lower and Upper Kaslo areas), as shown in Table 7-3 below.

**TABLE 7-2: POTENTIAL ANNUAL CAPITAL CHARGES FOR TREATMENT UPGRADES - PHASE 1**

	Scenario 1		Scenario 2	
<b>Project Cost</b>	<b>\$750,000</b>		<b>\$750,000</b>	
Grant Funding	0%	\$0	100%	\$750,000
Village Funding	100%	\$750,000	0%	\$0
Contributing Folios (Lower Kaslo and SSA-1)	330		330	
<b>Phase 1 Treatment Cost per Folio</b>	<b>\$2,275</b>		<b>\$0</b>	
Treatment Construction Loan Servicing	\$45,020 <sup>1</sup>		\$0	
<b>Phase 1 Sewage Treatment Tax (inside expansion area)</b>	<b>\$140 per folio (on average)</b>		<b>\$0 per folio (on average)</b>	

NOTE 1: INTEREST RATE 3.26%PA, TERM OF LOAN 25 YEARS.

**TABLE 7-3: POTENTIAL ANNUAL CAPITAL CHARGES FOR TREATMENT UPGRADES - PHASE 2**

	Scenario 1		Scenario 2	
<b>Project Cost</b>	<b>\$1,750,000</b>		<b>\$1,750,000</b>	
Grant Funding	0%	\$0	100%	\$1,750,000
Village Funding	100%	\$1,750,000	0%	\$0
Contributing Folios (Upper Kaslo, Lower Kaslo, and SSA-1)	550		550	
<b>Phase 2 Treatment Cost per Folio</b>	<b>\$3,185</b>		<b>\$0</b>	
Treatment Construction Loan Servicing	\$105,050 <sup>1</sup>		\$0	
<b>Phase 2 Sewage Treatment Tax (inside expansion area)</b>	<b>\$195 per folio (on average)</b>		<b>\$0 per folio</b>	

Note 1: Interest Rate 3.26%pa, term of loan 25 years. Assuming the Phase 2 treatment plant upgrades occur prior to paying off the Phase 1 treatment debt, then some properties would experience both the Phase 1 and Phase 2 Parcel Tax.

In addition to the sewage treatment loan servicing charges, infrastructure renewal reserve funding would be paid by all properties within sewerred areas. A suggested treatment plant annual renewal reserve charge is considered as follows - based on estimates for future treatment plant expansion costs and the number of future folios that expansion would provide capacity for:

Reserve amount based on Phase 1 treatment upgrade

- Estimated initial cost to improve the treatment plant = \$750,000
- Annual renewal reserve total (allow 1/40<sup>th</sup> of capital cost) = \$18,750
- Combined service area

- (150 SSA-1 + 180 Lower Kaslo) = 330 folios
- Annual parcel tax for treatment reserve = \$18,750 / 330 = \$57/year per folio

Reserve amount based on Phase 1 and 2 treatment upgrade

- Estimated total cost to expand the treatment plant = \$2,500,000
- Annual renewal reserve total (allow 1/40<sup>th</sup> of capital cost) = \$62,500
- Combined service area  
(150 SSA-1 + 180 Lower Kaslo + 220 Upper Kaslo) = 550 folios
- Annual parcel tax for treatment reserve = \$62,500 / 550 = \$114/year per folio

The renewal reserve tax could be in the range of \$57 to \$114/year per folio. This may be an aggressive initial target, but it is suggested that this tax would initially be set at around \$60/year. The sewage treatment reserve funding amount would change with time as further information is gathered regarding infrastructure condition and projected remaining service life. This sewage treatment renewal reserve tax would be applied to all sewered areas.

For SSA-1, this type of contribution to reserves should have been made for the past 20 years, and it is recommended that this tax be applied in the future regardless of whether the sewer area (and treatment plant) is expanded or not.

7.5.3 Existing Sewage Treatment Capacity Allocation

It is expected that some collection system expansion can be achieved before the initial treatment plant upgrade is needed. Factors to consider in allocation of the treatment plant capacity include:

- Treatment plant design capacity is 340 m<sup>3</sup>/day. Typical max day use (2011 through 2016) is 190 m<sup>3</sup>/day, meaning there is currently around 150 m<sup>3</sup>/day of unused treatment capacity. It is estimated that this unused capacity may be sufficient for sewer expansion to 180 additional residential connections.
- The treatment plant capacity has been paid for by the existing SSA-1 property owners, and there is potential that unused treatment capacity could be called for by unconnected properties within SSA-1 in the future.
- In the original treatment plan design, no allowance was made for additional flow contribution outside of SSA-1.
- Original costs to construct the treatment plant are not known, but are estimated to be in the range of \$700,000 (1998 dollars). Allowing for currency inflation (approximately 44% since 1998), as well as infrastructure depreciation (allow 50% over 20 years) and cost of major improvements made in recent years (approximately \$440,000) – the current value of the treatment plant is estimated to be around \$945,000.
- By the end of 2018, it is proposed that the SSA-1 original construction debt will be paid off. SSA-1 reserves will also be depleted. Accordingly, the total value of the wastewater treatment function (ie. current treatment plant value + treatment reserves – remaining treatment debt) is \$945,000.

To assist with an equitable transition to an expanded sewer area, payment into the SSA-1 reserve fund is recommended for the currently unused treatment capacity. Options to consider include:

1. Creation of a community wide environmental property tax to fund renewal and upgrades to the treatment plant. A community wide wastewater policy was recommended by the *Sewer Servicing Cost Recovery Structure* report by Fred Banham & Associates. The premise behind this option is that the entire community benefits either directly or indirectly from the wastewater treatment plant, and with time, taxes collected from the entire community will meet and surpass any 'dollars owed' for currently unused treatment capacity that is allocated to services outside of SSA-1.
2. Creation of a capital charge. This capital charge could be defined to be payable by:
  - New services at the time of connection, and
  - Existing services at the time of issuance of building permit when a change in land use occurs (ie. properties that are redeveloped in a way which results in larger impact to the wastewater treatment system)

Potentially, a sewer capital charge bylaw could define exclusions to avoid 'double charging' properties that are currently not connected to sewer within existing SSA-1 but have already paid taxes to cover the debt servicing. Alternately, a 'grace period' could be given to allow SSA-1 properties to connect at current rates, before implementing the new connection charges (Note: the majority of unconnected SSA-1 properties are vacant, so a 'grace period' may not function very well).

Option 1 will be the simplest solution for the Village to administer over the long term, but would require the greatest 'community wide' change in perspective regarding benefit created by the treatment plant. For that reason, it may be difficult to gain support of the community for this option.

Option 2 may create a deterrent to connection to the sewer system, unless the connection charge amount is viewed as reasonable. Assuming not all properties would immediately connect to community sewer if given a chance, Option 2 may also take a longer time to build up additional capital in the reserve fund in comparison to Option 1. However, Option 2 avoids the annual administration of an additional specified service area.

In the absence of a community wide property tax to fund wastewater treatment infrastructure, Option 2 is recommended to create parity in expansion of the treatment plant capacity. SSA-1 currently includes 148 folios, comprised of 13,300 ft of taxable frontage and 272 'usage units' (per Bylaw 1121). The corresponding value of the wastewater treatment function (\$945,000) on a 'per property' basis is then \$6385 per folio (on average), or \$71 per ft taxable frontage, or \$3475 per 'usage unit'.

Going forward, it is recommended that the capital charge be calculated with consideration given to the factors described above.

The Village should explore options to charge based on factors that play a more direct role in impact to treatment capacity: wastewater flow and wastewater quality/strength. For example, the

Village could consider developing a capital charge schedule based on land use. In comparison to the existing Bylaw 1121 Schedule C, the capital charge structure could be as follows:

- Residential (1 usage unit) = \$3,475
- Restaurants – 25 or less seats (2 usage units) = \$6,950
- Commercial office (0.25 usage unit) = \$870 per business / tenant

The allocation of ‘usage units’ shown above are examples which would be reviewed during development of the bylaw for the capital charge. In addition, the charge amounts should be indexed to inflation.

Further, as noted on the previous page, the use of a charge for wastewater treatment based on land use also creates the opportunity to charge existing services (at the time of building permit issuance) when there is a change in land use which would result in additional ‘load’ on the treatment plant. These charges associated with change in land use would be applicable to all sewer areas, including SSA-1.

Alternate to the capital charge scenario presented above, the Village could consider use of Development Cost Charges (DCCs, as described previously in Section 7.4.3) as a means to collect monies from redeveloped properties within SSA-1 and from new sewer services outside of existing SSA-1. Typically, DCCs are structured based on land use, and can have a graduated scale associated with estimated impacts to infrastructure capacity. In the case of potential sewer DCCs associated with wastewater treatment, consideration would typically be given to estimated costs of future wastewater treatment upgrades required, and the portion of those future upgrading costs that should be attributed to the new services. For example, when considering the \$750,000 Phase 1 treatment upgrades described in the previous section, a typical residential sewer DCC may be in the range of \$2,300 to \$4,200 depending on the allocation of future costs.

## 7.6 User Fees to Cover System Operating Costs

### 7.6.1 General User Fees (Operating Costs)

The current user fee levy attributable to operating costs applied to SSA-1 participants in 2017 was nearly \$110,000 across approximately 150 folios (properties). On a flat fee basis (not currently applied), this would result in annual User Fees of close to \$750 per folio.

User fees typically increase in line with inflation and emergent maintenance or operational needs. A major jump in system operating costs would not be anticipated until the wastewater treatment plant is expanded or renewed (additional operation and maintenance consequences of some scale). By the time that is needed, the costs will be divided over more participants.

The progressive expansion of sewage collection infrastructure would not increase user fees as collection operational costs are not expected to rise directly in proportion to the number of participants. Some operational economies of scale will be gained in as the sewer system is expanded.

This progression of operating costs and user fees is depicted in Table 7-4.

**TABLE 7-4: ESTIMATED AVERAGE SEWER USER FEES FOR OPERATING COSTS**

<b>Contributing Properties</b>	<b>System Operating Cost</b>	<b>Annual User Fee</b>
Existing SSA-1 (148 folios)	\$110,000	\$750 per folio (on average)
SSA-1 and SSA-2 (207 folios total)	\$125,000	\$610 per folio (on average)
SSA-1 and SSA-2, plus Phase 1 Treatment Upgrades (207 folios total)	\$130,000	\$630 per folio (on average)
SSA-1 and all of Lower Kaslo, plus Phase 1 and 2 Treatment Upgrades (330 folios total)	\$185,000	\$560 per folio (on average)
SSA-1 and all of Lower and Upper Kaslo, plus Phase 1 and 2 Treatment Upgrades (550 folios total)	\$240,000	\$440 per folio (on average)

Table 7-4 is not suggesting that a flat user fee structure should be employed by the Village. It is shown to convey the idea that user fees will generally decrease as the sewage collection system expands. An incremental expansion to include the SSA-2 area previously described should, on average, result in nearly 20% reduction in SSA-1 user fees. It is recommended that all properties / folios with service available (including vacant lots) would be charged a user fee.

## 7.6.2 User Fee Rate Structure

Again, Fred Banham & Associates *Sewer Servicing Cost Recovery Structure* addressed the need to reform the existing user fee system at completion of the LWMP. It is recommended to adopt a more equitable distribution of user fees going forward, which is also less onerous for the Village to administer. Many communities that have introduced metering for water use link user fees levied to water usage, but that is not an option at present for Kaslo. A rational approach for sewer user fees in Kaslo would be to reasonably mirror existing water user categories for administrative ease and fairness.

As described previously, user fees would be applied to all properties (folios) within sewage collection areas. An example of a potential user fee rate structure has been developed by Village staff, and is presented in Table 7-5.

**TABLE 7-5: EXAMPLE USER FEE STRUCTURE FOR OPERATING COSTS**

<b>Type of Use</b>	<b>Annual User Fee</b>
Residential	
Single family	\$425.00
Multi-family (per unit)	\$425.00
Townhouse	\$425.00
Mobile Home	\$425.00
Hairdressing , barber shops, beauty parlours and pet grooming	\$425.00
Coffee Shop /Restaurant /Dining	\$900.00
Food / beverage production facilities, take-out establishments	
<i>No seating</i>	\$800.00
<i>With seating</i>	\$900.00
<i>Brewery (with or without seating)</i>	\$1,500.00
Service stations	\$700.00
Car Wash (per bay)	\$400.00
Laundries	
<i>For the first machine</i>	\$250.00
<i>For each additional machine</i>	\$150.00
Motel units and/or tourist cabins	
<i>For the first unit</i>	\$350.00
<i>For each additional unit</i>	\$180.00
Hotels	
<i>For each unit</i>	\$180.00
<i>Café, pub lounge or dining room</i>	\$900.00
Short Term Rental Accommodations <sup>2</sup>	

<sup>2</sup> The renting out of a furnished apartment, house, or professionally managed resort-condominium complex on a temporary basis to tourists as an alternative to a hotel. Number of rooms determined by current listing or advertising. These rates are charged instead of Residential Rates, not in addition to.



<i>Up to 4 bedrooms</i>	\$720.00
<i>For each additional bedroom thereafter</i>	\$180.00
<i>Strata unit</i>	\$425.00
Retail stores, public halls	\$400.00
Offices, with use of washroom facility	\$400.00
School (all uses)	\$10,000.00
Hospital (all uses)	\$5,000.00
Commercial work/ maintenance yards	\$300.00
Large Grocer	\$1,100.00
Industrial sites	\$1,500.00
Commercial Swimming Pools	\$1,500.00
For any use not identified in this table ( <i>per washroom</i> )	\$180.00
Vacant lot with service available <sup>3</sup>	\$600.00
Existing improvements on property choosing not to connect <sup>4</sup>	\$50.00

The user fee structure shown above is provided as an example only. There are many factors for the Village to consider when creating a new user fee schedule.

It is recommended that every effort is made to keep commercial user fees as close to existing SSA-1 levels as possible while acknowledging that a more consistent approach to categorization will result in some initial decreases for some users and increases for others.

It is further recommended that dialogue with the commercial and institutional sector continue with respect to water metering and tying sewer user fees to metered water consumption by way of formula (as is progressively being adopted in other jurisdictions).

It is also recommended that existing properties which are not within SSA-1 but are immediately adjacent to existing sewer mains (e.g. some properties between JV Humphries School and the hospital, as well as properties on the 300 block of 'A' Avenue) are made part of the existing collection area going forward and charged the same User Fees and Local Service Taxes as the rest of SSA-1, until such time as they choose to connect to the community system.

### 7.6.3 User Fee Rate Comparison

User fees vary between municipalities and are affected by the size, age, and complexity of the sewage collection and treatment systems. User fees for single residential properties are shown

<sup>3</sup> This is a fee that is charged to serviceable (connection installed) vacant lots in standalone folios and applied in this way to encourage densification.

<sup>4</sup> This is a fee that is charged to serviceable (sewer connection installed) lots with improvements in standalone folios and applied in this way to recognize that some properties have functioning septic systems which comply with current standards.

in Table 7-6 for a number of BC municipalities – primarily communities in the West Kootenays plus a few others of similar population to Kaslo.

**TABLE 7-6 MUNICIPAL SEWER USER FEES (SINGLE RESIDENTIAL PROPERTY)**

<b>Municipality</b>	<b>Population</b>	<b>Sewer User Fees</b>
City of Nelson	11,220	\$521.00
City of Castlegar	7,947	\$511.41
City of Trail	7,165	\$241.50
Town of Creston	4,591	\$261.00
City of Grand Forks	3,958	\$510.00
City of Rossland	3,582	\$357.00
Village of Fruitvale	2,054	\$330.75
Village of Nakusp	1,698	\$430.00
Village of Warfield	1,643	\$438.00
Village of Ashcroft	1,531	\$378.00
Village of Keremeos	1,345	\$250.00
Village of Salmo	1,152	\$446.00
Village of Montrose	997	\$390.00
Village of Cache Creek	943	\$235.11
City of Greenwood	677	\$282.31
Village of Clinton	622	\$240.00
<b>Village of Kaslo (future, example)</b>	<b>986</b>	<b>\$425.00</b>

Future residential sewer user fees being considered for the Village of Kaslo are comparable to many other local communities.

#### 7.6.4 User Fees for Excess Wastewater Strength

While the restrictions associated with prohibited and restricted wastes will still apply, special user fees are proposed for the discharge of pollutants to the sewer system that fall within the levels specified for Restricted Wastes in Village of Kaslo Bylaw 1121, Schedule D. The objective would be to recover the costs associated with damage and blockages in the sewers as well as additional wastewater treatment costs relating to process upsets and additional wastewater sludge disposal costs.

In many jurisdictions, a municipal officer collects random wastewater samples which form a basis for applying waste charges to the discharger. The concentration in excess of typical domestic or commercial wastewater and the measured flows is used to calculate a mass of solids, biochemical oxygen demand and grease for which charges apply. This system has limited practicality in Kaslo.

It is proposed that a bylaw modelled on the Greater Vancouver Sewerage and Drainage District Fermentation Operations Bylaw No. 294 be adopted by the Village. This bylaw sets an annual

treatment fee based on annual production volume. It is suggested that the true impact of individual discharges on the costs to the Village need to be assessed in the formulation of these charges and they may be greater than those listed for the GVSDD.

Given that there is presently only one business discharging excess strength wastes, there is also an option to directly bill the business for costs that are identified to result from their wastes.

## 7.7 Summary of Financial Impact

Participants in the future Village of Kaslo sewer expansions will be affected differently, depending on their location.

Participants located inside the original SSA-1 have paid their contribution to the capital costs to construct the existing collection system and the existing treatment system. The Local Service Taxes in that area will relate to reserve funding for future renewal of sewage collection and treatment infrastructure. User fees in SSA-1 will cover their share of the costs to operate and maintain the collection and treatment system. This will be the case, whether or not the system is expanded.

Participants located in the sewer expansion areas will need to pay the cost for new sewers as part of each phase of expansion. Sewers are the largest component of the cost of an expansion project. The connection cost from property line to home would be an additional cost born by each homeowner. User fees in the sewer expansion areas will cover their share of the costs to operate and maintain the collection and treatment system. Similar to SSA-1, Local Service Taxes in the expansion areas cover their share of the reserve funding for future renewal of sewage collection and treatment infrastructure. In addition, a capital charge is proposed when new services are connected outside of SSA-1 or properties redeveloped within SSA-1 as a means of contributing for sewage treatment plant capacity (which has been paid for solely by SSA-1).

The estimated cost for sewer connection to an ‘average’ residential property would be as follows:

**TABLE 7-7 INITIAL SEWER CONNECTION COSTS (ONE-TIME COSTS)**

	SSA-1	SSA-2
Capital Charge (for wastewater treatment reserves)	\$0	\$3,475 <sup>1</sup>
Septic system decommissioning	\$2,500 <sup>2</sup>	\$2,500 <sup>2</sup>
Building sewer pipe from home to property line (edge of road/lane)	\$2,000 <sup>3</sup>	\$2,000 <sup>3</sup>
<b>Initial Sewer Connection Costs (approximate)</b>	<b>\$4,500</b>	<b>\$8,000</b>

Notes:

1. Capital charge amount is expected to be dependant on land use and estimated impacts on wastewater treatment capacity. This amount would be reviewed by the Village in creation an applicable bylaw.
2. Septic system decommissioning estimated costs include filing with Interior Health, septic tank pumping, and septic tank decommissioning (install drain holes in tank base, fill with gravel, repair landscaping). Septic tank pumping and decommissioning would be arranged by property owners.
3. Building sewer costs include Plumbing Permit fee (RDCK). Building sewer construction costs are expected to vary widely, and will be depending on factors specific to each property (length of service, depth of service, obstacles, surface restorations). Building sewer pipe installation would be arranged by property owners.

Based on the assumptions made previously in this document, the projected annual sewer cost for an ‘average’ residential property would be as follows:

**TABLE 7-8 PROPOSED ANNUAL SEWER COSTS FOR A RESIDENTIAL PROPERTY**

	SSA-1	SSA-2	Remainder of Village
Sewage Education and Monitoring	\$25	\$25	\$25
User Fees (Operating Charges)	\$425 <sup>1</sup>	\$425 <sup>1</sup>	\$0
Renewal Reserve Funding			
- Sewage Collection	\$90	\$90	\$0
- Sewage Treatment	\$60	\$60	\$0
<b>Proposed Annual Sewer Costs</b>	<b>\$600/year</b>	<b>\$600/year</b>	<b>\$25/year</b>

Notes:

1. User fee categories are expected to be dependant on land use and whether a property is connected to Village sewer or not. This amount would be reviewed by the Village in creation an applicable bylaw.

In addition to the initial connection costs and annual sewer costs described in Tables 7-7 and 7-8 above, loan servicing associated with future sewer construction and future treatment upgrades would be paid by sewerred areas. The potential annual loan servicing costs would be as follows:

**TABLE 7-9 POTENTIAL FUTURE ANNUAL LOAN SERVICING COSTS FOR A RESIDENTIAL PROPERTY**

	SSA-1	SSA-2	Remainder of Village
Loan servicing – sewage collection system	\$0	\$925 <sup>1</sup>	\$0
Loan servicing – sewage treatment (Phase 1)	\$140 <sup>2</sup>	\$140 <sup>2</sup>	\$0
Loan servicing – sewage treatment (Phase 2)	\$195 <sup>2</sup>	\$195 <sup>2</sup>	\$0
<b>Potential Future Annual Loan Servicing Costs</b>	<b>\$335/year</b>	<b>\$1,260/year</b>	<b>\$0/year</b>

Notes:

1. Amount would be reduced depending on level of infrastructure grant funding received. The Village is currently in receipt of 100% grant funding, which will reduce this amount to \$0 for the proposed initial expansion area (60 properties).
2. Amount would be reduced depending on level of infrastructure grant funding received. In addition, the amount would be reduced depending on the total dollar amounts collected via capital charges (example \$3,475 per residential property, as noted in Table 7-7), and reduced to some extent by renewal reserve funding collected (as noted in Table 7-8).

As noted above, future Sewage Treatment upgrading costs would be applied to all sewerred areas when those treatment upgrades are needed in the future. Those treatment upgrading costs ‘per folio’ will be highly dependant on the timing of the upgrades in relation to the size of the sewerred area, and would be reduced by the amount of reserves collected via the Capital Charges (Table 7-7) and Renewal Reserve Funding (Table 7-8).

The costs summarized above would also change with time, as described in previous sections:

- Sewage Treatment and Collection Construction Costs would be eliminated when loans are paid off.
- Renewal reserve taxes will remain in place even after construction loans are paid off, and will change with time as additional information is gathered regarding infrastructure condition.
- User Fees would generally be reduced as the sewer service area expands.

## 8.0 Draft Operational Certificate Criteria

An operational certificate would be issued in response to the authorization of a waste management plan to specify terms and conditions additional to the requirements of the MWR. Operational Certificates are ongoing and may be amended, suspended or cancelled.

A new Operating Certificate revising the existing discharge permit will be sought from the Ministry of Environment. The draft Certificate is provided as **Appendix G**.

The Operational Certificate is substantially similar to the existing discharge permit with the following changes;

1. The existing permit limits on effluent turbidity and suspended solids were intended to ensure disinfection compliance but are stricter than necessary for this purpose. The bacteria compliance target should be separate from the suspended solids compliance target. Thus, the limit on effluent suspended solids should be increased to the default limit of 45 mg/L (maximum) set by the MWR.
2. The CBOD target is currently shown at 30 mg/L maximum (per existing permit), which is less than the default limit of 45 mg/L (maximum) set by the MWR.
3. Acute lethality testing will be implemented as required under the WSER.
4. Once treatment system redundancy is added to the plant design in accordance with the component and reliability criteria specified by the MWR, then the requirement for 24 hour storage can be deleted. The requirement for storage of a spare RBC shaft could also be deleted.

When the treatment plant is upgraded the the existing permit will no longer apply to existing works and plant operations. The BC Ministry of Environment will require that either the existing permit be amended to include the Operational Certificate, or that the Village apply for registration under the Municipal Wastewater Regulation.

## 9.0 LWMP Summary of Outcomes

The Village of Kaslo started this LWMP process in 2012. Community input has been incorporated into the Stage 1, 2, and 3 reports. The general outcomes of the LWMP are summarized as follows:

1. The Liquid Waste Management Plan considers options for providing community sewers and increasing the capacity of the wastewater treatment system to accommodate more of Kaslo into the municipal collection system.
2. Sewer expansion is envisioned to prioritize the Lower Kaslo area, with sewerage projects occurring incrementally with time. Sewerage projects would be triggered by factors including:
  - Long term community goals per the Integrated Community Sustainability Plan and the Official Community Plan.
  - Project cost and resulting cost per property.
  - Monitoring and documentation of septic system performance.
  - Public initiatives.
3. Without grants, capital construction costs of the Village-owned infrastructure (not including service pipes on private property) are anticipated to be around \$15,500 per property for sewerage plus approximately \$5,500 per property for future treatment upgrades. To maintain a reasonable cost to the community, the Village will aspire to limit borrowing to 33% of projects over \$250,000, and \$1.5M on an ongoing basis.
4. Funding sources for the LWMP implementation are proposed to include:
  - Parcel tax including a community-wide contribution for sewage education and monitoring
  - Parcel tax on individual sewerage areas for each sewerage collection expansion
  - Parcel tax on all sewerage areas for future sewerage treatment upgrades
  - Parcel tax on all sewerage areas for reserve funding
  - Implementation of a capital charge as a contribution to sewerage treatment reserves by future services and future redeveloped properties for wastewater treatment capacity
  - User fees on all sewerage areas for annual operating costs
5. Funding structure for sewer expansions are proposed to include:
  - Common reserve funding structure across all sewerage areas
  - Common user fee structure across all sewerage areas
6. Additional administrative and governance changes associated with LWMP implementation include:
  - Payments in lieu of taxes are to be made for 'tax exempt' properties within all sewerage areas
  - Restructure of the sewer user fees
  - Restructure of the sewerage regulation bylaw, and enhance the source control for higher strength industrial discharges as well as commercial kitchens



## APPENDIX A

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### Glossary of Terms

# Village of Kaslo

## Liquid Waste Management Plan

### Glossary of Terms

This document outlines the glossary of terms of the LWMP. The terms were derived from standard definitions included in the 2012 BC Municipal Wastewater Regulation and 2010 BC Sewerage System Regulation.

- **“Advanced treatment”** means any form of treatment, other than dilution, that produces effluent quality with BOD<sub>5</sub> and TSS being 10 mg/L or less each;
- **“Biosolids”** refers to treated sewage sludge that meets pollutant and pathogen requirements for land application and surface disposal;
- **“BOD<sub>5</sub>”** means the carbonaceous 5-day biochemical oxygen demand;
- **“Contributory population”** means the number of persons connected to the municipal wastewater collection system and the equivalent commercial and industrial contributions of municipal wastewater to that municipal wastewater collection system;
- **“Discharge”** means, when used as a noun, the total amount of municipal wastewater, including reclaimed water, released into the receiving environment from works and, when used as a verb, to release a discharge;
- **“Discharger”** means a person authorized by the latest Province of British Columbia Municipal Wastewater Regulations to discharge;
- **“Disinfection”** means the destruction, inactivation or removal by any means of pathogenic microorganisms;
- **“Domestic sewage”** and **“domestic wastewater”** have the same meaning which includes human excreta and waterborne waste from the preparation and consumption of food and drink, dishwashing, bathing, showering and general household cleaning and laundry, except waterborne waste from a self-service Laundromat;
- **“Effluent”** means domestic sewage that has been treated by a treatment method and discharged into a discharge area;
- **“Groundwater”** means subsurface water at or below a water table in fully saturated geologic materials and formations;
- **“Holding tank”** means a watertight container for holding domestic sewage until the domestic sewage is removed for treatment;
- **“Inflow and infiltration”** or **“I&I”** means water that enters a municipal wastewater collection system directly from a stormwater connection (inflow) or indirectly through the land (infiltration);
- **“Irrigation”** means the application of reclaimed water at agronomic rates when irrigating vegetation;

- **“MPN”** means most probable number;
- **“Municipal effluent”** means the liquid results from the treatment of municipal waste;
- **“Municipal wastewater”** means domestic wastewater or municipal liquid waste, including contributions from holding tanks in recreational vehicles, boats and houseboats; commercial, institutional and industrial sources; inflow and infiltration; septic tank pumpage; holding tank solids; and sludge from wastewater facilities;
- **“Municipal wastewater collection system”** means a conveyance system operated and maintained for the purpose of transporting municipal wastewater to a wastewater treatment facility including of gravity sewer and pressurized forcemain piping and liftstations but not including wastewater treatment and discharge facilities;
- **“NTU”** means nephelometric turbidity unit;
- **“Owner”**, in respect of land on which a sewerage system or holding tank is, or is required to be, constructed under this regulation, includes a person registered in the land title records as the owner of the land, a lessee or person holding a license to occupy the land and a strata corporation or other corporate entity that developed the parcels, strata lot or shared interest;
- **“Primary treatment”** means any form of treatment, other than dilution, that produces a municipal effluent quality with BOD<sub>5</sub> and TSS being not more than 130 mg/L each;
- **“Qualified professional”** means an applied scientist or technologist specializing in a particular applied science or technology, including agronomy, biology, chemistry, engineering, geology or hydrogeology who is registered in British Columbia with the professional organization responsible for his or her area of expertise, acting under that professional association’s code of ethics and subject to disciplinary action by that association, and who, through suitable education, experience, accreditation and knowledge, may be reasonably relied on to provide advice within his or her area of expertise as it relates to the latest Province of British Columbia Municipal Wastewater Regulations;
- **“Reclaimed water”** means municipal wastewater that is treated by a wastewater facility and suitable for reuse in accordance with the latest Province of British Columbia Municipal Wastewater Regulations;
- **“Residential development”** means a dwelling or collection of dwellings that serve as the primary residence of the majority of their inhabitants, all of whom rely on a discharger to provide a municipal wastewater system;
- **“Secondary treatment”** means any form of treatment, other than dilution, that produces a municipal effluent quality with, in the case of a lagoon system, BOD<sub>5</sub> being not more than 45 mg/L and TSS being not more than 60 mg/L and, in any other case, BOD<sub>5</sub> and TSS being not more than 45 mg/L each;

- **“Septic tank”** means a watertight vessel into which municipal wastewater is continually conveyed such that solids within the municipal wastewater settle, anaerobic digestion of organic materials occurs and municipal effluent is discharged;
- **“Sludge”** refers to solids separated during the treatment of municipal wastewater and includes domestic septage;
- **“Standard practice”** means a method of constructing and maintain a sewerage system that will ensure that the sewerage system does not cause, or contribute to, a health hazard;
- **“Surface water”** means a natural water course or source of fresh water, whether containing water or not, and includes: a lake, river, creek, spring, ravine, stream, swamp, gulch and brook; and a ditch into which a natural watercourse or source of fresh water has been diverted; but does not include groundwater or water in a culvert that is constructed to prevent the contamination of a watercourse by domestic sewage or effluent;
- **“Stormwater”** means runoff from rainfall, snow or snowmelt;
- **“Treatment method”** means a treatment method for domestic sewage classified as Type 1, Type 2 or Type 3 where:
  - Type 1 is treatment by septic tank only,
  - Type 2 is treatment that produces an effluent consistently containing less than 45 mg/L of total suspended solids and having a 5 day biochemical oxygen demand of less than 45 mg/L, and
  - Type 3 is treatment that produces an effluent consistently containing less than 10 mg/L of total suspended solids and having
    - A 5 day biochemical oxygen demand of less than 10 mg/L, and
    - A median fecal coliform density of less than 400 Colony Forming Units per 100 mL.
- **“TSS”** means the total suspended solids or non-filterable residue;
- **“Wastewater treatment plant”** or **“WWTP”** means a system for treating domestic or municipal wastewater that uses one or more treatment methods and a discharge area;

## APPENDIX B

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### Committee Meetings

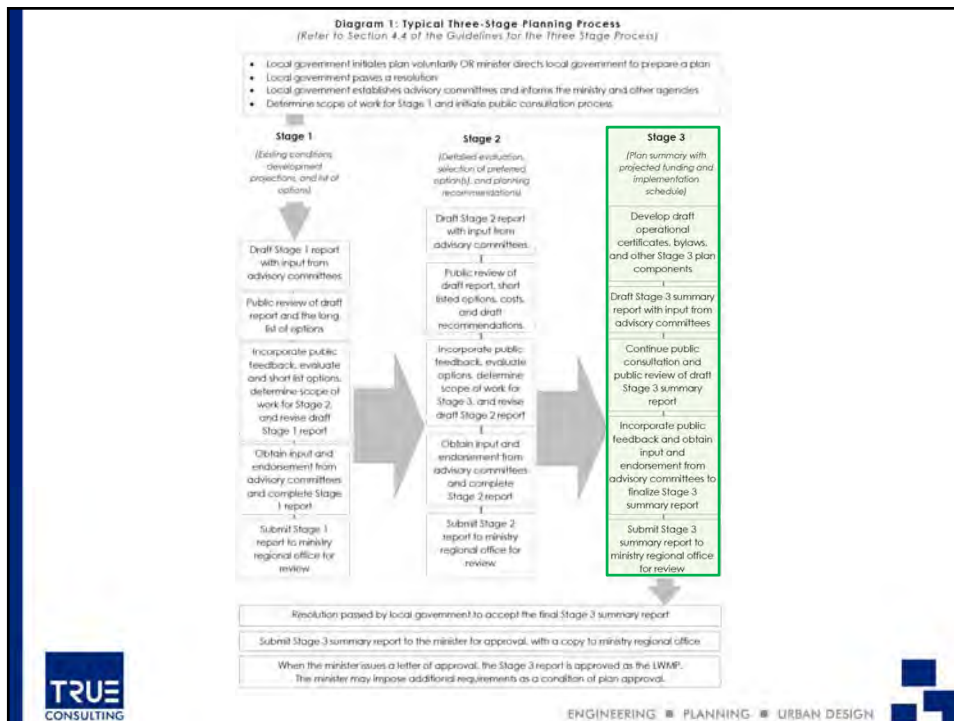
# Advisory and Steering Committees Meetings #1

# Village of Kaslo Liquid Waste Management Plan Stage 3 – Advisory Committee Meeting #1

- Introductions
- Discussion of Stage 2 findings
- Planning for Stage 3



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## LWMP – Stage 3 Overview

- Undertake Environmental Review of preferred option
- Prepare draft LWMP Implementation Plan
- Prepare a draft of operational certificate requirements
- Prepare Stage 3 LWMP Draft Report
- Public consultation
- Prepare Stage 3 LWMP Final Report



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## Public Consultation

- Part 1: Preliminary meetings with Steering Committee (SC) and Advisory Committee (AC) to define scope of work; agree on and develop communications plan and public engagement materials; further investigate issues;
- Part 2: Conduct public engagement; currently proposed to include public Open Houses and focus group meetings
- Part 3: Complete all follow-up work, review surveys and analyze results, and issue Public Consultation report, for incorporation into the Stage 3 LWMP.



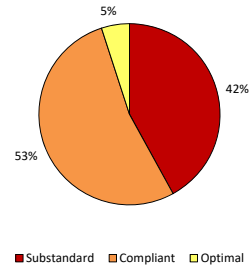
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# Private Septic Systems: Known Issues

## Parcel Sizes with Septic Systems Comparison to Local Bylaws and Typical Municipal Standards:

### Lower Kaslo

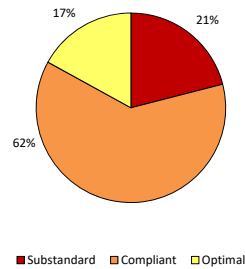


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# Private Septic Systems: Known Issues

## Parcel Sizes with Septic Systems Comparison to Local Bylaws and Typical Municipal Standards:

### Upper Kaslo

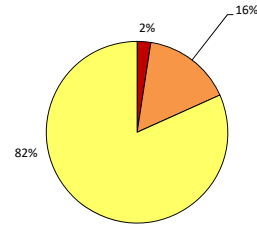
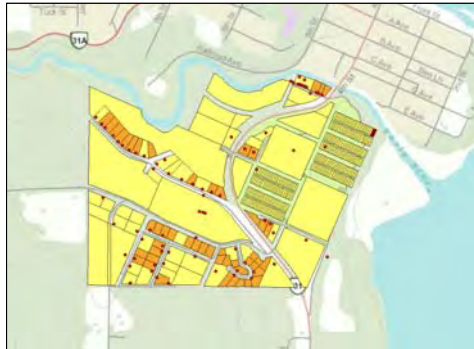


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# Private Septic Systems: Known Issues

## Parcel Sizes with Septic Systems Comparison to Local Bylaws and Typical Municipal Standards:

South Kaslo



■ Substandard ■ Compliant ■ Optimal



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# Municipal Sewage Collection System: Current Layout



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## Municipal Wastewater Treatment Plant: Overview (Part 1)

- Designed to treat 340 m<sup>3</sup>/day of liquid waste
- Permitted to discharge 370 m<sup>3</sup>/day of effluent
- Sludge dewatered and sent to landfill
- Treated effluent outfall to Kootenay Lake
- Currently operates at 50% of capacity
- All flows are currently from domestic and commercial properties (low strength wastes)



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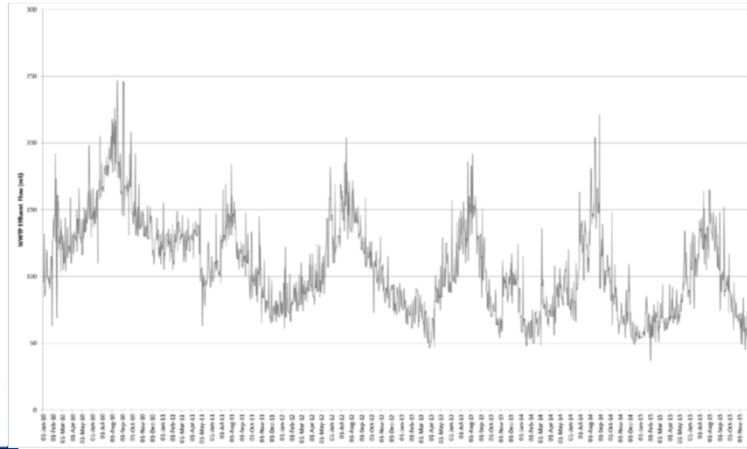
## Municipal Wastewater Treatment Plant: Overview (Part 2)

- Design capacity is reserved for properties within SSA No. 1
- Effluent quality meets permit requirements (except for suspended solids)
- There are no known issues related to treated effluent discharge into Kootenay Lake



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## Specified Sewer Area No. 1 (Municipal Sewage System): Existing Wastewater Flows



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## Effluent Quality Standards

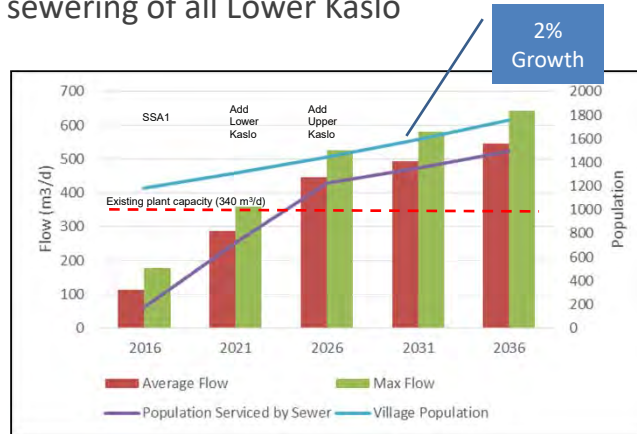
Quality Parameters	Maximum Allowable Concentrations			
	BC Municipal Wastewater Regulation	Federal Wastewater Systems Effluent Regulations	MoE - Permitted Effluent Characteristics from Kaslo WWTP	Village of Kaslo - Actual Effluent Properties from Kaslo WWTP
BOD <sub>5</sub> (mg/L)	45 (max)	25 (ave)	30 (max)	<10
TSS (mg/L)	45 (max)	25 (ave)	10 (max)	<40
Ammonia Nitrogen (mg/L)	-	-	10	<1
Unionized Ammonia (mg/L)	-	1.25 (max)	-	-
Fecal Coliform (MPN/100 ml)	-	-	200	<50
Turbidity (NTU)	-	-	5	-
Total Phosphorus (mg/L)	1	-	-	-
Phosphate (mg/L)	0.5	-	-	-
pH	6-9	-	-	6.9-8.5



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## Wastewater Flow Projections

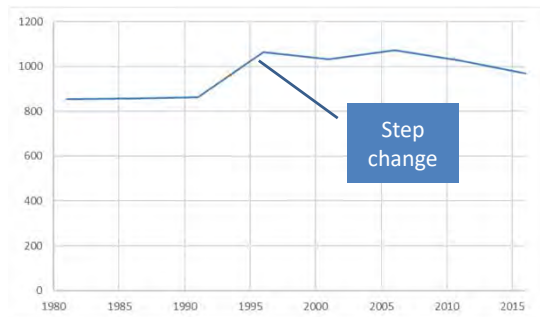
- With some minor treatment system improvements, the existing WWTP capacity would be adequate for the sewerage of all Lower Kaslo



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## Wastewater Flow Projections

- Population has been stable apart from a step change from 1991 to 1996



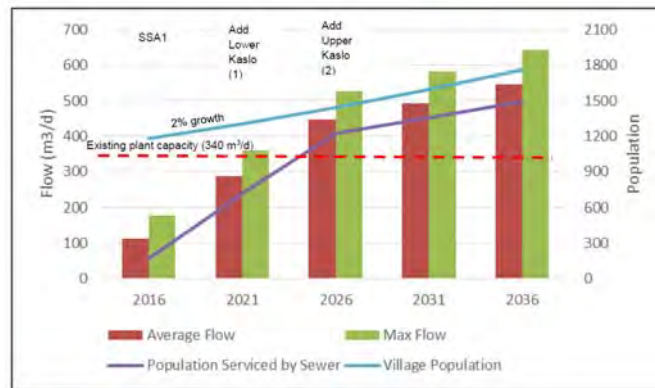
KASLO MUNICIPAL CENSUS POPULATION (1981 – 2016)



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## Wastewater Flow Projections

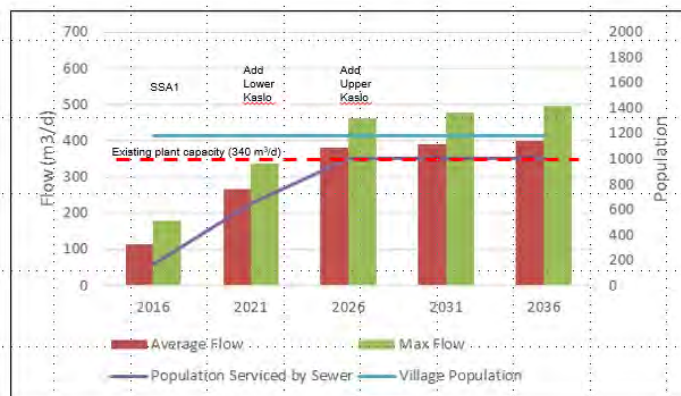
- With some minor treatment system improvements, the existing WWTP capacity would be adequate for sewerage of all Lower Kaslo, even with 2% growth



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## Wastewater Flow Projections

- At 0% growth the plant would still need to be upgraded for Upper Kaslo flows



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## Future Alternatives

- Options considered are based on domestic strength wastes complying with Kaslo Sewer Bylaw 1121 (None of the following: Suspended solids > 600 mg/L; pH <5.5 or >9.5; Unusual BOD; Any water or wastes that create any other condition deleterious to structures or treatment process)

## Alternative 1: Status Quo



## Alternative 1: Status Quo

- **Advantages**
  - Minimal capital costs to Village
- **Disadvantages**
  - No expansion of services
  - Impact on growth potential
  - Development challenges
  - Continued private septic system failures (costly to those property owners)
  - Most negative impact on environment



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## Alternative 2: Expand SSA No. 1



**\$1,500,000**—Expansion of wastewater treatment plant

**\$3,500,000**—Expansion of collection system

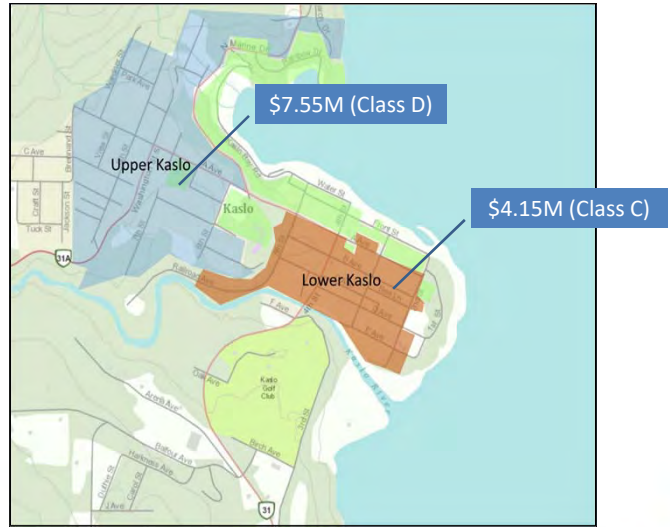
**\$5,000,000**—Total cost of Alternative 2



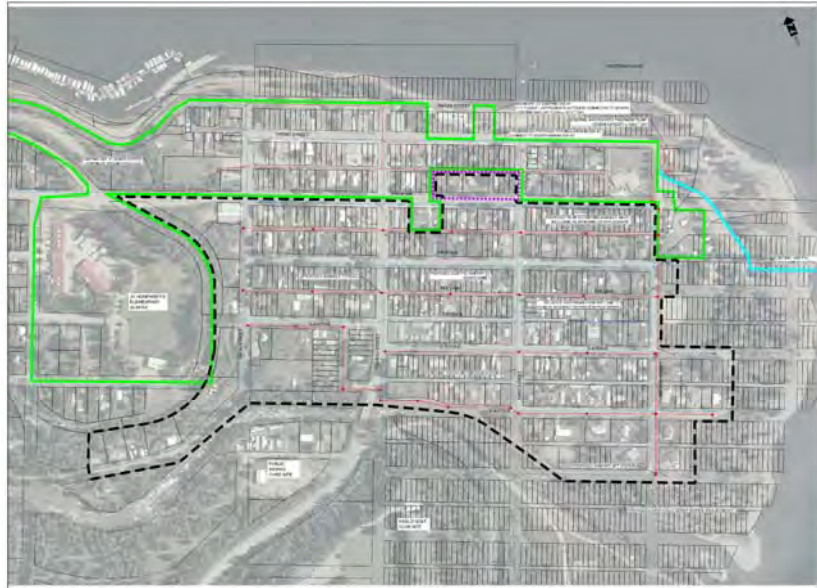
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## Future Service Areas – Sewering Costs

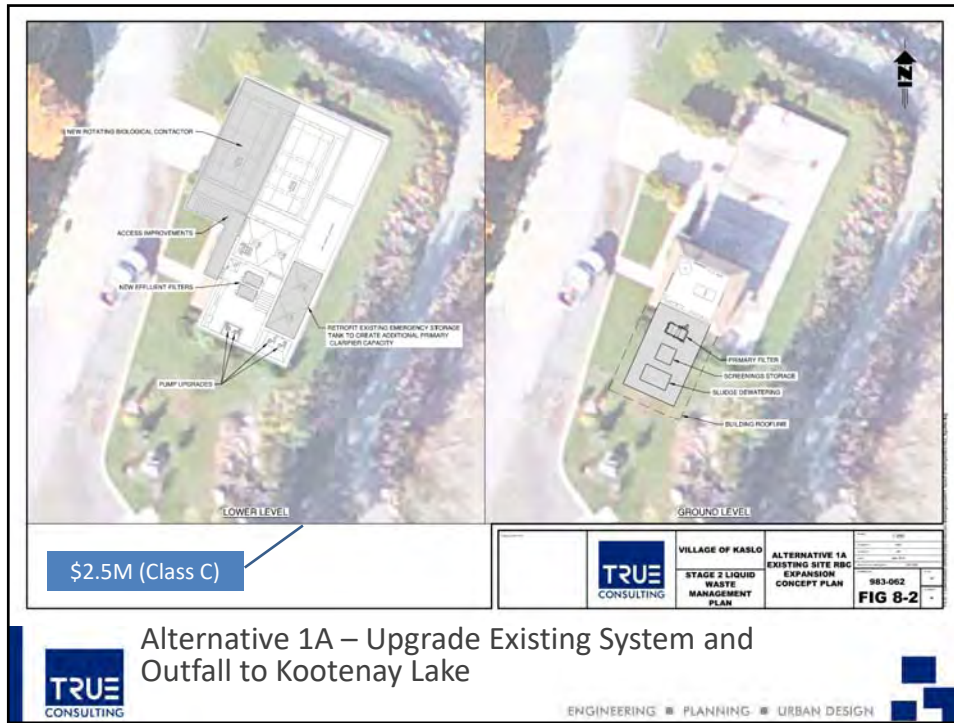


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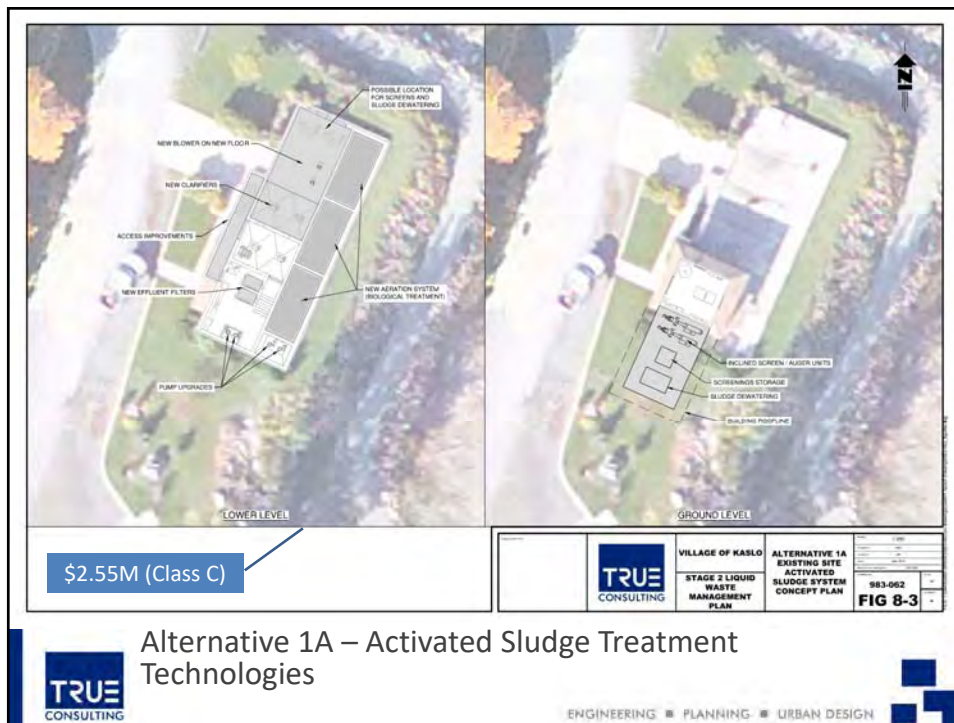


## Lower Kaslo Sewering Concept

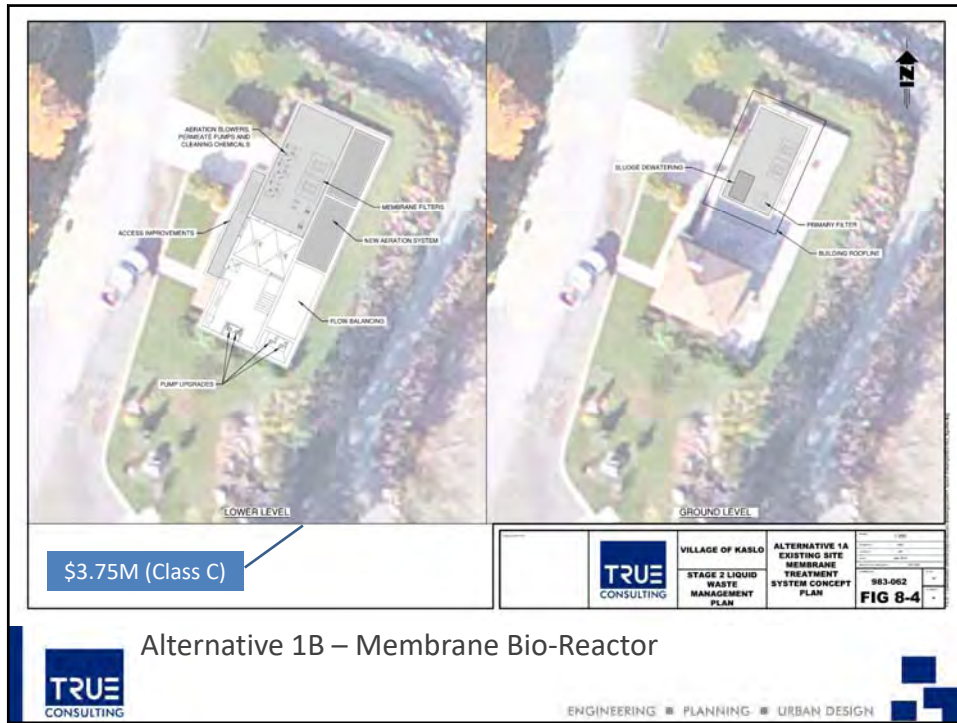
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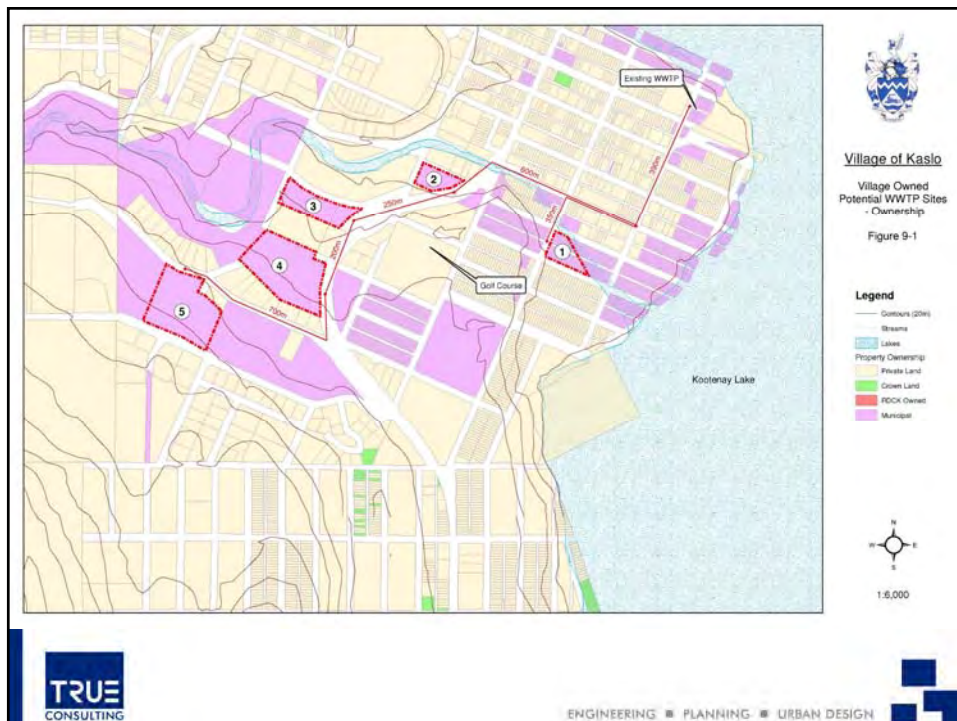
Alternative 1A – Upgrade Existing System and Outfall to Kootenay Lake

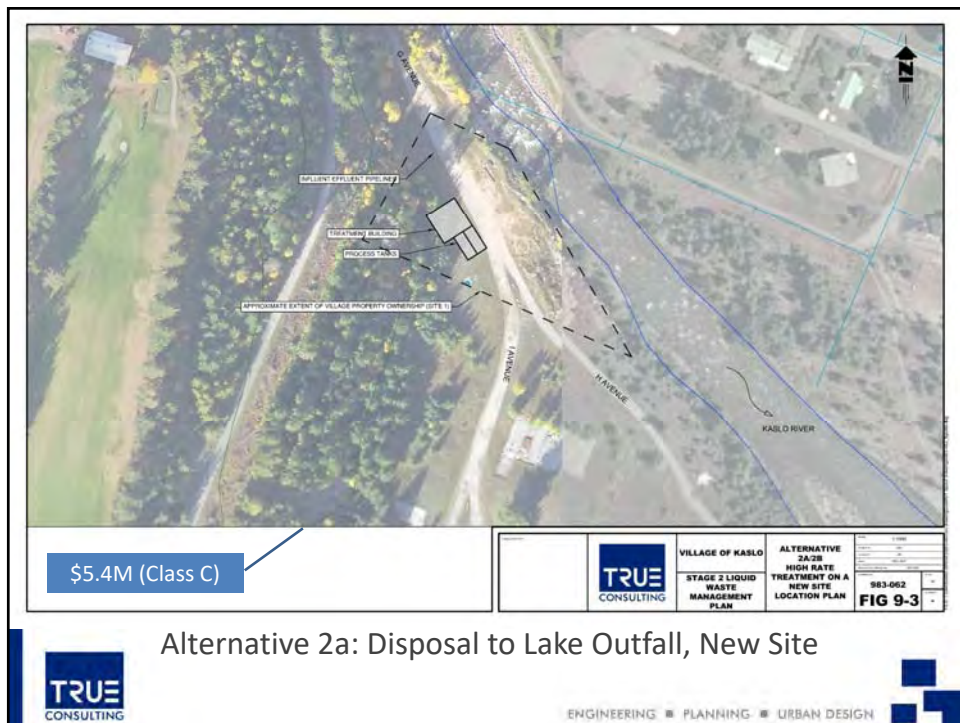
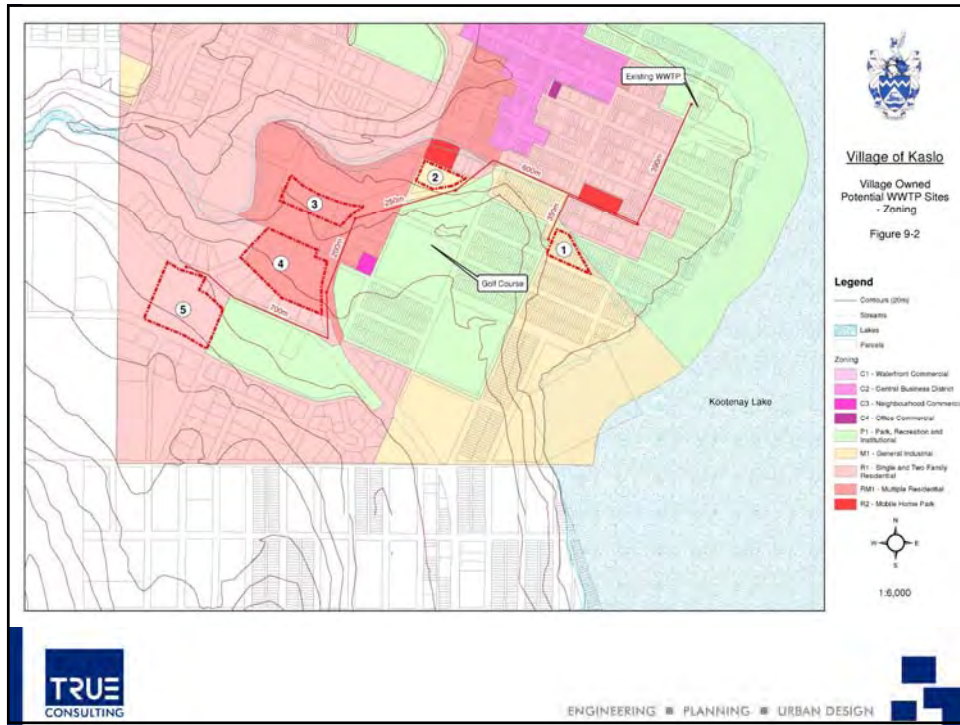


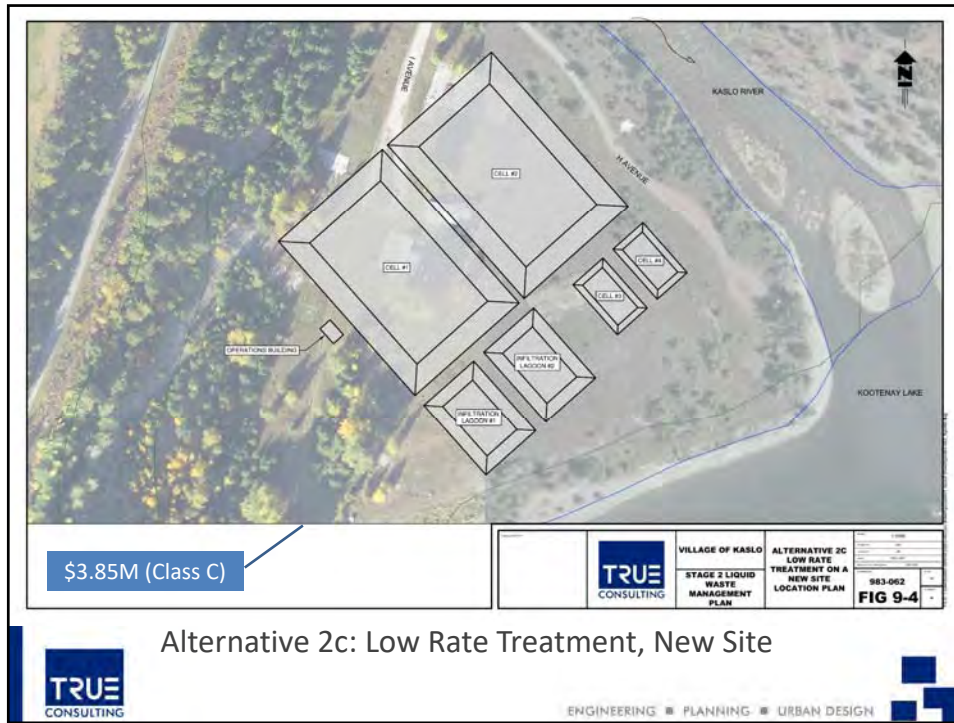
Alternative 1A – Activated Sludge Treatment Technologies



Alternative 1B – Membrane Bio-Reactor







Alternative 2c: Low Rate Treatment, New Site

## Comparison of Alternatives

	Alt. 1a: Upgrade Existing System and Outfall to Kootenay Lake	Alt. 1b: Add Treatment for Reuse	Alt. 2a: Move to New Site and Outfall to Kootenay Lake	Alt. 2b: Add Treatment for Reuse	Alt. 2c: Move to New Site. Treatment for Disposal to Ground
Treatment	\$2.5M	\$5.2M	\$5.4M	\$7.3M	\$3.8M
Pipelines	\$11.7M	\$11.7M	\$11.7M	\$11.7M	\$11.7M
Total Cost	\$14.2M	\$16.9M	17.1M	\$19.0M	\$15.5M
Growth of Village	*	**	***	***	**
Suitable Surrounding Land Use	*	*	***	***	***
Treatment Complexity	***	*	**	*	***
Land Requirements	***	***	**	**	*
Ability to Phase Construction	***	*	*	*	**
Capital Cost	***	*	*	*	**
O&M Cost	***	*	**	*	**

\*\*\* Best    \*\* Average    \* Worst



## LWMP Stage 2 – Findings

- Effluent quality produced by the Kaslo WWTP generally complies with the requirements of the permit issued by MoE. Permit is onerous for TSS and turbidity
- Existing plant can treat flow from Lower Kaslo.
- Existing treatment technology remains suitable.
- Existing treatment system could be expanded to sewer Upper Kaslo.
- Benefits of expansion of the sewer network to Upper Kaslo are less than in Lower Kaslo. Cost per property for expansion to Upper Kaslo is expected to be significantly greater.
- 2% growth rate has been used in population projections. Actual growth around 0%.
- Relatively high cost for constructing a treatment plant at a new site.
- No strong driver for effluent reuse in Kaslo.



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## Stage 2 Recommendations

1. Expansion of the Village's community sewerage system is recommended.
2. The priority for municipal sewage expansion should be the Lower Kaslo area due to high dwelling density, floodplain considerations, and free draining soil conditions.
3. A revised permit should be sought from the Ministry of Environment.
  - a) If treatment system redundancy is added to the plant design, then the requirement for 24 hour storage should be deleted.
  - b) It is proposed that no specific limit be included in the permit for turbidity. The limit on effluent suspended solids should be increased to the default limit set by the regulations.
4. The recommended option is Option 1a (existing process technology / existing site). Part of the treatment upgrade would be undertaken in Phase 1, with the remainder completed in Phase 2.
5. Stage 3 of the LWMP to include a cost recovery structure to address 'fairness' issue associated with past cost paid to construct existing wastewater treatment plant, and future allocation of existing unused treatment plant capacity.



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## Estimated Costs (Option 1a)

Phase 1 – Extend Sewer Service to Lower Kaslo		
1.0	Treatment Upgrades	\$750,000
2.0	Sewer Pipelines	\$4,150,000
	Total Phase 1 (rounded)	\$4,900,000
	Approx cost per house	\$27,000
Phase 2 – Extend Sewer Service to Upper Kaslo		
1.0	Treatment Upgrades	\$1,750,000
2.0	Sewer Pipelines	\$7,550,000
	Total Phase 2 (rounded)	\$9,300,000
	Approx cost per house	\$43,000



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## Changes Since Stage 2

- MoE not resourced to quickly approve Stage 2. As a result, Stage 3 is being completed ahead of the approval of Stage 2.
- Angry Hen Brewing approved to open a brewing facility in SSA1. Untreated brewery effluent is commonly 10 – 20x more concentrated than domestic waste. Flows depend on production.



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## Next Steps – Stage 3

- Reconsider Stage 2 preferred option to allow for more concentrated wastes and / or higher flows?
- Prepare draft LWMP Implementation Plan
- Prepare a draft of operational certificate requirements
- Prepare Stage 3 LWMP Draft Report
- Public consultation
- Prepare Stage 3 LWMP Final Report



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## Discussion

Thank you!



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# Kaslo LWMP Stage 3

July 17, 2017

1:30pm – 3:30pm

Kaslo Municipal Hall

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<b>Meeting called by:</b>	TRUE Consulting	<b>Type of meeting:</b>	Steering Committee meeting #1
<b>Facilitator:</b>	Village of Kaslo	<b>Note taker:</b>	Rob Wall
<b>Timekeeper:</b>	N/A		

**Attendees:**

Neil Smith (CAO, Village of Kaslo), Mike Lind (Public Works Foreman, Village of Kaslo), Councillor Kellie Knoll (Village of Kaslo), Councillor Rob Lang (Village of Kaslo), Scott Wallace (TRUE), Rob Wall (TRUE)

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## *Minutes*

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**Agenda item:** Project initiation presentation **Presenter:** Scott Wallace

**General discussion:**

Policy areas and general questions:

- Consideration of treating sewage as a general community function, with contribution to reserves from general taxation
- How to deal with expansion of sewer with potential disparities when some areas may receive grant funding
- Light industrial capacities: potential for future additions?
- Bylaw additions to provide more information “up front” to assist in development approvals
- Expansion / extended service area: Is there potential for alteration / amendment of LWMP subsequent to Stage 3 approval?

Consultation:

- Preference for public dialogue in fall instead of summer.
- Is there opportunity to engage specific interest groups who may be directly impacted by proposed changes?
- Create opportunity for FNs to provide input similar to Stage 2.

Schedule:

- Council direction: completion of Stage 3 preferred in 2017
- Stage 3 report outline for middle August
- Draft report for middle September to include where, when, how much?
- Engagement package draft in early fall
- Next meeting intended to be 3<sup>rd</sup> or 4<sup>th</sup> week of August

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## *Other Information*

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**None to report.**

# Kaslo LWMP Stage 3

July 17, 2017

3:30pm – 5:30pm

Kaslo Municipal Hall

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<b>Meeting called by:</b>	TRUE Consulting	<b>Type of meeting:</b>	Advisory Committee meeting #1
<b>Facilitator:</b>	Village of Kaslo	<b>Note taker:</b>	Scott Wallace
<b>Timekeeper:</b>	N/A		

## Attendees:

Neil Smith CAO (Village of Kaslo), Lynn VanDeursen (resident), David Russell (resident), Anita Ely (Interior Health, Salmon Arm via Webex), Anne Malik (resident), Don Scarlett (resident, Kaslo and District Chamber of Commerce), Scott Wallace (TRUE Consulting), Rob Wall (TRUE Consulting).

## Minutes

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<b>Agenda item:</b>	Project initiation presentation	<b>Presenter:</b>	Scott Wallace
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### General discussion:

Background information:

- Current Stage 2 Report to be circulated to current (including several new) Advisory Committee members.

Comments regarding treatment and collection expansions:

- Redevelopment potential not addressed through existing bylaws
- Advisory committee: potential to provide input to bylaw development
- Consideration of a mandatory connection bylaw within sewered area
- Future expansions beyond what is envisioned in this plan: may be viable, with associated costs covered by contributions from developers.
- Is there potential for use of a STEP system (maintain private septic tanks, effluent pumped or gravity fed to community collection system)? Some discussion of unknown condition of private septic tanks, risks associated with continued reliance on partial treatment by private systems.
- Local septic designer aware of 11 septic failures in past 12 years:
  - All caused by poor design or installation
  - 5 in lower Kaslo, 6 in Upper Kaslo
  - Are there options to quantify the magnitude of perceived issue?

Comments regarding plan implementation costs:

- Feedback Village has received from province: potential limits on funding from province = ~\$3.7M project size.
- Village tax base determines borrowing capacity of maximum ~\$6.0M total.
- Grant funding may result in fairness issues.
- Is there ability / justification for a financial contribution for parcels outside of SSA#1 to be used towards existing treatment plant capacity?

Comments regarding public consultation:

- Public consultation to date seems unclear, need to present information and frame it as a question to the public.

- Good to recognize what information we don't have, as well as what we do know.
  - Consider scheduling the town hall meetings for two groups, each to be able to ask questions and stimulate discussion. The following individuals/parties to be included in discussion:
    - SSA#1 'owner members' (via meeting or mail out).
    - The rest of the community.
- 

### ***Other Information***

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**Observers:** Ed Grifone (CTQ Consultants, Steering Committee observer)

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## Advisory and Steering Committees Meetings #2

# Village of Kaslo

## Liquid Waste Management Plan

### Stage 3 – Advisory Committee Meeting #2


Location: Village of Kaslo, council chambers  
Date: February 1, 2018  
Time: 3-5pm



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## Agenda / Goals

- Provide update of Stage 3 status
- Identify missing information in Stage 3 report
- Identify preferred capital cost allocation methods
- Identify preferred public consultation format and key information
- Review Stage 3 timeline



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## Stage 3 Status

- Stage 2 and 3 of LWMP are 'combined'
  - Reports maintained as separate documents
- Stage 3 work extended into 2018
  - Village 'Lands' project considerations
  - SSA1 light industrial development implications
  - Environmental impact study



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## Stage 3 Report: sections 1-4

- Summary of Stage 1 and 2 work
- Community sewer expansion prioritized for Lower Kaslo (\$4.65M) before Upper Kaslo (\$8.22M)
- Community sewage treatment upgrades phased based on contributing flows reaching 350 m<sup>3</sup>/day (\$750,000) and 500 m<sup>3</sup>/day (\$1,750,000)



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## Stage 3 Report: sections 1-4

- Village 'Lands' project:
  - Initial lands inventory and review complete
  - Most favourable Village-owned lands for future development are south of Kaslo River
  - OCP and LWMP to discuss realistic approaches for servicing bareland strata development south of Kaslo River in the absence of municipal sewage collection



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## Stage 3 Report: sections 1-4

- Light industrial development (local brewery):
  - Production has started, but full impacts on community treatment plant not yet known
  - Stage 3 includes educational information on how other jurisdictions are dealing with fermentation operations, and recommendations for bylaws to improve source control, monitoring, and equitable charges



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## Stage 3 Report: section 5

- Environment
  - General educational information provided on private septic systems, and references to other Kootenay Lake water quality monitoring work completed by MoE in 2008
  - Receiving environment data (such as lake water quality) does not exist for the Kaslo area



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## MoE Study (2008): not in section 5

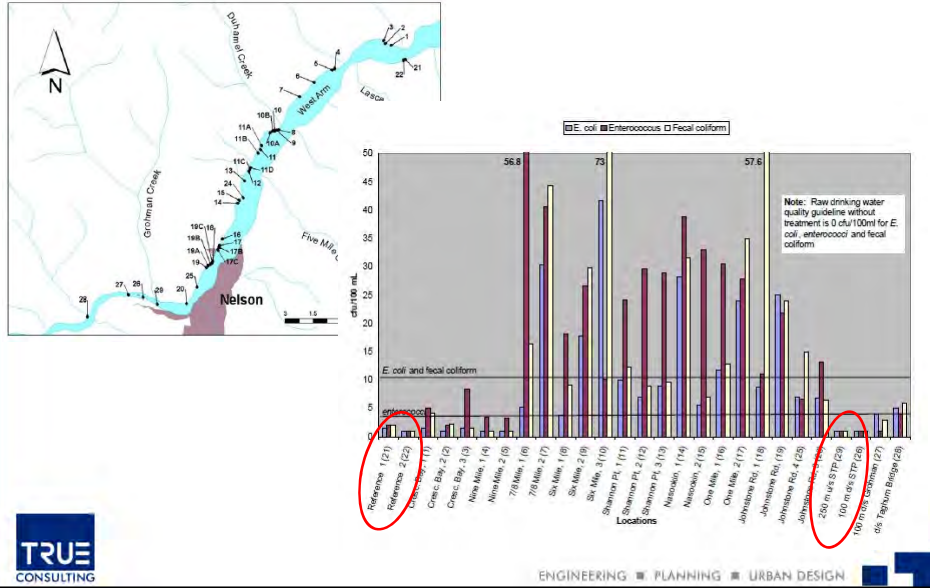
- MoE conducted preliminary investigation of potential effects of failing septic fields on water quality of West Arm of Kootenay Lake
- 140+ samples from 40 locations in fall 2008
- Findings:
  - Localized impacts to lake water quality in West Arm of Kootenay Lake
  - Failure of septic systems is most likely the significant cause of the bacteriological contamination
  - Recreational use of water has not been impaired
  - There may be impacts to drinking water quality



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## MoE Study (2008): not in section 5



## Stage 3 Report: section 5

- Environmental Impact Study complete
  - Purpose was to review impact of community sewer system on receiving environment
  - No implications expected to result from expansion of existing community sewage collection and treatment
  - Additional monitoring required once flows exceed 500 m<sup>3</sup>/day

## Stage 3 Report: section 7.1

- Schedule not fixed. Incremental sewer expansions anticipated, timing based on:
  - Community goals
  - Cost
  - Documentation of issues
  - Public initiatives
- Envision Lower Kaslo sewerage over next 10 years



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## Stage 3 Report: section 7.2

- Funding approach for the sewer utility:
  - Local service area taxes
  - Community wide Environmental Tax
  - DCCs / Latecomers agreements
  - Partnership agreements
  - User fees



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## Stage 3 Report: section 7.3

- Funding capital projects:
  - Expectations of affordability, grant funding, and borrowing limitations
- Sewage collection expansion (pipes) paid for by property owners in each expansion area:
  - Parcel taxes based on 'folio' frontage
- Sewage treatment upgrades and renewal paid for by the entire community
  - Environmental tax based on property value
- Expansions beyond Lower and Upper Kaslo would be 'developer driven' and could not place additional operating burden, capacity pressure, or capital debt on existing taxpayers



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## Stage 3 Report: section 7.4 to 7.6

- Financial impact scenarios developed for an initial incremental sewer expansion in part of Lower Kaslo, as well as phased treatment upgrades
- User fees:
  - Future trend provided to show how sewer expansions are anticipated to impact user fees
  - Example rate structure provided by Village staff to convey general idea of user fee allocation



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## Stage 3 Report: section 7.4 to 7.6

- Financial Summary (Scenarios)

Cost for residential property (no grant)

	SSA-1	SSA-2	Remainder of Village
Sewage Collection Construction Loan Servicing and Renewal Reserve	\$100	\$1080	\$0
Environmental Tax (All of Kaslo)	\$105	\$105	\$105
User Fees (Operating Charges)	\$450	\$450	\$0
Total Annual Cost per folio (on average)	\$655	\$1,635	\$105

Cost for residential property (67% grant)

	SSA-1	SSA-2	Remainder of Village
Sewage Collection Construction Loan Servicing and Renewal Reserve	\$100	\$465	\$0
Environmental Tax (All of Kaslo)	\$55	\$55	\$55
User Fees (Operating Charges)	\$450	\$450	\$0
Total Annual Cost per folio (on average)	\$605	\$970	\$55



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## Next Steps – Stage 3

- Gather any remaining information required
- Complete draft Stage 3 report
- Determine format and timing of public consultations
- Revise and finalize Stage 3 report
- Submit completed Stage 2 and 3 reports to Ministry of Environment for review and approval



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Discussion

Thank you!

