

South Cowichan Liquid Waste Management Plan – Stage 1  
CONSULTATION REPORT



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## 1.0 Overview

### 1.1 About the Project

The CVRD is conducting an update of the CVRD South Cowichan Liquid Waste Management Plan. The original plan, developed in 1998, focused on the establishment of a centralized sewage treatment plant. That plan has not been implemented due to a variety of issues including the need for substantial funding resources, and changes to provincial policy and guidelines. Due to the extent of changes considered as well as the substantial population growth in the area, a full three-stage process, including a full consultation process, is needed to meet the requirements of relevant legislation and ministerial sign off.

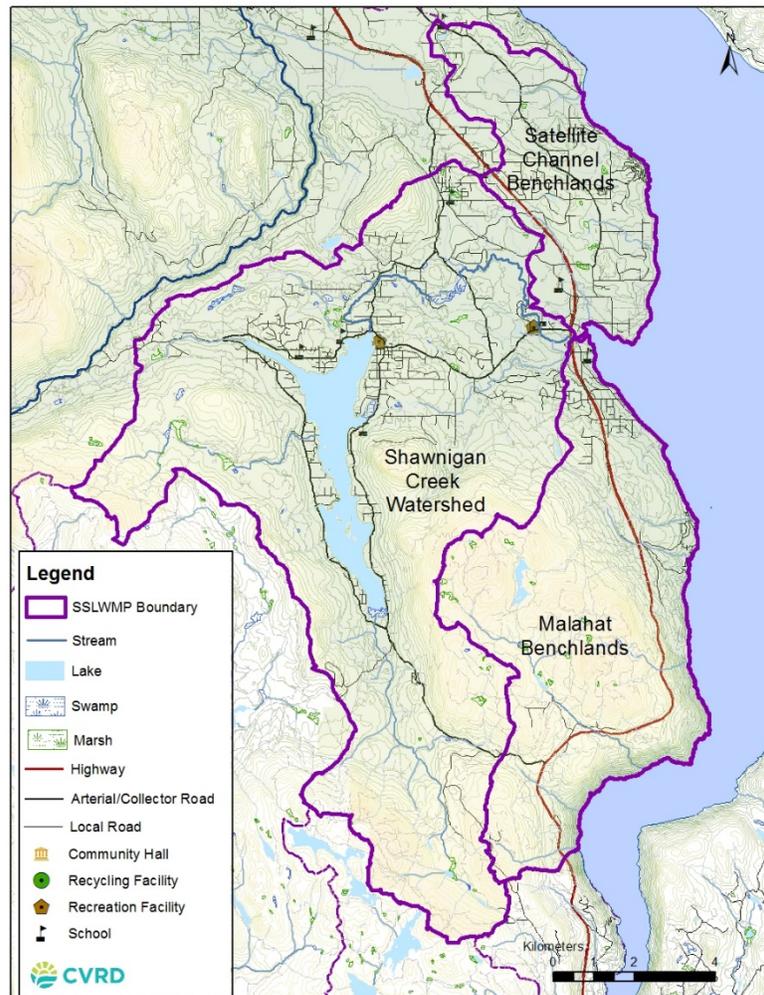
Liquid Waste Management Plans follow a multi stage process. Stage 1 defines the current problems, undertakes a population and development forecasting process and, develops a long list of potential solutions. Stage 2 refines the solutions based on acceptable evaluation criteria and identifies a list of more refined solutions to take to Stage 3 which focuses on detailed engineering and costs as well as other non-structural solutions for a final long range plan. Each one of the stages includes consultation with specialized groups as well as the public. Consultation with First Nations with interests in the plan area are consulted throughout the process. At the conclusion of each stage of the process a summary report is provided to the province with ultimate sign off by the minister at the conclusion of the plan development.

The CVRD has completed Stage One with a focus on the development of engineered solutions. A consultant (McElhanney) supported the process by working with the CVRD and relevant steering and working groups to summarize the problem statement, identify opportunities to address liquid waste management issues in the plan area, model waste water flows under various growth scenarios for the facilities, provide technical support where needed to the consultation process, summarize consultation activities, provide input to the review of the evaluation criteria and develop the preliminary long list of waste management options. In addition, McElhanney has made recommendations on programming for the following stages to inform needed resourcing to complete the SCLWMP update for provincial review.

### 1.2 Background

Stage 1 of the program is complete including: watershed and receiving environment characterization, population projections and growth scenario development, project governance structure, existing facility status, general land use and environmental policy scan, draft evaluation criteria, and preliminary high level recommendations. This work establishes the scope of work for Stage 2.

The Plan uses a watershed based planning approach and it is expected that the SCLWMP would support these objectives. As shown in the map below, the plan area covers the CVRD watershed planning areas of the Malahat Benchlands, Shawnigan Creek Watershed and the Satellite Channel Benchlands. The identified receiving environments include Shawnigan Lake, Shawnigan Creek the marine environment of Saanich Inlet as well as multiple tributaries in the area. The South Cowichan Liquid Waste Management Plan area covers all or portions of electoral areas A (Shawnigan Lake), B (Mill Bay / Malahat), and C (Cobble Hill).



It is expected that the amended Liquid Waste Management Plan will be compatible with the Province of BC's Guidelines for Preparing Liquid Waste Management Plans, and with the Municipal Wastewater Regulation. Given limits to funding and capacity at this time, discussions have taken place with the provincial government and our recommendation to address stormwater management at a later point in time has been approved. The Plan, however, is expected to address all other planning components.

The process to amend the plan has already begun, including the internal work of CVRD staff in establishment of an overall program governance structure and communications plan, establishment of program Steering Group and Technical and Community Advisory Working Group, and completion of the following key program components:

- Short list of options based on the evaluation of a long list of engineered solutions
- Development of problem statement
- Evaluation criteria
- Watershed characterization studies and atlas,
- Water quality objectives for receiving environments as well as ongoing attainments and,

- Preliminary inventory of known issues in CVRD and private systems.
- Population projections and growth scenarios to be used for the program has also been recently completed with support of an external consultant.

A public engagement and consultation process complemented the technical analysis of issues and solutions to help community members understand liquid waste management, work through policy development, and build support for implementing solutions within the community.

This Public Consultation Report outlines the approach taken to integrating consultation activities throughout the planning process, the lessons learned through the consultation and the next steps.

### 1.3 Engagement Outcomes

Public input has supported the completion of Stage 1 of a long-term Liquid Waste Management Plan that can be effectively implemented through policy development and community support. The Stage 1 consultation process:

- Introduced the Project to the internal stakeholders within CVRD (current and long range planning, GIS, finance and Utilities, communications. Etc.), gathered input regarding the process, anticipated outcomes, population forecast and scenarios as well as environmental policy scan and financing.
- Introduced the Project to the Community and Technical Advisory Group, Malahat First Nation, Cowichan Tribes, Pauquachin First Nation and other uninterested participants. Gathering input regarding the process, anticipated outcomes, and current liquid waste management efforts in the CVRD to date including the population forecast and environmental policy scan completed as part of Stage 1.
- Gathered input to understand current conditions, future plans, key related issues, and potential opportunities related to the public safety, environmental, economic, land use, or climate change aspects of the Project.
- Gathered feedback from liquid waste system operators related to issues and identified how these issues could be addressed within the plan.
- Gathered feedback on solutions to enhance liquid waste management in the CVRD through infrastructure development.
- Gathered input on the evaluation criteria for assessing liquid waste management options.
- Built public support for implementing liquid waste management solutions within the community through understanding of the issues through effective communication of technical information.

### 1.4 Key Messages

Key messages are targeted messages that we communicated to audiences to inform them, build their understanding and enable their participation. The key messages were designed to communicate the most relevant information about the plan development including the “why” and the “how”. Stage 1 key messages for the development of the CVRD Liquid Waste Management Plan include:

- We have **25 individual sewer systems in the plan area without a coordinated strategy.**

- the South Cowichan population **has grown faster (6%)**, than the **regional average (4%)** Our population is expected to continue growing rapidly and we do not have infrastructure or capacity to support this growth
- Currently, **several sewer systems** in the area **do not meet regulatory standards** for discharge
- Environmental impacts on water quality are already apparent and expected to increase without upgrades to systems
- In recent years,...
- The CVRD, **is gathering input** from **project partners** and the **public** to guide efforts for future infrastructure improvements that mitigate impacts of current and projected population growth.
- The **land use, environmental design, social, economic, and climate change aspects are key considerations** for developing a long-term Liquid Waste Management Plan.
- The resulting **Liquid Waste Management Plan** aims to position the CVRD and project partners as leaders in addressing complex infrastructure planning that takes into consideration our unique rural and transitional communities.
- Input from project partners and key project participants, including government agencies, community members in the Study area, and other participants is an integral part of developing the Liquid Waste Management Plan as it enables the development of policies that will be publicly supported and implemented within the community.
- The planning process will align with the technical analysis. There will be opportunities for the public and participants to provide input into plan development by participating in the Technical and Community Advisory Group, and through public open houses.

Information about the process is available by visiting the Project webpage on the CVRD website which outlines the project background, process, schedule, and anticipated outcomes and by subscribing to the CVRD’s email distribution list to obtain project update communications as the process unfolds.

## 2.0 Audiences

Early and ongoing involvement was gathered from several key groups so that participants could provide input as the plan develops. The following table summarizes the audience groups that were involved in the process.

### 2.1 Audience Groups

Members	Communications Focus	Communication Tools/Formats
<i>CVRD Project Team</i>		

Members	Communications Focus	Communication Tools/Formats
<ul style="list-style-type: none"> <li>• CVRD Project Lead</li> <li>• CVRD Key Project Staff</li> <li>• Consulting Team (McElhanney)</li> </ul>	<ul style="list-style-type: none"> <li>• Maintain ongoing communication</li> <li>• Coordination</li> <li>• Project development and input</li> <li>• Project oversight/review</li> </ul>	<ul style="list-style-type: none"> <li>• Project team meeting</li> <li>• Coordination calls/emails</li> <li>• Ongoing communications</li> <li>• Initial site visit</li> <li>• Attend meetings</li> </ul>
<i>Steering Group</i>		
<ul style="list-style-type: none"> <li>• CVRD Directors for Areas A, B and C</li> <li>• Board of Directors</li> <li>• Leadership of First Nations in the plan areas</li> </ul>	<ul style="list-style-type: none"> <li>• Reviews</li> <li>• Share outcomes</li> <li>• Final approvals as required</li> </ul>	<ul style="list-style-type: none"> <li>• Staff reports</li> <li>• Presentations</li> </ul>
<i>Technical and Community Advisory Group (TCAG)</i>		
<ul style="list-style-type: none"> <li>• CVRD project team representatives from:                             <ul style="list-style-type: none"> <li>○ Land Use Services</li> <li>○ Community Services</li> <li>○ Engineering Services</li> <li>○ Communication</li> <li>○ Water and Waste Water Systems Operators</li> </ul> </li> <li>• Cowichan Tribes staff</li> <li>• Malahat First Nations staff</li> <li>• Pauquachin First Nation</li> <li>• Private Water System Operators Representatives</li> <li>• Private Sewer System Representatives</li> <li>• Ministry of Environment</li> <li>• Ministry of Forests, Lands and Natural Resource Operations</li> <li>• Fisheries and Oceans Canada</li> <li>• Ministry of Agriculture</li> <li>• Provincial representatives (BC Parks, Crown Land)</li> <li>• Vancouver Island Health Authority</li> </ul>	<ul style="list-style-type: none"> <li>• Participation in consultation meetings</li> <li>• Reviews</li> <li>• Input/feedback to the process as required including roles and responsibilities, implementation, policy development</li> <li>• Share outcomes</li> </ul>	<ul style="list-style-type: none"> <li>• Invitation to TCAG consultation meetings: Background presentation, review of proposed recommendations</li> <li>• Calls/email exchanges</li> <li>• Project updates via web or email communication</li> <li>• Final Plan presentation</li> </ul>

Members	Communications Focus	Communication Tools/Formats
<i>Malahat First Nation, Cowichan Tribes and Pauquachin First Nation</i>		
<ul style="list-style-type: none"> <li>• First Nation Governance</li> <li>• Administration</li> <li>• Internal Committees</li> </ul>	<ul style="list-style-type: none"> <li>• Input/feedback to the process including roles and responsibilities, implementation, policy development</li> <li>• Support partnership outreach efforts</li> <li>• Share outcomes</li> </ul>	<ul style="list-style-type: none"> <li>• Invitation to consultation meeting</li> <li>• Input as required</li> <li>• Calls/email exchanges</li> <li>• Project updates via web or email communication</li> </ul>
<i>Other Interested Participants</i>		
<ul style="list-style-type: none"> <li>• Stewardship Groups</li> <li>• Other environmental groups</li> <li>• Local community associations or neighborhood associations</li> <li>• Property owners</li> <li>• Businesses and business organizations in the study area</li> <li>• Other members of interested public</li> </ul>	<ul style="list-style-type: none"> <li>• Input on current conditions, future plans, key related issues, and potential opportunities related to the social, environmental, economic, land use or climate change aspects of the Project</li> <li>• Support outreach efforts</li> <li>• Meeting Participation</li> <li>• Share outcomes</li> </ul>	<ul style="list-style-type: none"> <li>• Initial outreach</li> <li>• Invitation to participate in public meeting</li> <li>• Presentations to various organizations by members of the Technical and Community Advisory Group, as opportunities allow</li> <li>• Calls/email exchanges</li> <li>• Project updates via web or email communication</li> <li>• Input as required</li> </ul>

## 2.2 Key Project Contacts

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### 3.0 Engagement Process

The following outlines the three step consultation process for the development of the Liquid Waste Management Plan Stage 1 Report for the CVRD. Consultation was integrated with the technical analysis. The process moved from broader to more specific engagement, starting off with understanding the issues and opportunities and confirming technical information, then advancing to generating draft recommendations, and finally, developing the final Stage 1 Liquid Waste Management Plan Report that outlines a short list of actions with cost estimates.

### 3.1 Understanding Issues and Opportunities

Activity	Description	Date
Tour liquid waste facilities	Site visits and discussions with key CVRD staff, liquid waste system operators, Malahat First Nation, Pauquachin First Nation, Cowichan Tribes staff and consultant to develop understanding of system challenges and opportunities. An invitation has also been extended to TCAG members for participation later in the process.	March 13, 2019
Steering Group meeting 1	Provide briefing and background information	April 10, 2019
TCAG meeting 1	Provide project briefing and background information	May 28, 2019
TCAG meeting 2	Review evaluation criteria and preliminary long list of options from McElhanney	June 27, 2019
Malahat First Nation staff	Understand issues and opportunities Understand preferred approach for project consultations	April 9, 2019
Cowichan Tribes staff	Understand issues and opportunities Review evaluation criteria and preliminary long list of options	Discussions throughout May and June, 2019
Pauquachin First Nation staff	Understand issues and opportunities Understand preferred approach for project consultation	July 3, 2019
TCAG meeting 3a and 3b	Review engagement and consultation plan, evaluation criteria and updated long list of options from McElhanney.  <i>Meeting is split into two parts (3a and 3b) to allow for additional time.</i>	Meeting 3a: July 18, 2019  Meeting 3b: September 5, 2019
Steering Group meeting 2	Review engagement and consultation plan, evaluation criteria and updated long list of options from McElhanney.	September 10, 2019
Shawnigan Village Design Charrette Meeting	Review options from McElhanney for the Shawnigan Village area	September 20, 2019

*\*Dates subject to updates based on overall project schedule/progress*

### 3.2 Develop short list of options

Activity	Description	Date
Deploy CVRD Project website, PlaceSpeak site and social media.  <i>Place Speak is our web based tool for supporting online community dialogue</i>	<ul style="list-style-type: none"> <li>• Project overview</li> <li>• Key messages</li> <li>• Process</li> <li>• Participation and input opportunities</li> <li>• Project contacts</li> <li>• Background information</li> <li>• Project updates</li> </ul>	October 15, 2019
Joint APC meeting for Electoral Areas A, B and C	<p><b>Description:</b>                      Review problem statement, evaluation criteria and preliminary long list of options</p> <p><b>Intended Outcomes:</b></p> <ul style="list-style-type: none"> <li>• Identify any additional options and comments on criteria,</li> <li>• APC members are informed of planning process</li> </ul>	November 4, 2019
Public meeting  <i>Steering Group and TCAG invited to attend</i>	<p><b>Description:</b>                      Review problem statement, evaluation criteria and preliminary long list of options</p> <p><b>Intended Outcomes:</b></p> <ul style="list-style-type: none"> <li>• Identify any additional options and comments on criteria,</li> <li>• residents are informed of planning process, opportunities for input at key stages, solutions and impacts</li> </ul>	November 6, 2019

### 3.3 Stage 1 LWMP Report

Activity	Description	Date
TCAG meeting 4	Review recommendations arising from public meeting, the Draft Stage 1 Report including the recommendations for short list of options and Stage 2 Scope of Work.	December 12, 2019
Project webpage update	Update to Project webpage about process to date, key outcomes and thank you to participants to report	January 10, 2020

	back and encourage continued support	
CVRD Electoral Area Services meeting	Present Stage 1 Report and next steps for Stage 2 and 3.	January 15, 2020
Notify all participants that final report has been prepared	Project updates will be posted on the CVRD website and notifications will be distributed to participants who have been involved in the process	January 31, 2020

## 4.0 Content Learned

Through engagement with community partners and the public we were able to identify lessons learned and key themes. Feedback was gathered through dialogue and written comments in two focus areas.

### 1. Options: Feedback on infrastructure options and identification of new options to consider

- A community sewage system in Shawnigan village should be considered to allow for:
  - repurposing of space currently dedicated to individual septic systems.
  - supporting new development in the village that mitigates impacts to Shawnigan Lake
- A community sewage system on the west side of Shawnigan Lake should not be considered. Emphasis should instead be placed on strong policy to support septic system maintenance.
- A community sewage system on the west side of Shawnigan Lake should be considered to reduce contaminant loading into the Lake by failing septic systems.
- Marine outfall to Saanich Inlet should be considered as an effluent discharge option.
- The plan should focus on developing options for current problem sites.
- A distributed network of smaller systems should be considered as an option to reduce environmental impacts.
- Consider integrated resource management facilities that reduce contaminant loading to the environment and allow for reuse of nutrients, water and energy.
- Consider partnering with BC hydro or other provincial or federal agencies to access linear corridors for infrastructure placement.