**TRUE**  
CONSULTING

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**Advisory Committee Meeting #2  
Minutes**

**Liquid Waste Management Plan – Stage 3  
Village of Kaslo**

3:00 – 5:00 PM. February 1, 2018 at Village of Kaslo Council Chambers

*Meeting Attendees:*

Observers:

- Neil Smith– Chief Administrative Officer
- Rob Wall – TRUE Consulting
- Ed Grifone – CTQ Consulting
- Mike Lind – Public Works foreman, VoK (Steering Committee member)

Advisory Committee:

- Anita Ely – Interior Health Authority
- Uli Wolf – Regional District of Central Kootenay
- Don Scarlett - Kaslo and District Chamber of Commerce
- Glen Walker – Resident, Village of Kaslo
- David Russell – Resident, Village of Kaslo
- Lynn van Deursen – Resident, Village of Kaslo
- Scott Wallace - TRUE Consulting

Absent:

- Stan Baker - Resident, Village of Kaslo
- Anne Malik - Resident, Village of Kaslo
- Mike Adams – Interior Health Authority
- Bryan Vroom – Ministry of Environment

Topic	Action
<p>Ed Grifone on the concurrent Lands Project: There are no greenfield opportunities available without sewer. There are options for independently servicing a bare land strata on the other side of the river.</p> <p>Dave Russell: We need a lot more information in order to justify the LWMP proposed expansion. There are rock pits over 100 years old and to his knowledge there have been no issues. If the reason for centralized sewer is higher housing density then show where it might happen. If the reason is environmental, then give evidence.</p> <p>Lynn van Deursen asked which First Nations groups we are approaching.</p> <p>Ed Grifone described consultation. CTQ to serve as consultation facilitator for the Village. Consultation will be tied to Lands Project if timelines coincide. Needs to be clear that centralized wastewater is not being forced on the community and that there is a genuine opportunity to provide comment. Intent is to host an Open House, communication material, focus groups. Members within SSA1 would likely be one focus group. Opinion of developers should be sought. A public consultation plan is to be presented to the group.</p>	Ed Grifone

Lynn van Deursen proposed community meetings every three weeks with updates on how the project is coming along. A tour of the wastewater treatment plant could be included as part of the consultation.

Lynn van Deursen pointed out that members of the community were blaming wastewater plant for material washing up on the shore last year. However, it isn't possible for the treatment plant filtered effluent to be responsible for this.

Neil Smith pointed out that sewerage expansion would likely only proceed with community support if there is a grant contribution - but this cannot be a basis for large project planning under the LWMP or Municipal Affairs. Differences in grant aid will affect how much property owners pay.

Dave Russell asked to see a copy of a typical septic system survey questionnaire. Scott will find one from past projects and forward to the group.

Scott Wallace

Septage currently goes to Salmo Landfill. This is not likely to be sustainable long term. The Nelson WWTP used to take septage, but doesn't now.

Anita Ely asked if some of the environmental tax money could be used to support issues created by septic systems, as a large part of the community will remain on septic for the foreseeable future. Anita Ely asked what the effect of having community sewer is on property value. What is the price of sewer vs the cost of operating a septic system? Septic systems are designed for a service life of 35 years.

The environmental tax could be introduced at a lower rate first then increased.

Lynn van Deursen: Initial sewer expansion participants would include Langham Building, City Hall. Are these larger buildings going to pay more than a residential property?

Neil Smith pointed out that one of the recommendations is that we can't have irregular / illogical sewer areas because people opt out. Everyone would pay for the cost of the pipe going by. And potentially pay a user fee whether hooked up or not as an incentive to join. Business want reassurance that their user fees are not going up substantially. Having the completed LWMP means that the Village can take advantage of funding programs. Without it the planning and consultation cannot be completed fast enough to apply for grants. Grants have tight timelines.

Dave Russell said that the LWMP means the Village is ready for a surge in growth in the future. It is good to have the plan in place. It should be completed and shelved for when it is needed in the future.

End of Minutes



**Steering Committee Meeting #2  
Minutes**

***Liquid Waste Management Plan – Stage 3  
Village of Kaslo***

5:00 – 7:00 PM. February 1, 2018 at Village of Kaslo Council Chambers

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*Meeting Attendees:*

Observers:

Scott Wallace – TRUE Consulting

Henry Van Mill - Councillor, VoK

Steering Committee:

Kellie Knoll – Councillor, VoK

Neil Smith – CAO, VoK

Rob Wall - TRUE Consulting

Ed Grifone – CTQ Consultants

Absent:

Rob Lang – Councillor, VoK

Mike Lind – Public Works foreman, VoK (participated in Advisory Committee meeting)

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Topic	Action
<p>The LWMP was originally a Council initiative in 2012.</p> <p>Henry Van Mill. Can we show why we need the sewer? Needs to be boiled down to be easy to understand.</p> <p>Ed Grifone: Experience of consultation is that you need the following;</p> <ol style="list-style-type: none"><li>1. Someone speaking about history and the need to move ahead with the project.</li><li>2. Technical expert to discuss those details.</li><li>3. Facilitator to give sequence to the conversation.</li><li>4. Level headed community member.</li></ol> <p>Scott Wallace pointed out that the Stage Two LWMP was written before the construction of the brewery was approved. The costs and designs included in Stage Three do not account for the impact of the brewery as not enough is known yet.</p> <p>Henry Van Mill: Having Upper Kaslo contributing to the treatment costs seems unfair. There is no environmental driver for the project.</p> <p>Neil Smith: The LWMP enables the Village to proceed with the project without further consultation. This means that the Village can be in a position to apply for grant funding. Otherwise sewer extension would have to be fully funded by the community.</p> <p>Some limited sewer expansion can be completed without significant funding (areas with sewermain adjacent to property). The Village has applied for a grant to add one street. The Village also wants to hook up the Old City Hall to the sewer by the end of the year so the building can be put to use.</p>	



SSA1 member have not been paying the full cost of their system as a result of how the loan and payments were set up initially. There is 5 years left on the SSA1 loan but there is an opportunity to pay it off this year.

End of Minutes

## Advisory and Steering Committees Meetings #3



**Advisory Committee Meeting #3  
Minutes**

**Liquid Waste Management Plan – Stage 3  
Village of Kaslo**

3:00 – 6:00 PM. April 5<sup>th</sup>, 2018 at Village of Kaslo Council Chambers

*Meeting Attendees:*

Observers:

- Neil Smith– CAO, Village of Kaslo
- Rob Wall – TRUE Consulting
- Ed Grifone – CTQ Consulting
- Suzan Hewat – Mayor, Village of Kaslo

Advisory Committee:

- Anita Ely – Interior Health Authority
- Don Scarlett - Kaslo and District Chamber of Commerce
- Uli Wolf – Regional District of Central Kootenay
- Anne Malik - Resident, Village of Kaslo
- David Russell – Resident, Village of Kaslo
- Stan Baker - Resident, Village of Kaslo
- Scott Wallace - TRUE Consulting

Absent:

- Mike Adams – Interior Health Authority
- Bryan Vroom – Ministry of Environment
- Glen Walker – Resident, Village of Kaslo
- Lynn van Deursen – Resident, Village of Kaslo

Topic	Action
Neil Smith: A grant has been announced for the provision of sewer to ‘Service Area 2’. This is 100% funded which means there are no borrowing implications. It makes the LWMP more urgent as no-one can connect to the sewer until the plan is complete and the required bylaws are adopted. Council has made a decision against the adoption of a Village-wide environmental levy for wastewater treatment funding.	
Ed Grifone described the public consultation program timeline. The draft Stage Three LWMP has not been released. Aim to have the plan submitted to Ministry of Environment for the fall of 2018. Open house in May.	
Anne Malik: The LWMP should be submitted before October 1 <sup>st</sup> so that it is not an election issue.	TRUE / Village
Neil Smith: Yes and the same goes for the bylaws.	Village

Anne Malik: It will be critical to talk directly to the people who are about to see pipes laid on their street.

Ed: It will be important to gauge what the rumors are so that they can be answered.

Anne Malik: The committee needs to see the final draft before it goes public.

Ed Grifone: We will record (notes or audio) the Open House Q&A. Format of the meeting needs to be made clear ahead of time. TRUE to make technical presentation. Could issue a question and answer sheet as consultation material.

Neil: Construction of the new sewer unlikely to start prior to the first Open House.

Stan Baker: When in this process will Council contemplate the costs?

Scott Wallace: That information will be in the completed draft Stage 3 report.

Neil Smith: Hard to provide the level of detail and certainty that people are looking for as can't tie down Council to those numbers.

Anne Malik: Village owned property needs to contribute to debt and operating costs. This should be a paragraph in the LWMP.

Neil Smith: Agreed. This should always have been the case. The Province requires this if all of the community is not in the system.

Neil Smith: Stage Two was withdrawn in order to be resubmitted with Stage Three because of feedback from the Province on the time it was going to take to review it (middle of forest fire season). This way we don't need to wait for the Stage Two plan to be reviewed.

David Russell: Map in consultation material should split Lower Kaslo to show Service Area 2. CTQ

Ann Malik: Could say 'Grant secured to lay pipe in this area'. Representation of Service Area 1 isn't totally accurate. CTQ

Stan Baker: The ability of the plant to cope with the flow from Service Area 2 should be described. Isn't SS2 agglomerated into SS1 to make equitable?

Neil Smith: The SS1 debt will be paid out this year so some SS1 residents will be unhappy that the SS2 residents will be paying the same parcel tax as SS1 residents. There will be a connection fee for new users but no construction debt. The SS2 residents are not paying towards the cost of the sewer or the existing treatment plant.

Anne Malik: You could initiate a connection fee/capital charge through a bylaw. This is not addressing the fairness issues and there will be a protest from SS1 residents. The residents have contributed \$600,000 to the treatment and pipework.

Scott Wallace: The Village could have a Service area with a capital charge and another area without one.

David Russell: The SSA1 residents have had fair use of the existing system.

Anne Malik: I have calculated the contribution that an SS1 resident would have made. I have calculated a connection fee for a 40 foot lot of \$4,700. A 100 foot lot is \$8,000. Suggested that connection is not mandatory apart from new construction, septic fails or it is an environmental or health hazard. If you can tell them that they are being required to pay an equivalent amount that the existing members have already paid it's a win-win.

Scott Wallace: There should be some means to find that equity, but it shouldn't include the cost of the pipes.

Neil: It's important that the fee isn't linked to historical conditions. The Province has been firm on that.

Mayor Suzan Hewat: Future sewer services are now going into a depreciated system.

Anne Malik: The SS1 residents need to understand that they are going to have to pay a parcel tax to the reserve fund.

Ed Grifone: Plan Open House May 23<sup>rd</sup> 4 – 8pm at Legion or at the School.

CTQ / TRUE /  
Village

Scott Wallace: Provided overview of the current draft of the LWMP report. Observation wells or monitoring could be a part of the implementation schedule. The driver for the LWMP wasn't the environmental impacts. It was the OCP / development objectives. An environmental impact may drive timing or prioritization. The plan is not to eliminate all the septic systems from the Village. Therefore, the LWMP discusses public education in relation to septic systems.

David Russell: All recent septic systems have monitoring wells. The more important question is whether the septic systems are having an impact on the wider environment.

Anne Malik: We can pick up and use public education material from other places. Since the environmental levy is off the table, the fairness question is now at the forefront.

Scott Wallace: SSA1 has paid for the sewers and the plant but there hasn't been enough set aside for the renewal of the system. There is wider benefit from the sewer system given that it services the community commercial area.

David Russell: The underfunded reserve amount should be included in the fairness calculations.

Anne Malik: Any newcomer will be contributing to a reserve fund.

Scott Wallace: If a user in SSA2 opts out they will still pay for the renewal of the pipe in the ground. Now the basis of the plan is for treatment to be distributed across the future users.

Neil Smith: Residents can't opt out of parcel tax but can opt out of user fees.

Anne Malik: Connection to SSA1 was mandatory within a year of construction but was never enforced. SSA2 connection should not be mandatory. It needs to be made clear to residents that they must pay into a reserve fund.

Scott Wallace: Is it possible to collect a Treatment Capital Charge for a pot of money to undertake a treatment upgrade? Can we avoid the charge to unconnected SSA1 lots? There is a fairness issue if the plant is never upgraded or fully funded by a grant, etc. There may also not be enough money collected for an upgrade. ).

Neil Smith: We can't make the LWMP contingent on grant funding. And the Province can't mandate that we go ahead with the LWMP if it isn't affordable.

David Russell: I don't think there is a financial justification for this LWMP.

Anne Malik: The entire driver for this next incremental phase of sewerage appears to be connection of City Hall. What if you put the pipe in the ground and an individual petitions to connect to it?

David Russell: Did we consider knocking on the doors of the 60 houses?

Scott Wallace: The Village will be talking to those property owners about where their septic systems are when they get to the design phase and there will be opportunity for dialogue with those owners at that time.

End of Minutes

**Steering Committee Meeting #3  
Minutes**

**Liquid Waste Management Plan – Stage 3  
Village of Kaslo**

9:00 – 11:00 AM. April 6<sup>th</sup>, 2018 at Village of Kaslo Council Chambers

*Meeting Attendees:*

Observers:

Scott Wallace – TRUE Consulting

Steering Committee:

Kellie Knoll – Councillor, VoK

Rob Lang – Councillor, VoK

Neil Smith – CAO, VoK

Mike Lind – Public Works foreman, VoK

Rob Wall - TRUE Consulting

Ed Grifone – CTQ Consultants

Topic	Action
Neil Smith: Those who have sewer available will have an increase in their assessment whether they connect or not.	
Rob Lang: There no housing available in Lower Kaslo. Sewer can only help that situation. There was a trailer park on E avenue that couldn't be developed into condos because there was no sewer. The LWMP process needs to be all wrapped up before the election.	Village / TRUE
Neil Smith: People want the opportunity for tiny houses in Lower Kaslo and the only way that can work is with sewer.	
Ed Grifone: As part of the consultation we need to ask; What do you want to achieve in Kaslo. Do you want densification, etc?	CTQ
Neil Smith: The new SS2 area will inform Council on the benefits, or otherwise, of the sewer expansion and that will inform the process going forward. Unless we have the sewer in we can't really test the market.	
Rob Lang: The next alley over has the best potential for revitalization.	
Ed Grifone: A study in Alberta shows that if a community does not continue to grow then it will regress.	
Rob Lang: If you do nothing, the only way you can go is down. The Village missed an opportunity in the past to annex the Allen Subdivision.	
Ed Grifone: Ed discussed public consultation timeline and what we heard from the advisory committee at the recent meeting last night.	
Neil Smith: We don't want to create the mindset that after LWMP adoption the expansion is going to occur immediately afterward through all of the community. It would happen in stages over many years.	
Ed Grifone: The relative lack of reaction to the SS2 sewer announcement can be taken as a positive. There hasn't been a negative reaction.	

We haven't made a decision whether a second open house is required. Having a second open house in summer will be a bad idea.

Mike Lind: It would get really negative really quickly if there is an issue with the brewery at the plant (meaning there isn't capacity available for residential use). There is already a lot of biological growth on the RBC indicating a heavy load.

Ed Grifone: The sewer has a relationship to the development of affordable housing.

Neil Smith: The Village could choose to invest in expansion as a developer and recovering the cost as people hook up. It's a lot of money to spend if you don't see the income. Can we say in the bulletin that there is an ability for a group of residents in a neighborhood to petition to be the next to go on sewer? Someone close to the Hospital was asking about sewer recently. Requests to join could help future Councils substantially. The trailer park may want to petition for sewer.

CTQ

Ed Grifone: Bulletin is to be made available at different locations and online. There will not be a mail out. We want to provide all the information to avoid giving the impression that we're holding back information. Information needs to be ready to go. Messaging will be going out with the tax invoices but that will be after the open house.

Can you send me corrections on the bulletin? Eg references to the environmental tax, map changes.

TRUE

At the Open House, we should hold a drop-in session with technical people available to talk to the public before the formal presentation.

Rob Lang: I don't think it's fair to charge user fees to properties that aren't hooked up, but it also isn't acceptable to allow people to hook up at their leisure. They could be given, say, 24 months. The connection fee can't be zero. The cost can be added to a mortgage. Alternatively, the Village can spread payments out over ten years. Property value goes up a minimum \$20,000 if your house is on the sewer system.

Mike Lind: The sani-dump could be a big problem for the plant capacity this year. A portable pump could be used to pump into the emergency storage, but there would be a problem if you have an issue that meant you needed the emergency storage.

Scott Wallace: From what I've been hearing, I want to re-jig the idea of a \$6000 capital charge. It can create problems in the future if events transpire at a different pace than assumed.

TRUE

Rob Lang: 100% grants aren't common. It will most likely be two thirds funding. The \$6000 sets you up with a reserve for grant funding to do the next street. Once you adopt this connection fee you're pretty much stuck with it for the next phase. It's still relatively low cost.

Neil Smith: The nearest jurisdiction with these fees is Nakusp who's connection fees are under \$2000.

In the years ahead, council may also need a reserve to draw from for things like stat right of ways.

End of Minutes



## Advisory Committee Meeting #4

# Village of Kaslo

## Liquid Waste Management Plan

### Stage 3 – Advisory Committee Meeting #4


Location: Village of Kaslo, council chambers  
Date: September 13, 2018  
Time: 4-6pm



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## Agenda / Goals

- Summarize activities completed since April
- Provide overview of revisions to Stage 3 report
- Discuss report and any remaining issues as viewed by the committee
- Goal: complete Stage 3 report, and forward to Steering Committee and Village council



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## Stage 3 – Public Consultation Initiation

- Committee Meeting April 6, followed by:
  - Soft announcement/messaging on Facebook
  - Bulletin and Q&A on website
  - Open House advertisement online and in local newspaper (Pennywise)
  - Tax bill insert



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## Stage 3 – Open House

- Open House May 23
  - Info display boards, comment sheets
  - Village, TRUE, CTQ staff available to answer questions
  - Short presentation by TRUE
  - Informal Q&A period near end of open house
  - Approx 40 residents attended



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## Stage 3 – ‘post’ Open House

- Village received emails/letters from 9 residents, and comment sheets from 25 residents
  - Comment sheets compiled
  - Village acknowledged all letters
  - ‘Frequently Asked Questions’ document prepared, and available online



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## Stage 3 – SSA-1 Consultation

- Group of SSA-1 property owners (around 20) compiled and submitted a list of issues
  - Village/TRUE response package delivered via email and online
  - Steering Committee meeting with SSA-1 property owners (approx. 15)



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## Stage 3 – SSA-2 Consultation

- Letters sent to all 60 homeowners in proposed initial sewer expansion area (information regarding sewer project, and invitation to meeting)
  - Village and TRUE staff meeting with SSA-2 property owners (approx. 5)



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## Stage 3 – FN Consultation

- Letter providing an overview of the Stage 3 process and summary of the draft report was emailed and hard copies mailed to seven First Nations groups in mid July
  - Upper Nicola Band replied: *“we have no comment at this time as this is not in Upper Nicola Band’s core area of responsibility will defer your information to the Okanagan Nation Alliance to review and reply with support from UNB.”*
  - No other responses were received



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## Stage 3 – Legal Review

- Additional documentation should be provided w.r.t. First Nations and Public Consultation – what occurred and what were outcomes
- Specific revisions/wording regarding creation of service areas
- Allow more flexibility in funding strategies
  - Ensure 'user fee schedule' is clearly an Example
  - Leave parcel taxation open to options



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## Stage 3 – Legal Review

- Sewage education/monitoring tax funding should be revised
  - Local service tax bylaw to define portion of funding from general taxation
- Capital charge (wastewater access fee) should be revised
  - Potential to use DCC structure instead of a fee



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## Stage 3 Report: revisions

- Executive Summary updates
- Source control section expanded to include information on commercial wastewater (grease traps) – as was previously identified in Stage 1
- Wastewater treatment section expanded to include information on impacts of 3<sup>rd</sup> party users
- Enviro Impact Study – final conclusions being carried into body of main report



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## Stage 3 Report: revisions

- Public Consultation section continues to expand, and will include more documentation of occurrences and outcomes
- Public education section includes some additional suggestions brought forward by the public
- Section added to describe 'tax exempt properties' and impact on local service area



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## Stage 3 Report: revisions

- Sewage education / monitoring tax funding description will change
- Sewage treatment capacity allocation was revised to describe estimated value of treatment and land-use based 'access fee'. The description for funding the capacity allocation will change.
- LWMP Summary of Priorities section added



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## Stage 3 Report: Discussion

- Advisory Committee - questions or comments??
- Round table – closing comments



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## Next Steps – Conclusion

- Final report revisions based on this meeting and legal feedback
- Submit final report to Village council for consideration
- Village to submit completed Stage 2 and 3 reports to Ministry of Environment for review and approval



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## Discussion

Thank you!



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**Advisory Committee Meeting #4  
Minutes**

**Liquid Waste Management Plan – Stage 3  
Village of Kaslo**

4:00 – 6:00 PM. September 13<sup>th</sup>, 2018 at Village of Kaslo Council Chambers

*Meeting Attendees:*

Observers:

- Neil Smith– CAO, Village of Kaslo
- Rob Wall – TRUE Consulting

Advisory Committee:

- Trevor Hamelin – Ministry of Environment
- Anita Ely – Interior Health Authority
- Anne Malik - Resident, Village of Kaslo
- David Russell – Resident, Village of Kaslo
- Scott Wallace - TRUE Consulting

Absent:

- Mike Adams – Interior Health Authority
- Uli Wolf – Regional District of Central Kootenay
- Don Scarlett - Kaslo and District Chamber of Commerce
- Glen Walker – Resident, Village of Kaslo
- Stan Baker - Resident, Village of Kaslo
- Lynn van Deursen – Resident, Village of Kaslo

Topic	Action
<p>Scott Wallace: Gave an overview presentation of public consultation work completed and feedback received.</p> <p>Anne Malik: (to Trevor Hamelin) In addition to being on the advisory committee, I am a spokesperson for SSA1 member owners. Do you have the correspondence from the member owners from Brian Vroom?</p> <p>Trevor Hamelin: Yes, I have the correspondence.</p> <p>Scott Wallace: We have sent information to seven First Nations groups but haven't heard back from any of them. Nor have we heard back from First Nations when we asked for input in Stage 2.</p> <p>Trevor: Wildfires may have had an impact on the ability of some First Nations to respond this summer. You should consider calling them to check. As part of the Ministry's LWMP review we will also follow up with First Nations.</p> <p>Scott Wallace: The Village commissioned a legal review of the draft Stage 3 report. One comment was that the plan should provide additional documentation of the public consultation process. It should also provide some specific wording on taxation and policies. It is appropriate to leave options open in relation to how taxation is collected. The sewage education and monitoring tax may also need a specific setup to allow a portion coming from general taxation. The proposed</p>	

capital charge (wastewater access fee) for new connections could be tricky and the Village would need to be cautious because they can only charge fees for a specific service. It may be better to use a development cost charge structure. Those sections of the LWMP report will need to be cleaned up to some extent.

Neil Smith: A DCC bylaw may be a more appropriate way to deal with the capital charge. A benefit of a DCC bylaw is that the Village could implement this regardless of the status of the LWMP.

Anne Malik: Is the July 27 draft report inclusive of the legal comments?

Scott Wallace: Not yet. We just received them a few days ago.

David Russell: The purpose of the wastewater access fee was to make compensation to SSA1 members.

Anne Malik: I'm not prepared to sign off on this draft as its not the version going to Council. I don't have a problem with a development cost charge if it achieves the same thing as a wastewater access fee. But it is one of the biggest issues for SSA1.

David Russell: If there are core concepts that change, in order to say we have completed consultation with the group, they need to see the final version.

Neil Smith: We could draft the LWMP with both options for capital cost recovery (wastewater access fee and development cost charge) and comment on what is preferred, but that the legality needs review.

Scott Wallace: The big picture dollars won't change, or where the dollars are collected from - but the means of collecting funding may change. LWMPs are commonly quite vague in that respect.

Anne Malik: I don't understand pages 33-34 of the July 27 draft report. There needs to be an example given and need to specify that this just applies to the expanded area. The tax exempt section is bang on. When will Council be adopting the Revised Village of Kaslo Permissive Tax Exemption Bylaw? Is the Village on schedule to pay off the debt next week? Can I share the content of the July 27 draft report with the member owner group? I would like to read the revised version of the LWMP after Council has considered the legal advice.

Neil Smith: Revised Village of Kaslo Permissive Tax Exemption Bylaw 3<sup>rd</sup> reading on September 18<sup>th</sup> with 4<sup>th</sup> reading taking place at an October Council meeting. The debt on SSA1 should be paid off next week. The LWMP is a public document and is on the website. I see the proposed changes to the LWMP as just saying that alternatives to charging may have to be considered to achieve the same outcome.

David Russell: Maybe we should have a little less detail.

Anne Malik: The July 27 draft report covers all the expectations of the SSA1 member owners following the July 20<sup>th</sup> meeting with the steering committee but not all the concerns expressed in the letter on July 2<sup>nd</sup>. The report fixes the problems going forward.

David Russell: The Village has received a grant for the extension of sewer to the next street. The pot of money is difficult to turn away from. The biggest concern of community members is what is it going to cost each individual.

David Russell: I would hate to see us overplay the looming disaster over septic systems as indicated in the executive summary. There is no sign of adverse environmental or health effects.

Village

TRUE

Neil Smith: The LWMP isn't to address a specific environmental crisis or problem.

David Russell: A reader has to go to page 42/43 to find out what it will cost them. I would like cost tables moved to the executive summary. Also, nothing is included for the cost of decommissioning septic systems or constructing the owner's connection from the house to the property line. I have provided costs for these items. It's a significant chunk of money. There is a procedure in the Sewerage System Standard Practice Manual that must be followed for decommissioning a septic system. I believe we need to be up front with all the costs.

TRUE

Anne Malik: Perhaps the information on decommissioning options should be in the appendix.

TRUE

Neil Smith: Until an owner remediates the site they can't build on it. It would be a requirement of a building permit.

Scott Wallace: The tricky part with the owner's connection costs is that they could be quite variable. But we could include some footnotes to that effect.

Anne Malik: We also need to recognize that an owner with a new septic system may not want to connect. Should we also be presenting the costs to maintain septic fields?

David Russell: Another issue I have is with the prioritization of the upcoming sewer expansion project over others in the Village. There are significantly more important projects that could undertaken, including diverting the grant for sewer extension to the more urgent watermain replacement project.

Scott Wallace: The grant is earmarked by the Province for the sewer main. The watermain project likely wouldn't have scored high for grant funding, even though it's a high priority for the Village.

David Russell: A final issue I have is that I don't believe public consultation was conducted according to best practice. I'm pleased to hear that we have satisfied concerns of SS1. There needs to be more work to get a deal with SS2. Until there is a deal with SS2 it's not appropriate to go to the Village as a whole. Consultation needs to be measured on what you've achieved and not just a list of tasks and events. The use of social media isn't appropriate in a Village where a lot of people don't have computers. I will be sending a letter to Council with feedback on my concerns.

Scott Wallace: We've tried various methods of consulting and gathering feedback. We haven't used social media with every phase of the consultation.

David Russell: Will the consultation be finished once the LWMP is submitted to the Province?

Neil Smith: I suspect there will be significant consultation on draft bylaws.

Anne Malik: I'm assuming we'll be invited to be on the LWMP monitoring committee. I door knocked in SS2. I have not heard any SS2 owners disputing the sewer project, or making an attempt at organizing. I hear more of people wanting to know when they can connect to sewer.

David Russell: I think when you put the total cost picture in front of them you'll get quite a different response.

Neil Smith: The grant funding of the sewer expansion stimulated a lot of feedback. The timing overlap with the LWMP has created challenges with the LWMP public engagement.

Trevor: It's a good liquid waste management plan. Consultation never ends, even with an approved plan. We don't necessarily expect a community to have responses or support from everyone. MOE have put aside LWMPs to look at other issues in recent years. We now have a backlog that we are working through. Right now, we're committing to a one-year review of plans. Our involvement can't be on advisory committees like in the past. However, we can potentially parachute in to particular meetings like this.

Anne Malik: The July 27 draft report meets two of the issues raised in the SSA1 letter of July 2<sup>nd</sup>. I will be advising the Ombudsperson on that.

Anne Malik: I note that the Village has recently removed the bylaw requirement for an approved LWMP prior to expanding the sewer system. I would hope that there will be a reserve fund bylaw in place next year.

Neil Smith: We can't connect anyone in SS2 until Council has decided on the terms under which people will connect.

End of Minutes

## APPENDIX C

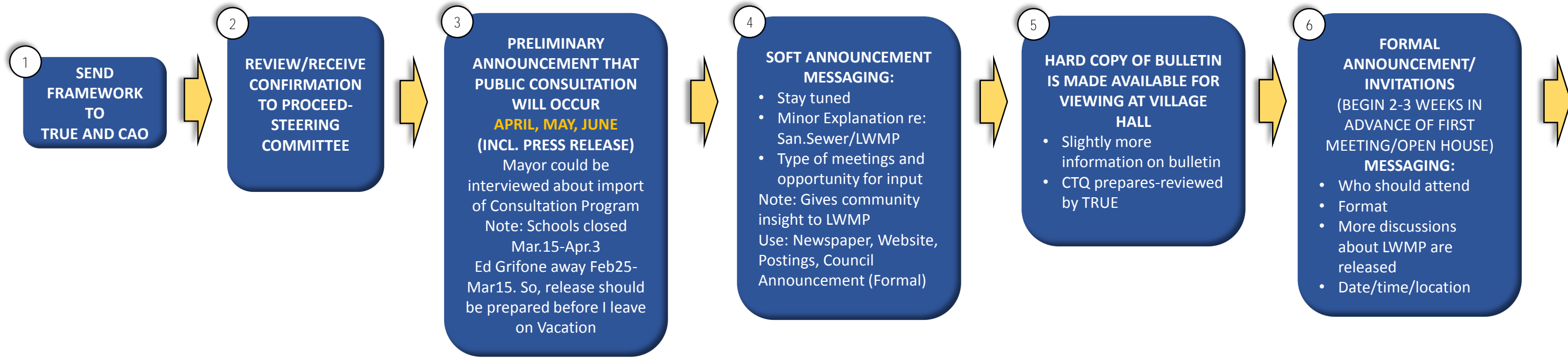
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### Consultation Materials

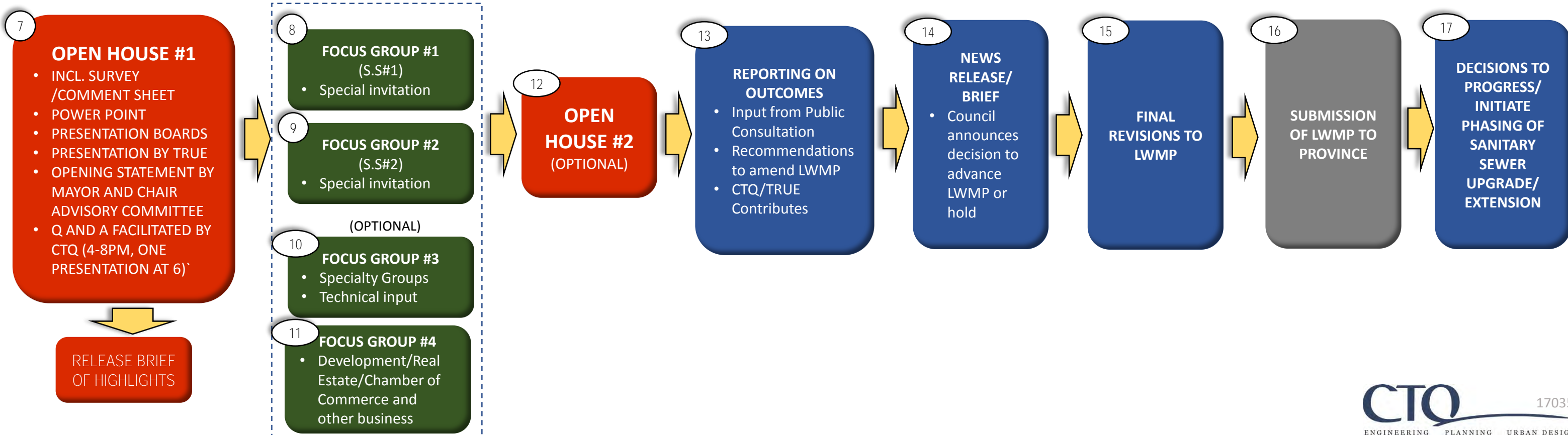


# VILLAGE OF KASLO - LWMP PUBLIC CONSULTATION PROGRAM FRAMEWORK/TIMELINE

Immediate Feb 7/18      Feb 23/18      Late Feb early March      Mid March Early April      Early to Mid April      Third week of April



Early to Mid May      Late May/Early June Back to back dates      July As required only      Late July Early Aug      Late Aug      Mid Sept Or Dependent on extent of revisions      Sept      Fall 2018



# LWMP Awareness – participation at Municipal Lands and Investment Attraction open house (July 2017)



# Village Facebook post – initial Open House – July 13, 2017

/www.facebook.com/pg/KasloBC/posts/?ref=page\_internal

ps



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Village of Kaslo added an event

July 13 at 12:06pm · 🌐

On Tuesday July 18th there will be a Public Open House at the Kemball between 3 and 6pm to discuss the Kaslo Municipal Lands and Investment Attraction project. All invited, particularly those with strong views and information concerning properties that are not essential to the provision of local government services or existing park areas. It is also an opportunity to look at municipal lands and economic development through the lens of the Liquid Waste Management Plan (what sewer can and cannot facilitate, supporting policies, clear expectations for developers, locations where septic plants or systems are the only feasible answer, etc.).



JUL  
18

Municipal lands and Liquid Waste Planning open ho...

Tue 3:00 PM PDT · Village of Kaslo · Kaslo

Like Comment

## Stage 1 - Objectives

- To identify local issues.
- To document existing conditions and develop growth projections.
- To identify opportunities and constraints.
- To recommend Stage 2 options for further evaluation.



## Stage 1 - Plan Components



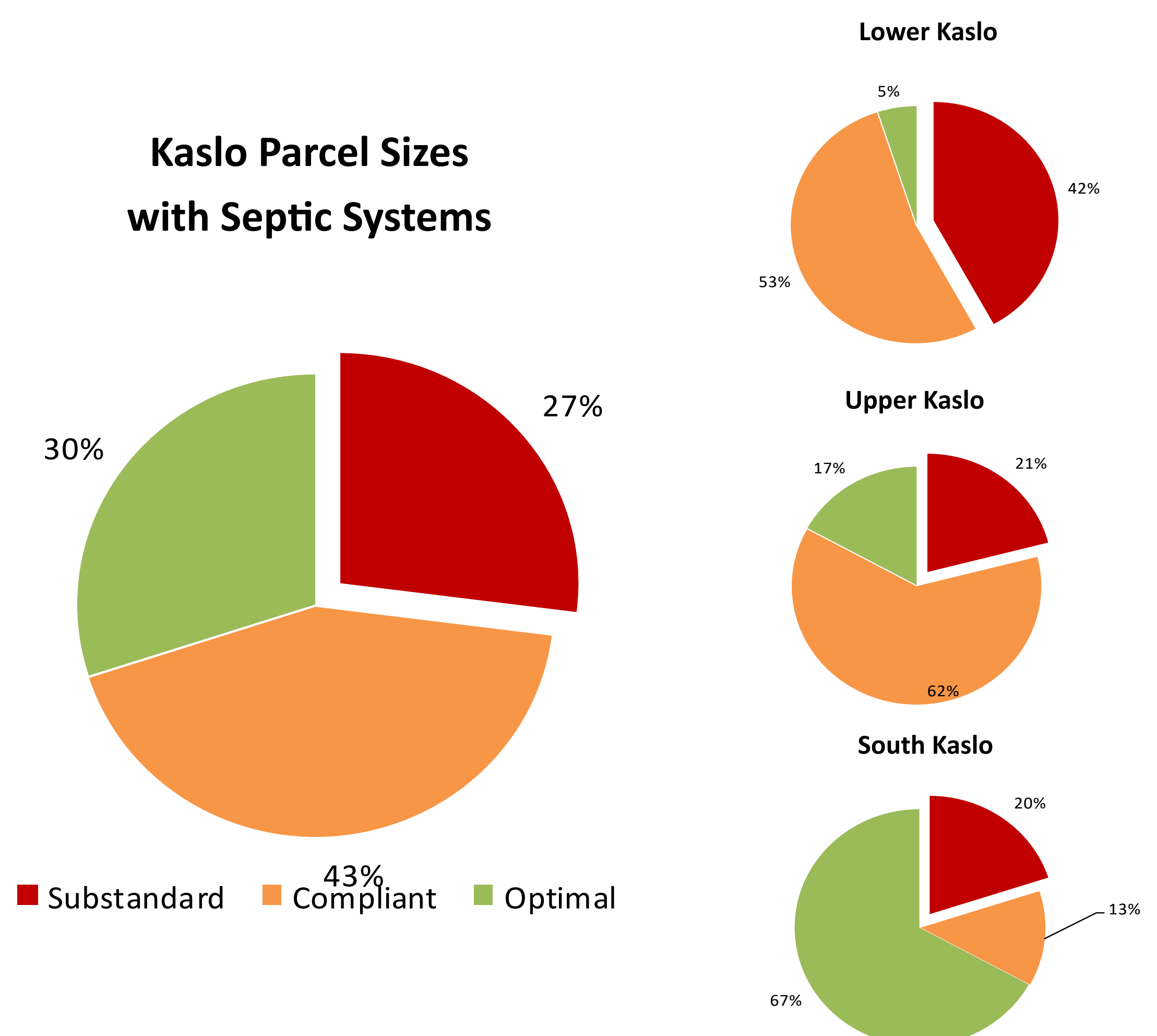
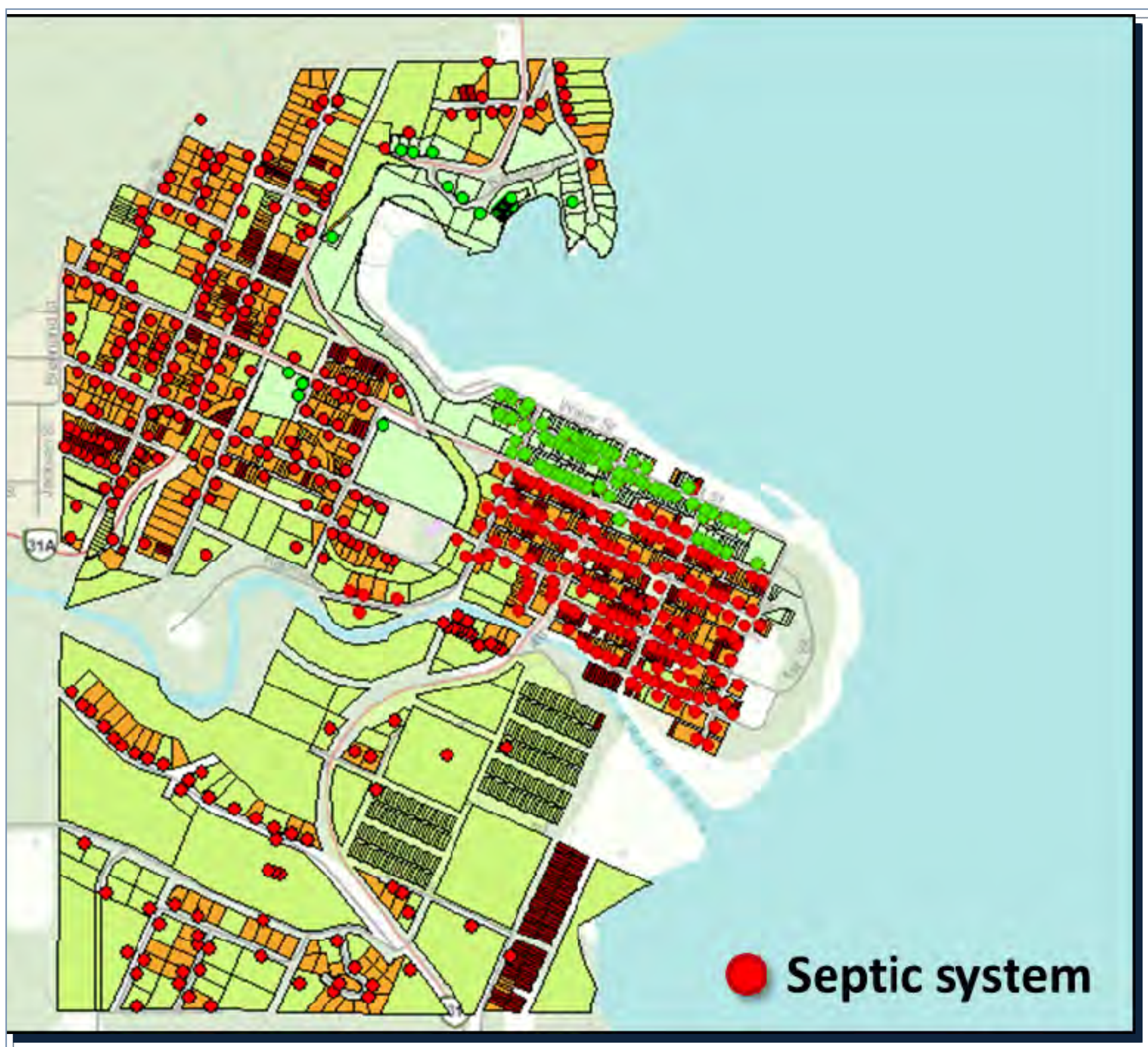
- Presentation of community objectives.
- Review of existing land use plans and system infrastructure.
- Analysis of growth options and environmental conditions.
- Presentation of servicing strategy options including opportunities for conservation.

# Stage 1, Existing Municipal Wastewater Treatment Plant - Treatment System Overview

- There are no major deficiencies that could affect effluent quality or service capacity.
- The flow is less than 50% of the design capacity and permitted amount.
- Effluent quality exceeds permitted requirements and environmental standards.
- There are no known issues related to effluent discharge to Kootenay Lake.

## Existing On-Site Septic Systems - Overview

- Between 4% and 22% of the septic systems in Kaslo do not have a permit from the Interior Health Authority.
- At least 27% of properties with septic systems have a substandard parcel size.



# Stage 1, Alternative 1: Status Quo



 Existing SSA No. 1

## Overview:

Existing Sewer Service Area (SSA No. 1) boundary and service objectives are retained.

## Advantages:

- Minimal capital costs to the Village.
- Recognizes existing regulatory framework.

## Disadvantages / Challenges:

- No new properties beyond the existing boundary are serviced.
- Future development beyond the existing service area will be challenged to address servicing needs.
- There will be continued overloading and failure of existing on-site septic systems with an associated impact on the environment.
- Significant costs will continue for individual property owners having to repair private on-site systems.

# Stage 1, Alternative 2: Existing System Expansion



Existing SSA No. 1      SSA No. 1 Future Expansion

## Overview:

The existing wastewater treatment plant would be upgraded and the sewer service area would be expanded throughout Lower Kaslo.

## Advantages:

- New areas are serviced to accommodate higher development density and future growth.
- Uses existing (and upgraded) treatment capacity of the existing wastewater treatment plant.
- Eliminates some problematic septic systems and associated impacts to environment.
- Existing framework for Specified Sewer Area No. 1 can be applied to the expanded area.

## Disadvantages / Challenges:

- Local regulatory framework will need to be altered.
- There are capital cost associated with expansion of existing wastewater treatment plant and collection system.

## Cost Estimate

\$1,500,000	- Expansion of wastewater treatment plant
<u>\$3,500,000</u>	- Expansion of collection system in Lower Kaslo
\$5,000,000	- Total cost of Alternative 2



## Stage 2 - Objectives

- Continue public consultation process.
- Examine options shortlisted in Stage 1, and associated costs in more detail.
- Consider conducting an environmental impact study.

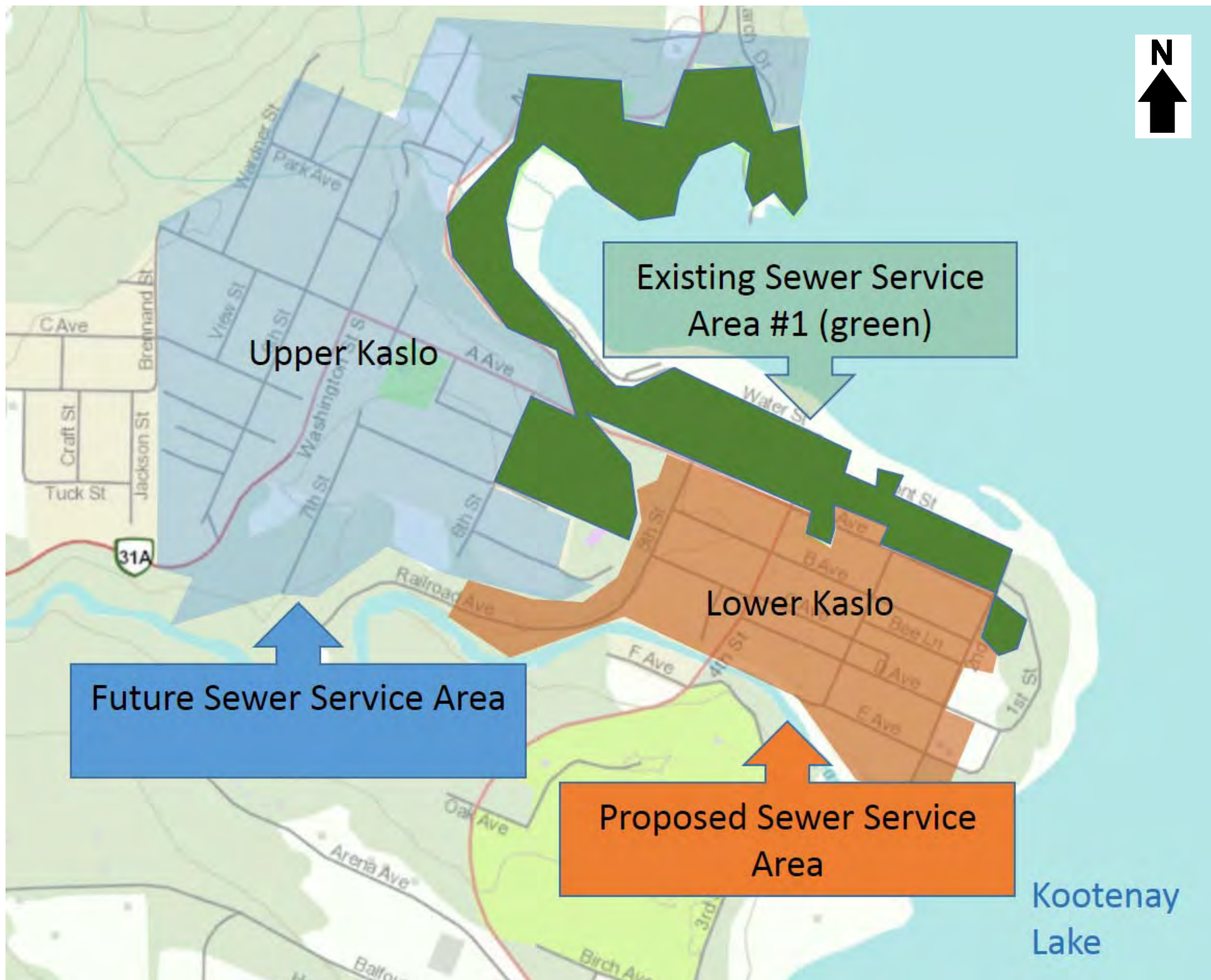


## Stage 2 - Plan Components



- Review of existing systems and performance achieved.
- Analysis of treatment and disposal options, including assessment of effluent re-use potential.
- Archaeological overview assessment.
- First Nations consultation.

## Stage 2, Sewer Service Area Expansion



### Sewage Collection System Summary:

- The Allen / MacDonald subdivision and South Kaslo have not been included in the proposed service areas. The Allen / MacDonald subdivision is outside the municipal boundary. The South Kaslo area generally has adequate lot sizes and soil conditions for onsite / private wastewater treatment and disposal systems.
- Lot sizes are smallest and the population density is highest in Lower Kaslo. Small lots leave little room for a safe and effective wastewater effluent disposal field. Lower Kaslo is the current priority for expansion of the municipal sewage collection system.
- Lower Kaslo has approximately 182 buildings to be serviced. Upper Kaslo has approximately 218 buildings to be serviced.
- The cost per lot to construct a new sewer service is estimated to be less for Lower Kaslo than for Upper Kaslo.

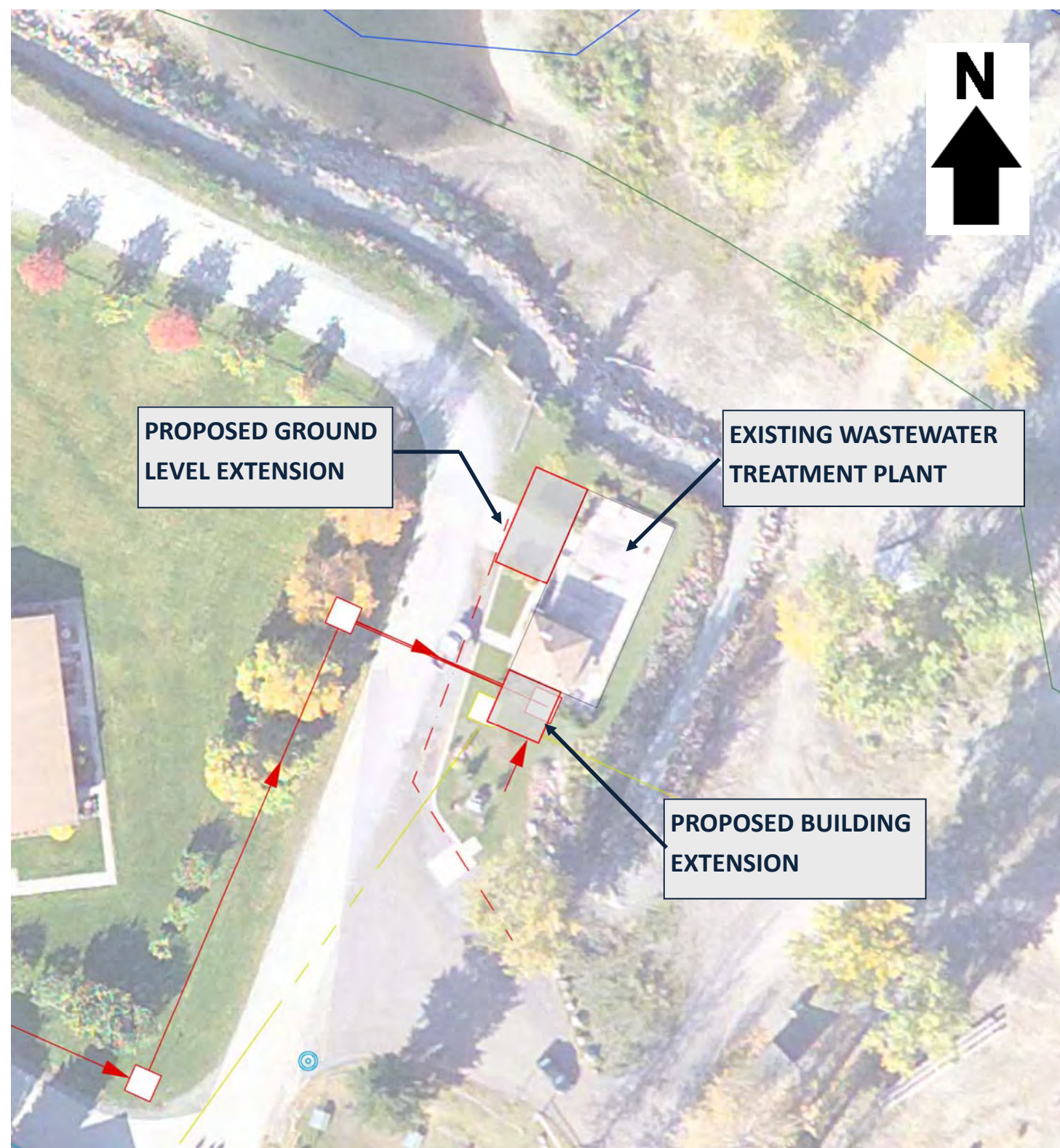
### Sewage Collection System Cost Estimate:

\$4,650,000	- Lower Kaslo Sewer Expansion
\$8,250,000	- Upper Kaslo Sewer Expansion



# Stage 2, Treatment Option 1: Upgrade Existing WWTP

## Overview:



- Treatment process would remain at current location
- Upgrades to include duplication of existing technology, addition of headworks (initial screening) components, replacement of effluent filters, and structural alterations
- Footprint of existing treatment plant would increase, including an addition to the street level building
- Flow capacity would double to allow treatment of wastewater from Lower and Upper Kaslo

**WWTP Cost Estimate:** \$2,500,000

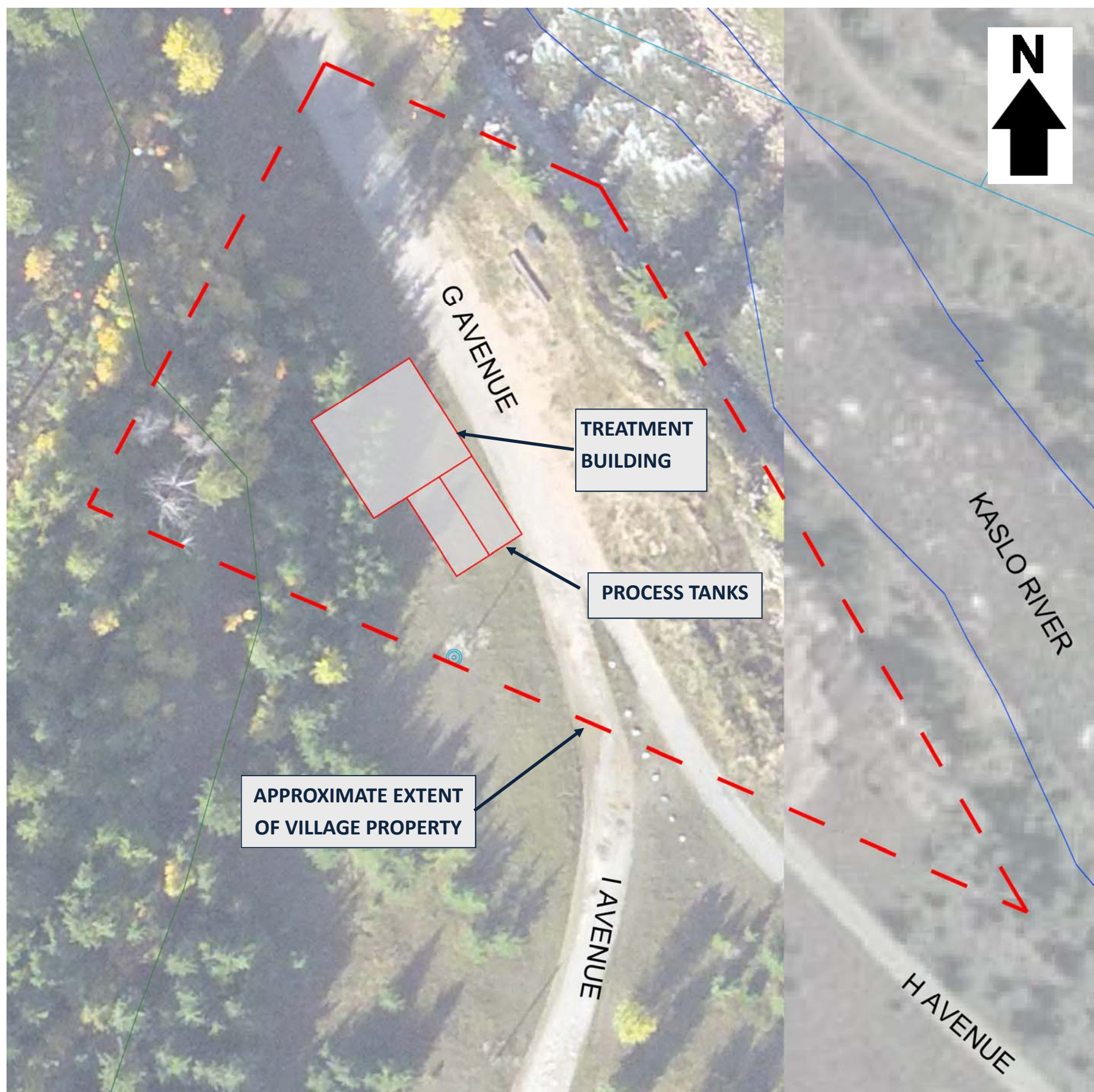
## Advantages:

- Unused and reserve treatment capacity sufficient for the expected Lower Kaslo flow is available at the existing WWTP. This could be used without treatment capacity expansion until sewers extended to Upper Kaslo.
- There is no need to develop a new site. New neighbours will not be affected by the plant.
- The existing plant would not need to be decommissioned.

## Disadvantages / Challenges:

- The local regulatory framework will need to be altered to ensure equity and fairness to existing parcels and ratepayers within SSA No. 1.
- Treatment plant is located in a park, near housing and a campground which detracts from the area. The existing location is not ideal due to surrounding land use.
- Expansion of WWTP would need to be accomplished while it is still in service. This is feasible.
- Further capacity to accommodate a highly densified Village core may be limited.
- Current treatment process is not suitable for higher strength industrial waste.

## Stage 2, Treatment Option 2: Move to New Site



### Overview:

- Treatment process would move to new location. The preferred location would be on Village owned land (as shown in the image).
- Treatment capacity would be sized for wastewater from Lower and Upper Kaslo.
- The footprint of the new plant would be slightly larger than the existing plant to allow for the planned increase in flow capacity.

**WWTP Cost Estimate:** \$5,400,000

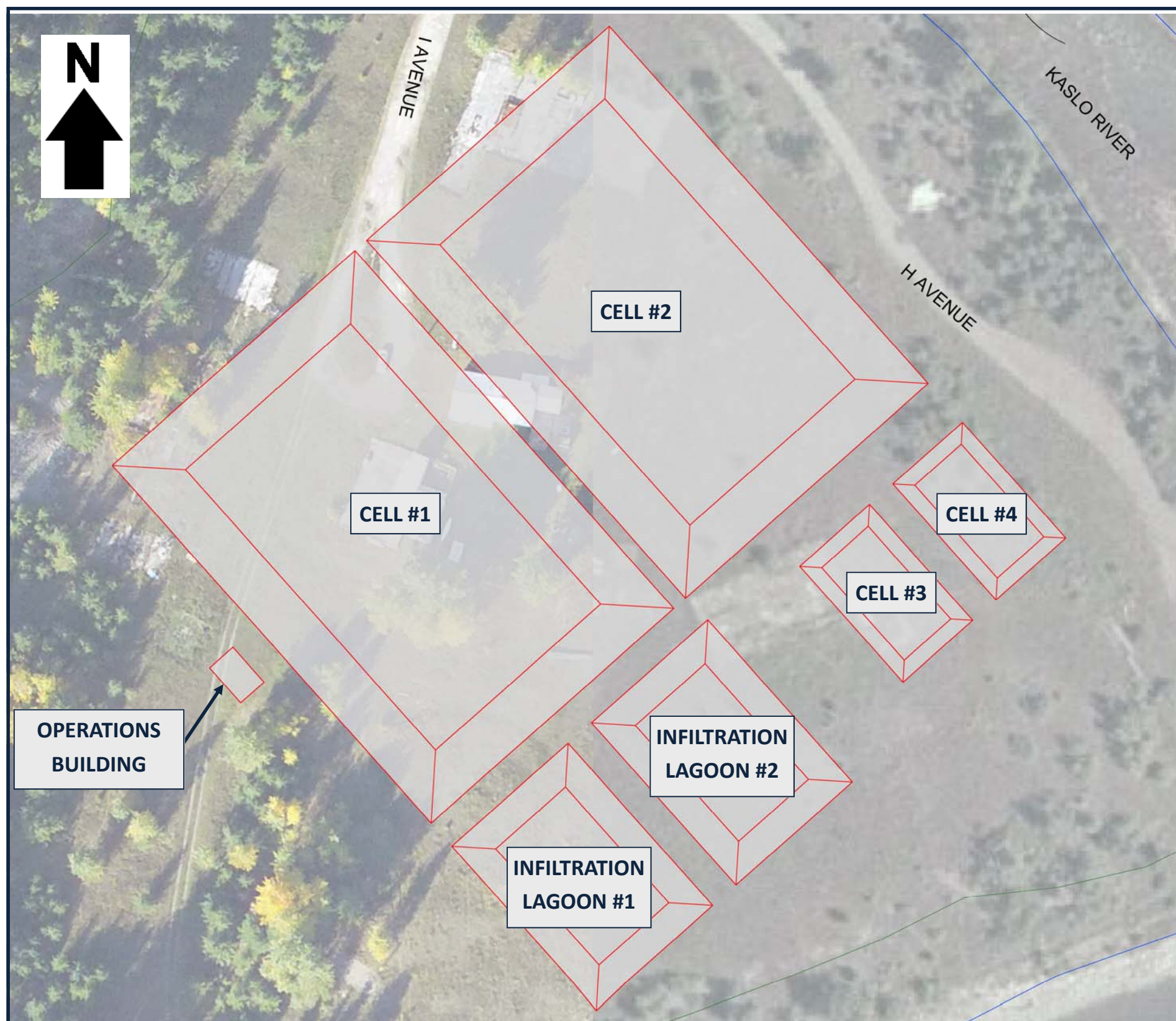
### Advantages:

- Location would be more consistent with current land use plans.
- Addresses public concerns related to the proximity of the existing WWTP to the park.
- Provides opportunity for treatment process capable of handling a variety of wastes.
- Reduces additional pipeline required for effluent re-use at the golf course, should that option be pursued in the future.

### Disadvantages / Challenges:

- Highest capital cost resulting from need to construct the infrastructure associated with the new treatment plant and disposal system.
- Land purchase may be required (depending on the selected alternative) which has uncertainties for availability and cost.
- Pipeline(s) must cross under the Kaslo River which has technical and environmental protection challenges.
- Construction impacts of a new site have not been determined. Potential environmental and archeological values would need to be assessed.
- Existing plant is relatively new and would be largely unused. Demolition or conversion of the existing plant would be required.

# Stage 2, Treatment Option: New Site, Discharge to Ground



## Overview:

- Treatment process would move to new location. The site has yet to be confirmed.
- Treatment capacity would be sized for collection of wastewater from Lower and Upper Kaslo.
- The footprint of the new plant would be much larger than the existing plant due to the nature of the treatment process (aerated lagoons).
- Effluent quality would not meet the existing permit and would have to be disposed of in an infiltration basin (discharge to ground).

**WWTP Cost Estimate: \$3,850,000**

## Advantages:

- New wastewater treatment location would be more consistent with current land use plans.
- Opportunities exist for staging capacity increases with the construction of additional treatment cells as they are needed.
- It may be possible to dispose of treated effluent through subsurface infiltration instead of using an outfall to the lake.
- Addresses public concerns related to the proximity of the existing WWTP to the park.

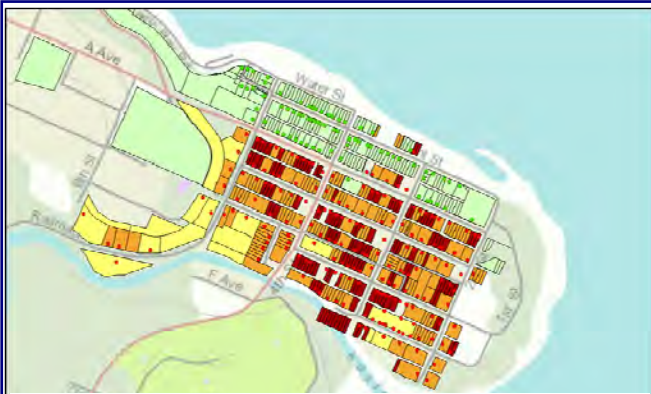
## Disadvantages / Challenges:

- Land purchase would be required which has uncertainties for availability and cost.
- Pipeline(s) must cross under the Kaslo River which has technical and environmental protection challenges.
- Ability to discharge treated effluent to ground is currently unconfirmed.
- Construction impacts of a new site have not been determined. Potential environmental and archeological values would need to be assessed.
- Treatment process is not contained within a building resulting in potential for odour and attractant to unwanted vectors.

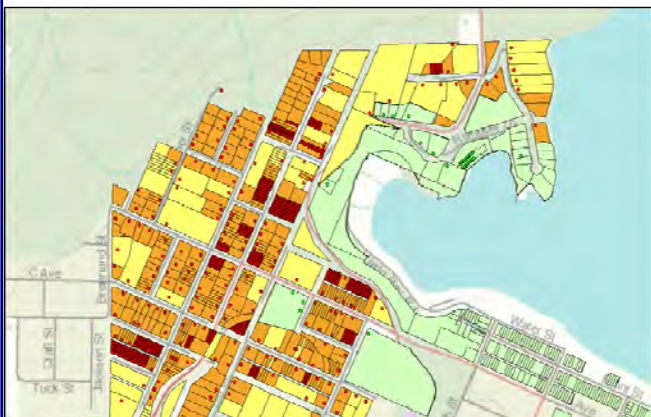
# Liquid Waste Management Plan



Village of Kaslo, Stage 3 Open House - July 18, 2017  
Summary Information



**Lower Kaslo:**  
Yellow = 5% of properties optimal size for septic



**Upper Kaslo:**  
Yellow = 17% of properties optimal size for septic



**South Kaslo:**  
Yellow = 82% of properties optimal size for septic

The Village of Kaslo initiated a Liquid Waste Management Plan (LWMP) process in 2011 as a means to assist the community with four key sewerage objectives:

- Growth Management
- Public Health Improvements
- Open Public Consultation
- Financing Strategy

The LWMP is a three stage process. Public consultation is a key component of the LWMP, because when a Stage 3 plan is approved by the BC Minister of Environment, it allows a municipality to implement the plan including financing / borrowing without further public consultation or referendum.

Stage 1 was completed in 2013 and included a review of existing liquid waste management practices within the Village, as well as identification of feasible long term solutions to existing challenges.

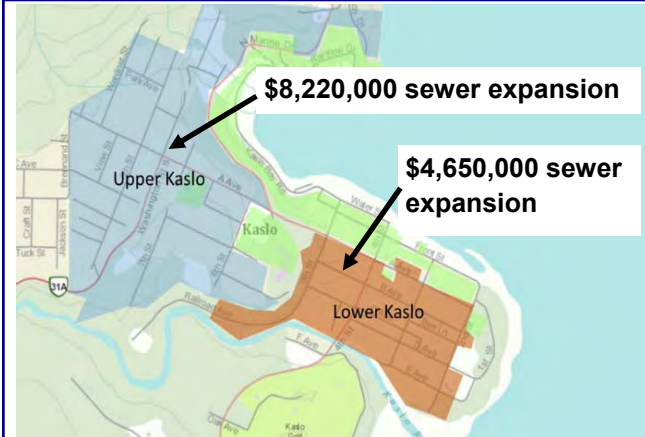
Stage 1 noted that the municipal wastewater treatment plant (WWTP) is functioning as designed, with wastewater treated to a higher standard than the majority of septic systems. Also, privately operated septic systems provide service to 70% of the properties within the Village, and as shown on the images to the left, many of the properties within the Village are inadequate size for typical septic systems. Soil conditions and proximity to groundwater in some areas of the community also result in challenges with adequate septic treatment.

Accordingly, 'status quo' was not suggested. Expansion of the municipal sewage collection and treatment system was recommended as a means to accomplish the long term planning objectives, with the expansion to be generally phased through Lower Kaslo followed by Upper Kaslo. South Kaslo was not proposed to be included in the municipal sewage system due to adequate property sizes for septic system and relatively high cost associated with municipal sewer servicing to lands south of the Kaslo River.

# Liquid Waste Management Plan



Village of Kaslo, Stage 3 Open House - July 18, 2017  
Summary Information



Stage 2 of the LWMP was completed during 2016. Municipal wastewater collection and treatment options were assessed in more detail, an archaeological overview assessment was completed, and First Nations consultation was initiated. The Stage 2 work concluded that treated effluent reuse (for potential irrigation use on property such as the golf course) was not financially viable. In addition, the existing treatment plant was expected to have capacity for handling typical domestic and commercial wastewater from all of the Lower Kaslo area.



The existing municipal wastewater treatment process is a relatively efficient, low energy use process; expansion of the wastewater treatment plant including duplication of the process with some other minor modifications was anticipated to be fully capable of treating wastewater in the future from both Lower and Upper Kaslo areas. Images to the left depict proposed treatment plant expansions of the existing plant, as well as general areas to be serviced by the municipal sewage system in the long term.

The Village is now working into Stage 3 of the LWMP, with intent of completing the plan in 2017. Stage 3 will include preparation of an 'implementation plan' with financing strategies. Continued public input to this process is key, so please let us know you thoughts !

## Comments:


*Thank you!*

Please submit your comments to the Kaslo Village Office or  
send to [admin@kaslo.ca](mailto:admin@kaslo.ca) by July 31, 2017.



LWMP Awareness – Press Release (March 2018)

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## NEWS RELEASE

For Immediate Release  
2018MAH0019-000355  
March 9, 2018

Ministry of Municipal Affairs and Housing

### **B.C. communities benefit from gas tax funding**

VICTORIA – British Columbians will benefit from modern, up-to-date community infrastructure that will make communities throughout B.C. even better places to live through new investments from the federal Gas Tax Fund.

The Government of Canada, along with the Government of British Columbia and Union of B.C. Municipalities (UBCM), announced that 108 projects have been approved and four have been conditionally approved, for nearly \$193 million from the federal Gas Tax Fund.

“I am pleased to see the important work that will be done across British Columbia thanks to the federal Gas Tax Fund,” said Amarjeet Sohi, federal Minister of Infrastructure and Communities. “Whether a community needs to expand its recreational centre, repair roads, or make energy-saving upgrades, the Government of Canada will continue to invest in the local infrastructure Canadians want and need.”

The funding supports a wide range of capital and capacity-building projects in communities throughout B.C., including upgrades to drinking- and waste-water facilities; recreational, sport and cultural infrastructure; local roads and bridges; solid waste management; community energy systems; and disaster mitigation measures.

“I’m thrilled to know that all of these projects are going forward, because I know they will make a positive impact for people in B.C.,” said Minister of Municipal Affairs and Housing Selina Robinson. “Our government is committed to working with local governments throughout the province to make life better for all British Columbians. This is a great example of strong partnerships working together for the benefit of people in the community.”

One of the capital projects being funded this year will improve the drinking-water supply in the Village of Granisle.

Funding is also going towards raising the dikes along the Kicking Horse River in Golden, to provide flood protection for the historic downtown area.

The Town of Lake Country will build a new multi-generational activity centre, upgrade the local arena and renovate the seniors centre, significantly boosting recreational and fitness opportunities in the community.

“Today’s announcement demonstrates how all levels of government are working to improve core infrastructure in B.C. communities,” said UBCM president Wendy Booth. “The federal Gas Tax Fund is providing long-term support to renew facilities and strengthen asset-management practices throughout the province. Local governments appreciate this support and welcome this investment.”

The 54 capacity-building projects will focus on improving communities' asset management, a process that integrates information about a community's physical assets and finances to support efficient local decision making and sustainable service delivery.

**Quick Facts:**

- The total federal Gas Tax Fund contribution towards the 112 projects in B.C. is \$192,980,158.
  - This includes 58 capital projects (\$184,539,746) and 54 capacity-building projects (\$8,440,412).
- The Government of Canada provides more than \$278 million in indexed, annual funding for local government infrastructure in B.C. through the federal Gas Tax Fund.
- UBCM administers the Gas Tax Fund in B.C., in partnership with the governments of Canada and B.C. The funding flows through UBCM to all local governments on a per capita basis.
- The funding for these projects comes through the application-based Strategic Priorities Fund of the federal Gas Tax Fund in B.C.

**Learn More:**

For more information about the federal Gas Tax Fund: [www.infrastructure.gc.ca/plan/gtf-fte-eng.html](http://www.infrastructure.gc.ca/plan/gtf-fte-eng.html)

For a list of projects funded through the current intake of the federal Gas Tax Fund: [news.gov.bc.ca/files/2017\\_Project\\_Approvals.pdf](http://news.gov.bc.ca/files/2017_Project_Approvals.pdf)

**Contacts:**

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613 960-9251

Lindsay Byers  
Ministry of Municipal Affairs and Housing  
250 952-0617

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Connect with the Province of B.C. at: [news.gov.bc.ca/connect](http://news.gov.bc.ca/connect)





**Celebrating 125 Years**



## KASLO TO RECEIVE STRATEGIC PRIORITIES FUNDS

On March 9, 2018, the Village of Kaslo received confirmation that the Village was successful with its funding application to the Federal Gas Tax Program. The grant will provide up to \$910,000 toward the expansion of the community sewage collection system in and around the commercial core. Specifically, the sewer expansion will service properties between A Avenue, B Avenue, 2<sup>nd</sup> Street, and 5<sup>th</sup> Street along the lane which runs from the Royal Canadian Legion to the Village of Kaslo Campground.