### 2. Evaluation of options: Feedback on criteria and process for evaluating infrastructure options

- The *community support* criteria should be more heavily weighted.
- The finance and environment criteria should be more heavily weighted.
- Consider accounting for the seasonal fluctuations in population that may have an impact on system demands.

## General Themes

As feedback on these two focus areas was gathered some general themes emerged:

### Get on with it / move forward together thoughtfully

While some complained about the time required to develop a plan, others appreciated a strategic approach to defining the problem and identifying solutions that consider the perspectives of stakeholders and community members.

### Rural Perspectives

In some cases, some folks living in moderate density areas outside existing urban containment areas did not see a need to connect into community sewer systems. On the other hand, some indicated that there should be opportunities to connect to new sewer system arrangements.

### Urban Perspectives

Some folks within urban containment areas indicated that they want opportunities for connections to community sewer systems. Although their septic systems are currently in use and functioning to their satisfaction, they would consider connecting to a community system when their system needs replaced.

### Community Planning comes first

More integration with community planning processes is needed. Some indicated that an ideal scenario would be to have liquid waste planning immediately follow a South Cowichan community plan update process. At the same time, others recognize that we already have a plan and we need to begin addressing the problems of failing systems.

## 5.0 Next Steps

The intention is to combine Stages 2 and 3, with the expectation of completing both stages by early 2021.

### Stage 2

Tasks include:

- Refining the short-list of options developed in Stage 1 and examining the associated costs and technical features in detail
- Identify requirements to be included in operational certificates for facilities
- Develop policy recommendations
- **TCAG review** and **public review** of the **short list of options** and **policy recommendations**
- Prepare the scope of work outline for Stage 3
- Finalize Stage 2 report which contains recommended options

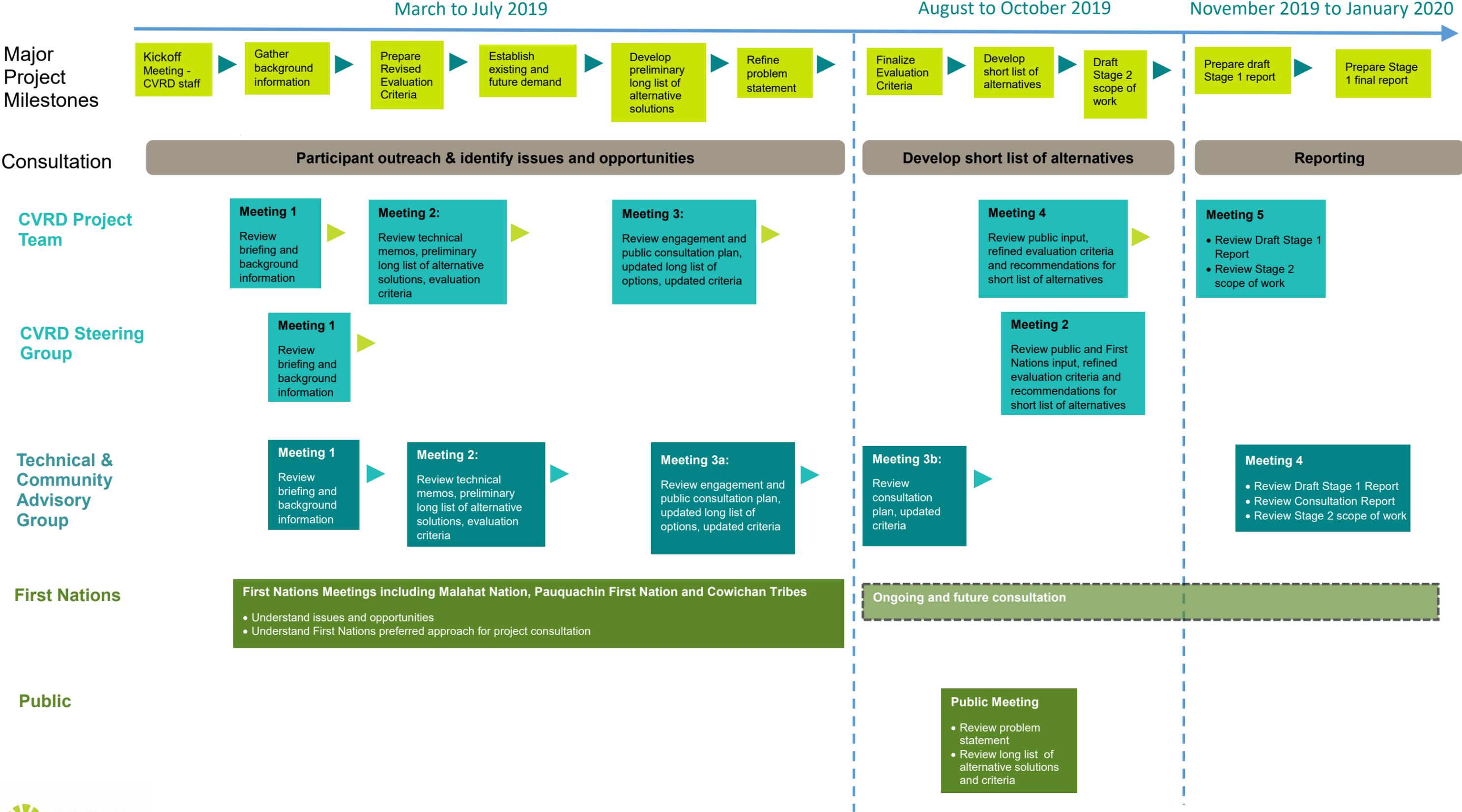
### Stage 3

Tasks include:

- Develop detailed engineering and cost analysis
- **TCAG review** and **public review** of **preferred options** including **infrastructure** and **policy recommendations**
- Finalize Stage 3 report following analysis of public input and upon receipt of the TCAG review comments
- Develop recommendations regarding future development of a Stormwater Management Plan

## **Appendix A – Stage 1 Project Consultation Diagram**

# South Cowichan Liquid Waste Management Plan Consultation Plan for Stage 1



## **Appendix B – Public Open House Meeting Materials**

Open House Poster Boards

Presentation Slide Deck

# SOUTH SECTOR LIQUID WASTE MANAGEMENT PLAN



# The Situation

- Several systems are failing and don't meet regulations
- Population is growing and increasing pressure on existing systems.
- Impacts on the environment are increasing



Saanich Inlet  
September 10, 1995

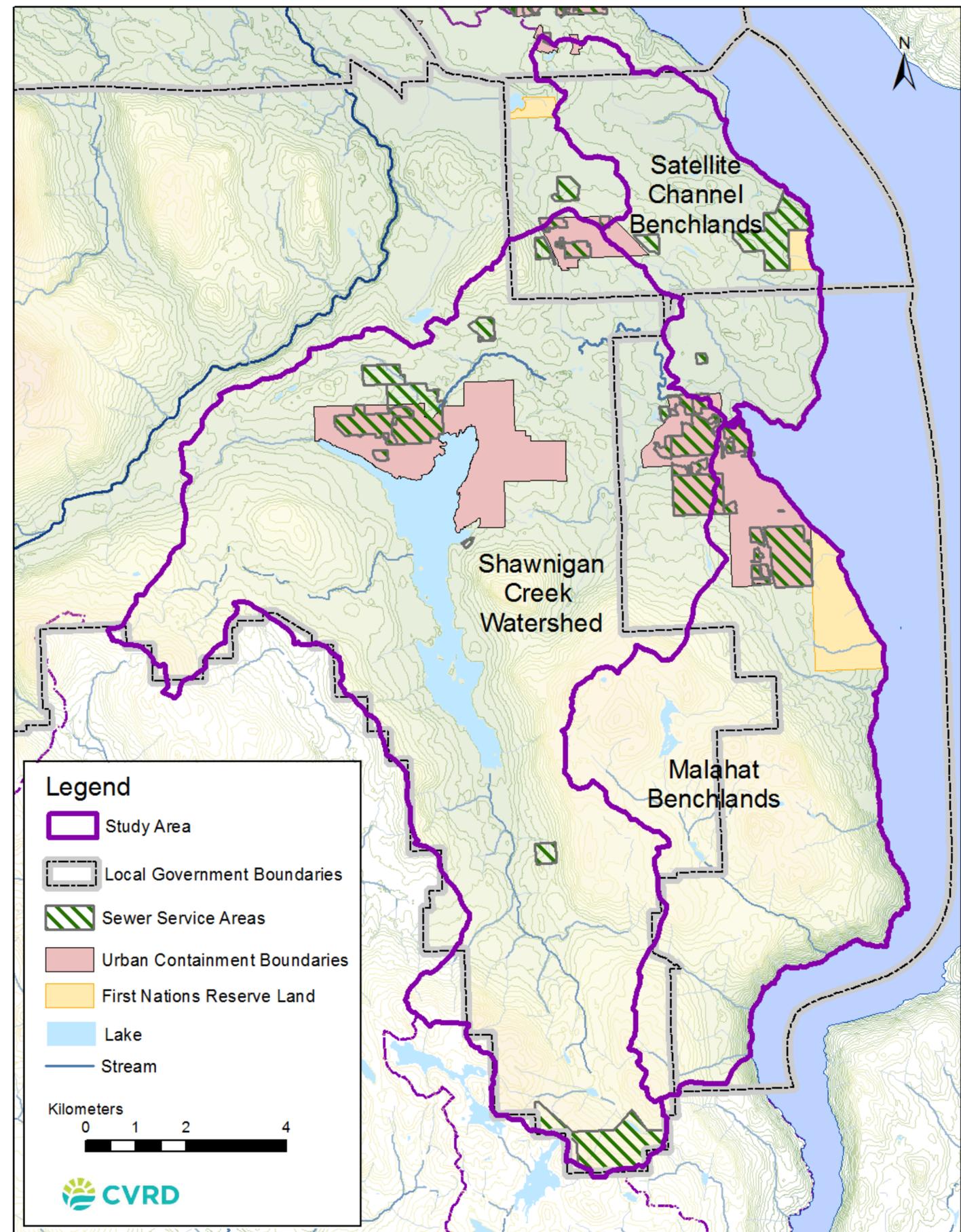
# The Problem

- We have 25 individual sewer systems in the plan area without a **coordinated** strategy
- Several systems have limited life left, are failing or do not meet current standards
- How do we grow and build the right infrastructure in the right place at the right time



# Plan Area

- 3 watersheds and the marine area
- Communities:
  - Shawnigan Lake
  - Mill Bay
  - Cobble Hill
- 3 First Nations communities



# Master Planning

## STAGE 1

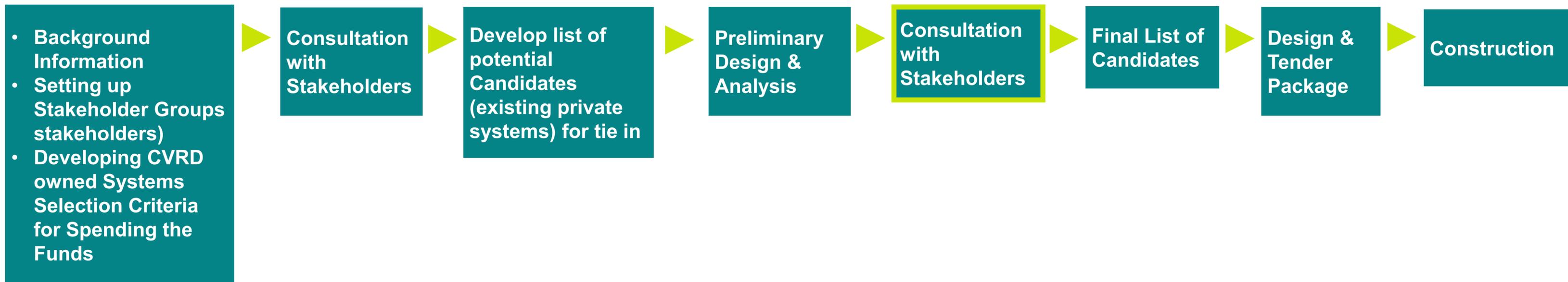
## STAGE 2

## STAGE 3



IDEAL

## Mill Bay/Cobble Hill Sewer Integration Programs



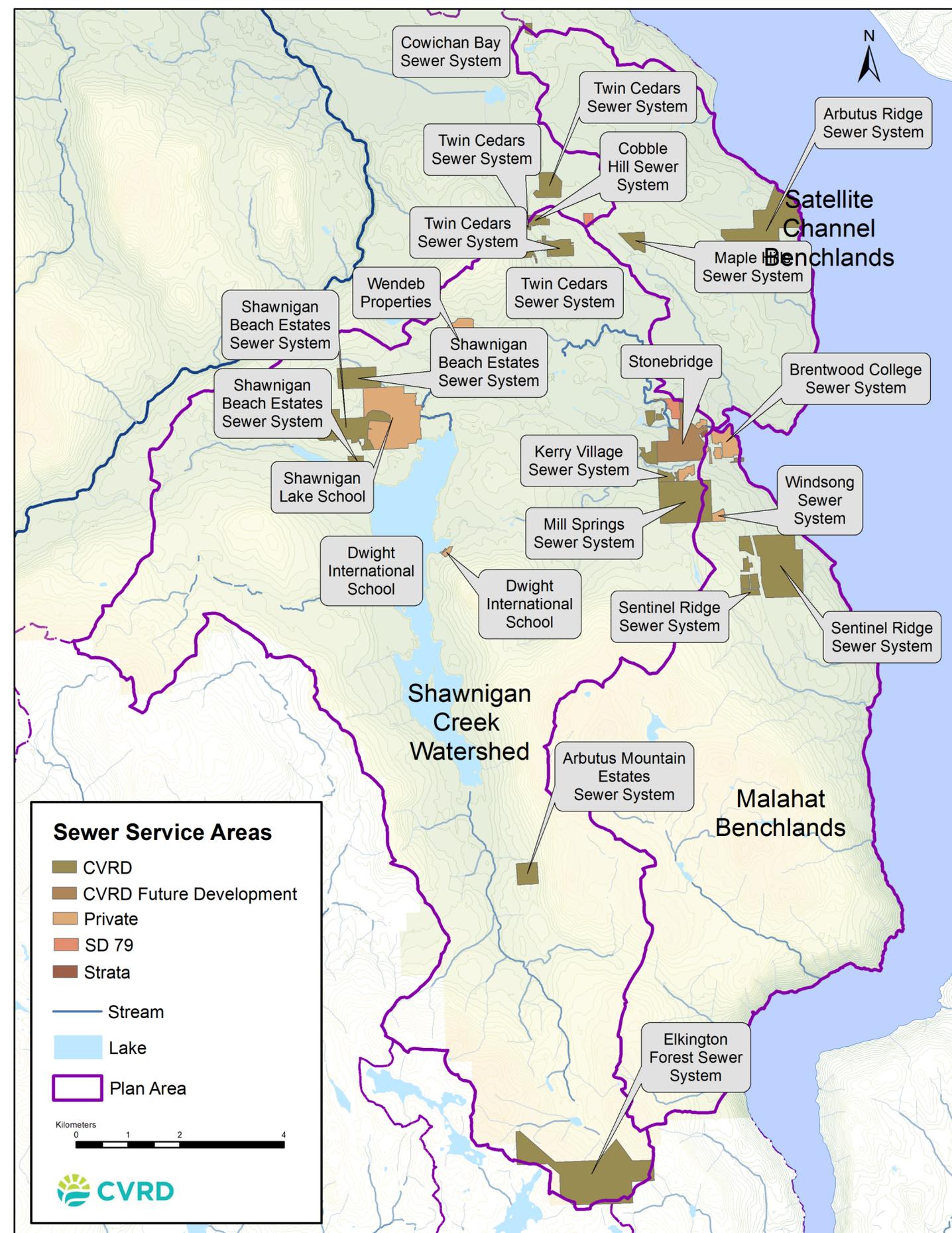
# SOUTH SECTOR LIQUID WASTE SYSTEMS INVENTORY

## Sewer Service Areas

25 sewage treatment systems:

- 11 operated privately,
- 10 by the CVRD,
- 4 by SD79

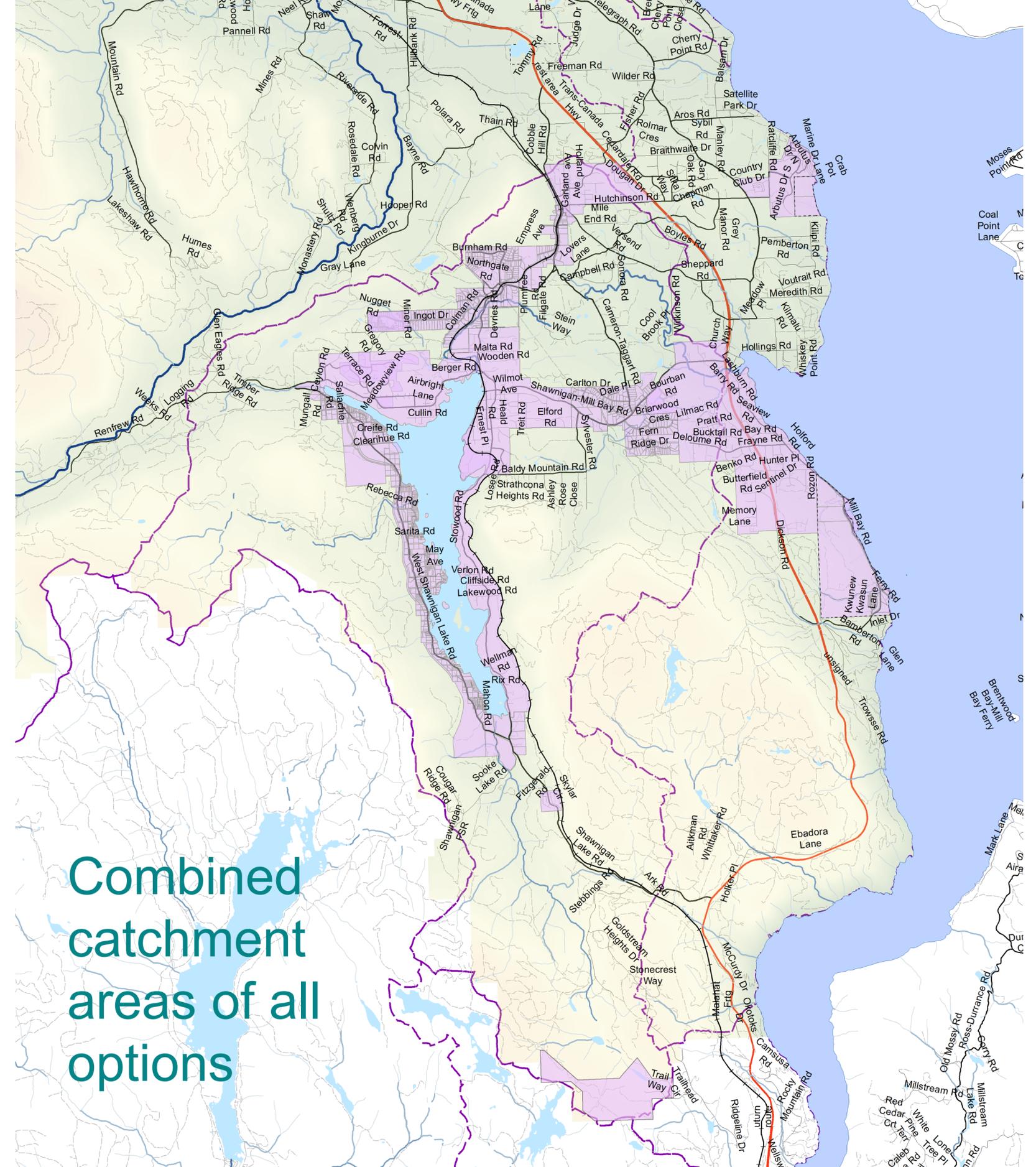
7 MOE permits for composting, food processing, vehicle dismantling, petroleum storage



# Objectives of Infrastructure Options

- Must have **Class A** effluent:
  - Includes advanced treatment with **disinfection** and **nitrogen reduction**
  - has the **most strict requirements** for fecal coliform counts and nitrogen levels
- Must consider full grow out requirements
- Provide sewer coverage for **all lands within our village areas** (urban containment boundaries)
- Protect surface water, groundwater and marine water

*Multiple combination of options needed to meet objectives*



# Population Growth

- **Federal Policies**

*Sets responses to larger geopolitical inputs and stresses*

- **Provincial Policies**

*Economic and infrastructure responses*

- **Local Planning**

*Population growth and spatial distributions, where do we put people?*

# 2018 Growth Projections

- establish capacity requirements of infrastructure options
- support phasing of options based on full buildout to 2050
- will be reviewed every 5 years to assess assumptions

## Scenarios

1. Current electoral area growth trends will continue over the next 40 years with **53% of it within the Urban Containment Boundaries (UCB)**
2. Current electoral area growth continue with 53% within UCBs over the 1<sup>st</sup> 5 years and increase to **75% within UCBs** from year 6 to 40

# OPTIONS focusing on urban containment areas

## Phase 1 – 2020 to 2050

- Each community has its own system or systems
- Some have sub options which have alternate locations for infrastructure

## Benefits

- Support growth in areas already designated for higher density

## Challenges

- Potentially more expensive
- Do not address current and future issues with contamination of the environment from development outside of the UCB's
- Does not consider failing systems outside of the existing UCB's

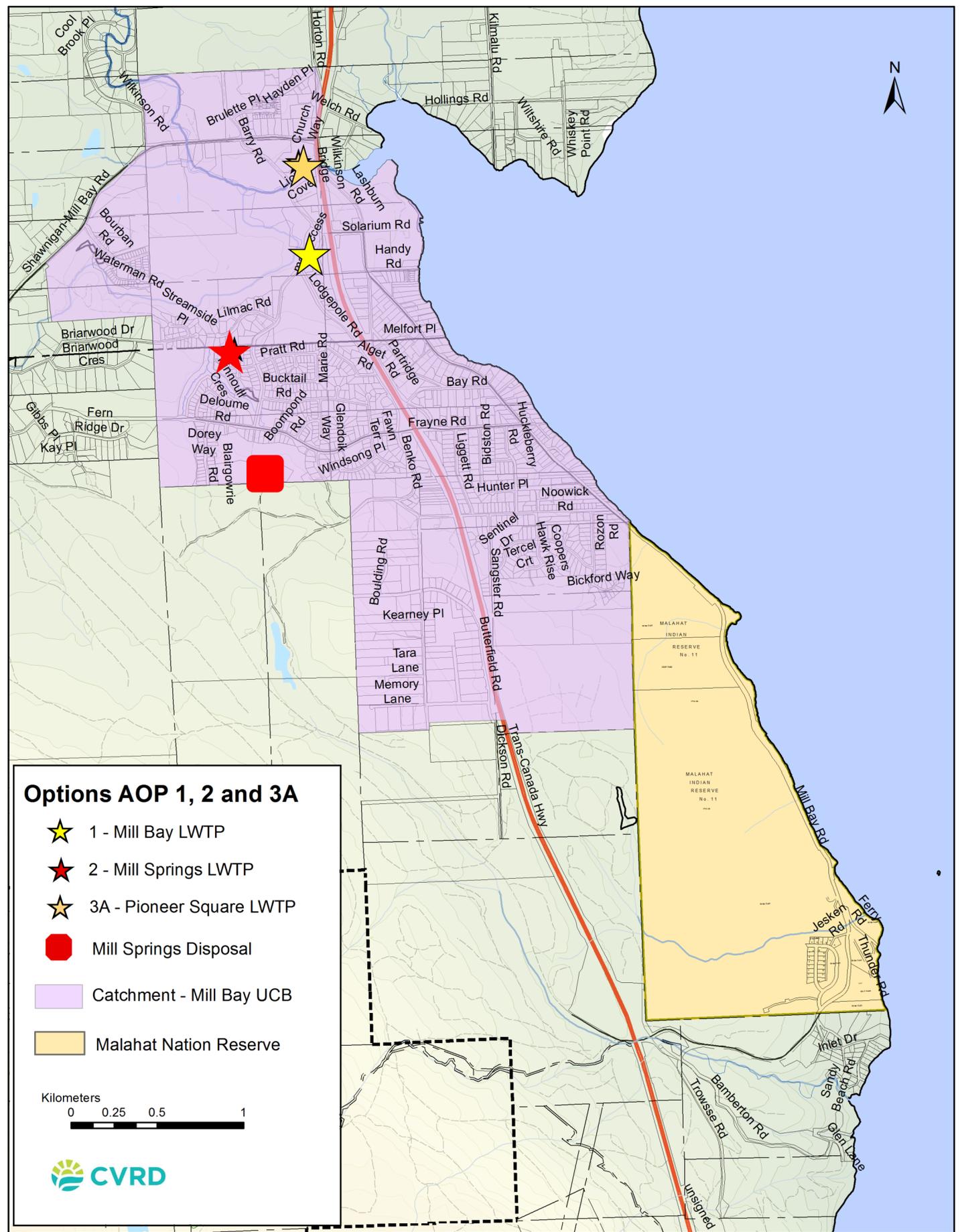
# OPTIONS

## A-OP1, A-OP2, A-OP3a

### Mill Bay UCB

- LWTP at
- 1: Pioneer Square ★
  - 2: Mill Bay - ★
  - Stonebridge
  - 3A: Mill Springs ★

Effluent Discharge at  
**Mill Springs** ■



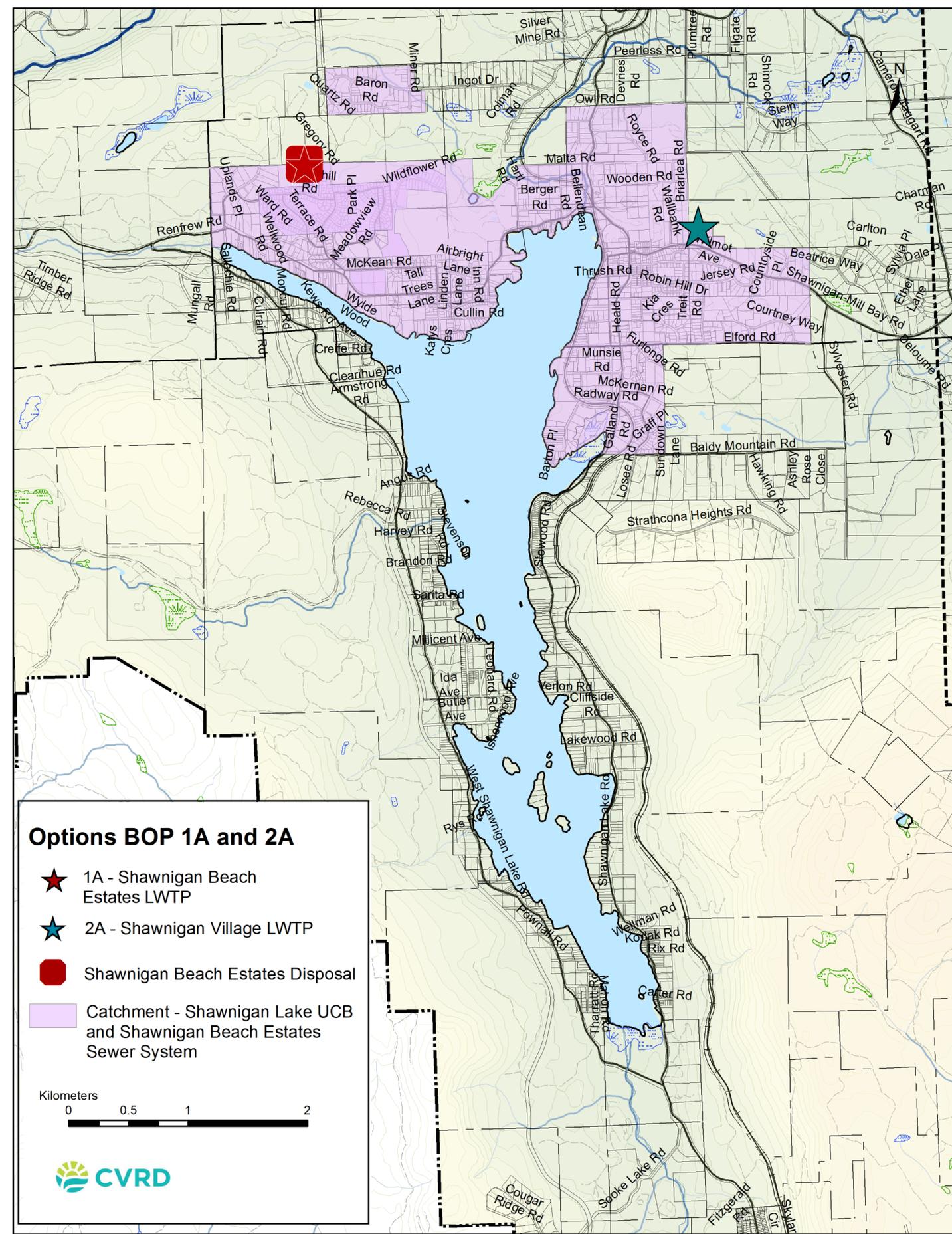
# OPTIONS B-OP1A and 2A Shawnigan Beach Estates & Shawnigan Village

LWTP at:

1A: Shawnigan Beach  
Estates ★

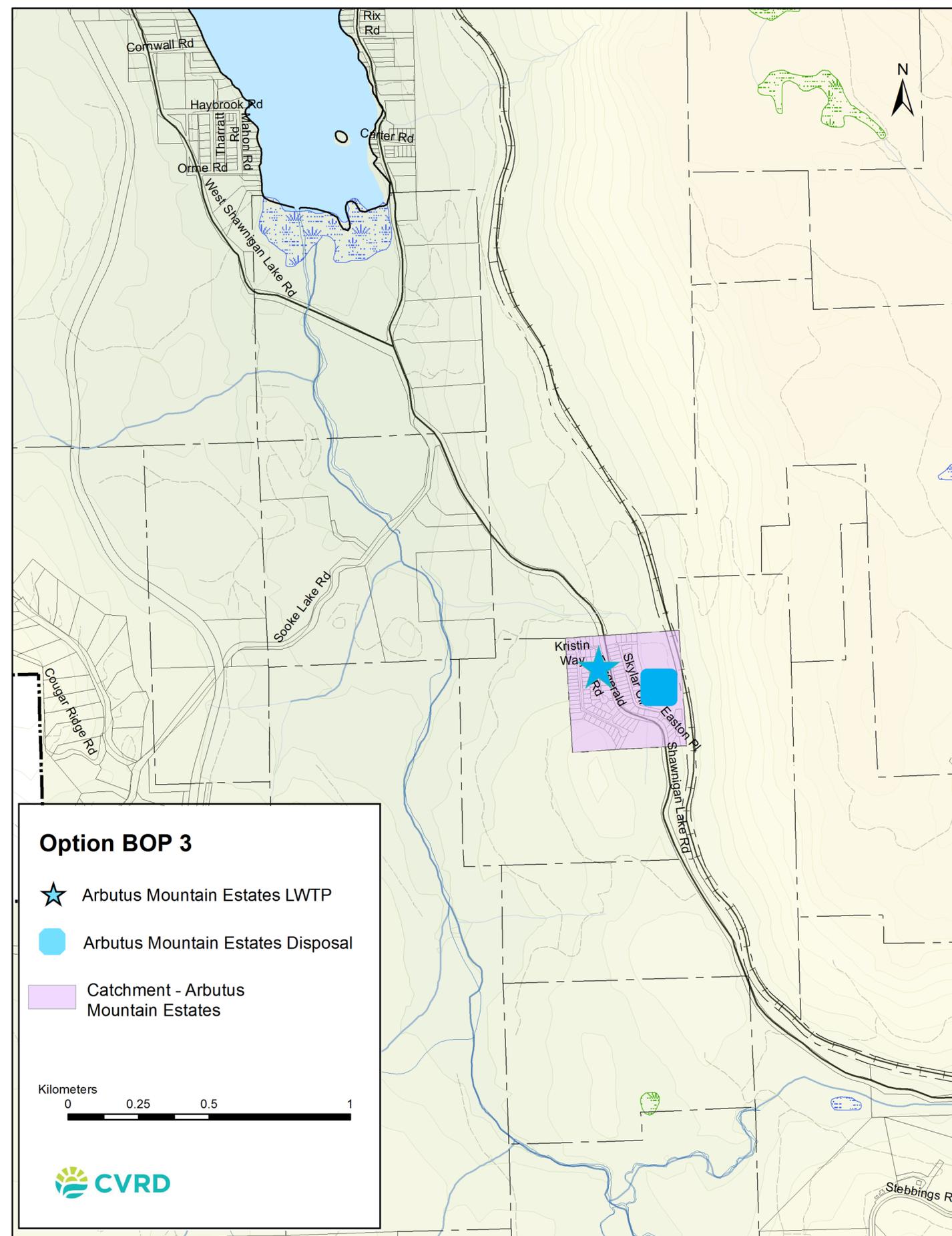
2A: Shawnigan Village ★

Effluent Discharge at  
Shawnigan Beach  
Estates ■



# OPTION B-OP3 Arbutus Mountain

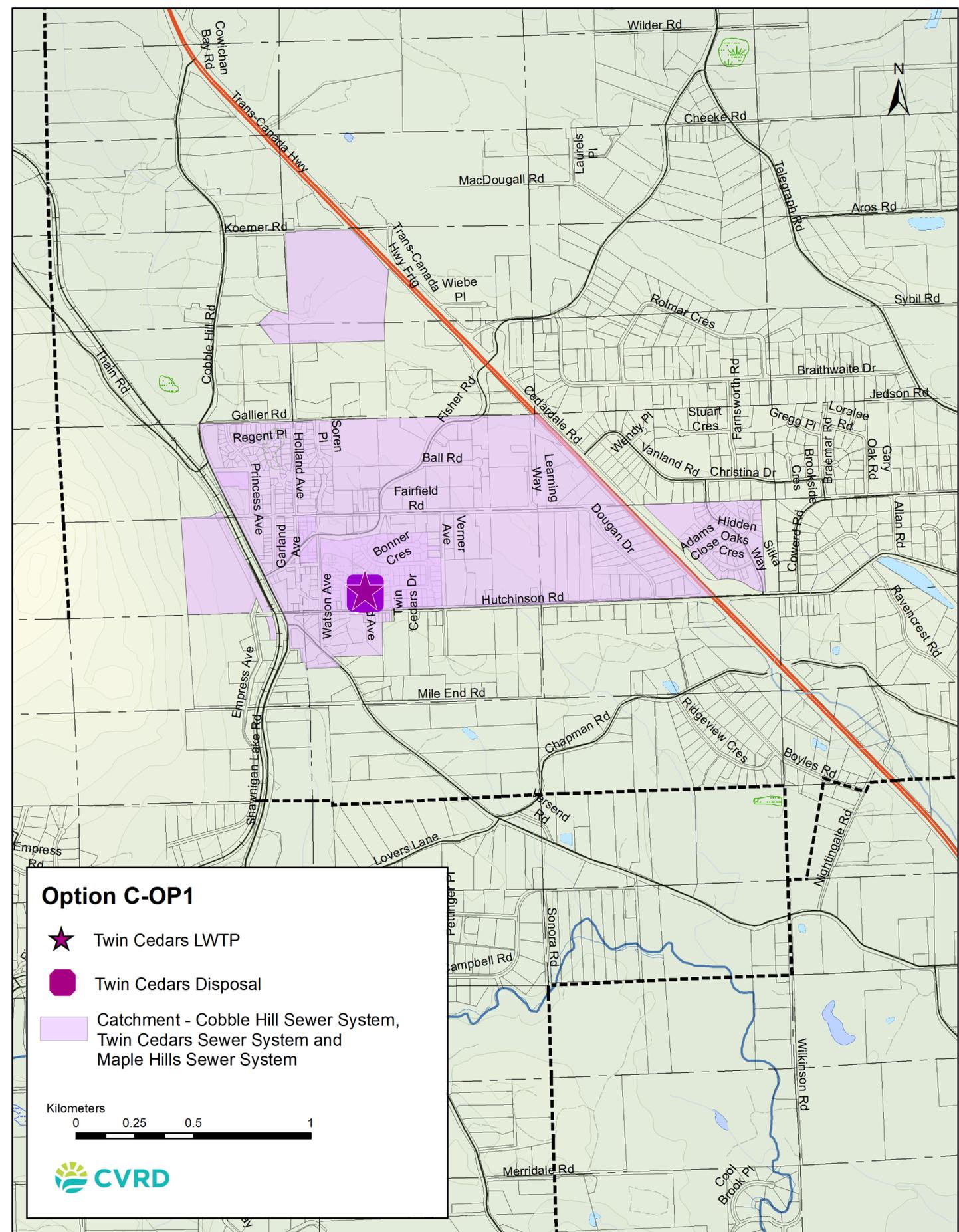
LWTP ★ and effluent  
discharge ■ at Arbutus  
Mountain