Mayor Suzan Hewat has indicated that this financial aid to our municipality is extremely timely and welcomed. Such infrastructure upgrade will also complement the renovated City Hall National Historic Site in our downtown core, a project supported by the Columbia Basin Trust. The capital improvements are in keeping with the Village's intent to provide better infrastructure to the heart of our community, thereby enhancing commercial, institutional and residential land uses that will contribute to Kaslo's livability and services.

"Well done to the Village of Kaslo for securing this funding through a partnership with the provincial and federal government to support community needs," said Michelle Mungall, MLA for Nelson-Creston and B.C. Minister of Energy, Mines and Petroleum Resources. "Although we don't often like to talk about it, maintaining and improving sewage systems is imperative to our quality of life, and Kaslo is ensuring that residents have this necessary service."

The Mayor was excited to point out that the approved funding responds to the outcomes of the municipality's work on our Liquid Waste Management Plan (LWMP) that has been underway over the last four years. Although a long-range plan, this strategic undertaking will be used to position Kaslo for future upgrades of the sanitary sewer system. "As Kaslo moves forward, we must provide levels of service in keeping with our Official Community Plan (2011) and Sustainability Strategy (2014)," she stated. The LWMP has investigated wastewater management options and priority upgrades and established a means to strategically phase in the improvements as finances permit over the coming years.

"Communities across BC are looking for funding to replace, upgrade and expand local infrastructure," said UBCM president Wendy Booth. "The federal Gas Tax Fund is accelerating the pace of infrastructure renewal through the transfer of close \$3 billion since 2005 for projects in our province. I appreciate the Government of Canada's long-term commitment to fund priorities identified by BC local governments."

Led by a community Steering Committee and with the assistance of a dedicated Advisory Committee, the LWMP has now reached its 3<sup>rd</sup> Stage, and is being readied for public review and comment during the Spring. TRUE Consulting has been the engineering firm providing the professional input but closely integrated with the two Committees. Since Stage 1 was kicked-off in 2013, a significant amount of technical work has been completed. Stage 2 described a list of options for the provision of sewer service within the study area and was submitted to MOE for approval in March 2017. The recent work of the engineers (Stage 3) has not only respected various options, but addressed land areas that may be serviced, the ability to achieve technical objectives of sewage collection and treatment, and the financial implications to the community.

#### Public Consultation

Mayor Hewat encourages all resident and business members of the community to participate in the public consultation opportunities coming soon. CTQ Consultants has also been retained to facilitate a public consultation and engagement program, starting late March and running through to June or July. Every effort will be made to create awareness for public involvement, explain the contents of the plan and receive the public's input. The schedule calls for submission of the LWMP to the Province of BC by September 2018. Completion of the LWMP will not commit the municipality to any works or financial investment. Gaining any future financial assistance from Senior Government, however, would be more likely with an approved LWMP. Involvement by the residents and support to move forward will be integral to a successful future Liquid Waste Management program in Kaslo.

The Mayor is keenly aware of the environmental and public health risk that is potentially posed by Kaslo's on-site septic systems, and the challenges associated with repairing or replacing private systems in some areas of the community. "As a lakeside community, we must take the most responsible action towards wastewater treatment. Having access to external funds will help us do it right and as soon as the time is right," she said.

To see all of the projects funded through the current intake of the Federal Gas Tax Fund visit <https://news.gov.bc.ca/16553> .

For further information contact:

**Neil Smith, MCIP, RPP**

*Chief Administrative Officer*

**Village of Kaslo**

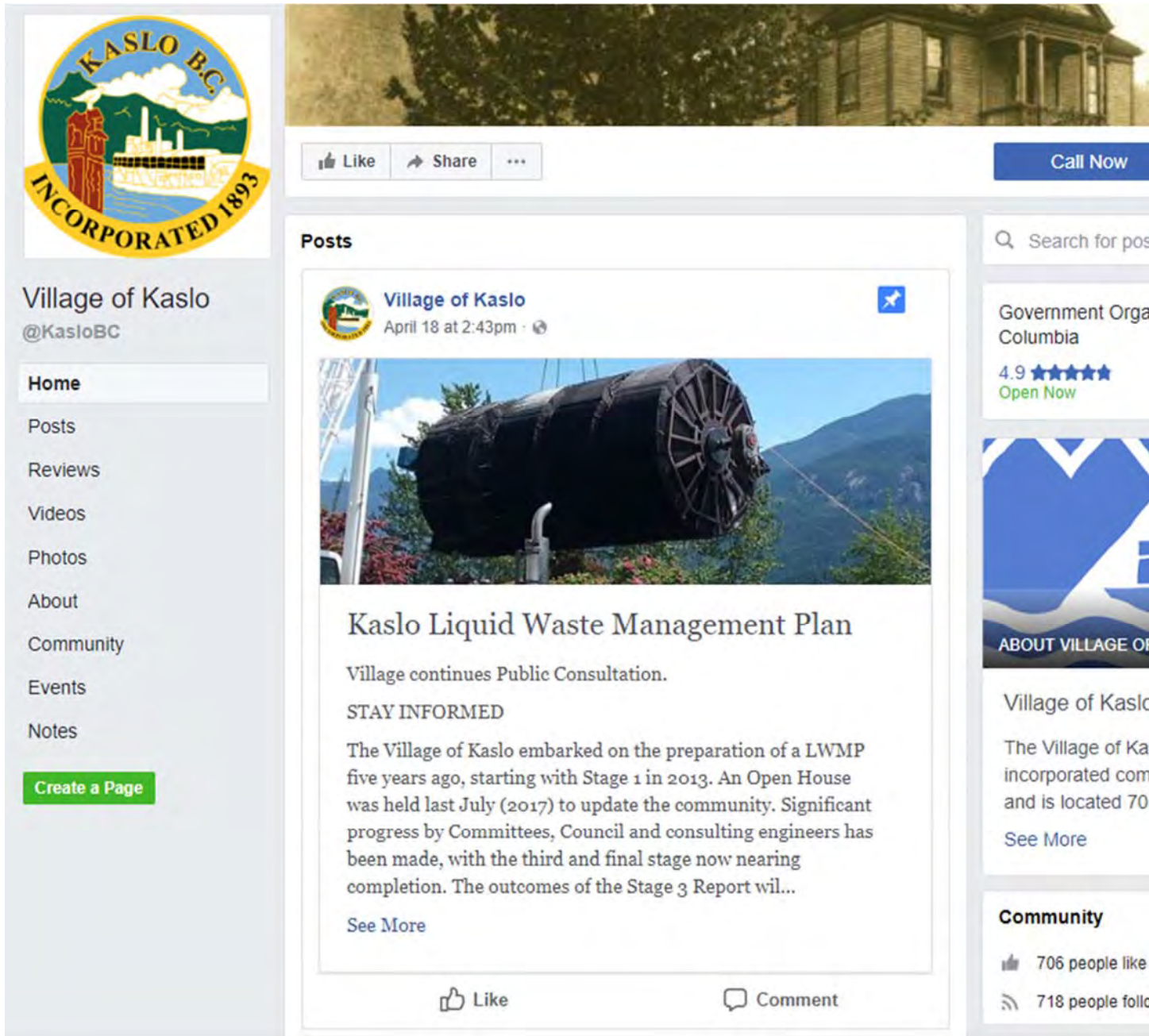
Telephone: 250-353-2311

E-mail: [admin@kaslo.ca](mailto:admin@kaslo.ca)

Website: [www.kaslo.ca](http://www.kaslo.ca)

## LWMP Awareness – Social Media (April-May 2018)

Village Facebook post – LWMP Stay Informed – April 18, 2018



**KASLO B.C.**  
**INCORPORATED 1893**

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@KasloBC


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Posts

**Village of Kaslo**  
April 18 at 2:43pm · 🌐



### Kaslo Liquid Waste Management Plan

Village continues Public Consultation.

**STAY INFORMED**

The Village of Kaslo embarked on the preparation of a LWMP five years ago, starting with Stage 1 in 2013. An Open House was held last July (2017) to update the community. Significant progress by Committees, Council and consulting engineers has been made, with the third and final stage now nearing completion. The outcomes of the Stage 3 Report wil...

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ABOUT VILLAGE OF

Village of Kaslo

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**Community**

706 people like

718 people follo

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# Kaslo Liquid Waste Management Plan

 VILLAGE OF KASLO · WEDNESDAY, APRIL 18, 2018

Village continues Public Consultation.

## STAY INFORMED

The Village of Kaslo embarked on the preparation of a LWMP five years ago, starting with Stage 1 in 2013. An Open House was held last July (2017) to update the community. Significant progress by Committees, Council and consulting engineers has been made, with the third and final stage now nearing completion. The outcomes of the Stage 3 Report will be presented to the public and key stakeholders in the coming months (May to July, 2018), with the intent of submission to the Provincial authorities by September, 2018. The LWMP is a critical strategy to help the Village address specific solutions for liquid waste management (sanitary sewer) especially with the following objectives in mind: Growth Management; Protection of Public Health; Protection of the Environment; and to meet or exceed Regulatory Requirements. Respecting community objectives and public consultation is integral to a credible LWMP.

The Village asks that you stay informed and try to attend meetings and another Public Open House that has been scheduled for May 23rd (check our website and news stream for details as we confirm them). In coming weeks, the Village will advertise and post notices on our Website (<http://www.kaslo.ca/content/liquid-waste-management>) regarding where to find and review information bulletins, the Stage 3 Report and related background that has helped inform the LWMP, as well as opportunities to attend meetings/information sessions.

Although the LWMP presents the preferred strategy of how the community sanitary sewer system may be expanded over time, approval of the Plan by the Province does not compel the Village to implement immediately. It does however, put the community in a position to better access infrastructure funds and make decisions towards an expanded Liquid Management system as and when required. Understanding the principles of the LWMP are fundamental to a sustainable Kaslo.

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Village Website and Facebook post – LWMP Open House ad – May 11, 2018

www.kaslo.ca

Google Maps BC Bid Engineers and Geos SofTrack License Util Trail Minor Baseball

Welcome to the **Village of Kaslo**

Select L Village H

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**Village of Kaslo**  
**OPEN HOUSE**  
**Liquid Waste Management Plan**  
**4-8pm Wed., May 23**

**Village Office**  
312 Fourth Street  
Box 576, Kaslo  
BC V0G 1M0  
Phone: (250) 353-2...  
Mon-Fri, 8am-12pm  
pm  
Closed from 12 - 1

**Have Your Say!**


**KASLO BC**  
INCORPORATED 1893

As the oldest incorporated village in the Kootenays, Kaslo began as a logging town. Incorporated in 1893, Kaslo relies on **information technology** and the **visitor economy** to support its population of around 1,000 people. Kaslo is known as the "Switzerland" of the region because of its picturesque location on the shore of Lake Okanagan, surrounded by mountains.

**STAY INFORMED: VILLAGE OF KASLO LIQUID WASTE**

Photo Credit: Daphne Hunter

## Village website – LWMP page (top)



Welcome to the  
**Village of Kaslo**

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Village Hall

- Contact Us
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- Agendas
- Minutes
- Bylaws
- Integrated Community Sustainability Plan
- Reports of Interest
- Financial Reports
- Kaslo City Hall Building 1898
- Liquid Waste Management Plan
- Meeting videos
- Election
- ▶ Employment Opportunity Village of Kaslo Office
- Corporate Strategy
- Council Appointments
- Health Select Committee
- Delegation Guidelines
- Policies
- Forms
- NOTICES OF PUBLIC HEARING (PLANNING)

### KASLO LIQUID WASTE MANAGEMENT PLAN

**Next** public engagement opportunity: May 23rd 2018, details TBA

The Village of Kaslo embarked on the preparation of a LWMP five years ago, starting with Stage 1 in 2013. An Open House was held last July (2017) to update the community. Significant progress by Committees, Council and consulting engineers has been made, with the third and final stage now nearing completion. The outcomes of the Stage 3 Report will be presented to the public and key stakeholders in the coming months (May to July, 2018), with the intent of submission to the Provincial authorities by September, 2018. The LWMP is a critical strategy to help the Village address specific solutions for liquid waste management (sanitary sewer) especially with the following objectives in mind: Growth Management; Protection of Public Health; Protection of the Environment; and to meet or exceed Regulatory Requirements. Respecting community objectives and public consultation is integral to a credible LWMP.

**Note on public engagement:** this is a very important piece of the process. While the LWMP is ongoing, you can submit inquiries or information to the Village or its consultants at any time - you don't have to wait for an open house or public meeting. Send your feedback, clearly referencing "**LWMP Feedback**" to [admin@kaslo.ca](mailto:admin@kaslo.ca) and it will be passed on to True Consulting.

#### What is a Liquid Waste Management Plan?

Liquid waste management plans allow municipalities to develop community-specific solutions for wastewater management that meet or exceed existing regulations.

Final plans are approved by the Minister of Environment only after sufficient public and stakeholder consultation has taken place.

Review the following guidelines to learn more about the planning process and what it includes:

[Guidelines for Preparing Liquid Waste Management Plans](#) (PDF)

#### Background

On November 26th 2013, the Village of Kaslo formally adopted [Stage 1 of its Liquid Waste Management Plan](#). (8MB PDF file)

#### Other Documents

[UBCM Announcement of sewer expansion funding for 60 properties in Lower Kaslo \(March 2018\)](#)

## Village website – LWMP page (bottom)

### Background

On November 26th 2013, the Village of Kaslo formally adopted [Stage 1 of its Liquid Waste Management Plan](#). (8MB PDF file)

The second stage, refining and selecting a principal option, is now well under way: [Stage 2 of Liquid Waste Management Plan \(DRAFT\)](#)

On the Village's request, [the Province approved the merging of stages 2 and 3 of the LWMP summer 2017.](#)

POSTERS: [STAGE 2](#)      [STAGE 3](#)

During Stage 2, it became clear that a financial, bylaw and policy strategy of some scale was required to go along with and, in places, be incorporated in the LWMP beyond the normally expected levels in other jurisdictions. This was due to the unique way that Specified Sewer Area #1 was created in the 1990s. The report that resulted from work on this issue is here:

[Sewer and Rate Restructure Report \(Fred Banham Associates\)](#)

### Other Documents

[UBCM Announcement of sewer expansion funding for 60 properties in Lower Kaslo \(March 2018\)](#)

[Expansion area 1 \(submitted to UBCM, June 2017\)](#)







Village of Kaslo



*getdrawings.com*

# OPEN HOUSE

## Liquid Waste Management Plan

**4-8pm Wed., May 23**  
Presentation at 6:30  
Legion Hall

*Bring your comments and questions!*

[www.kaslo.ca/content/liquid-waste-management](http://www.kaslo.ca/content/liquid-waste-management)

As Seen in the Pennywise

## LWMP Awareness – Public Information pieces

# INFORMATION ABOUT YOUR TAXES



[www.kaslo.ca](http://www.kaslo.ca)

Each year, the Village of Kaslo Council reviews its achievements from the past year and looks forward to setting goals for the coming year. These goals and objectives form the foundation for the Village of Kaslo's annual budget from which the property tax rates are determined. Again in 2018, Council hopes to achieve many of our Corporate Strategy goals while continuing to maintain service levels that the community can afford.

## IMPACT OF LOCAL GOVERNMENT TAXES IN RELATION TO ASSESSMENT: SAMPLE SCENARIOS

### Class 1 - Residential Property Tax Collected by the Village of Kaslo

Local Service Taxes	Assessment Value	Rates					
		2014	2015	2016	2017	2018	
General Municipal	250,000	VOK	3.06534918	3.3950852	3.511261788	3.510890134	3.576303382
RDCK		RDCK	2.09910987	2.207866757	2.358201846	2.352882175	2.181362726
RD Hospital		RHD	0.29121406	0.302993938	0.298613306	0.289265018	0.276263095

### LOCAL GOVERNMENT TAXES COLLECTED

Taxes	Taxes					%change
	2014	2015	2016	2017	2018	
VOK	766.34	848.77	877.82	877.72	894.08	1.9
RDCK	524.78	551.97	589.55	588.22	545.34	-7.3
RHD	72.80	75.75	74.65	72.32	69.07	-4.5
	\$1,363.92	\$1,476.49	\$1,542.02	1538.26	1508.48	-1.9

### Class 6 - Business Property Tax Collected by the Village of Kaslo

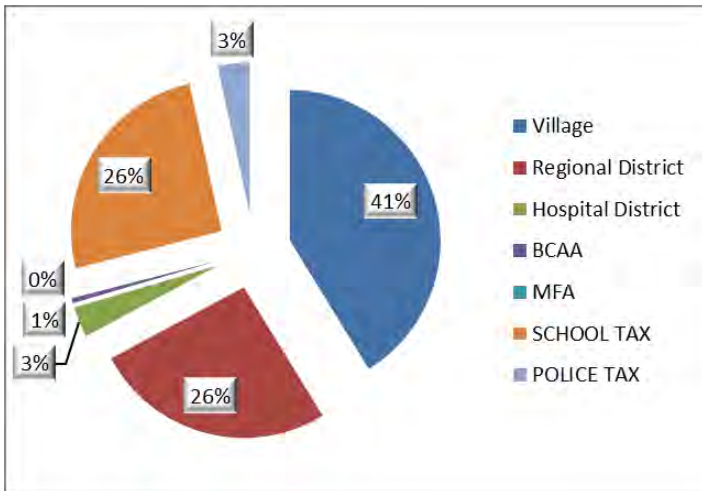
Local Service Taxes	Assessment Value	Rates					
		2014	2015	2016	2017	2018	
General Municipal	250,000	VOK	7.51010549	7.91	8.18123996	8.18037401	8.332786879
RDCK		RDCK	5.14281919	5.41	5.77759452	5.76456133	5.344338678
RD Hospital		RHD	0.71347444	0.74	0.73160260	0.70869929	0.676844583

### LOCAL GOVERNMENT TAXES COLLECTED

Taxes	Taxes					%change
	2014	2015	2016	2017	2018	
VOK	1877.53	1977.64	2045.31	2045.09	2083.20	1.9
RDCK	1285.70	1352.32	1444.40	1441.14	1336.08	-7.3
RHD	178.37	185.58	182.90	177.17	169.21	-4.5
	\$3,341.60	\$3,515.54	3672.61	3663.41	3588.49	-2.0

### How much of your property tax bill is retained by the Village for municipal services?

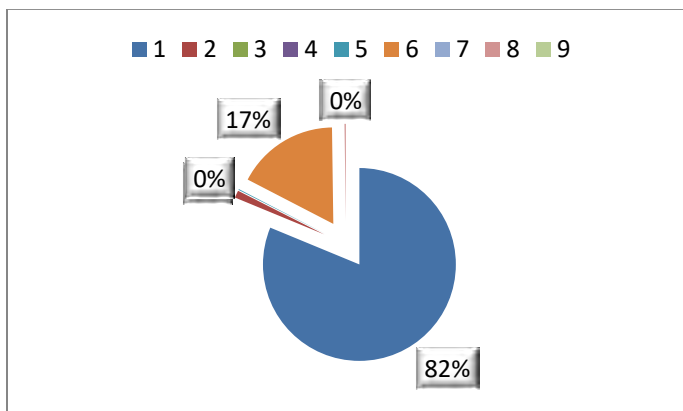
**41% of your tax bill is collected for Village services.** Other agencies and governments utilize the municipal collection services to collect their property tax levies. The illustrative tables above demonstrate the impact of 2018 local government tax rates on sample Class 1 (Residential) and Class 6 (Business) properties. The chart overleaf shows the overall breakdown of your tax bill by government and agency.



Tax rates are set in order to maintain tax stability and ensure that municipal revenues keep pace with the cost of business and responsible fiscal management. In 2015, the Class 6 ratio was adjusted downward (from 2.45 to 2.33) to reflect the fragility of the Village’s comparatively small business assessment base.

PROPERTY CLASS	RATIO	% TOTAL PROPERTY TAX	DOLLAR VALUE
1 Residential	1	81.2	487400.4
2 Utilities	4.66	1.2	7362.9
3 Supportive Housing	1	0.0	0.0
4 Major Industry	2.33	0.0	0.0
5 Light Industrial	2.33	0.1	847.4
6 Business	2.33	17.2	103057.0
7 Managed Forest	3	0.0	0.0
8 Recreational /NP	1.04	0.2	1332.3
9 Farm	1	0.0	0.0
TOTAL		100	\$ 600,000.00

**The Village endeavours to minimize reliance on property tax revenues each year**



Grant funding is an integral funding source for major capital and operating projects due to the Village’s limited tax base and borrowing authority. Due to the extensive use of Community Works Funds (New Deal/Gas Tax) for many projects identified

in the Village’s Corporate Strategy, grants form a significant source of funding for the Village in the 2018-2022 Financial Plan.

**How does BCAA property assessment change my taxes?**

If the BCAA assessment of your land and improvements has changed since 2017, there will be an additional impact on your overall tax burden. **In 2018, residential assessment (Class 1) increased overall by nearly 4.5 per cent or \$5.9 million, where business (Class 6) saw an 8.6% increase or \$0.98 million.** The larger the increase or decrease in assessment, the larger the increase or decrease in taxes due.

**Budget Process**

The Community Charter requires Council to prepare an Annual Report regarding financial and operational information related to the municipality. The Annual Report will be made available in late June. The Annual Report will incorporate the progress on Council’s Strategic Plan and the audited 2017 financial statements. The annual budget deliberation cycle runs from September to March each year and is advertised with at least one public finance meeting held each month. It is important that any input or feedback you have with respect to the municipal budget is received for consideration over these months.



**LIQUID WASTE MANAGEMENT PLAN: STAGES 2-3**

*Village continues Public Consultation.*

The Village of Kaslo embarked on the preparation of a LWMP five years ago, starting with Stage 1 in 2013. An Open House was held last July (2017) to update the community. Significant progress by Committees, Council and consulting engineers has been made, with the third and final stage now nearing completion. The outcomes of the Stage 3 Report will be presented to the public and key stakeholders in the coming months (May to July 2018), with the intent of submission to the Provincial authorities by September 2018. The LWMP is a critical strategy to help the Village address specific solutions for liquid waste management (sanitary sewer) especially with the following objectives in mind: Growth Management; Protection of Public Health; Protection of the Environment; and to meet or exceed Regulatory Requirements. Respecting community objectives and public consultation is integral to a credible LWMP.

For more details regarding upcoming meetings:

<http://www.kaslo.ca/content/liquid-waste-management>

*VILLAGE OF KASLO*

*APRIL 2018*

# LIQUID WASTE MANAGEMENT PLAN STAGE 3

Public Information Bulletin and summary of  
the Liquid Waste Management Plan - Stage 3,  
prepared by TRUE Consulting for the Village of  
Kaslo, BC.



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* 7	<i>PLANNED UPGRADES</i>	* 12	<i>MORE INFORMATION</i>

## INTRODUCTION

This Bulletin is provided for the residents of Kaslo to gain an overview of the Liquid Waste Management Plan (LWMP) that is being undertaken by the Village. It is intended to provide the basis of the LWMP and help you formulate questions or comments about how the plan may affect your community in coming years

For details, please attend upcoming Open Houses and view Stage 3 Draft Report. Opportunities to seek more information or provide input to the Village and their technical advisors will be afforded during the Spring and into the early summer, 2018.

# PROJECT DESCRIPTION

## SCOPE

***THE SCOPE OF THE PROJECT IS TO DEVELOP A LIQUID WASTE MANAGEMENT PLAN (LWMP). A LWMP IS A STRATEGY TO DEVELOP SPECIFIC SOLUTIONS FOR LIQUID WASTE (SANITARY SEWER FLOWS) MANAGEMENT WITH THE FOLLOWING OBJECTIVES:***



**GROWTH  
MANAGEMENT**



**PROTECT  
PUBLIC HEALTH**



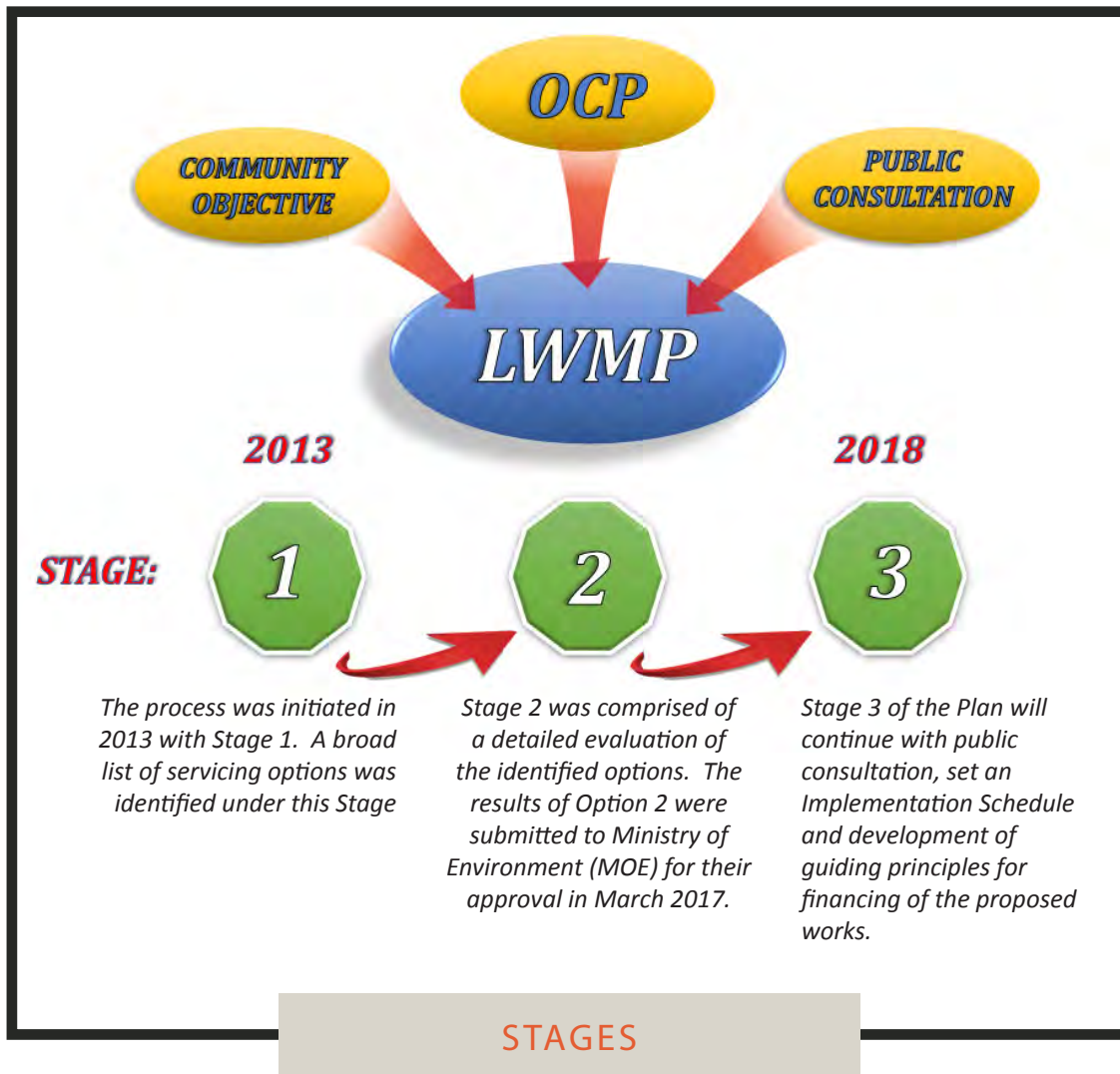
**PROTECT THE  
ENVIRONMENT**



**MEET OR EXCEED  
REGULATORY  
REQUIREMENTS**

THE LWMP IS BASED ON COMMUNITY OBJECTIVES AND INVOLVES PUBLIC CONSULTATION. THE PLAN DEVELOPMENT IS GUIDED BY MEMBERS OF THE COMMUNITY AND OFFICIAL COMMUNITY PLAN (OCP) OBJECTIVES. TECHNICAL EXPERTISE HAS BEEN PROVIDED BY TRUE CONSULTING (ENGINEERS).

The Village of Kaslo is currently working on the third and final stage of the LWMP development. A summary of each stage is as follows:



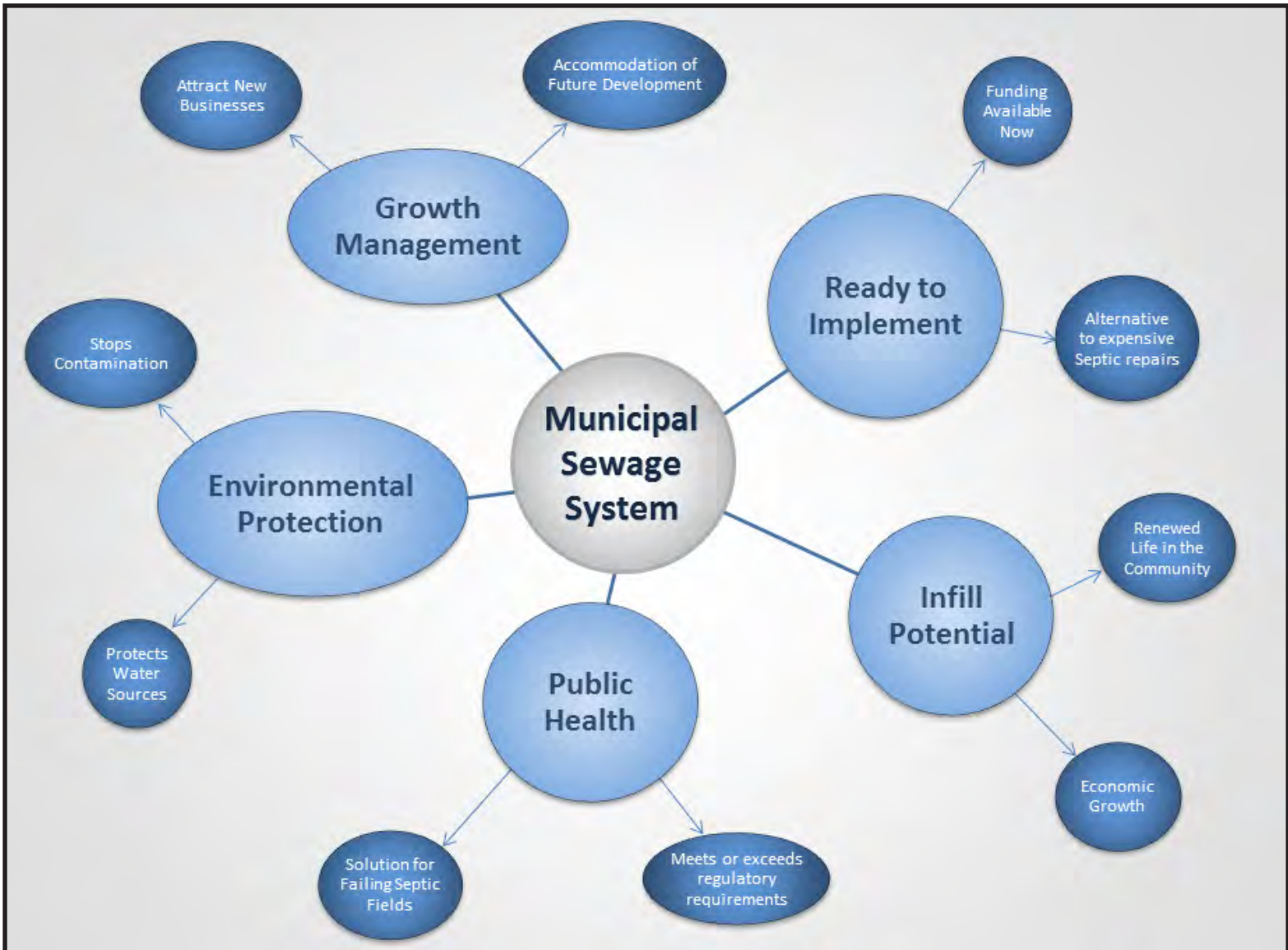
**Approval of Stage 3 of the LWMP by the Provincial Government Authority will authorize the Village to proceed with measures included in the plan to service existing and future development while having a strategy in place that ensures management, resource recovery and disposal of treated waste in a manner that protects the public health and the environment. Approval of the LWMP does not compel the Village to implement immediately.**



## MUNICIPAL SANITARY SEWER SYSTEM BENEFITS

The majority of properties in Kaslo treat wastewater using private on-site (septic) systems. Only a small portion of the Village (approximately 30% of the properties) is serviced by a municipal sewer that brings the sewage to the Wastewater Treatment Plant (WWTP). The design capacity of the WWTP is 340 m<sup>3</sup>/day.

Upgrading to a municipal sewage system will help prepare Kaslo for future growth and development, as well as, help to alleviate possible risks associated with the extended use of septic systems on smaller properties in Kaslo.



### **FACT:**

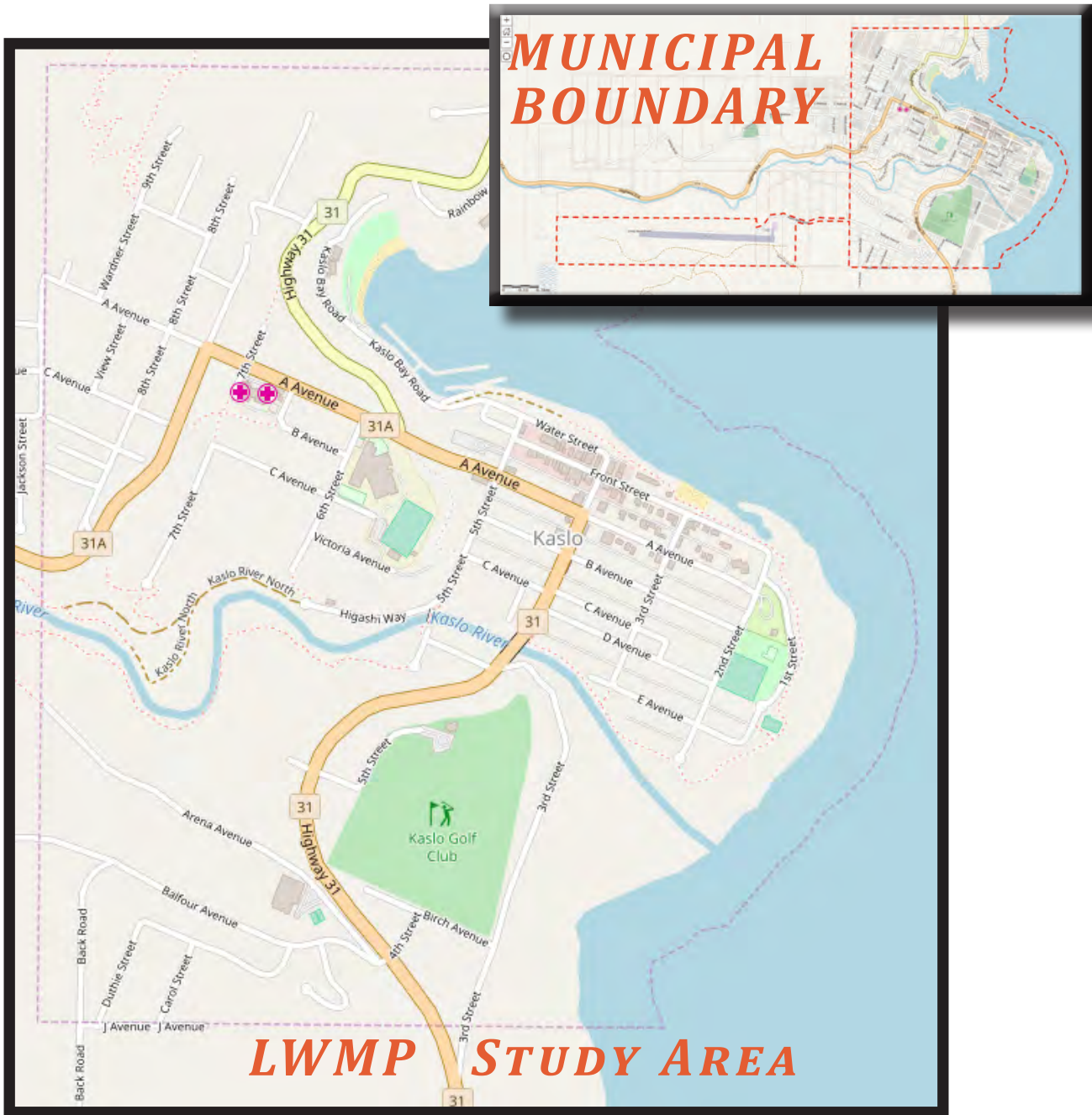
*Many properties aren't large enough to meet current regulations, or would require a more sophisticated private treatment system to accommodate redevelopment*

### **FACT:**

*475 privately operated septic systems (constructed with varying methods in various soil conditions and operated with different levels of care) represents more risk to the environment than 1 publicly operated collection and treatment plant*

# LIQUID WASTE MANAGEMENT PLAN AREA

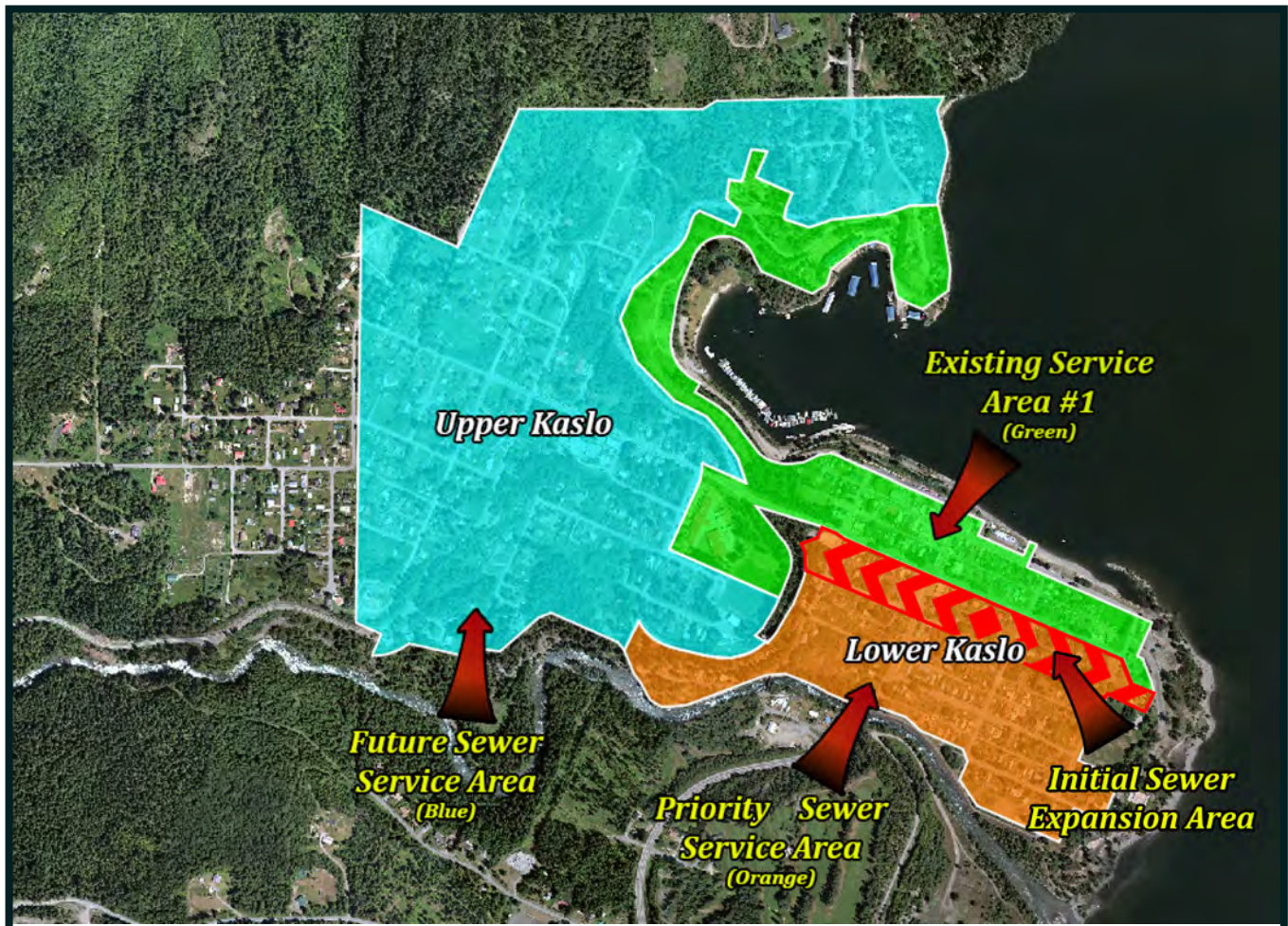
MAP



# ***PLANNED UPGRADES***

## ***LWMP***

***STAGES 1 AND 2 OF THE LWMP IDENTIFIED ALTERNATIVE UPGRADES TO THE SEWER SYSTEM. THE OUTCOME OF STAGE 2 WAS THAT THE COLLECTION SYSTEM SHOULD BE EXPANDED IN PHASES WITH LOWER KASLO BEING THE HIGHEST PRIORITY. UPPER KASLO WOULD BE SERVICED IN FUTURE PHASES OF THE LWMP.***



## **THE IDENTIFIED ALTERNATIVES AS PART OF THE LWMP ARE AS FOLLOWS:**

### ***SERVICE AREA EXPANSION***

It is recommended that the service area is expanded by installing a sewage collection system in the Lower Kaslo and Upper Kaslo areas. The expanded sanitary sewer will provide required infrastructure to support planning policies included in the Village's OCP and Integrated Community Sustainability Plan. This will also reduce the concerns with on-site systems as well as respect the regulatory implications regarding size of lot, ground conditions, and infill potential in Lower Kaslo.

Stage 2 of the LWMP concluded that the preferred strategy is to initially expand the sewer system in Lower Kaslo followed by future expansion into the Upper Kaslo area.

### ***WASTE WATER TREATMENT***

The expansion of the sewer collection system will trigger required upgrades to the WWTP. It is anticipated that upgrades will occur as follows:

#### ***Short Term Upgrade – Phase 1***

This WWTP upgrade is anticipated to be required before the collection flows total approximately 350 m<sup>3</sup>/d of domestic strength wastewater. This sewage flow will be reached when all Lower Kaslo is serviced by the sanitary sewer.

#### ***Long Term Upgrade – Phase 2***

Additional upgrades will be required for the projected ultimate flow of approximately 500 m<sup>3</sup>/d of domestic strength wastewater.

### ***SOURCE CONTROL***

The Village presently has a bylaw that limits the disposal of wastes that are harmful to the sanitary system and treatment process. Future updates to this bylaw will also address discharges that would have an unfair impact on the operating cost of the system and provide the means to recover those costs appropriately. This is typically attributed to some commercial or industrial uses such as a brewery.

# COSTS

Current estimates for the overall projected upgrades to the system are noted below, as per type and level of works, including the future upgrades to the WWTP:

## Lower Kaslo Sewer Construction Costs (Class C Estimate)

Description	Cost Estimate
Sewer Construction	\$ 2,830,000
Lift Stations	\$ 650,000
Watermain Relocation	\$ 120,000
Roadworks and Restoration	\$ 1,050,000
<b>TOTAL PROJECT</b>	<b>\$ 4,650,000</b>

## Upper Kaslo Sewer Construction Costs (Class D Estimate)

Description	Cost Estimate
Sewer Construction	\$ 5,500,000
Lift Stations	\$ 420,000
Roadworks and Restoration	\$ 2,300,000
<b>TOTAL PROJECT</b>	<b>\$ 8,220,000</b>

## WWTP Upgrade – Phase 1 (Short Term)

Description	Cost Estimate
Primary Treatment	\$ 360,000
Sludge Dewatering Relocation	\$ 30,000
Buildings	\$ 270,000
Electrical	\$ 90,000
<b>TOTAL PROJECT</b>	<b>\$ 750,000</b>

## WWTP Upgrade – Phase 2 (Long Term)

Description	Cost Estimate
Rotating Biological Contactor	\$ 740,000
Clarifier	\$ 180,000
Effluent Filtration	\$ 400,000
Influent / Effluent Pump Stations	\$ 130,000
Electrical	\$ 300,000
<b>TOTAL PROJECT</b>	<b>\$ 1,750,000</b>

**THE ESTIMATED COST WILL BE REFINED AT THE APPROPRIATE TIMES DURING IMPLEMENTATION, ONCE DETAILED ENGINEERING DESIGN ARE COMPLETED. THE FUTURE UPGRADES ARE ANTICIPATED TO BE PHASED. FOR EXAMPLE, THE INITIAL UPGRADE RECENTLY APPROVED BY THE VILLAGE AND THE PROVINCE OF BC, CALLS FOR SEWERING 60 PROPERTIES IN LOWER KASLO AT A COST OF \$910,000.**

# FINANCING

*It is recommended that a user pay financing approach is implemented, where the beneficiaries of the installed works pay for the installation cost. The overall financing approach is summarized as follows:*

<b>System Component</b>	<b>Financing Approach</b>
Sewage collection and treatment infrastructure expansion debt and interest; collection infrastructure rehabilitation and renewal within Specified Service Areas (SSA)	Local Service Area Taxes
Collection and treatment investments facilitating development outside current service scope	Development Cost Charges / Latecomer / Extended Service Agreements
Collection and treatment investments facilitating development outside current service scope	Partnership agreements pursuant to Section 21 of the Community Charter that are deemed equitable and in the interest of the Sewer Utility and its users
Operation of all collection and treatment infrastructure, applied equally across all Serviced Areas	User Fees

*It is recommended that owners located in new service areas fund the capital and operating costs of the sewage collection and treatment expansions required by the area.*

*In order to accomplish the above funding structure, the Village would require completing the following actions:*

- *Eliminate remaining loan debt within SSA-1 by September 2018.*
- *Establish a Local Service parcel tax bylaw for contributions to the current SSA-1 "Sewer Reserve" fund.*
- *Establish additional Local Service parcel tax bylaws when needed to borrow funds for the capital construction and renewal of sewage collection system expansions (i.e., SSA-2, SSA-3).*
- *Enact a new bylaw to authorize User Fees based on type of use. The new bylaw would apply to all sewer serviced areas and would be used to pay for operating and maintenance costs associated with the community sewer system (collection and treatment)*

# CONSULTATION

Two Liquid Waste Committees were established in Stages 1 and 2 to represent the local government, senior government agencies and Village of Kaslo residents. The two committees were reconvened for Stage 3. The members of the Steering Committee, consisting of senior political and technical representatives as appointed by the Village of Kaslo Council, are:

- Neil Smith CAO (Village of Kaslo)
- Councilor Kellie Knoll (Village of Kaslo)
- Councilor Rob Lang (Village of Kaslo)
- Mike Lind Public Works Foreman (Village of Kaslo)
- Rob Wall (TRUE Consulting)
- Ed Grifone (CTQ Consultants)

The Steering Committee was complemented by an Advisory Committee appointed by the Village to address technical and local implementation matters. Its members are:

- Neil Smith CAO (Village of Kaslo)
- Bryan Vroom (Ministry of Environment)
- Mike Adams (Interior Health Authority)
- Anita Ely (Interior Health Authority)
- Uli Wolf (Regional District of Central Kootney)
- Stan Baker (Resident, Village of Kaslo)
- Anne Malik (Resident, Village of Kaslo)
- Lynn van Deursen (Resident, Village of Kaslo)
- David Russell (Resident, Village of Kaslo)
- Don Scarlett (Kaslo and District Chamber of Commerce)
- Glen Walker (Resident, Village of Kaslo)

*In addition to the described committees, there has been additional public consultation initiatives reaching out to Village of Kaslo residents and First Nations groups. They included:*

- **Stage 3** – Project Initiation Press Releases published in two local newspapers
- **Social Media publications** - The Village posted project information in their Facebook page and links to a dedicated LWMP page on the Village's website were created.
- **An Open House** - held on July 18, 2017 to provide preliminary information on the status of the LWMP.

*Future Public Consultation opportunities in the form of Open Houses and focus groups will be advertised for additional public input and review of information about the proposed plan.*

## ***MORE INFORMATION RELATED TO THIS PROJECT***

STAY INFORMED



- ***Stage 1, 2, and 3 (Draft) Reports (Kaslo LWMP)***
- ***Official Community Plan (2011)***
- ***Integrated Community Sustainability Plan (2014)***
- ***Bylaw #1121 “A Bylaw to Regulate the Provision, Operation, Administration, and Provide for the Imposition and Collection of Rates – Village of Kaslo Sewage System***




# LEARN MORE

*More Information available online or by contacting Village of Kaslo*

*Maps of Kaslo available through Village of Kaslo*

*Property Folios available through Village of Kaslo*

 **Village of Kaslo** [www.kaslo.ca](http://www.kaslo.ca)

 [www.facebook.com/KasloBC](https://www.facebook.com/KasloBC)

**A**

*Codes of Practice and Bylaws – Fermentation, etc., re “Higher strength wastes” (e.g. Greater Vancouver Sewage and Drainage District)*

**B**

*Alternative methods of Treatment and Disposal of Community Watershed, Province of BC.*

**C**

*WMP – Stage 3 “Environmental Impact Study”,  
Masse Environmental Consultants Ltd. (2018)*

**D**

*Village of Kaslo Sewer Servicing Cost Recovery  
Structure, (Fred Banham Assoc.), (2016)*

**E**

*Are you Septic Smart? Columbia -  
Shuswap Regional District*



# The Village of Kaslo

## Liquid Waste Management Plan Goes Public

In anticipation of continuing the consultation with the residents of Kaslo starting in May, 2018, the following are offered as highlights about the Stage 3 LWMP Report. These and other items will be discussed at a **Public Open House on May 23**. The intent of the public dialogue is to explain the technical details of the sanitary sewer/liquid waste management plan and how it will affect our community from a servicing, development/growth management, public health and financial perspectives. Comments to help ready the Plan for submission to the Ministry of Environment will also be welcomed.



### **Q1. Why is the Village conducting the Liquid Waste Management Plan?**

The Village initiated the Plan voluntarily. Some communities are directed by the Minister of Environment to prepare such a plan especially when issues of public health and environmental degradation occur. Although these types of issues have not occurred in Kaslo, the Village believes that there is value in readiness with appropriate community infrastructure planning. A LWMP that is endorsed by the Province is a critical means of showing the authorities that a strategy is in place to ensure management, resource recovery and disposal of treated waste in a manner that protects the public health and the environment.

### **Q2. How is sewage disposed of in Kaslo today?**

Only 30% of properties within the community are on the municipal sanitary sewer system. The majority (70%) of properties are using on-site septic systems. Extended use of septic systems poses a risk for the general public and the environment. Many of the properties are not large enough to meet current regulations for onsite septic systems.

### **Q3. How did we reach the conclusion that the current sanitary sewer system should be expanded?**

Stages 1 and 2 that date back to public dialogue in October, 2012 suggested that the Collection System should be expanded in phases, with all of Lower Kaslo being the highest priority. Important issues that supported this direction was the fact that 42% of the parcels with septic systems were considered substandard when compared to local bylaws and typical municipal standards. Continuing with the status quo was not supported as it had significant disadvantages, including impact on growth potential, continued private septic system failures (costly to those property owners) and potential risk to the environment by releasing untreated sewage.

**Q4. Will the LWMP benefit existing residential properties only?**

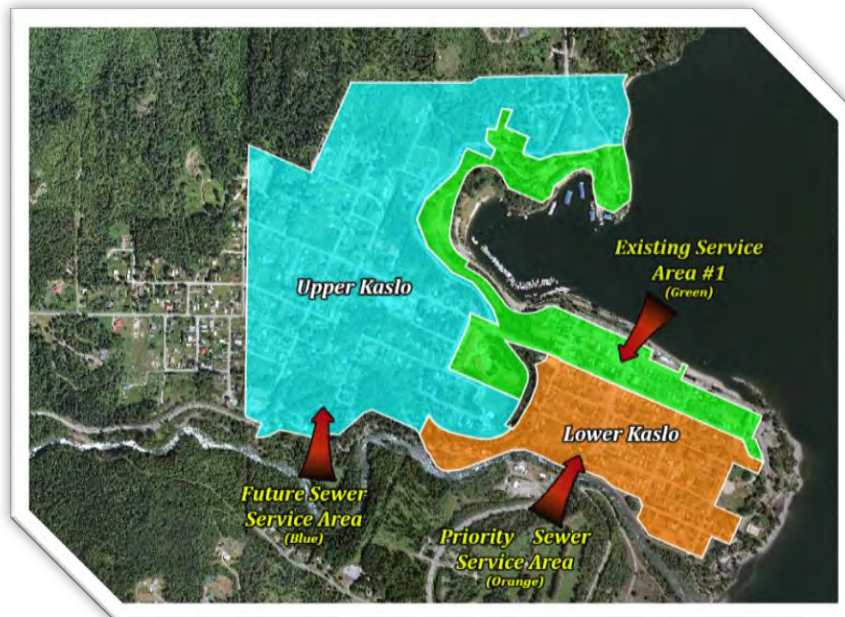
No, the LWMP is intended to facilitate sewer collection to existing residential properties AND increase the prospects for redevelopment and densification on some of the small lots that may be currently developed or bare. This direction also respects the policies of the Village’s Official Community Plan.

**Q5. Does the adoption of the LWMP mean sewer system improvements will begin immediately?**

No, absolutely not. The LWMP is a long term plan for building, financing and managing liquid waste infrastructure. Approval of the LWMP does not compel the Village to implement immediately.

**Q6. What are the identified alternatives for the LWMP?**

There are three key areas of sewer service in Kaslo. There is an existing service area that runs along Front and Water Streets, generally over to A Avenue and along Kaslo Bay, picking up the Rainbow Drive homes. This area known as Sewer Service Area #1 comprises of approximately 30% of the properties in Kaslo. Two other areas that were identified in Stage 2 are the remainder of Lower Kaslo towards the River (south of SSA #1), and Upper Kaslo. The lands South of the Kaslo River were temporarily discounted due to cost and policies from the Official Community Plan that call for infill and making more efficient use of land in Lower and Upper Kaslo. Lower Kaslo was made a priority due to less cost per lot and once again, following sound community planning principles. Furthermore, there is thought to be less risk to public health and the environment from on-site systems in most of Upper Kaslo due to larger lot sizes and suitable soil conditions. Expansion into Upper Kaslo would ultimately follow Lower Kaslo as future phases.



**Q7. How will expansion of the collection system affect the Waste Water Treatment Plant?**

The WWTP upgrade is anticipated to be required before collection flows total approximately 350m<sup>3</sup>/d of domestic waste water or generally when Lower Kaslo is serviced by sanitary sewer. Additional upgrades will be required for the projected ultimate flow of approximately 500 m<sup>3</sup>/d of domestic wastewater.

**Q8. What are the costs of expansion of the sewer system attributed to?**

For Lower Kaslo, preliminary costing has been attributed to main items such as (i) the sewer construction; (ii) lift stations; (iii) water main relocations (considered minor); and (iv) roadworks and restoration. Class 'C' estimates were used to determine a total project cost of approximately \$4.65 million. For Upper Kaslo, costing applied to (i) sewer construction; (ii) lift stations; and (iii) roadworks and restoration. Using Class 'D' (less accurate) estimates, total project cost was determined to be approximately \$8.22 million. The expansion will also ultimately require upgrades to the Sewer Treatment Plant, with an expected cost of \$750,000 for Phase 1 (sewering Lower Kaslo) and approximately \$1.75 million for Phase 2 (Class 'C' estimates).



**Q9. How does the expansion of the sewer system get funded?**

Village Council is promoting a realistic and affordable approach that is equitable to the users. The expansion will be funded by a combination of user fees, parcel taxes and Development Cost Charges (where applicable) that offer cost effective services today and responsible asset management tomorrow. Grant aid or municipal reserves may also assist from time to time. It must be made clear that the Province does not support LWMPs to be completely dependent on grants. Furthermore, the Village has a limited borrowing capacity for either one time or on an on-going basis. The Village has been fortunate to receive grant funding for capital projects in the past. This has greatly eased financial burdens to home owners, but funding from senior levels of government may or may not be available for future projects. As such, it is expected that any sewer area expansions will occur incrementally with time.



**Q.10 What is the potential financial impact assuming an average residential property?**

The cost to the home owner will depend on the location and type of the property that they own. For existing SSA#1 the participants are expected pay approximately \$600 annually for each folio (\$450 user fees, and \$150 renewal reserve funding). These costs would be applicable to SSA#1 regardless of whether the sewer system is expanded.

Participants from the next incremental sewer expansion area (SSA#2) would pay \$1,525 annually (user fees, renewal reserve funding, and \$925 construction loan servicing). The construction loan servicing would be for sewer project costs of approximately \$15,000 per folio. However, 100% grant funding has been received for the next sewer expansion, so annual costs for sewer expansion to SSA#2 would be reduced to \$600 annually, on par with SSA#1.

The future treatment plant improvement costs (capital charge for construction loan servicing) per property would depend on the timing and necessity of the improvements, but are estimated to be in the range of \$2,300 to \$5,500 per folio, if no grant funding were received.

## INVITATION TO OPEN HOUSE

The Village of Kaslo and its Consultants will be hosting an Open House to present and discuss the Stage 3 Report. Homeowners and community stakeholders are encouraged to attend. Significant work spanning several years has been involved in the preparation of the Liquid Waste Management Plan. As we move towards submission of the Plan to the Ministry of Environment this Fall, public consultation will continue with feedback to be considered for incorporation into the final document.

### Village of Kaslo LWMP Open House

**DATE:** *May 23, 2018*

**TIME:** 4 to 8 PM (Drop-in 4-6 PM)  
6:30 PM (Brief Presentation)  
Follow-up Q and A Period

**LOCATION:** *Royal Canadian Legion Hall*

### *Updates and Further Information*



Welcome to the  
**Village of Kaslo**

<http://www.kaslo.ca/>



<https://www.facebook.com/KasloBC>

KASLO LWMP MAY 23, 2018

KASLO LWMP MAY 23, 2018



**LIQUID WASTE  
MANAGEMENT PLAN**

**OPEN HOUSE**

**DROP IN: 4:00 PM - 6:00 PM**

**PRESENTATION: 6:30 PM - 6:45 PM**

**DISCUSSION: 6:45 PM - 8:00 PM**

HOSTED BY



Welcome to the  
Village of Kaslo



# PURPOSE

**THE VILLAGE OF KASLO** has maintained community consultation as an important element of the **LWMP** process. Since **2012**, when the LWMP program was launched during **STAGE 1**, the Village has made the concerted effort to engage the residents and stakeholders of Kaslo in the ongoing dialogue about **LIQUID WASTE MANAGEMENT**.

---

A **STAGE 2**, a Public **ADVISORY COMMITTEE** was established to further garner **PUBLIC INPUT**. Now at **STAGE 3**, with a Draft Plan in hand, we want to ensure that the residents understand the contents and direction of such a Plan, in order to help ready it for submission to the Provincial Authorities.

---

This **OPEN HOUSE** is another **OPPORTUNITY** to **LEARN, DISCUSS** and **QUESTION** the contents of the Plan.

---

**PUBLIC SENTIMENT** will be **ACCUMULATED** with which the plan will be fine tuned and then form part of the submission to the Provincial Government (MOE) in early **FALL, 2018**.

---

Once **STAGE 3** of a LWMP is approved by the province, it enables a municipality to implement the plan **WITHOUT** assent of the electors (ie. No referendum required). Nevertheless, approval **DOES NOT** compel the Village to act.... Kaslo's LWMP is planning for incremental sewerage expansions with time. Sewer expansion timing would be informed by future environmental monitoring results, community desires / petitions for service, and **AFFORDABILITY**.

PLEASE TALK TO THE VILLAGE STAFF AND CONSULTANTS,  
INFORM YOURSELF AND LEAVE US YOUR COMMENTS!

CTQ

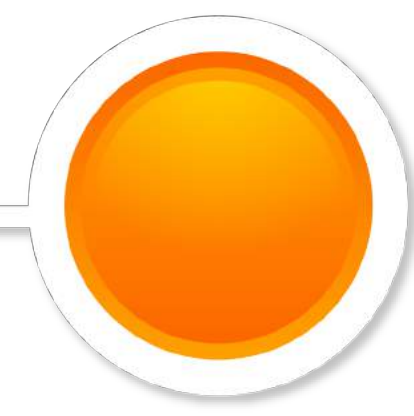


Welcome to the  
Village of Kaslo

**TRUE**  
CONSULTING

# TIMELINE/BACKGROUND

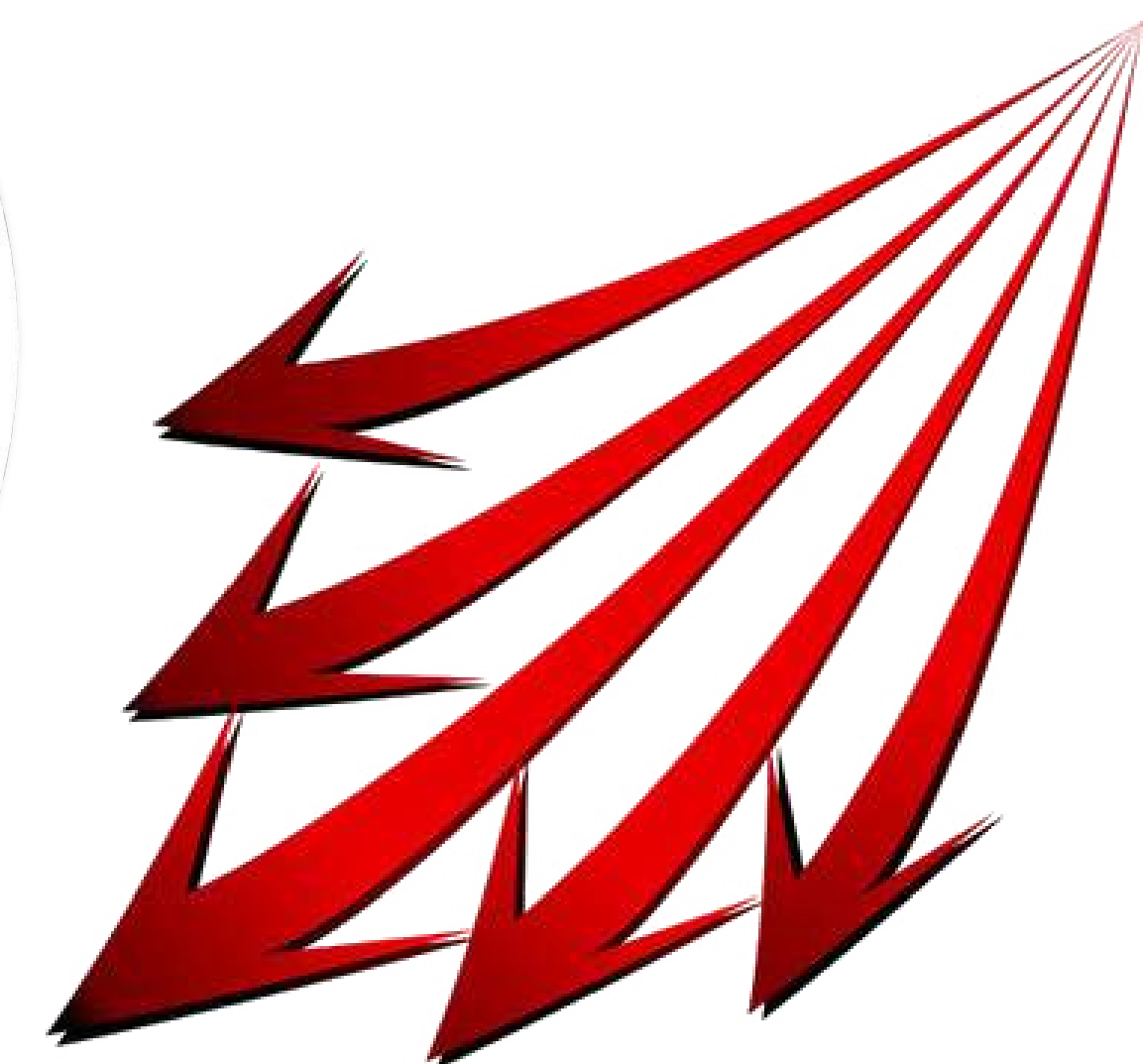
## KASLO LWMP



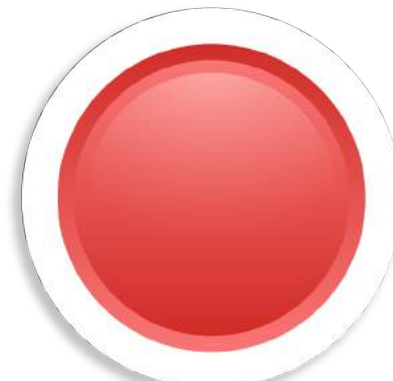
2012

A three-stage planning process was started by the Village of Kaslo.

October, 2012 – Stage 1 Open House was held



2013



Stage 1 was completed with an adopted report

Steering and Advisory Committees were put in place during the earliest stages of study

Engineers generated background information

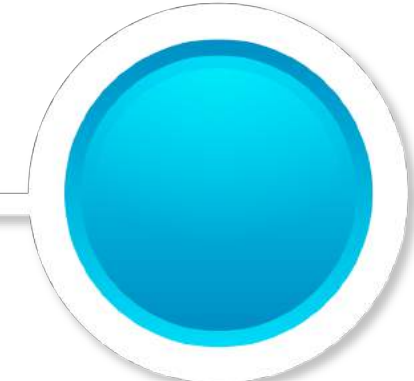
Stage 1 described the existing LWM system and various options for LWM into the future

Guiding principles were developed for the scope of studies that would be required moving forward into Stage 2 and 3

The background work provided an understanding of the spatial distribution of the Municipal and private (septic) systems in Kaslo

Study of the Treatment Plant was undertaken (Capacity, standards and issues were noted)

Assessed three (3) alternatives for the Future of the System



2016 / 2017

Release of Report “Sewer Servicing Cost Recovery Structure” by Fred Banham Associates; commissioned by the Village of Kaslo

February, 2017 – Stage 2 Outcomes were released

- Collection system would be expanded in phases
- Lower Kaslo to be a priority
- Upper Kaslo would be a follow up
- Existing Treatment Plant to be upgraded as needed for expansion

\_\_\_\_\_, 2017 – Stage 3 approved to begin

Stage 3 investigates various realistic approaches to finance proposed works in the LWMP

Stage 3 recognizes means to recover costs for each new service area (general taxation, property owners, etc) and implications to upgrade the Treatment Plant

Stage 3 recognizes financial impact with and without Provincial Grants in Aid

Communication with Committees, technical advisory and public continues

2018/2019



April, 2018 - Public Consultation starts and projected into early summer

May, 2018 – Stage 3 Open House and formal release of Stage 3 Report

Accumulating and documenting of public input continues into June/July

Legal Review of Stage 3 Report by Municipal Solicitor

September, 2018 – Targeted Date for Submission to Province

Winter, 2018/2019 – Initiate Bylaws as may be required, to enact the LWMP



# JUSTIFICATION FOR PLAN

## Growth Management and Development

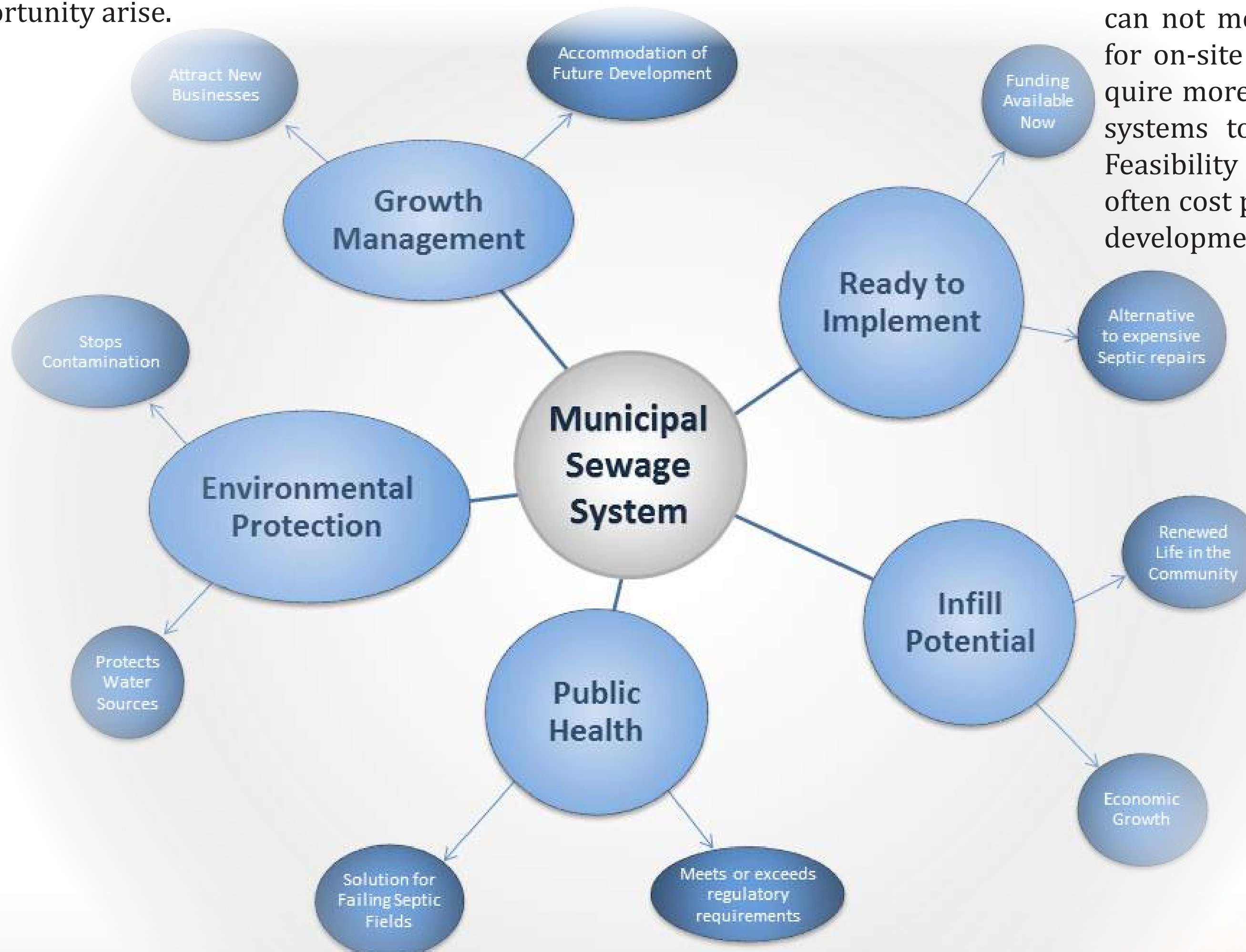
A principal reason for the LWMP has been the recognition of the need to prepare Kaslo for future growth and development of land uses and amenities to support the entire community, its residents, economic base and environmental integrity. Liquid Waste Management is integral to the community's core needs and hence an operational priority of local government. Senior government also recognizes that growth management and development is critical to the economic health of BC communities such as Kaslo. Their interest to often assist in funding of such capital works is based on this principal as well as protection of public health and the environment.

## Legislative Direction and Support

The Village is both mandated and directed by senior government legislation to manage liquid waste. Key authority rests in the Environmental Management Act (EMA) and with attendant regulations such as the Municipal Sewage Regulation (MSR) that sets out requirements that should be met by wastewater discharges for the protection of public health and the environment. In most cases municipalities are encouraged to develop plans voluntarily, although the EMA can direct local government (through the Minister) to prepare and revise a LWMP. Guidelines are provided to help local government determine what should be addressed in a LWMP.

## Only 30% of Community Lots Serviced by Sanitary Sewer

The fact that approximately 70% of the community is treating its liquid waste (sewage) with on-site treatment (septic systems) has been a cause for concern. The LWMP is a means to address the risk and help determine potential allocation of new service areas as need or opportunity arise.



## Official Community Plan (OCP)

The OCP is the main policy directive of the Village when it comes to land use, development priorities, roads and associated infrastructure. Kaslo's land use planning goals and objectives that are enshrined in the OCP and many of its related bylaws, point to a continued desire to infill the established part of Kaslo, increase density of residential development and inspire life in the community. This policy direction has been further enhanced by the Integrated Community Sustainability Plan (2014) which serves as a primary guide to strategic decision making. Once again, LWM planning is a critical element to achieving these planning goals.

## Preparedness

One of the main reasons LWMP is advocated by the Province is to prepare the municipality for implementation. This may include the ability to react when funding/grants are made available; when there are environmental (impact) concerns raised; or as an alternative to expensive septic system repairs. Having an approved LWMP shows the Provincial authorities/MOE that the municipality has gone through a rigorous process of consideration to comprehensively plan for managing the community's liquid waste.

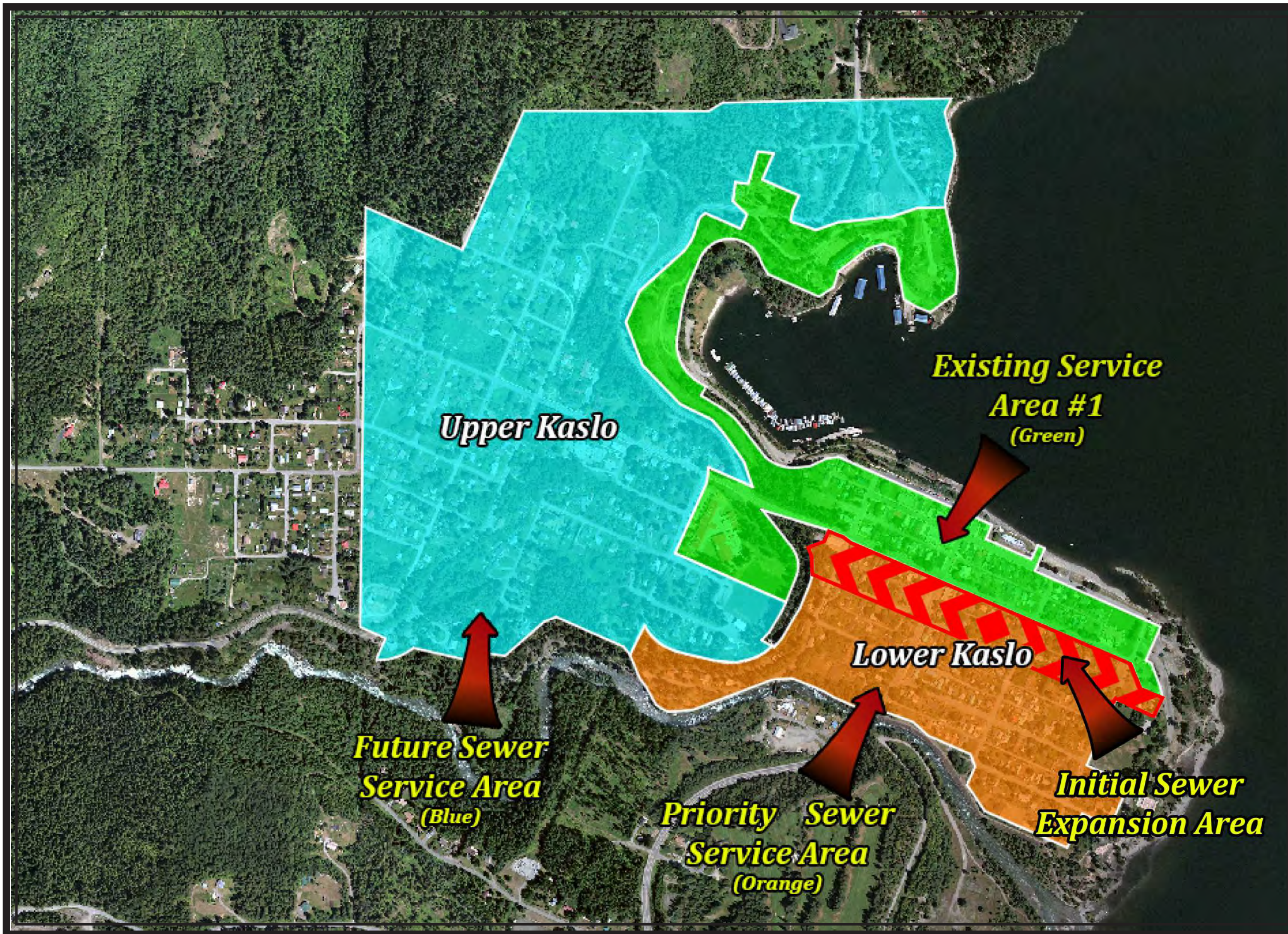
## Concern for Small Lot Sizes

The current sizes of lots (both developed and undeveloped) has shown that a significant portion of the lots are substandard and/or can not meet the regulatory requirements for on-site (septic) disposal, or would require more sophisticated private treatment systems to accommodate redevelopment. Feasibility for such small private systems is often cost prohibitive for a small residential development.

## NOTE:

Although the potential of Environmental Impact of current septic systems on the aquatic/lake system has not been studied, it is a strong recommendation of the LWMP that monitoring and education forms an integral part of implementation in the future.

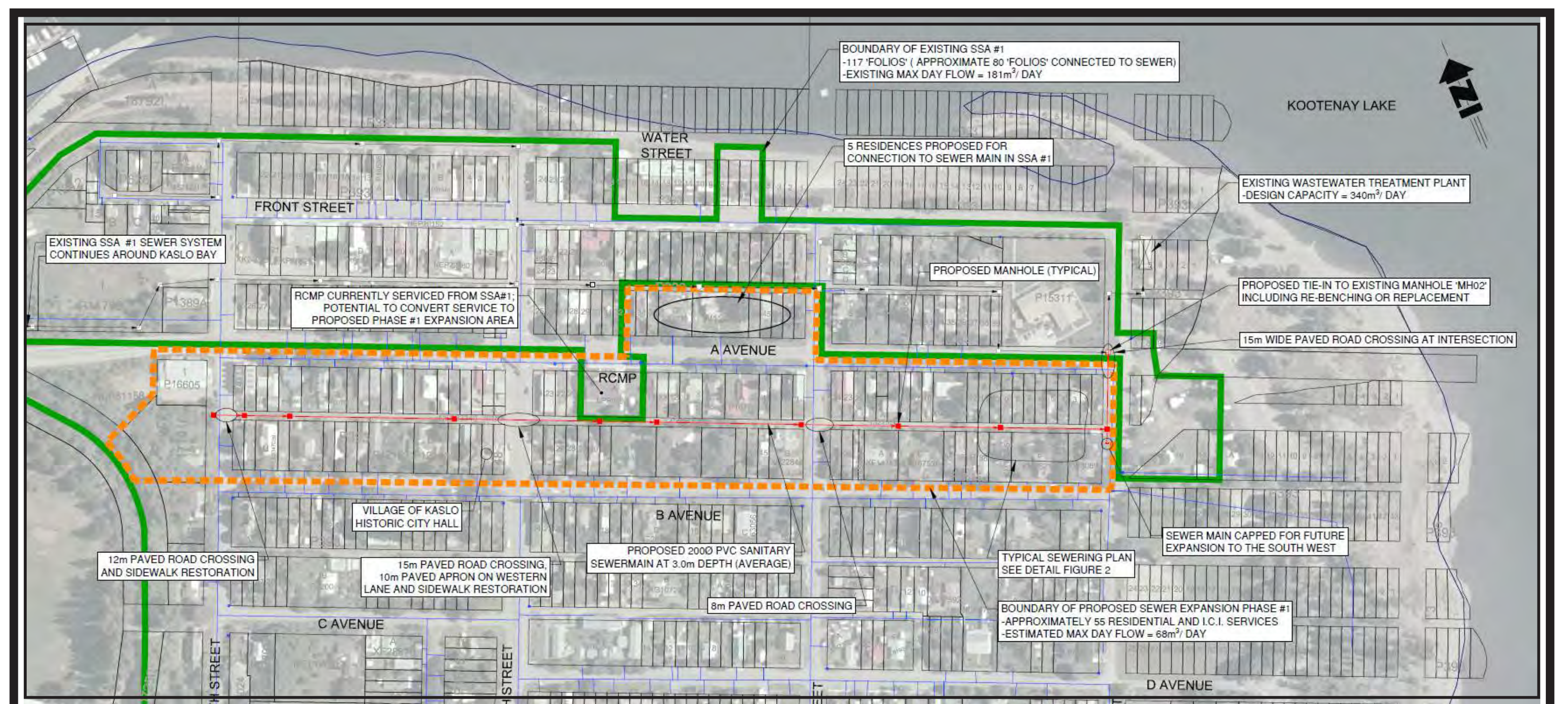
# THE MUNICIPAL SEWER SYSTEM/SERVICE EXPANSION AREA



During the 1990s it was determined that the commercial core was having significant issues with wastewater management and the inability to re-construct failing septic fields. Interior Health was the approving authority at the time, and they allowed septic fields which did not meet regulations. An Infrastructure Funding Grant (75%) was received by the Village to create a larger community sewer system, but the referendum to pay for the Village's 25% failed. Subsequently, plans were scaled back and Sewer Service Area #1 (SSA #1) was created by petition from property owners in the commercial core area.

## Basic History of SSA #1

The recent approval by the Province to extend sanitary sewer connection is the first major expansion to the initial service since 1998.



# WASTE WATER TREATMENT PLANT

The existing Wastewater Treatment Plant has a design capacity of **340m<sup>3</sup>/day** and is permitted by the Ministry of Environment to discharge up to **370m<sup>3</sup>/day**. In 1995, the plant designers stated that **74%** of the design capacity (**250m<sup>3</sup>/day**) was for estimated flows from the service area at that time including an infiltration allowance and **26%** of the design capacity (**88m<sup>3</sup>/day**) available for future development in the specified area.

The allowance for future growth did not reference any specific proposed development within the specified area. As the collection system increases in size, the available treatment capacity must increase with it. In order to treat the additional wastewater flow from the expanded service area, various treatment alternatives were investigated. The general outcome of the work examining the existing WWTP was that the plant can accommodate the expected future flows including **2%** growth using the current technology by expanding the treatment plant footprint slightly and repurposing part of the energy storage tanks.

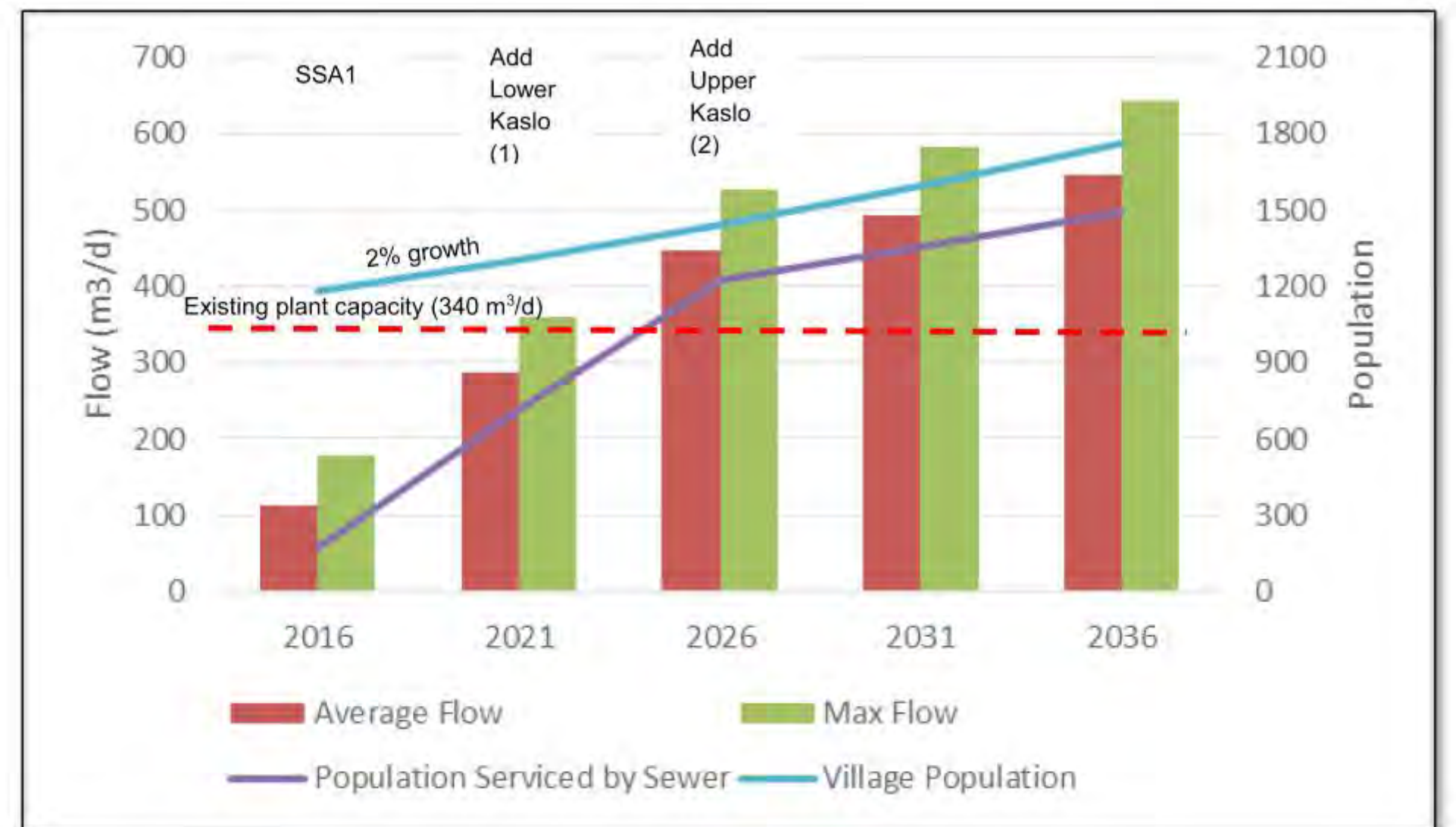
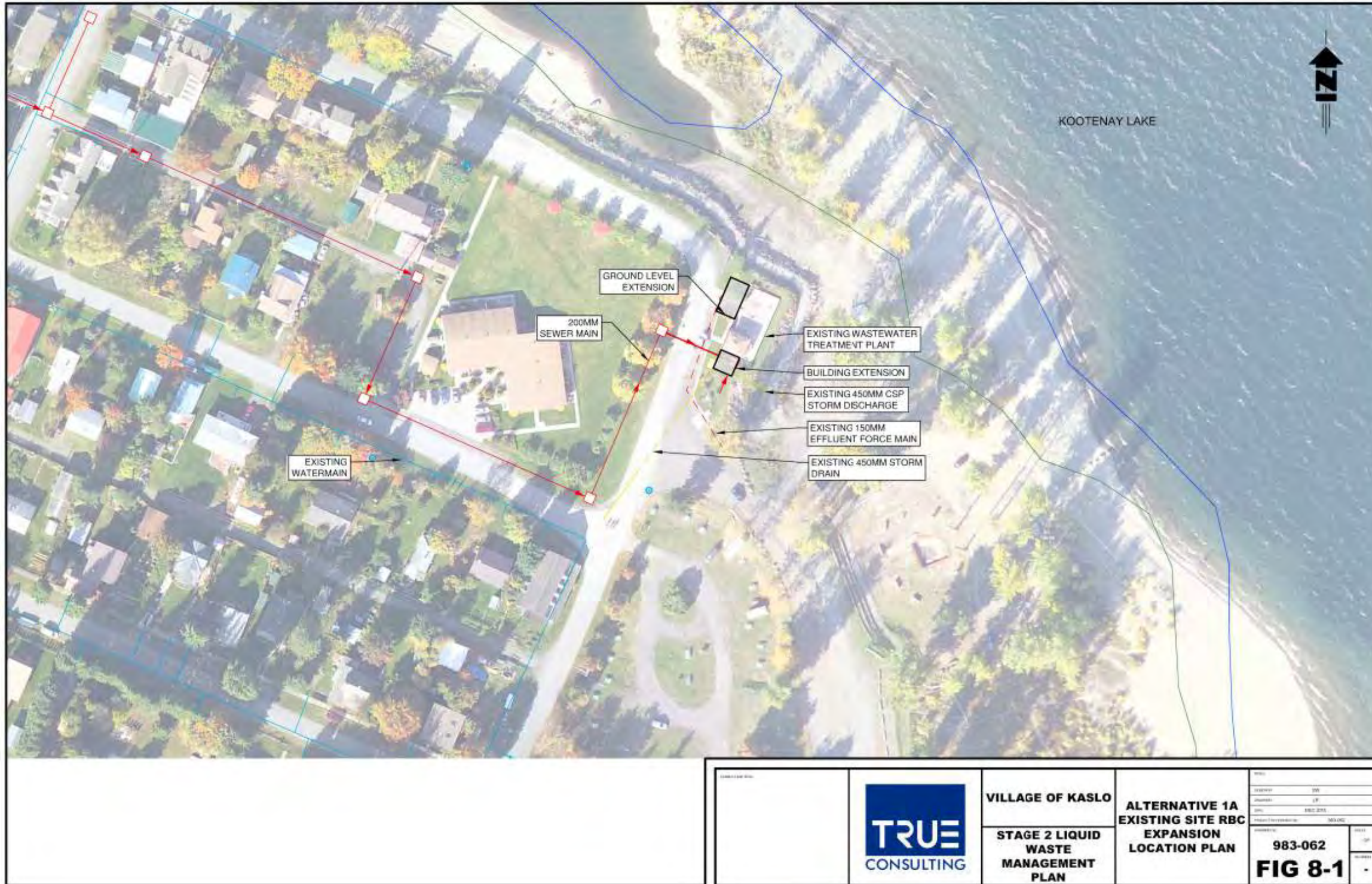


FIGURE 5-7: WASTEWATER FLOW PROJECTIONS (2% GROWTH)

- Notes:
- (1) Population equivalent added = 546 people
  - (2) Population equivalent added = 508 people

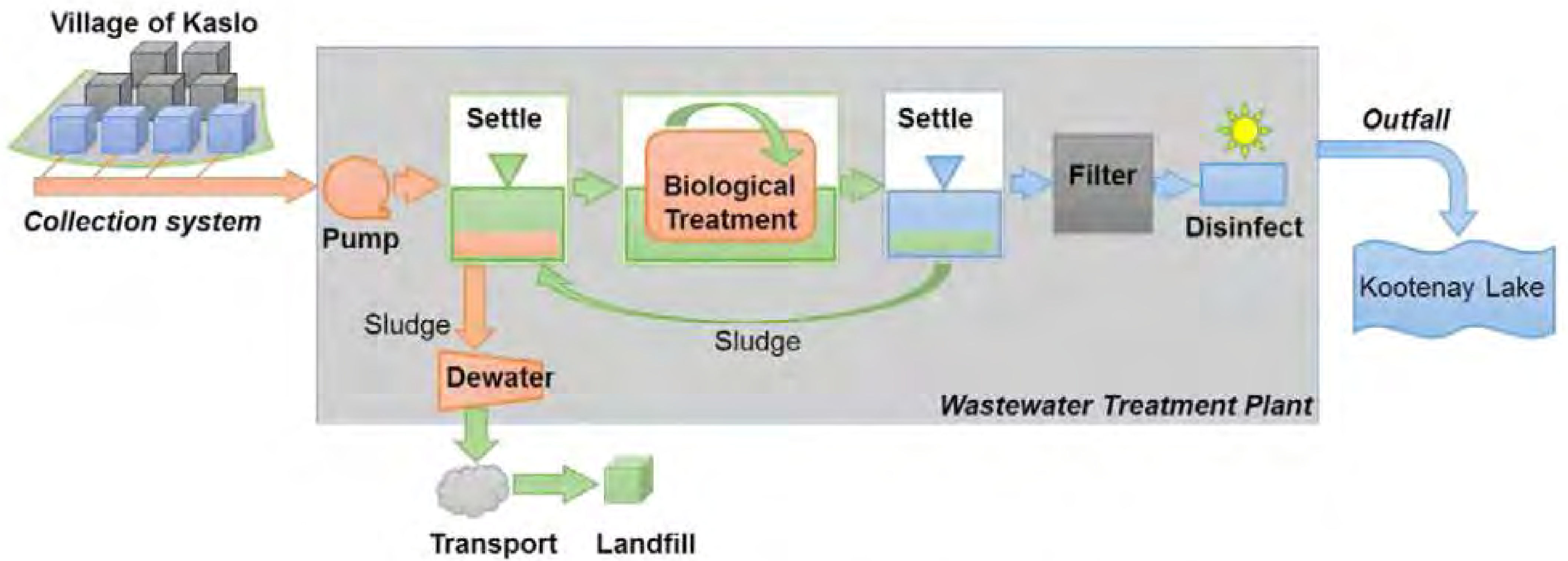


FIGURE 5-3: EXISTING CENTRALIZED COLLECTION, TREATMENT AND DISPOSAL SYSTEM PROCESS

# FUNDING APPROACH



The Village encourages a forward-looking LWMP that fulfills the Provincial objective to safeguard public health and the environment while promoting the Village's Official Community Plan objective of increased residential infill and densification. However, it is also the objective of the Project Team, the Committees, Village Staff and Council to arrive at a realistic and affordable proposal for user fees, parcel taxes and Development Cost Charges (where applicable) that offer cost-effective services today and responsible asset management tomorrow. It is recommended to adopt a user-pay financing approach whereby those entities that benefit from the proposed works also pay their fair share for making the program a reality.

Based on expert opinion, it is proposed that the capital and operating costs for the expansion of the sewer network should be funded by the property owners located in each new service area. There may be a small proportion of these costs funded from general taxation as a reflection of the public good derived from the work. For example, there a number of properties in the existing and proposed sewer expansion areas which are either Village owned or exempt from taxation



*"Every property will be charged \$25 for the Education and Monitoring Tax to create an annual fund of approximately \$15,000 for education and monitoring (lake sampling, data assessment)"*

# SUMMARY OF FINANCIAL IMPACT

## INITIAL COSTS FOR A RESIDENTIAL PROPERTY, SCENARIO 1 (NO GRANT FUNDING)

	SSA-1	SSA-2	Remainder of Village
Sewage Education and Monitoring	\$25	\$25	\$25
User Fees (Operating Charges)	\$425	\$425	\$0
<b>'Fixed' Annual Operating Cost per folio (on average)</b>	<b>\$450/year</b>	<b>\$450/year</b>	<b>\$25/year</b>
Sewage Collection Renewal Reserve	\$90	\$90	\$0
Sewage Treatment Renewal Reserve	\$60	\$60	\$0
<b>'Variable' Reserve Funding per folio (on average)</b>	<b>\$150/year</b>	<b>\$150/year</b>	<b>\$0/year</b>
Estimated Sewage Collection Construction Cost per folio (on average)	\$0	\$925/year or \$15,500	\$0
Sewage Treatment Capital Charge (payable at time of connection)	\$0	\$1,000	\$0

If 100% grant funding were to be received for the initial incremental sewage collection expansion, then the projected costs would be as follows:

## INITIAL COSTS FOR A RESIDENTIAL PROPERTY, SCENARIO 2 (100% GRANT FUNDING)

	SSA-1	SSA-2	Remainder of Village
Sewage Education and Monitoring	\$25	\$25	\$25
User Fees (Operating Charges)	\$425	\$425	\$0
<b>'Fixed' Annual Operating Cost per folio (on average)</b>	<b>\$450/year</b>	<b>\$450/year</b>	<b>\$25/year</b>
Sewage Collection Renewal Reserve	\$90	\$90	\$0
Sewage Treatment Renewal Reserve	\$60	\$60	\$0
<b>'Variable' Reserve Funding per folio (on average)</b>	<b>\$150/year</b>	<b>\$150/year</b>	<b>\$0/year</b>
Estimated Sewage Collection Construction Cost per folio (on average)	\$0	\$0	\$0
Sewage Treatment Capital Charge (payable at time of connection)	\$0	\$1,000	\$0

In addition to the initial costs shown above, future Sewage Treatment upgrading costs would be applied to all sewer areas (SSA-1, SSA-2, etc) when those treatment upgrades are needed. Those treatment upgrading costs 'per folio' will be highly dependant on the timing of the upgrades in relation to the size of the sewer area, but could be:

### ***FUTURE SEWAGE TREATMENT UPGRADING CONSTRUCTION COSTS***

- Phase 1 = \$140/year or \$2,300 per folio (on average)
- Phase 1/2 combined = \$335/year or \$5,500 per folio (on average)

The costs summarized above would also change with time, as described in previous sections:

- Sewage Treatment and Collection Construction Costs would be eliminated when loans are paid off.
- Renewal reserve taxes will remain in place even after construction loans are paid off, and will change with time as addition information is gathered regarding infrastructure condition.
- User Fees would generally be reduced as the sewer service area expands.

Participants in the future Village of Kaslo sewer expansions will be affected differently, depending on their location.

Participants located inside the original Specified Service Area #1 (SSA-1) have paid their contribution to the capital costs to construct the existing collection system and the existing treatment system. The Local Service Taxes in that area will relate to reserve funding for future renewal of sewage collection and treatment infrastructure. User fees in SSA-1 will cover their share of the costs to operate and maintain the collection and treatment system. This will be the case, whether or not the system is expanded.

Participants located in the sewer expansion areas will need to pay the cost for new sewers as part of each phase of expansion. Sewers are the largest component of the cost of an expansion project. The connection cost from property line to home would be an additional cost born by each homeowner. User fees in the sewer expansion areas will cover their share of the costs to operate and maintain the collection and treatment system. Similar to SSA-1, Local Service Taxes in the expansion areas cover their share of the reserve funding for future renewal of sewage collection and treatment infrastructure. In addition, a sewer capital charge of \$1,000 is proposed at the time of service connection as a means of creating parity for existing unused sewage treatment plant capacity.

Based on the assumptions made previously in this document, the projected cost for an 'average' residential property if the Village completes the initial incremental phase of sewer expansion with no external grant funding would be as follows:

# LEARN



# MORE

# 1

A significant amount of background information has informed this LWMP process over the past 5 years. This has included direction from the Province (MOE) to prepare Liquid Waste Management Plans, legislation/regulations, bylaws and technical information, best management practices, special studies, examples from other BC municipalities and pertinent material addressing risk to public health and the environment.

# 2

A special report that was commissioned by the Village to investigate cost recovery options has been referenced in the Stage 2 and Stage 3 Report: Sewer Servicing Cost Recovery Structure, 2016, prepared by Fred Banham and Associates.

# 3

Many of these can be made available through the Village of Kaslo website, or by directly enquiring at the Village Office.

# 4

Please feel free to ask about these background materials while visiting the Open House tonight.

# 5

Bulletins with contact information are available here



# Questions?

# Comments?

**BEFORE** YOU LEAVE TONIGHT PLEASE LEAVE US  
YOUR COMMENT SHEET IN THE **BOX** PROVIDED!

We prefer **NO** late returns **PLEASE**, but if you need some time to think about what you saw and heard this evening, **WE ASK** that you have your comment sheets into the Village Office by no later than **May 28<sup>th</sup> at 4 PM**

REMEMBER THIS IS NOT A REFERENDUM; WE ARE SIMPLY ASKING YOU TO PROVIDE YOUR OPINIONS WITH REGARD TO THE ADVANCEMENT OF LIQUID WASTE MANAGEMENT PLANNING IN KASLO

*Your identification is not necessary, however the street you live on or where your business interests are located in Kaslo, will assist us in determining level of participation from various parts of the community.*

CTQ



Welcome to the  
Village of Kaslo

**TRUE**  
CONSULTING

# FINANCIAL IMPACT

There is no single answer to how costs should or will be allocated across users as there many options and scenarios to consider. However, approximate annual tax burden can be obtained for specific scenarios. The scenarios given below are intended to illustrate how costs could be apportioned.

The Village has been fortunate to receive grant funding for capital projects in the past, which has greatly eased the financial burden related to many projects including the existing wastewater collection and treatment system. This source of funding from senior levels of government may or may not be available for future projects.

Even in a scenario with no borrowing (such as full grant funding), a reasonable Local Service Tax is required to ensure that reserve funds exist to repair, renew and enhance infrastructure in the service areas throughout the service life of the infrastructure.

This section describes alternatives for taxation under various external funding scenarios. The first scenario is where the Village taxpayers fund 100% of the project capital cost. The second scenario shown is the opposite end of the spectrum, where 100% grant funding is received for the project capital cost. It must be noted that 100% grant funding is not a common scenario, but is used here for illustrative purposes

TABLE 7-1: ANNUAL CAPITAL CHARGES FOR SEWERING WITHIN INITIAL SEWER EXPANSION AREA

	Scenario 1		Scenario 2	
<b>Project Cost</b>	<b>\$910,000</b>		<b>\$910,000</b>	
Grant Funding	0%	\$0	100%	\$910,000
Village Funding	100%	\$910,000	0%	\$0
Contributing Folios (Properties)	59		59	
<b>Sewer Construction Cost per Folio</b>	<b>\$15,425 (average)</b>		<b>\$0</b>	
Annual Sewer Construction Loan Servicing	\$54,625 <sup>1</sup>		\$0	
<b>Annual Sewer Tax (inside expansion area)</b>	<b>\$925 per folio (on average)</b>		<b>\$0 per folio</b>	

Note 1: Interest Rate 3.26%pa, term of loan 25 years.

TABLE 7-2: POTENTIAL ANNUAL CAPITAL CHARGES FOR TREATMENT UPGRADES - PHASE 1

	Scenario 1		Scenario 2	
<b>Project Cost</b>	<b>\$750,000</b>		<b>\$750,000</b>	
Grant Funding	0%	\$0	100%	\$750,000
Village Funding	100%	\$750,000	0%	\$0
Contributing Folios (Lower Kaslo and SSA-1)	330		330	
<b>Phase 1 Treatment Cost per Folio</b>	<b>\$2,275</b>		<b>\$0</b>	
Treatment Construction Loan Servicing	\$45,020 <sup>1</sup>		\$0	
<b>Phase 1 Sewage Treatment Tax (inside expansion area)</b>	<b>\$140 per folio (on average)</b>		<b>\$0 per folio (on average)</b>	

NOTE 1: INTEREST RATE 3.26%PA, TERM OF LOAN 25 YEARS.

TABLE 7-3: POTENTIAL ANNUAL CAPITAL CHARGES FOR TREATMENT UPGRADES - PHASE 2

	Scenario 1		Scenario 2	
<b>Project Cost</b>	<b>\$1,750,000</b>		<b>\$1,750,000</b>	
Grant Funding	0%	\$0	100%	\$1,750,000
Village Funding	100%	\$1,750,000	0%	\$0
Contributing Folios (Upper Kaslo, Lower Kaslo, and SSA-1)	550		550	
<b>Phase 2 Treatment Cost per Folio</b>	<b>\$3,185</b>		<b>\$0</b>	
Treatment Construction Loan Servicing	\$105,050 <sup>1</sup>		\$0	
<b>Phase 2 Sewage Treatment Tax (inside expansion area)</b>	<b>\$195 per folio (on average)</b>		<b>\$0 per folio</b>	

Note 1: Interest Rate 3.26%pa, term of loan 25 years. Assuming the Phase 2 treatment plant upgrades occur prior to paying off the Phase 1 treatment debt, then some properties would experience both the Phase 1 and Phase 2 Parcel Tax.

TABLE 7-5: EXAMPLE USER FEE STRUCTURE FOR OPERATING COSTS

Type of Use	Annual User Fee
Residential	
Single family	\$425.00
Multi-family (per unit)	\$425.00
Townhouse	\$425.00
Mobile Home	\$425.00
Hairdressing, barber shops, beauty parlours and pet grooming	\$425.00
Coffee Shop /Restaurant /Dining	\$900.00
Food / beverage production facilities, take-out establishments	
No seating	\$800.00
With seating	\$900.00
Brewery (with or without seating)	\$1500.00
Service stations	\$700.00
Car Wash (per bay)	\$400.00
Laundries	
For the first machine	\$250.00
For each additional machine	\$150.00
Motel units and/or tourist cabins	
For the first unit	\$350.00
For each additional unit	\$180.00
Hotels	
For each unit	\$180.00
Café, pub lounge or dining room	\$900.00
Short Term Rental Accommodations <sup>2</sup>	
Up to 4 bedrooms	\$720.00
For each additional bedroom thereafter	\$180.00
Strata unit	\$425.00
Retail stores, public halls	\$400.00
Offices, with use of washroom facility	\$400.00
School (all uses)	\$10,000.00
Hospital (all uses)	\$5000.00
Commercial work/ maintenance yards	\$300.00
Large Grocer	\$1100.00
Industrial sites	\$1500.00
Commercial Swimming Pools	\$1500.00
For any use not identified in this table (per washroom)	\$180.00
Vacant lot with service available <sup>2</sup>	\$600.00

<sup>1</sup> The renting out of a furnished apartment, house, or professionally managed resort-condominium complex on a temporary basis to tourists as an alternative to a hotel. Number of rooms determined by current listing or advertising. These rates are charged instead of Residential Rates, not in addition to.

<sup>2</sup> This is a fee that is charged to serviceable (connection installed) vacant lots in standalone folios and applied in this way to encourage densification.



Welcome to the  
**Village of Kaslo**







# Welcome to the Village of Kaslo

## LWMP Open House Comment Sheet

Your input regarding the Village of Kaslo Liquid Waste Management Plan is sincerely appreciated. Please complete the Section One Questions and then the Comment Section if applicable. Ensure your writing is clear as all input will be reviewed for consideration towards submission of the Plan to the Province by September 2018.

### Section One

Please check  applicable box **ONLY**

1.  I attended the presentation at 6:30 PM.
2.  I only had time to attend the Drop-in at 4-6 PM.
3.  My questions/concerns were addressed by the Consultant/staff during the evening.
4.  I still have questions/concerns; IF SO, please use the Comment Section.
5.  I am a property owner that currently benefits from the Municipal Sanitary Sewer System OR
6.  I own multiple properties, at least one of which does benefit from the Municipal Sewer System.
7.  I am an interested resident/business but do not own property in Kaslo.
8.  My property is serviced by a Septic System/On-site disposal.
9. PLEASE INDICATE the Road/Street where your property (ies) is/are located

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(Your identification is not required; provide only the road or street name)

### Section Two

#### COMMENTS

Please provide your comments according to topic and number them (1, 2, 3, etc.) if more than one. If your concern can not be articulated in these two pages, please submit by separate letter or email correspondence direct to the Village of Kaslo.

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## LWMP – First Nations Letters

# Village of Kaslo

Incorporated 1893

July 18, 2018

Ktunaxa Nation Council  
7425 Mission Road  
Cranbrook BC V1C 7E5

Via email: [jnicholas@ktunaxa.org](mailto:jnicholas@ktunaxa.org)

Attn: Jesse Nicholas, Communications Manager

**RE: Village of Kaslo - Liquid Waste Management Plan Stage 3, Public Consultation**

The Village of Kaslo is working on a Liquid Waste Management Plan (LWMP). The LWMP is a comprehensive process that will guide future direction for how wastewater is managed within the Village, to minimize environmental impacts and improve public health. An extensive public and stakeholder consultation process is an essential component of a successful LWMP, and the Village invites the participation and input of the Ktunaxa Nation Council.

The LWMP is three stage process. In Stage 1, the Village's existing liquid waste management practices were assessed, and feasible options for future wastewater management improvements were identified. The Stage 1 work concluded that the 'status quo' is not a viable long term wastewater management option for the Village, and recommended (amongst other things) that the Village evaluate options to replace private septic systems with an expanded community sewer system. The Stage 1 report was completed in November 2013 and subsequently reviewed and approved by the Ministry of Environment in early 2014.

Expansion of the community sewer system will necessitate creation of additional sewage treatment capacity. An Archaeological Overview Assessment was completed to assist with review of treatment option locations. Stage 2 of the LWMP included evaluation of feasible wastewater treatment options, and concluded that the preferred option is to maintain and expand/upgrade the existing wastewater treatment plant at the existing location. The Village previously contacted the Ktunaxa Nation Council as opportunity to provide input to this planning process during Stage 2 in December 2016.

Stage 3 of the Village's LWMP is now underway.

The current 'draft' version of the Stage 3 report (as well as the completed Stage 1 and 2 reports) are available for viewing on the Village of Kaslo's website, located here: <http://www.kaslo.ca/content/liquid-waste-management>

A summary of the key components of the draft Stage 3 LWMP are as follows.

**Box 576, Kaslo, British Columbia V0G 1M0**

Tel. 250-353-2311 Fax. 250-353-7767  
E-mail: [admin@kaslo.ca](mailto:admin@kaslo.ca)  
<http://www.kaslo.ca>



1. Future sewer service expansion would occur incrementally within the Village's municipal boundaries, and would be guided by factors including:
  - Long term community goals per the Village's *Integrated Community Sustainability Plan* and the Village's *Official Community Plan*.
  - Project costs and resulting cost per property.
  - Monitoring and documentation of septic system performance.
  - Public initiatives.
2. Without grant funding assistance, capital costs are anticipated to be ~\$15,500 per property for sewerage plus ~\$5,500 per property for future treatment upgrades. To maintain a reasonable 'cost per property', the Village will aspire to limit borrowing to 33% of project costs over \$250,000.
3. Funding sources for future wastewater works will include:
  - A community-wide tax for sewage education and monitoring, to allow the Village to gather additional information on potential impacts of septic systems operation as well as municipal sewage treatment plant operation on the receiving environment.
  - A parcel tax on sewerage areas for each sewerage collection (pipes) area expansion.
  - A parcel tax on all sewerage areas for future sewerage treatment plant upgrades.
  - A parcel tax on all sewerage areas for reserve funding.
4. Additional administrative and cost recovery changes are proposed to include:
  - Payments in lieu of taxes for 'exempt' properties within all sewerage areas.
  - Restructure of the Village's sewer user fee bylaw.
  - Restructure of the Village's sewerage regulation bylaw, and enhancement of the source control requirements for higher strength industrial discharges.

Please contact Scott Wallace, PEng, at TRUE Consulting if you have any questions or if you would like further information regarding the Village's LWMP.

Written feedback regarding the Village's LWMP process and the draft Stage 3 report would be appreciated. If you would like to comment on the LWMP we request that be submitted to the undersigned by **Friday August 31st 2018**. Feedback can be mailed to the Village, or emailed to [admin@kaslo.ca](mailto:admin@kaslo.ca)

Thank you for your attention to this matter.

Regards,



Neil Smith, CAO

Village of Kaslo

NS/sw

cc: Scott Wallace, PEng, TRUE Consulting, [swallace@true.bc.ca](mailto:swallace@true.bc.ca)



# Village of Kaslo

Incorporated 1893

July 18, 2018

Okanagan Nation Alliance  
#101- 3535 Old Okanagan Highway  
Westbank, BC V4T 3L7

Via email: [onareception@sylix.org](mailto:onareception@sylix.org)

Attn: Pauline Terbasket, Executive Director

**RE: Village of Kaslo - Liquid Waste Management Plan Stage 3, Public Consultation**

The Village of Kaslo is working on a Liquid Waste Management Plan (LWMP). The LWMP is a comprehensive process that will guide future direction for how wastewater is managed within the Village, to minimize environmental impacts and improve public health. An extensive public and stakeholder consultation process is an essential component of a successful LWMP, and the Village invites the participation and input of the Okanagan Nation Alliance.

The LWMP is three stage process. In Stage 1, the Village's existing liquid waste management practices were assessed, and feasible options for future wastewater management improvements were identified. The Stage 1 work concluded that the 'status quo' is not a viable long term wastewater management option for the Village, and recommended (amongst other things) that the Village evaluate options to replace private septic systems with an expanded community sewer system. The Stage 1 report was completed in November 2013 and subsequently reviewed and approved by the Ministry of Environment in early 2014.

Expansion of the community sewer system will necessitate creation of additional sewage treatment capacity. An Archaeological Overview Assessment was completed to assist with review of treatment option locations. Stage 2 of the LWMP included evaluation of feasible wastewater treatment options, and concluded that the preferred option is to maintain and expand/upgrade the existing wastewater treatment plant at the existing location. The Village previously contacted the Okanagan Nation Alliance as opportunity to provide input to this planning process during Stage 2 in December 2016.

Stage 3 of the Village's LWMP is now underway.

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<http://www.kaslo.ca/content/liquid-waste-management>

A summary of the key components of the draft Stage 3 LWMP are as follows.

**Box 576, Kaslo, British Columbia V0G 1M0**

Tel. 250-353-2311 Fax. 250-353-7767

E-mail: [admin@kaslo.ca](mailto:admin@kaslo.ca)

<http://www.kaslo.ca>



1. Future sewer service expansion would occur incrementally within the Village's municipal boundaries, and would be guided by factors including:
  - Long term community goals per the Village's *Integrated Community Sustainability Plan* and the Village's *Official Community Plan*.
  - Project costs and resulting cost per property.
  - Monitoring and documentation of septic system performance.
  - Public initiatives.
2. Without grant funding assistance, capital costs are anticipated to be ~\$15,500 per property for sewerage plus ~\$5,500 per property for future treatment upgrades. To maintain a reasonable 'cost per property', the Village will aspire to limit borrowing to 33% of project costs over \$250,000.
3. Funding sources for future wastewater works will include:
  - A community-wide tax for sewage education and monitoring, to allow the Village to gather additional information on potential impacts of septic systems operation as well as municipal sewage treatment plant operation on the receiving environment.
  - A parcel tax on sewerage areas for each sewerage collection (pipes) area expansion.
  - A parcel tax on all sewerage areas for future sewage treatment plant upgrades.
  - A parcel tax on all sewerage areas for reserve funding.
4. Additional administrative and cost recovery changes are proposed to include:
  - Payments in lieu of taxes for 'exempt' properties within all sewerage areas.
  - Restructure of the Village's sewer user fee bylaw.
  - Restructure of the Village's sewage regulation bylaw, and enhancement of the source control requirements for higher strength industrial discharges.

Please contact Scott Wallace, PEng, at TRUE Consulting if you have any questions or if you would like further information regarding the Village's LWMP.

Written feedback regarding the Village's LWMP process and the draft Stage 3 report would be appreciated. If you would like to comment on the LWMP we request that be submitted to the undersigned by **Friday August 31st 2018**. Feedback can be mailed to the Village, or emailed to [admin@kaslo.ca](mailto:admin@kaslo.ca)

Thank you for your attention to this matter.

Regards,



Neil Smith, CAO

Village of Kaslo

NS/sw

cc: Scott Wallace, PEng, TRUE Consulting, [swallace@true.bc.ca](mailto:swallace@true.bc.ca)



# Village of Kaslo

Incorporated 1893

July 18, 2018

Shuswap Indian Band  
RR#2-3A 492 Arrow Road  
Invermere BC V0A 1K2

Via email: [dthomas@shuswapband.net](mailto:dthomas@shuswapband.net)

Attn: Diane Thomas

**RE: Village of Kaslo - Liquid Waste Management Plan Stage 3, Public Consultation**

The Village of Kaslo is working on a Liquid Waste Management Plan (LWMP). The LWMP is a comprehensive process that will guide future direction for how wastewater is managed within the Village, to minimize environmental impacts and improve public health. An extensive public and stakeholder consultation process is an essential component of a successful LWMP, and the Village invites the participation and input of the Shuswap Indian Band.

The LWMP is three stage process. In Stage 1, the Village's existing liquid waste management practices were assessed, and feasible options for future wastewater management improvements were identified. The Stage 1 work concluded that the 'status quo' is not a viable long term wastewater management option for the Village, and recommended (amongst other things) that the Village evaluate options to replace private septic systems with an expanded community sewer system. The Stage 1 report was completed in November 2013 and subsequently reviewed and approved by the Ministry of Environment in early 2014.

Expansion of the community sewer system will necessitate creation of additional sewage treatment capacity. An Archaeological Overview Assessment was completed to assist with review of treatment option locations. Stage 2 of the LWMP included evaluation of feasible wastewater treatment options, and concluded that the preferred option is to maintain and expand/upgrade the existing wastewater treatment plant at the existing location. The Village previously contacted the Shuswap Indian Band as opportunity to provide input to this planning process during Stage 2 in December 2016.

Stage 3 of the Village's LWMP is now underway.

The current 'draft' version of the Stage 3 report (as well as the completed Stage 1 and 2 reports) are available for viewing on the Village of Kaslo's website, located here:

<http://www.kaslo.ca/content/liquid-waste-management>

A summary of the key components of the draft Stage 3 LWMP are as follows.

**Box 576, Kaslo, British Columbia V0G 1M0**

Tel. 250-353-2311 Fax. 250-353-7767  
E-mail: [admin@kaslo.ca](mailto:admin@kaslo.ca)  
<http://www.kaslo.ca>





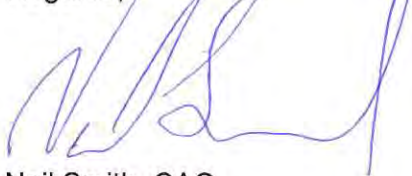
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Please contact Scott Wallace, PEng, at TRUE Consulting if you have any questions or if you would like further information regarding the Village's LWMP.

Written feedback regarding the Village's LWMP process and the draft Stage 3 report would be appreciated. If you would like to comment on the LWMP we request that be submitted to the undersigned by **Friday August 31st 2018**. Feedback can be mailed to the Village, or emailed to [admin@kaslo.ca](mailto:admin@kaslo.ca)

Thank you for your attention to this matter.

Regards,



Neil Smith, CAO

Village of Kaslo

NS/sw

cc: Scott Wallace, PEng, TRUE Consulting, [swallace@true.bc.ca](mailto:swallace@true.bc.ca)



# Village of Kaslo

Incorporated 1893

July 18, 2018

Neskonlith Indian Band  
PO Box 318  
Chase BC V0E 1M0

Via email: [reception@neskonlith.net](mailto:reception@neskonlith.net)

Attn: Andrea Blackwater

**RE: Village of Kaslo - Liquid Waste Management Plan Stage 3, Public Consultation**

---

The Village of Kaslo is working on a Liquid Waste Management Plan (LWMP). The LWMP is a comprehensive process that will guide future direction for how wastewater is managed within the Village, to minimize environmental impacts and improve public health. An extensive public and stakeholder consultation process is an essential component of a successful LWMP, and the Village invites the participation and input of the Neskonlith Indian Band.

The LWMP is three stage process. In Stage 1, the Village's existing liquid waste management practices were assessed, and feasible options for future wastewater management improvements were identified. The Stage 1 work concluded that the 'status quo' is not a viable long term wastewater management option for the Village, and recommended (amongst other things) that the Village evaluate options to replace private septic systems with an expanded community sewer system. The Stage 1 report was completed in November 2013 and subsequently reviewed and approved by the Ministry of Environment in early 2014.

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Thank you for your attention to this matter.

Regards,



Neil Smith, CAO

Village of Kaslo

NS/sw

cc: Scott Wallace, PEng, TRUE Consulting, [swallace@true.bc.ca](mailto:swallace@true.bc.ca)



# Village of Kaslo

Incorporated 1893

July 18, 2018

Upper Nicola Indian Band  
Box 3700  
Merritt BC V1K 1B8

Via email: [nrtech1@uppernicola.com](mailto:nrtech1@uppernicola.com)

Attn: Matilda Chillihitzia

**RE: Village of Kaslo - *Liquid Waste Management Plan Stage 3, Public Consultation***

---

The Village of Kaslo is working on a Liquid Waste Management Plan (LWMP). The LWMP is a comprehensive process that will guide future direction for how wastewater is managed within the Village, to minimize environmental impacts and improve public health. An extensive public and stakeholder consultation process is an essential component of a successful LWMP, and the Village invites the participation and input of the Upper Nicola Indian Band.

The LWMP is three stage process. In Stage 1, the Village's existing liquid waste management practices were assessed, and feasible options for future wastewater management improvements were identified. The Stage 1 work concluded that the 'status quo' is not a viable long term wastewater management option for the Village, and recommended (amongst other things) that the Village evaluate options to replace private septic systems with an expanded community sewer system. The Stage 1 report was completed in November 2013 and subsequently reviewed and approved by the Ministry of Environment in early 2014.

Expansion of the community sewer system will necessitate creation of additional sewage treatment capacity. An Archaeological Overview Assessment was completed to assist with review of treatment option locations. Stage 2 of the LWMP included evaluation of feasible wastewater treatment options, and concluded that the preferred option is to maintain and expand/upgrade the existing wastewater treatment plant at the existing location. The Village previously contacted the Upper Nicola Indian Band as opportunity to provide input to this planning process during Stage 2 in December 2016.

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E-mail: [admin@kaslo.ca](mailto:admin@kaslo.ca)  
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Thank you for your attention to this matter.

Regards,



Neil Smith, CAO

Village of Kaslo

NS/sw

cc: Scott Wallace, PEng, TRUE Consulting, [swallace@true.bc.ca](mailto:swallace@true.bc.ca)



# Village of Kaslo

Incorporated 1893

July 18, 2018

Okanagan Indian Band  
12420 Westside Road  
Vernon, BC V1H 2A2

Via email: [colleen.marchand@okanagan.org](mailto:colleen.marchand@okanagan.org)

Attn: Colleen Marchand

**RE: Village of Kaslo - Liquid Waste Management Plan Stage 3, Public Consultation**

---

The Village of Kaslo is working on a Liquid Waste Management Plan (LWMP). The LWMP is a comprehensive process that will guide future direction for how wastewater is managed within the Village, to minimize environmental impacts and improve public health. An extensive public and stakeholder consultation process is an essential component of a successful LWMP, and the Village invites the participation and input of the Okanagan Indian Band.

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E-mail: [admin@kaslo.ca](mailto:admin@kaslo.ca)  
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Thank you for your attention to this matter.

Regards,



Neil Smith, CAO

Village of Kaslo

NS/sw

cc: Scott Wallace, PEng, TRUE Consulting, [swallace@true.bc.ca](mailto:swallace@true.bc.ca)



# Village of Kaslo

Incorporated 1893

July 18, 2018

Lower Similkameen Indian Band  
PO Box 100  
Keremeos BC V0X 1N0

Via email: [referrals.coordinator@lsib.net](mailto:referrals.coordinator@lsib.net)

Attn: Wendy Hawkes, Referral Coordinator

**RE: Village of Kaslo - Liquid Waste Management Plan Stage 3, Public Consultation**

---

The Village of Kaslo is working on a Liquid Waste Management Plan (LWMP). The LWMP is a comprehensive process that will guide future direction for how wastewater is managed within the Village, to minimize environmental impacts and improve public health. An extensive public and stakeholder consultation process is an essential component of a successful LWMP, and the Village invites the participation and input of the Lower Similkameen Indian Band.

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Tel. 250-353-2311 Fax. 250-353-7767  
E-mail: [admin@kaslo.ca](mailto:admin@kaslo.ca)  
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Thank you for your attention to this matter.

Regards,



Neil Smith, CAO

Village of Kaslo

NS/sw

cc: Scott Wallace, PEng, TRUE Consulting, [swallace@true.bc.ca](mailto:swallace@true.bc.ca)



## APPENDIX D

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### Public Comments Received

## Open House – Comment Sheets received



# Welcome to the Village of Kaslo

## LWMP Open House Comment Sheet

Your input regarding the Village of Kaslo Liquid Waste Management Plan is sincerely appreciated. Please complete the Section One Questions and then the Comment Section if applicable. Ensure your writing is clear as all input will be reviewed for consideration towards submission of the Plan to the Province by September 2018.

### Section One

Please check  applicable box ONLY

- 1.  I attended the presentation at 6:30 PM.
- 2.  I only had time to attend the Drop-in at 4-6 PM.
- 3.  My questions/concerns were addressed by the Consultant/staff <sup>before</sup> during the evening.
- 4.  I still have questions/concerns; IF SO, please use the Comment Section.
- 5.  I am a property owner that currently benefits from the Municipal Sanitary Sewer System OR
- 6.  I own multiple properties, at least one of which does benefit from the Municipal Sewer System.
- 7.  I am an interested resident/business but do not own property in Kaslo.
- 8.  My property is serviced by a Septic System/On-site disposal.

9. PLEASE INDICATE the Road/Street where your property (ies) is/are located  
 \_\_\_\_\_  
 219 A AVE. - 6x25' LOTS  
 \_\_\_\_\_

(Your identification is not required; provide only the road or street name)

### Section Two

#### COMMENTS

Please provide your comments according to topic and number them (1, 2, 3, etc.) if more than one. If your concern can not be articulated in these two pages, please submit by separate letter or email correspondence direct to the Village of Kaslo.

① Two of the 25' lots are separate folios. We expect we will apply for a restrictive covenant so that we

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will pay for two hook-ups rather than three.

② We are clear that we want sewer hook-up as soon as possible.



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- I am an interested resident/business but do not own property in Kaslo.
- My property is serviced by a Septic System/On-site disposal. *Ancient Cesspit.*
- PLEASE INDICATE the Road/Street where your property (ies) is/are located

*Langham Cultural Society*

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### Section Two

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- The Langham is very interested in the planned system to be built on the lane behind the building. We would need some time to*

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appropriate the funds to remove the cesspit and install the connection.

I believe, as a Board member, the village should be supported for taking on the planned next stage.

Looking forward to getting details on start dates etc.



Welcome to the  
**Village of Kaslo**



## LWMP Open House Comment Sheet

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A Ave

(Your identification is not required; provide only the road or street name)

### Section Two

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① Let's get going. Great that lots of study has been done but it is time to do it. Some development that

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would be good for the village isn't happening because either the sewage treatment isn't there and is needed or because the sewage expansion would ~~make~~ ruin work done before the sewer (ie. KLN expansion in lower Kaslo). We also need some higher density housing to help deal with the housing shortage - sewage needed for this.

I think doing all of at least lower Kaslo at the same time so you don't have people complaining about who paid what when.



# Welcome to the Village of Kaslo

## LWMP Open House Comment Sheet

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3<sup>rd</sup> ST

(Your identification is not required; provide only the road or street name)

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412 A Ave Kaslo

(Your identification is not required; provide only the road or street name)

### Section Two

#### COMMENTS

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We currently benefit from connection to the city sewer system. We want to see it expand

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responsibly and financially affordably, to treat our communities liquid waste in a sustainable, environmentally sensitive manner. We bought here six years ago, partly because of the sewer connection. We live on pensions and need our service costs to remain affordable. I do think forgivable tax concessions for public facilities is worthwhile, but service cost for utilities should be more user pay, i.e. not forgivable, but based on usage.

Thank you for continuing with the process. Best wishes for meeting all the concerns of present and future residents.



Welcome to the  
**Village of Kaslo**

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B. Chalmers

(Your identification is not required; provide only the road or street name)

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# Welcome to the Village of Kaslo

DELIVER TO VILLAGE.

## LWMP Open House Comment Sheet

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- 1.  I attended the presentation at 6:30 PM.
- 2.  I only had time to attend the Drop-in at 4-6 PM.
- 3.  My questions/concerns were addressed by the Consultant/staff during the evening *sort of*
- 4.  I still have questions/concerns; IF SO, please use the Comment Section.
- 5.  I am a property owner that currently benefits from the Municipal Sanitary Sewer System OR
- 6.  Town multiple properties, at least one of which does benefit from the Municipal Sewer System.
- 7.  I am an interested resident/business but do not own property in Kaslo.
- 8.  My property is serviced by a Septic System/On-site disposal.

9. PLEASE INDICATE the Road/Street where your property (ies) is/are located

231 + 235 Front Street

(Your identification is not required; provide only the road or street name)

### Section Two

#### COMMENTS

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I would like to ensure capital priority is spent on reducing the smells emitted from the plant

More space to write/print on next page (OVER) *whether it is increased maintenance or capital improvement*

*Bob [Signature]*

*It always smells*







# Welcome to the Village of Kaslo

## LWMP Open House Comment Sheet

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319 A AVE

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### Section Two

#### COMMENTS

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1) I HAVE HAD TO UPGRADE MY SEWAGE MANAGEMENT SYSTEM TO A FULLY COMPLIANT TERTIARY TREATMENT

More space to write/print on next page (OVER)

PLANT WITHIN THE LAST 2 YEARS (APPROX)  
WHAT COST RELIEF WILL THE VILLAGE  
PROVIDE FOR ME AS THIS SOLUTION I  
HAVE INSTALLED IS DESIGNED TO LAST  
ANOTHER 20 YEARS.

2) ASSUMING I AM REQUIRED TO CONNECT TO  
THE VILLAGE LUMP BEFORE ~~THE~~ MY CURRENT  
SYSTEM REACHES ITS DESIGN LIFE (ENRICH)  
WILL THE VILLAGE PROVIDE FUNDING FOR  
THE REMOVAL OF MY SYSTEM AND ANY  
REQUIRED REMEDIATION?



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9. PLEASE INDICATE the Road/Street where your property (ies) is/are located

505 Second Street

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A Ave.

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Concerns about fairness need to be addressed regarding SSA #1

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over

Fairness regarding funding and how opting out will affect remaining Property owners.

Not sure sewer expansion is needed as proper septic systems on some properties would suffice.

Meetings with SSA #1 representatives need to take place to comply with the proper consultation aspect.



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View Street

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9. PLEASE INDICATE the Road/Street where your property (ies) is/are located

519 Centre Street

(Your identification is not required; provide only the road or street name)

### Section Two

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513 CENTRE ST.

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SCOUT HALL LAND FOR HOLDING TANK

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TX B.





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9. PLEASE INDICATE the Road/Street where your property (ies) is/are located

716 Kaslo West RD.

(Your identification is not required; provide only the road or street name)

### Section Two

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- My property is serviced by a Septic System/On-site disposal.

9. PLEASE INDICATE the Road/Street where your property (ies) is/are located

615 Jackson, RDCK

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The LWMP needs to be presented  
in a way that

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the community is involved, empowered, and accountable. I feel that a communication gap has resulted from differing needs of users and the municipality. More interactive community events needed, that listen and react to feedbacks. It will take time to develop common goals and language, and to move forward without those creates tension.



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9. PLEASE INDICATE the Road/Street where your property (ies) is/are located  
Front St

(Your identification is not required; provide only the road or street name)

### Section Two

#### COMMENTS

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The plan going forward to share costs looks good BUT what is the plan to financially address Area 1 residents  
 More space to write/print on next page (OVER) for their sunk costs, we built this plant & the whole town benefited. Further we subsidized all public services for decades. Our mutual investment needs to be recognized & addressed (Annual Grant increase)





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9. PLEASE INDICATE the Road/Street where your property (ies) is/are located

A Ave North side (but excluded from SSAI)

(Your identification is not required; provide only the road or street name)

### Section Two

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- My <sup>Rentals</sup> property is serviced by a Septic System/On-site disposal.

9. PLEASE INDICATE the Road/Street where your property (ies) is/are located

301 Front St

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### Section Two

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As A Renter my Rent could be greatly effected  
by LWMP Cost.

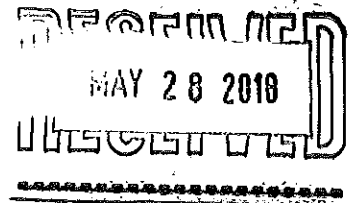
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This was not an open meeting (Town Hall)  
but controlled by the Consultants and the  
Village,

Questions they didn't want.



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320 B Ave

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Good presentation - am glad this plan came ahead  
without a referendum by citizens - I voted for a municipal  
 More space to write/print on next page (OVER) sewer system twice previously  
in referenda. I am in the area  
that has been proposed for the first expansion. The proposed  
expenses seem reasonable - I appreciate the 100% grant  
that will help with my costs. I appreciate the public consultation





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335 B AVENUE  
(I OWNED 404 FRONT STREET UNTIL 2013)  
 (Your identification is not required; provide only the road or street name)

### Section Two

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SEE ATTACHED

More space to write/print on next page (OVER)

Following the short and lackluster 6:30PM “presentation” at the May 23 LWMP meeting at the Legion I was dismayed to see Ed Grifone shut down well-behaved citizens of Kaslo who wanted to ask questions, on grounds that “a few people might dominate.” He had no reason to say that and later told me that he had been asked to make that call—presumably by the Steering Committee. If so, the Steering Committee was wrong and seriously abused the public consultation process by predetermining the conduct of a meeting that many (including myself) attended precisely because they believed it would allow them to ask questions openly. Before a group of attendees was finally allowed to ask some questions in a corner of the Legion Hall, quite a few people had left the building.

I have repeatedly expressed concern during LWMP Advisory Committee meetings that the so-called LWMP public consultation process is inadequate in that it has provided only open house events to date. Open house events are no substitute for public consultation because concerns and questions raised by attendees are rarely heard by others. Moreover, we were told that numerous letters and e-mails expressing concerns and questions had been received by the Village—but no one but the Steering Committee knows what those concerns and questions are (and from my understanding, there have been few replies to them, if indeed any at all). It would not be an overstatement to call this a “divide and conquer” process, because it prevents cooperation between individuals with common interests to make more effective representations to the Steering Committee or the Village. It also detracts from any sense of cohesiveness in the community; no one hears the concerns of his neighbours.

The LWMP process itself appears to be a strategy to exclude the public from sewerage policy debate and decision-making. This, despite the fact that the public is strongly interested in impacts on public health, community planning, taxation and housing affordability. The LWMP process excludes referenda, denies appeals after adoption, has very loose requirements for public consultation and it takes several years to run its course—with no firm indication of its conclusions until the end. Think of the frog in the kettle who doesn’t notice the water is going to boil until it’s too late. Moreover, the LWMP process is not required to address the need for sewerage due to public health or take into account financial hardship, public preference for community character or fairness in cost allocation.

In order to salvage some benefit from the LWMP program and consultation process that have so far been prejudicial to the public interest, the Village must begin to seek cooperation from the community, rather than assume and circumvent opposition. I recommend a public meeting—with Council and True Consulting present to answer questions—open to all interested Village residents and taxpayers. To manage the flow of questions, I suggest that representatives of Specified Sewer Area #1 and the “initial sewer expansion area” be invited to prepare written questions to kick off and focus the meeting, after which time-limited questions can be asked at a microphone, one to a person.

Meetings like this have often been successfully held in Kaslo and at this time one would be necessary to clear the air.

Don Scarlett



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A AVE

(Your identification is not required; provide only the road or street name)

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PROSCRIBED Q AND A IS AN INSULT TO  
ANYONE WHO SAT THROUGH THE PRESENTATION. →

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THE TITLE OF YOUR INVITATION WAS MISSING  
AN IMPORTANT PART -

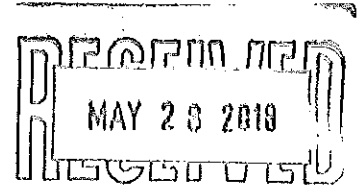
THE VILLAGE OF KASHO LWMP GOES PUBLIC . . . .  
. . . . FOR THE FIRST TIME!!

THANK YOU FOR ANSWERING THE QUESTION  
ABOUT THE VOTE

AND FOR CONFIRMING ONLY QUESTIONS  
WOULD BE ANSWERED BY PARROTTING  
WHAT BASIC INFO THAT WAS PRESENTED.



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9. PLEASE INDICATE the Road/Street where your property (ies) is/are located

FRONT ST. , 4<sup>th</sup> ST , B AVE

(Your identification is not required; provide only the road or street name)

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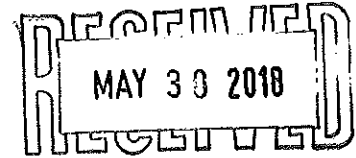
Is there a problem in the #2 sewer area that requires the re-addressing?

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There are many questions on fairness  
to the sewer system #1 that need  
consideration and change!



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Please check  applicable box ONLY

*some*

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FRONT ST.

(Your identification is not required; provide only the road or street name)

**Section Two**

**COMMENTS**

Please provide your comments according to topic and number them (1, 2, 3, etc.) if more than one. If your concern can not be articulated in these two pages, please submit by separate letter or email correspondence direct to the Village of Kaslo.

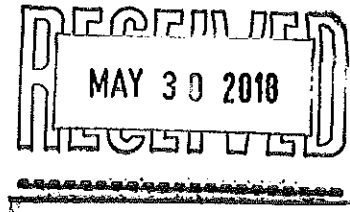
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1. The expansion should be paid for by the people who will be expanded for. As the people in SSAI did, when they wanted the sewer line.





## LWMP Open House Comment Sheet

Your input regarding the Village of Kaslo Liquid Waste Management Plan is sincerely appreciated. Please complete the Section One Questions and then the Comment Section if applicable. Ensure your writing is clear as all input will be reviewed for consideration towards submission of the Plan to the Province by September 2018.

### Section One

Please check  applicable box ONLY

1.  I attended the presentation at 6:30 PM.
2.  I only had time to attend the Drop-in at 4-6 PM.
3.  My questions/concerns were addressed by the Consultant/staff during the evening.
4.  I still have questions/concerns; IF SO, please use the Comment Section.
5.  I am a property owner that currently benefits from the Municipal Sanitary Sewer System OR
6.  I own multiple properties, at least one of which does benefit from the Municipal Sewer System.
7.  I am an interested resident/business but do not own property in Kaslo.
8.  My property is serviced by a Septic System/On-site disposal.

9. PLEASE INDICATE the Road/Street where your property (ies) is/are located

FRONT ST.

(Your identification is not required; provide only the road or street name)

### Section Two

#### COMMENTS

Please provide your comments according to topic and number them (1, 2, 3, etc.) if more than one. If your concern can not be articulated in these two pages, please submit by separate letter or email correspondence direct to the Village of Kaslo.

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1/ I would like to see the data that indicates an expansion of the sewer system is required. I never heard that at the presentation.

I hear conflicting stories - some say we need it some say we don't.

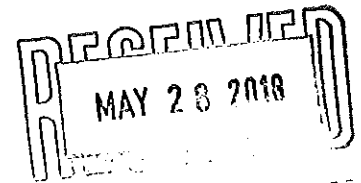
I am of the opinion that the fact we have grant funding to expand is not enough of a reason to do so.

2/ If expansion proceeds, how do we allocate costs to ensure SSA#1 does not have to start "all over again" amortizing an asset they have already paid for?

3/ I would like to see a rate chart clearly illustrating how costs of capital, operating costs will be structured and how reserve funds for future repairs will be gathered so that sewer taxes don't get added to general coffers.



# Welcome to the Village of Kaslo



## LWMP Open House Comment Sheet

Your input regarding the Village of Kaslo Liquid Waste Management Plan is sincerely appreciated. Please complete the Section One Questions and then the Comment Section if applicable. Ensure your writing is clear as all input will be reviewed for consideration towards submission of the Plan to the Province by September 2018.

### Section One

Please check  applicable box ONLY

1.  I attended the presentation at 6:30 PM. *but left early.*
2.  I only had time to attend the Drop-in at 4-6 PM.
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8.  My property is serviced by a Septic System/On-site disposal.

9. PLEASE INDICATE the Road/Street where your property (ies) is/are located

FRONT ST. , 4<sup>TH</sup> ST , B AVE.

(Your identification is not required; provide only the road or street name)

### Section Two

#### COMMENTS

Please provide your comments according to topic and number them (1, 2, 3, etc.) if more than one. If your concern can not be articulated in these two pages, please submit by separate letter or email correspondence direct to the Village of Kaslo.

① POOR AUDIO (NO MICROPHONE)  
② NO QUESTIONS ALLOWED FROM AUDIENCE AS A  
 More space to write/print on next page (OVER) WHOLE.

(3) I HAVE MANY QUESTIONS CONCERNING COSTS  
AND FAIRNESS WITH THE SS#1 GROUP &  
THE PROPOSED SS#2

HEALTH

① Sewer expansion in lower Kaslo is politically driven as council has not undertaken or accepted an offer to test the lake water around Kaslo for contamination from sewer.

CONSULTATION

② Council has rushed the consultation by combining stage 2 and 3 - as a result the public has not been consulted adequately.

COSTS

③ Property owners in proposed expansion areas have not been contacted by council nor given any breakdown on cost estimates to hook up to or pay for annual costs.

GRAVEL

④ The Village of Kaslo owns a gravel pit, will there be a fair price negotiated publicly for any material supplied to the sewer expansion project?

ECONOMY

⑤ There is no economic argument to expand the sewer as specific sewer area #1 has abandoned townhouses and a lobby group was formed to combat the high costs of SS #1.

CONFLICT OF INTEREST

⑥ There is a perception of a conflict of interest on the council's consultation committee for the sewer as it is formed with SS #1 property owners and businessmen who will benefit directly from expansion of the sewer area.

CTO

Patrick Mackie  
KASLO



## Letters and Emails Received

**Box 484, Kaslo  
British Columbia, V0G 1M0**



**Phone: (250)353-7350  
E-Mail: [ashadra@telus.net](mailto:ashadra@telus.net)**

July 26, 2017

Mayor Susan Hewat and Kaslo Village Council  
Kaslo, BC  
V0G 1M0



Dear Mayor and Council:

Following the recent open house on development in Kaslo, Gail Bauman and I have the following questions that we would like to see answered as we move forward into the twenty-first century.

- 1) Can the Village Council and/or the contractor who organized the recent open house please tell us what the current faecal coliform count is at the public beach, in the bay area and along the foreshore between lighthouse point and the mouth of the river?
- 2) Has there been any differentiation testing done of the storm drain outfall area versus the current sewage outfall area and seepage from the foreshore in the non-specified sewer area of lower Kaslo?
- 3) What is the current rate of per capita waterborne illness that can be attributed to the non-specified area of lower Kaslo not having sewage treatment?
- 4) Are there clearly different health outcomes between those living in the specified sewage area and those who are living in the non-specified sewage area of lower Kaslo, and if so what illnesses are more prevalent and can they be attributed to the fact that there is no sewer in that part of lower Kaslo?
- 5) What are the current rents, especially middle and low income accommodation, in the specified versus the non-specified area of lower Kaslo?
- 6) How are these rents likely to change if sewage treatment is brought to all of lower Kaslo and over what period of time?
- 7) What is the range of total current local government fees and taxes in the specified sewer area versus the non-specified sewer area, and how are those fees and taxes likely to change if sewage treatment is extended to all of lower Kaslo?
- 8) What is the density level of housing in the specified versus the non-specified area of lower Kaslo and how is that likely to change if sewage treatment is extended to all of lower Kaslo?
- 9) What is the ratio of heritage properties and architecture in the specified versus the non-specified area of lower Kaslo?

(...2)

10) What bylaws and zoning requirements does the Village of Kaslo have in place to protect and maintain existing heritage properties and architecture, and how would that change if sewage treatment was extended to all of lower Kaslo?

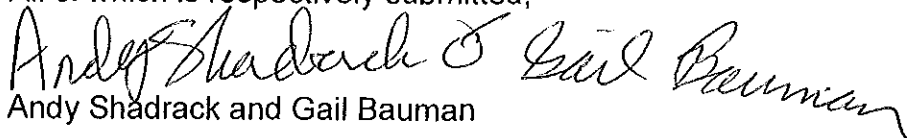
We came to this community some thirty years ago with our then five year old daughter and were able to take out a mortgage as a low-income couple and young family. Now we are concerned that as house prices, fees and taxes have risen in Kaslo, the ability of younger families like ourselves to move here and make a start in life is diminishing.

We therefore ask the Mayor and Council to consider what can be done to improve the ability of low and middle income individuals and families to live here, noting that the City of Vancouver, like Uclulet, is moving to specify that all new developments must include no less than 20% low and middle income units.

Short of local governments joining with provincial and federal levels of government, we agree with this policy and would therefore like to see the Mayor and Village of Kaslo make a similar commitment to enable low and middle income Canadians to live here too.

What bylaws and zoning requirements are the Mayor and Village Council prepared to enact to ensure a specified percentage of low and middle income individuals and families can find accommodation and housing in Kaslo?

All of which is respectively submitted,

  
Andy Shadrack and Gail Bauman



**From:** Rick Galbraith [<mailto:hikerdude48@gmail.com>]

**Sent:** July-31-17 4:47 PM

**To:** Admin <[admin@kaslo.ca](mailto:admin@kaslo.ca)>

**Subject:** Sewer infrastructure expansion

I'm a homeowner on A Avenue adjacent to the existing sewer line. The historical rationale for excluding mine and four other properties from attaching to that line may have seemed proper in its day, but I don't understand why that rationale is still used, particularly when there have been several preceding exceptions to the so-called moratorium.

If expansion is imminent, my argument might be moot but, in the interim, it seems that to prohibit expansion of the collection of liquid waste and the corresponding collection of utility fees (and possibly even a share of the depreciation), when no capital expenditures whatsoever would be required, is passive fiscal management. Any chance to increase municipal revenues without an investment, it seems to me, should have high priority.

Respecting the Phase Two and Three study, I did attend the open house and learned a lot. However, a lot more I didn't learn, especially regarding the cost.

One poster suggested Lower Kaslo construction would be \$4,650,000. It further suggested there were 182 "units" that would be served. Regrettably, I've forgotten the exact language and I've asked for clarification of the 182 figure, ie. whether it represents residents, residences, lots, bathrooms, etc., but no-one I have talked to at City Hall or on the steering committee remembered the number at all, never mind what it refers to. I, however, remember it well because I did a calculation *in my head* which came to roughly \$25,000 per connection.

While at the meeting, after making that crude calculation, I asked CAO Neil whether a special tax would be applied to serviced taxpayers and whether they would be given time to pay it. Of course, the first part was affirmative but, to the second part, Neil didn't say yes - he said depreciation has to be paid. To be fair, I might not have understood him, or vice-versa, or I might not have asked the question right, but *I have a point* to making these observations in the last two paragraphs: *nobody is saying how much it will cost* in layman's terms. Taxpayers, residents, whether serviced in the expansion or not, need to know numbers.

To complicate the numbers game, you don't know yet how much of a grant you might receive. Nevertheless, t's easy to give a starting point and a financing plan, such as this scenario: \$25,000 per connection, with an assumed grant of 50%, leaving \$12,500 per connection, payable over 25 year lifetime of the system, netting to \$500 a month. I didn't bother to do exact math, or factor in interest, etc. - you can do that. Point made, the numbers need to be clear (don't hold back or shield them) and developing them is simple enough.

I'm not sure how or when I heard about the open house, but it came as a surprise. It didn't feel like there was adequate notice to ensure the entire community got a chance to attend. Certainly, the taxpayers' attention to the issues is necessary, so I entreat you to broadcast the opportunities for discussion better. This must be good meat for the newspapers, so why not make them a sandwich?

Those are my three observations/objections. Additionally, I wonder about the need for it all. I've heard of some serious septic field failures in Kaslo's past, but didn't the existing system correct all of them?

Have there been more? I may have missed some arguments in the preamble, but it's worth repeating, to answer the question: Are there events that make this significant capital project necessary, or is it just a pipe dream?

Sincerely, with thanks,  
Rick Galbraith

From: [mackaslo@telus.net](mailto:mackaslo@telus.net)  
To: "Stephanie Little" <[Stephanie.Little@gov.bc.ca](mailto:Stephanie.Little@gov.bc.ca)>  
Sent: Tuesday, September 12, 2017 9:31:25 AM  
Subject: Village of Kaslo LWMP

Stephanie Little: A/Section Head, Authorizations South, Penticton, B.C.;

Ministry of Environment: The Village of Kaslo council wants to combine Stage 2 and Stage 3 of the Liquid Waste Management Plan (LWMP) and proceed with an expansion of the Specified Sewer Area (SS Area) to include all of the properties of lower Kaslo and I don't believe there has been adequate public consultation.

Sanitary sewer systems are an expensive proposition and any property owners who will be required to pay for any expansion of the sewer area should be provided with cost estimates on a per property basis. Despite repeated requests to the Village of Kaslo they have not provided any cost estimates on this basis so I published an opinion piece in the June 29, 2016 Valley Voice stating it would cost approximately \$600 per year per property using information provided in the February 2016 LWMP by True Consulting for the Village of Kaslo. To date the Village of Kaslo has neither confirmed nor denied my opinion. In the early 1990's when the sewer system was built in Kaslo the property owners in the S.S. Area were provided with detailed cost estimates and voluntarily signed a petition to pay for the system which will be paid off in 2023.

Now the Village of Kaslo's wishes to combine the LWMP consultation process and expand the area with the intent to defray the costs for these property owners in the SS Area and place a burden on the rest of taxpayers in Kaslo.

This is outlined in a submission to the upcoming Union of British Columbia Municipalities (UBCM) meeting with the Minister: Environment and Climate Change Strategy for meeting ID 281. In it they state in bullet three: "...the circumstances around the service area's initial creation and the ongoing financial costs (of paying for a waste water treatment plant and collection system) among a small number of businesses and commercial entities "going it alone" has been problematic for many years."

After reading this I am concerned that the public is receiving mixed messages concerning council's intentions as they appear to have a predetermined outcome. In a council meeting of April 11 2017, the Village of Kaslo passed a motion stating: "The Village of Kaslo seek funding from UBCM Gas Tax Strategy Funding to cover 100% of the cost of....a preliminary sewer collection system that includes City Hall...." Yet in the February 2016 True Consulting recommendation on page 53 section 11.2 states: "Expansion of the Village's community sewerage system is the recommended option for wastewater management into the future."

The public has been misled by previous councils about costs concerning the SS Area and this was evidenced when the newly built JV Humphries School in Kaslo was forced to hook up to the SS Area despite having just installed a brand new septic system to service the school.

Additionally, in the Village of Kaslo submission to the UBCM, bullet four states: "The Village's rationale to expand sewer collection is to: reduce environmental impacts on Kootenay Lake from aging existing septic fields (some 100 years or more old); facilitate affordable residential infill on the many bare or undevelopable small lots (25-50x100') in Kaslo; encourage community economic development generally through incremental service area expansion."