# OPTION C-OP1 Cobble Hill UCB, Twin Cedars and Maple Hills

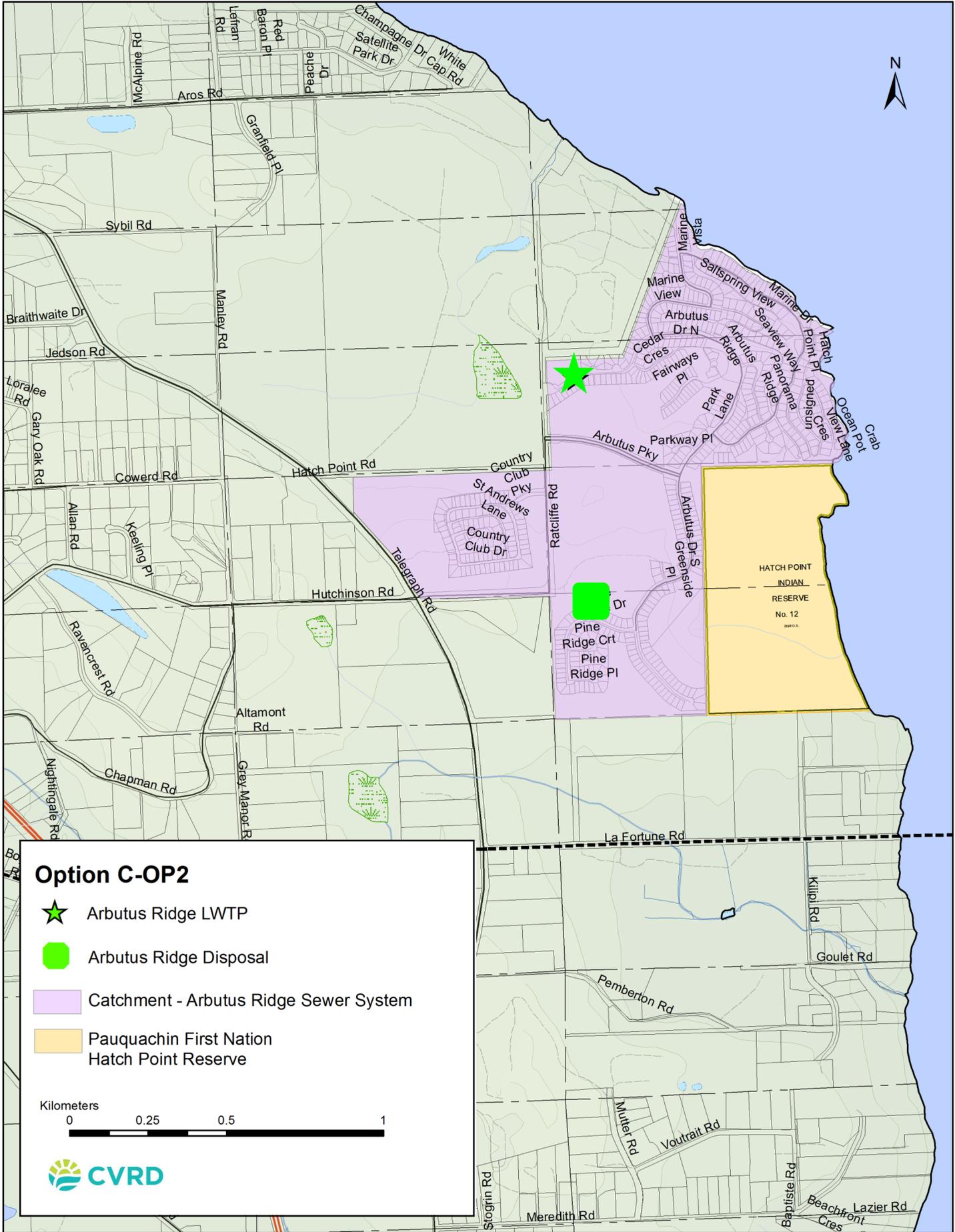
LWTP ★ and effluent  
discharge ■ at Twin  
Cedars



# OPTION C-OP2

## Arbutus Ridge

LWTP ★ and effluent discharge ■ at Arbutus Ridge



**EXPANDED OPTIONS** focus on expanding catchment areas to include areas outside of the UCBs  
Phase 1 or 2 – 2020 to 2050

### Challenges

- Additional costs to extend sewer main
- Potential additional pressure on development in these areas

### Benefits

- Reduces contaminants entering drinking water sources
- Larger group covering costs

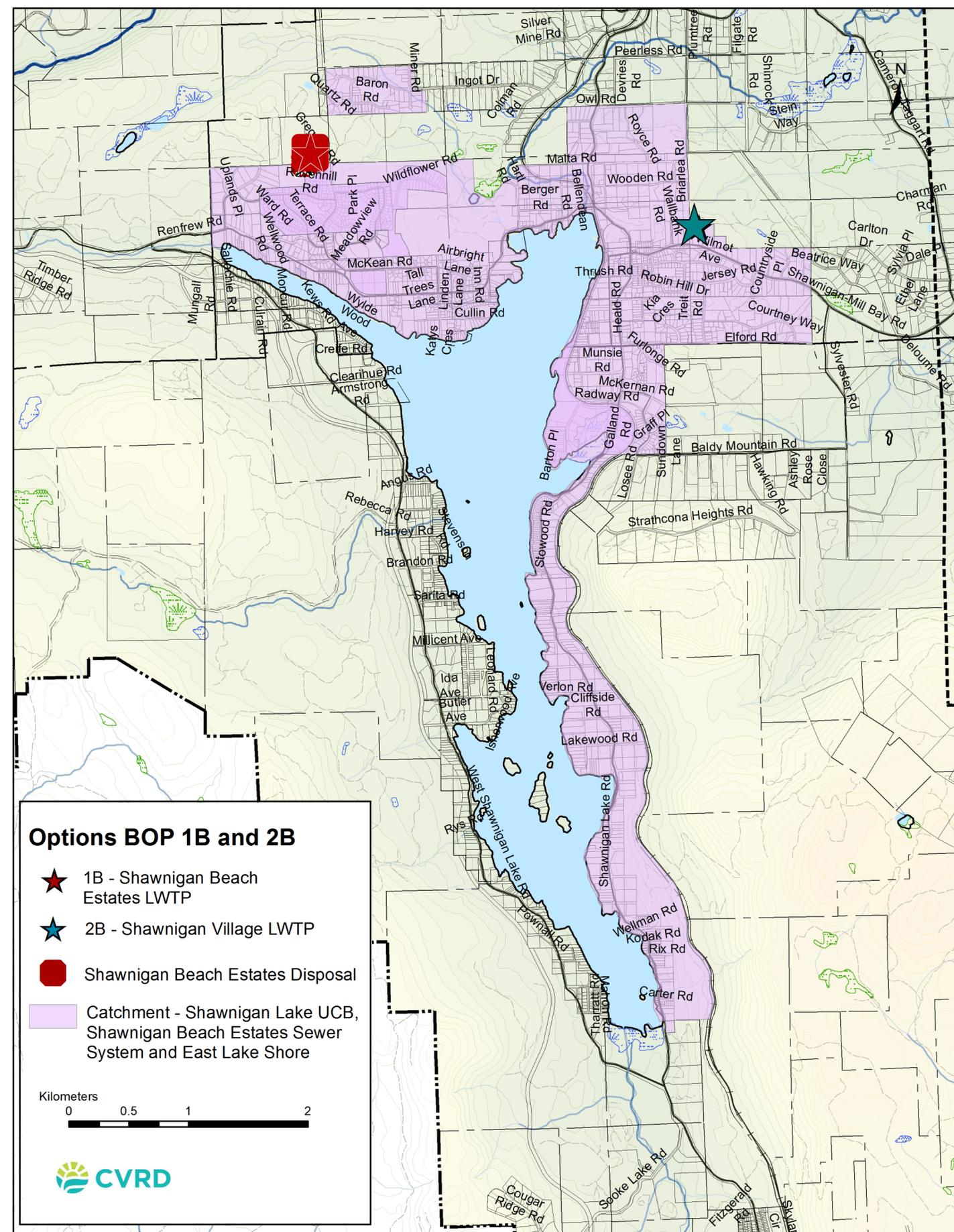
# OPTIONS B-OP1B and 2B Shawnigan Beach Estates, Shawnigan Village & eastern shore

LWTP at:

1B: Shawnigan Beach  
Estates ★

2B: Shawnigan Village ★

Effluent Discharge at  
Shawnigan Beach Estates ■



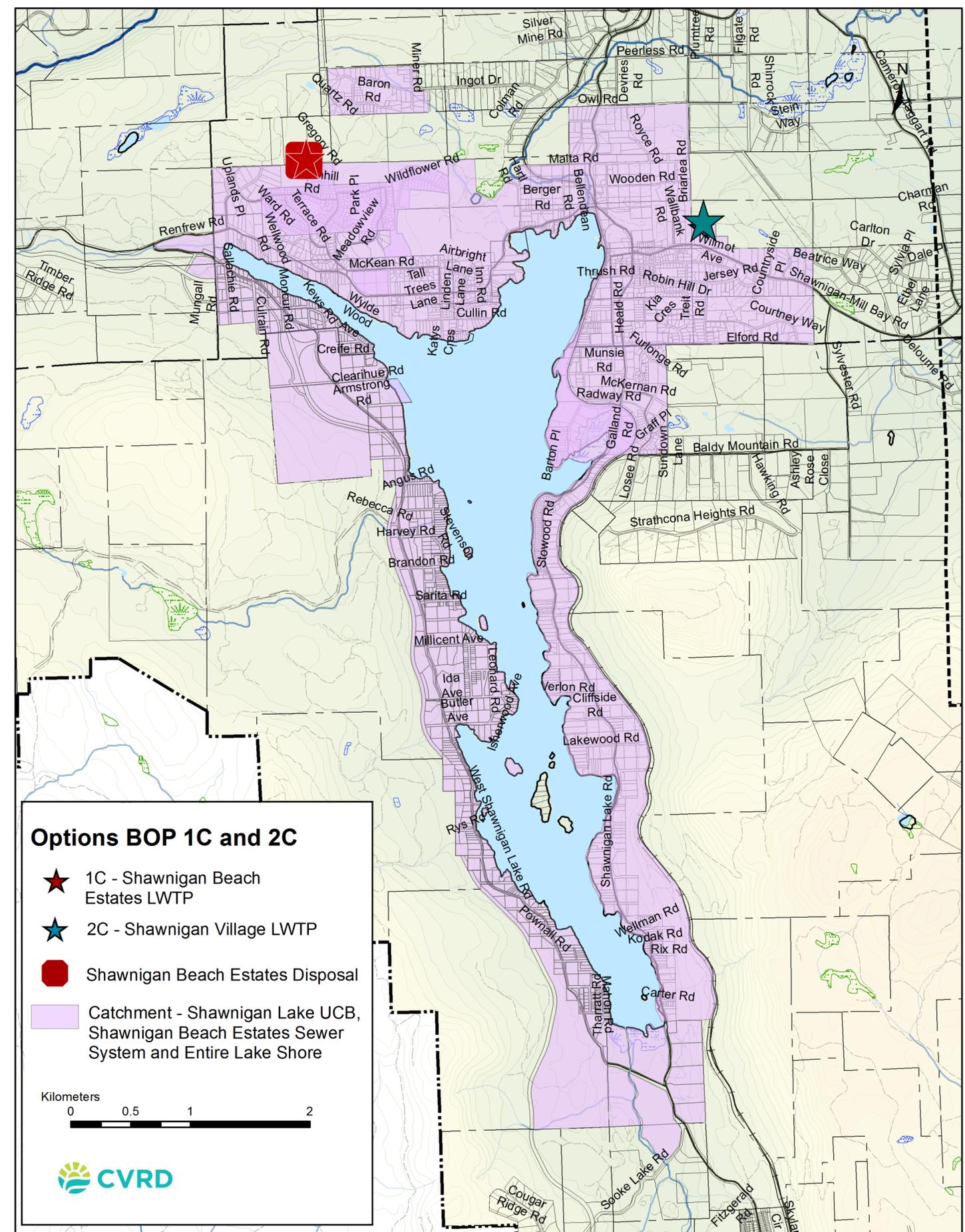
# OPTIONS B-OP1C and 2C Shawnigan Beach Estates, Shawnigan Village & entire lake shore

LWTP at:

1C: Shawnigan Beach  
Estates ★

2C: Shawnigan Village ★

Effluent Discharge at  
Shawnigan Beach Estates ■



# PARTNERSHIP OPTIONS link communities to share infrastructure

## Phase 2 – 2040 to 2050

### Challenges

- Additional costs to extend sewer mains
- Potential additional pressure on development in these areas

### Benefits

- Shared cost of infrastructure
- Reduced loading of contaminants into the receiving environment

# OPTIONS

A-OP7A, 7B and 7C

## Combined Mill Bay Shawnigan UCB

WWTP at

A: Pioneer Square ★

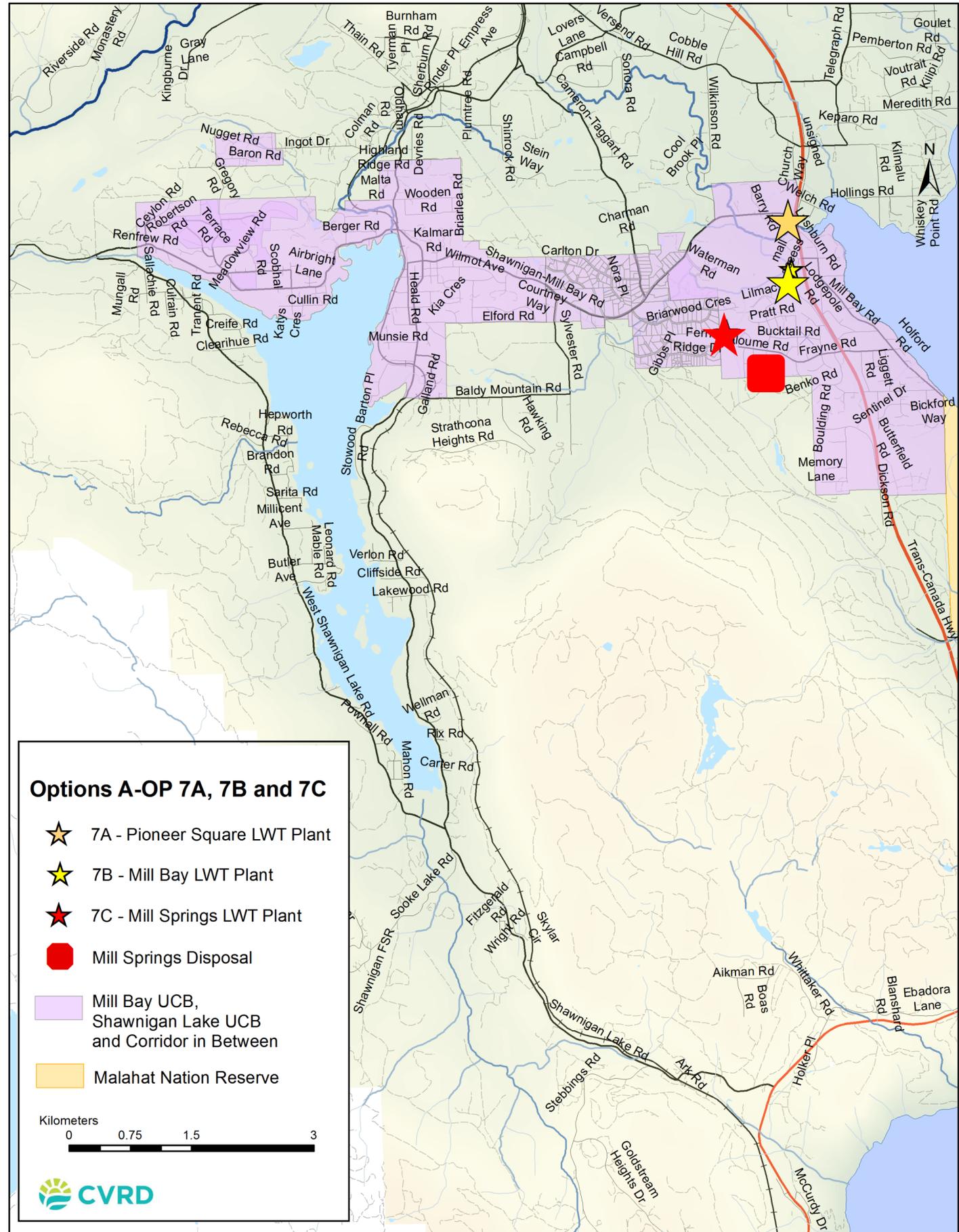
B: Mill Bay - ★

Stonebridge

C: Mill Springs ★

Effluent Discharge at

Mill Springs ■



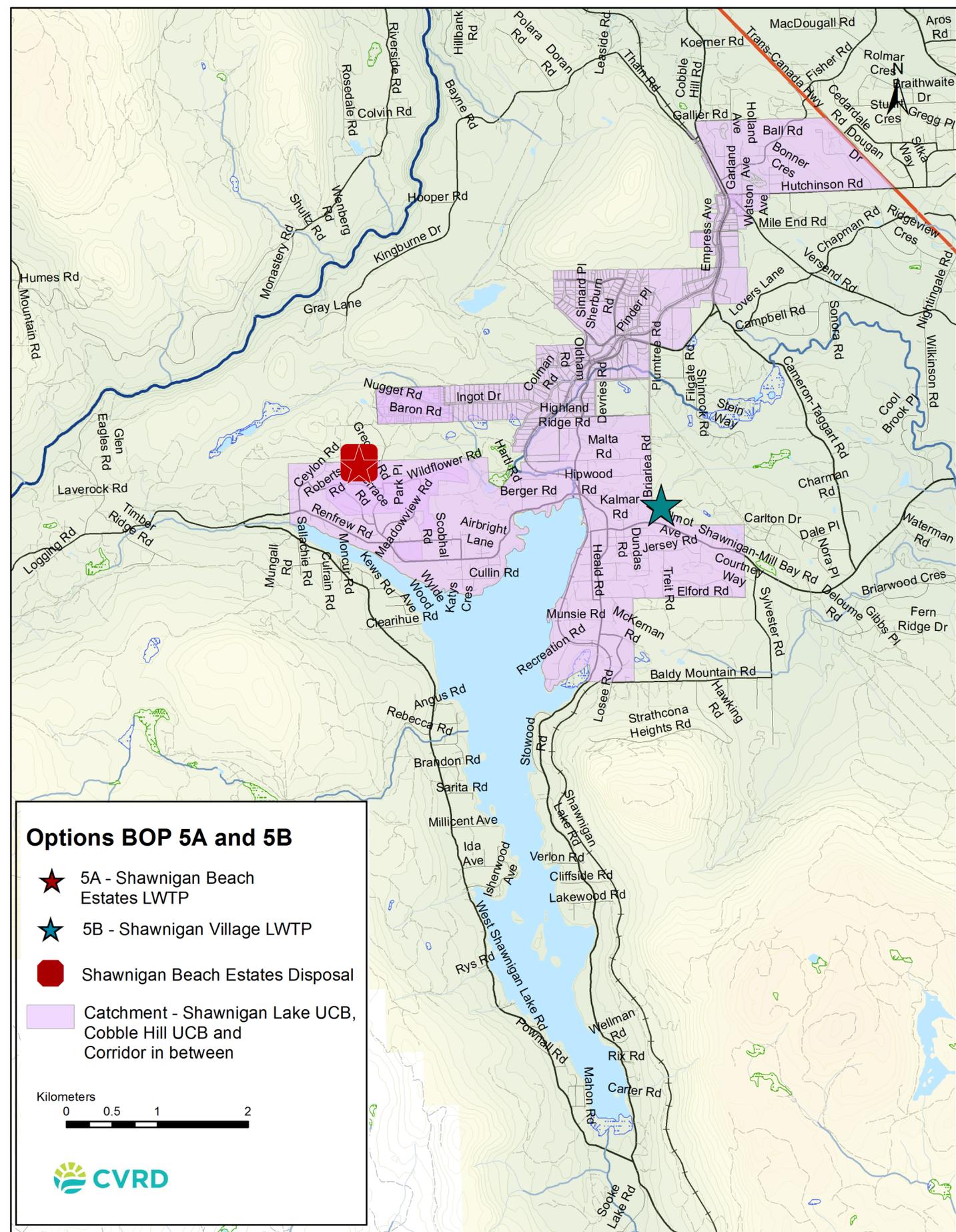
# OPTION B-OP5A & 5B Combined Shawnigan Lake and Cobble Hill UCBs

LWTP at:

5A: Shawnigan Beach  
Estates ★

5B: Shawnigan Village ★

Effluent Discharge at  
Shawnigan Beach  
Estates ■



# OPTION C-OP3A and 3B Arbutus Ridge and Pauquachin First Nation Hatch Point Reserve

LWTP at:

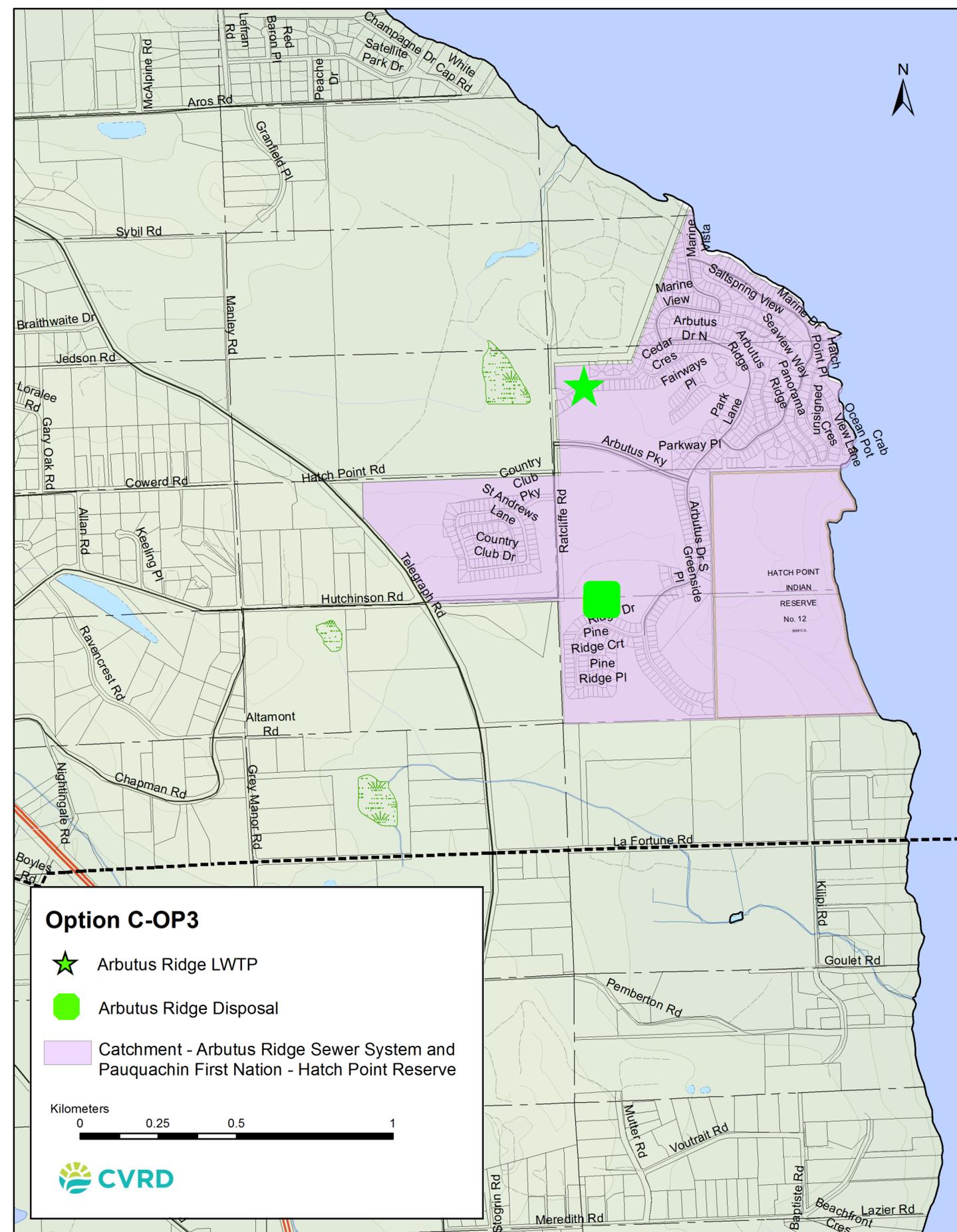
3A: Arbutus Ridge ★

3B: New Facility at Arbutus  
Ridge

Effluent Discharge at

3A: Arbutus Ridge ■

3B: New Disposal Site

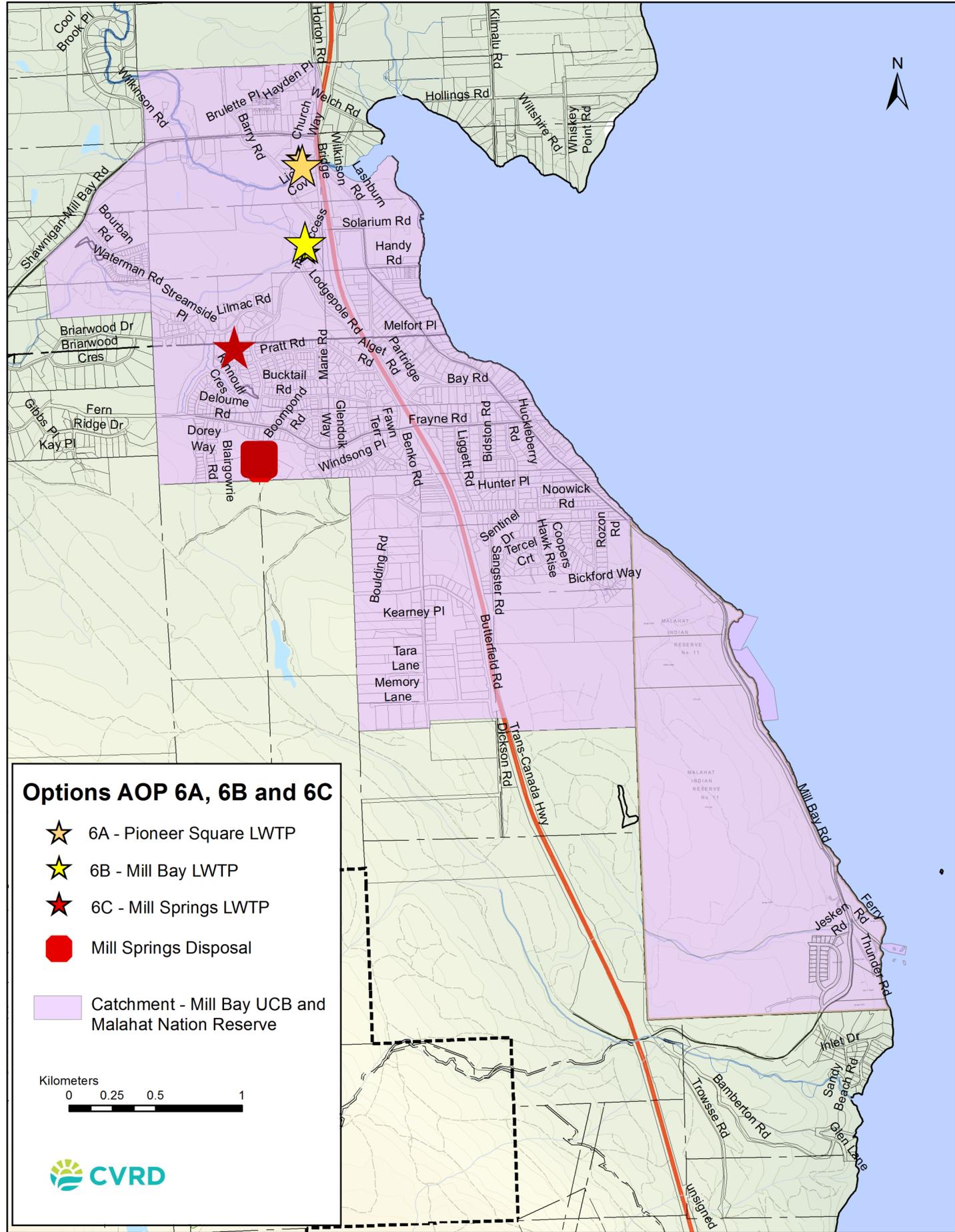


# OPTION A-OP 6A, 6B and 6C Mill Bay UCB and Malahat Reserve

LWTP at

- A: Pioneer Square ★
- B: Mill Bay - Stonebridge ★
- C: Mill Springs ★

Effluent Discharge at Mill  
Springs ■



# PROPOSED EVALUATION CRITERIA - Draft

Financial	Capital cost
	Operations and Maintenance cost
Technical	Technical advantages and disadvantages
	Technology
	Risk consideration
	Difficulties of construction
	Phasing suitability and expandability
Social	Impacts related to the opportunity and/or requirements for land development
	Impact on local residents/businesses and disruptions with respect to the status quo
	Community support
	Impacts on archaeological and heritage resources
	Impacts on First Nations cultural and traditional use sites
Environmental	Impact of the existing/proposed infrastructure to the environment
	Impacts of effluent discharge to the receiving environment

## Next Steps

- Technical and Community Advisory Group Meeting #4 - November 2019
  - Review public input
  - Review recommendations for short list of options
- Develop short list of options and cost estimates for discussion

## Goal

Complete **Stage 1 report** and **scope of work** for next stages of the plan by the end of 2019

## For more information

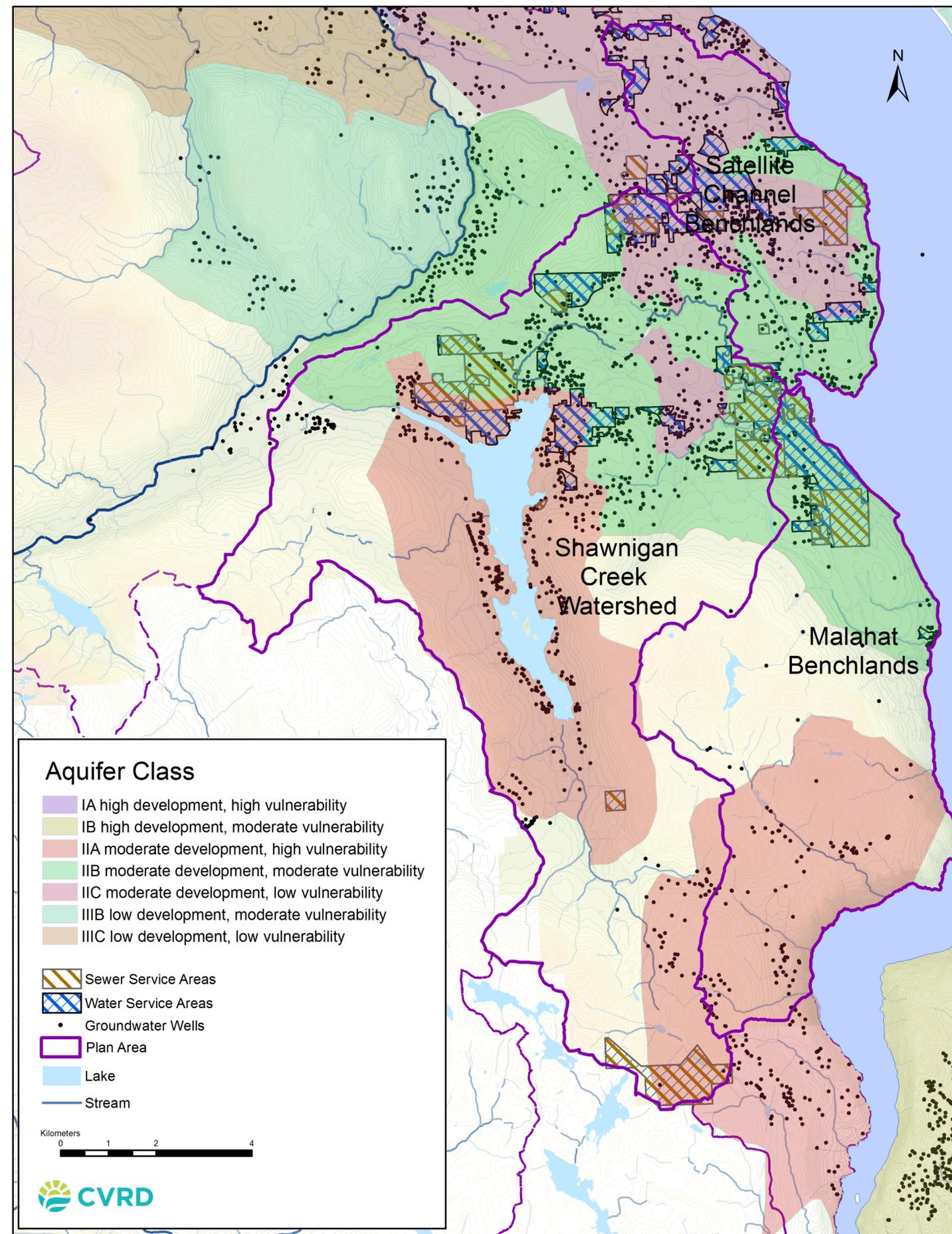
1. Visit: [www.cvrld.bc.ca/sewage](http://www.cvrld.bc.ca/sewage)
2. Log into PlaceSpeak to join the online discussion