It should be noted here that there are very few undeveloped lots in lower Kaslo, (the area targeted for expansion) yet there are two unfinished townhouses with six units that are currently serviced by the SS Area with adequate room for expansion as they are surrounded by a couple of acres of undeveloped land.

Also, there has never been any documented cases of Kootenay Lake being contaminated by septic outflows as lower Kaslo sits on a gravelly peninsula and according to one engineer I consulted with he states that it is the best soil conditions for septic systems. So there is no apparent health risks from septic fields but I would like to point out that there may be risks associated with the sewer outfall from the sewer treatment plant that discharges directly into the Kootenay Lake.

It should be also noted that growth in Kaslo is not a driving force as the Conclusions and Recommendations of the True Consulting February 2016 report, Section 11.1 (5) states: "While a 2% population growth rate has been used in past population projections, based on the last 20 years of Census data, population growth may not drive a need for additional treatment capacity at the existing WWTP."

My concerns are that the motivations of the Village of Kaslo council are purely political and none of them will be directly affected by expansion of the SS Area to lower Kaslo as they don't own property or live within the affected area.

Also, once an LWMP is approved it can no longer be publicly appealed and I don't think the public had been fully informed.

Patrick Mackle,  
Kaslo, B.C.

c.c. Village of Kaslo,  
c.c. Valley Voice, New Denver.

**From:** Michael & Sandra Jones <[kaslocottage@telus.net](mailto:kaslocottage@telus.net)>

**Sent:** May-22-18 9:09 AM

**To:** Admin <[admin@kaslo.ca](mailto:admin@kaslo.ca)>

**Cc:** Mayor <[mayor@kaslo.ca](mailto:mayor@kaslo.ca)>; Lang <[lang@kaslo.ca](mailto:lang@kaslo.ca)>; Holland <[holland@kaslo.ca](mailto:holland@kaslo.ca)>; Knoll <[knoll@kaslo.ca](mailto:knoll@kaslo.ca)>; Councillor VanMill <[vanmill@kaslo.ca](mailto:vanmill@kaslo.ca)>; 'henryvanmill' <[henryvanmill@gmail.com](mailto:henryvanmill@gmail.com)>; CAO <[cao@kaslo.ca](mailto:cao@kaslo.ca)>; [DM.ENV@gov.bc.ca](mailto:DM.ENV@gov.bc.ca); 'Mungall.MLA, Michelle' <[Michelle.Mungall.MLA@leg.bc.ca](mailto:Michelle.Mungall.MLA@leg.bc.ca)>; [valleyvoice@valleyvoice.ca](mailto:valleyvoice@valleyvoice.ca)

**Subject:** LWMP Feedback - Letter from SSA #1 Member Owners

On Wednesday May 16, 2018 twenty three member owners of Kaslo's Specified Sewer Area #1 (SSA #1) met to discuss how the issue of "fairness" could/should be achieved in Kaslo's LWMP. Not all SSA #1 member owners were able to attend the May 16, 2018 meeting, nor will all member owners be able to attend the LWMP Open House scheduled for May 23, 2018. The SSA #1 member owners listed below wish to advise however that they cannot support an LWMP which does not adequately address the issue of "fairness". To that end the SSA #1 member owners listed below wish to advise that **"Public engagement to date has not adequately informed and engaged the residents of Kaslo. The "Open House" format does not adequately address the exchange of pertinent information, nor does it identify all the issues of importance to property owners."** They wish to advise further that they feel that the "Consultation" component, a prerequisite to the approval of any LWMP has been insufficient and un-satisfactory.

The SSA #1 member owners listed below request a meeting with the Village of Kaslo LWMP team in order to consult with them on how best to build fairness and equity into the LWMP. We urge that this consultation take place as soon as practically possible so that the Village can stay on course with its proposed September submission timeline. The SSA #1 member owners listed below further request that the following questions be incorporated into the notes of the May 23, 2018 LWMP Open House and that answers be provided to SSA #1 member owners at the meeting we have requested.

**Question 1: How will the Stage 3 LWMP Report address the challenge of "fairness" to existing properties in the specified area who have contributed to the system capacity for the past 20 years?**

- Will SSA#1 Member-Owners be expected to pay for capacity upgrades to the Sewer Treatment Plant in the future?
- Will SSA #2 Member-Owners and/or Member-Owners in an expanded SSA #1 pay a *Treatment Plant Capacity Fee* upon connection?

**"Apportionment of costs to existing users and to future development should be equitable."**

(Interim Guidelines for Preparing Liquid Waste Management Plans, Page 11)

**Question 2: What information will the Stage 3 LWMP Report include concerning “User Pay” in a Specified Area system and the payment of *Annual Operating* and *Local Service Area Taxes* for:**

- **Municipal properties within the specified area**
- **Provincial & Federal property-tax exempt properties within the specified area**
- **Properties within the specified area granted Permissive Tax Exemptions**

**What information will the Stage 3 LWMP Report include regarding?**

- **Contractor/third party bulk disposal of septic waste**
- **In-house bulk disposal of septic waste**
- **Disposal of RV Tanks & Kaslo Municipal Campground users septic waste**

The vast majority of SSA #1 member owners believe that all properties within the Specified Sewer Area should pay *Annual Sewer Utility Operating* and *Local Service Area Taxes*. All 3<sup>rd</sup> party Users should pay a fee for the sewer service rendered.

SSA #1 member owners look forward to working with the village of Kaslo to effect a fair and equitable resolution to this issue.

Regards,

SSA#1 Member Owners

Shauna and Dan Quigley  
Andy LeCouffe and Manon Gagnon  
Carlton Temple (rep for Abbey Manor)  
Bryan Marks and Cheryl Benson  
Teresa and Dave May  
Larry Moore and Cathie Douglas  
Dennis Jensen and Bonnie Schwark  
Anne and Laddie Malik  
Linda Van Mill  
Jason and Elissa Ellis  
Russell and Heather Semenoff  
Kul Nijjar and Dennis McIntyre  
John and Susan Eckland  
Jeremy Behn and Claire McKinney  
Doug and Maureen Broadfoot  
Mark and Barb Dobroski  
Mandy Bath and Christopher Klassen  
Len Roper

Michael and Sandra Jones

CC:

Mayor Hewat [mayor@kaslo.ca](mailto:mayor@kaslo.ca)

Councillor Lang [lang@kaslo.ca](mailto:lang@kaslo.ca)

Councillor Holland [Holland@kaslo.ca](mailto:Holland@kaslo.ca)

Councillor Knoll [Knoll@kaslo.ca](mailto:Knoll@kaslo.ca)

Councillor Van Mill [VanMill@kaslo.ca](mailto:VanMill@kaslo.ca)

Neil Smith [CAO@kaslo.ca](mailto:CAO@kaslo.ca)

Mark Zacharias [DM.ENV@gov.bc.ca](mailto:DM.ENV@gov.bc.ca)

Michelle Mungal [Michelle.Mungal.MLA@leg.bc.ca](mailto:Michelle.Mungal.MLA@leg.bc.ca)

[Valleyvoice@Valleyvoice.ca](mailto:Valleyvoice@Valleyvoice.ca)

-----Original Message-----

From: Pat Wilson <4pwilson@telus.net>

Sent: May-23-18 9:14 PM

To: Admin <admin@kaslo.ca>

Subject: Liquid Waste Management Plan concerns

Good afternoon

Please accept my concerns into the LWM plan feedback input submission stage 3.

The current facility emits a strong sewer odour and with increased usage the smell will intensify. This odour affects the enjoyment of our property and other properties. I believe technology exist to help minimize odour in this regard. As the current plant sits in one of the most picturesque and visited areas of Kaslo, I believe the plan should ensure odour reduction is a capital priority. This also may be achievable thru increased maintenance, as in changing filters more frequently. When I approached the subject with Scott of True Consulting I had the feeling he does not believe there is an odour as he can't smell one. To whomever is reading my letter I invite you to walk by the plant with me and smell for yourself.

My second concern is to ensure properties in area of SSA #1 and who have been paying their portions since the inception be ensured they are always guaranteed hook up subject to the hook up fees associated. Capacity should be held for these properties.

Lastly I feel communication from the get go has been very unclear. People are confused as to what is happening with this project and the precise steps of the entire process. I attended the open house last year and found it to be a poor venue for finding out any information other than that on the posters. It was difficult to find some one to answer my questions as consultant and Village staff were busy with other individuals. I went to the open house tonight thinking it would be the same format as last year. When I arrived late to an "open house". I discovered there actually was an agenda so I missed half of it. Upon my return to home I reread all the documents provided and still could see no mention of an agenda.

My point is communication needs to be EASILY accessible, clear and consistent in every format.

Kind regards

Pat Wilson  
Sent from my iPad



**From:** Oliver Viitamaki <[ov@telus.net](mailto:ov@telus.net)>

**Sent:** Thursday, May 24, 2018 7:20 AM

**To:** CAO <[cao@kaslo.ca](mailto:cao@kaslo.ca)>; Councillor VanMill <[vanmill@kaslo.ca](mailto:vanmill@kaslo.ca)>; Scott Wallace <[swallace@true.bc.ca](mailto:swallace@true.bc.ca)>; Ed,Grifone <[egrifone@ctqconsultants.ca](mailto:egrifone@ctqconsultants.ca)>; Rob Wall <[rwall@true.bc.ca](mailto:rwall@true.bc.ca)>; Uli,Wolf <[UWolf@rdck.bc.ca](mailto:UWolf@rdck.bc.ca)>; Don Scarlett <[dscarlett@kaslo.org](mailto:dscarlett@kaslo.org)>; David,Russell <[dterer1@kaslo.org](mailto:dterer1@kaslo.org)>; Lynn van Deursen, <[lynnvandeursen@gmail.com](mailto:lynnvandeursen@gmail.com)>; Mike Adams <[mike.adams@interiorhealth.ca](mailto:mike.adams@interiorhealth.ca)>; Stan Baker <[nancybaker@telus.net](mailto:nancybaker@telus.net)>; Glen Walker <[Glen\\_Walker@telus.net](mailto:Glen_Walker@telus.net)>; Mayor <[mayor@kaslo.ca](mailto:mayor@kaslo.ca)>; Lang <[lang@kaslo.ca](mailto:lang@kaslo.ca)>; Holland <[holland@kaslo.ca](mailto:holland@kaslo.ca)>; Knoll <[knoll@kaslo.ca](mailto:knoll@kaslo.ca)>; The Maliks <[lmalik303@gmail.com](mailto:lmalik303@gmail.com)>

**Subject:** Fwd: LWMP Feedback

Hi,

I was discussing my input (attached below) with Henry Vanmill and Neil Smith, one of the engineers, and several other attendees. Henry indicated that he had not seen my email, and asked that I would send it to him. I have chosen to find the email addresses of the LWMP Committee, send it to all, in the hope that it successfully arrives, in at least one email box .

The following email was sent on May 11th. To date, I have received no response.

Further to my question 11 below, I have spent a total of \$21,269.94 in April of 2012 in replacing my failed septic system, with a fully compliant, tertiary treatment system (Ecoflo). What cost/expense relief will the Village be providing, if I am required to connect to the Village Septic system, before my septic system either fails, or reaches its end of design life?

A further question 12. If I'm required to connect to the Village Septic system before my current system fails or reaches the end of its design life, will the Village be providing expense relief, for removal of, and on site remediation, when the system is removed.

In regards to the Open House last evening, it went fairly well, until the Q&A session, when it deteriorated, rapidly, all focus was lost, and it eventually resumed in smaller groups.

From discussion, and the presentation, at the Open House, it became obvious to me, that The Village is proceeding with the LWMP because that has to be completed in order to be able to rewrite, the current Waste Management Bylaws, and start to draw down the government funding, before it is lost. In the presentation, it was clear that the primary motivation for proceeding with the LWMP was **not due to multiple failures of the currently installed septic systems, or measured pollution of the current environment.**

Oliver Viitamaki

----- Forwarded Message -----

**Subject:**LWMP Feedback

**Date:**Fri, 11 May 2018 08:42:26 -0700

**From:**Oliver Viitamaki <[ov@telus.net](mailto:ov@telus.net)>

**To:**[admin@kaslo.ca](mailto:admin@kaslo.ca)

Hi,

I noticed on the Village of Kaslo web site that villagers could submit questions regarding the LWMP previous to the scheduled meeting on the 23rd of May. I have the following questions.

1) When was the last sampling of Kootenay Lake at a) Kaslo Bay, b) at the sewage outfall, and c) at the Kaslo River Delta, completed, measuring coliform count? (Total Coliforms, Fecal Coliforms, and E. Coli) Could I be directed to the report? When was the previous report to this report completed? Are there any other older/annual coliform count reports available from the immediate Kaslo area?

2)The LWMP as proposed, in aggregate will be a large, long term commitment of tax payers money, whether it comes from a grant or local taxes is really immaterial. What is the documented justification to support this use of tax payers hard earned money, and where can it be accessed?

2a) If it is to address a specific identified problem(s), what other alternative solutions have been considered, and costed out?

2b) If it not to address specific problem(s), where can the business case for the proposed investment be accessed?

2c) If it has been mandated by Provincial or Federal Government, where may that order be accessed?

3) Assuming that the project proceeds with the installation of the additional sewage infrastructure, when is this build out (shovels in the ground) forecast to start?

4) Are there any upgrades to the current sewage plant required to manage the additional waste? If yes, what are they, and what will the cost be, is it costed out/included in the current plan?

5) Are all buildings, in the expanded sewage management area required to be connected to the new system? If yes, what about the buildings in the existing area which have not been connected, to the existing system?

6) What is the connection fee (excluding plumbing modifications, which the building owner/homeowner is responsible for)?

7) Will the building owner/homeowner be allowed to have a capped stub installed at their structure, at the time of sewer line installation, to which they may choose to connect to at some future date? If that is allowed will the cost of the stub be the same as the connection fee? If it is some other fee what will that be?

8) What will the annual Liquid Waste Management fee be? What is the forecast annual fee increase over the life of the system?

9) Will the Liquid Waste Management fee be applied to a) existing and expansion Liquid Waste Management area, b) lower Kaslo area, c) the whole of the Village of Kaslo?

10) Does/will the Provincial Government Building, RCMP Building, and Village Hall when/as connected to the sewage system pay their correctly scaled cost of Liquid Waste Management?

11) If a resident presents a case of having an existing equivalent, or higher quality waste management facility in place, than the one the village has currently installed, will the resident be allowed to not connect, and not have to pay the Kaslo Village waste management fees?

Could I please have answers to the above questions by the close of business on 22nd May 2018?

Regards

Oliver Viitamaki

319A Ave Kaslo

On 24 May 2018, at 12:05, Eldon Beix <[albeix@gmail.com](mailto:albeix@gmail.com)> wrote:  
Sirs/Madams

My name is Al Beix and I live within the proposed expansion area at 413 3rd Street in Kaslo.

I have a number of observations and questions arising out of last nights meeting, as follows.

First of all Observations about last nights meeting.

On the plus side, I thought the process to date and going forward was clearly outlined and well done.

The meeting went very well until I tried to get clarification on a simple question at which point the moderator(s) announced that they were only going to take questions after the official presentation "over by the Story Boards" At hearing this a number of people that had come with the expectation of being able to ask their own and hear other peoples questions and the answers to them got up and left in disgust.

Personally I was left feeling that the meeting was less about hearing peoples questions and concerns and addressing them that it was about meeting an MOE requirement and being able to say "We held a pubic consultation on the stage three planning".

Had the moderator allowed questions at the end of the formal portion of the presentation My question was as follows.

After the current expansion serviced properties will be looking at estimated costs along the lines of \$144/yr for service fees. It was projected that for later expansions the fees would be \$377/Yr. My question was simply does the \$144 become \$377 over time, or is the \$377 added on top of the \$144? Simple question with a simple answer that many in the crowd would have liked to hear. but because of the format I was unable to ask the question and I and the rest of the room remain unclear as to the answer.

As for my other Questions see below.

1 - Once we are hooked up to the Sewer System, what are we required to do to deal with the, then unused, Septic Tank and related field?

Is there a set of prescribed procedures for dealing with this from the MOE or is the municipality in charge of looking after this?

Regardless of the administrating authority I should very much like to know in advance what is required as I am certain whatever it is there will be associated costs and we would like to know in advance what to expect on that front.

2 - I am aware of several properties within the specified expansion area which have either had new houses built on them or experienced septic system failures withing the last 5-10 years and due to the lot size have been required to install what amounts to a personal septic treatment plant at a cost of some 15-20 thousand dollars. Given that the projected life of these systems is in the 15 to 20 year time frame, please provide me with an understanding of how these people are going to be treated with respect to

- being required to hook up to the sewer
- being required to pay their share of installation costs
- being required to pay annual service/user fees.

### 3 - Property Exemptions

There is a concern within the community, that I share, that there are far too many properties exempt from some or all charges related to the sewer system. Given this reality please explain how these exempted properties are going to have their share covered without unduly burdening those of us that are paying with having to cover the exempted properties share.

4 - Along the same lines and in the interest of fairness, please provide an understanding of how the original specified sewer area property owners will be affected, positively or negatively by this and subsequent sewer service expansions.

5 - Looking into the future, can anyone tell me if a single folio has a primary residence and a rental suite in the basement what is the affect on the sewer service charges, given that there remains only one hookup from the building?

I would respectfully request that these questions be answered by return Email within the next two weeks in order that I can continue in confidence to support the sewer expansion based on the understanding that current and future serviced properties will be fairly and equitably treated as the system grows over time.

Thank you in advance for your time spent in reviewing and responding to this Email.

Regards

AL Beix  
413 3rd Street  
Kaslo, BC  
Cell 250 777-3031



Welcome to the  
**Village of Kaslo**

## LWMP Open House Comment Sheet

Your input regarding the Village of Kaslo Liquid Waste Management Plan is sincerely appreciated. Please complete the Section One Questions and then the Comment Section if applicable. Ensure your writing is clear as all input will be reviewed for consideration towards submission of the Plan to the Province by September 2018.

### Section One

Please check  applicable box **ONLY**

- I attended the presentation at 6:30 PM.
- I only had time to attend the Drop-in at 4-6 PM.
- My questions/concerns were addressed by the Consultant/staff during the evening.
- I still have questions/concerns; IF SO, please use the Comment Section.
- I am a property owner that currently benefits from the Municipal Sanitary Sewer System OR
- I own multiple properties, at least one of which does benefit from the Municipal Sewer System.
- I am an interested resident/business but do not own property in Kaslo.
- My property is serviced by a Septic System/On-site disposal.
- PLEASE INDICATE the Road/Street where your property (ies) is/are located

A AVE

(Your identification is not required; provide only the road or street name)

### Section Two

#### COMMENTS

Please provide your comments according to topic and number them (1, 2, 3, etc.) if more than one. If your concern can not be articulated in these two pages, please submit by separate letter or email correspondence direct to the Village of Kaslo.

(see attached)

More space to write/print on next page **(OVER)**

## LWMP Open House Feedback

### #1. Consultation process sorely inadequate.

In preparation for this process, over the last year, I have requested information from the VOK about municipal hookups and sewage flow charts, in writing and in person at council meetings to no avail. Twenty years of data collection on flow patterns is important information to have when considering a plan that would be fair and equitable.

It is unreasonable to distribute a 169 page report on Friday afternoon of the May Days long weekend, one of Kaslo's biggest and busiest weekends, and expect the citizens of Kaslo to be informed and ready to pose informed questions and express their concerns by the following Wednesday and submit written comments by the following Monday.

The Open House of May 23<sup>rd</sup>, 2018 was not set up as an "open" or transparent process. Many of the citizens attending were very disappointed when they were told this was not a democratic process and there was no voting on the LWMP and further upset when Ed Grifone asserted we would not be able to ask questions and express concerns in a manner that everyone could hear and that could be shared with the wider community via video.

This was not an acceptable community consultation process and not anywhere near adequate especially given once the LWMP is approved by the Minister, there are no avenues for appeal and the VOK can implement the plan without electoral assent.

I sincerely hope that the VOK has a special meeting with the SSA-1 group, at a time that works for the group, and that our questions and comments be heard and answered, and that our concerns be addressed to our satisfaction.

### #2 The issue of "fairness".

I live in sewer area 1 and have been a member/owner since the beginning. I participated in the 1994 discussions that created the cost sharing formula and the original petition to become a "designated area". I am a signatory to the agreement between the SSA-1 and the Village of Kaslo for the members to pay for infrastructure debt and operating fees and the Village to administer the system "fairly". I feel a strong obligation to my neighbours to ensure we are being treated fairly going forward, as records clearly show that we have not been treated fairly thus far.

The cost sharing formula was negotiated through round table discussions by the stakeholders and agreed to by a petition of more than two thirds of the residents in the specified area. That petition became grounds for the contractual arrangements that gave borrowing power and ability for the VOK to charge the designated area property owners sewer operating fees and debt recovery through taxes. The formula was based on anticipated usage and there were no Village properties within the boundary. The Village expanded the designated area to include

several municipal properties, with uses never contemplated, and without notice or discussion with the affected parties.

In Banham's report, he says "In the Kaslo situation, with a unique specified service area, the municipality should budget and pay both debt and operating payments equal to any other property owner for two reasons, first so that true costs of municipal facilities are shared by the entire community and second so that the municipality's sewer usage costs are not born by only SSA-1 properties." (Village of Kaslo 'Sewer Servicing Cost Recovery Structure' Report, page 18 dated August 1, 2016).

I agree that the municipality should budget and pay both debt and operating costs, but the amounts municipal parcels should pay, must be analyzed, negotiated and charged based on the increased volume of sewage needing to be processed and the plant capacity allocated for that increased flow.

Section 218 (3) of the Community Charter states that:

"If a local service area has been enlarged or reduced under this section, the liabilities incurred on behalf of the area as it was before enlargement or reduction must be borne by all the owners of parcels of land in the area as enlarged or reduced."

For 13 years, the Village of Kaslo did not pay Annual Sewer Operating for village properties they added to the Sewer Specified Area. Sewer Member-Owners paid the bill for these village properties. Since 2011 the Village has contributed towards Annual Operating for their properties at a self-imposed rate that was not based on best estimate of volume nor with any sort of consent of the designated area property owners, nor have they contributed towards Sewer Debt for the capacity required for the increased demand.

Also never included in the original sewer plans, a sani-dump was installed by the Village at the sewer treatment plant to process liquid waste from portable toilets and RV campers. The Village of Kaslo Audited Financial Statements report Sani-Dump fees as Revenue beginning in 2010. So, prior to 2010 the cost to process this waste was paid by Sewer Member-Owners. Since 2010, reported revenue has fluctuated from year to year and ranges from \$837 in 2014 to \$2,320 in 2016. At times some portable toilet discharges were not assessed a fee at all and the cost to process the discharge was once again borne by Sewer Member-Owners.

Both the Sewer Servicing Cost Recovery Structure Report and the LWMP Stage 3 draft report recommend a community-wide environmental property tax so the true costs of the municipalities' sewage usage costs are not born only by the specified sewer area properties, but, that funding strategy is not being advanced by the Village. This tax should be reconsidered by the LWMP Committee and Council so that the entire community, who enjoy the benefit of Village services and facilities, tourism, investment attraction, tax exempt properties, (re)development, and the protection of public health and our environment, pay their "fair" share to fund it.



### #3 Capacity and Property Values

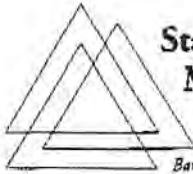
The Wastewater Treatment Plant has a maximum capacity of 340m<sup>3</sup>/day. For the last twenty years SSA-1 property owners have invested in that capacity for their use and future development in the specified area. The costs of any future developments needed to increase the capacity to accommodate the expansions must not be borne by the SSA-1, nor limit their ability to fully develop their properties in the future.

### #4 Legalities around Financing Formula

While it's important to move forward, it's also important to learn from the past or we will make the same mistakes again. On April 1, 1997, the VOK received Legal Advice from Lorna Staples of Staples McDannold Stewart Barristers and Solicitors around the financing formula, changing the financing formula and legal ramifications "An ounce of legal prevention can forestall costly errors as well as political dissent." Please read and digest attached legal advice from Staples McDannold Stewart.

I am available anytime for a meeting with the Village and consultants for the LWMP focus group SSA-1. I would strongly encourage you to make sure that the meeting is called at a time when Anne Malik can attend as she is by far the most informed of our group with current in depth understanding of the issues and has the most to contribute to this dialogue. Please let me know when the meeting is.

Larry Moore  
250-353-7779



**Staples  
McDannold  
Stewart**

*Barriers & Solutions*

#435.00

6(1)(B)  
97.04.08

*Facsimile Transmission*

1 April 1997

File No.: 165 002

Ms. Rac Sawyer  
Municipal Clerk  
Village of Kaslo  
P.O. Box 576,  
Kaslo, British Columbia  
VOG 1M0

Dear Ms. Sawyer:

**RE: Sanitary Sewer Specified Area**

**Your Instructions**

You asked for my opinion on queries made by Mr. Larry Moore with respect to an alleged change in the financing formula of the specified area. Your letter was apparently prompted by the final comments of Mr. Dave Gairns, your consultant, in his letter to you of January 31, 1997, where he also responded to Mr. Moore's questions.

**Material Supplied To Us**

You originally sent me, in addition to your letter of instructions, a partial copy of the petition under section 658 of the *Municipal Act*; Bylaw 859; Bylaw 893 which amends Bylaw 859, which apparently was approved by the Inspector of Municipalities on September 26, 1996, but the letters and certificates of approval were not enclosed; the Statutory Approval Notice and the Certificate of Approval signed by the Deputy Inspector of Municipalities with respect to Bylaw 859; your letter dated 97.01.29 to Mr. Gairns; Mr. Moore's January 28, 1997 letter to Council; and Mr. Gairns' letter to you dated January 31, 1997.

I asked you for Mr. Gairns' November 29, 1996 report, since it was referred to in Mr. Moore's January 28, 1997 letter. Upon reading that report, I saw references to letters or messages from a Mr. Scarlett, which I do not have. I suspect that there is a considerable amount of material that may contain relevant information that has not been made available to me, but short of asking you for the files of both the Village and Mr. Gairns, I am going to try to address Mr. Moore's questions with the material that I have in hand.

**The Financing Formula**

Mr. Moore refers to "change the financing formula" several times in both his letter and his formal

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2nd Floor, 837 Burdett Avenue, Victoria, BC V8W 1B3  
Phone: (250) 380-7744 • Fax: (250) 380-3008 • Internet: logolaw@sms.bc.ca

Ms. Rae Sawyer  
Village of Kaslo  
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questions. As I read the bylaws, only one part of the financing formula appears to have been changed by the amending bylaw, and that is the total cost of the project, which was set out in the petition as \$1,446,000.00, and was increased in Bylaw 893 to \$1,792,000.00. This of course increases the Municipality's and therefore the property owner's share of that total amount.

Reading between the lines of both Mr. Moore's and Mr. Gairns' most recent correspondence, it appears that the Village after it adopted Bylaw 859, was informed (by Mr. Gairns'?) that section 674, the specified area authority, allows the recovery of capital costs only through the frontage or parcel tax method. However, it is not uncommon to see a specified area bylaw that imposes a frontage or parcel tax that also picks up operating costs, notwithstanding the reference to capital cost in section 674(6) of the *Municipal Act*.

Does the final figure of \$1,792,000.00 found in the amending Bylaw 893 include only the increase from the estimated capital costs to the final capital costs, or is a deletion of the estimated operating costs also factored in? This could account for Mr. Moore's reference to the percentage increases in the capital and operating costs and changes in the financing formula. His concern may be not just the increase in the capital costs but the transfer of the operating costs to user charges from frontage taxes. You did not send me a user fee bylaw or any Council reports or resolutions that put into effect this change in the cost figures and how they are to be collected from the property owners. So perhaps Mr. Moore is concerned about the mere prospect of these charges.

Mr. Moore's letter refers only to Bylaw 859, and not to the amending Bylaw 893. Therefore, I can only speculate that the references to the changes in the financing formula are to Bylaw 893. This makes it difficult to address his questions with any degree of certainty. I may not have all of the information necessary to do so.

#### Moore Questions

Turning to Mr. Moore's questions, I have the following comments.

##### 1. Bylaw Certainty

The statement in the Deputy Inspector's Certificate is a reflection of section 749 of the *Municipal Act*. The intention of that section is to give certainty to loan authorization bylaws such as a specified area bylaw. The certificate is not issued until the quashing period set out in Part 5, Division (2) of the *Municipal Act* expires. There is a short period of time during which ratepayers can challenge any bylaw. However, financial bylaws which require the approval of the Inspector are certified after that quashing period so that there can be no long term challenge to them. The Inspector may be dead wrong in his approval of the bylaw, i.e. in assessing that the bylaw is legally correct. Nevertheless, the bylaw will stand against any subsequent legal challenge.

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Page 3

A bylaw that is certified by the Inspector can be amended, which means that it must go through the approval process again. It is not unusual for this to happen to bylaws that authorize the borrowing of money to pay for the construction of public works. In times of rapid inflation, it is quite common for construction costs to escalate beyond the original estimate. Other examples of where this might happen are where the original estimates are incorrect or where conditions encountered during the actual design phase or the construction phase are found to increase the cost. That is why the figures in the petition are stated to be estimates.

In addition, other errors can be made in the original bylaw. Once the bylaw is amended, it must go through the quashing period and the approval and certification process imposed by the *Municipal Act*. Once the Certificate of Approval is issued by the Inspector after the quashing period, the amending bylaw is insulated from legal challenges.

In short, the financing formula can be changed, provided the requirements of the *Municipal Act* are complied with.

## **2. Further Support**

There is no requirement in the *Municipal Act* for the municipality to go back to the property owners for a new petition to support the increase in the financing formula. However, the Inspector of Municipalities could require the Village Council to obtain that support before giving approval to the bylaw. Property owners can make their views known to the Inspector during the approval process.

The bylaw may be challenged during the quashing period set out under the Act, and the Inspector, while he has the authority to disregard a court action, will usually hold off approving the bylaw until the court has dealt with the challenge. The challenge can only be made on the grounds of illegality and not simply because persons do not like the content of the bylaw. The municipality must have exceeded its jurisdiction under the Act or failed to follow the statutory procedure required for the successful adoption of the bylaw, in order for a court to have grounds to summarily quash the bylaw.

In short, the new formula does not have to be agreed to by the property owners in the specified area, on the ground of fairness, equity or any other ground.

## **3. Scope of Tax Methods**

The method of taxation and who can be taxed and for what is set out in the *Municipal Act*, starting with section 674 which authorizes specified area bylaws. In section 674(3), the Council can levy and impose within the area a rate on the land, land and improvements or the improvements only, or a frontage tax, or other charges provided in the *Municipal Act*, or any combination of those methods.

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#### Taxes Based On Property Use

Real property taxes based on assessment are what is meant by levying a rate on land, land and improvements or improvements only. A frontage tax is applied on a parcel of land in relation to its frontage. A parcel tax can be substituted for a frontage tax, and that is the same rate for each parcel of land, no matter what size the parcel is. Of the other charges mentioned in subsection (3), none relate to the use or intended use of the land.

#### Capital Operating Cost Collection

Section 674(3) does not specify "capital" costs; and the only mention of "capital" cost is in 674(6), and that is only for the purpose of defining what to include in capital cost.

Section 674(6) sets out the ingredients for ascertaining the capital costs of a work or service by cross reference to sections 660 and 661. This may suggest that the "cost" which may be recovered under section 674(3) is capital cost only, not operating costs, and that only capital costs may be recovered by levy or frontage/parcel tax while operating costs may only be recovered by user charges under section 612. However, nothing in section 674 says conclusively that only capital cost may be collected from property owners by a levy or frontage/parcel tax. Some specified area bylaws do include both capital and operating costs for recovery by levy or frontage/parcel tax.

Until recently, municipalities recovered the operating costs of sewerage systems through taxation. User fee bylaws are now becoming more common and these bylaws give greater flexibility than loan authorization bylaws to deal with annual fluctuations in actual operating costs.

#### User Fees Based on Property Use

Under section 612(1)(c) and (2.1), a user charge imposed against the owner or occupier of real property for the use of a sewerage system, a drainage system or a combined sewerage and drainage system, can vary in relation to one or more of the number of outlets served; the quantity of water delivered to the premises by a utility; the volume of effluent discharged by the user; and classes of users or effluents. Municipalities often establish classes in relation to residential, multi-residential, commercial and industrial users. Industrial users are often broken down into different classes, as well. For example, breweries and bakeries are known to discharge large quantities of special types of effluent, as well as to use a large amount of water in their operations.

The user charges for collection of the operating costs of a system could be assessed according to the use made of the system and the property by the property owner according to classifications set out in the bylaw. However, the frontage/parcel tax or rate levied for the capital costs can relate only to the assessed value of the property, the length of the frontage, or the number of parcels, but not the use of the property or the use of the system.

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4. Legal Ramifications

There are probably greater legal ramifications for the Village if Council does **not** change a financing formula that fails to conform to the *Municipal Act* than if it does. It is not clear to me what elements of the formula fail to conform. It may be that the operating costs are still included in the capital costs for the purposes of the frontage tax. As I already mentioned, there are municipalities and some regional districts that do combine them in taxes, and this is lawful, in my opinion.

If, as a result of excluding the operating costs from the frontage tax calculations and transferring them to the user charges, it appears that someone was overcharged, there may be some liability on the Village to refund the overcharge to those property owners or occupants. ←

**Other Comments**


As you can see, I disagree with Mr. Gairns on the legality of including operating costs in the costs recovered through the methods designated in the loan authorization Bylaws 859 and 893. Another area of disagreement is whether Council can impose penalties for failure to connect to the sewer system. Section 298(1) of the *Municipal Act* gives Council that authority by making it an offence for a person to breach a requirement established by a municipal bylaw. Section 298(2) makes the violator liable to the penalty authorized by the bylaw, the *Municipal Act* or the *Offence Act*, together with the costs of prosecution. Therefore, Council may prosecute a person for failing to connect to the sewer system, as well as making the connection at that person's expense.

Almost inevitably there are legal issues involved in setting up service areas, drafting bylaws and seeking approvals. Municipal staff and technical advisers should work with the municipality's legal advisers throughout the process. An ounce of legal prevention can forestall costly errors, as well as political dissent.

Yours truly,

STAPLES McDANNOLD STEWART

Per:

  
Lorena P. D. Staples

LPS/rr

## Admin

---

**From:** Heart Speak <heartsspeakproductions@gmail.com>  
**Sent:** June-01-18 11:11 AM  
**To:** Admin  
**Subject:** LWMP Stage 2/3 feedback

Due to the extension for LWMP feedback to noon Friday June 1<sup>st</sup>, below are my further comments to my earlier submission of noon Monday May 28<sup>th</sup>, 2018. Please ensure that it is received and added to my earlier submission and confirm.

### Issue #1 – Consultation process sorely inadequate

The Ministry clearly and adamantly insisted that Council inform the public that the LWMP process takes away the right to a referendum. When I mentioned that fact to one of the Councillors, he disagreed and told me that wasn't the case, as he didn't think that would be right or fair. I suggested he go check it out. When I approached this same councillor a couple of days later and asked if he had clarified, he said he had not and it didn't matter. If that fact is not even clear to the councillors, I can't imagine how it could be clearly communicated to the constituents.

At the open house when this fact was revealed by the moderator, many of the attendees walked out of the meeting, including myself. (see youtube video at approx. 32 minutes <https://www.youtube.com/watch?v=zSfnzv1Vw00&t=4246s>) I was blocked from leaving the hall by a councillor who made disparaging remarks about my character and challenged me on my assertion that "It is unreasonable to distribute a 169 page report on Friday afternoon of the May Days long weekend, one of Kaslo's biggest and busiest weekends, and expect the citizens of Kaslo to be informed and ready to pose informed questions and express their concerns by the following Wednesday and submit written comments by the following Monday." He didn't believe my statement that the LWMP stage 3 report was only released on May 18 to be true. The inference being this councillor believed that would be unreasonable, and therefore I must be wrong. The evidence shows I was not wrong.

For over a year now, I have asked repeatedly for sewer flow data, information on Village property hook ups, and correspondence to and from lawyers and accountants about the sewer cost allocation formula, to no avail, and to be told "Staff and consultants have neither the time nor resources to undertake engagement in this manner."

With time running out for the noon deadline today, I've made two last attempts to request the information with the email below:

*To: Stephanie Patience*

*Cc: Acting Mayor Jim Holland (May 31, 2018) Acting Mayor Henry VanMill (June 1, 2018)*

*Further to our conversation yesterday Stephanie when I stopped in to request information on the public record on the subject of the LWMP – Stage 2/3 currently in the final stages of public consultation, you told me that you would release the information as per the VOK Communications Policy. I have reviewed the policy and it doesn't have a section with regards to public access to information. So, I refer to the Community Charter.*

*Division 4 — Public Notice and Access to Records*

*96 If an agreement is proposed or made in relation to a matter that requires approval of the electors, all records relating to the agreement that are in the custody or under the control of the municipality must be available for public inspection at the municipal hall during the time when the approval process is underway.*

*Could you please provide me with the following:*

- *The spreadsheet with the sewage flow levels per day since the beginning to date maintained by the sewer plant operator.*
- *Mr. Gairn's report of November 29, 1996*
- *My letter to Council of January 28<sup>th</sup>, 1997 re: Sanitary Sewer Specified Area*
- *Mr. Gairn's letter to VOK dated January 31, 1997*
- *Mr. Naqvi if Berg & Naqvi Chartered Accountants response to my letter dated April 7, 2000 re: Proper Interpretation & Calculation of the Kaslo Sewer Cost Allocation Formula*
- *Letter requesting to combine Stage 2 and 3 of the LWMP from CAO Neil Smith received by the Minister May 18, 2017*

*Regarding the Friday noon deadline change, I have made attempts to share this change in deadline, but have not been able to find any notice of this extension in the newspapers, radio, at the Village's bulletin board, website or facebook page. The Community Charter states with regards to public access that the applicable notice must be*

*(a) posted in the public notice posting places, and*

*(b) published in accordance with this section.*

*(2) Subject to subsection (4), publication under subsection (1) (b)*

*(a) must be in a newspaper that is distributed at least weekly*

*(i) in the area affected by the subject matter of the notice, and*

*(ii) if the area affected is not in the municipality, also in the municipality, and*

*(b) unless otherwise provided, must be once each week for 2 consecutive weeks.*

*This information and the public notice are important for me and others to make reasoned and informed comments regarding the LWMP Stage 2/3 consultation process.*

*Thank you for your prompt attention to this request as you know, the deadline for submissions is tomorrow, Friday at noon.*

*Regards, Larry Moore*

*A Avenue, Kaslo, BC*

As of Friday morning, at 11:10 am, I have had no response.

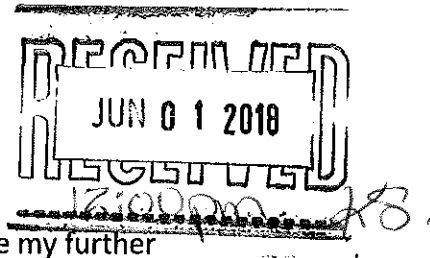
Due to Mayor, Council and administration's lack of respect for the Minister's directives, the consultant's advice, their constituent's voices and most fundamentally the Community Charter, the VOK has not satisfied the requirements for public consultation for the LWMP Stage 2/3 process.

Thank you for considering my feedback.

Regards,  
Larry Moore



LWMP Feedback Friday noon submission



Due to the extension for LWMP feedback to noon Friday June 1<sup>st</sup>, below are my further comments to my earlier submission of noon Monday May 28<sup>th</sup>, 2018.

Issue #1 – Open informed public consultation process

The Ministry clearly and adamantly insisted that Council inform the public that the LWMP process takes away the right to a referendum. When I mentioned that fact to one of the Councillors, he disagreed and told me that wasn't the case, as he didn't think that would be right or fair. I suggested he go check it out. When I approached this same councillor a couple of days later and asked if he had clarified, he said he had not and it didn't matter. If that fact is not even clear to the councillors, I can't imagine how it could be clearly communicated to the constituents.

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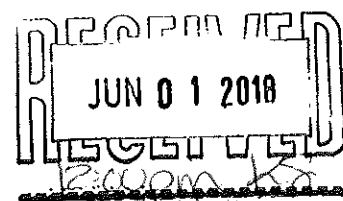
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*To: Stephanie Patience*

*Cc: Acting Mayor Jim Holland (May 31, 2018) Acting Mayor Henry VanMill (June 1, 2018)*

*Further to our conversation yesterday Stephanie when I stopped in to request information on the public record on the subject of the LWMP – Stage 2/3 currently in the final stages of public consultation, you told me that you would release the information as per the VOK Communications Policy. I have reviewed the policy and it doesn't have a section with regards to public access to information. So, I refer to the Community Charter.*

*Division 4 — Public Notice and Access to Records*



96 If an agreement is proposed or made in relation to a matter that requires approval of the electors, all records relating to the agreement that are in the custody or under the control of the municipality must be available for public inspection at the municipal hall during the time when the approval process is underway.

Could you please provide me with the following:

- The spreadsheet with the sewage flow levels per day since the beginning to date maintained by the sewer plant operator.
- Mr. Gairn's report of November 29, 1996
- My letter to Council of January 28<sup>th</sup>, 1997 re: Sanitary Sewer Specified Area
- Mr. Gairn's letter to VOK dated January 31, 1997
- Mr. Naqvi if Berg & Naqvi Chartered Accountants response to my letter dated April 7, 2000 re: Proper Interpretation & Calculation of the Kaslo Sewer Cost Allocation Formula
- Letter requesting to combine Stage 2 and 3 of the LWMP from CAO Neil Smith received by the Minister May 18, 2017

Regarding the Friday noon deadline change, I have made attempts to share this change in deadline, but have not been able to find any notice of this extension in the newspapers, radio, at the Village's bulletin board, website or facebook page. The Community Charter states with regards to public access that the applicable notice must be

- (a) posted in the public notice posting places, and
- (b) published in accordance with this section.
- (2) Subject to subsection (4), publication under subsection (1) (b)
- (a) must be in a newspaper that is distributed at least weekly
- (i) in the area affected by the subject matter of the notice, and
- (ii) if the area affected is not in the municipality, also in the municipality, and
- (b) unless otherwise provided, must be once each week for 2 consecutive weeks.

This information and the public notice are important for me and others to make reasoned and informed comments regarding the LWMP Stage 2/3 consultation process.

Thank you for your prompt attention to this request as you know, the deadline for submissions is tomorrow, Friday at noon.

Regards, Larry Moore  
A Avenue, Kaslo, BC

As of Friday morning, at 11:55, I have had no response.

Due to Mayor, Council and administration's lack of respect for the Minister's directives, the consultant's advice, their constituent's voices and most fundamentally the Community Charter, the VOK has not satisfied the requirements for public consultation for the LWMP Stage 2/3 process.

Regards, Larry Moore  
A Avenue, Kaslo, BC

## Admin

---

**From:** Pat Cattermole <pandacat13@telus.net>  
**Sent:** May-31-18 6:33 AM  
**To:** Admin  
**Subject:** Kaslo Sewer expansion

Kaslo Mayor & Council,

I am sending this letter regretfully later than I should have. I believe that there are enough questions in our community about the proposed sewer expansion that the finalization should wait until the after the next election. I think it fair that council and the mayor answer the questions from the community during the all candidates meetings and let the community have their input. I understand that there does not have to be a referendum on this decision as there was in the 90s so this would seem like fair process.

I am not sure that a sewer expansion is necessary particularly in upper Kaslo and I'm not sure that it should be mandatory. We have a healthy septic system on a lot that is 1.25 acres.

My preference would be for the expansion to be on hold until after the next municipal election. Let the people hear from the council and let us cast our vote.

Kind regards,

*Pat Cattermole*

*"Don't let yesterday use up too much of today."* Cherokee proverb

Friday June 8, 2018

**Village of Kaslo**

**Attention: LWMP Steering Committee**

**Mayor Hewat, Councillors Holland, Knoll, Lang and Van Mill**

**Re: Stage 3 Liquid Waste Management Plan Draft Report  
SSA #1 Member-Owners Response Package**

Please find enclosed our response package for your review, discussion and action. Should clarification or other information be required please do not hesitate to contact our spokespersons Mike Jones and Anne Malik. We must emphasize that we do not represent all SSA #1 Member-Owners and that our response package in no way negates the feedback from other SSA #1 Member-Owners.

We ask that a group session focused on SSA #1 Issues and Concerns be conducted as soon as answers to our questions are available and certainly prior to the release of a Final Draft Report to the public. Although the issues and concerns are specific to SSA #1, we would want members of the general public to be welcome as observers.

Within the LWMP confines, we also ask that a Public Meeting be held to review the Final Draft Report. Said Public Meeting should engage the audience and provide for questions and answers.

To chart a new course we urge you to reach out to SSA #1 Member-Owners as the Sewer Bylaws are being re-written. We also suggest that a Synopsis of Sewer Affairs be prepared annually and distributed to Member-Owners along with their Annual Utility Operating Bill.

Council has the opportunity to not only address errors of the past, but to leave a Legacy of Fairness in the Future. Please don't squander this opportunity.

Respectfully,

SSA #1 Member-Owners spokespersons

Mike Jones

Anne Malik

## Village of Kaslo LWMP Stage 3 Draft Report Feedback

### SSA #1 Response Package

#### Issue 1: Fairness given fully allocated WWTP capacity

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*“Apportionment of costs to existing users and to future development should be equitable.”*  
(Interim Guidelines for Preparing Liquid Waste Management Plans, pg. 11)

Addressing “fairness” to existing properties in the specified area has been recommended in both Stage 1 and 2 reports.

“SSA-1 have paid their contribution to the capital costs to construct the existing collection system and the existing treatment system. The Local Service Taxes in that area will relate to reserve funding for future renewal of sewage collection and treatment infrastructure.”

(Stage 3 Draft Report pg. 40)

“These Phase 1 costs would be applied to all sewered areas (Lower Kaslo and SSA-1)”

(Stage 3 Draft Report pg. 32)

“\$1000 capital charge is proposed for all future sewer connections to create parity in sewage treatment capacity.”

(Stage 3 Draft Report page iv)

“Future treatment plant upgrading costs are currently proposed to be allocated to all sewered areas via local service area taxes. \$2,300 to \$5,500 per property.”

(Stage 3 Draft Report pg iv)

“Original costs to construct the treatment plant are not known, but are estimated to be in the range of \$700,000 (1998 dollars). Allowing for currency inflation (approximately 44% since 1998), as well as infrastructure depreciation (allow 50% over 20 years) and cost of major improvements made in recent years (approximately \$440,000) – the current value of the treatment plant is estimated to be around \$945,000. The resulting current value of the 150 m<sup>3</sup>/day unused capacity is estimated at \$415,000.”

(Stage 3 Draft Report pg 30)

The proposed \$1000 capital charge has been calculated using the current value of the unused capacity and assumes that 400 folios outside of SSA #1 would contribute. The unused capacity is not up for sale! It is fully allocated to SSA #1 Member-Owners.

It is the estimated current value of the treatment plant that should be used; however, it is highly unlikely that 400 folios would contribute over time. The total number of folios in Lower Kaslo outside of SSA #1 would be a more realistic choice.

**The proposed \$1000 capital charge to create parity in sewage treatment capacity is not an equitable apportionment.**

An Excel spreadsheet has been prepared that provides the actual amounts paid by Residential properties on lots ranging from the 40' minimum to 100' taxable frontage. The amounts paid include debt payments over the past 20 years. Using the Bank of Canada Inflation Calculator these amounts are stated in 2018 dollars. In addition to these debt payments SSA #1 Sewer Member-Owners have also paid \$75,140 for upgrades at the Waste Water Treatment Plant and \$39,693 for the purchase of a Sludge Press. Surplus from Annual Operating payments will be used to pay out the SSA #1 Debt this September.

**To summarize, stated in 2018 \$'s for Single Residential Use payments total:**

<b>Taxable Frontage</b>	<b>Total paid 2018 \$'s</b>
40'	\$5,316.63
50'	\$5,937.76
75'	\$7,490.49
100'	\$9,043.20

**A capital charge comparable to what SSA #1 properties have actually paid would be a more equitable apportionment.**

If the proposed \$1000 capital charge is implemented the only avenue for equitable apportionment would be to exempt SSA #1 from Local Service Taxes for future Phase I Treatment Plant capacity upgrades.

If the capital charge is amended to a dollar amount comparable to what SSA #1 properties have actually paid from 1998 to 2018 it would have to be adjusted annually (given Reserve Fund contributions) and indexed to inflation.

**Questions:**

**How will the Stage 3 LWMP Report address the challenge of "fairness" to existing properties in the specified area who have contributed to the system capacity for the past 20 years?**

## Issue 1a: Fairness given fully allocated WWTP

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*“Apportionment of costs to existing users and to future development should be equitable.”*

(Interim Guidelines for Preparing Liquid Waste Management Plans, pg 11)

“It is also recommended that existing properties which are not within SSA-1 but are immediately adjacent to existing sewer mains (e.g. some properties between JV Humphries School and the hospital, as well as properties on the 300 block of ‘A’ Avenue) are made part of the existing collection area going forward and charged the same User Fees and Local Service Taxes as the rest of SSA-1, until such time as they choose to connect to the community system.”  
(Stage 3 Draft Report pg 37)

To mandate the inclusion of these properties into SSA #1 is **not an equitable apportionment of costs to existing users.**

### Questions:

**Will these properties be considered part of the proposed expansion area?**

**For those properties between JV Humphries School and the hospital will it be necessary to disturb and replace sidewalks? Has this cost been considered?**

## Issue 2: Fairness given a Specified Area System

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Without exception, all properties within a Specified Sewer Area should pay *Annual Sewer Utility Operating and Local Service Area Taxes* (regardless of the reason for the Local Service Area Tax).

“There may be a small proportion of these costs funded from general taxation as a reflection of the public good derived from the work. For example, there are a number of properties in the existing and proposed sewer expansion areas, which are either Village owned or exempt from taxation. In those cases, **it is recommended that ‘payments in lieu of taxes’ are made to cover the full costs of debt and operations equal to any other property owner within the sewer areas.....**true costs of municipal facilities are shared by the entire community who benefits and so that the municipalities’ sewage usage costs are not born only by the specified sewer area properties.” (Stage 3 Draft Report pg. 21)

Without exception, future Village of Kaslo Councils should be bound to ‘payments in lieu of taxes’ to cover the full costs of **future Local Service Area Taxes and Annual Operations** equal to any other property owner within the sewer areas for:

- Municipal properties within the specified area
- Provincial & Federal property-tax exempt properties within the specified area
- Properties within the specified area granted Permissive Tax Exemptions

**This should not be just a recommendation.**

**Questions:**

**Will the sentence above in red be replaced with:**

**‘payments in lieu of taxes’ will be made to cover the full costs of future Local Service Area Taxes and operations equal to any other property owner within the sewer areas.....**



### **Issue 3: Fairness given 3<sup>rd</sup> Party Users & Plant Capacity**

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Without exception given that this system is a specified area system, all 3<sup>rd</sup> party Users should pay a Fee for the sewer service rendered.

“Council received a list of requests from the Kaslo Jazz Etc. Festival ..... disposal of porta-potties into the sewer system **as long as plant stays within permit.**”

(The Valley Voice May 17, 2018 pg. 18)

“This WWTP upgrade is anticipated to be required before the collection flows total approximately 350 m<sup>3</sup>/d of domestic strength wastewater.”

(VOK Q & A document distributed 2018-05-16)

“Council can tackle the future capacity needed for major short term events like Jazzfest in one of two ways: increasing the capacity of the plant to cope with short term high demand and porta-potty pump garbage or obtain the necessary permitting for ground discharge (pit toilets). There should likely be some discussion of this matter before the Village locks into a final plan.”

(Report to COWF August 12<sup>th</sup>, 2016 from CAO)

This issue of future capacity needed for major short term events and fees is not addressed in the Stage 3 Draft Report and the draft report does not include any information regarding:

- Contractor/third party bulk disposal of septic waste
- In-house bulk disposal of septic waste
- Disposal of RV Tanks & Kaslo Municipal Campground users septic waste.

**This LWMP is incomplete without addressing the issue of 3<sup>rd</sup> party users.**

#### **Questions:**

How will the Village address the issue of future capacity needed for major short-term events?

With what “peak capacity load” (mc<sup>3</sup>/per day) has the treatment plant dealt?

What fee was charged and who paid for the disposal of May Days 2018 portable toilet discharge into the sewer system?

Has a holding tank been situated in Kaslo Bay? And if so, at what cost and who paid?

What’s the Leko toilet project in Kaslo Bay Park?

On what basis was the fee of 20 cents per gallon in Schedule D of VOK Bylaw 1211 determined?

This fee was last amended in 2015. When and how will this fee be reviewed?

## Issue 4: Reserve Fund

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“It is recommended that properties within collection areas **with no capital debt outstanding** continue to pay an annual parcel tax, remitted to that collection area’s sewer capital reserve fund.” (Stage 3 Draft Report pg. 24)

“Establish a Local Service parcel tax bylaw for contributions to the current SSA-1 “Sewer Reserve” fund.” (VOK Public Information Bulletin distributed 2018-05-16)

For SSA-1, **this type of contribution to reserves should have been made for the past 20 years**..... (Stage 3 Draft Report pg. 33)

“By the end of 2018, it is proposed that the SSA-1 original construction debt will be paid off. SSA-1 reserves will also be depleted. SSA-1 reserves have historically been underfunded. This was exemplified by the RBC Replacement in 2017; that \$400,000 infrastructure replacement project was only possible due to 83% grant funding. If the Village had not received grant funding, SSA-1 properties would have experienced additional taxation for that project. Components of the treatment plant will continue to age and be replaced. Operational improvements are also recommended. Increases to the SSA-1 reserve funding are required.” (Stage 3 Draft Report pg. 30)

**Should we not learn from our mistakes?** All properties within specified sewer areas **with or without capital debt** should pay an annual parcel tax remitted to sewer capital reserve fund.

### Question:

Will the recommendation above be amended to read: “It is recommended that properties within collection areas **with or without capital debt outstanding** continue to pay an annual parcel tax”?

## Issue 5: Development within SSA #1

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“The expansion will be funded by a combination of user fees, parcel taxes and Development Cost Charges” (VOK Q & A document distributed 2018-05-16)

“The treatment plant capacity has been paid for by the existing SSA-1 property owners, and there is potential that **unused treatment capacity could be called for by unconnected or redeveloped properties within SSA-1 in the future.** “

### Questions:

On what criterion would a *Treatment Plant Capacity Fee* or *Development Cost Charge* be determined?

When SSA #1 vacant properties are developed will a *Treatment Plant Capacity Fee* or *Development Cost Charge* be charged?

When SSA #1 properties are re-developed (Usage increased) will a *Treatment Plant Capacity Fee* or *Development Cost Charge* be charged?

Why is this not more specifically addressed in the Stage 3 Draft Report?

## Other Questions

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### **How much will my Annual Sewer Operating Utility Bill be in the future?**

Varies by use in TABLE 7-5: EXAMPLE USER FEE STRUCTURE FOR OPERATING COSTS

**We ask that the 2018 roll be made available for review by SSA #1 spokespersons prior to any comment.**

“Sewage treatment infrastructure expansion and renewal costs would be based on length of taxable frontage. The capital costs for sewage treatment are related to the sewage flows (volume and strength)” (Stage 3 Draft Report pg. 25)

These two sentences contradict each other.

**When the cost of sewage treatment is related to flows (volume and strength) why is sewer treatment infrastructure expansion/renewal costs based on taxable frontage?**

2016 Audited Financial Statement reported Sewer Rates Receivable to be \$19,361.

**Are these Receivables recoverable?**

**Why do we have Receivables?**

If your Property Tax Bill is not paid there are consequences.

**What are the consequences if your Annual Sewer Operating Utility bill is not paid?**

## Answers provided in Draft Report

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### **How much will an annual parcel tax remitted to sewer capital reserve fund cost each year?**

Page 40 – “Variable” (as this is calculated on taxable frontage) Reserve Funding per folio (average) = \$150

### **Will the Sewer Debt be paid off this September?**

Page 22 – “Eliminate all remaining loan debt within SSA-1 in September 2018, through the following actions:

- Transfer monies from the SSA-1 Operating Fund into the Reserve Fund
- Deposit SSA-1 Commuted Trust Fund monies into the Reserve Fund
- Use the SSA-1 Reserve Fund to pay out the SSA-1 MFA loan debt”

### **What will the balance be in each of the Specified Sewer Area #1 Funds?**

Page 30 - By the end of 2018, it is proposed that the SSA-1 original construction debt will be paid off. SSA-1 reserves will also be depleted.

### **Why are new Sewer Bylaws to authorize User Fees based on type of use being written?**

Page 2 - Implement new fee, tax, and regulatory bylaws subsequent to completion of the LWMP to replace the existing municipal regulations.

Page 36 - Again, Fred Banham & Associates Sewer Servicing Cost Recovery Structure addressed the need to reform the existing user fee system at completion of the LWMP. It is recommended to adopt a more equitable distribution of user fees going forward, which is also less onerous for the Village to administer.

### **What will change?**

Page 22 - “Enact a new bylaw to authorize User Fees based on the type of use, i.e. residential, commercial, light industrial. This new User Fee bylaw would be applied to all sewer service areas including SSA-1, SSA-2, SSA-3, etc. and would be used to pay for operating and maintenance costs associated with the community sewer system (sewage collection and treatment).”

**Note:** In the past, Annual Operating was based on Usage & Taxable Frontage. A single residential house on 100’ paid substantially more than a single residential house on 50’. Annual Operating should be based on Usage only.

## SSA #1 Recommendations

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“The LWMP is based on community objectives and involves public consultation as a primary objective. Development of the plan is guided by members of the community .....

(Stage 3 Draft Report pg. 1)

"The EMA contains the requirements for local governments to carry out a process for **comprehensive public review and consultation for all aspects of the development, amendment and final content** of a waste management plan.

(Interim Guidelines for Preparing Liquid Waste Management Plans pg. 5)

We recommend that a **group session focused on SSA #1 Issues and Concerns** be conducted as soon as answers to our questions are available and certainly prior to the release of a Final Draft Report to the public. Although the issues and concerns are specific to SSA #1, we would want members of the **general public to be welcome as observers**.

**Following amendments to the Stage 3 Draft Report** this group of Sewer Member-Owners recommends that **a Public Meeting be held to review the Stage 3 Report prior to its submission to the Ministry**. Said Public Meeting should engage the audience and provide for questions and answers.

To chart a new course we urge you to **reach out to SSA #1 Member-Owners as the Sewer Bylaws** are being re-written. We also suggest that a **Synopsis of Sewer Affairs** be prepared annually and distributed to Member-Owners along with their Annual Utility Operating Bill.

**From:** Michael & Sandra Jones <[kaslocottage@telus.net](mailto:kaslocottage@telus.net)>

**Sent:** Monday, July 2, 2018 6:36 PM

**To:** Mayor <[mayor@kaslo.ca](mailto:mayor@kaslo.ca)>; Lang <[lang@kaslo.ca](mailto:lang@kaslo.ca)>; Knoll <[knoll@kaslo.ca](mailto:knoll@kaslo.ca)>; Councillor VanMill <[vanmill@kaslo.ca](mailto:vanmill@kaslo.ca)>; Holland <[holland@kaslo.ca](mailto:holland@kaslo.ca)>

**Cc:** CAO <[cao@kaslo.ca](mailto:cao@kaslo.ca)>; Andy LeCouffe and Manon Gagnon <[andy@angryhenbrewing.com](mailto:andy@angryhenbrewing.com)>; Anne and Laddie Malik <[lmalik303@gmail.com](mailto:lmalik303@gmail.com)>; Carlton Temple (Abbey Manor rep)

<[carltonrtemple@gmail.com](mailto:carltonrtemple@gmail.com)>; Cornucopia Food Store <[cornucopia\\_kaslo@hotmail.com](mailto:cornucopia_kaslo@hotmail.com)>; Dennis Jensen and Bonnie Schwark <[kasloden@hotmail.com](mailto:kasloden@hotmail.com)>; Doug and Maureen Broadfoot

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<[Glen\\_Walker@telus.net](mailto:Glen_Walker@telus.net)>; Jackie Murdock <[hijac5@hotmail.com](mailto:hijac5@hotmail.com)>; Jason and Elissa Ellis

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<[info@mtnfruit.ca](mailto:info@mtnfruit.ca)>; John and Susan Eckland <[c185pilot@hotmail.com](mailto:c185pilot@hotmail.com)>; Kul Nijjar and Dennis McIntyre

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<[len.r@hotmail.ca](mailto:len.r@hotmail.ca)>; Linda Van Mills <[hl2vm@kaslo.org](mailto:hl2vm@kaslo.org)>; Lynn and Paul Vandeursen

<[lynnvandeursen@gmail.com](mailto:lynnvandeursen@gmail.com)>; Mandy Bath and Christopher Klassen <[mbath@kaslo.org](mailto:mbath@kaslo.org)>; Mark & Barb

Dobroski <[mb.dobroski@hotmail.com](mailto:mb.dobroski@hotmail.com)>; Michael and Sandra Jones <[kaslocottage@telus.net](mailto:kaslocottage@telus.net)>; Rebecca

Darcy <[rebecca.darcy@yahoo.ca](mailto:rebecca.darcy@yahoo.ca)>; Shauna and Dan Quigley <[dsquigley@hotmail.com](mailto:dsquigley@hotmail.com)>; Teresa and

David May <[kaslobc@telus.net](mailto:kaslobc@telus.net)>

**Subject:** SSA#1 Equitability Options

July 2, 2018

Via Email: Mayor & Councillors

Village of Kaslo

312 Fourth Street, Box 576

Kaslo, B.C. V0G 1M0

The Liquid Waste Management Plan (LWMP) process has brought errors and omissions to the attention of Specified Sewer Area #1 (SSA #1) member owners. It has been calculated that these errors, omissions and prior Council decisions have imposed a financial burden on SSA #1 member owners totalling \$241,173 *2018 dollars* (Appendix A). SSA #1 member owners are seeking a remedy to redress this inequity financially with the services of an agreed upon mediator or arbitrator. We offer the following for your consideration:

- A contribution by the Village of Kaslo to the SSA #1 Sewer Reserve Fund, **together with**
- An exemption in the future for SSA #1 member owners from any Local Service Tax required for Wastewater Treatment Plant (WWTP) capacity upgrades necessary for Lower Kaslo and/or major short-term events, **or;**
- A Capital Charge fee in the Stage 3 LWMP Report for all future sewer connections that SSA #1 member owners endorse as an equitable apportionment of costs.

SSA #1 member owners also request an unequivocal and irrevocable statement in the LWMP Stage 3 Report that for all properties either Village owned or exempt from Taxation within the specified sewer area 'payments in lieu of taxes' will be made to cover the full costs of any Local Service Tax and Annual Sewer Utility charges equal to any other property owner within the sewered areas. The municipalities' sewage usage costs should never again be born only by the specified sewer area properties.

As of September 24, 2018 SSA #1 member owners will have contributed a total of \$1,026,359 in Capital Costs. (Appendix B). We acknowledge that the Village of Kaslo has contributed \$19,698 (Appendix A). Today the Kaslo sewage treatment plant is valued at approximately \$945,000 (Source: Liquid Waste Management Plan Stage 3 Draft report, page 30). SSA #1 member owners have paid to construct this treatment plant. Its capacity is fully allocated to SSA #1 property. We urge you to take these facts into consideration when considering our request for a financial remedy.

Time is of the essence as this issue is festering within the community, and can only hamper the Village's plans for sewer expansion. We ask for written confirmation that this correspondence has been received and is before Council for action. To date, all we have heard has come from consultants who are not decision-makers, nor are they contracted to deal with equity and fairness outside the confines of the LWMP. We grow concerned as a community that our approach to date has not received the attention it is due.

As a courtesy we wish to advise that SSA #1 member owners will be using print media to educate our community.

We look forward to your written response.

Michael Jones and Anne Malik  
On behalf of SSA#1 member owners

## **Appendix**

- A. Summary of Financial Burden
- B. Summary of Capital Costs
- C. SSA #1 Residential Lot Debt Payment History
- D. SSA #1 Large Lot Debt Payment History



- E. SSA #1 Finance Review Committee spreadsheet 2011.12.15NB5 restated in 2018 \$'s
- F. SSA #1 Finance Review Committee spreadsheet 2011.12.15NB2+ restated in 2018 \$'s
- G. SSA #1 Finance Review Committee spreadsheet 2011.12.15NB6 restated in 2018 \$'s
- H. SSA #1 Finance Review Committee spreadsheet 2011.12.15NB3 restated in 2018 \$'s
- I. MFA Debt Repayment Schedule Issue #69
- J. SSA #1 Finance Review Committee Final Report
- K. VOK Council Minutes 2012-03-27 to receive SSA #1 Finance Review Committee report
- L. VOK Council Minutes 2012-06-12 regarding campground reserve contribution
- M. VOK Council Minutes 2012-11-26 to act on commuted fund shortfall and revise campground reserve contribution calculation
- N. VOK Deputy Clerk e-mail 2013-02-12 regarding VOK contributions
- O. VOK CAO Information to Council 2013-08-07 confirming commuted fund shortfall contribution
- P. Summary of VOK Council action taken on SSA #1 Finance Review Committee recommendations

## Appendix A

## Summary of Financial Burden

Source	Note	Description	Time Period	In 2018 \$'s	In 2018 \$'s
				Note 17 Cost to SSA #1	Note 17 VOK contribution
VOK Sewer Rolls	1	Folios 15.01 - 15.04	1998 - 2018 Debt	\$5,724	
SSA #1 Finance Review Report	2	Folios 15.01 - 15.04, 20, 59.05	1998 - 2008 & 1998 - 2010 Operating	\$28,319	
VOK Sewer Rolls	3,4	Folio 20	2000 - 2018 Debt	\$5,037	
VOK Sewer Rolls	5	Folio 20A	2000 - 2018 Debt	\$3,037	
VOK Sewer Rolls	6	Folio 59.05	1998 - 2018 Debt	\$3,586	
VOK Sewer Rolls & estimate	7	Folio 60	2009 - 2018 Debt	\$4,909	
VOK Sewer Rolls	8	Folio 61	2009 - 2018 Debt	\$1,015	
SSA #1 Finance Review Report	9	Folio 237	2000 - 2011 Roll errors Operating & Debt	\$27,280	
SSA #1 Finance Review Report	10	Folio 239.1	1998 - 2009 Operating	\$121,727	
SSA #1 Finance Review Report	11	Folio 239.1	1998 Roll error Debt	\$10,164	
SSA #1 Finance Review Report	12	Folios 459.1 and 459.3	2005 - 2008 Roll error Operating	\$21,148	
SSA #1 Finance Review Report	12	Folios 459.1 and 459.3	2005 - 2008 Roll error Debt	\$1,793	
2010 VOK AFS	13	No fees reported Sani-dump	2008 - 2009 Revenue	\$3,533	
VOK Council Minutes	14	Re-calculation of Folio 139.1 Reserve contribution		\$3,901	
2013 VOK AFS	15	Transfer from General Operating Fund \$6678			\$7,243
2014 VOK AFS	16	Transfer from General Operating Fund \$2000			\$2,121
2015 VOK AFS	16	Transfer from General Operating Fund \$2000			\$2,102
2016 VOK AFS	16	Transfer from General Operating Fund \$4000			\$4,143
2017 VOK AFS	16	Transfer from General Operating Fund \$4000			\$4,089
				<b>\$241,173</b>	<b>\$19,698</b>

### Abbreviations

MFA = Municipal Finance Authority  
VOK = Village of Kaslo  
SSA = Specified Sewer Area  
AFS = Audited Financial Statements

### Note

- 1 Appendix C: Comparable Folio 42.02 Taxable ftg = 100' Usage = .75 at 21-year pay
- 2 Appendix E
- 3 Appendix C: Comparable Folio 45 Taxable ftg = 100' Usage = 1 at 19-year pay
- 4 Folio 20 originally Lots 20-24 Block 1 DL 208 KDP 393. See VOK Bylaw 961 and 1075
- 5 Appendix C: Comparable Folio 8 Taxable ftg = 40' Usage = 1 at 19-year pay
- 6 Appendix C: Comparable Folio 8 Taxable ftg = 40' Usage = 1 at 21-year pay
- 7 Appendix D: No comparable Folio. Taxable ftg = 175' Usage = 4. Estimate based on Folio 550.025 (Ftg = 140.0' Usage = 4)
- 8 Appendix C: Comparable Folio 50.01 Taxable ftg = 40' Usage = .75 at 10-year pay
- 9 Appendix F
- 10 Appendix G
- 11 \$6,956.29 reported on Page 7 of SSA #1 Finance Review Committee report re-stated in 2018 \$'s
- 12 Appendix H
- 13 2010 actual (\$1540) reported x 2 years
- 14 Appendix P
- 15 Assumed to be VOK contribution for Folio 139.1 and commuted shortfall. Reference: Appendices L, M, N & O
- 16 Assumed to be VOK contribution for commuted shortfall. Reference: Appendices M, N & O
- 17 Bank of Canada Inflation Calculator used to restate into 2018 \$'s

## Appendix B Summary of Capital Costs

### Kaslo Sewer Specified Area #1

#### MFA Debt repayments Issue #69 \*

Year	Actual	2018 \$'s
1999	\$34,250.70	\$49,287.49
2000	\$34,250.70	\$48,144.89
2001	\$34,250.70	\$46,338.24
2002	\$34,250.70	\$45,826.98
2003	\$34,250.70	\$44,575.12
2004	\$34,250.70	\$43,513.81
2005	\$34,250.70	\$42,820.52
2006	\$34,250.70	\$41,649.50
2007	\$34,250.70	\$40,757.81
2008	\$34,250.70	\$39,868.67
2009	\$30,218.70	\$35,145.38
2010	\$30,218.70	\$34,661.86
2011	\$30,218.70	\$33,425.99
2012	\$30,218.70	\$33,015.35
2013	\$30,218.70	\$32,773.78
2014	\$30,218.70	\$32,044.31
2015	\$30,218.70	\$31,766.55
2016	\$30,218.70	\$31,297.94
2017	\$30,218.70	\$30,890.23
2018	\$30,218.70	\$30,218.70
	<b>\$644,694.00</b>	<b>\$768,023.12</b>

### Kaslo Sewer Specified Area #1

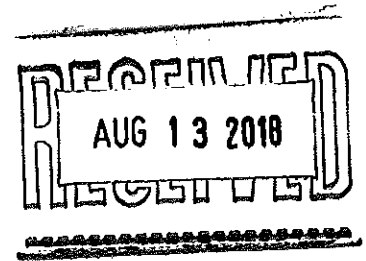
#### Summary of Capital Costs

Source	Description	In 2018 \$'s	
		SSA #1 Actual	SSA #1 Actual
MFA Issue #69	Debt Payments to 2019-09-24	\$644,694	\$768,023
MFA Issue #69	Loan re-payment in 2018	\$137,620	\$137,620
Engineer	WWTP Upgrades in 2017	\$75,140	\$76,810
2011 VOK AFS	Sludge Press in 2011	\$39,693	\$43,906
		<b>\$897,147</b>	<b>\$1,026,359</b>

\* Copy of MFA Debt Repayment Schedule Issue #69 provided as Appendix I

Aug. 13, 2018

Mayor & Council  
Village of Kaslo  
Box 576  
Kaslo, B.C.  
V0G 1M0



Re: Specified Sewer Area #1

402 Front Street

Dear Mayor & Council;

Our attention to the LWMP has brought to light unfair decisions by Councils past and present.

Since 1998, we have been paying sewer tax on 40 feet of frontage when we actually have only 25 feet. We have also been paying a 3.5 usage unit. This seems unfair since we do not have a "mechanical dishwasher." We use paper plates and cups. The coffee shop/sandwich shop does not serve breakfast or supper. The building itself has a full bathroom in the residential section and a half bathroom in the coffee shop. (1 toilet, 1 sink). We have been compared to a cafe, pub lounge or a dining room?

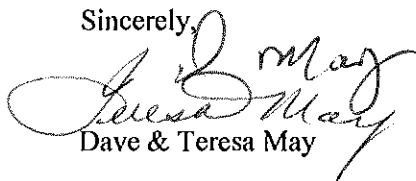
The Village Campground public washrooms have been deemed by council to be a 2.5 usage unit when they have 6 showers and 10 toilets. Even though the campground is seasonal, their usage would be far more than our shop!

Our sandwich shop/ coffee shop is charged at a higher rate than the whole campground!

Going forward, we are asking for a refund on the overcharges since 1998.

We are expecting an early reply.

Sincerely,



Dave & Teresa May

cc: Office of the Ombudsman

**Rick Galbraith**  
Box 1412, Kaslo, B.C. V0G 1M0  
hikerdude48@gmail.com 778-800-9821

August 22, 2018

The Village of Kaslo,  
Attn: Administration

(via e-mail attachment)

Dear Sirs:

RE: 302A Avenue  
Comments as of August 22, 2018 (post Stage 3 Draft and Issues Raised and Answered by SSA1) on LWMP and resulting proposals of sewer expansion

I've finished my exhausting mission of reading every bit of literature and commentary available to me about the LWMP. The issues are convoluted and the language is some times foreign. It's been many years since my brain has had such exercise.

Conspicuously absent from all this literature is feedback from most of the people most affected, the people of Lower Kaslo. Moreover, alarmingly, there are no such residents on the Advisory Committee and that seems inappropriate. Absent altogether is feedback from the people affected soonest. That is, until this, my input. Even so, I'm not directly affected by the proposed construction, as I am adjacent to an existing line. That makes it even more difficult to see where and what is most important to me, as the authoritative and considered thinking to date has been generally about the rest of us in Lower Kaslo, as well as those in Upper Kaslo.

This lack of representation makes my first comment easy to express: this major capital investment, along with the plans for future expansion and financing by future Kaslovians, **MUST** be made to be understood by the people it affects. More effort, thus more time, costing just a few more bucks, are necessary to do this. One very specific element of the needed additional discussion, so that ALL Kaslovians understand it clearly, is the cost to each of them of expansion and connection, **BEFORE** decisions on the alternatives are made and by-laws created to put them in place.

From that, my second comment comes easy as well: this should **NOT** be a political issue. To "get 'er done" before the November election is bad strategy. There have been diligent councils before this one that have put the right kind of energy into progressive action, and our next one can (and should) be mandated with the job as well. An action plan started now can (and should) be made to continue past November to allow and then incorporate the feedback of ALL village taxpayers.

As can be deduced, I favour the LWMP and the determination from it to build expansion. It is with sincere respect that I thank the present Village of Kaslo council and staff, consultants and respondents for their vision and diligence. Convoluted or not, it is all important information resulting from productive interaction. There's just not enough of it for my liking, as you've already read. In short, all of that is a good thing and my comments and questions are made after thinking positively.

That wraps up my general comments. Comments specific to my reaction to the authoritative and considered proposals are more difficult. The effects of the consultants' recommendations and consequential proposals are difficult (for me) to measure from the data made available and, thus, difficult (for me) to reach definitive conclusions and comment on them, until I have some questions answered.