Time for questions

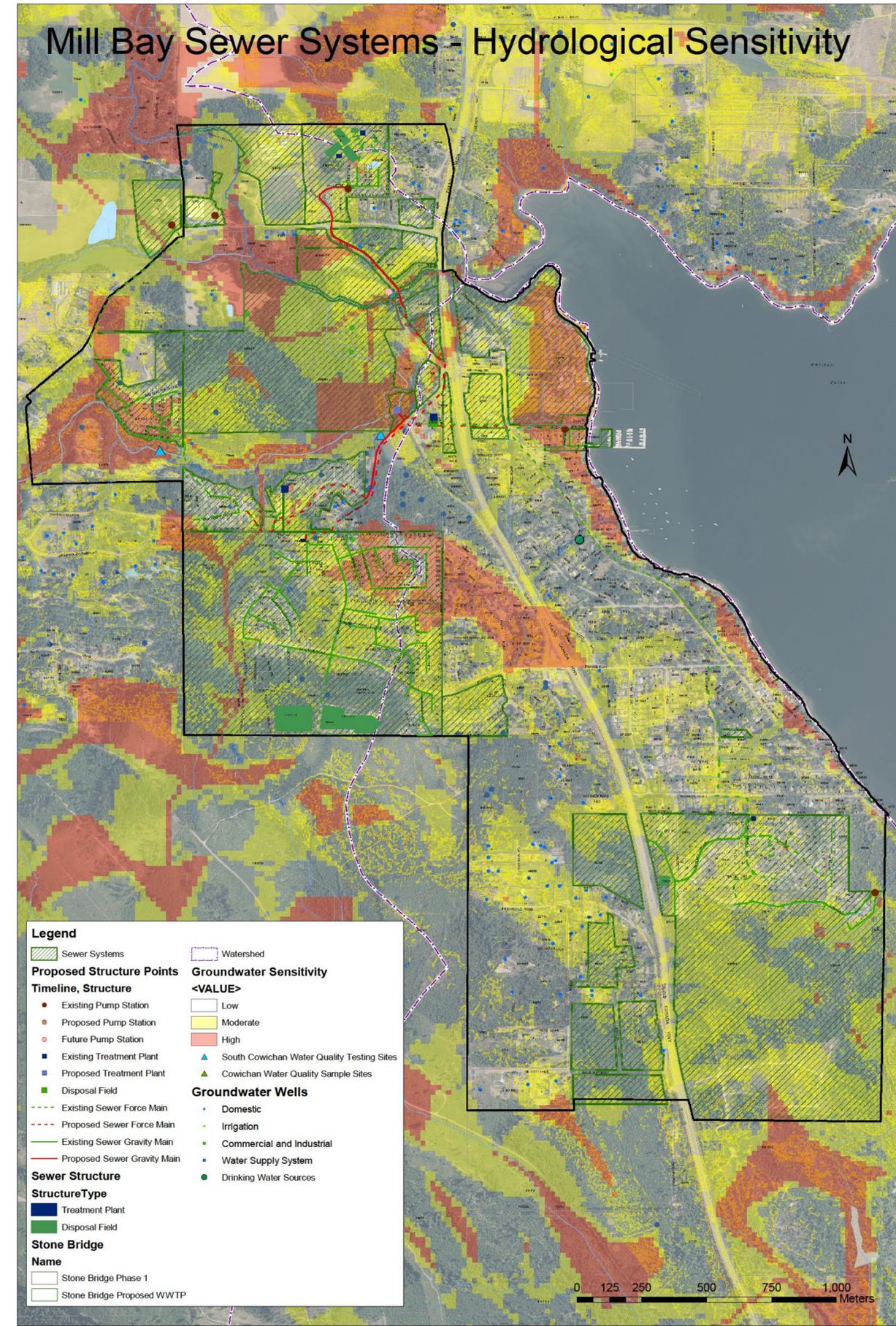
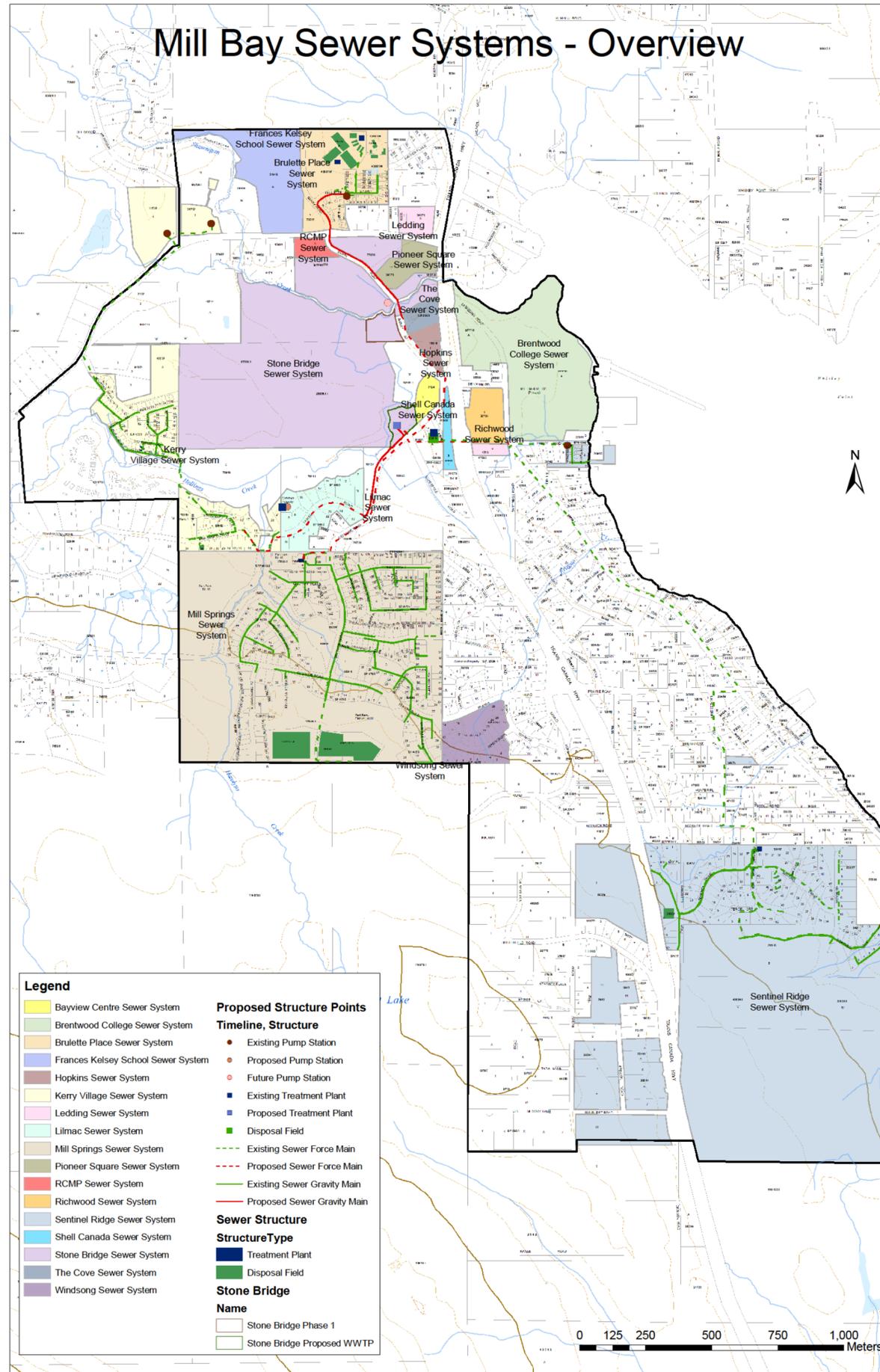
# WATERSHED ATLAS & CHARACTERIZATION

## Aquifers

Key receiving environment



# WATERSHED ATLAS & CHARACTERIZATION



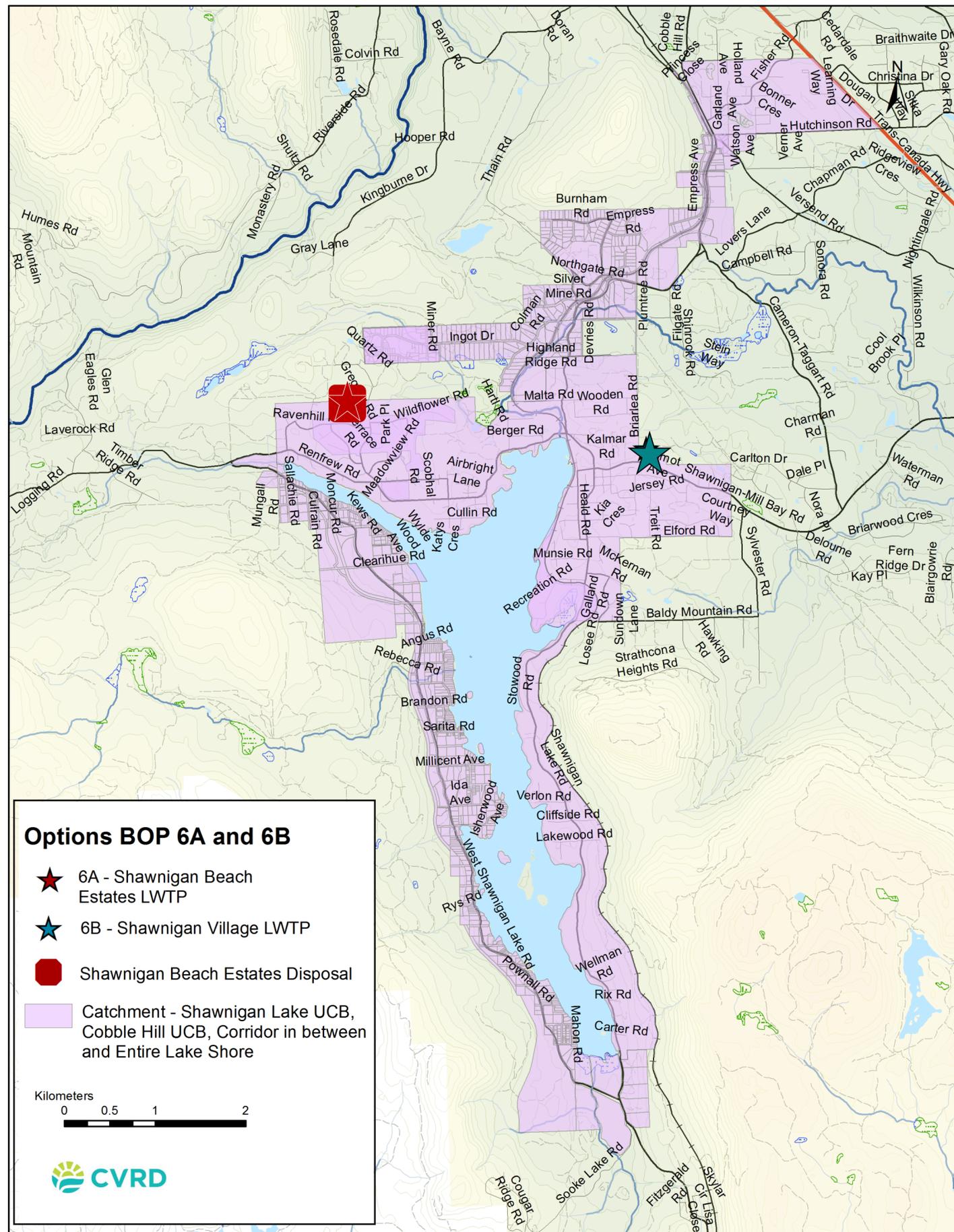
# OPTION B-OP6A & 6B Combined Shawnigan Lake, Cobble Hill UCBs & around the Lake

WWTP at:

6A: Shawnigan Beach  
Estates ★

6B: Shawnigan Village ★

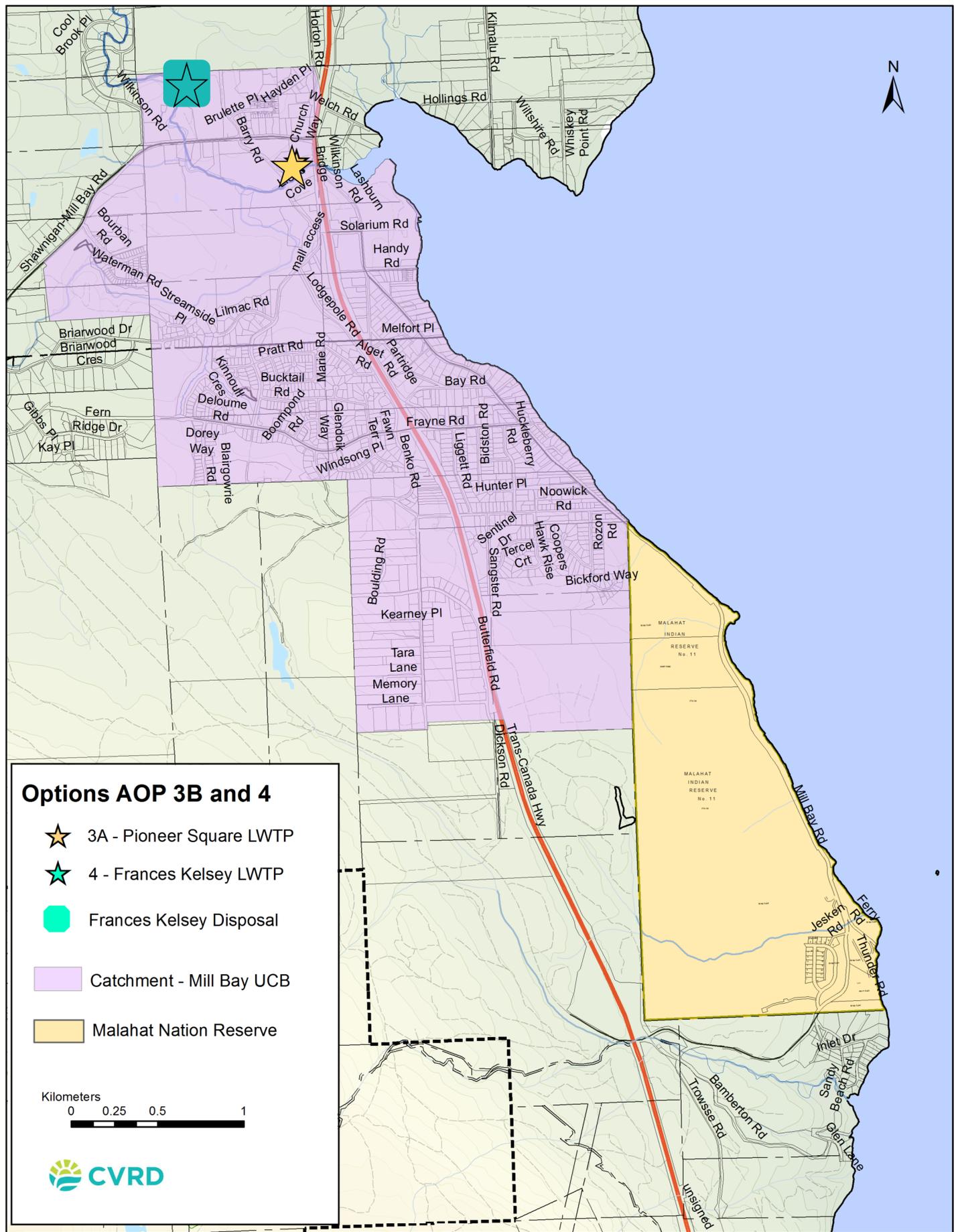
Effluent Discharge at  
Shawnigan Beach Estates ■



# OPTIONS A-OP3B and A-OP4 Mill Bay UCB

LWTP at  
3B: Pioneer Square ★  
4: Frances Kelsey ★

Effluent Discharge at Frances Kelsey ■



# OPTIONS

A-OP8A, 8B and 8C

Combined Mill Bay  
Shawnigan UCB & around  
the Lake

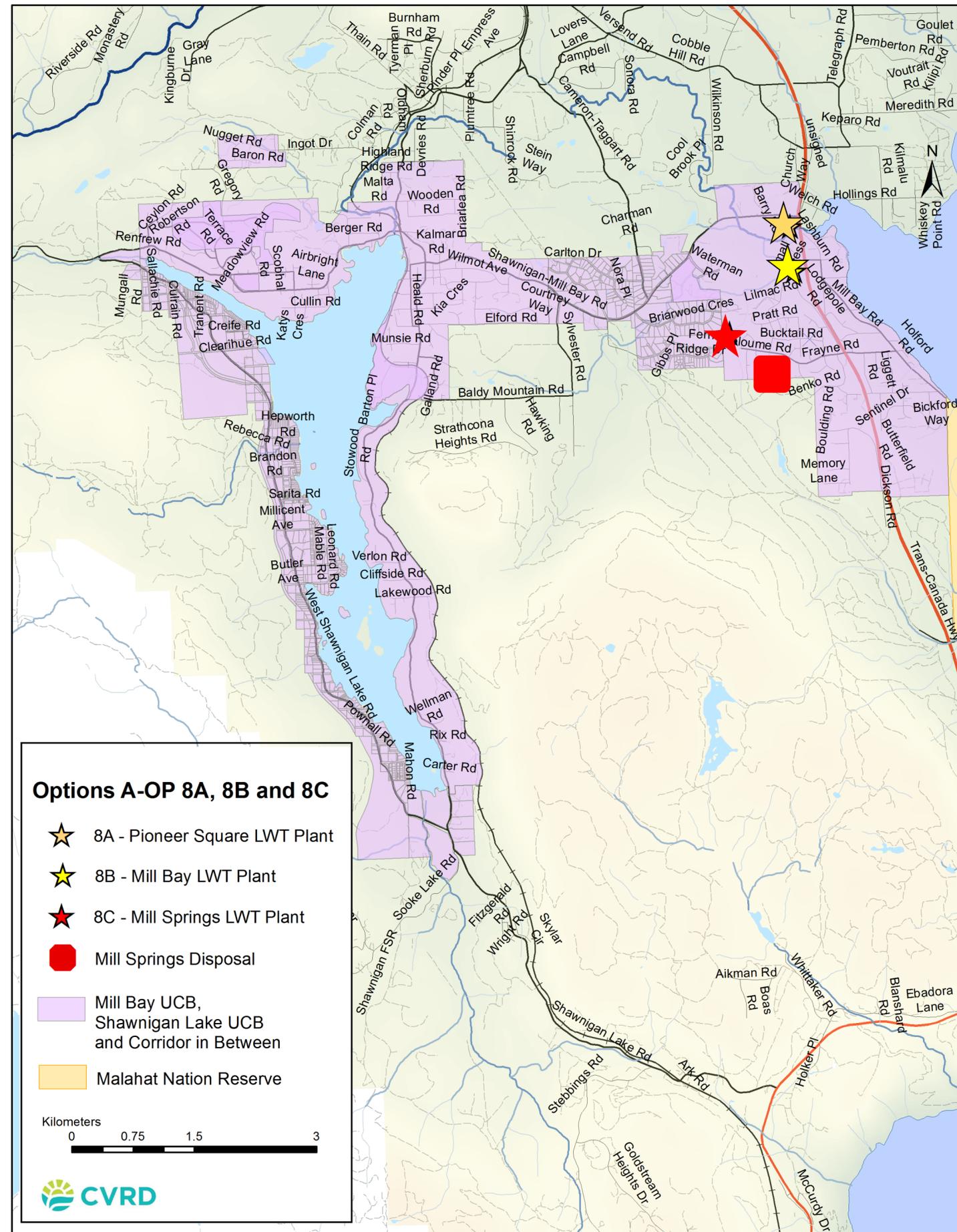
WWTP at

A: Pioneer Square 

B: Mill Bay - Stonebridge 

C: Mill Springs 

Effluent Discharge at Mill Springs 





November 6, 2019

# South Cowichan Liquid Waste Planning Process

## Welcome

### Tonight's Goals:

- Provide information about why a plan is important and necessary
- Present a long list of potential solutions going forward
- Present a draft evaluation framework to shortlist options for the next phase of the process
- Answer questions

### Schedule

- 6:30 pm Open House (please walk around)
- 7:00 pm Presentations
- 7:30 pm Question & Answer
- 8:00 pm Close

We thank the members of the Technical and Community Advisory Group for participating in this community-based planning initiative, along with Malahat First Nation, Cowichan Tribes, Pauquachin First Nation and the many private utility owners in the area.

For more information, please visit: [www.cvrld.bc.ca/sewage](http://www.cvrld.bc.ca/sewage)



# Overview

## The Situation

In recent years in the **South Cowichan:**

 **population has grown faster** (5.9%), than the regional average (4.2%).

 there have been **exceedances of water quality objectives** for surface water in the plan area.

 several **sewer systems in the area do not meet regulatory standards** for discharge.

## The Problem

There are 25 individual sewer systems in the area without a coordinated strategy.

In the future, our population is expected to continue growing rapidly. The existing sewage systems will not be able to meet future needs. We need to plan for this.

## What we are doing

The CVRD is working with project partners to develop a Plan to guide efforts for future infrastructure improvements to help reduce the impacts of sewage and other liquid waste on the environment and ensure adequate infrastructure for future growth.

We are gathering feedback from the public about some of the options currently identified to support our communities in the South Cowichan.

## What is Liquid Waste?

Liquid waste can be produced by all sectors of society, and includes community sewage as well as wastewater from industrial processes such as food and agricultural processing, manufacturing and stormwater runoff.

Liquid waste can be subdivided into other waste types based on the nature of the liquid waste and the risks it poses. For example, wastewater may contain organic substances and nutrients that are of value to agriculture, or may be hazardous due to the chemicals or pathogens it contains.



## How is this liquid waste and sewage currently managed?

Two types of systems are relied upon:

- 1. Septic Systems** - provide on site household treatment and disposal of wastewater where sewers are either unavailable or too expensive. Septic systems **serve about 65% of households** in the plan area.
- 2. Community Sewer Systems** - provide shared treatment of wastewater at a centralized facility. Community sewer systems **serve about 35% of households** in the plan area.

Both systems work in similar ways. Micro-organisms filter out bacteria, viruses and other pollutants before releasing treated water back into the environment. The **key difference** between a **community sewer** system and a **septic** system is that the homeowner is completely responsible for operation and maintenance of their septic system.

# Population Growth

The total population of the South Cowichan was 18,310 people in 2016 which represents an increase of 994 people since the previous census in 2011 (population 17,316). Almost 30% of the total growth in the Regional District occurred in the South Cowichan. Electoral Area A had the highest proportionate growth at 7.7% (340 people) and Electoral Area B had the greatest population gain (431 people).

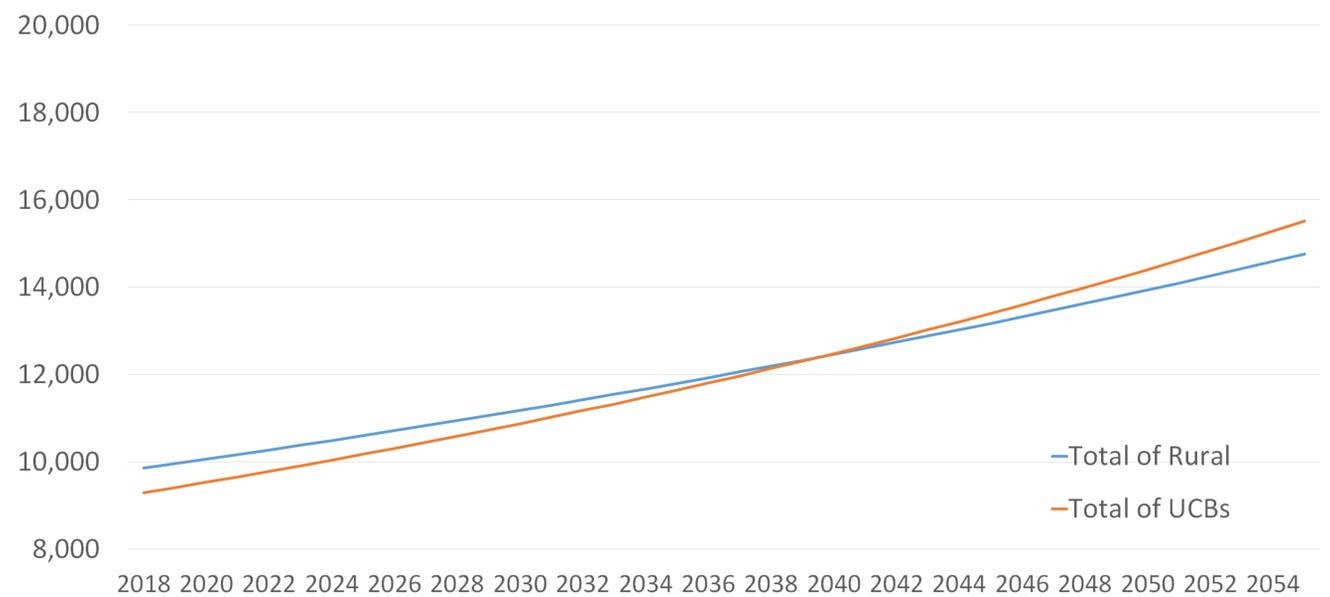
	Electoral Area A Mill Bay	Electoral Area B Shawnigan Lake	Electoral Area C Cobble Hill	South Cowichan Total	CVRD Total
Population 2016	4,733	8,558	5,019	18,310	83,739
Population 2011	4,393	8,127	4,796	17,316	80,332
Population Change	340	431	223	994	3,407
% Change (2011 to 2016)	7.7%	5.3%	4.6%	5.9%	4.2%

## Projections

We use population projections to plan for the scale and location of future servicing required to support communities quality of life and affordability. Two growth scenarios were assessed to help us understand potential population distribution, impacts on core village areas and servicing potential. The growth scenarios also help communicate the cost and benefits of various development patterns to decision makers. Changes to infrastructure takes time so planning well in advance is important.

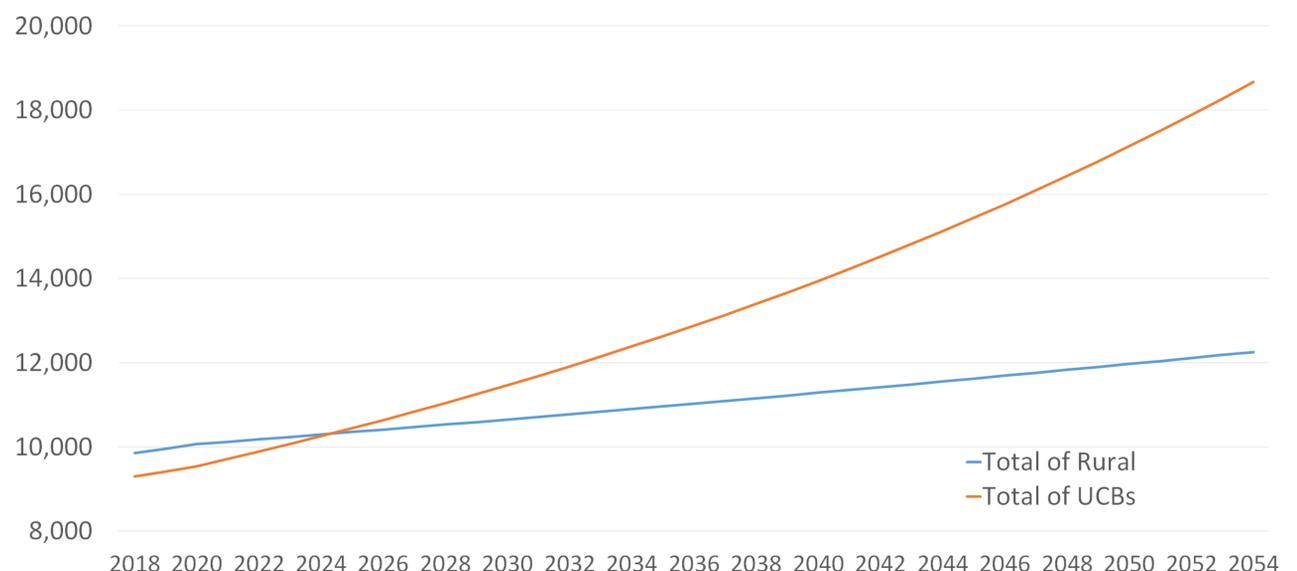
### Scenario 1 – Current growth trends continue

In scenario 1, current growth trends would continue over the next 20 years with 53% of growth within the Urban Containment Boundaries (UCB).



### Scenario 2 – Direct 75% growth to UCBs, 5 year policy transition

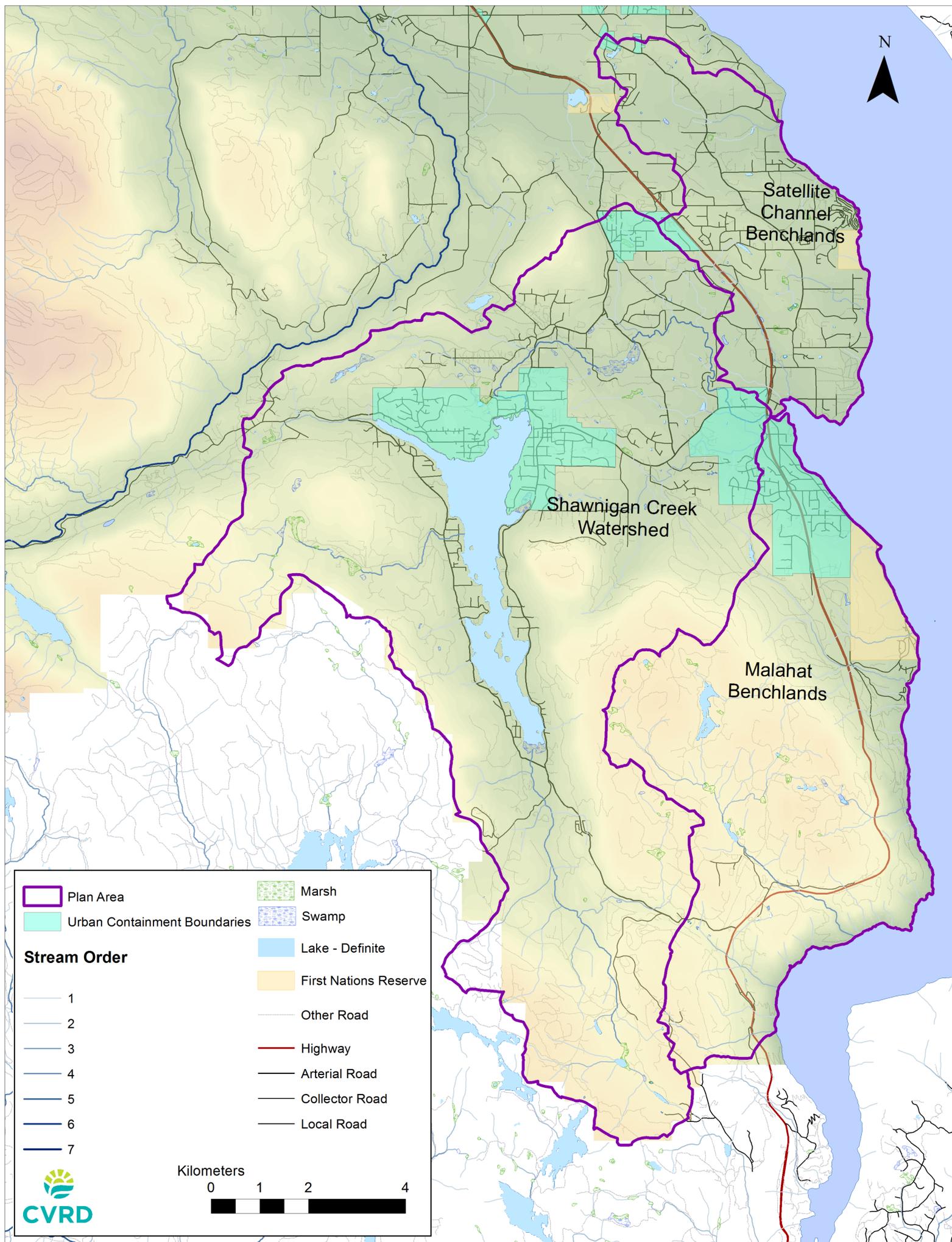
In scenario 2, current growth would continue with 53% within UCBs over the 1st 5 years and then increase to 75% within UCBs from year 6 to 40.



# Watershed Based Approach Growth

The ability of our watersheds and water bodies to deal with the waste we discharge is key to how we manage our sewer and septic systems because many of our communities eat and drink from the same waterbodies which receive waste. In the South Cowichan area we have already agreed based on a community process that waste must be treated at a very high standard (class A) and no additional discharges will be allowed to Saanich Inlet.

## South Sector Plan Area



# Planning Process

Liquid Waste Management Planning in BC follows a 3 stage process:

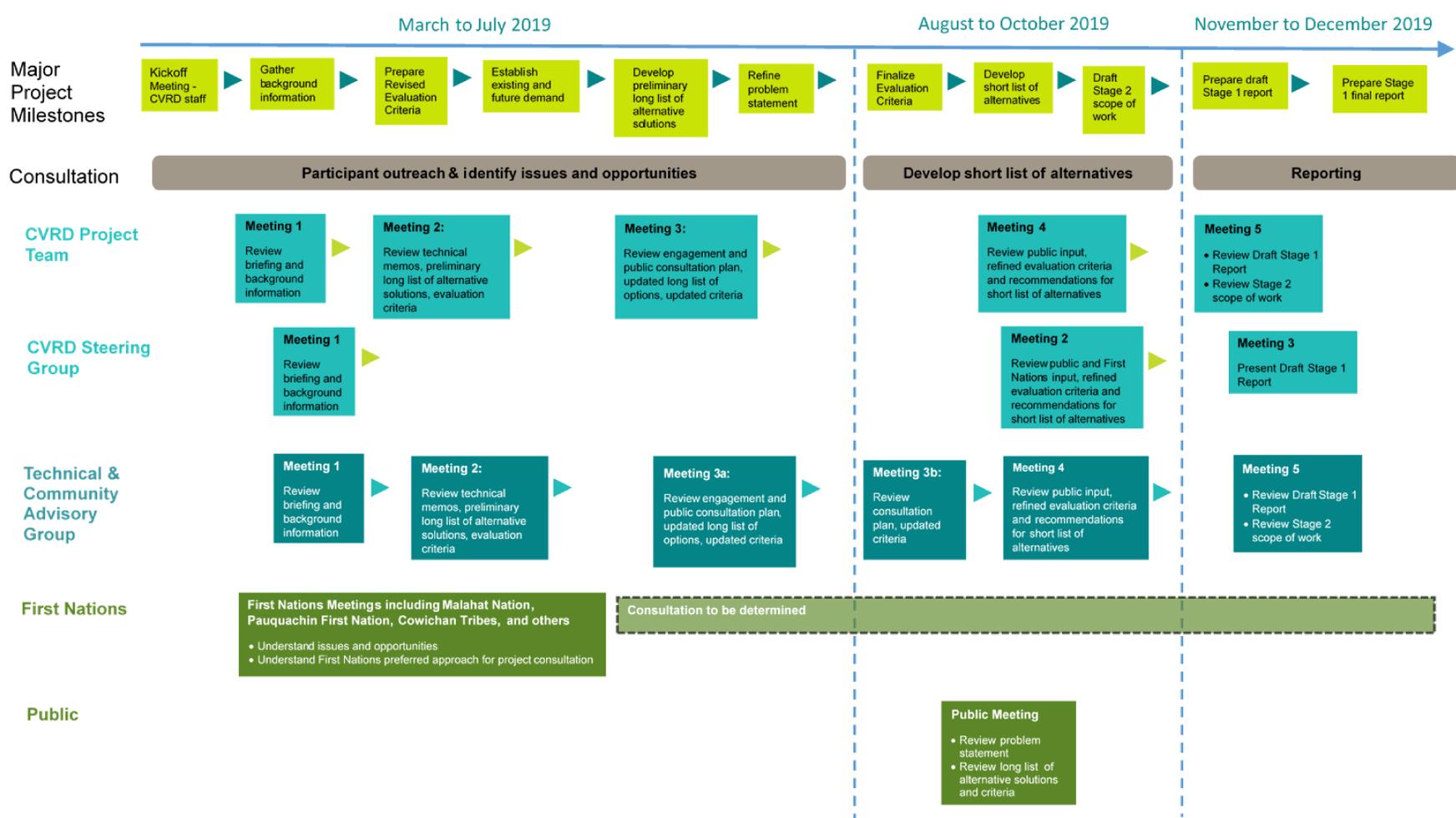
**Stage 1** defines the current problems, forecasts population and development, and develops a long list of potential solutions. Stage 1 began in March 2019 and is anticipated to be **complete** in **December 2019**.