1. Is there data to show the value of metered water usage, such as forecasted diminished flow to the plant, thus diminished wear, maintenance and electricity usage?
2. What is an estimate of the cost to educate taxpayers on the value of reduced water usage (which value, of course, goes well beyond reduced sewage flow)?
3. What would happen today if the plant breaks down and the capacity of the holding tank is exceeded? In other words, where would the raw sewage go?
4. What tolerances does the Village of Kaslo (or other authorities) have with respect to alternatives to on site sewage disposal, for example a composting toilet?
5. If a second plant were built and the first one left in place to operate in the summer only, would that provide an overall savings during their lifetime?
6. Is there any system in place to operate the plant on demand rather than 24 hours a day?
7. How much does a property increase in value with an off site sewage treatment connection?
8. Are lift stations, pumps, local repairs, etc. distributed to every taxpayer in that system's entire service area, or just to the taxpayers they service? This question applies to both existing and planned systems.
9. What are taxpayers adjacent to the existing infrastructure, but outside the SSA1 service area (eg. 302A Avenue), going to be charged differently, in any manner whatsoever, than either the SSA1 service area taxpayers or the taxpayers benefiting from the proposed expansion?
10. Are the taxpayers adjacent to the existing infrastructure, but outside the SSA1 service area (eg. 302A Avenue), used in calculating the folios to be serviced by expansion?
11. Noting the high water mark on the plant building, was there any flood damage at that time and what are the forecasts for damage for a 200 year flood, both with respect to existing and planned buildings? Include effects of sewage backing up, if any.
12. Is a permit required to install the sewer line on site and the connection to the village main? What would that permit cost be and how long is it effective? Is a contractor required to do the work?
13. What specific grants and/or any other outside funding was provided for construction of the plant and infrastructure for SSA1?
14. What is the present value (book value) of the treatment plant?
15. What other funding (for example, the proposed top-off from general funds to pay out the outstanding debt) has been provided for the benefit of SSA1 users and the village's plant and infrastructure since its construction? To put that in other words, what has not been paid by the captured taxpayers of SSA1?
16. How many folios within SSA1 do the announced 23 vocal representatives of SSA1 system represent out of the 90 (or is it 89) folios within the area? Same, expressed as a percentage?
17. What are the many steps still to be taken to bring a working expansion to fruition? Examples: finalizing the Stage 3 draft, tendering construction, creating by-laws, cutting the ribbon. Effective date to taxpayers. What is the order and schedule for each step?

These may not be all my questions but it's a big part of them for sure. I will start working now on a preliminary set of comments, and will finalize them when I have the answers. Please note that, indeed, I do have some observations and opinions which I wish to make before any proposal or legal stuff gets locked in.

Sincerely,



Rick Galbraith

## Letters in local newspaper

# Voices from the Valleys

## A cautionary tale?

Our prime minister would have us believe that we can build all the dirty oil pipelines we want with little or no harm to our environment. Unless the pipelines are carrying unicorns farting rainbows, I would have to conclude his proclamations are just as mythical.

1984 was suppose to be a cautionary tale, not an instruction manual on 'doublespeak.'

Leon Pendleton  
Edgewood

## Slim Pickens and pipelines

Koodos to Leon Pendleton for stating the obvious in the March 22 Valley Voice.

Commenting on Ed Varney's thoughts in the same issue on pipelines and our environment, Pierre Elliot's overly groomed and too well instructed son is riding the pipelines down to Earth's perdition, much like Slim Pickens' hoopin' and hollerin' character did in the perhaps prophetic movie, *Dr. Strangelove*.

Has it been noticed that the oil in those proposed pipes won't be filling up the tanks of Canadian commuters, but is slated for offshore?

Treachery.

Gustav Russ Youngreen  
Kaslo

## Hot springs heaven

Nakusp Hot Springs. How is it so wondrous each time I soak there?

The water is always impeccably clear and clean, the music selection needing to cater to diverse tastes is always right on and at the right volume, and the staff of calm, easy-going men and one woman who care for the public are all more than well suited for this healing casual ambience.

As a guest and former certified pool operator, you have my blessing. Something is going on there that

brings divinity to all our lives here in Nakusp. Something there anchors this continuity, maybe the land, the people, the healing-inducing hot water, maybe some hot spring fairy. Whatever it is it's big, so keep nurturing this defenseless child!

There, after years of wanting to share these sentiments publicly it's done. Thank you.

Marc Heroux  
Nakusp

## Kaslo sewer

The Village has recently received confirmation of a grant that will provide up to \$910,000 toward the expansion of the community sewage collection system in and around the commercial core. That could be good news for specified sewer member-owners, as user fees should generally decrease as the sewage collection system expands.

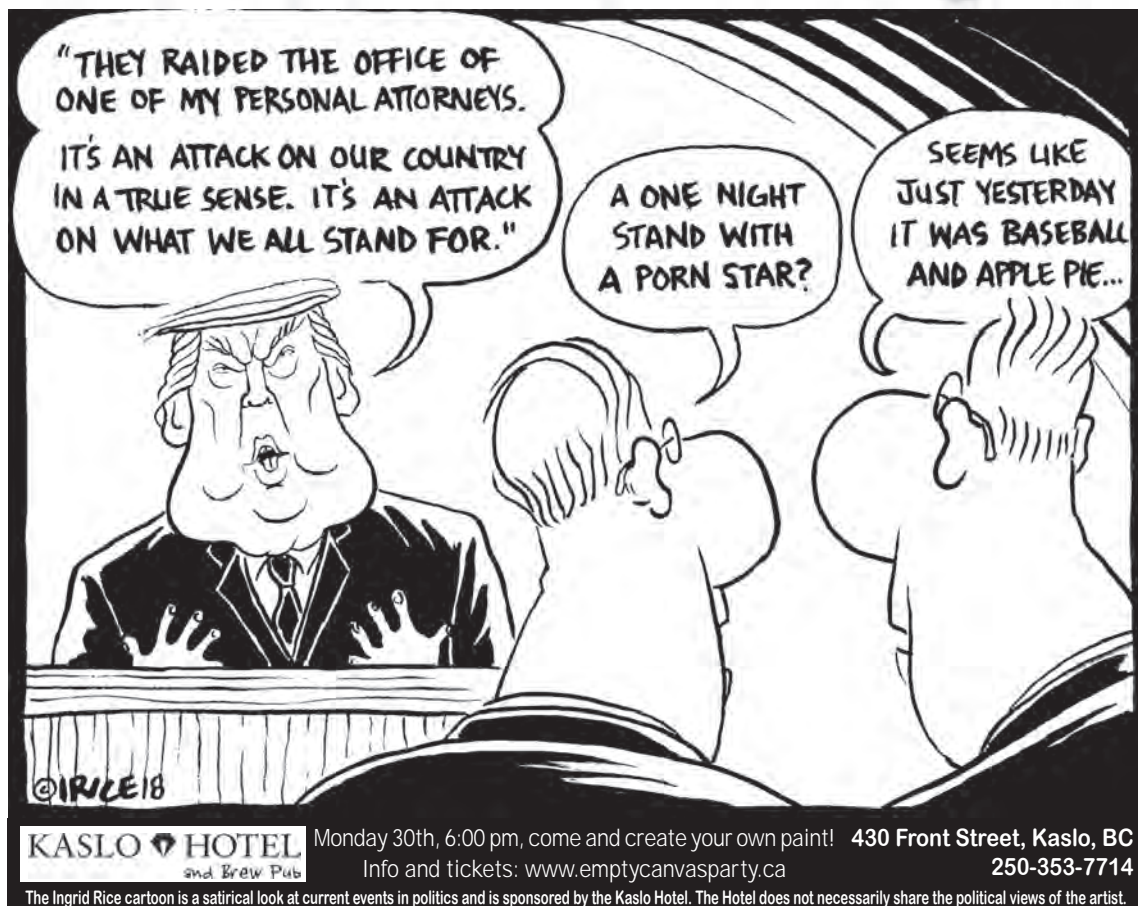
But the treatment plant capacity is fully allocated and 'spoken for' by the existing specified service area. So how will the Village address the challenge of "fairness" to existing properties in the specified area who have contributed to the system capacity for the past 20 years?

The Liquid Waste Management Plan Stage 3 Report is currently being drafted. An explanation as to how "fairness" will be achieved in the future should be spelled out in this document. Fairness and equity is expected.

Anne Malik  
Kaslo sewer member-owner

## Bodies of the past

*Faces of the Past*, volume 1, is a great book about the history of the Arrow Lakes Valley, at least as far as the white man's history is concerned. It is full of marvelous photos, depicting the first settlers and their hard work in the woods, but also their joyful social gatherings and their connectedness to the lake and its old steam-sternwheelers. It looks like they had solid fun, despite their very demanding lives. One aspect that strikes me is how lean just about



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The Ingrid Rice cartoon is a satirical look at current events in politics and is sponsored by the Kaslo Hotel. The Hotel does not necessarily share the political views of the artist.

everybody looks. Looks like the bellies of the present have replaced the bodies of the past. What will the world look like when thinking robots take over? Our automobiles have, in one respect, become already more intelligent than their drivers: they stop taking on fuel when their tank is full. Can we get back to the good ol' times? At least in one respect.

Richard Eichenauer  
Fauquier

## Governance and the electorate

Our current electoral system can give a political party the opportunity to do as they see fit. This is satisfactory if your needs align with that party. However, the power dynamic in our current system is not necessarily reflected in the popular vote.

Our current political system does not entertain collaboration and yet collaboration is how most of us engage in our daily business.

If power is the goal, an electoral system that uses proportional representation (PR) would present a threat – one so great as to hire well-paid lobbyists to convince the electorate that proportional representation (PR) is bad and will only lead to governance chaos. Even though no two systems of proportional representation (PR) are identical, lobbyists will give examples

of dysfunctional systems or countries and claim the same for all.

Personally, the idea of needing to have policies that best meet the needs of most of the electorate does not seem threatening – collaboration allows more voices to contribute in developing government policy. It's called Proportional Representation. And we have the opportunity to refresh BC politics with proportional representation in the November 2018 referendum.

Lisa Bramson  
Nelson

## Fired up for the AJL Face inclusion

This is in response to Rik Valentine's March 22 letter regarding fire, the Argenta-Johnson's Landing Face (AJL Face), and park status for the area. Mt. Willet Wilderness Forever, the group launching the campaign to include the AJL Face within the Purcell Wilderness Conservancy (the Conservancy), is not "overlooking vital information" as regards the threat of fire on the mountainside, as Rik contends. Neither are the vast majority of the residents of our communities, who have signed a formal petition to the legislature for this inclusion, overlooking the fire issue. All of us live in the forest. We understand the situation.

Certainly it would be presumptuous of Mt. Willet Wilderness Forever to submit

a fire interface plan for the communities. This needs to be a community-based decision in conjunction with expertise and resources of the RDCK. I am confident we are heading in the right direction. In fact, the first interface treatment has just been completed south of Argenta. Presently, we are awaiting release of the RDCK Area D and Kaslo Community Wildfire Protection Plan. The RDCK has assured us that fire interface treatments can take place on the AJL Face whether within a logging tenure or within the Conservancy. Fire interface treatments have already taken place in other provincial parks in the West Kootenay. Including the AJL Face within the Conservancy does not prevent necessary fire interface treatments.

What this inclusion WILL do is protect more than five kilometres of invaluable lakeshore, maintain biological connectivity between the Selkirks and Purcells, protect the magnificent view at the head of Kootenay Lake...

There continues to be healthy debate in our communities regarding the best solutions to fire management. At the same time, there is less and less debate regarding the best land use option for the AJL Face. It is clear that the AJL Face is best placed within the Conservancy giving protection from lakeshore to the mountain peaks.

Gary Diers  
Argenta

## EDITORIAL / LETTERS POLICY

The Valley Voice welcomes letters to the editor and community news articles from our readers.

Letters and articles should be no longer than 500 words and may be edited. We reserve the right to reject any submitted material.

Please mark your letter "LETTER TO THE EDITOR." Include your address and daytime phone number for verification purposes.

We will not knowingly publish any letter that is defamatory or libelous. We will not publish anonymous letters or letters signed with pseudonyms, except in extraordinary circumstances.

Opinions expressed in published letters are those of the author and not necessarily those of the Valley Voice.

## The Valley Voice

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# Voices from the Valleys

## Angry Notley

Did you know that there is a pub in Kaslo named after the premier of Alberta? The Angry Hen!

Phil Trotter  
Kaslo

## The Metis Prayer

The Métis Prayer and applying sacred wisdom to current events

...And when my life fades away like the fading sunset

May my spirit go back to you without

SHAME

SHAME on the executive branch of government (RCMP) for the killing of Peter de Groot.

And DOUBLE SHAME on the RCMP for taking Slocan Village residents hostage for five days.

And SHAME AGAIN on the sniper for refusing to release his notes to the Independent Investigations Office.

I sincerely believe the de Groot family version of what transpired on that dark day.

Marsee Manitou.

Jacques Savard  
Winlaw

## Open letter to Minister Michelle Mungall

The prime minister says that the Kinder Morgan project is in the national interest. However, would it not be more accurate to say that taking Alberta oil to market is in the national interest? Then why not build a refinery instead? Sell aviation fuel, foam insulation, construction materials – not dilbit! Building a refinery would create more jobs than doubling that pipeline and, more importantly, keep them in Canada. Why export raw resources like a colony! It is easier to find an acceptable footprint for a refinery than a cross-country pipeline. Aviation fuel spills are not good either, but by their nature are more limited in scope and not as intractable

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as dilbit.

Daniela Gadotti  
Bonnington

## Kaslo sewer 'fairness'

FACT: For 13 years, the Village of Kaslo did not pay annual sewer operating fees for Village properties that lie within the Sewer Specified Area. Sewer member-owners paid the bill for these Village properties. Since 2011, the Village has contributed towards annual operating for their properties but still do not contribute towards sewer debt.

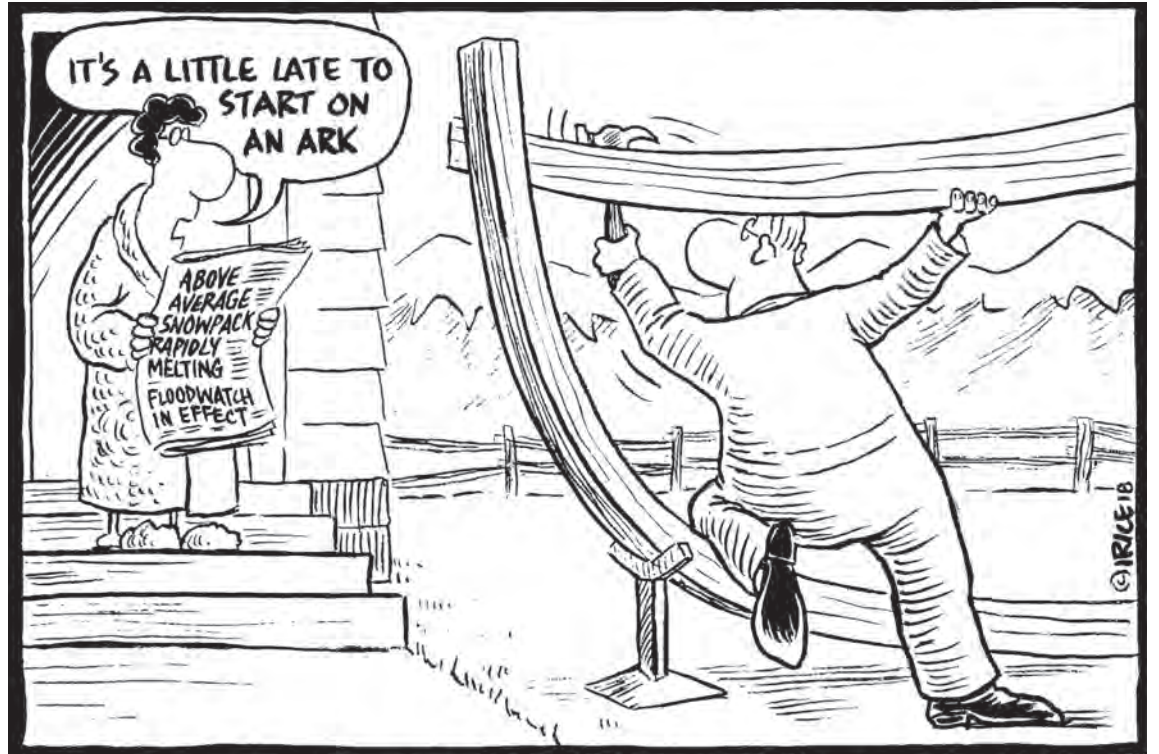
"In the Kaslo situation, with a unique specified service area, the municipality should budget and pay both debt and operating payments equal to any other property owner for two reasons, first so that true costs of municipal facilities are shared by the entire community and second so that the municipality's sewer usage costs are not born by only SSA-1 properties." (Village of Kaslo 'Sewer Servicing Cost Recovery Structure' Report, page 18 dated August 1, 2016)

Sewer member-owners, let council know this issue needs to be specifically addressed in the Liquid Waste Management Plan Stage 3 Report that is currently being drafted. Sewer member-owners should never again bear the entire sewer usage costs of village properties within the specified sewer area.

Anne Malik  
Kaslo

## BCSICP statement on missile attack on Syria

The BC Southern Interior Peace Coalition member groups and individuals attending a peace meeting in Kelowna on April 14, 2018, condemn the joint US-UK-France missile attack on the Arab Republic of Syria on April 13, 2018. The attack overrides the will of the people of Syria and their choice of government. The Arab Republic of Syria is a member state of the United Nations. The US-UK-France attack was an illegal



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act of aggression under the terms of the UN Charter.

The attack took place as the war was ending and a diplomatic path to peace for the people of Syria and all countries involved was appearing.

The attack occurred when the UN agency, the Organization for the Prohibition of Chemical Weapons (OPCW) was en route to Damascus to investigate an alleged use of chemical weapons in the Syrian city of Douma and to determine whether or not chemical weapons had been used. BCSIPC is disappointed and dismayed that the joint US-UK-France attack interfered with the OPCW investigation and took place before it could begin its work and report its findings to the UN.

The US-UK-France aggression was carried out in spite of Russian government warnings it would retaliate against any attacks on its military forces, in Syria at the invitation of the Syrian government to fight terrorists. The fight against terrorists is ostensibly also the goal of the US government that also has military forces in Syria. The attack ran the risk of a military confrontation between nuclear powers.

Prime Minister Trudeau was briefed by the US government of its intention to attack Syria and gave his full support. By giving full uncritical support to the joint US, British, French action, the Canadian government waived the

opportunity to act independently of US foreign and military policy, weakening the prime minister's stated policy of not committing Canada's military to the conflict in Syria.

Canadian government support for the US-led coalition attack on Syria does nothing to hasten the end of the war and reduce war tensions in adjoining countries, and makes Canada complicit in a violation of international law.

We call upon our government and all MPs to uphold Canada's responsibilities as a member state of the United Nations, to actively promote and support all diplomatic actions and initiatives to end the war and permit the people of Syria to live in peace, rebuild their country and decide their own future without outside interference.

Don Currie, BCSIPC contact,  
West Kootenay  
Slocan

## Lakeside destruction needs a penalty greater than its rewards

Kootenay Lake is diminishing by nibbles. At the moment, 63% is still pristine with good fish habitat and shoreline vegetation, but each spring, the low water proves an irresistible temptation to lakefront owners. Excavators grind onto Crown land

beaches. Backhoes unfurl their claws. The result is dredging, infilling, beach creation, loss of vegetation... actually less nibble than piranha bites.

Aren't there laws to protect from this? Yes, there are. Commencing work on the Crown land foreshore without approval is considered to be in trespass and may be subject to enforcement actions. In all cases, anyone who is planning to do work on Crown land must first contact FrontCounterBC, or retain the services of qualified professionals to do so on their behalf. There are nine federal Acts involved, four sets of federal regulations, eight provincial Acts, and four RDCK bylaws. The Ktunaxa Nation is also justifiably very interested.

Unfortunately, there is another unofficial law of the Kootenays, that I have discovered during my 40 years living here. "Do it. If caught, plead ignorance. Accept the fine as a cost of achieving your lifetime goal." No hoops to jump through. Yes, much more simple and effective.

Here is a story from the Argenta Flats, where the late Ruth Boyd and her husband Bob kept pigs. These pigs lived in a muddy pen, denied access to a luscious vegetable garden by an electric fence. The pigs knew the deterrent, but the rewards outweighed the consequences. They would squeal in anticipation before even hitting those electric strands, but the carrots and

continued on page 5

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# Voices from the Valleys

## Jumbo's 2018 Spring Fling

Today, April 9, 2018, according to my contact person in the Mountain Resorts Branch of the Ministry of Forests, Lands, Natural Resource Operations and Rural Development, the doings of the proposed Jumbo Glacier Resort is NOT a large snowball fast rolling through the Jumbo Valley. Instead, the present situation could be called 'stuck' on the judicial reviews that Glacier Resorts Corporation, parent company to Jumbo Glacier Resort Ltd., brought against the previous BC Liberal government's Minister of Environment Mary Polak several years ago.

Oberto Oberti, the resort's proponent, claims that in 2013, Ms. Polak's assessment of "not a substantial start" was incorrect. He claims, to this day, that the two cement slabs he calls foundations for a day lodge and a shed, sited in an avalanche path, are a substantial start.

The other judicial review alleged that Minister Polak was being too chummy with, and influenced by, Katherine Tenise of the Ktunaxa Nation's Council.

Thus far, all old news – but, it's also the current news.

The new news is that whatever the size of any new plans for a smaller resort, it too will be subject to reviews by the Environmental Assessment Office. Previously we understood that any new, small resort plan would not need an assessment.

I suggested that our new BC Green/NDP government could simply tell Mr. Oberti to get gone. But, alas, like the Site C boondoggle, once various legal wheels have been rolling, the government needs to let the present due process run out, or the taxpayers would be footing bills, ad infinitum, for any number of very long and drawn out litigations.

**Rowena Eloise, Nelson**  
for the West Kootenay Coalition  
for Jumbo Wild

## Retallack/Ktunaxa tenure application: Not truth and reconciliation for the Sinixt

I am writing in response to the proposed expansion of Retallack helicopter activities in partnership with the Ktunaxa. The Sinixt position on this issue is a solid NO!

Originally when Retallack was getting started, Grant Copeland came to the Sinixt and not only recognized the Sinixt as the territory that they would be operating in but also promised jobs for Sinixt locals. Where are we now? Retallack never produced one job ever for a Sinixt person and now takes the position that any Indian will do if that group supports their expansion desires.

The Sinixt have many reasons for NOT wanting the expansion due to impacts on critical habitat and impacts to threatened species. The proposed operations are to be in a year-round cycle

with no definitive down times during critical birthing, nesting, hibernation, and feeding cycles by local sensitive species. Not to mention the short time frame for public response to this proposal, minimizing a critical opportunity to create the science-based data to demonstrate the validity of our concerns.

Prior to the declared extinction by the Canadian government, the Sinixt existed as an autonomous tribal group with a definitive territory. This proposed expansion is within that territory. The Canadian government is using rhetoric and empty words on Canadian citizens those words are truth and reconciliation. There is no truth and reconciliation for the Sinixt as long as we remain in a state of declared extinction. The Canadian government has had many opportunities to correct its mistakes through 30 years of court cases we Sinixt have brought forward. Instead they have denied us. The Canadian government continues to dupe its citizens by giving other tribal groups our land and resources in the guise of truth and reconciliation with the Indian peoples of BC. This is NOT truth and NOT reconciliation. This is simply another act of injustice against the Sinixt. Before any more land, resources, tenure, proposed reserve or whatever is granted to any group whether tribal or industry, the Sinixt question needs to be addressed. If you as a citizen of Canada believe that truth and reconciliation is a desirable outcome for ALL tribal groups then raise your voices to deny all settlements and agreements within Sinixt territory until the false extinction is lifted and the Sinixt can act with its force as an autonomous recognized group. All I can say to the colluding factors whether tribal or industry is to STOP IT and do the right and honourable thing.

**Marilyn James**  
Smum iem matriarch  
Sinixt Nation

## Kaslo sewer 'fairness' – tax exemptions

In the future, a sewer parcel tax may be required should money be borrowed. It's also just good business sense to set money aside for unexpected expenses. So we can expect to see a sewer parcel tax on our property tax bills for either debt repayment or reserve fund contribution for years to come.

But some property owners within the specified sewer area don't get property tax bills. For example, property owned by the federal and provincial government is fully exempt from property taxes for all purposes. A number of non-profit organizations obtain permissive tax exemptions for their property.

All properties within Kaslo's specified sewer area should contribute towards debt repayment and/or a reserve fund.

Who will contribute the equivalent of the parcel tax for debt repayment and/or reserve fund for these properties?

- The school, hospital, ambulance station, post office and RCMP building
- Village-owned properties within the specified area
- Properties within the specified area

that obtain permissive tax exemptions each year

Through what mechanism will this be achieved? This issue needs to be addressed and specifically explained in the Liquid Waste Management Plan (LWMP) Stage 3 report that is currently being drafted.

"Once an LWMP is approved by the Minister, it can no longer be publicly appealed."

It's time to speak up.

**Anne Malik, Kaslo**  
Sewer Member-Owner

## Open letter to Minister Michelle Mungall

I agree with Andrew Weaver that you have gone over to be a shill for bad energy policies. (*The Tyee*, May 1, 'BC Hydro to end incentive for new home solar: Weaver blasts plan to stop paying for surplus power from homeowners.')

According to the piece you say, "They're earning all these credits and then BC Hydro has to pay them out, so this is kind of a backdoor way to be getting an energy purchase agreement. It's not what the program was intended for. It's not OK and so that's why BC Hydro is making this request."

The utility is paying around \$30,000 a year to some individuals and organizations, Mungall said. "That adds up."

Yes, it adds up when you consider she and the government have also decided to continue with the Site C dam, which really adds up!

Another example of Lucy playing us all like Charlie Brown.

I urge you to renew and augment this program. And reconsider your very wrong decision to ruin the rest of the Peace River Valley in BC as well as set back relations with the nations that live there. Once again your decision has dismayed me.

**Bill Wells**  
Kaslo

## What say ye?

During the past several years, I have written to the Village of Kaslo many times requesting this sitting council make a concerted effort to speak up during council meetings – to no avail. I have also requested a change in the seating arrangements. ALL council members should face the audience in the public gallery, so they can be seen and heard. Also... install table-top microphones and videotape their council meetings, and upload them to the Village's website. As of this date, nothing has changed. Same old frustrations exist. We did however, gain a handicapped ramp at the side of the renovated City Hall. This is a good first step, although it does nothing to solve the inaudible council meetings.

With the extensive renovations in the old City Hall due to be completed this summer, (with an anticipated move in date of August this year) one would hope some considerable audio improvements have been made in the new council chambers. I note a considerable amount of our gas tax dollars have been utilized in the City Hall renovation project. I am hopeful some of those dollars have been

allocated towards audio improvements. It is long overdue.

I applaud the City of Rossland and more recently the City of Nelson. These two Cities underwent extensive council chambers renovations to include table top microphones and improved seating arrangements. Their meetings are recorded and uploaded to their respective websites in a timely manner for all to see.

It's time for Kaslo to proceed with the same initiatives for the benefit of the electorate and others tuning in with the possible intention of moving to Kaslo.

**Jill Braley**  
Kaslo

## Transcendent wisdom from the Métis Prayer

*"May my hand respect the things that you have made..."*

There is a wanton disrespect for the Creator's handiwork. The sun thieves are injecting the sky with vast amounts of jet engine fuel molecules and nanoparticles. This causes the skies to be infected with a grave malady blocking out the sun's life giving force. An egregious desecration of Pachamama has been happening for decades. It has many different names: Stratospheric Aerosol Injection; Scientific Geoengineering, Weather Modification.

A mad scientist (Dr. Irving Langmuir) at General Electric in the late 1940s experimented with cloud seeding and caused a violent hurricane to crash into Savannah, Georgia. This weather manipulation research has advanced exponentially and it is causing severe weather extremes. In the old days, the sky was blue as far as the eye could see. Now, we see a sky striated with white lines following military planes.

I Proclaim Anathema on the Sun Thieves.

Marsee Manitou.

**Jacques Savard**  
Winlaw

## Ron Volansky, a man of vision

On April 28, I attended a memorial service for Ron Volansky at the Edgewood Legion Community Centre. It was remarkably well attended. I got to the hall at the appointed time to a standing room only crowd – more people than I have ever seen at a Legion function.

Many spoke of what a great husband, father, and grandparent he was. Some spoke about his incredible work ethic, which was evident if you'd ever been to his place in Needles where there was never a blade of grass out of place.

But I think one of the more marvelous aspects of his life was not spoken out loud. And that was his great vision for community and his ability to tap into the vision of others he believed to have merit. I was fortunate to be one of those people he helped in my quest to establish myself in this community. He will be missed and my one regret was not to have visited him and his lovely wife more often.

RIP, Ron, a man of vision.

**Leon Pendleton**  
Edgewood

## Pro Rep referendum

I just finished reading a column by Tom Fletcher and want to respond by quoting 'Wally' the cartoon character from the New Zealand Herald, just before the proportional referendum in that country: "If you want to know why you should vote for PR, just look at who is opposed." The BC Liberals, for one, are absolutely afraid that if PR arrives after the referendum in the fall, they will lose their monopoly of seats in the Interior of BC and instead some of the voters might actually get to elect some BC Conservatives, whom they prefer.

This referendum when it comes is not about Green voters getting a choice, it is about every voter in BC getting an equal choice to elect the MLA they want.

**Andy Shadrack**  
Kaslo

# MAY DAYS DANCE

WITH  
**BALANCE**

**SUNDAY, MAY 20**  
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**DANCE AT 9 PM**  
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\$20 apiece • \$25 at the door  
Available at the Valley Voice

# Voices from the Valleys

*continued from page 4*

bird baths, gutters, tires, and anything else that holds water and other areas where rainwater may collect. Even 28 ml (1 oz) of standing water can support a population of larvae.

Keep grass cut. Mosquitoes will use grass to hide from the summer sun during the day, but will come out in the evening. Use screens on windows and doors. Use safe insect repellents to prevent getting bitten. Dress in light-coloured clothing, long pants, and long sleeves and try to avoid areas where mosquitoes are present. Protect yourself throughout the summer season with a mosquito suit.

I don't see why we should pay for aerial spraying. A new tax will be raised to pay for such a program and all residents will have to pay it.

**Karin Leja  
Winlaw**

## Wreakreation proposed by Retallack-Lower Kootenay Band

I was looking forward to spring after this long winter but my joy has been deflated by the machinations of the Wilderness Industrial Complex. Among the spate of new proposals are logging in my home watershed (Kalesnikoff Lumber), heli-ski expansion in the Jumbo area (Stellar Heli-Skiing) and approval of a rally car driving track in the Bonningtons (Snowwater Resort). Those of us who have worked hard to keep Jumbo Wild are particularly shocked by the Retallack - Lower Kootenay Band proposal for year-round helicopter recreation in the South Purcells. Heli-skiing, heli-biking and heli-hiking in the few remaining wild, intact valleys south and west of the Purcell Wilderness Conservancy would be a huge blow to the whole Purcells. This 71,000-ha proposal would mean sensitive populations of wolverine, caribou, grizzly, mountain goats and others, would have to deal with dozens of helicopter flights every day, year round. The 161 km of proposed biking trails would impact pristine and in some cases rare alpine meadow ecosystems. This proposal merits a new spelling of 'wreckreation.'

People are asking, "Yeah, but how do we oppose the Lower Kootenay Band as a First Nation?"

First of all, a large part of this proposed tenure is in unceded Sinixt territory (height of the Purcells in the east, to height of the Monashees in the west). Neither the legal status of the Sinixt (extinct for the purposes of the Indian Act) nor the Ktunaxa claims to Sinixt territory through the colonial land claims process does anything to change this.

Secondly, it is not only possible, but necessary for people, be they settler or First Nations, to speak up about their inherent values. Some folks of the Lower Kootenay Band are opposed to this proposal also. Lower Kootenay Band Elder Robert Louie Sr. said in a press release that he is prepared to do anything to stop the marriage between Retallack and his band council. "I know this valley from one end of the Kootenay Lake to the

other. The development will have profound detrimental and devastating effects on the (local) people and surrounding areas and wildlife..." We can join our voices to theirs and the Sinixt in respectfully and firmly rejecting this devastating proposal.

This is a moment to ask ourselves: what are land, water, snow and air for? Who are they for? How long can we as humans expand our industrial uses of the basic elements of life before the entire system comes tumbling down around our ears. Are we really willing to live with the blade of ecosystem collapse at our throats in the name of rich people's fun? The Wilderness Industrial Complex will take everything we do not actively defend.

Comment on this 'Jumbo South' proposal before June 13, at <https://arfd.gov.bc.ca> and search for file #4405893. For further information or to express your point of view, Quote file # 4405893 and contact: Christine Lohr, Land Officer, Kootenay Boundary Region, Christine.Lohr@gov.bc.ca, cc to: Doug Donaldson, at FLNR.Minister@gov.bc.ca, cc to: Michelle Mungall, MLA, at michelle.mungallMLA@leg.bc.ca

**K.L. Kivi  
Bird Creek**

## Fairness in Kaslo's sewer system expansion

On Wednesday May 16, 23 member owners of Kaslo's Specified Sewer Area #1 (SSA#1) met to discuss how the issue of "fairness" could/should be achieved in Kaslo's Liquid Waste Management Plan (LWMP).

Not all SSA #1 member owners were able to attend the May 16 meeting, nor will all member owners be able to attend the LWMP Open House scheduled for May 23. The SSA #1 member owners wish to advise however that they cannot support an LWMP which does not adequately address the issue of 'fairness.' To that end, the SSA #1 member owners wish to advise that: Public engagement to date has not adequately informed and engaged the residents of Kaslo. The 'Open House' format does not adequately address the exchange of pertinent information, nor does it identify all the issues of importance to property owners. They wish to advise further that they feel that the consultation component, a prerequisite to the approval of any LWMP, has been insufficient and unsatisfactory.

The SSA#1 member owners request a meeting with the Village of Kaslo LWMP team in order to consult with them on how best to build fairness and equity into the LWMP. We urge that this consultation take place as soon as practically possible so that the Village can stay on course with its proposed September submission timeline. The SSA #1 member owners further request that the following questions be incorporated into the notes of the May 23 LWMP Open House and that answers be provided to SSA #1 member owners at the meeting we have requested.

Question 1: How will the Stage 3

LWMP Report address the challenge of 'fairness' to existing properties in the specified area who have contributed to the system capacity for the past 20 years? Will SSA#1 member owners be expected to pay for capacity upgrades to the sewer treatment plant in the future? Will SSA #2 member owners and/or member owners in an expanded SSA #1 pay a 'treatment plant capacity fee' upon connection? According to the Interim Guidelines for Preparing Liquid Waste Management Plans, page 11, "Apportionment of costs to existing users and to future development should be equitable."

Question 2: What information will the Stage 3 LWMP Report include concerning 'user pay' in a specified area system and the payment of annual operating and local service area taxes for: municipal properties within the specified area; provincial and federal property-tax exempt properties within the specified area; properties within the specified area granted permissive tax exemptions.

Question 3: What information will the Stage 3 LWMP Report include regarding contractor/third party bulk disposal of septic waste; in-house bulk disposal of septic waste; disposal of RV tanks and Kaslo Municipal Campground users' septic waste.

The vast majority of SSA#1 member owners believe that all properties within the specified sewer area should pay annual sewer utility operating and local service area taxes. All third party users should pay a fee for the sewer service rendered.

SSA #1 member owners look forward to working with the Village of Kaslo to effect a fair and equitable resolution to this issue.

**SSA#1 member owners  
Kaslo**

## Health Committee update

First off, a big thank you to the community for coming out and showing your support on May 25 at the SCHC helipad. Thanks also to Richard Caniell and Eleanor Quirk for their timely and insightful letters in the *Valley Voice* April 19 edition. This is exactly the kind of help and involvement we need from Slokan Valley community members. We need committed, involved people willing to "go to the mat" with us in our efforts to retain our 24/7 emergency services, recruit and retain two physicians, improve our valley-wide ambulance service and improve our lab X-ray services among other pressing needs.

Now is the time to put that spirit to use again. We are asking any of you who have had or know anyone else whose life has been saved directly due to our Health Centre emergency department to please email or write the Slokan District Chamber of Commerce detailing the event - date, time and particulars. As part of your letter please give us permission to share your comments. This will aid us in our efforts. (email: chamber@slocanlake.com; mail: P.O. Box 448, New Denver, BC V0G 1S0)

We will not give up our Health Centre or our 24/7 emergency department or our Pavilion. We will not go quietly into the night and simply acquiesce like so many other small BC rural communities have been forced to do over the years. This valley has been known for many years for its spirit of volunteerism and independence and that is one thing that hasn't changed over time.

Ms. Whittleton compliments the Chamber on "that great video." Before the video was produced, we were promised that IHA would post it on their recruitment site (Better Here). The video has been online for three months and still isn't included as part of the New Denver job posting on Better Here - despite our continued requests. At this printing we have been assured the video will soon be or may have already been posted.

Reduction in emergency hours does not guarantee new physicians physically moving to and living in a community nor is it the only model that works in a semi remote rural community. We have to look outside the box and entertain new healthcare delivery models that can still include 24/7 emergency care.

In the April 19 edition of the *Valley Voice* (page 22) Cheryl Whittleton from IHA was quoted in an article promoting IHA's "team approach to health care." Yes, we all agree there are major problems with our health care system and new delivery models will have to be looked at - hence the "Patient Medical Home" concept or basically "a fancy name for the doctor's office" (if you're among the lucky ones to have one, that is).

Ms. Whittleton states: "When the Kaslo Health Centre reduced its emergency room hours, it was able to bring four new physicians to the community." It is my understanding that of the four new physicians, three are actually from Nelson and make the drive to Kaslo. Technically, reduction of Kaslo's emergency room hours may have attracted four new doctors to Kaslo but in fact the majority still live in Nelson and commute.

Largely due to the efforts of Dr. Burkholder the April 1 deadline for reduction of services at our Health Centre has come and gone. The MOCAP agreement due to expire on April 2 has been signed and we also now have a locum pool which will enable us to continue on for a while longer. This has given us some breathing room to try and find the two physicians we so desperately need.

We may "have to face reality" but we're a long way from accepting that 'reality' now. We have a fabulous team in place and have come a long way in eight short months. We are making progress and with IHA's continued cooperation and patience, we remain very confident that we will succeed.

Also, please forward and share our video to anyone and everyone you know and get them to do the same. This video has become our main tool for physician recruitment and it is up to us to spread it far and wide. The link can be found on our Chamber

home page ([slocanlakechamber.com/physicianrecruitment-video/](http://slocanlakechamber.com/physicianrecruitment-video/)).

It is our hope and plan to keep what we have and in the process improve and bring back services that we have lost over the years. Of late we feel that efforts are being made to minimize the effectiveness and need for our local 24/7 emergency service.

We continue to ask for a meeting with the Health Minister and are in touch with his senior staff regularly and we continue to meet with our MLA Katrine Conroy. MLA Conroy has been a tremendous help and we look forward to working with her in the future.

So, please don't think this issue is going away anytime soon. It's up to us as a valley to keep our Health Centre, Pavilion and all of our present health-related services with the long-term view to improving them.

**Colin Moss  
New Denver  
Slocan District Chamber of Commerce  
Health Committee Chair**

## Let there be Peace

For four days I set up in front of the office of BC NDP Minister of Energy, Mines, and Petroleum Resources, Michelle Mungall. I called on her to bring a motion forward to reverse the decision to continue the construction of the Site C Dam, and the destruction of the Peace River Valley. For those four days, over the Earth Day Weekend, I also engaged in a fast.

The logic that the NDP have given is that BC is already in debt, and 'we can't turn back now.' The projected cost to taxpayers is now at \$10.7 billion to create the dam. The projected cost to halt the construction is \$4 billion. The BC Liberals have already created a debt, they say, and therefore, the NDP must push us into even further debt. This is the supposed logic. It's the logic of a credit card company saying you need more debt to get out of debt. Sounds like a trap.

The other costs are clear - members of the Peace River Valley Landowners Association will have their homes flooded in the name of economic expediency. The Prophet River, West Moberly, and Blueberry River First Nations will see their way of life disrupted. Site C Dam is a continuation of the old colonial relationship where a vague notion of 'progress' is used to justify actions that threaten Indigenous ways of life.

And the fish, birds, and other wildlife, already threatened by industry, will find another massive challenge to their continued thriving, in an age when they are already under stress. Those animals are life itself.

My message is simple. Let there be Peace. Let the Peace River be.

The above First Nations have launched lawsuits against Site C. The NDP has an opportunity. They can take a different path, and reverse their decision before court costs begin to ramp up. This is to take a different road, a courageous road of reconciliation. Otherwise, they will be remembered as the party who made the 'difficult decision' to follow

*continued on page 6*

# Kaslo council, May 22: FortisBC 2017 revenues from Kaslo elusive

by Jan McMurray

• The Village, as intervenor in the BC Utilities Commission (BCUC) proceedings on FortisBC's rate design application, has written to BCUC to ask them to review FortisBC's response to the Village's question: "What was the revenue earned by FortisBC in the calendar year 2017 within the Village of Kaslo?" FortisBC has declined to answer the question, claiming that it is out of the scope of the application. The Village believes it is very relevant to the application and includes a chart in the letter to BCUC showing FortisBC's revenues from Kaslo from 2009 to 2016. Over the eight years, revenue from Kaslo has increased by 19.5%. FortisBC revenue figures are provided to the Village and all local governments within its service area in October every year; the Village is simply asking for the information a few months in advance for the benefit of the BCUC process.

• Council agreed to offer a one-season temporary licence of occupation to Shred Central E-Bike Rentals for the remnant parking stall space beside Taqueria El Corazon on Fourth Street for \$375. There were some conditions: that the owner of Taqueria El Corazon formally endorse the proposal; that insurance and indemnification be provided by proponent Jason

Martin; that the licence area does not extend beyond parked car width into the road; renewal for subsequent years depends on council's review of the policy later this year. The consultation requirement in the policy was waived in the interests of expediency.

• The public hearing regarding 429 View Street was held before the regular council meeting. No one showed up to represent the property. Council decided to order the owner/tenant/lessee and occupier of the building to make the site safe and clean, prevent access to the building,

remediate exterior areas of hazardous concrete and girders, remove all hazardous materials, untended fruit trees, and noxious weeds on the property. If the work is not done within 30 days, the CAO is authorized to have the work done and bill the owner or occupier.

• Several motions were brought forward from *in camera* at the May 8 council meeting. The Village will lease a defined area of the Kaslo City Hall to the Province for a five-year term for \$4,500 plus GST per year. A temporary lot consolidation policy was approved. An area of the

airport gravel pit at the west end of the property was leased to Stan Baker Trucking Ltd. for a five-year term for \$3/cubic metre removed. The Village will lease land to the CBC for a five-year term for \$1,500 plus GST per year.

• A SWOT/gap analysis of the Victorian Community Health Centre has been scheduled for June 12 with Interior Health representatives Cheryl Whittleton and Suzanne McCombs, Georgie Humphries, Dr. Smit, Mayor Hewat, and Director Watson.

• The Hale Pump project was

approved at a cost of up to \$20,000 from the Community Works Fund reserve for pump equipment and electrical servicing.

• The CAO was authorized to approve the Kaslo Jazz Etc. Festival 2018 special event permit.

• Kaslo 125 grants of \$500 each were awarded to Kootenay Lake Historical Society and Kaslo Outdoor Recreation and Trails Society for events this season.

• The Site Licence for Columbia Basin Broadband operations in the basement of the Kembell Building was approved for signature.

## Kaslo sewer system plan presented to the public

by Jan McMurray

The Kaslo Liquid Waste Management Plan Stage 3 Open House on May 23 at the Legion filled up with over 40 people for the 6:30 presentation. Immediately afterwards, however, when people wanted to ask questions, several people walked out when facilitator Ed Grifone insisted on the open house format rather than a town hall meeting. By way of explanation, he said the open house format would help to avoid having one or two people monopolize the discussion.

During the Q&A after the presentation, most of the questions were about fairness and costs. Property owners who are serviced by the sewer system now, called Sewer Specified Area #1 (SSA1) property owners, have borne all the costs of the system up to now.

Scott Wallace of TRUE Consulting said that fairness concerns had come up several times over the course of the Liquid Waste Management Plan (LWMP) process, and that he, Grifone, and others involved in the plan would like to have a meeting with SSA1 property owners to focus on their specific questions.

During the presentation, Wallace explained that the LWMP is a three-stage process. Stage one, a general overview, took place in Kaslo in 2012-13. Recommendations from stage two, which happened in 2015-16, were that the collection system be expanded to Lower Kaslo first, and to Upper Kaslo with time. Stage 3 is the implementation plan with financing guidelines.

Wallace said there is no defined timeline for the plan. Once it is approved by the Province, the Village can go ahead without holding a vote on it. However, the costs are prohibitive. The maximum Village borrowing for the sewer system is limited to \$1.5 million. The plan says the Village will try to limit borrowing to 33% of the project costs for projects over \$250,000.

Both in the presentation and in the Q&A, Wallace explained the costs as

proposed in the Stage 3 Report.

Sewer system operating costs would be paid via user fees by those connected to the system.

The capital costs to lay the pipes to expand the collection system would be paid for by property owners in the new service areas via property taxes. Whether a property owner is connected to the sewer system or not, as long as the pipe runs past the property, the owner will pay for the cost of laying the pipes.

A reserve fund would be established to pay for replacement of this infrastructure in the future and to offset the costs of future treatment plant upgrades. Those in the SSAs would for sure pay into the reserve fund via property taxes, and there is discussion about having all Kaslo residents pay into the reserve fund specifically for the treatment plant, as the treatment plant arguably benefits the

## Columbia River Treaty – join the discussion in Argenta

submitted

All are invited to join the Friends of the Lardeau River advocacy society and renowned author Eileen Delehanty Pearkes for a presentation on the history of the Columbia River Treaty. Gain an understanding of its basic principles and join some discussion around the potential for a re-negotiated treaty to address the losses.

'Healing the Columbia River Basin: how can the re-negotiation process benefit local ecosystems?' takes place Saturday, June 9 at 7 pm at the Argenta Hall.

In 1964, the US and Canada entered into a joint agreement to manage the flood control and hydro-electric efficiencies of the upper Columbia Basin. This agreement brought a great deal of prosperity to the Pacific Northwest, and catastrophic ecological and cultural loss to the Canadian Columbia Basin region.

Residents in the immediate area of the Duncan Dam have said they would love to see the dam completely decommissioned and the reservoir restored to the rich wildlife habitat it once was. In light of the Columbia Basin Treaty, of course, no foreseeable future features such a reversal.

As a result, creative ways to mitigate the dam's negative impacts have also been discussed over the years by those living in the area. For instance, to increase regional hydro electrical production – and, possibly, reduce consumer costs – the Duncan Dam's discharge should be used to create electricity, rather than just to manage

the entire community. To partially address the fairness issue to SSA1 owners, a \$1,000 contribution to the reserve fund would be required by all those who connect to the system. This way, new people on the system 'catch up' with the SSA1 owners.

Properties that are exempt from taxation in the SSAs would pay their share of the capital costs of expanding the system as well as annual operating costs, and would pay into the reserve fund via 'payments in lieu of taxation.'

The Stage 3 Report also proposes a \$25 per year property tax for all property owners in Kaslo for sewage education and monitoring.

The Village recently received a \$910,000 from the federal gas tax fund to expand the sewer collection system to approximately 60 properties in Lower Kaslo. The grant will pay 100% of the cost of laying pipe in the ground along

flow. Another idea is to mitigate the dam's almost complete obstruction of fish-bearing waters; its operators and government should be actively exploring innovative proposals to enhance fish movement over or through the dam.

Other suggestions have focussed on the legislative framework which allows negative impacts to arise from structures such as the dam. One line of thought calls upon legislators to develop and entrench far more rigorous fish and wildlife habitat protection regulations in order to truly protect the interests of those who will live in the dam's impact-

the lane which runs from the Royal Canadian Legion to the Village of Kaslo campground, to service properties between A Avenue, B Avenue, 2nd Street, and 5th Street. These 60 properties will be in SSA2. All SSA2 property owners will pay into the reserve fund – the same amount as SSA1 property owners pay. Those SSA2 owners who connect to the system will pay the same user fee as SSA1 owners, as well as the \$1,000 contribution to the reserve fund to 'catch up' with SSA1 owners, and will pay a connection fee to the Village. SSA2 owners are lucky that the grant will pay for 100% of the construction costs. Without the grant, they would pay \$925 per year over 25 years or \$15,000 per property.

For more information on Kaslo's LWMP, including the Stage 3 Report, visit the Village of Kaslo website.

shadow for perpetuity.

Another line of thinking wonders about having a hard look at the terms of the treaty itself.

Please participate in this fascinating and critically important discussion.

• After two decades of research, travel and writing about the Canadian portion of the Columbia River Basin, Pearkes speaks with knowledgeable enthusiasm. She brings energy and love to discussions about how to care for the rivers and lakes of this landscape. The Friends of the Lardeau River are delighted to welcome her to the valley.

## Smash hit returns to Langham

submitted

After a very successful debut in April, a musical drama about a young Jewish woman who challenges the status quo is returning to The Langham.

The creation of *An Unconventional Life* began when local soprano Noémi Kiss decided it was time to make her dream, of singing the songs from the movie *Yentl*, come true. She asked Kaslo thespian Lynn van Deursen to "write something theatrical" to showcase

the songs and tell the story, then asked Nelson pianist Judy Runions to transpose the orchestral score and accompany her.

As if speaking to a graduating class, van Deursen and Kiss bring to life the tale of an unconventional young woman and her passionate pursuit of education. Don't miss this moving and engaging show, June 8 at 7:30 pm in the Langham.

Tickets are \$15, available at Sunnyside Naturals and Willow Home Gallery in Kaslo. [www.thelangham.ca](http://www.thelangham.ca)



Lynn van Deursen and Noémi Kiss return to the Langham with *An Unconventional Life*

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## APPENDIX E

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### Public Engagement – Responses

# Village of Kaslo

Incorporated 1893

2017.08.08

LWMP

Mr. A Shadrack and Ms. G. Bauman  
Box 484  
Kaslo, BC  
V0G 1M0

Dear Mr. Shadrack and Ms. Bauman,

**Letter dated July 26<sup>th</sup> 2017 regarding the Liquid Waste Management Plan**

Thank you for your recent letter. Some of the questions are a little pre-emptive as the open house marked the start of the LWMP process for Stage 3 rather than the end, but I will address each point you raise:

**Questions 1,3 and 4:** the Steering Committee will discuss passing these questions along to Interior Health and Ministry of Environment. To the Village's knowledge, IHA has not sampled the public beach in Kaslo for a number of years, but we will try and confirm that.

**Question 2:** Differential testing has not been completed for storm vs community sewage outfall vs private septic systems seepage.

**Questions 5 and 6:** Affordable housing planning issues won't be addressed by the LWMP, that would be a matter for the Official Community Plan and zoning regulations thereafter. As you are likely aware, the existing OCP already supports residential infill as the shortage of affordable homes has been with Kaslo for some time, but policies can only do so much without the availability of sewer collection to service smaller developable (or re-developable) lots. For the proponent (of larger properties) sufficiently capitalized to fund package septic plants or other septic solutions, there are few impediments to affordable housing initiatives at this time in terms of planning regulation. If anything, affordable housing "tiny home" proponents have correctly identified the current BC Building Code as their primary constraint to niche small builds on small lots, with or without sewer collection. Whether these "tiny homes" are a panacea in an open property market is another question entirely.

The purpose of Stage 3 is to largely lay out estimated costs in the event of sewer collection expansion. I cannot pre-judge the outcome, but it seems very unlikely that sewer collection expansion can go forward on any scale if based solely on the local tax and user base for financing and operation. Capital grants or other infusions of capital investment would almost certainly be required to make expansion consistently affordable over a series of phases.

**Question 7:** This question will be addressed in the Stage 3 report. The report by Fred Banham Associates last year provides some insight into how this might go forward. The office will happily provide you with a copy.

**Question 8:** True Consulting have described in general terms the impact of community sewer on the ability to redevelop properties. It is difficult to forecast the likelihood of future development density changes resulting from community sewer – this will be driven by market conditions and available capital. What could

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be argued is that smaller lot access to community sewer may yield faster redevelopment of existing improvements or bare land simply because of the smaller scale capital investments required.

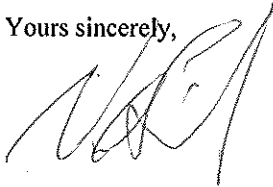
Reading between the lines, I sense that there may be some concern around gentrification of smaller lot properties without some appropriate policies and regulation to ensure that affordable housing is addressed or maintained for low income residents and working families – that discussion has to be addressed in the Official Community Plan context, but it can certainly be raised within the LWMP document (e.g. a commitment to develop some new policies and regulations within a timeframe, for example).

**Questions 9 and 10:** the LWMP has not looked at the heritage property question as posed. The Village currently has a heritage Development Permit Area (DPA) that offers some protection to commercial building facades. One building within the area, the Kemball Memorial Centre, has a heritage designation bylaw placed on it, again protecting the exterior heritage values only. Properties on community heritage registers are not significantly protected from capital works or redevelopment by owners or the public sector. New builds within the DPA/collection area could result, if commercial, in facades that are within form and character guidelines. No changes to heritage form and character policies would be envisioned or considered necessary at present.

Affordable housing policies as described in your letter are best addressed through the Official Community Plan first and then through derivative zoning regulation. There are a variety of tools that can achieve progress on a variety of scales.

I that hope my response if sufficient for the time being.

Yours sincerely,



Neil Smith, MCIP, RPP  
Chief Administrative Officer

Cc: Scott Wallace, True Consulting  
Ed Grifone, CTQ Consultants



# Kaslo LWMP Stage 3: Frequently Asked Questions

Date: June 21, 2018

The following information has been compiled based on questions and comments received from the public at and subsequent to the Liquid Waste Management Plan (LWMP) Stage 3 Open House conducted on May 23, 2018.

## Consultation

### **1. When will there be a town hall style meeting?**

A town hall style meeting is not planned. Since the inception of the Stage One LWMP, the Village has completed a number of other forms of public consultation, including:

- Information mail-out to all post box holders within the Village,
- Press releases to local newspapers,
- Booth and discussion at Farmer's Market,
- Display boards and discussion in front of the Village office on a festival weekend,
- Online questionnaire / comment form,
- Online presence (website and Facebook)
- Open House events (four to date),
- Public comments and feedback via email,
- Advisory Committee meetings (seven to date).

The SSA#1 user group have also supplied a response package for review by the Village. This is being dealt with through municipal committee and LWMP processes – including responses within this FAQ, and a planned 'focus group meeting' with SSA#1 owners.

## Justification for LWMP

### **2. What is the documented justification to support this use of tax payers hard earned money, and where can it be accessed?**

The LWMP approach was initiated in 2012 largely in response to dissatisfaction with ad hoc sewer expansions and unclear bylaw interpretations for new and existing users – the goal was to have a clear plan for the community where one did not currently exist. This LWMP should not be interpreted as a definitive capital works and borrowing plan; the nature of the LWMP recommendations provide guidance for existing and future Councils.

The primary justification for the sewer expansion discussed within the LWMP is to support future housing densification and redevelopment described in the Village of Kaslo Official Community Plan. Challenges replacing currently installed septic systems on small properties and potential negative environmental impacts associated with the large number of septic fields are secondary considerations.



**3. If the sewer expansion described in the LWMP is to address a specific identified problem(s), what other alternative solutions have been considered, and costed out?**

Stage One of the LWMP considered 'big picture' alternatives of 'status quo' vs 'sewering expansion'. Stage Two of the LWMP considered alternative treatment systems and treatment locations to accommodate a sewer expansion. Stage Three of the LWMP considers specific costs associated with incremental sewer expansion, and 'triggers' for sewer expansion.

## Housing and Future Development

**4. What is the density of housing in SSA#1 versus the remainder of lower Kaslo and how is that likely to change if sewage treatment is extended to all of lower Kaslo?**

Parcel sizes in the SSA#1 area were historically too small to accommodate functional septic treatment systems, which led the Ministry of Environment and Interior Health to promote and support the creation of the community sewer constructed in 1998. The lower Kaslo parcel sizes in relation to minimum parcel sizes required for septic systems by the Village Bylaw and the RDCK bylaw (for comparison) are shown by Figures 4.4.2 and 4.4.3 of the Stage One LWMP. The Official Community Plan notes that Council will allow all existing single family or duplex houses to develop a secondary suite or carriage house subject to septic or sewer system requirements being met.

## Environment

**5. What is the current faecal coliform count at the public beach, in the bay area and along the foreshore between lighthouse point and the mouth of the river? What is the current rate of per capita waterborne illness that can be attributed to the non-specified area of lower Kaslo not having sewage treatment?**

Environmental water quality data has not been collected by the Village or the health authorities. Water borne illness data does not exist. The Stage Three LWMP (section 7.4.2) proposes a community-wide tax to create a funding stream for ongoing public education, monitoring, and documentation of wastewater treatment performance.

## Infrastructure and Treatment Capacity

**6. With what "peak capacity load" (m<sup>3</sup> per day) has the treatment plant dealt?**

Typical flows in winter months are around 75 m<sup>3</sup>/day. The peak flows occur in the summer months. Flows rise to an average of around 150m<sup>3</sup>/d during summer months, and there are commonly spikes up to around 200m<sup>3</sup>/d on festival weekends. This includes waste from the sani-dump and the emptying of portable toilets on those weekends. Different aspects of the plant's capacity relate to flow and/or organic and solids load. The plant was originally designed on the basis of an average flow of 340m<sup>3</sup>/d, biochemical oxygen demand (organic load) of 200 mg/L and suspended solids of 200 mg/L.

The baseline organic load on the plant has increased since the Stage Two report was written with the opening of the local brewery. Limited sampling of wastewater from the brewery has been measured to

be approximately thirty times the organic strength of domestic waste. That sample result is not uncommon for a brewery. The effluent quantity and strength is very dependant on beer production and how that process is managed. In order to facilitate the expansion of the sewer system, high strength wastewater should be pre-treated to a concentration close to that of domestic waste before discharge to the community sewer. Flow metering of potable water and the waste stream should also be considered as described in section 7.6.2 of the Stage Three LWMP. User fees for excess wastewater strength are discussed in section 7.6.4 of the Stage Three LWMP.

**7. How will the Village address the issue of future capacity needed for major short-term events?**

The peak flows and loads from events are being mitigated by projects such as the holding tank situated in Kaslo Bay. The phase one treatment plant upgrade proposed in the LWMP will also improve the ability to deal with waste from short-term events. If the phase two treatment plant upgrade is completed, then the Village will also have the ability to reallocate the existing emergency storage for use as balancing storage for peak flows.

**8. Has a holding tank been situated in the Kaslo Bay area? And if so, at what cost and who paid? What's the Leko toilet project in Kaslo Bay Park?**

A prefabricated concrete toilet structure with a holding tank has been installed in Kaslo Bay to reduce reliance on portable toilets and to reduce the peak load on the Village's wastewater treatment plant from portable toilet waste disposal by the porta-potty contractor. The project was paid for by a non-profit society and the Village from its share of RDCK Community Development Program Funds. From the perspective of the utility's operation, this was a wholly beneficial project.

**9. Are there any upgrades to the current sewage plant required to manage the additional waste? If yes, what are they, and what will the cost be, is it costed out/included in the current plan?**

The upgrades required to treat additional wastewater are described in detail in the Stage Two LWMP and costs are summarized in Section 4.3.1 of the Stage Three LWMP.

## [Connection to the Community Sewer System](#)

**10. When will I be able to connect to the sewer system? Is an Application needed?**

The Village has recently received infrastructure grant funding approval to construct a sewer expansion to service 60 properties in lower Kaslo. Under the terms of the grant, the construction of the new sewer for the expanded service area must be completed by the end of 2019. Letters will be sent to the residents at the project outset to provide additional information. Property owners will need to request a connection from the Village using the Village application form. Once the system is available, billing will be based on the status of their sewer connection (connected, unconnected, residential, commercial, etc). Timing of connection will be dependent on progress with the LWMP as it will shape how the utility bylaws are subsequently developed.

**11. Will sewer connection be mandatory? Is there a deadline for connection?**

The Village's current sewage regulation bylaw provides the ability for the Village to require sewer connections. However, that does not mean sewer connections are mandatory. It has not been the

Village's approach to require connections. A mandatory connection would be at the discretion of the Village, and could be required in an instance of a recognized environmental or public health hazard. There is currently no planned deadline for connection. Connection to the system would not be mandatory, but properties within a service area will be required to pay parcel taxes and some form of nominal user fee.

**12. If a resident presents a case of having an existing equivalent, or higher quality waste management facility in place, than the one the Village has currently installed, will the resident be allowed to not connect, and not have to pay the Kaslo Village waste management fees?**

The level of treatment achieved by an on-site septic system has not been considered as a reason not to connect as the primary justification for future sewer expansions is housing densification and redevelopment. If the sewer system is expanded, all properties within the expansion area will be included in the bylaws governing that expansion area – regardless of whether those properties connect to the sewer system. This means that properties in the sewered areas would pay any taxes associated with construction and reserve funding for the sewer expansion. Those properties would also be subject to the annual sewer user fees to operate the sewer system. The current example user fee structure in the Stage Three LWMP (Table 7-5) shows an annual user fee of \$50 for properties choosing not to connect to sewer, and \$425/year for residential properties that do connect to sewer.

**13. The "Grant" will pay for the pipes in the lane. Who pays to lay the pipe from my house to the lane? How much will that cost?**

The cost of sewer installation on private property is the responsibility of the property owner. The cost will vary from one property to the next depending on length and depth of pipe from the house to the lane, and whether there are obstacles in the way (sheds, trees, fences, etc). Quotations have not been sought for this work in Kaslo but a 'typical' installations may cost in the range of \$2,500 to \$7,500.

**14. My property is immediately adjacent to an existing sewer pipe. Is my property part of the "proposed expansion area"?**

As described in sections 7. 1 and 7.6.2 of the Stage Three LWMP, sewer expansion areas should be uniform (no 'holes' or 'gaps'); existing 'holes' and 'gaps' should be made part of the sewer areas going forward. The initial proposed sewer expansion in lower Kaslo is intended incorporate one of those 'gaps' on the 300 block of 'A' Avenue.

Property owners within reasonable reach of the collection system but outside of the service area, are always free to approach the Village and discuss what could be possible, subject to service area amendments and fees. Under the current moratorium on new connections, these discussions have been challenging.

**15. Once we are hooked up to the Sewer System, what are we required to do to deal with the, then unused, Septic Tank and related field? Is there a set of prescribed procedures for dealing with this from the Ministry of Environment or is the municipality in charge of looking after this?**

The solids and liquids will be required to be removed from the tank by a septic tank servicing contractor. The tank will then need to be removed and disposed of to an approved disposal location; or be filled with clean sand, gravel or other material acceptable to the Village – as described in the Village's existing

sewage regulation bylaw. An out-of-service disposal field may be left in place if there are no plans to use the area for other purposes, at the discretion of the property owner.

**16. Will the building owner/homeowner be allowed to have a capped stub installed at their structure, at the time of sewer line installation, to which they may choose to connect to at some future date? If that is allowed will the cost of the stub be the same as the connection fee? If it is some other fee what will that be?**

When a sewer expansion occurs, the Village will install a sewer lateral (service) to the property boundary of each 'folio' in the service area. Those costs would be included in service area taxes to construct the sewer expansion. The property owner can then connect to the new service. The Village will install an 'inspection port' at the boundary which allows the Village to open the connection when it is completed and approved. If a property owner subdivides their property in the future, they would need to apply for a new sewer service (lateral) to the new property line at that time. The Village's current sewage regulation bylaw notes connection fees for new services are at 'actual cost to the Village'.

## Bylaws

**17. Why are new Sewer Bylaws being written? What will change?**

The bylaws will be changed to bring them more in-line with current municipal practices throughout the province, to make them easier to administer, and to allow for the expansion of the sewer system. The bylaws must change to some measure so that they reflect current local government legislation around local service taxes and user fees. They must also be amended so that appropriate new connection and other fees can be charged as the sewer area changes. The Village will establish new sewer bylaws as follows;

- A Local Service parcel tax bylaw to continue to contribute to the current SSA-1 'Sewer Reserve' fund, to collect monies for major repairs, upgrading and future replacement of the SSA-1 sewage collection system.
- A Local Service parcel tax bylaw which would apply to each sewer area as expansions occur (ie. SSA-1, SSA-2, SSA-3, etc) to collect monies for major repairs, upgrading, and future renewal of the sewage treatment plant.
- Additional new Local Service parcel tax bylaws when needed to borrow funds for the capital construction of sewage collection system expansions (ie. SSA-2, SSA-3). These bylaws could also collect monies for major repairs, upgrading and future replacement of each sewage collection system expansion.
- A new bylaw to authorize User Fees based on the type of use, i.e. residential, commercial, light industrial. This new User Fee bylaw would be applied to all sewer service areas including SSA-1, SSA-2, SSA-3, etc. and would be used to pay for operating and maintenance costs associated with the community sewer system (sewage collection and treatment).
- A Village-wide sewage education and monitoring tax to collection monies for public education, monitoring, and documentation of wastewater treatment performance.

## Billing

### **18. How much will my Annual Sewer Operating Utility bill be in the future?**

The exact amount of the 'operating utility bill' (ie. User fees) is dependant on the actual Village operating expenses and the number of sewer tax payers. If the sewer service area is expanded the operating costs per user will generally decrease. Section 7.6 of the Stage 3 LWMP describes how operating costs would be expected to change if the system were to be expanded.

### **19. On what criterion would a Treatment Plant Capacity Fee or Development Cost Charge be determined?**

The basis for the proposed capital charge for treatment capacity is described in Section 7.5 of the Stage Three LWMP.

### **20. Will SSA #2 Member-Owners and/or Member-Owners in an expanded SSA #1 pay a Treatment Plant Capacity Fee upon connection?**

Yes; a \$1,000 'Capital Charge' has been described in Section 7.5.2 of the draft Stage Three LWMP. This is an option to assist with equitable transition based on the depreciated value of the existing plant and the contributions paid by SSA#1 residents.

### **21. When is the capacity fee payable? Are financing or payment terms available?**

The capital charge for treatment capacity would be payable when a property connects to the Village sewer. Financing or payment terms will be determined by the Village in the future when bylaws are created.

### **22. Why is contributing to a Reserve Fund necessary? How much will that cost each year?**

Renewal reserve funding is discussed in Section 7.5 of the Stage 3 LWMP. Funds would be collected and set aside for the repair / replacement of infrastructure. This has not been done in the past, which can make major repairs and replacement very difficult to undertake in a timely manner. As an example, the Village was fortunate to obtain an 83% grant for the recent replacement of the wastewater treatment plant's RBC rotor as this would have otherwise resulted in a significant unexpected expense to SSA#1 residents. Renewal reserve funding amounts will change with time, as the Village continues to gather additional information on the condition and anticipated repairs. Initially, renewal reserve funding costs are proposed to be \$150/year and applied to properties within sewered areas.

### **23. If your Property Tax Bill is not paid there are consequences. What are the consequences if your Annual Sewer Operating Utility bill is not paid?**

The consequences would be the same, as both are municipal taxes.

### **24. If a single folio has a primary residence and a rental suite in the basement what is the affect on the sewer service charges, given that there remains only one hookup from the building?**

User fees would be defined by the Village's bylaw. The current sewer regulation bylaw treats rental suites as being equivalent (in addition to) the primary residence for calculation user fees. In Table 7-5 of

the Stage Three LWMP, an example user fee structure shows a rate structure for short term rental accommodations but does not describe an additional or separate rate for long term rentals.

The LWMP does not contain precise final versions of municipal bylaws in terms of approach or numbers. Council must, however, follow the guidelines of the Stage 3 plan in order to borrow for capital or write new bylaws without further consultation or referenda.

**25. What is the range of total current local government fees and taxes in the specified sewer area versus the non-specified sewer area, and how are those fees and taxes likely to change if sewage treatment is extended to all of lower Kaslo?**

Properties within the specified sewer area pay additional user fees and parcel taxes to those outside of the service area. Each property within the specified area pays different user fees and parcel taxes dependent on property frontage and use. If the sewer area expands, annual sewer user fees will generally decrease for those on the sewer system. Regardless of the approach going forward, this would likely be replicated in one form or another. It is arguably likely that properties on sewer are assessed at greater values for both taxation and sale given their access to the utility and the comparative advantage enjoyed.

## SSA#1 Fairness

**26. How will the cost apportionment be fair to SSA#1 residents who paid for the construction of the existing sewer system?**

Section 7.5.1 and 7.5.2 of the draft Stage Three LWMP discuss allocation of construction costs. Section 7.5.2 also discusses options for the allocation of treatment costs with the objective of balancing the interests of the SSA#1 users with new users and overall community goals. The LWMP cost apportionment is intended to balance these interests through:

- A common annual operating user fee structure applied equally across all sewered areas
- A common reserve funding tax structure applied equally across all sewered areas
- A construction cost recovery structure applied to those who benefit from the construction
- A \$1000 capital charge for all new services (payable at the time of connection), with payment transferred into the reserve fund for the currently unused treatment plant capacity.

The following ideas are not currently incorporated into the LWMP; however, representatives of SSA#1 have expressed support for other options for dealing with treatment capacity 'fairness' including:

- The annual treatment capital charge for properties outside of SSA#1 should be increased to match the total costs paid by SSA#1 members, converted to 2018 dollars. This would range from ~\$5300 for a 40' frontage, up to ~\$9000 for a 100' frontage.
- If the capital charge is the proposed \$1000, then SSA#1 properties should be exempt from costs for phase one treatment plant expansions.

**27. Will SSA#1 Member-Owners be expected to pay for capacity upgrades to the Sewage Treatment Plant in the future?**

Yes - the LWMP currently proposes that SSA#1 properties contribute to the cost of all future treatment upgrades on the basis that future improvements are anticipated to not strictly be capacity related, but will likely also include operational improvements and updates to treatment technology.

**28. There is a concern that there are far too many properties exempt from some or all charges related to the sewer system. Given this reality please explain how these exempted properties are going to have their share covered without unduly burdening those that are paying with having to cover the exempted properties share. What information will the Stage 3 LWMP Report include concerning "User Pay" in a Specified Area system and the payment of Annual Operating and Local Service Area Taxes for:**

- Municipal properties within the specified area
- Provincial & Federal property-tax exempt properties within the specified area
- Properties within the specified area granted Permissive Tax Exemptions

As described in section 7.3 of the Stage Three LWMP, where properties are exempt from taxation, it is recommended that 'payments in lieu of taxes' are made to cover the full costs of debt and operations equal to any other property owner within the sewered area. In the case of Village-owned properties, those 'payments in lieu of taxes' would be made from general Village-wide taxation revenues. As described in the *Sewer Servicing Cost Recovery Structure* (2016, Fred Banham & Associates), this should be done so that true costs of municipal facilities are shared by the entire community who benefits and so that the municipalities' sewage usage costs are not born only by the specified sewer area properties.

**29. What information will the Stage 3 LWMP Report include regarding:**

- **Contractor/third party bulk disposal of septic waste**
- **In-house bulk disposal of septic waste**
- **Disposal of RV Tanks & Kaslo Municipal Campground users septic waste**

As described in the Village's sewer regulation bylaw, the Village's wastewater treatment plant does not accept general septage from local septic tanks. Local septic haulers typically transport this waste to Nelson for disposal at the Nelson wastewater treatment plant.

The cost of RV waste disposal is built into the municipal campground fees. The campground has paid an annual fee to the wastewater system since 2010.

**30. When SSA #1 vacant properties are developed or re-developed (usage increased), will a Treatment Plant Capacity Fee or Development Cost Charges be charged? Why is this not more specifically addressed in the Stage 3 draft report?**

The current recommendation is to apply a capital charge (ie. treatment plant capacity fee) to all future sewer connections regardless of the location in the Village. Section 7.5.2 of the Stage Three LWMP describes options to assist with an equitable transition to an expanded sewer area.

The concept of Development Cost Charges is discussed in section 7.4.3 of the Stage Three LWMP. They are typically used to gather capital to put towards a defined project providing benefit to a defined area, and are most useful when significant and sustained development is expected. When existing SSA#1 was

created, a treatment capacity estimate was developed by the original designers inclusive of an expected level of development. The treatment plant was constructed with capacity for that defined level of development. That development has not fully occurred, which is why the sewage flows are ~ 60% of the treatment capacity on peak days.

END OF DOCUMENT



# Kaslo LWMP Stage 3:

## SSA#1 Questions and Concerns

Date: July 13, 2018

The following information is compiled in response to the 'SSA#1 Response Package' submitted on June 8, 2018 by owners from within SSA#1.

### Issue #1 – Fairness given the fully allocated WWTP capacity

#### **1. How will the Stage 3 LWMP Report address the challenge of fairness to existing properties in the specified area who have contributed to the system capacity for the past 20 years?**

Section 7.5.1 and 7.5.2 of the draft Stage Three LWMP discuss allocation of future construction costs. Section 7.5.2 also discusses options for the allocation of treatment costs with the objective of balancing the interests of the SSA#1 users with new users and overall community goals. The LWMP cost apportionment is intended to balance these interests through:

- A common annual operating user fee structure applied equally across all sewered areas
- A common reserve funding tax structure applied equally across all sewered areas
- A construction cost recovery structure applied to those who benefit from the construction. Sewermain construction would be paid for by properties adjacent to the pipe, and treatment plant upgrades would be paid for by all sewered areas.
- Separate from regular connection fees, a \$1000 capital charge for all new services (payable at the time of connection), with payment transferred into the reserve fund for use of / access to the wastewater treatment plant.

Feedback received at and subsequent to the Open House generally noted that the \$1000 capital charge (which is based on an estimate of the current value of the unused treatment capacity, applied against an allowance for all future sewer connections) is felt to be inadequate. Village Council agree that a charge in the range of \$5000 may be more appropriate to pay for the cost of treatment without discouraging connections. The Village has flexibility to review or revise this charge amount and method of charging (flat rate, land use, frontage, etc) with future 'Fees and Charges' bylaw updates.

The following ideas are not currently incorporated into the LWMP:

- ***The annual treatment capital charge for properties outside of SSA#1 should be increased to match the total costs paid by SSA#1 members, converted to 2018 dollars. This would range from ~\$5300 for a 40' frontage, up to ~\$9000 for a 100' frontage.***

TRUE comment: The premise behind this idea could be explored further. There are difficulties associated with it:

- Dollars paid include construction of sewer pipes, which should not be included in the calculation since the premise behind the current LWMP funding format is that individual sewer areas will pay for their own sewer pipes separate from this capital charge. The

- original cost of constructing the sewer pipes is not known, but could be 50% of the amounts calculated.
- Dollars paid include a 'cost of errors'. It is not clear if these are the same 'errors' identified in the Fred Banham Associates report; that report identified and recommended a separate strategy (being advanced by the Village) to provide a cost relief to SSA#1 with consideration given to the 'cost of errors'.
  - Dollars paid does not take into account the fact that the SSA#1 owners have had the direct benefit of using the sewer system for the past 20 years, where future owners have not. Charging the same to future owners who connect to the sewer system (without the past user benefit) appears to be 'unfair' to those future owners.
  - Dollars paid for original construction was a project which received 75% grant funding, so the costs are not directly related to the actual treatment value.

Staff comment: Ministry advice has been consistent that a municipality cannot charge different rates for property owners within the same local service area. The only reason to charge different rates (and create separate service areas) is if there is a question of differential capital debt:

- If Council chooses to protect existing users from the capital costs of expanding to new users, the one understood option would be to create a new local service area for only the new area that the sewer service will be expanded into. This would charge only the new properties for the capital costs of the infrastructure required to connect these properties to the sewer system.
- Alternatively, the existing sewer local service area can be expanded to include all the properties that will eventually receive sewer service and these new properties will then pay tax and contribute toward the sewer reserve funds for replacement/repair of existing works (treatment plant etc.) . As these properties are hooked up to the sewer system, they will start to pay the user fees established in bylaw. The boundary of the service area is therefore amended with each expansion.

Ministry advice on connection fees has also been consistent and clear. Connection fees are based on the actual costs of connecting a property to the service and cannot be used as a 'buy in' fee to pay for capital infrastructure that has already been built. Separate local service areas can be established for the new properties in which the costs of the infrastructure required to join these properties to the system will be recovered from these properties only and not existing users. The service area that holds the WWTP can 'charge out' to a collection service area for a share of capital costs, depreciation and debt **going forward**, this ideally taking the form of a proportion of the collection service area's local service/ parcel tax.

- ***If the capital charge is the proposed \$1000, then SSA#1 properties should be exempt from costs for phase one treatment plant expansions.***

TRUE comment: The future treatment plant expansions described in the LWMP are very conceptual. The timing and need for specific components is not certain. Future effluent discharge requirements are subject to change, which would impact treatment needs. Allocation of benefit for the future treatment upgrades will be very difficult to determine, and as such,

exempting properties from the costs in advance of knowing what those costs would include could end up being unfair to other users.

Staff comment: This position assumes that existing undeveloped and underdeveloped properties that could be subdivided or densified (within SSA#1) beyond existing zoning and permitted uses might not benefit from phase one treatment plant expansion. A treatment expansion project would almost certainly include components that improve overall plant operation, safety and original asset replacement. New commercial or light industrial activities within SSA#1 cannot be ruled out and such developments can and will impact overall WWTP capacity. The key is arguably to build reserves to the point that phase one treatment expansion, with grant aid, will not be particularly painful to the taxpayer. That latter element is a primary goal of executing this process.

## Issue #1a – Fairness given the fully allocated WWTP

- 2. To mandate the inclusion of properties adjacent to existing sewer mains into SSA#1 (which are currently not in SSA#1) is not an equitable apportionment of costs to existing users. Will these properties be considered a part of the proposed expansion area?**

TRUE comment: The LWMP is not ‘mandating’ that they be made part of SSA#1, it is ‘recommending’ that they be made part of SSA#1. This recommendation is made on the basis that those properties could connect to the SSA#1 sewer pipe, and as such, should pay into the same sewage collection reserve fund as the rest of the properties that use the same pipe. There is also some benefit in keeping service area boundaries uniform, and simpler to administer.

Staff Comment: A Liquid Waste Management Plan is a financial framework for a Council to follow. It will not contain draft bylaws or absolutely firm numbers that could potentially fetter the discretion of future Councils with their financial planning. Bylaws and confirmed local service taxes, fees and regulations **will follow** an approved LWMP.

A LWMP is not a statutory document to stipulate precisely how or when a municipality goes forward. It is an advisory framework that must be followed if the Council (a) wants to borrow for a related project without elector assent (b) wants to expand/change/ create new related service areas without elector consent and (c) successfully attract major capital grant aid from senior government. Council can choose not to follow the plan, change the plan or take no action at all.

There is no reason to create a new service area for the first expansion area as the Strategic Funds project will carry no capital debt. There is no reasonable rationale for charging them differently from SSA#1 as a consequence.

**3. For those properties between JV Humphries school and the hospital, will it be necessary to disturb and replace the sidewalks? Has this cost been considered?**

TRUE comment: That level of detail is well beyond the scope of a LWMP. Also, those properties are not proposed to be sewerred as a component of the next proposed sewerred expansion – so those costs are not included as a part of the upcoming project.

Staff comment: This is outside the scope of the LWMP. While it can be argued that these properties should potentially have been added to the existing service area at the same time as the hospital, they are not currently in the service area so are not benefitting from that adjacency at present. While there could be an argument that they could be added to SSA#1 going forward, significant consultation with Council and that neighbourhood would be recommended.

## Issue #2 – Fairness given a Specified Area System

**4. It is recommended that payments in lieu of taxes are made to cover the full costs of debt and operations equal to any other property owner within the sewerred areas. (Stage 3 draft report, page 21). Will the ‘recommendation’ above be changed to be stated as: ‘Payments in lieu of taxes’ will be made to cover the full costs of debt and operations equal to any other property owner within the sewerred areas.**

TRUE comment: A community’s approach to ‘payments in lieu of taxes’ are typically defined within a community’s financial plan bylaw.

Staff comment: The PILT approach, with a policy explaining it, is favoured by staff for Village properties within the service areas. A policy will provide the desired transparency around municipal contributions within the service area(s). It has been established since the Banham Report (2016) that the replacement bylaws and policies flowing out of this process must address corporate municipal contributions for user fees and parcel taxes at the same or greater rates (greater being the external ‘public good’ of the WWTP question). This will not be developed for the LWMP, however.

## Issue #3 – Fairness given 3<sup>rd</sup> Party Users and Plant Capacity

*The LWMP is incomplete without addressing the issue of 3<sup>rd</sup> party users.*

- 5. How will the Village address the issue of future capacity needed for major short-term events?**
- 6. With what ‘peak capacity load’ (m3/day) has the treatment plant dealt?**
- 7. What fee was charged and who paid for the disposal of Mays Days 2018 portable toilet discharge into the sewer system?**
- 8. Has a holding tank been situated in Kaslo Bay? And if so, at what cost and who paid?**
- 9. What’s the Leko toilet project in Kaslo Bay Park?**
- 10. On what basis was the fee of 20 cents per gallon in Schedule D of VoK Bylaw 1211 determined? This fee was last amended in 2015. When and how will this fee be reviewed?**

TRUE comment: Some of the questions above are answered in Stages 1 and 2 of the LWMP. Further details are provided in the June 21 ‘Frequently Asked Questions’ document, which is attached. Other questions relate to the Village’s ‘fees and charges’ bylaw(s), which is outside of the scope of the LWMP.

The LWMP could include more information on '3<sup>rd</sup> party users' and potential effects on the treatment plant capacity.

Staff comment: Fees are set by Council, usually upon the recommendation of staff. The Village administrator or Council approves access to the WWTP facility on a case by case basis for septic disposal. The operators are relied upon to provide advice with respect to the viability before and during such activity. Council and staff are all aware that MoE permits cannot be exceeded for septic bulk disposal, no matter how badly a major event organization needs to use the facility for said disposal.

The 'public good' debate around the WWTP was one reason why Fred Banham Associates (2016) recommended the community-wide environmental levy.

Fee bylaws, policies and their enforcement is not within the scope of the LWMP.

## Issue #4 – Reserve Fund

It is recommended that properties within collection areas with no capital debt outstanding continue to pay an annual parcel tax, remitted to that collection area's sewer capital reserve fund. (Stage 3 draft report page 24).

- 11. Will the recommendation above be amended to read: "It is recommended that properties within collection areas with or without capital debt outstanding continue to pay an annual parcel tax"?**

TRUE comment: That sentence should be read in its wider context and is misleading on its own. The paragraph as a whole describes the full issue. In addition, Section 7.5 and 7.7 of the LWMP further describe the intent of charging all properties within sewer areas for reserve funding. But yes, that sentence can be revised.

Staff comment: The continuation of a simplified base local service tax for asset depreciation and renewal is absolutely critical given the age of the plant/ liftstations and the limitations of Kaslo's tax base to affordably borrow even 17% of grant-funded project for sewer on a limited user base. Utilities like water and sewer cannot operate without a revenue flow for capital.

## Issue #5 – Development within SSA#1

- 12. On what criterion would a Treatment Plant Capacity Fee or Development Cost Charge be determined?**
- 13. When SSA#1 vacant properties are developed will a Treatment Plant Capacity Fee or Development Cost Charge be charged?**
- 14. When SSA#1 properties are re-developed (usage increased) will a Treatment Plant Capacity Fee or Development Cost Charge be charged?**
- 15. Why is this not more specifically addressed in the Stage 3 Draft Report?**

TRUE comment: The questions above are described in the June 21 Frequently Asked Questions document (attached). In addition, vacant and/or redeveloped properties within SSA#1 will be governed by the same Village bylaws as properties outside of SSA#1. Development Cost Charges are discussed in the LWMP, and remain a funding option available to the Village. There is also ability to incorporate

sewer capital charges into the Village's Fees and Charges bylaw to account for future changes in land use.

Staff comment:

The Village may revisit a Development Cost Charge Bylaw as well as a Development Services Policy suitable for Kaslo, but that is the purview of Council. As current bylaws stand, existing SSA#1 properties that redevelop/ intensify uses would likely be looking at a number of different scenarios:

- SUBDIVISION OF LARGE PARCEL TO CREATE A NEIGHBOURHOOD OF SINGLE OR TWO FAMILY DWELLINGS: Extended/excess service and latecomer agreements would be required in such a situation by the Approving Officer and Council.
- REZONING TO A MORE INTENSE OR DENSE USE: conditional approvals.
- In situations where an existing property owner wants to develop in a way that requires few if any municipal approvals (but there are capacity concerns), until bylaws are changed, the only recourse for the Village is the obtaining of appropriate legal advice and existing regulation enforcement. This will become a more critical issue as plant excess capacity is reduced, making bylaw reform essential to be fair to both proponents and the corporation.

LATECOMERS vs. ADDITIONS TO A SERVICE AREA

A latecomer is not a property added to a service area after the majority of properties. They cannot be billed for all the hypothetical years of debt payment and user fees they missed (this would arguably be considered punitive), but can pay a connection fee and some form of development cost charge toward infrastructure if appropriate bylaws are in place.

Latecomer agreements are set up for very specific infrastructure extension situations required for a private or public project, typically a subdivision. The developer would pay for and provide the excess/ extended services (e.g. build the entire collection system for their subdivision). If other interests wish to take advantage of this extension (e.g. an adjacent land owner now close to the collection system built), they pay the local government a latecomer charge, on top of the local service taxes and fees and a share of these charges are remitted back to the original developer.

## Other Questions

**16. How much will my annual sewer operating utility bill be in the future?**

TRUE comment: This is described in the June 21 Frequently Asked Questions (attached).

**17. When the cost of sewage treatment is related to flows (volume and strength) why is sewer treatment infrastructure expansion/renewal costs based on taxable frontage?**

TRUE comment: As described in Section 7.4.1 of the Stage 3 draft report, sewage treatment expansion/renewal costs could be applied as a property value tax (bigger buildings typically generate larger sewage flows). However, using property frontage as a basis for taxation is currently recommended as it accounts for property size, is simple to administer, and is expected to be familiar to the community as there is a history of using property frontage as a basis for taxation in Kaslo.

Staff comment: If sewer users wish to see their user fees linked to flow, they could lobby Council to implement blanket water metering within the sewer collection service areas as a future project. Many larger communities charge user fees based on a formula related to water meter readings at a property – it is slowly becoming a standard in larger centres.

**18. 2016 Audited Financial Statement reported Sewer Rates Receivable to be \$19,361. Are these Receivables recoverable? Why do we have receivables? What are the consequences if your annual sewer operating utility bill is not paid?**

TRUE comment: This appears to be beyond the scope of a LWMP.

Staff comment: Unpaid user receivables are automatically added to the general property tax debt. As such, they are typically recovered.

END OF DOCUMENT

Encl. Frequently Asked Questions (June 21, 2018)

# Kaslo LWMP Stage 3: Frequently Asked Questions

Date: June 21, 2018

The following information has been compiled based on questions and comments received from the public at and subsequent to the Liquid Waste Management Plan (LWMP) Stage 3 Open House conducted on May 23, 2018.

## Consultation

### **1. When will there be a town hall style meeting?**

A town hall style meeting is not planned. Since the inception of the Stage One LWMP, the Village has completed a number of other forms of public consultation, including:

- Information mail-out to all post box holders within the Village,
- Press releases to local newspapers,
- Booth and discussion at Farmer's Market,
- Display boards and discussion in front of the Village office on a festival weekend,
- Online questionnaire / comment form,
- Online presence (website and Facebook)
- Open House events (four to date),
- Public comments and feedback via email,
- Advisory Committee meetings (seven to date).

The SSA#1 user group have also supplied a response package for review by the Village. This is being dealt with through municipal committee and LWMP processes – including responses within this FAQ, and a planned 'focus group meeting' with SSA#1 owners.

## Justification for LWMP

### **2. What is the documented justification to support this use of tax payers hard earned money, and where can it be accessed?**

The LWMP approach was initiated in 2012 largely in response to dissatisfaction with ad hoc sewer expansions and unclear bylaw interpretations for new and existing users – the goal was to have a clear plan for the community where one did not currently exist. This LWMP should not be interpreted as a definitive capital works and borrowing plan; the nature of the LWMP recommendations provide guidance for existing and future Councils.

The primary justification for the sewer expansion discussed within the LWMP is to support future housing densification and redevelopment described in the Village of Kaslo Official Community Plan. Challenges replacing currently installed septic systems on small properties and potential negative environmental impacts associated with the large number of septic fields are secondary considerations.



**3. If the sewer expansion described in the LWMP is to address a specific identified problem(s), what other alternative solutions have been considered, and costed out?**

Stage One of the LWMP considered 'big picture' alternatives of 'status quo' vs 'sewering expansion'. Stage Two of the LWMP considered alternative treatment systems and treatment locations to accommodate a sewer expansion. Stage Three of the LWMP considers specific costs associated with incremental sewer expansion, and 'triggers' for sewer expansion.

## Housing and Future Development

**4. What is the density of housing in SSA#1 versus the remainder of lower Kaslo and how is that likely to change if sewage treatment is extended to all of lower Kaslo?**

Parcel sizes in the SSA#1 area were historically too small to accommodate functional septic treatment systems, which led the Ministry of Environment and Interior Health to promote and support the creation of the community sewer constructed in 1998. The lower Kaslo parcel sizes in relation to minimum parcel sizes required for septic systems by the Village Bylaw and the RDCK bylaw (for comparison) are shown by Figures 4.4.2 and 4.4.3 of the Stage One LWMP. The Official Community Plan notes that Council will allow all existing single family or duplex houses to develop a secondary suite or carriage house subject to septic or sewer system requirements being met.

## Environment

**5. What is the current faecal coliform count at the public beach, in the bay area and along the foreshore between lighthouse point and the mouth of the river? What is the current rate of per capita waterborne illness that can be attributed to the non-specified area of lower Kaslo not having sewage treatment?**

Environmental water quality data has not been collected by the Village or the health authorities. Water borne illness data does not exist. The Stage Three LWMP (section 7.4.2) proposes a community-wide tax to create a funding stream for ongoing public education, monitoring, and documentation of wastewater treatment performance.

## Infrastructure and Treatment Capacity

**6. With what "peak capacity load" (m<sup>3</sup> per day) has the treatment plant dealt?**

Typical flows in winter months are around 75 m<sup>3</sup>/day. The peak flows occur in the summer months. Flows rise to an average of around 150m<sup>3</sup>/d during summer months, and there are commonly spikes up to around 200m<sup>3</sup>/d on festival weekends. This includes waste from the sani-dump and the emptying of portable toilets on those weekends. Different aspects of the plant's capacity relate to flow and/or organic and solids load. The plant was originally designed on the basis of an average flow of 340m<sup>3</sup>/d, biochemical oxygen demand (organic load) of 200 mg/L and suspended solids of 200 mg/L.

The baseline organic load on the plant has increased since the Stage Two report was written with the opening of the local brewery. Limited sampling of wastewater from the brewery has been measured to

be approximately thirty times the organic strength of domestic waste. That sample result is not uncommon for a brewery. The effluent quantity and strength is very dependant on beer production and how that process is managed. In order to facilitate the expansion of the sewer system, high strength wastewater should be pre-treated to a concentration close to that of domestic waste before discharge to the community sewer. Flow metering of potable water and the waste stream should also be considered as described in section 7.6.2 of the Stage Three LWMP. User fees for excess wastewater strength are discussed in section 7.6.4 of the Stage Three LWMP.

**7. How will the Village address the issue of future capacity needed for major short-term events?**

The peak flows and loads from events are being mitigated by projects such as the holding tank situated in Kaslo Bay. The phase one treatment plant upgrade proposed in the LWMP will also improve the ability to deal with waste from short-term events. If the phase two treatment plant upgrade is completed, then the Village will also have the ability to reallocate the existing emergency storage for use as balancing storage for peak flows.

**8. Has a holding tank been situated in the Kaslo Bay area? And if so, at what cost and who paid? What's the Leko toilet project in Kaslo Bay Park?**

A prefabricated concrete toilet structure with a holding tank has been installed in Kaslo Bay to reduce reliance on portable toilets and to reduce the peak load on the Village's wastewater treatment plant from portable toilet waste disposal by the porta-potty contractor. The project was paid for by a non-profit society and the Village from its share of RDCK Community Development Program Funds. From the perspective of the utility's operation, this was a wholly beneficial project.

**9. Are there any upgrades to the current sewage plant required to manage the additional waste? If yes, what are they, and what will the cost be, is it costed out/included in the current plan?**

The upgrades required to treat additional wastewater are described in detail in the Stage Two LWMP and costs are summarized in Section 4.3.1 of the Stage Three LWMP.

## [Connection to the Community Sewer System](#)

**10. When will I be able to connect to the sewer system? Is an Application needed?**

The Village has recently received infrastructure grant funding approval to construct a sewer expansion to service 60 properties in lower Kaslo. Under the terms of the grant, the construction of the new sewer for the expanded service area must be completed by the end of 2019. Letters will be sent to the residents at the project outset to provide additional information. Property owners will need to request a connection from the Village using the Village application form. Once the system is available, billing will be based on the status of their sewer connection (connected, unconnected, residential, commercial, etc). Timing of connection will be dependent on progress with the LWMP as it will shape how the utility bylaws are subsequently developed.

**11. Will sewer connection be mandatory? Is there a deadline for connection?**

The Village's current sewage regulation bylaw provides the ability for the Village to require sewer connections. However, that does not mean sewer connections are mandatory. It has not been the

Village's approach to require connections. A mandatory connection would be at the discretion of the Village, and could be required in an instance of a recognized environmental or public health hazard. There is currently no planned deadline for connection. Connection to the system would not be mandatory, but properties within a service area will be required to pay parcel taxes and some form of nominal user fee.

**12. If a resident presents a case of having an existing equivalent, or higher quality waste management facility in place, than the one the Village has currently installed, will the resident be allowed to not connect, and not have to pay the Kaslo Village waste management fees?**

The level of treatment achieved by an on-site septic system has not been considered as a reason not to connect as the primary justification for future sewer expansions is housing densification and redevelopment. If the sewer system is expanded, all properties within the expansion area will be included in the bylaws governing that expansion area – regardless of whether those properties connect to the sewer system. This means that properties in the sewered areas would pay any taxes associated with construction and reserve funding for the sewer expansion. Those properties would also be subject to the annual sewer user fees to operate the sewer system. The current example user fee structure in the Stage Three LWMP (Table 7-5) shows an annual user fee of \$50 for properties choosing not to connect to sewer, and \$425/year for residential properties that do connect to sewer.

**13. The "Grant" will pay for the pipes in the lane. Who pays to lay the pipe from my house to the lane? How much will that cost?**

The cost of sewer installation on private property is the responsibility of the property owner. The cost will vary from one property to the next depending on length and depth of pipe from the house to the lane, and whether there are obstacles in the way (sheds, trees, fences, etc). Quotations have not been sought for this work in Kaslo but a 'typical' installations may cost in the range of \$2,500 to \$7,500.

**14. My property is immediately adjacent to an existing sewer pipe. Is my property part of the "proposed expansion area"?**

As described in sections 7. 1 and 7.6.2 of the Stage Three LWMP, sewer expansion areas should be uniform (no 'holes' or 'gaps'); existing 'holes' and 'gaps' should be made part of the sewer areas going forward. The initial proposed sewer expansion in lower Kaslo is intended incorporate one of those 'gaps' on the 300 block of 'A' Avenue.

Property owners within reasonable reach of the collection system but outside of the service area, are always free to approach the Village and discuss what could be possible, subject to service area amendments and fees. Under the current moratorium on new connections, these discussions have been challenging.

**15. Once we are hooked up to the Sewer System, what are we required to do to deal with the, then unused, Septic Tank and related field? Is there a set of prescribed procedures for dealing with this from the Ministry of Environment or is the municipality in charge of looking after this?**

The solids and liquids will be required to be removed from the tank by a septic tank servicing contractor. The tank will then need to be removed and disposed of to an approved disposal location; or be filled with clean sand, gravel or other material acceptable to the Village – as described in the Village's existing

sewage regulation bylaw. An out-of-service disposal field may be left in place if there are no plans to use the area for other purposes, at the discretion of the property owner.

**16. Will the building owner/homeowner be allowed to have a capped stub installed at their structure, at the time of sewer line installation, to which they may choose to connect to at some future date? If that is allowed will the cost of the stub be the same as the connection fee? If it is some other fee what will that be?**

When a sewer expansion occurs, the Village will install a sewer lateral (service) to the property boundary of each 'folio' in the service area. Those costs would be included in service area taxes to construct the sewer expansion. The property owner can then connect to the new service. The Village will install an 'inspection port' at the boundary which allows the Village to open the connection when it is completed and approved. If a property owner subdivides their property in the future, they would need to apply for a new sewer service (lateral) to the new property line at that time. The Village's current sewage regulation bylaw notes connection fees for new services are at 'actual cost to the Village'.

## Bylaws

**17. Why are new Sewer Bylaws being written? What will change?**

The bylaws will be changed to bring them more in-line with current municipal practices throughout the province, to make them easier to administer, and to allow for the expansion of the sewer system. The bylaws must change to some measure so that they reflect current local government legislation around local service taxes and user fees. They must also be amended so that appropriate new connection and other fees can be charged as the sewer area changes. The Village will establish new sewer bylaws as follows;

- A Local Service parcel tax bylaw to continue to contribute to the current SSA-1 'Sewer Reserve' fund, to collect monies for major repairs, upgrading and future replacement of the SSA-1 sewage collection system.
- A Local Service parcel tax bylaw which would apply to each sewer area as expansions occur (ie. SSA-1, SSA-2, SSA-3, etc) to collect monies for major repairs, upgrading, and future renewal of the sewage treatment plant.
- Additional new Local Service parcel tax bylaws when needed to borrow funds for the capital construction of sewage collection system expansions (ie. SSA-2, SSA-3). These bylaws could also collect monies for major repairs, upgrading and future replacement of each sewage collection system expansion.
- A new bylaw to authorize User Fees based on the type of use, i.e. residential, commercial, light industrial. This new User Fee bylaw would be applied to all sewer service areas including SSA-1, SSA-2, SSA-3, etc. and would be used to pay for operating and maintenance costs associated with the community sewer system (sewage collection and treatment).
- A Village-wide sewage education and monitoring tax to collection monies for public education, monitoring, and documentation of wastewater treatment performance.

## Billing

### **18. How much will my Annual Sewer Operating Utility bill be in the future?**

The exact amount of the 'operating utility bill' (ie. User fees) is dependant on the actual Village operating expenses and the number of sewer tax payers. If the sewer service area is expanded the operating costs per user will generally decrease. Section 7.6 of the Stage 3 LWMP describes how operating costs would be expected to change if the system were to be expanded.

### **19. On what criterion would a Treatment Plant Capacity Fee or Development Cost Charge be determined?**

The basis for the proposed capital charge for treatment capacity is described in Section 7.5 of the Stage Three LWMP.

### **20. Will SSA #2 Member-Owners and/or Member-Owners in an expanded SSA #1 pay a Treatment Plant Capacity Fee upon connection?**

Yes; a \$1,000 'Capital Charge' has been described in Section 7.5.2 of the draft Stage Three LWMP. This is an option to assist with equitable transition based on the depreciated value of the existing plant and the contributions paid by SSA#1 residents.

### **21. When is the capacity fee payable? Are financing or payment terms available?**

The capital charge for treatment capacity would be payable when a property connects to the Village sewer. Financing or payment terms will be determined by the Village in the future when bylaws are created.

### **22. Why is contributing to a Reserve Fund necessary? How much will that cost each year?**

Renewal reserve funding is discussed in Section 7.5 of the Stage 3 LWMP. Funds would be collected and set aside for the repair / replacement of infrastructure. This has not been done in the past, which can make major repairs and replacement very difficult to undertake in a timely manner. As an example, the Village was fortunate to obtain an 83% grant for the recent replacement of the wastewater treatment plant's RBC rotor as this would have otherwise resulted in a significant unexpected expense to SSA#1 residents. Renewal reserve funding amounts will change with time, as the Village continues to gather additional information on the condition and anticipated repairs. Initially, renewal reserve funding costs are proposed to be \$150/year and applied to properties within sewer areas.

### **23. If your Property Tax Bill is not paid there are consequences. What are the consequences if your Annual Sewer Operating Utility bill is not paid?**

The consequences would be the same, as both are municipal taxes.

### **24. If a single folio has a primary residence and a rental suite in the basement what is the affect on the sewer service charges, given that there remains only one hookup from the building?**

User fees would be defined by the Village's bylaw. The current sewer regulation bylaw treats rental suites as being equivalent (in addition to) the primary residence for calculation user fees. In Table 7-5 of

the Stage Three LWMP, an example user fee structure shows a rate structure for short term rental accommodations but does not describe an additional or separate rate for long term rentals.

The LWMP does not contain precise final versions of municipal bylaws in terms of approach or numbers. Council must, however, follow the guidelines of the Stage 3 plan in order to borrow for capital or write new bylaws without further consultation or referenda.

**25. What is the range of total current local government fees and taxes in the specified sewer area versus the non-specified sewer area, and how are those fees and taxes likely to change if sewage treatment is extended to all of lower Kaslo?**

Properties within the specified sewer area pay additional user fees and parcel taxes to those outside of the service area. Each property within the specified area pays different user fees and parcel taxes dependent on property frontage and use. If the sewer area expands, annual sewer user fees will generally decrease for those on the sewer system. Regardless of the approach going forward, this would likely be replicated in one form or another. It is arguably likely that properties on sewer are assessed at greater values for both taxation and sale given their access to the utility and the comparative advantage enjoyed.

## SSA#1 Fairness

**26. How will the cost apportionment be fair to SSA#1 residents who paid for the construction of the existing sewer system?**

Section 7.5.1 and 7.5.2 of the draft Stage Three LWMP discuss allocation of construction costs. Section 7.5.2 also discusses options for the allocation of treatment costs with the objective of balancing the interests of the SSA#1 users with new users and overall community goals. The LWMP cost apportionment is intended to balance these interests through:

- A common annual operating user fee structure applied equally across all sewered areas
- A common reserve funding tax structure applied equally across all sewered areas
- A construction cost recovery structure applied to those who benefit from the construction
- A \$1000 capital charge for all new services (payable at the time of connection), with payment transferred into the reserve fund for the currently unused treatment plant capacity.

The following ideas are not currently incorporated into the LWMP; however, representatives of SSA#1 have expressed support for other options for dealing with treatment capacity 'fairness' including:

- The annual treatment capital charge for properties outside of SSA#1 should be increased to match the total costs paid by SSA#1 members, converted to 2018 dollars. This would range from ~\$5300 for a 40' frontage, up to ~\$9000 for a 100' frontage.
- If the capital charge is the proposed \$1000, then SSA#1 properties should be exempt from costs for phase one treatment plant expansions.

**27. Will SSA#1 Member-Owners be expected to pay for capacity upgrades to the Sewage Treatment Plant in the future?**

Yes - the LWMP currently proposes that SSA#1 properties contribute to the cost of all future treatment upgrades on the basis that future improvements are anticipated to not strictly be capacity related, but will likely also include operational improvements and updates to treatment technology.

**28. There is a concern that there are far too many properties exempt from some or all charges related to the sewer system. Given this reality please explain how these exempted properties are going to have their share covered without unduly burdening those that are paying with having to cover the exempted properties share. What information will the Stage 3 LWMP Report include concerning "User Pay" in a Specified Area system and the payment of Annual Operating and Local Service Area Taxes for:**

- Municipal properties within the specified area
- Provincial & Federal property-tax exempt properties within the specified area
- Properties within the specified area granted Permissive Tax Exemptions

As described in section 7.3 of the Stage Three LWMP, where properties are exempt from taxation, it is recommended that 'payments in lieu of taxes' are made to cover the full costs of debt and operations equal to any other property owner within the sewered area. In the case of Village-owned properties, those 'payments in lieu of taxes' would be made from general Village-wide taxation revenues. As described in the *Sewer Servicing Cost Recovery Structure* (2016, Fred Banham & Associates), this should be done so that true costs of municipal facilities are shared by the entire community who benefits and so that the municipalities' sewage usage costs are not born only by the specified sewer area properties.

**29. What information will the Stage 3 LWMP Report include regarding:**

- **Contractor/third party bulk disposal of septic waste**
- **In-house bulk disposal of septic waste**
- **Disposal of RV Tanks & Kaslo Municipal Campground users septic waste**

As described in the Village's sewer regulation bylaw, the Village's wastewater treatment plant does not accept general septage from local septic tanks. Local septic haulers typically transport this waste to Nelson for disposal at the Nelson wastewater treatment plant.

The cost of RV waste disposal is built into the municipal campground fees. The campground has paid an annual fee to the wastewater system since 2010.

**30. When SSA #1 vacant properties are developed or re-developed (usage increased), will a Treatment Plant Capacity Fee or Development Cost Charges be charged? Why is this not more specifically addressed in the Stage 3 draft report?**

The current recommendation is to apply a capital charge (ie. treatment plant capacity fee) to all future sewer connections regardless of the location in the Village. Section 7.5.2 of the Stage Three LWMP describes options to assist with an equitable transition to an expanded sewer area.

The concept of Development Cost Charges is discussed in section 7.4.3 of the Stage Three LWMP. They are typically used to gather capital to put towards a defined project providing benefit to a defined area, and are most useful when significant and sustained development is expected. When existing SSA#1 was

created, a treatment capacity estimate was developed by the original designers inclusive of an expected level of development. The treatment plant was constructed with capacity for that defined level of development. That development has not fully occurred, which is why the sewage flows are ~ 60% of the treatment capacity on peak days.

END OF DOCUMENT



# Village of Kaslo

Incorporated 1893

2018.08.16

Mrs. A. Malik (lamalik303@gmail.com)

Mr. M. Jones (kaslocottage@telus.net)

By E-mail

*Representatives for a group of existing sewer utility users*

Dear Mrs. Malik and Mr. Jones,

**RE: E-mail dated July 2<sup>nd</sup>, 2018**

The Village acknowledges receipt of your group's e-mail dated July 2<sup>nd</sup>, 2018. All correspondence regarding the Liquid Waste Management Plan (LWMP) that the Village receives will be placed before Council in the proposed submission package prior to Council determining whether to approve the plan.

The Village denies that there have been any such errors or omissions as alleged in this communication and users are in no way entitled to any compensation from the Village.

Thank you again for your group's ongoing interest in the LWMP.

Yours sincerely,

Neil Smith, MCIP, RPP  
Chief Administrative Officer

P:\SEWER\CORRESPONDENCE

Cc: Scott Wallace, True Consulting

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<http://www.kaslo.ca>



## APPENDIX F

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### Environmental Impact Study



**Village of Kaslo**  
**Liquid Waste Management Plan – Stage 3**  
**Environmental Impact Study**

Prepared for:

**TRUE Consulting**

2 – 860 Eldorado St.

Trail, BC, V1R 3V4

Prepared by:

**Masse Environmental Consultants Ltd.**

812 Vernon St.

Nelson, BC, V1L 4G4

July 11, 2017



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## **1 INTRODUCTION**

### **1.1 Background**

The Village of Kaslo is in the process of developing a Liquid Waste Management Plan (LWMP), a comprehensive strategy to ensure the protection of public health and the environment through management, resource recovery and disposal of treated waste. It is a long term plan for building, financing and managing liquid waste infrastructure. At present, only a small part of Kaslo is serviced by the municipal wastewater treatment facility. The rest of Kaslo treats and disposes of wastewater via private on-site systems. Partly as a result of small lot sizes and soil conditions, many of these on-site systems are considered to represent a risk to public health and the environment. The Liquid Waste Management Plan considered various options for providing sewer service and increasing the capacity of the wastewater treatment system to accommodate more of Kaslo into the municipal collection system.

The recommended option for Kaslo in the short term is to extend sewer service to Lower Kaslo and undertake improvements to the existing wastewater treatment plant. In the long term, sewer service would be increased to Upper Kaslo and the capacity of the wastewater treatment plant doubled (True Consulting 2016).

As part of the LWMP planning process, a description of environmental resources in the area is required to help evaluate the benefit and risks associated with the various options under consideration. During Stage 1 and Stage 2 of the LWMP, the retention of the existing wastewater treatment plant (WWTP) and outfall was identified as a preferred option, and most of the discussion centered on the expansion of sewer services to various areas of the village. Environmental risks associated with extending sewer services, which generally follows existing roads, was considered low for most options under consideration (True Consulting 2016).

The recommended option will result in an increase in wastewater flows through the existing wastewater treatment plant as sewer services increases. Effluent quality may also change depending on the capacity of the plant to accommodate increased flows, and the proposed plant improvements. An environmental impact study (EIS) for the discharge provides an opportunity to summarise current and proposed effluent quality, predict water quality in the receiving environment, and recommended a suitable monitoring program.

### **1.2 Location and Setting**

The Village of Kaslo WWTP is located on 2<sup>nd</sup> Street at the east end of Kaslo. The plant consists of a primary settling tank, a rotating biological contactor that provides secondary wastewater treatment, and a UV disinfection system. Treated effluent is discharge to Kootenay Lake via a 150 mm outfall (Figure 1).

### **1.3 Regulatory Framework**

#### *1.3.1 Existing Permit*

The Village of Kaslo WWTP operates under BC Ministry of Environment Permit PE-13868, which was first issued on February 16, 1996 and was last amended on May 11, 2011. This permit allows a maximum discharge of 370 m<sup>3</sup>/day of effluent to Kootenay Lake. Effluent quality requirements specified in PE-13868, as well as the

minimum municipal effluent quality requirements described in the Municipal Waste Regulations (MWR) are summarised in Table 1.

Table 1. Discharge quality requirements specified in Permit PE-13868.

Parameters	Permit Requirement	MWR
pH		6 - 9
Total suspended solids	≤10 mg/L	≤ 45
Biochemical Oxygen Demand	≤30 mg/L	≤ 45
Total Ammonia Nitrogen	≤10 mg/L	
Fecal Coliform	≤200 CFU/100 mL	Geomean ≤200 /100 mL
Total Phosphorus		≤ 1
Ortho P		≤ 0.5
96-hr Rainbow trout LC50	Pass	Pass

Once the LWMP has been adopted, the current permit would be cancelled and replaced with an operational certificate.



Figure 1. Village of Kaslo and location of wastewater treatment plant and outfall



## 2 PHYSICAL ENVIRONMENT

### 2.1 Kootenay Lake

Kootenay Lake is a long, narrow and deep lake with a surface area of approximately 4,000 ha. The main lake is 100 km long and 3-5 km wide and has a maximum depth of 150 m. Major inflows into the lake occur at the south end (Kootenay River) and at the north end (Duncan River). The outflow of the main lake is at Balfour, via the West Arm. The average lake outflow is  $\sim 790 \text{ m}^3/\text{s}$ , and the retention time in the main lake is 1.8 years.

Limnological characteristics of Kootenay Lake were summarised in the original EIS for the outfall (Stanley & Associates 1995). Ongoing limnological studies are conducted by the Ministry of Forests, Lands and Natural Resource Operations (MFLNRO) as part of a nutrient restoration project (Schlinder et. al. 2010). Kootenay Lake begins to stratify in May and by July a strong thermocline is established. The depth at which the thermocline occurs is typically 15-25 m, and it moves vertically in waves. The Duncan River inflow generally moves along the upper portion of the thermocline. In the fall, stratification begins to break down. The thermocline deepens initially, and fall turnover occurs in November. During the winter, a halocline and vertical salinity gradient forms at a depth of 60-80 m, limiting deep circulation.

### 2.2 Location of Outfall

The Village of Kaslo is located on the fan of the Kaslo River, near the middle of the North Arm of Kootenay Lake. The outfall for the Kaslo WWTP is located approximately 150 m offshore at a depth of 33 m. Kaslo Bay is located 1 km north of the outfall, and the mouth of the Kaslo River is 500 m to the south.

The current outfall meets the MWR requirements for discharges  $< 5,000 \text{ m}^3/\text{day}$  of a minimum depth of 10 m and a minimum distance of 30 m from mean low water. The MWR also requires that the maximum daily flow be less than the either of two critical flows,  $Q_{c1}$  and  $Q_{c2}$ , that are calculated based on the depth and distance of the outfall. The current outfall location meets this requirement for the current maximum daily flow, and for future scenarios up to a maximum discharge of  $\sim 1,200 \text{ m}^3/\text{day}$ .

Table 2. Critical Flow Values.

<b>Flow</b>	<b>Volume (<math>\text{m}^3/\text{day}</math>)</b>
Maximum daily flow	370
Critical flow 1 ( $Q_{c1}$ )	8,017
Critical flow 2 ( $Q_{c2}$ )	1,280

### 2.3 Other Discharges

No other discharges to Kootenay Lake occur in the immediate vicinity of Kaslo. The nearest discharge is for the Village of Ainsworth,  $\sim 20$  km south of Kaslo.

## 3 AQUATIC RESOURCES

### 3.1 Water Licenses

No water licenses are recorded within 300 m of the outfall. The nearest recorded water intakes are located more than 1 km from the outfall (MoE 2017).

### 3.2 Recreation

Kootenay Lake is a popular recreational waterbody, with opportunities for boating, swimming, fishing and kayaking. The main beach for Kaslo is located ~ 300 m northwest of the outfall, near the east end of the downtown core. The outfall is located ~150 m offshore from the municipal campground, and some level of recreation use can be expected in this area, particularly between May and September.

During the original EIS, and subsequent technical review (MELP 1996), the combination of effluent disinfection, a high level of available dilution, and separation of the effluent from surface waters by the thermocline during the summer months, meant that it was considered highly unlikely that downstream users would be affected by the discharge.

### 3.3 Aquatic Resources

Kootenay Lake provides habitat to a wide range of fish species (Table 3, FISS 2017) and is well known for its kokanee, rainbow trout and bull trout fisheries. The Kaslo River is an important spawning tributary for bull trout, although spawning and rearing for this species occurs a considerable distance upstream of the mouth. Kokanee also spawn in the lower part of the Kaslo River, although spawning habitat is reported to be limited (Andrusak 2016). No critical habitat for any species has been identified in the vicinity of the current outfall.

Table 3. Fish species present in Kootenay Lake.

Species	Scientific Name	Comments
Burbot	<i>Lota lota</i>	Kootenay Lake population is red listed
Bull Trout	<i>Salvelinus confluentus</i>	Blue-listed species
Eastern Brook Trout	<i>Salvelinus fontinalis</i>	Introduced species
Kokanee	<i>Oncorhynchus nerka</i>	
Largemouth Bass	<i>Micropterus salmoides</i>	Introduced species
Largescale Sucker	<i>Catostomus macrocheilus</i>	
Longnose Dace	<i>Rhinichthys cataractae</i>	
Longnose Sucker	<i>Catostomus catostomus</i>	
Lake Whitefish	<i>Coregonus clupeaformis</i>	
Mountain Whitefish	<i>Prosopium williamsoni</i>	
Northern Pikeminnow	<i>Ptychocheilus oregonensis</i>	
Peamouth Chub	<i>Mylocheilus caurinus</i>	
Pumpkinseed	<i>Lepomis gibbosus</i>	Introduced species
Prickly Sculpin	<i>Cottus asper</i>	
Pygmy Whitefish	<i>Prosopium coulteri</i>	
Rainbow Trout	<i>Oncorhynchus mykiss</i>	
Redside Shiner	<i>Richardsonius balteatus</i>	
Slimy Sculpin	<i>Cottus cognatus</i>	
Torrent Sculpin	<i>Cottus rhotheus</i>	
Westslope Cutthroat Trout	<i>Oncorhynchus clarki lewisi</i>	Blue-listed species
White Sturgeon	<i>Acipenser transmontanus</i>	Kootenay Lake population is red-listed
Yellow Perch	<i>Perca flavescens</i>	Introduced species

## 4 IMPACT ASSESSMENT

### 4.1 Effluent Characterisation

#### 4.1.1 Effluent Quality

The effluent is routinely monitored at monthly intervals for pH, TSS, BOD<sub>5</sub>, ammonia, and fecal coliforms (Appendix 1). Data from 2009 – 2015 is plotted in Figure 2 - 6. Effluent quality is generally stable, and except for TSS, is well within the current permit limits. The current permit limit for TSS is a maximum of 10 mg/L, and this was specified to ensure that disinfection with UV light is effective. TSS in the effluent typically ranges from 5 and 30 mg/L; however, there does not appear to be any relationship between TSS and fecal coliforms in the effluent (Figure 7), indicating that the current system provides adequate disinfection over the range of TSS levels encountered. The UV system provides excellent disinfection, with 90% of samples having fecal coliforms less than 10 MPN (most probable number)/100mL. Note that the permit specifies a maximum fecal coliform level of 200 CFU (colony forming units)/100mL, units that are not directly comparable to the units currently reported (MPN/100mL), although the numbers are generally similar. An unusually large fecal coliform count (11,000 MPN/mL) was reported on April 22, 2014, although the reason for this high count is unclear. Ammonia levels in the effluent decreased in the fall of 2010, and since that time almost complete removal of ammonia occurs.

Effluent quality is expected to remain similar as the service area expands. The design flow of the existing RBC is 340 m<sup>3</sup>/day, and has sufficient capacity to accommodate the addition of the Lower Kaslo service area. To accommodate expansion to Upper Kaslo, the treatment plant would be expanded by adding a second RBC that would be expected to operate in a similar manner to the current RBC.

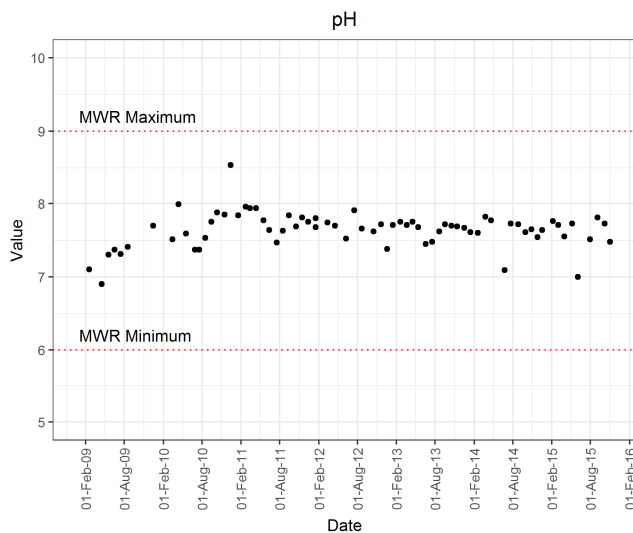


Figure 2. pH of the effluent, 2009-2015.

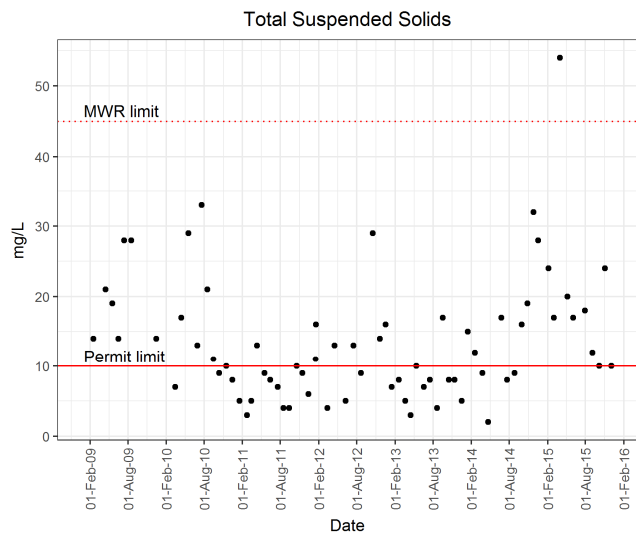


Figure 3. TSS levels in the effluent, 2009-2015.

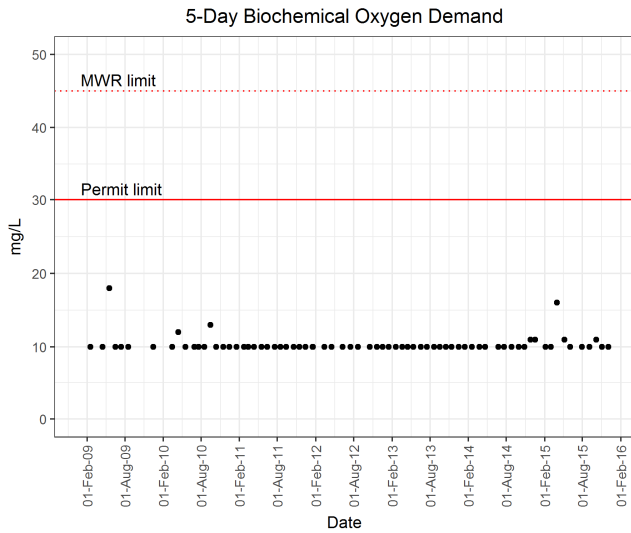


Figure 4. BOD<sub>5</sub> levels in the effluent, 2009-2015.

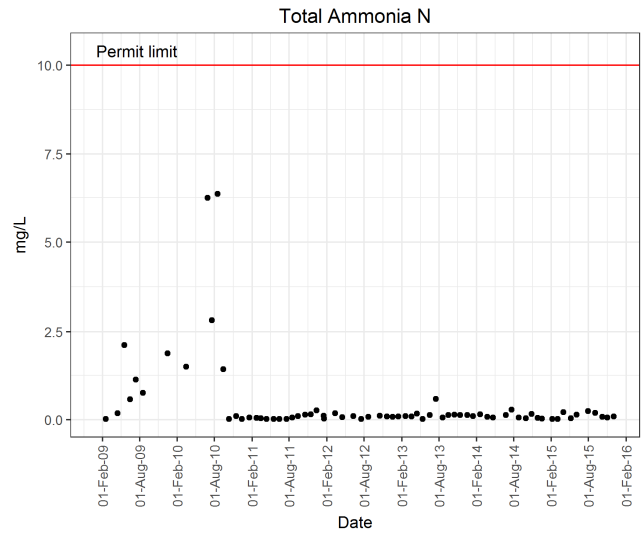


Figure 5. Ammonia (as N) levels in the effluent, 2009-2015.

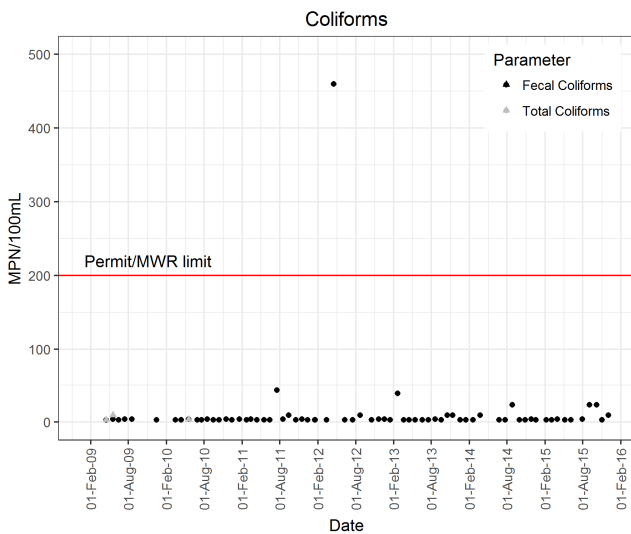


Figure 6. Total and fecal coliform levels in the effluent, 2009-2015. (note 11,000 MPN/mL value from 22/4/2014 not shown due to scale).

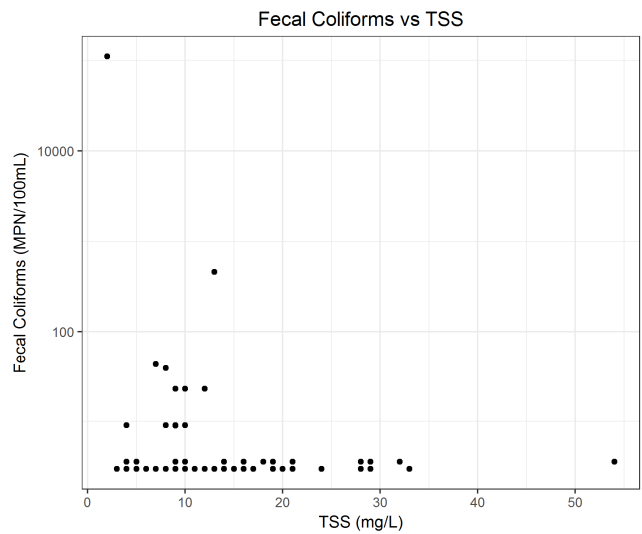


Figure 7. Fecal coliforms vs TSS in the effluent. Note that there is no indication that elevated fecal coliforms occurs at high TSS loads..

#### 4.1.2 Effluent Volumes

##### 4.1.2.1 Current Flows (2011-2015)

Daily flows from 2010-2015 provided in Appendix 2 and are summarised in Figure 8. Peak historic flows are well below the maximum discharge of 370 m<sup>3</sup>/day permitted under the existing permit PE 13868 as well as the design capacity of the plant of 340 m<sup>3</sup>/day. Flows are highest in the summer, with maximum 7-day average flows approximately 170 m<sup>3</sup>/day. Peak flows are usually associated with long weekends in the summer. The decrease in flows that occurred in May 2011 was a result of the repair of a float that controlled the frequency of filter backwashing. Prior to May 2011, the filter was continuously backwashed and effluent flows were higher due to the amount of freshwater added for the backwashing.

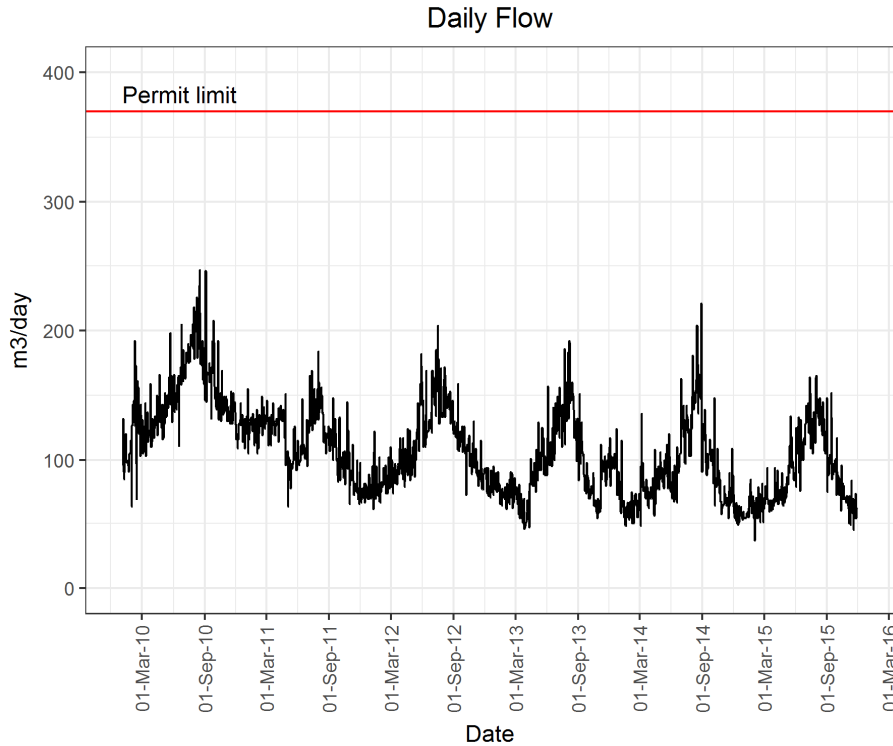


Figure 8. Average daily effluent flows (m<sup>3</sup>/day) treated at the Kaslo WWTP, 2010 – 2015.

#### 4.1.2.2 Projected Flows

Expansion of the sewer collection system to Lower Kaslo can be accommodated by the current wastewater treatment plant with no increase required in the currently permitted maximum discharge.

Expansion of the sewer collection system to Upper Kaslo is expected to almost double the volume of sewer treated by the plant. The wastewater treatment plant would be expanded by adding a secondary RBC. A maximum discharge rate of 700 m<sup>3</sup>/day is anticipated.

#### 4.1.3 Nutrient Loading

Nitrogen and phosphorus are essential plant nutrients that are often present in limiting quantities for plant growth. The discharge of effluent into a lake can result in elevated levels of nitrogen and phosphorus in the immediate area, and may lead to excessive algae growth. For discharges > 50 m<sup>3</sup>/day, the MWR requires that levels of total and ortho phosphate in the effluent be less than 1 and 0.5 mg/L P respectively, unless an environmental impact study demonstrates that "the receiving waters are not subject to an undesirable degree of increased biological activity because of the phosphorus addition".

Kootenay Lake is an oligotrophic (nutrient-poor) lake, with naturally low levels of nitrogen and phosphorus. The lake is currently being fertilised in an effort to replace nutrients lost to the system from the development of upstream dams. Up to 50,000 kg of phosphorus and 250,000 kg of nitrogen have been added to the lake annually between late April and early September (Basset et. al 2013). Even with fertilisation, total phosphorus

levels in the North Arm of Kootenay Lake are typically < 10 µg/L and total nitrogen levels are typically less than 250 µg/L. Nitrogen levels less than 0.350 mg/L, total phosphate levels less than 0.010 mg/L and chlorophyll a levels less than 0.0035 mg/L are generally indicative of an oligotrophic lake (Nurnberg 1996). Phosphorus is the limiting nutrient, and the ratio of dissolved inorganic nitrogen to total dissolved phosphorus is typically > 30 throughout the year (Basset et. al 2013).

Phosphorus is not routinely monitored in the discharge. Assuming a phosphorus concentration of 1 mg/L, the current annual loading of phosphorus is calculated to be 30-40 kg/year. Expansion of the collection system to include the remainder of Lower Kaslo and Upper Kaslo would increase loading, although the total load would be a very small fraction of what is currently being added through the fertilisation program.

#### 4.1.4 Other Parameters

Municipal effluent can contain a variety of other substances that may be of concern, such as pharmaceutically active compounds, persistent organic pollutants, and metals. There is no information on the presence of these substances in the effluent, although the risk associated with these substances is considered low as the Village of Kaslo services a small population with no major industrial inputs. Most hydrophobic chemicals will partition to the sediments (sludge), which is removed from the effluent stream.

## 4.2 Dilution

### 4.2.1 Initial Dilution Zone

The MWR defines the initial dilution zone (IDZ) as the 3-dimensional zone around the point of discharge where mixing of the municipal effluent and the receiving water occurs. For a lake discharge, the IDZ is the height from the bed to the water surface, and the radius is the lesser of 100 m or 25% of the width of the water body. For the Kaslo outfall, the radius is 100 m since Kootenay Lake is 1.5 km wide at Kaslo.

The MWR also requires that the edge of the IDZ be at least 300 m away from recreational areas, shellfish harvesting areas, freshwater intakes, or any other sensitive area defined by a director.

### 4.2.2 Available Dilution

An EIS for the existing outfall (Stanley Associates 1995) estimated an initial dilution of 50:1 from spring through to fall, and 100:1 during the winter. This was based on computer modelling of a similar outfall in Okanagan Lake. The effluent is warmer and less dense than the surrounding lake water and therefore rises. Mixing occurs at the diffuser port and continues as the plume rises and entrains surrounding lake water. The plume will continue to rise until it is the same density as the surrounding lake water. In Kootenay Lake a thermocline is present from June until November, and this will act as a barrier, preventing the rising effluent plume from reaching the surface. From December until May, the lake is well mixed and the effluent plume is expected to reach the surface.

The available dilution is not expected to change significantly with the increase in effluent flows. The available dilution for an outfall located in a deep lake environment is dependent on the size of the diffuser ports, the

velocity of the effluent as it exits the outfall, and the temperature difference between the effluent and the receiving environment. These parameters are not expected to change significantly.

## 5 MONITORING PROGRAM

### 5.1 Effluent Monitoring

Effluent monitoring is important to ensure that effluent quality remains within the normal operating range. Changes in effluent quality may indicate changes in treatment processes that need to be addressed. The MWR specifies minimum effluent monitoring requirements for effluent discharges (Table 4). The current monitoring program meets the minimum MWR requirements for discharges less than 500 m<sup>3</sup>/day. The current monitoring program also meets the minimum requirements for discharges between 500 – 5,000 m<sup>3</sup>/day, with the exception of phosphorus parameters.

The MWR allows for the requirement for acute toxicity testing to be waived by a director if the discharge does not adversely affect the receiving environment. Acute toxicity is most commonly related to ammonia levels in the effluent. The current treatment results in almost complete removal of ammonia, as well as low levels of BOD<sub>5</sub>, and the effluent is highly unlikely to be acutely toxic.

Table 4. Summary of recommended effluent monitoring requirements.

Parameter	Current	MWR Requirements	
		< 500 m <sup>3</sup> /day	> 500 m <sup>3</sup> /day
Flow	daily	weekly	daily
pH	monthly	not required	not required
BOD <sub>5</sub>	monthly	quarterly	monthly
TSS	monthly	quarterly	monthly
<b>Nutrients</b>			
Ammonia (as N)	monthly	quarterly	6x/year
Total Phosphorus	none	not required	6x/year
Ortho Phosphate	none	not required	6x/year
<b>Biological</b>			
Fecal Coliforms	monthly	quarterly	6x/year
Toxicity	none	1x/3yr	1x/2yr

### 5.2 Receiving Environment Monitoring

Receiving environment monitoring is recommended to ensure that the discharge does not result in significant impacts to the receiving environment.

The current discharge does not appear to have any observable effects on the receiving environment, and a dedicated receiving environment monitoring program is not recommended. The primary concern with respect to the discharge is its proximity to the shore, where primary contact recreation can occur. However, as discussed above, the effluent is generally of high quality and is disinfected prior to discharge so that fecal coliform counts are well below the water quality guideline for primary contact recreation. During the summer when recreational

use is highest, the effluent is also expected to be physically separated from the surface waters by the thermocline.

A receiving environment program may be required if effluent quality changes as the system expands to accommodate the larger service area, or if a sudden increase in effluent quantity occurs. However, effluent quality is expected to remain similar and any increase in flows is expected to be incremental as it requires the expansion of the sewer system first.

## **6 CONCLUSION**

The Village of Kaslo wastewater treatment plant currently provides high quality secondary treatment of wastewater. The effluent has low levels of BOD<sub>5</sub>, TSS and ammonia, and the UV disinfection system is effective and results in low levels of fecal coliforms. The plant currently meets the minimum effluent requirements of the MWR, although it is unable to meet the more stringent TSS requirements of its existing permit which were established to ensure adequate disinfection of the effluent. Effluent quality data shows that disinfection is excellent over the range of TSS levels encountered, indicating that the TSS requirements of the permit are overly stringent. The plant is operating well within its design capacity, and has room to accommodate increased volumes of effluent.

The potential effects of nutrient loading were also considered, as the effluent will contribute additional nitrogen and phosphorus inputs to Kootenay Lake. The calculated maximum loading of total and ortho phosphorus to Kootenay Lake from the wastewater treatment plant is a small fraction of the amount annually added to the lake through the fertilisation program, and the potential for significant increases in productivity in the vicinity of the outfall are therefore considered unlikely.

The current effluent monitoring program meets the minimum monitoring requirements of the MWR for a discharge of less than 500 m<sup>3</sup>/day. Once effluent flows exceed 500 m<sup>3</sup>/day, monitoring total phosphorus and ortho phosphate in the effluent will be required.

No receiving environment monitoring program is proposed. Receiving environment monitoring may be required in the future if effluent quality or quantity change: however, the expected effluent quality, the dilution in the receiving environment, and the physical and chemical characteristics of the Kootenay Lake, indicate a low level of risk to the receiving environment.



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**Appendix 1**  
**Kaslo Effluent Quality Data**



Kaslo Effluent Quality Data

Date	pH	TSS (mg/L)	BOD5 (mg/L)	Ammonia (mg/L)	Coliforms, Fecal (MPN/100mL)	Coliforms, Total (MPN/100mL)
17-Feb-09	7.1	14	10	0.02		
16-Apr-09	6.9	21	10	0.18	3	3
19-May-09	7.3	19	18	2.12	3.6	9.1
16-Jun-09	7.37	14	10	0.57	3	
14-Jul-09	7.31	28	10	1.13	3.6	
18-Aug-09	7.41	28	10	0.75	3.6	
15-Dec-09	7.7	14	10	1.89	3	
16-Mar-10	7.51	7	10	1.49	3	
13-Apr-10	7.99	17	12		3	
18-May-10	7.59	29	10		3.6	3.6
29-Jun-10	7.37	13	10	6.24	3	
20-Jul-10	7.37	33	10	2.82	3	
17-Aug-10	7.53	21	10	6.35	3.6	
14-Sep-10	7.75	11	13	1.42	3	
12-Oct-10	7.88	9	10	0.02	3	
16-Nov-10	7.85	10	10	0.1	3.6	
14-Dec-10	8.54	8	10	0.02	3	
18-Jan-11	7.84	5	10	0.06	3.6	
22-Feb-11	7.96	3	10	0.05	3	
15-Mar-11	7.94	5	10	0.04	3.6	
12-Apr-11	7.94	13	10	0.02	3	
17-May-11	7.77	9	10	0.02	3	
14-Jun-11	7.64	8	10	0.02	3	
19-Jul-11	7.47	7	10	0.02	43	
16-Aug-11	7.63	4	10	0.06	3.6	
13-Sep-11	7.84	4	10	0.1	9.1	
18-Oct-11	7.69	10	10	0.14	3	
15-Nov-11	7.81	9	10	0.15	3.6	
13-Dec-11	7.75	6	10	0.26	3	
17-Jan-12	7.8	11	10	0.11	3	
18-Jan-12	7.68	16	10	0.03	3	
13-Mar-12	7.74	4	10	0.18	3	
17-Apr-12	7.7	13	10	0.07	460	
09-Jun-12	7.52	5	10	0.095	3	
17-Jul-12	7.91	13	10	0.02	3	
22-Aug-12	7.66	9	10	0.078	9	
16-Oct-12	7.62	29	10	0.113	3	
20-Nov-12	7.72	14	10	0.089	3.6	
18-Dec-12	7.38	16	10	0.075	3.6	
15-Jan-13	7.71	7	10	0.088	3	
19-Feb-13	7.75	8	10	0.102	39	
21-Mar-13	7.71	5	10	0.091	3	
16-Apr-13	7.75	3	10	0.165	3	
14-May-13	7.68	10	10	0.02	3	
18-Jun-13	7.45	7	10	0.131	3	
18-Jul-13	7.48	8	10	0.578	3	
20-Aug-13	7.62	4	10	0.058	3.6	
17-Sep-13	7.72	17	10	0.129	3	
16-Oct-13	7.7	8	10	0.141	9.1	
12-Nov-13	7.69	8	10	0.126	9.1	
17-Dec-13	7.67	5	10	0.131	3	

Kaslo Effluent Quality Data

Date	pH	TSS (mg/L)	BOD5 (mg/L)	Ammonia (mg/L)	Coliforms, Fecal (MPN/100mL)	Coliforms, Total (MPN/100mL)
14-Jan-14	7.61	15	10	0.098	3	
18-Feb-14	7.6	12	10	0.144	3	
25-Mar-14	7.82	9	10	0.083	9.1	
22-Apr-14	7.77	2	10	0.054	110000	
24-Jun-14	7.09	17	10	0.124	3	
22-Jul-14	7.73	8	10	0.281	3	
26-Aug-14	7.72	9	10	0.059	23	
30-Sep-14	7.61	16	10	0.039	3	
28-Oct-14	7.65	19	10	0.156	3	
26-Nov-14	7.54	32	11	0.048	3.6	
17-Dec-14	7.64	28	11	0.023	3	
05-Feb-15	7.76	24	10	0.02	3	
03-Mar-15	7.71	17	10	0.02	3	
01-Apr-15	7.55	54	16	0.21	3.6	
07-May-15	7.73	20	11	0.037	3	
04-Jun-15	7	17	10	0.14	3	
02-Nov-15	7.48	24	10	0.061	3	
30-Jul-15	7.51	18	10	0.24	3.6	
03-Sep-15	7.81	12	10	0.187	23	
07-Oct-15	7.73	10	11	0.074	23	
03-Dec-15		10	10	0.089	9.1	

**Appendix 2.**  
**Kaslo Effluent Quantity Data**





Kaslo Effluent Daily Flow Data (m3/day)

Month	Day	2010	2011	2012	2013	2014	2015
Jan	1	96	123	71	77	69	54
Jan	2	96	123	70	90	71	55
Jan	3	96	134	78	80	59	54
Jan	4	96	120	80	76	59	54
Jan	5	132	155	72	75	58	54
Jan	6	91	105	95	75	63	54
Jan	7	85	118	95	76	115	55
Jan	8	90	116	94	88	69	58
Jan	9	99	116	61	91	63	57
Jan	10	99	120	106	76	68	57
Jan	11	99	130	69	82	68	59
Jan	12	120	130	122	82	67	57
Jan	13	117	132	71	81	68	55
Jan	14	100	132	70	65	55	62
Jan	15	98	132	70	69	54	55
Jan	16	98	133	70	70	63	72
Jan	17	98	127	83	76	49	72
Jan	18	98	122	95	65	48	72
Jan	19	95	124	76	65	48	82
Jan	20	100	136	74	64	57	85
Jan	21	91	125	73	78	62	76
Jan	22	95	125	73	76	64	63
Jan	23	105	126	73	75	55	59
Jan	24	105	111	72	72	66	58
Jan	25	105	125	82	71	66	59
Jan	26	115	125	102	71	65	71
Jan	27	115	132	67	71	63	72
Jan	28	110	119	67	73	53	69
Jan	29	63	119	66	79	54	54
Jan	30	127	120	80	69	64	65
Jan	31	127	113	75	69	67	66
Feb	1	127	139	83	62	67	37
Feb	2	143	105	79	62	67	37
Feb	3	129	112	80	61	54	64
Feb	4	132	110	79	68	57	54
Feb	5	146	110	80	82	75	56
Feb	6	146	109	82	72	52	71
Feb	7	146	132	94	70	50	56
Feb	8	192	121	86	69	50	70
Feb	9	126	135	81	69	50	55
Feb	10	126	128	91	66	50	54
Feb	11	173	126	91	65	50	66
Feb	12	97	126	90	85	56	79
Feb	13	69	127	81	79	69	66
Feb	14	161	131	96	71	73	66
Feb	15	161	148	74	91	73	66
Feb	16	161	149	88	90	72	74
Feb	17	136	119	81	90	74	51
Feb	18	156	139	81	90	64	73
Feb	19	120	139	80	89	68	69
Feb	20	130	140	74	87	69	71
Feb	21	125	141	87	62	56	71
Feb	22	125	133	92	67	55	71
Feb	23	135	135	102	67	55	82
Feb	24	103	124	79	66	58	59
Feb	25	143	130	79	77	60	67
Feb	26	135	130	78	79	61	51
Feb	27	128	128	85	86	74	61
Feb	28	128	132	92	78	69	63
Feb	29			110			

Kaslo Effluent Daily Flow Data (m3/day)

Month	Day	2010	2011	2012	2013	2014	2015
Mar	1	120	131	79	74	69	62
Mar	2	131	130	100	74	69	71
Mar	3	105	146	100	73	48	65
Mar	4	105	130	99	69	95	80
Mar	5	126	131	85	79	79	80
Mar	6	110	131	74	69	136	69
Mar	7	110	111	94	68	94	69
Mar	8	111	127	90	65	93	69
Mar	9	124	127	87	65	93	69
Mar	10	144	133	87	63	98	94
Mar	11	106	115	87	57	76	70
Mar	12	103	115	97	81	83	69
Mar	13	115	115	82	54	76	66
Mar	14	115	111	86	71	79	65
Mar	15	115	129	88	74	79	65
Mar	16	131	135	92	74	78	59
Mar	17	137	120	92	74	71	66
Mar	18	114	127	91	71	71	69
Mar	19	120	127	81	54	70	63
Mar	20	121	127	96	69	85	60
Mar	21	121	144	96	60	80	60
Mar	22	122	130	97	51	80	60
Mar	23	123	127	89	50	79	69
Mar	24	118	130	89	51	65	62
Mar	25	118	119	89	51	64	61
Mar	26	159	119	109	70	69	61
Mar	27	110	119	97	46	62	65
Mar	28	110	126	117	48	75	65
Mar	29	110	129	107	47	75	64
Mar	30	114	129	93	48	74	70
Mar	31	126	132	93	51	73	66
Apr	1	132	128	93	51	70	94
Apr	2	131	128	89	51	79	68
Apr	3	131	128	108	59	75	67
Apr	4	117	127	106	59	71	70
Apr	5	117	140	117	69	70	69
Apr	6	119	114	85	68	70	69
Apr	7	124	131	85	68	74	83
Apr	8	134	135	85	62	86	75
Apr	9	128	134	79	53	70	92
Apr	10	128	134	83	76	74	65
Apr	11	128	131	109	47	57	65
Apr	12	130	142	98	82	57	65
Apr	13	126	139	91	82	56	71
Apr	14	150	134	91	81	108	68
Apr	15	119	131	91	101	71	73
Apr	16	143	130	104	89	65	77
Apr	17	143	130	94	92	77	68
Apr	18	143	133	88	81	77	68
Apr	19	132	139	124	81	77	68
Apr	20	135	138	89	81	93	76
Apr	21	166	138	89	80	92	80
Apr	22	149	138	89	91	88	90
Apr	23	129	138	90	88	84	71
Apr	24	129	117	90	80	95	65
Apr	25	129	117	123	98	78	64
Apr	26	129	151	84	85	77	64
Apr	27	125	96	97	84	77	72
Apr	28	143	97	97	84	95	69
Apr	29	140	105	96	86	85	79
Apr	30	116	105	88	75	106	66

Kaslo Effluent Daily Flow Data (m3/day)

Month	Day	2010	2011	2012	2013	2014	2015
May	1	117	105	88	108	99	70
May	2	117	107	104	85	92	70
May	3	117	63	110	85	91	70
May	4	143	95	95	84	91	71
May	5	134	102	95	84	94	82
May	6	128	93	94	98	90	74
May	7	152	93	115	129	83	87
May	8	133	94	112	95	85	81
May	9	133	100	109	92	79	81
May	10	133	84	87	94	79	81
May	11	150	78	101	93	78	84
May	12	134	87	101	93	84	96
May	13	136	96	100	97	100	91
May	14	150	97	116	106	89	90
May	15	140	96	119	92	100	111
May	16	140	93	122	102	105	111
May	17	140	97	124	125	105	134
May	18	151	97	144	125	105	134
May	19	160	99	143	125	104	112
May	20	164	124	143	124	112	94
May	21	144	124	107	110	87	118
May	22	198	124	107	117	92	100
May	23	198	126	143	103	78	99
May	24	143	105	142	89	78	99
May	25	143	104	159	89	78	95
May	26	159	100	159	88	120	86
May	27	165	92	158	103	103	85
May	28	129	92	182	88	80	84
May	29	144	92	173	94	80	90
May	30	144	100	161	96	76	90
May	31	144	106	142	89	76	89
Jun	1	148	115	146	88	75	88
Jun	2	143	98	146	88	83	79
Jun	3	166	97	146	117	70	125
Jun	4	137	96	110	157	73	110
Jun	5	149	96	130	118	91	105
Jun	6	149	98	128	100	82	106
Jun	7	149	100	125	97	81	105
Jun	8	140	99	111	97	81	107
Jun	9	152	110	110	96	76	126
Jun	10	139	111	111	100	67	133
Jun	11	146	111	135	98	96	121
Jun	12	158	110	169	114	85	90
Jun	13	158	104	117	102	81	90
Jun	14	158	147	121	95	81	89
Jun	15	164	112	122	96	81	76
Jun	16	144	105	122	95	81	131
Jun	17	165	112	122	100	69	107
Jun	18	110	112	122	125	66	100
Jun	19		111	122	103	110	114
Jun	20		110	130	141	91	114
Jun	21		101	131	102	90	113
Jun	22	164	103	130	100	90	111
Jun	23	172	104	130	100	91	110
Jun	24	158	102	129	104	94	100
Jun	25	205	101	130	121	103	116
Jun	26		101	124	144	104	117
Jun	27		100	137	122	105	117
Jun	28	160	131	121	120	105	117
Jun	29	165	95	169	120	105	112
Jun	30	185	127	169	122	163	128

Kaslo Effluent Daily Flow Data (m3/day)

Month	Day	2010	2011	2012	2013	2014	2015
Jul	1	164	127	168	122	131	128
Jul	2	165	127	158	149	124	142
Jul	3	167	128	164	132	130	135
Jul	4	167	121	148	144	138	134
Jul	5	167	131	160	125	140	135
Jul	6	163	165	143	125	138	136
Jul	7	174	126	143	124	142	129
Jul	8	180	131	142	117	118	144
Jul	9	183	131	156	156	131	123
Jul	10	177	130	134	143	123	121
Jul	11	177	127	185	136	98	121
Jul	12	177	138	185	134	97	120
Jul	13	176	169	153	134	97	164
Jul	14	190	123	153	134	122	121
Jul	15	180	137	153	124	131	151
Jul	16	175	138	204	110	142	109
Jul	17	183	137	162	143	135	132
Jul	18	183	141	178	122	133	132
Jul	19	183	155	157	128	133	131
Jul	20	176	144	128	128	132	127
Jul	21	188	128	128	127	121	131
Jul	22	197	147	163	127	123	105
Jul	23	196	147	146	186	124	123
Jul	24	188	146	151	112	103	137
Jul	25	188	141	171	149	114	137
Jul	26	188	131	137	160	114	137
Jul	27	191	145	136	160	114	124
Jul	28	205	141	136	159	103	119
Jul	29	186	155	133	130	128	113
Jul	30	202	155	133	154	135	138
Jul	31	218	184	136	147	124	164
Aug	1	218	131	136	149	149	165
Aug	2	178	160	157	182	149	164
Aug	3	199	137	163	183	181	140
Aug	4	215	139	163	132	180	147
Aug	5	203	147	172	149	153	144
Aug	6	199	147	133	192	139	136
Aug	7	199	146	165	191	147	133
Aug	8	199	145	157	144	147	132
Aug	9	226	156	150	153	146	132
Aug	10	179	140	141	153	147	127
Aug	11	217	150	140	153	144	142
Aug	12	185	136	140	146	154	148
Aug	13	212	137	148	148	152	142
Aug	14	212	136	147	154	162	138
Aug	15	212	122	141	160	204	138
Aug	16	235	114	151	151	204	138
Aug	17	247	123	141	151	204	122
Aug	18	214	126	142	150	174	119
Aug	19	174	113	141	139	136	124
Aug	20	186	113	139	117	164	145
Aug	21	186	113	153	132	166	132
Aug	22	186	121	140	128	166	132
Aug	23	175	105	128	130	166	132
Aug	24	173	119	132	130	166	107
Aug	25	192	119	132	129	148	123
Aug	26	181	120	131	115	155	107
Aug	27	162	120	132	99	147	116
Aug	28	162	119	136	99	149	105
Aug	29	164	117	146	132	221	106
Aug	30	159	126	123	132	91	105
Aug	31	158	121	120	132	91	105

Kaslo Effluent Daily Flow Data (m3/day)

Month	Day	2010	2011	2012	2013	2014	2015
Sep	1	146	111	120	114	91	148
Sep	2	187	107	120	115	117	75
Sep	3	246	107	130	84	117	99
Sep	4	246	107	124	115	128	101
Sep	5	246	124	126	151	115	100
Sep	6	145	116	122	98	115	88
Sep	7	153	112	118	97	115	89
Sep	8	168	111	118	97	139	102
Sep	9	166	115	117	111	120	100
Sep	10	167	115	118	125	103	104
Sep	11	167	115	129	129	98	98
Sep	12	167	100	108	115	89	97
Sep	13	167	148	159	106	89	97
Sep	14	175	115	108	106	88	152
Sep	15	160	116	107	105	105	133
Sep	16	169	110	107	103	94	85
Sep	17	164	111	110	104	93	90
Sep	18	164	110	110	89	104	90
Sep	19	164	132	122	87	104	89
Sep	20	172	110	122	76	104	89
Sep	21	131	120	114	77	104	97
Sep	22		110	115	76	115	93
Sep	23	192	100	114	88	116	94
Sep	24	167	99	116	82	109	100
Sep	25	167	99	116	74	99	91
Sep	26	168	88	126	98	106	91
Sep	27	208	83	106	88	105	90
Sep	28	191	101	119	88	105	101
Sep	29	160	100	118	87	108	73
Sep	30	157	132	118	77	108	117
Oct	1	147	133	108	85	95	91
Oct	2	147	133	126	70	98	89
Oct	3	148	84	107	71	82	88
Oct	4	141	101	110	71	82	88
Oct	5	139	97	105	70	82	81
Oct	6	149	96	105	71	148	73
Oct	7	156	102	104	72	64	86
Oct	8	145	94	73	78	87	82
Oct	9	145	93	107	80	86	75
Oct	10	192	93	110	76	85	74
Oct	11	131	97	112	75	85	74
Oct	12	150	106	108	74	79	73
Oct	13	142	97	107	74	80	60
Oct	14	131	86	107	74	88	96
Oct	15	136	86	117	90	109	82
Oct	16	136	86	119	87	84	82
Oct	17	136	107	101	64	92	82
Oct	18	152	81	95	65	92	82
Oct	19	130	96	98	64	91	69
Oct	20	140	105	98	64	74	75
Oct	21	169	102	97	69	78	80
Oct	22	138	103	105	63	85	69
Oct	23	138	102	89	65	71	71
Oct	24	138	145	90	68	67	71
Oct	25	135	129	105	59	67	70
Oct	26	136	93	113	58	67	69
Oct	27	149	123	113	58	57	66
Oct	28	137	105	113	54	62	67
Oct	29	138	105	130	70	64	72
Oct	30	138	106	97	62	64	72
Oct	31	138	65	94	58	64	72

Kaslo Effluent Daily Flow Data (m3/day)

Month	Day	2010	2011	2012	2013	2014	2015
Nov	1	142	80	96	68	65	71
Nov	2	149	87	107	67	65	64
Nov	3	146	92	107	67	65	61
Nov	4	147	84	106	59	80	68
Nov	5	130	84	109	61	74	50
Nov	6	130	84	90	106	74	72
Nov	7	130	90	89	112	70	72
Nov	8	141	90	99	85	70	72
Nov	9	132	112	88	85	70	49
Nov	10	130	84	87	100	65	65
Nov	11	130	84	87	100	64	65
Nov	12	137	73	80	95	71	84
Nov	13	137	73	82	95	66	59
Nov	14	138	82	92	98	65	59
Nov	15	128	80	87	92	64	59
Nov	16	142	76	91	91	64	58
Nov	17	153	82	91	91	54	70
Nov	18	131	81	90	103	76	45
Nov	19	128	81	84	92	90	61
Nov	20	128	81	115	83	64	61
Nov	21	128	75	83	84	73	61
Nov	22	130	100	93	80	73	61
Nov	23	149	79	78	85	73	54
Nov	24	152	74	77	85	66	69
Nov	25	140	70	77	100	79	74
Nov	26	145	69	77	99	87	54
Nov	27	145	69	89	94	109	62
Nov	28	145	65	90	98	89	62
Nov	29	137	78	90	105	88	61
Nov	30	127	91	93	105	88	61
Dec	1	128	98	93	104	63	
Dec	2	116	67	93	110	73	
Dec	3	119	67	90	86	58	
Dec	4	119	66	92	117	55	
Dec	5	120	68	94	80	54	
Dec	6	109	78	85	103	54	
Dec	7	115	75	75	102	54	
Dec	8	116	77	75	102	52	
Dec	9	118	71	74	96	66	
Dec	10	128	72	94	93	65	
Dec	11	128	72	72	98	58	
Dec	12	128	79	79	102	50	
Dec	13	129	82	80	94	50	
Dec	14	131	70	75	94	49	
Dec	15	144	66	75	94	49	
Dec	16	127	82	74	105	55	
Dec	17	128	81	71	93	64	
Dec	18	128	81	74	94	51	
Dec	19	130	71	92	95	58	
Dec	20	135	79	91	98	56	
Dec	21	117	79	87	98	56	
Dec	22	114	73	86	98	61	
Dec	23	122	70	86	124	63	
Dec	24	116	70	75	73	56	
Dec	25	116	69	75	74	56	
Dec	26	117	89	73	73	55	
Dec	27	132	89	95	91	54	
Dec	28	109	87	89	91	53	
Dec	29	126	72	88	91	59	
Dec	30	120	81	88	84	59	
Dec	31	123	81	78	70	54	

## APPENDIX G

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### Draft Operational Certificate

**MINISTRY OF ENVIRONMENT AND CLIMATE CHANGE STRATEGY  
OPERATIONAL CERTIFICATE**

XXXX

*Under the Provisions of the Environmental Management Act and in accordance with the Metro  
Vancouver Integrated Liquid Waste and Resource Management Plan*

**The Village of Kaslo**

**Box 576, 312 Fourth St, Kaslo, BC, V0G 1M0**

shall operate a municipal wastewater treatment plant located at 2<sup>nd</sup> Street, Village of Kaslo, British Columbia, subject to the terms and conditions listed below. Contravention of any of these conditions is a violation of the *Environmental Management Act* and may lead to prosecution.

**1. AUTHORIZED DISCHARGE**

**1.1 Authorized Source**

This section applies to the discharge of final secondary treated effluent from the Kaslo Wastewater Treatment Plant serving the Village of Kaslo to Kaslo Bay. The site reference number for this discharge is E222787.

1.1.1 The maximum rate of discharge is 370 cubic metres (m<sup>3</sup>) per day.

1.1.2 The concentration level of the discharge must be:

5-day Carbonaceous Biochemical Oxygen Demand (CBOD<sub>5</sub>)

- 30 milligrams per litre (mg/L), maximum; and

Total Suspended Solids (non-filterable residue) (TSS)

- 45 mg/L, maximum; and

Total Ammonia Nitrogen

- 10 mg/L, maximum; and

Fecal coliform

- 200 MPN/100 millilitres; and

Fish bioassay (rainbow trout), 96 hour LC<sub>50</sub>, %

- 50% mortality, maximum

1.1.3 The authorized works, located approximately as shown on Site Plan A are:

- Flow equalization tank;
- Primary clarifier;
- Rotating biological contactor,
- Secondary clarification facilities;
- Effluent Filter;
- Ultraviolet (UV) disinfection,
- Odour control and
- Submerged diffuser outfall.



- 1.1.4 The authorized works must be complete and in operation while discharging to ensure it meets final effluent quality.
- 1.1.5 The location of the facilities from which the discharge originates is Lots 5-6, Block 6, D.L. 208 PL393.
- 1.1.6 The location of the point of discharge is Kaslo Bay, Lot 209, Block 15, Kootenay District.

## **2. GENERAL REQUIREMENTS**

### **2.1 Maintenance of Works**

The operational certificate holder shall inspect the authorized treatment works regularly and maintain them in good working order. Notify the Director of any malfunction of these works.

### **2.2 Emergency Procedures**

During and/or after an emergency event or condition, the operational certificate holder shall conduct sampling and analysis of discharges which might be non-compliant with this operational certificate.

Within 30 days of the emergency event or condition, the operational certificate holder must provide a report including results of sampling and analysis, non-compliance with this operational certificate, corrections to the operational system, root cause(s) of the emergency event or condition, and decisions for corrective and preventative action to the Director, Environmental Protection, or designated Officer.

### **2.3 Bypasses**

The discharge of effluent which has bypassed the designated treatment works is prohibited unless the approval of the Director is obtained and confirmed in writing.

### **2.4 Process Modifications**

The Director must be notified prior to implementing changes to any process that may negatively affect the quality and/or quantity of the discharge. Despite notification under this section, permitted levels must not be exceeded.

### **2.5 Posting of Outfall**

A sign must be erected along the alignment of the outfall above high water mark. The sign shall identify the nature of the works. The wording and size of the sign must be acceptable to the Director.

### **2.6 Treatment Plant Sludge Wasting and Disposal**

Sludge wasted from the treatment plant must be beneficially utilized or disposed of to a site and in a manner approved by the Director, or as authorized by regulation under the *Environmental Management Act*.

### **2.7 Trucked Wastes**

The operational certificate holder shall not accept Hazardous Wastes as defined in

the Hazardous Waste Regulation under the *Environmental Management Act* for disposal at the treatment plant. Tests shall be conducted as deemed necessary to ensure that unacceptable wastes are identified.

## **2.8 Backup Power**

The operational certificate holder shall provide an independent backup power system to ensure non-interrupted operation of the treatment facility during power outages.

## **2.9 Facility Classification and Operator Certification**

The operational certificate holder must have the authorized works classified (and the classification must be maintained) by the Environmental Operators Certification Program Society (Society). The authorized works must be operated and maintained by persons certified within and according to the program provided by the Society. Certification must be completed to the satisfaction of the Director. In addition, the Director must be notified of the classification level of the facility and certification level of the operator with the highest certification level of the facility, and changes of operators and/or operator certification level of the operator with the highest certification level of facility.

## **2.10 Disinfection**

The effluent must be disinfected. If chlorine is used, the effluent must be dechlorinated below 0.1 mg/L total residual chlorine before discharge.

## **2.11 Component and Reliability Requirements**

Until the Component and Reliability Requirements described in section 35 of the Municipal Wastewater Regulation are met, the following additional standby facilities shall be provided;

1. A minimum storage capacity at the sewage treatment plant equal to 24 hours capacity at average daily flows.
2. Standby main drive shaft for the rotating biological contactor, unless the permittee can demonstrate to the satisfaction of the Director the ability to obtain and replace a damaged shaft within 24 hours of failure.

## **2.10 Odour Control**

Should objectionable odours, attributable to the operation of the sewage treatment plant, occur beyond the property boundary, as determined by the Regional Waste Manager, measures or additional works will be required to reduce odour to acceptable levels.

# **3. MONITORING, PROCEDURES AND REPORTING REQUIREMENTS**

## **3.1 Discharge Monitoring**

### **3.1.1 Flow Measurement**

Provide and maintain a suitable flow measuring device and record once per day the effluent volume discharged over a 24-hour period. The flow measurement

device must be maintained and calibrated according to manufacturer specifications and be accurate to +/- 15%.

### 3.1.2 Sampling and Analyses

Suitable sampling facilities shall be installed and maintained and samples of the effluent authorized by Section 1.1 must be obtained for analyses as indicated below. Proper care must be taken in sampling, storing and transporting the samples to adequately control temperature and avoid contamination, breakage, etc.

PARAMETER	FREQUENCY	SAMPLING TYPE	REQUIRED DETECTION LIMIT
Chlorine residual*, mg/L	Weekly	grab	0.1 mg/L
TSS, mg/L	Monthly	grab	5 mg/L
CBOD5, mg/L	Monthly	grab	10 mg/L
Fecal coliform (MPN/100 millilitres [mL])	Monthly	grab	20 MPN/100 mL
Ammonia, nitrogen, mg/L	Monthly	grab	1.0 mg/L
pH	Monthly	grab	0.1 pH units
Fish bioassay** (rainbow trout), 96 hour LC50, %	3 yearly	grab	95% confidence

\* If a disinfection method other than chlorine is used for disinfection, chlorine residual analysis does not need to be conducted.

\*\* In conjunction with fish-bioassay sampling, collect an aliquot of the same sample of effluent for the determination of total ammonia.

### 3.1.3 Additional Sampling Parameters

Every five years, starting the year after the latest amendment of this operational certificate, the operational certificate holder will submit to the Director for approval, a list of substances that will be monitored in the effluent and has been **reviewed** by the Environmental Monitoring Committee. The list will include the substance name, sampling frequency, sample type, and required detection limit.

### 3.1.4 Toxicity Failures

If the monthly bioassay test fails, the operational certificate holder must conduct a Toxicity Identification Evaluation (TIE) study for the purpose of determining the probable cause of failure.

In addition, if the 3 yearly bioassay test fails, the operational certificate holder must take a grab sample at quarterly intervals to conduct confirmation toxicity testing, but at least seven days after any previous sample. When conducting any bioassay test, the operational certificate holder must monitor ammonia levels at the same time and record the temperature and pH of the sample at the time of sampling.

If three consecutive samples pass the bioassay test, the frequency of bioassay testing shall revert back to 3 yearly testing. However, if the 3 yearly bioassay test fails, revert back to the quarterly confirmation toxicity testing until three consecutive samples pass the bioassay test at which point the sampling frequency returns to 3 yearly testing.

The results of the failed monthly bioassay test, confirmation toxicity test, and the TIE study will be submitted to the Director by the end of the month following the month that the bioassay test failure occurred.

## **3.2 Procedures**

### **3.2.1 Sampling Procedures**

Sampling is to be carried out in accordance with the procedures described in the "British Columbia Field Sampling Manual, 2013 Edition (Permittee)", or most recent edition, or by suitable alternative procedures as authorized by the Director.

A copy of the above manual is available on the Ministry web page at <https://www2.gov.bc.ca/gov/content/environment/research-monitoring-reporting/monitoring/sampling-methods-quality-assurance/bc-field-sampling-manual>.

### **3.2.2 Analytical Procedures**

Analyses are to be carried out in accordance with procedures described in the "British Columbia Laboratory Manual (2013 Permittee Edition)", or the most recent edition, or by suitable alternative procedures as authorized by the Director.

A copy of the above manual is available on the Ministry web page at <https://www2.gov.bc.ca/gov/content/environment/research-monitoring-reporting/monitoring/sampling-methods-quality-assurance/bc-field-sampling-manual>.

### **3.2.3 Quality Assurance**

The operational certificate holder must obtain from the analytical laboratory(ies) their precision, accuracy and blank data for each sample set submitted under Section 3.1.2 and 3.1.3, as well as an evaluation of the data acceptability, based on the criteria set by the laboratory, and make it available to the Director if requested.

The analytical laboratory(ies) must be accredited in accordance with the Canadian Association for Laboratory Accreditation (CALA) or an equivalent unless otherwise instructed by the Director.

## **3.3 Reporting**

### **3.3.1 Outfall Inspection**

The outfall must be inspected once every five years by a qualified professional to

ensure it is in good working condition. An inspection report must be submitted to the Director within 60 days after the inspection date.

### **3.3.2 Data Reporting**

Maintain data of analyses and flow measurements, and submit the data, suitably tabulated, to the Director for the previous year.

### **3.3.3 Non-Compliance Notification and Reporting**

The operational certificate holder must immediately notify the Director or designate by e-mail at [EnvironmentalCompliance@gov.bc.ca](mailto:EnvironmentalCompliance@gov.bc.ca), or as otherwise instructed by the Director, of any non-compliance with the requirements of this authorization by the operational certificate holder and take remedial action to remedy any effects of such non-compliance.

If the operational certificate holder fails to comply with any of the requirements of this authorization, the operational certificate holder must, within 30 days of such non-compliance, submit to the Director a written report that is satisfactory to the Director and includes, but is not necessarily limited to, the following:

- a) all relevant test results obtained by the operational certificate holder related to the non-compliance;
- b) an explanation of the most probable cause(s) of the non-compliance; and
- c) a description of remedial action planned and/or taken by the operational certificate holder to prevent similar noncompliance(s) in the future.

The operational certificate holder must submit all non-compliance reporting required to be submitted under this section by email to the Ministry's Compliance Reporting Submission Mailbox (CRSM) at [EnvironmentalCompliance@gov.bc.ca](mailto:EnvironmentalCompliance@gov.bc.ca), or as otherwise instructed by the Director. For guidelines on how to report a non-compliance or for more information visit the Ministry website:

<https://www2.gov.bc.ca/gov/content/environment/waste-management/waste-discharge-authorization/data-and-report-submissions/compliance-reporting-mailbox>.

### **3.3.4 Spill Reporting**

All spills to the environment (as defined in the Spill Reporting Regulation) must be reported immediately in accordance with the Spill Reporting Regulation. Notification shall be via the Provincial Emergency Program at 1-800-663-3456.

## **3.4 Annual Operational Certificate Fees**

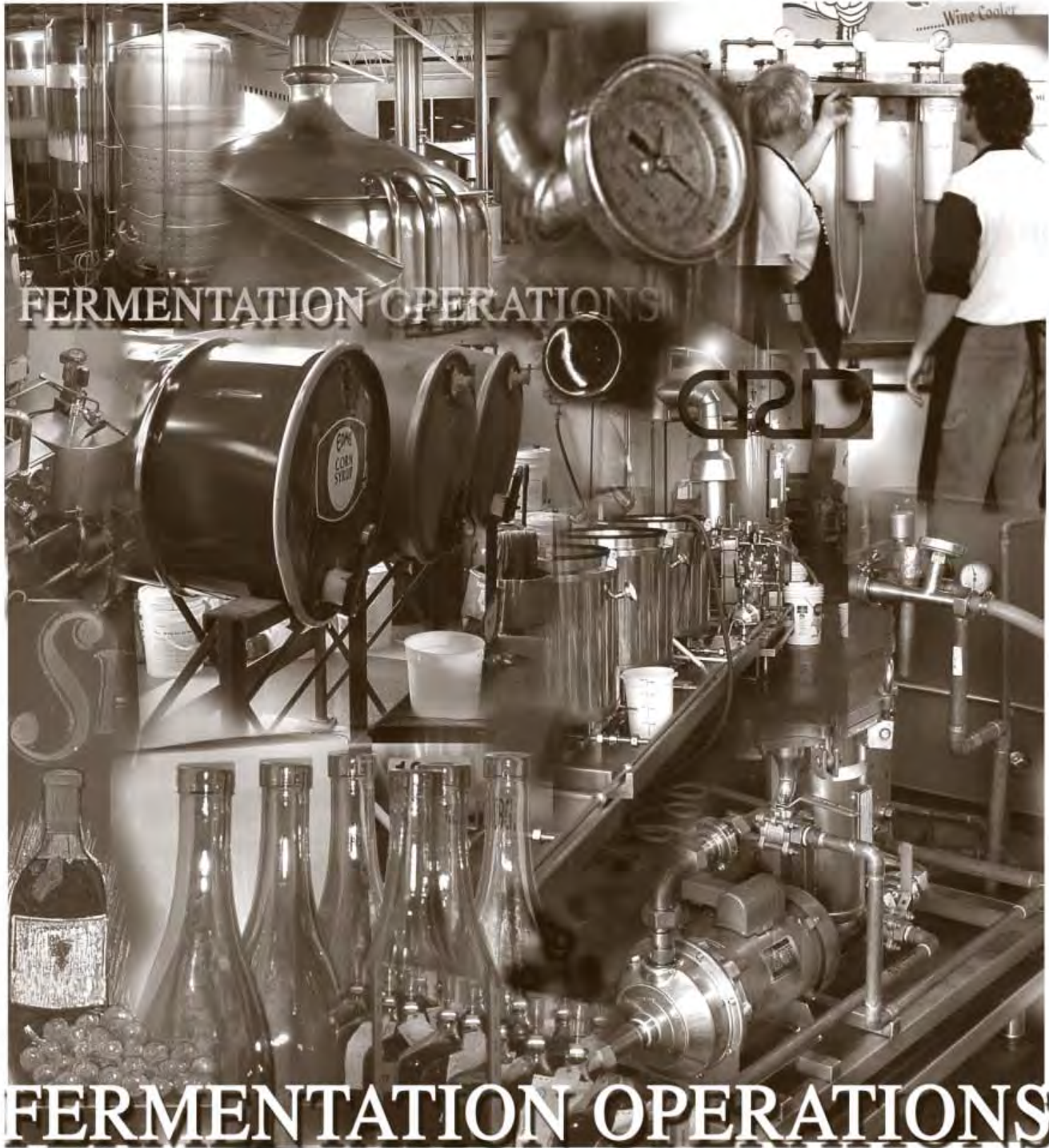
The maximum daily discharge loadings for CBOD5 and TSS for the final effluent are to be used for the calculation of annual operational certificate fees. Daily discharge loading is the total amount of contaminants discharged per day (contaminant concentration multiplied by rate of discharge).

## APPENDIX H

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Examples of Fermentation Codes of Practice and Bylaws

# Environmental Regulations & Best Management Practices



Fermentation Operations in the Capital Regional District

# **ENVIRONMENTAL REGULATIONS & BEST MANAGEMENT PRACTICES**

## **Fermentation Operations in the Capital Regional District**

This manual is published by the Regional Source Control Program  
For more information please call (250) 360-3256 or visit the CRD  
web site at [www.crd.bc.ca](http://www.crd.bc.ca)

Regional Source Control Program  
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Victoria, BC V8W 2S6

September 2002





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# 1.0 INTRODUCTION

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The Capital Regional District (CRD) Regional Source Control program has identified fermentation operations as contributing significant amounts of contaminants into the region's sanitary sewer system. The fermentation sector is comprised of about 45 businesses throughout the district, including brewpubs, microbreweries, cottage breweries, brew-on-premises, vint-on-premises, wineries and distilleries. Current waste management practices within the fermentation sector are a concern because they generate large volumes of high-strength organic wastes, often containing caustics and acids, which end up being discharged to the region's sanitary sewer system and the marine receiving environment.

The CRD's Regional Source Control program has prepared this document in cooperation with representatives from the Hobby Brewers Association of BC and sector operators. It serves as a guide to the environmental regulations that apply to fermentation operations within the CRD. It also provides information on best management practices and serves to assist operations in meeting these regulations and improving their overall environmental performance.

## 1.1 Why are Effluents from Fermentation Operations a Concern?

- Liquid effluent from fermentation operations may contain contaminants such as suspended solids, sulphides and other chemicals and substances in concentrations above the levels specified under the CRD's Sewer Use Bylaw.
- Suspended solids may contribute significantly to the biochemical oxygen demand (BOD) and chemical oxygen demand (COD) loading in municipal sewage. High concentrations of BOD and COD (organic materials) can have an adverse effect on aquatic organisms by removing available oxygen from the water. Some cleaning chemicals can also be toxic to aquatic organisms.
- High organic loadings may contribute to the generation of odours in the sewer system and corrosion of sewer pipes.
- Variable pH, as a result of caustic and acidic cleaners and acidic waste beer or wine, may also be a concern. Caustics and acids are corrosives that may, in large volumes, cause damage to sewer collection and treatment works and shorten the lifespan of sewer infrastructure.

## 1.2 Summary of Regulatory Requirements

### 1.2.1 Federal Government

The Canadian government has no specific requirements for the management of fermentation sector wastes. However, regulations adopted under federal enactments

such as the *Transportation of Dangerous Goods Act* contain provisions that apply to the general transportation and handling of hazardous materials. The *Canadian Environmental Protection Act* gives Environment Canada the power to regulate substances that have been declared toxic as defined in the *Act*.

## **1.2.2 Provincial Government**

### **1.2.2.1 BC Regulations**

The *BC Spill Reporting Regulation* requires reporting of spills of any materials that could cause pollution. The regulation identifies the chemicals and the minimum spill quantities that must be reported to the provincial Emergency Program (PEP).

The *BC Plumbing Code* specifies standards for the design and installation of plumbing systems.

The *Occupational Health and Safety Regulation* contains requirements for Workplace Hazardous Materials Information System (WHMIS) training, including chemical labeling, storage and record keeping.

The BC Ministry of Water, Land and Air Protection regulates the generation, storage, treatment, recycling and disposal of special wastes to the environment through the *BC Special Waste Regulation* (BCSWR) under the *BC Waste Management Act*. Section 39 of the BCSWR restricts the deposit or discharge of special waste into any waste disposal system operated by a municipality or other public authority. Such waste disposal systems include:

- sanitary sewers,
- storm sewers or watercourses,
- septage disposal facilities, and
- solid waste landfills.

## **1.2.3 Regional Government**

### **1.2.3.1 CRD Sewer Use Bylaw**

Under the provincial *Waste Management Act*, the CRD is empowered to regulate the discharge of waste into its own sewers and into sanitary sewers owned and operated by member municipalities.

The CRD's Regional Source Control program is one of five liquid waste control programs that the CRD Board committed to during a 1992 referendum on liquid waste. On August 10, 1994, the Board of the CRD passed bylaw No. 2231, a *Bylaw to Regulate the Discharge of Waste into Sewers Connected to A Sewage Facility Operated by the CRD*. This bylaw has been recently updated as CRD ***Sewer Use Bylaw 2922, No. 5, 2001***, and is generally referred to as the Sewer Use Bylaw. The main intentions of the program are to protect:

- the marine-receiving environment,
- public health and safety,
- sewage works,

- wastewater treatment processes, and
- biosolids quality.

The bylaw also ensures:

- consistent requirements throughout the CRD,
- fair and balanced use of the CRD's facilities, and
- promotion of responsible waste management practices.

### **1.2.3.2 Other Regional or Municipal Regulations**

Other regulations that may apply to the handling and disposal of wastes from a fermentation operation within the CRD include:

- *Hartland Landfill Tipping Fee and Regulation Bylaw* (CRD), which covers the disposal of wastes at the CRD's Hartland Road sanitary landfill
- CRD Septage Disposal Bylaw, which deals with the discharge of septic tank contents into septage disposal facilities
- Municipal storm sewer bylaws, which regulate the discharge of wastes into municipal stormdrains and watercourses, and
- Municipal plumbing bylaws, which specify requirements for installation and maintenance of plumbing and drainage equipment.

## 2.0 MANDATORY REQUIREMENTS

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In many cases, companies require a waste discharge permit to discharge industrial or commercial wastes into the sewers. However, the CRD's Sewer Use Bylaw also provides for the discharge of certain types of waste under industry-specific **codes of practice**.

A *code of practice* (COP) is a regulatory document, developed by the District, which contains mandatory sanitary sewer discharge standards for specific industrial, institutional, or commercial sectors. Codes of practice set out minimum effluent treatment, equipment maintenance and record-keeping requirements for various sector operations. A business or organization operating under an approved code of practice does not require a waste discharge permit under the CRD Sewer Use Bylaw.

This section summarizes the regulatory requirements contained in the CRD Sewer Use Bylaw that apply to fermentation operations. It is intended for information and guidance purposes only. If there is any discrepancy between the information and the bylaw, the bylaw will take precedence.

The CRD has determined that wastewater from fermentation operations may contain **restricted waste** as defined in the bylaw. Facilities that discharge **restricted waste** must either operate under a waste discharge permit, a code of practice or an authorization.

Fermentation operations that follow the **Code of Practice for Fermentation Operations** (Schedule "P" of the Sewer Use Bylaw) are authorized to discharge specific types of waste into the sanitary sewer without a waste discharge permit. The CRD reserves the right, if deemed necessary by the sewage control manager, to require any fermentation operation to obtain a waste discharge permit. All other terms and conditions of the Sewer Use Bylaw apply to the discharge to the sanitary sewer.

### 2.1 Application

A fermentation operation is defined as any commercial business or operation where alcoholic beverages are produced including:

- brew pubs,
- brew clubs,
- microbreweries,
- cottage breweries,
- wineries,
- brew-on-premises operations,
- vint-on-premises operations, and/or
- distilleries.

Anyone working in the fermentation sector must follow this code of practice if they want to use the sewer connected to a sewage facility system for wastewater other than that from toilets and washrooms.

## **2.2 Discharge Regulations**

Fermentation operations must not discharge into the sewer non-domestic waste that contains:

- restricted waste as defined in the bylaw (e.g. pH waste lower than 5.5 or higher than 11.0.)
- prohibited waste – anything that could cause a fire or explosion, block the sewers, cause odours or corrode or damage the sewer system
- uncontaminated water in quantities greater than two cubic meters per day (uncontaminated water takes up valuable sewer line capacity that could be used to handle wastewater that needs treatment).

### **2.2.1 Installation of Treatment Works**

Existing operations will be required to have the following treatment works or practices by **January 1, 2003**.

Solids from a mash tun, mash tun washing, brewing kettle, brewing kettle washing, or backflushing mash tun strainers or filters or trub filters must be removed from wastewater prior to discharge to sewer by:

- use of a strainer or a filter with sieve size no greater than 1000 microns ( $\mu\text{m}$ ); or solids settling in a separate vessel and discharging the decant water, or
- alternate treatment, or combination of treatments, that reduces the discharge quality to below the restricted waste criteria *and* has been accepted in writing by the manager.

Liquid wastes from cleaning and sterilizing activities must be tested for pH and adjusted to a pH between 5.5 and 11.0 prior to discharge to sewer.

Existing operations that produce residue containing yeast on or after **July 1, 2003** must:

- collect and transport the waste from the fermentation operation for off-site waste management, or
- filter the effluent using a filter with a sieve size no greater than 10 microns ( $\mu\text{m}$ ) prior to discharging to sewer.

## **2.2.2 Off-Site Waste Management**

As an alternative to disposal to sanitary sewer with the required treatment, off-site management is an option.

- Spent grains, hops and trub collected from all filters, mash tuns and kettles should be collected and reused *or* recycled as valuable byproduct for use as animal feed, compost material, cooking ingredients or disposed of in the garbage.
- Residue containing yeast such as wine racking lees and beer fermentation yeast should be removed off-site (and not discharged to sewer) *or* dewatered and disposed of in the garbage.

## **2.2.3 Installation of Sampling Tees**

As of **January 1, 2003**, new fermentation operations must install one or more sampling tees downstream of the connection to sewer of all process waste.

Existing operations – those operating on or before **January 1, 2003** – must install a sampling tee only if improvements in excess of \$2,000 are made to the facility or if they discharge non-domestic waste into a sewer above the restricted waste limits contained in the bylaw.

The sampling tee must be the same diameter as the discharge line and shall be installed so that it opens in a direction at right angles to, and vertically above, the flow in the sewer pipe. It must be readily and easily accessible at all times.

## **2.3 Registration**

All fermentation sector operations under this code of practice must register with the CRD Regional Source Control program and report any subsequent change in the status of their operation to the CRD. See Schedule “H” of Bylaw 2922, Code of Practice Registration Form.

## **2.4 Record Keeping and Retention**

The operator of the fermentation operation must keep written records to show due diligence regarding site activities and to demonstrate that requirements of the code of practice have been met. Please see inside back of cover for a sample *Record Keeping Form for Fermentation Sector Operations*.

Fermentation operations must keep accurate and up-to-date records of treatment methods and procedures for a period of two years. This includes:

- method of removing solids from the mash tun and mash tun wash water,
- method of treatment of kettle wastewater and kettle wash water,

- method(s) of solids removal from wastewater generated by backflushing mash tun strainers or filters, and backflushing trub filters,
- method of treatment to remove yeast residue,
- location of sampling tee, and
- method of pH measurement and pH adjustment for wastewater containing acid and caustic cleaners, and results and dates of pH testing.



## 3.0 BEST MANAGEMENT PRACTICES

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Best management practices (BMP's) are activities developed to help operators reduce the amount of contaminants discharged to the environment, to comply with regulations and to improve overall waste management practices. BMP's are based on the pollution prevention (P2) principle, which emphasizes reducing or eliminating pollutants and toxic materials at their source rather than removing them from a mixed waste stream. Preference should be given to the practices highest in the following P2 hierarchy:

- Avoidance, elimination or substitution of polluting products or materials
- Reduction in the use of polluting products or materials
- Elimination and reduction of the generation of polluting by-products
- Reuse and recycling of polluting by-products
- Treatment or containment of polluting residual by-products
- Energy recovery from polluting by-products.

The following BMP's will help fermentation business operators decrease the amounts of contaminants entering the sewer system, comply with regulations, improve their operations and save money through application of pollution prevention principles. Operators are also encouraged to influence suppliers by requesting and purchasing less toxic alternatives or biodegradable cleaners and sterilization products, and buying from suppliers who accept materials and containers back for recycling.

Some examples of these BMP's are listed under "Resource Materials" in Section 4.1. Important elements contained in these BMP's are summarized below.

### 3.1 Treatment Methods

#### Mash Tun

To prevent solids from being discharged to the sewer during this stage:

- minimize last runnings by measuring or estimating sparge water quantity
- collect spent grains in mash tun and wash water by straining or filtering through a 1000 micron ( $\mu\text{m}$ ) filter, settling and decanting or vacuuming and not discharging to sewer
- collect spent husks and grains by straining, screening, filtering, settling and decanting or vacuuming and not discharging to sewer.

## **Boiling Stage**

To prevent solids from being discharged to the sewer:

- place grains and leaf hops in filter socks, sparging bags or other containers prior to entering the beer kettle so they can be removed from the kettle at the completion of the cooking process and not discharged into the sewer,
- settle and decant all liquids and solids remaining in the kettle after cooking, or filter with sieve size of no greater than 1000 microns,
- filter wash water used during cleaning of the kettle with sieve size of no greater than 1000 microns ( $\mu\text{m}$ ), or collect, settle and decant.

## **Fermentation Stage (beer, wine, coolers and cider)**

For used yeast from the fermentation process:

- contain it in the fermentation vessel or plastic bags,
- collect and/or dewater by filter or filter press and reuse or recycle, or
- filter through a 10 micron ( $\mu\text{m}$ ) filter.

## **3.2 Solids Management**

- Reuse or recycle oak chips collected from racking lees, spent grains, hops and trub from mash tun and kettle and filters as cooking ingredients, animal feed, fertilizer, or compost material. As a last resort, dispose of the collected grains, hops, trub and oak chips in the garbage.
- Use spent yeast as a valuable byproduct (such as cooking ingredients), reuse it in the next fermentation batch, or recycle it as animal feed or fertilizer. As a last resort, dispose of the collected yeast in the garbage.

## **3.3 Cleaning and Sterilization Products**

Investigate ways to reduce the amount of cleaning performed on site. Use clean-in-place systems to conserve water during the cleaning process. Avoid the use of chlorinated caustic chemicals as much as possible and use elbow grease and scrub pads or other manual methods. Other options include the use of biodegradable cleaners to replace caustic and sulphide containing cleaning products.

- Collect liquid wastes from cleaning and sterilizing activities and test for pH, using a pH meter or pH test paper, prior to disposal as outlined in Section 2.2.1. Caustic solutions can be treated by addition of mild acid such as vinegar or citric acid or by bubbling carbon dioxide through the alkaline solution before discharge. Acid solutions can be treated by the addition of baking soda or a weak lime solution.

### **3.4 Water and Energy Use**

- Monitor water consumption to keep track of how much is being used and for what purpose. Where possible, alternatives to water-cooled chilling equipment should be investigated (e.g., air-cooled compressors).
- Install small water meters on hoses, taps and other water lines so that employees can track water use.
- Recover heat from hot processes as much as possible. Heat recovery from the boiling stage and fermentation can be achieved using a heat exchanger.

### **3.5 Staff/Customer Training**

- Provide training to employees in the practices identified in this document.
- Prepare written procedures and give them to each customer. Have staff provide assistance to ensure customers follow the best environmental and safety practices.

### **3.6 Inspection and Maintenance of Treatment Works**

- Inspect filter(s) or sieves for wear on a regular basis and replace when necessary.
- Post proper signage in conspicuous locations displaying contact names and phone numbers in the event of an accidental discharge of prohibited or restricted waste to the sewer or directly to the environment.

### **3.7 Spill Prevention and Response**

- Ensure that adequate and secure storage is provided for beer and wine holding tanks as well as cleaning and sterilization chemicals. Use corrosion-resistant containers that will not overturn easily. Storage with secondary containment should be used as necessary to prevent leaks and spills from draining to the sanitary or storm sewer systems.
- Develop a spill response plan and post it in a conspicuous location.
- Keep adequate amounts of clean-up equipment and supplies in stock at all times.
- Clean up spills immediately. After clean up, the treatment works should be inspected and cleaned, if necessary, before resuming wastewater discharge from the operation.

See Section 6.0 for more information on spill response plans.

### **3.8 Non-Hazardous Office Wastes**

Fermentation operations receive products in a variety of packaging that contributes to the solid waste stream. The following procedures are suggested to help operators reduce the amount of unnecessary packaging used in the industry and improve their overall environmental performance:

- choose products with the highest recyclable material content
- reduce the amount of packaging by selecting supplies or suppliers that use the least amount of packaging or that will take back reusable packaging upon delivery
- regular office waste generated by fermentation operations should be recycled whenever possible
- waste paper, plastic juice bags, carboy fermentor bags, newspaper, glass, cardboard and plastic containers should be recycled whenever possible
- check with the building manager to find out if any recycling programs are already established in the building for segregated wastes and recyclable materials

More resources on solid waste reduction and recycling are available under Section 5.

# 4.0 CODE OF PRACTICE IMPLEMENTATION PLAN

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The implementation plan for CRD codes of practice includes the following components:

- education
- inspection
- monitoring
- enforcement
- administration
- review

The Regional Source Control program staff will carry out activities related to each component in partnership with business owners in each sector code.

## 4.1 Inspections, Monitoring and Enforcement

Regional Source Control program staff may carry out inspections, examine records or other documents and take samples of effluent for analysis as specified under the Sewer Use Bylaw. Compliance sampling may also be conducted at anytime on the effluent from operations regulated under a COP. Repeat sampling may be necessary if non-compliance with COP is suspected or high contaminant concentrations are detected in previous samples.

A cooperative, gradually-escalating approach to enforcement will be used for all Regional Source Control codes of practice. This approach is established in an enforcement policy that has been approved by the CRD Board.

Where cooperative efforts to achieve compliance using the enforcement policy have failed, warnings and tickets of between \$50 and \$200 per offence may be issued under the *CRD Ticket Information Authorization Bylaw*. For more serious or continuing offences, fines up to \$10,000 per offence per day may be issued under the Sewer Use Bylaw.

# 5.0 FOR MORE INFORMATION

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For more information on the Code of Practice for Fermentation Sector Operations or the CRD Sewer Use Bylaw, please contact the Regional Source Control program at (250) 360-3256 or visit the web site at [www.crd.bc.ca/es/sc/](http://www.crd.bc.ca/es/sc/).

Other helpful sources of information include:

Background information for the Development of the Code of Practice for Fermentation Operations  
<http://www.crd.bc.ca/es/sc/pollupre.pdf>

CRD Hotline  
(250) 360-3030 ([hotline@crd.bc.ca](mailto:hotline@crd.bc.ca))

Recycling Council of BC Hotline  
1-800-667-4321

Victoria Compost Education Centre  
(250) 386-9676

Report Hazardous Waste or Chemical Spills  
Provincial Emergency Program (PEP)  
1-800-663-3456

Workplace Hazardous Materials Information Systems (WHMIS)  
<http://www.hc-sc.gc.ca/ehp/ehd/psb/whmis.htm>

Ministry of Water, Land and Air Protection  
BC Special Waste Regulation  
(250) 387-3648

B.C. Hobby Brewers & Vintners Association (HBVA)  
(604) 980-5770

Waste Management Act  
[http://www.qp.gov.bc.ca/statreg/stat/W/96482\\_01.htm](http://www.qp.gov.bc.ca/statreg/stat/W/96482_01.htm)

## 5.1 Resource Materials

Earth Tech (Canada) Inc. (July 2002) *Technical Pollution Prevention Guide and Model Code of Practice for Discharges to Sanitary Sewer for Fermentation Sector Operations in British Columbia*

Environment Canada, Environmental Protection Fraser Pollution Abatement (October 1997), *Technical Pollution Prevention Guide for Brewery and Wine Operations in the Lower Fraser Basin*.

## 6.0 GLOSSARY OF TERMS

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**Biochemical Oxygen Demand (BOD)** A test used to determine the organic content in wastewater. BOD is a measurement of the amount of dissolved oxygen used by microorganisms in the biochemical breakdown of organic matter in wastewater.

**Biodegradable cleaners** These contain no toxic or biocidal elements or compounds and are readily converted by a biological process into simple inorganic elements and compounds, such as CO<sub>2</sub>, H<sub>2</sub>O and NH<sub>3</sub>.

**Boil** The boiling of wort in order to extract hop flavours and break down proteins in the liquid.

**Brewing kettle** A large cooking vessel used for boiling, usually made of stainless steel, copper, granite or aluminum.

**Caustic cleaners** Chemical compounds with an alkaline base (pH greater than 10.5). The most common active ingredient in caustic cleaners is sodium hydroxide.

**Chemical Oxygen Demand (COD)** A test used to determine the amount of chemically oxidizable material in wastewater. COD is a measure of that portion of a wastewater stream that will readily oxidize by a chemical oxidant such as an acid.

**Code of Practice (COP)** A regulatory document developed by the CRD which contains sewer discharge standards, minimum treatment at source requirements, and best management practices for specific industrial, institutional or commercial sectors.

**Compliance sampling** The regular scheduled sample collection to meet a permit or code of practice requirement. It is also sampling carried out to assess changes in works or practice which are instigated to correct violations or exceedances detected in regularly scheduled and/or audit sampling.

**Contaminant** A substance that is not naturally present in the environment or is present in elevated amounts; which, if in sufficient concentrations, can adversely affect the environment.

**Effluent** The liquid flowing out of a facility or household into a sewer system or water body.

**Fermentation** The production of ethanol and carbon dioxide as a result of the action of yeast on sugar.

**Filter bag** A bag with a fine weave used to strain out the trub or the grains and or hops while sparging.

**Finings** Gelatin or other precipitant used to artificially speed up the clarity of the beer.

**Hops** A plant that produces cone-shaped flowers containing the flavouring and aromatic properties used in beer making.

**Lees** The proteinaceous material precipitated during fermentation which can be removed by filtration and can be used in animal feed.

**Mash Tun** The vessel in which sugars are extracted from malt by enzymes on the addition of water to produce sweet wort.

**Mashing** The process that completes the conversion of starches in grains to sugars by heat and water. The grist (cracked dried-malted barley) is then mixed with warm water in a vat until it forms a mash of porridge-like consistency. Supplementary grains are added as required at this point. The temperature of the mash is raised in steps from 38° C to 70° C allowing for the enzymes to act at each step.

**pH** The expression of the acidity or basicity of a solution as defined and determined by the appropriate procedure described in standard methods.

**Racking** Transferring the wort from one container to another by siphon hose, leaving dead yeast cells, sediment, hop dregs and so forth behind.

**Sanitary sewer** A collection system for domestic, commercial, institutional and industrial wastewater or any combination thereof.

**Sparging** The system of washing the fermentable sugars from the grains after the mash.

**Spill response plan** A written plan developed for the operator to respond to any spills at a fermentation sector operation site. As a minimum, the plan must define the roles and responsibilities for spill response, contact names and numbers for the appropriate agencies, and a checklist of all spill response equipment.

**Total suspended solids (TSS)** The amount of small particles suspended in the wastewater. Suspended solids contribute to the BOD and COD of wastewater and are known to have adverse effects on aquatic organisms.

**Trub** Waste hops and proteins generated from brew kettle bottoms.

**Wastewater** The composite of spent or used water and water-carried wastes from a community or industry that is discharged into the sewer.

**Wort** The liquid resulting from the mashing process or the unfermented liquid which contains sugars and enzymes, partially degraded starch, barley extracts and water before it becomes beer.

**Yeast** A one-celled microorganism that converts sugars to alcohol.



**RECORD KEEPING FORM FOR FERMENTATION SECTOR OPERATIONS**

Select One (✓):     Beer Brewing     Wine/ciders and coolers     Both  
Unit: \_\_\_\_\_

Section 2.2

**Method of pH Measurement for Acid and Caustic Cleaners**

\_\_\_\_\_

**Method of pH Adjustment Prior to Discharge to Sanitary Sewer**

Acids: \_\_\_\_\_

Caustics: \_\_\_\_\_

The Discharger shall Maintain a Log of Dates and Results of pH Adjustment from Section 2.2. Please see Fermentation Operation pH Log Form in Section 3.0 below.

Section 2.3

**Method of Solids Removal from Wastewater from the Mash Tun**

\_\_\_\_\_

**Method of Solids Removal from Mash Tun Washwater**

\_\_\_\_\_

**Method of Treatment of Kettle Wastewater**

\_\_\_\_\_

**Method of Treatment of Kettle Wash Water**

\_\_\_\_\_

**Method(S) of Solids Removal from Wastewater Generated by Backflushing Mash Tun Strainers or Filters**

\_\_\_\_\_

**Method of Solids Removal from Wastewater Generated by Backflushing Trub Filter**

\_\_\_\_\_

Section 2.4

**Method of Treatment to Remove Yeast Residue**

\_\_\_\_\_

Section 2.9

**Number/Location of Sampling Tees**

\_\_\_\_\_



# Metro Vancouver Fermentation Operations Bylaw Guide

Spring 2016





Metro Vancouver  
Fermentation Operations  
Bylaw Guide

Spring 2016

Metro Vancouver wishes to thank Main Street Brewing Company, Granville Island Brewing, Big Rock Urban Brewery, and R&B Brewing Co. for allowing us to use images of their fermentation operations for demonstration purposes.

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# Fermentation Operations Bylaw

**Beginning November 27, 2015, Metro Vancouver is implementing a new bylaw to reduce and prevent spent grains, fruit and yeast from smaller fermentation operations from going down the drain.**

The Fermentation Operations Bylaw applies to any business using yeast to produce alcoholic beverages and discharging up to 300 m<sup>3</sup> (300,000 L) of wastewater into the sewer within 30 days, including brew pubs, cottage breweries, micro-breweries, vint-on-premises, wineries, distilleries and u-brews.

## Ensuring waste from fermentation operations is managed responsibly

A rise in the number of fermentation operations in the Metro Vancouver region has increased the volume of spent grains, fruit and yeast entering and stressing the sewer system. The bylaw requires fermentation operations to remove solids from wastewater and monitor and control the pH of cleaning and sterilization water.

The Fermentation Operations Bylaw was developed in consultation with operators from across the region and reflects the distinct conditions of their operations. The bylaw is a set of standards operators need to meet; it was designed so there are multiple ways of achieving the standards, depending on a business' unique situation.

## Supporting fermentation operations to comply with the bylaw

This guide describes each bylaw requirement and offers support to fermentation operators to comply with the new regulation.

**The guide is a companion piece to the Fermentation Operations Bylaw which can be found at [www.metrovancouver.org](http://www.metrovancouver.org) by searching "Fermentation Operations Bylaw."**

Operators are also encouraged to contact Metro Vancouver at 604-432-6200 and speak to an Officer with any questions or comments about the bylaw. In Vancouver, the bylaw is managed and enforced by the City of Vancouver local government. Fermentation operations within the City of Vancouver should call 3-1-1 for any inquiries related to the bylaw.



### Contact information

#### **Metro Vancouver:**

Call: 604-432-6200

Email: [regulationenforcement@metrovancouver.org](mailto:regulationenforcement@metrovancouver.org)

#### **City of Vancouver:**

*(for operations in the City of Vancouver only)*

Call: 3-1-1

Email: [environmentalprotection@vancouver.ca](mailto:environmentalprotection@vancouver.ca)

## Requirement 1: Remove solids

When coarse solids like spent grains and fruit, and fine solids suspended in water, like yeast, enter the sewer it stresses the system and costs money to maintain and repair.

This requirement ensures both coarse and suspended solids are removed from wastewater.

### Bylaw requirement

- The discharge of coarse spent grains or fruit pulp to the sewer is prohibited on the date the bylaw is enacted.
- The maximum concentration of Total Suspended Solids (TSS) shall not exceed 1,200 mg/L

All operations must comply with the TSS limit effective January 1, 2017.

### Supporting compliance

Operations employing Best Management Practices for this sector usually have TSS concentrations under 800 mg/L.

### In practice

Since it is unlawful to put organic solids in the garbage, some breweries have made arrangements to have their spent grains delivered to farmers to use as feed.

Operators are encouraged to call their waste hauler to learn about customized waste management services or contact processing facilities around the region to see what materials can be accepted.

Operators can contact the Recycling Council of BC ([www.rcbc.ca](http://www.rcbc.ca)) to learn how to manage organic waste. RCBC can connect operators to the right resources to help them develop or improve an organics management program.



## Requirement 2: Provide a sampling point

To ensure operators and regulatory staff have accurate knowledge of wastewater quality, they must be able to access wastewater for sampling purposes.

### Bylaw requirement

Fermentation operations must provide a suitable sampling point that can be accessed during operating hours by July 1, 2016. A suitable sampling point must be:

- Downstream from fermentation equipment;
- Downstream from any equipment or device for treating wastewater;
- Upstream from washrooms; and
- Easily accessible.

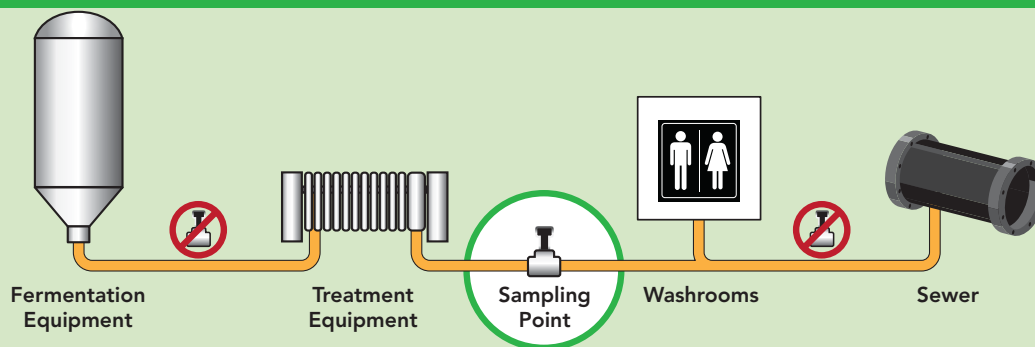
### Supporting compliance

The intent of this requirement is that both operators and Metro Vancouver staff will be able to gather a representative sample of the wastewater produced from a fermentation operation. Examples of sampling points for operations with or without treatment equipment are shown in Figures 1 and 2.

### In practice

The sampling point will be different based on the scale and type of operation. Fermentation operators are strongly encouraged to contact regulation staff to confirm their plans before installing a sampling point. Regulation staff would be pleased to provide guidance and suggestions on the appropriate sampling point type and location.

**Figure 1: Example of sampling point for fermentation operations with treatment equipment**



**Figure 2: Examples of sampling points for fermentation operations without treatment equipment**



**Fermentation Vessel**

In some cases, samples can be drawn directly from a carboy or other small fermentation vessel.



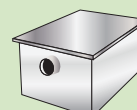
**Sink**

In operations that rinse the fermentation vessel into a sink, it may be possible to simply plug the sink and take samples from there.



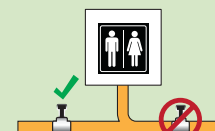
**Spigot or Check Valve**

Installing a spigot or check valve, either underneath a sink or further downstream, may be considered an acceptable sampling point.



**Trade Waste Interceptor**

It may be possible to use an existing trade waste interceptor, as long as it is accessible and upstream of washrooms.



**Sampling point must be located upstream of washrooms and other sources of wastewater unrelated to fermentation**

**Please contact regulatory staff to discuss your options prior to installing a new sampling point.**





## Requirement 4: Keep records

Records are required so regulatory staff can confirm operators are complying with the bylaw when they inspect the facility. Record keeping can also help operators understand the nature of their wastewater over time.

### Bylaw requirement

Operators are required to keep the following records:

- Hectolitres (hl) of packaged product being produced per calendar month
- Dates, times and results of pH testing

Operators must maintain records of monthly hl of product. Copies of data recorded by operators for tax purposes (Canada Revenue Agency) would be acceptable. Record keeping of daily pH testing must begin July 1, 2016.

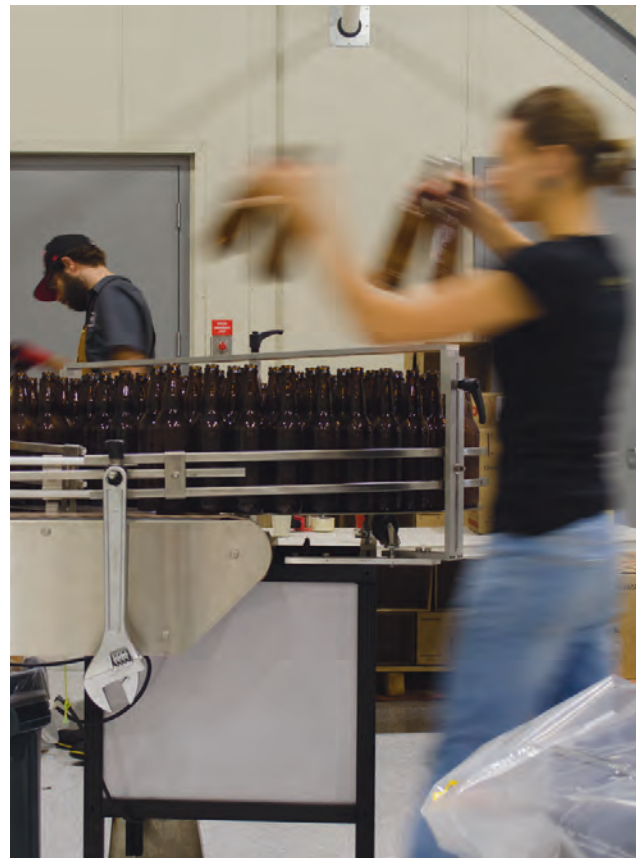
These records must be kept at the facility and available for inspection for a minimum of two years.

### Supporting compliance

Metro Vancouver has created a simple template for recording pH testing that can be copied from this guide (see page 10) or downloaded from the Metro Vancouver website and used to track this data.

Other types of forms, such as a calendar, may be used by operators as long as the required information (date, time, pH) is clearly provided.

The Characterization Report noted in Requirement 3 is all data collected between July 1 and September 30, 2016



You can download a copy of the Fermentation Operations Bylaw Monthly Reporting Form at [www.metrovancouver.org](http://www.metrovancouver.org), search: "Fermentation Operations Bylaw"



## Requirement 5: Pay treatment fees

Treatment fees are designed to recover the costs of conveying and treating the wastewater from fermentation operations.

### Bylaw requirement

All fermentation operations are required to pay an annual amount for treatment fees based on their annual production from the previous year. The annual fees are presented in the fee table, at right.

Treatment fees will be invoiced within the first six months of each calendar year beginning in 2016.

Metro Vancouver will determine the appropriate fee based on information collected for Provincial or Federal government agencies for tax purposes, or an operator's records if it is a new operation.

### TREATMENT FEE TABLE

OPERATIONS PRODUCING BEER, CIDER OR WINE		OPERATIONS PRODUCING SPIRITS
Production (hl)	Annual Treatment Fees	
0 – 1000	\$ 250	An annual \$100 treatment fee will be charged to distilleries.  Operations with mixed production (e.g. brewery and distillery at one site) do not pay the annual treatment fee for spirits if they produce beer, cider or wine.
1001 – 2000	\$ 750	
2001 - 3000	\$ 1,250	
3001 - 4000	\$ 1,750	
4001 - 5000	\$ 2,250	
5001 - 6000	\$ 2,750	
> 6001	\$ 3,500	



## Requirement 6: Pay administrative fees

Administrative fees recover the costs to administer and enforce the bylaw. These costs include staffing, sampling and analysis.

### Bylaw requirement

Operators are required to pay an annual administration fee of \$200 to Metro Vancouver or the City of Vancouver to cover the costs of regulating fermentation operations under this bylaw.

Regulatory fees will be invoiced within the first six months of each year and are payable by the date specified.

## Requirement 7: Manage discharge of off-spec product

Off-spec product (bad batches) is very high in Biochemical Oxygen Demand (BOD) which can negatively impact the region's wastewater treatment plants.



Off-spec management depends on the volume produced:

- **Off-spec over 100 litres and under 2000 litres per day:** notify Metro Vancouver or the City of Vancouver by phone or email and then discharge. No response is required from Metro Vancouver or the City of Vancouver. Record the date, time and volume of off-spec in the appropriate section of the Monthly Reporting Form.
- **Off-spec over 2000 litres per day:** contact Metro Vancouver or the City of Vancouver by phone, email or online and obtain authorization before discharging to the sewer. Record the date, time and volume of off-spec in the appropriate section of the Monthly Reporting Form. Metro Vancouver/City of Vancouver will typically respond to your notification within one to two business days.

This requirement comes into effect immediately.



### Contact information

#### Metro Vancouver:

Call: 604-432-6200

Email: [regulationenforcement@metrovancover.org](mailto:regulationenforcement@metrovancover.org)

#### City of Vancouver:

*(for operations in the City of Vancouver only)*

Call: 3-1-1

Email: [environmentalprotection@vancouver.ca](mailto:environmentalprotection@vancouver.ca)



# Compliance Plan Overview

A compliance plan is a document which includes:

- a statement of objectives
- a description of the approach that will be taken to meet the objectives
- a schedule

The compliance plan must outline your approach to resolving the compliance issue and may involve the use of your in-house resources or the services of a qualified consultant.

## Statement of Objectives

The statement of objectives must define what is to be achieved by the compliance plan and must include a compliance date.

## Description of Approach

The solution to a non-compliance issue may be immediately evident or may require further study and evaluation of alternatives. Alternatives may include:

- modification to the process generating wastewater
- modification to procedures
- repair of defective equipment, or
- installation of new treatment works.

## Schedule

A schedule for completion should be included which contains a timeline of design, procurement, construction, and system commissioning.

## Metro Vancouver Review

In reviewing the compliance plan, Metro Vancouver will evaluate the statement of objectives, the commitment of resources, and the proposed schedule. Metro Vancouver will review the compliance plan and respond with comments. Metro Vancouver's evaluation of the compliance plan and recommendations will consider

- the appropriateness of the alternatives
- data quality
- soundness of the recommendations, and
- the implementation schedule.

## Implementation of the Compliance Plan

When implementing the compliance plan, you will be required to submit regular progress reports to Metro Vancouver updating the status of the activities listed in the submitted schedule. Report frequency will be determined following completion of Metro Vancouver's evaluation.

## Completion

The compliance program is complete when you have successfully demonstrated full and consistent compliance with the requirements of the Fermentation Operations Bylaw through a compliance verification process.

## Fermentation Operations Bylaw Implementation Schedule

Requirement	Starts
<b>1. Remove solids</b>	
a. Discharge of coarse solids prohibited	November 27, 2015
b. Max. concentration of TSS must not exceed 1,200 mg/l	January 1, 2017
<b>2. Install a sampling point</b>	July 1, 2016
<b>3. Monitor and treat wastewater pH</b>	
a. Record pH	July 1, 2016
b. Submit Characterization Report (July, Aug, Sept forms)	By: October 31, 2016
c. Submit Compliance Plan (only if directed by Metro Vancouver/City of Vancouver)	By: January 31, 2017 if applicable
<b>4. Keep records</b>	
a. Record hl/month	November 27, 2015
b. Record pH on days when cleaning and sterilizing occur	July 1, 2016
<b>5. Pay Treatment Fees</b>	Invoices sent to operators between January and June every year beginning in 2016
<b>6. Pay Regulatory Fees</b>	Invoices sent to operators between January and June every year beginning in 2016
<b>7. Manage off-spec product</b>	November 27, 2015



## Important contact information

### **Metro Vancouver:**

Call: 604-432-6200

Email: [regulationenforcement@metrovancover.org](mailto:regulationenforcement@metrovancover.org)

### **City of Vancouver:**

*(for operations in the City of Vancouver only)*

Call: 3-1-1

Email: [environmentalprotection@vancouver.ca](mailto:environmentalprotection@vancouver.ca)

Metro Vancouver  
Fermentation Operations  
Bylaw Guide

Spring 2016



## GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT

### Fermentation Operations Bylaw No. 294, 2015

Whereas:

- A. The *Environmental Management Act* of British Columbia and the *Greater Vancouver Sewerage and Drainage District Act* authorize the Greater Vancouver Sewerage and Drainage District (the "District") to make bylaws respecting the direct or indirect discharge of wastes into any sewer or drain connected to a sewage facility operated by the District;
- B. The *Greater Vancouver Sewerage and Drainage District Act* authorizes the District to set fees payable by persons who discharge liquid waste into any work, service or plant of the District for conveying, disposing of, or treating liquid waste, and into any work, service, or plant connected thereto;
- C. Fermentation operations produce waste that, when discharged or discarded into sewers or drains, may obstruct the flow of, or interfere with the operation and performance of sewer and sewage facilities; and
- D. It is deemed desirable to regulate the discharge of waste from fermentation operations into sewers or sewage facilities.

NOW THEREFORE the Board of Directors of the Greater Vancouver Sewerage and Drainage District in an open meeting duly assembled enacts as follows:

#### **Citation**

1. For citation purposes, the name of this bylaw is the "Greater Vancouver Sewerage and Drainage District Fermentation Operations Bylaw No. 294, 2015" ("this *Bylaw*").

#### **Definitions**

2. For ease of reference, words that are italicized in this *Bylaw* are defined terms.

In this *Bylaw*:

"*drain*" means any pipe, conduit, channel, or other similar plumbing equipment used to convey *wastewater*;

***“fermentation equipment”*** means any tank, barrel, container, hose, pump, valve, or other similar vessel, equipment, or device used in the process of brewing, distilling, blending, flavouring, or fermenting fruits, vegetables, or grains to produce beer, cider, wine, spirits, or any other similar alcoholic drink;

***“fermentation operation”*** means any premises, except *residential premises*, at which a *person* brews, distills, or ferments fruits, vegetables, or grains to produce beer, cider, wine, spirits, or any other similar alcoholic drink made from fermentation, including brew pubs, cottage breweries, micro-breweries, U-brews, U-vins, wineries, and distilleries;

***“off-spec product”*** means any product intended to be made into beer, cider, wine, spirits, or any other similar alcoholic drink made from fermentation, which does not meet the *owner* or *operator’s* quality standard for consumption; and

***“operator”*** means any *person* who has management or control, directly or indirectly, of a *fermentation operation*, but does not include a *person* who has management or control of a *fermentation operation* that discharges *high volume discharge* into a *sewer* or *sewage facility* in compliance with a valid and subsisting *waste discharge permit* or *order* authorizing such *high volume discharge*;

***“owner”*** means any *person* who owns or has any interest in a *fermentation operation*, but does not include a *person* who owns or has an interest in a *fermentation operation* that discharges *high volume discharge* into a *sewer* or *sewage facility* in compliance with a valid and subsisting *waste discharge permit* or *order* authorizing such *high volume discharge*; and,

***“Sewer Use Bylaw”*** means *Greater Vancouver Sewerage and Drainage District Sewer Use Bylaw No. 299, 2007*.

3. Terms that are italicized but not defined in this *Bylaw* have the same meaning given to those terms in the Sewer Use Bylaw or incorporated by reference into the Sewer Use Bylaw.
4. References in this *Bylaw* to an enactment, including the Sewer Use Bylaw, include the enactment as it may be amended or replaced from time to time.

### **Part 1 – Application**

5. Every *owner* or *operator* who discharges, or allows or causes to be discharged, directly or indirectly, *wastewater* from a *fermentation operation* into a *sewer* or *sewage facility* must comply with this *Bylaw*.



## Part 2 – Restrictions

6. No *owner or operator* shall discharge, or allow or cause to be discharged, directly or indirectly, *wastewater* from a *fermentation operation* into a *sewer or sewage facility* if the *wastewater* contains any of the following:
  - (a) *high volume discharge*;
  - (b) *restricted waste*;
  - (c) *storm water*;
  - (d) *prohibited waste*;
  - (e) *uncontaminated water*;
  - (f) *groundwater*;
  - (g) *trucked waste*;
  - (h) any substance, whether gaseous, liquid, or solid, that may cause damage to a *sewer or sewage facility* by corrosion;
  - (i) any substance, whether gaseous, liquid, or solid, in a concentration or quantity that may cause interference with the proper operation of a *sewer or sewage facility*;
  - (j) any substance, whether gaseous, liquid, or solid, in a concentration or quantity that may injure or is capable of injuring the health of any person, property or life form;
  - (k) any substance, whether gaseous, liquid, or solid, in a concentration or quantity that is or may become a safety hazard to persons who operate or maintain a *sewer or sewage facility*; or
  - (l) any substance, whether gaseous, liquid, or solid, used to dilute *non-domestic waste*, including water.
  
7. Notwithstanding subsection 6(b), until December 31, 2016, an *owner or operator* may discharge, or allow or cause the discharge from a *fermentation operation* into a *sewer or sewage facility* of *wastewater* that contains one or more of the following, in any concentration:
  - (a) *biochemical oxygen demand (BOD)*; or
  - (b) *total suspended solids (TSS)*.
  
8. Notwithstanding subsection 6(b), effective January 1, 2017, an *owner or operator* may discharge, or allow or cause the discharge from a *fermentation operation* into a *sewer or sewage facility* of *wastewater* that contains one or more of the following:
  - (a) *biochemical oxygen demand (BOD)*, in any concentration; or

- (b) *total suspended solids (TSS)*, up to a maximum concentration of 1,200 mg/L.
9. Notwithstanding subsection 6(b), until June 30, 2017, an *owner* or *operator* may discharge, or allow or cause the discharge from a *fermentation operation* into a *sewer or sewage facility* of *wastewater* that contains the following:
- (a) *pH waste*.
10. An *owner* or *operator* shall not discharge, or allow or cause to be discharged *off-spec product* from a *fermentation operation* into a *sewer or sewage facility* unless the *off-spec product* is in an amount:
- (a) less than 100 litres each day;
  - (b) equal to or greater than 100 litres but less than 2,000 litres each day and, prior to the discharge, the *person* notifies an *officer* or the *Sewage Control Manager* of the proposed discharge; or
  - (c) equal to or greater than 2,000 litres each day and, prior to the discharge, the *owner* or *operator*:
    - i. submits a request to an *officer* or the *Sewage Control Manager* to discharge such *off-spec product*; and
    - ii. the *Sewage Control Manager* approves the proposed discharge.

### **Part 3 – Sampling Point, pH Monitoring, and Treatment**

11. Effective July 1, 2016, every *owner* or *operator* who discharges, or allows or causes the discharge of *wastewater* from a *fermentation operation* into a *sewer or sewage facility* shall have a sampling point on the premises that is:
- (a) downstream from all *fermentation equipment*;
  - (b) downstream from any equipment or device for treating *wastewater*;
  - (c) upstream from any points where *domestic waste* is discharged; and
  - (d) vertically perpendicular to and on top of the pipe, if the sampling point is part of a pipe or other similar plumbing equipment.
12. The sampling point required under section 11 shall be readily and easily accessible at all times to perform monitoring, sampling, and for the purposes of ensuring compliance with this *Bylaw* and the *Sewer Use Bylaw*.

13. Effective July 1, 2016, every *owner* or *operator* who discharges, or allows or causes the discharge of *wastewater* from a *fermentation operation* into a *sewer* or *sewage facility* shall, if cleaning and sterilization activities of *fermentation equipment* are performed at that *fermentation operation*:
  - (a) collect a sample of *wastewater* from the sampling point referred to in section 11 at least once each day on days when cleaning and sterilization activities are in progress; and
  - (b) measure the *pH* of the sample immediately after its collection.
14. Subject to section 16, every *owner* or *operator* required under section 13 to collect and measure for *pH* shall submit, by no later than October 31, 2016, a *pH* characterization report to the *Sewage Control Manager* describing the results of the *pH* samples collected up to September 30, 2016.
15. Subject to section 16, if any *wastewater* samples collected under section 13 have a *pH* lower than 5.5 or higher than 10.5, then the *owner* or *operator* of that *fermentation operation* shall submit a written plan by January 31, 2017 to the *Sewage Control Manager* describing the actions the *owner* or *operator* will undertake at the *fermentation operation* to treat the *wastewater* for *pH* to comply with this *Bylaw*.
16. Sections 14 and 15 of this *Bylaw* do not apply to an *owner* or *operator* who commences operation of a *fermentation operation* on or after October 1, 2016.

#### **Part 5 – Record Keeping**

17. Every *owner* or *operator* who discharges, or allows or causes the discharge of *wastewater* from a *fermentation operation* into a *sewer* or *sewage facility* shall keep and maintain on the premises a written record of the:
  - (a) total hectolitres (hl) produced each calendar month of beer, cider, wine, spirits, or any other similar alcoholic drink made from fermentation on the premises;
  - (b) dates, times, and volumes of *off-spec product* discharged under section 10, if any; and
  - (c) dates, times, and results of the *pH* sampling required under section 13.

18. Every *owner or operator* who discharges, or allows or causes the discharge of *wastewater* from a *fermentation operation* into a *sewer or sewage facility* shall:
- (a) keep the written records required under section 17 for at least two years after the year in which the record was first made; and
  - (b) make such records available for inspection by an *officer* or the *Sewage Control Manager* upon request.

### Part 6 – Fees

19. Every *owner or operator* who discharges, or allows or causes the discharge of *wastewater* from a *fermentation operation* into a *sewer or sewage facility* shall pay an annual administration fee of \$200 in respect of that *fermentation operation* by the date specified in an invoice as follows:
- (a) to the *District*, if the *District* issues the invoice; or
  - (b) to the City of Vancouver, if the *fermentation operation* is located wholly within the municipal boundaries of the City of Vancouver and the City of Vancouver issues the invoice.
20. Every *owner or operator* who discharges, or allows or causes the discharge of *wastewater* from a *fermentation operation* into a *sewer or sewage facility* shall pay to the *District* an annual treatment fee set out in this *Bylaw* in respect of that *fermentation operation*, by the date specified in an invoice issued by the *District*.
21. The annual treatment fee referred to in section 20 is the amount specified in Column 3 of Table 1 for the type of alcoholic drink made at the *fermentation operation* in Column 1 of Table 1 based on the sum total in hectolitres (hl) of annual production opposite in Column 2 of Table 1.

**Table 1**

Column 1	Column 2	Column 3
Type of drink	Annual Production (hl)	Annual Treatment Fee
Beer, cider, and wine	0 – 1000	\$ 250
	1001 – 2000	\$ 750
	2001 – 3000	\$ 1250
	3001 – 4000	\$ 1750
	4001 – 5000	\$ 2250
	5001 – 6000	\$ 2750
	> 6000	\$ 3500
Spirit	All	\$ 100

22. An *owner* or *operator* who discharges, or allows or causes the discharge of *wastewater* from a *fermentation operation* that produces both:
- (a) a spirit; and
  - (b) beer, cider, or wine,
- at the same *fermentation operation* is exempt from payment of the annual treatment fee in respect of the spirit.
23. If an *owner* or *operator* fails to pay the fees required under this *Bylaw* in respect of a *fermentation operation*, then the *owner* or *operator* shall not discharge, or allow or cause to be discharged *wastewater* from that *fermentation operation* into a *sewer* or *sewage facility* until the fees have been fully paid.

#### **Part 7 – Powers and Offences**

24. An *officer* or the *Sewage Control Manager* may require anything related to the discharge of *wastewater* from a *fermentation operation* to be operated, used, set in motion, or opened under conditions specified by the *officer* or *Sewage Control Manager*, including with respect to any *fermentation equipment* that is being inspected.
25. If the *Sewage Control Manager* determines that a person has contravened or is contravening this *Bylaw* or the *Sewer Use Bylaw*, the *Sewage Control Manager* may issue an *order* requiring a *person* to do anything the *Sewage Control Manager* considers necessary to stop the contravention or prevent another contravention.
26. Any *person* who contravenes any provision of this *Bylaw* commits an offence and is liable to a fine not exceeding \$10,000.
27. If an offence under this *Bylaw* continues for more than one day, separate fines, each not exceeding the maximum fine for that offence, may be imposed for each day the offence continues.

#### **Part 8 – General Conditions**

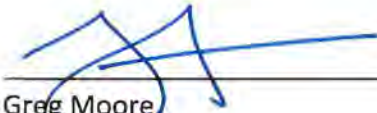
28. If any portion of this *Bylaw* is held to be *ultra vires*, illegal, invalid, or unenforceable in any way, in whole or in part, by a court or tribunal of competent jurisdiction, such decision shall not invalidate or void the remainder of the *Bylaw*. The portion so held to be *ultra vires*, illegal, invalid, or unenforceable shall be deemed to be reduced in scope so as to be valid and enforceable, or in the alternative to have been stricken therefrom with the same force and effect as if such parts had never been included in this *Bylaw*.

29. Nothing in this *Bylaw* is intended to conflict with the *Environmental Management Act*. A conflict does not exist solely because further restrictions or conditions are imposed by this *Bylaw* or the *Sewer Use Bylaw*.

30. Words importing the singular number include the plural number and vice versa.

READ A FIRST, SECOND AND THIRD TIME THIS 27 DAY OF November, 2015.

PASSED AND FINALLY ADOPTED THIS 27 DAY OF November, 2015.



\_\_\_\_\_  
Greg Moore  
Chair



\_\_\_\_\_  
Chris Plagnol  
Corporate Officer