**Stage 2** evaluates the long list of solutions and identifies a shorter list of solutions to take to Stage 3. **Stages 2 and 3 are pending budget and staff resources.**

**Stage 3** focuses on detailed engineering and costs as well as other non-structural solutions for a final long range plan.

## Stage 1 Consultation Process

The following diagram identifies project milestones and consultation activities.



## Identification of Infrastructure Options

One of the key outputs of Stage 1 is the identification of a long list of sewer infrastructure options. A preliminary long list of options has been developed based on identifying solutions which are aligned with the following **objectives**:

- fix existing systems which are out of compliance
- combine smaller systems where opportunities for higher efficiency may exist
- provide sewer system coverage for all lands within our core village areas (UCBs)
- protect the receiving environment including surface water, groundwater and marine water

# Evaluation Criteria

We use evaluation criteria to understand the extent to which different alternatives are expected to meet our objectives. Evaluation criteria allow us to:

- compare options accurately and consistently
- expose trade-offs between options
- generate productive discussion about better options
- communicate the rationale for and improve the transparency of decisions

The proposed evaluation criteria include:

## Financial

- Capital cost
- Operations & Maintenance cost

## Technical

- Technical advantages and disadvantages
- Technology type
- Risk consideration
- Difficulties of construction
- Phasing suitability and expandability

## Social

- Impacts related to the opportunity and/or requirements for land development
- Impacts on local residents/businesses
- Community support
- Impacts on archaeological and heritage resources
- Impacts on First Nations cultural and traditional use sites

## Environmental

- Impact of the existing/proposed infrastructure to the environment
- Impacts of effluent discharge to the receiving environment



# South Sector Liquid Waste Management Plan

## Community Sewer Options for Full Buildout to 2050

Mill Bay Options - Phases I and II (2020 - 2050)									
Catchment Areas (Colour Coding)						Option (Ref #)	Option Components		
Urban Containment Boundary (UCB)	Existing Sewer & Water services, Outside UCB	Corridor	Shawnigan Lake - East	Shawnigan Lake - West	First Nations Reserve		Collection System	WWTP Site	Effluent Discharge
						A-1	Mill Bay UCB	Mill Bay	Mill Springs
						A-2	Mill Bay UCB	Mill Springs	Mill Springs
						A-3A	Mill Bay UCB	Pioneer Square	Mill Springs
						A-3B	Mill Bay UCB	Pioneer Square	Frances Kelsey School
						A-4A	Mill Bay UCB	Frances Kelsey School (Septage)	Frances Kelsey School
						A-4B	Mill Bay UCB (Limited Coverage)	Frances Kelsey School (Septage)	Frances Kelsey School
						A-5	Sentinel Ridge	Sentinel Ridge	Sentinel Ridge
						A-6	Mill Bay UCB + Malahat FN	Mill Springs	Mill Springs

Mill Bay & Shawnigan Lake Partnership Options - Phase II (2040 - 2050)									
Urban Containment Boundary (UCB)	Existing Sewer & Water services, Outside UCB	Corridor	Shawnigan Lake - East	Shawnigan Lake - West	First Nations Reserve	Option (Ref #)	Collection System	WWTP Site	Effluent Discharge
						A-7A	Mill Bay UCB + Shawnigan Village UCB + Corridor	Pioneer Square	Mill Springs
						A-7B	Mill Bay UCB + Shawnigan Village UCB + Corridor	Mill Bay	Mill Springs
						A-7C	Mill Bay UCB + Shawnigan Village UCB + Corridor	Mill Springs	Mill Springs
						A-8A	Mill Bay UCB + Shawnigan Village UCB + Corridor + Lake Perimeter	Pioneer Square	Mill Springs
						A-8B	Mill Bay UCB + Shawnigan Village UCB + Corridor + Lake Perimeter	Mill Bay	Mill Springs
						A-8C	Mill Bay UCB + Shawnigan Village UCB + Corridor + Lake Perimeter	Mill Springs	Mill Springs

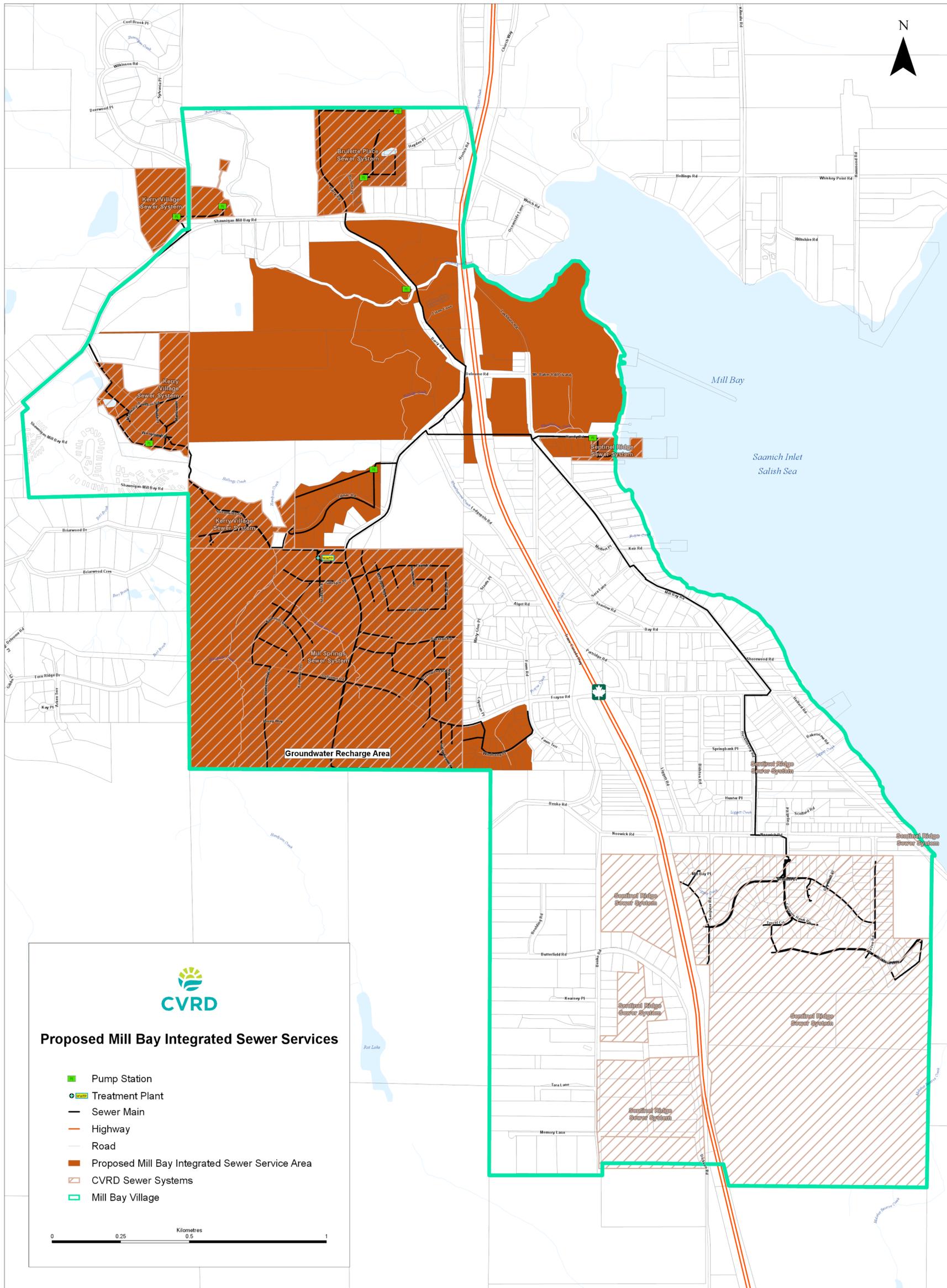
Shawnigan Lake Options - Phase I (2020 - 2040)									
Catchment Areas (Colour Coding)						Option (Ref #)	Option Components		
Urban Containment Boundary (UCB)	Existing Sewer & Water services, Outside UCB	Corridor	Shawnigan Lake - East	Shawnigan Lake - West	First Nations Reserve		Collection System	WWTP Site	Effluent Discharge
						B-1A	Shawnigan Village UCB	Shawnigan Beach Estates Lagoons (Septage)	Shawnigan Beach Estates
						B-1B	Shawnigan Village UCB + Eastern Lake Boundary	Shawnigan Beach Estates Lagoons (Septage)	Shawnigan Beach Estates
						B-1C	Shawnigan Village UCB + Lake Perimeter	Shawnigan Beach Estates Lagoons (Septage)	Shawnigan Beach Estates
						B-2A	Shawnigan Village UCB	Shawnigan Village (Septage)	Shawnigan Beach Estates
						B-2B	Shawnigan Village UCB + Eastern Lake Boundary	Shawnigan Village (Septage)	Shawnigan Beach Estates
						B-2C	Shawnigan Village UCB + Lake Perimeter	Shawnigan Village (Septage)	Shawnigan Beach Estates
						B-3	Arbutus Mountain	Arbutus Mountain	Arbutus Mountain
						B-4	Elkington Forest	Elkington Forest	Elkington Forest

Shawnigan Lake & Cobble Hill Partnership Options - Phase II (2040 - 2050)									
Urban Containment Boundary (UCB)	Existing Sewer & Water services, Outside UCB	Corridor	Shawnigan Lake - East	Shawnigan Lake - West	First Nations Reserve	Option (Ref #)	Collection System	WWTP Site	Effluent Discharge
						B-5A	Shawnigan Village UCB + Cobble Hill UCB + Corridor	Shawnigan Beach Estates Lagoons (Septage)	Shawnigan Beach Estates
						B-5B	Shawnigan Village UCB + Cobble Hill UCB + Corridor	Shawnigan Village (Septage)	Shawnigan Beach Estates
						B-6A	Shawnigan Village UCB + Cobble Hill UCB + Corridor + Lake Perimeter	Shawnigan Beach Estates Lagoons (Septage)	Shawnigan Beach Estates
						B-6B	Shawnigan Village UCB + Cobble Hill UCB + Corridor + Lake Perimeter	Shawnigan Village (Septage)	Shawnigan Beach Estates

Cobble Hill Options - Phase I (2020 - 2040)									
Catchment Areas (Colour Coding)						Option (Ref #)	Option Components		
Urban Containment Boundary (UCB)	Existing Sewer & Water services, Outside UCB	Corridor	Shawnigan Lake - East	Shawnigan Lake - West	First Nations Reserve		Collection System	WWTP Site	Effluent Discharge
						C-1	Cobble Hill UCB + Maple Hills	Twin Cedars	Twin Cedars + Galliers Rd
						C-2	Arbutus Ridge	Arbutus Ridge	Arbutus Ridge
						C-3A	Arbutus Ridge + Pauquachin FN	Arbutus Ridge	Arbutus Ridge
						C-3B	Arbutus Ridge + Pauquachin FN	Arbutus Ridge (New)	New (TBD)

# 1st Phase South Cowichan Sewer Systems Integration

## Mill Bay Sewer Systems Project



## **Appendix C – Public Feedback Summary**

Open House Meeting Summary

Comments received by email

Comments received by PlaceSpeak

**SOUTH SECTOR LIQUID WASTE MANAGEMENT PLAN PUBLIC MEETING**

6-Nov-19

6:30 – 9:00 PM BRENTWOOD COLLEGE MILL BAY

**QUESTIONS FROM ATTENDEES:**

AREA	?	STAFF RESPONSE
Cobble Hill	Why isn't replacement cost being set aside for our sewer system? Taxpayers will be stuck with bill.	
	Have you considered the reality of Shawnigan Lake with regards to Urban Containment Boundaries? Assumptions of population growth unrealistic. Neighbourhood planning is needed instead of developer driven growth. Densification of area is flawed.	
Shawnigan Lake	Why do we have no communication with communities? How do we fix that? Is there a plan to amalgamate?	The liquid waste management plan area includes 3 electoral areas. Plan options assume that boundaries of the 3 electoral areas will continue to be in place through the plan horizon (2020 to 2050).
Sentinel Ridge	If private sewer systems connect to bigger system how will the senior residents afford connection?	<i>Financial criteria are included in the evaluation of options.</i>
Cobble Hill / Shawnigan Lake	Why isn't community support 50% in weighted criteria?	<i>Community Support will be required to move forward with the preferred option. The Community support criteria is an indicator based on other feedback gathered from other sources such as community planning processes.</i>
Shawnigan Lake	Assuming there is a system at Pioneer Square, can all residents connect including septic system owners?	Yes
Mill Bay	Is the assumption that larger lots will be able to densify / subdivide? Is this a benefit to home owners?	<i>The LWMP is based on current zoning and does not propose subdivision of lots.</i>
Mill Bay	Don't you have to densify to make these options work?	<i>Yes. Density enables the financial support for community sewer systems</i>
Shawnigan Lake	Why has the option of having a centralized facility been scraped?	<i>A centralized facility is still an option over the long term (20 to 30 years from now). There are additional options within the village areas to be considered for the shorter term (0 to 20 years from now)</i>
Mill Bay	Why are there unrealistic options being presented?	<i>We are at Stage 1 and have a long list of options. The next step is to develop a short list of options.</i>
	Is Elkington Forest a Class A system?	
Shawnigan Lake	Can plan be scaled down to address only the problem sites?	<i>Plan addresses challenges and opportunities across all community sewer systems in the plan area</i>
Shawnigan Lake	Where are the well defined problem areas?	<i>Problem areas are the receiving environment for liquid waste including our surface and groundwater resources. One of the way we can protect these areas is by having community sewer systems that cover our UCB areas and other higher density neighbourhoods.</i>
Shawnigan Lake	Is it possible to get update about Mill Bay project?	<i>An update on the Mill Bay sewer system integration program was provided.</i>
	Are you saying that Sentinel Ridge is a good system?	

**Comments from meeting participants**

**Evaluation Criteria**

- The "community support" criteria should be the most heavily weighted

**Options**

- A community sewage system on the west side of Shawnigan Lake should not be considered
- A community sewage system on the west side of Shawnigan Lake should be considered
- Marine outfall to Saanich Inlet should be considered as an effluent discharge option
- The plan should only focus on developing options for current problem sites
- A disaggregated network of smaller systems should be considered as options to reduce environmental impacts

**Follow-up feedback and questions**

- The weighting percentage for each of the evaluation criteria (Finance, Technical, Environmental etc.) appeared to be equal. In reality if finance and the environment are most important to the decision making, should they not be given heavier weight?

---

· For Shawnigan lake like so many other areas, it appears that we are only looking at past technology solutions for the treatment systems when planning for growth. If the environment is truly something that we are attempting to address, what about exploring more advanced technologies from other jurisdictions that are tomorrow solutions. What about a closed treatment facility that dumps nothing back into the environment for some developments.

---

· (This item may or may not apply here.) If water conservation, supply and capacity are going to be more strategically addressed for the long term, are we looking at modifying the building codes to address storage as there is a lot of rain that falls from the sky on a yearly bases that we are letting get away. Could there be incentives put in place to encourage new and existing property owners to install water capture and storage systems?

---

· In the projected population numbers for each region, it did not appear to take into consideration the seasonal fluctuations that happen in the busy summer months. The seasonal increases must have a material bearing on all of the system demands, large and small. What about talking to tourism for any relevant data?

---

· The presentation mentioned working with partners to help with costs, what about partnering with BC hydro or other provincial or federal source.

---

#### WRITTEN COMMENTS

Evaluation Criteria:

*Does the suggested evaluation criteria address the types of issues you would be concerned with?*

---

No. Too much discharge to septic field Mill Springs.

---

Yes

---

Yes

---

Environmental impacts not being effectively assessed - in particular Shawnigan Beach Estates ground disposal expansion plans

---

Yes. The primary criteria needs to be community support and based on a updated community plan. The OCP is out of date. The weighting on community support should be 51% overall.

---

Housing impacts - increased costs and densification.

---

Need more info! Need earlier announcements.

---

*Did we miss any key criteria that should be included?*

---

Yes

---

Criteria range ok.

---

Do not know.

---

Long list of options to date:

*How do you feel the overall option mix deals with the long term development of the community and its build out:*

---

Generally of - 5 yr. assumption review insufficient, should be 3 yr. review.

---

Actual development may not be within UCB.

---

Ok.

---

Confused! Since the technology that you ? In your presentation is not familiar and most people, excluding me, so how to expect an intelligent response?

---

*Are there any particular options you think are problematic? (please identify why)*

---

Development driven by sewers so you can control growth by where they are serviced.

---

Shawnigan Beach Estates ground disposal. Expansion plan risky to environmental impacts.

---

Yes. Shawnigan Lake - all options are unrealistic.

---

You need better communication and better co-ordinated between communities.

---

Individual Community Scale - Local Areas:

*At the more local scale, did we miss any options you think we should consider?*

---

No.

---

Septic system maintenance coordination. Septic system standard maintenance compliance the priority over capital spending on new sewers.

---

**Lynda Lee**

---

**From:** Kate Miller  
**Sent:** Thursday, November 07, 2019 5:24 PM  
**To:** Keith Lawrence  
**Subject:**

Fyi for file

Kate Miller, M.Sc., RPP, MCIP, LEED AP+

Manager, Environmental Services Division  
Engineering Services Department  
Cowichan Valley Regional District  
175 Ingram Street, Duncan, BC V9L 1N8  
Email: [kmiller@cvrld.bc.ca](mailto:kmiller@cvrld.bc.ca)  
Tel: 250.746.2509 Toll Free 1.800.665.3955 Fax: 250.746.2543

---

**From:** Vroom, Bryan ENV:EX  
**Sent:** November 6, 2019 4:31 PM  
**To:** Brian Dennison  
**Cc:** Vanessa Thomson ; Kate Miller  
**Subject:**

Hi Brian,

I recall speaking with John some time ago. He also sent me an email earlier this week indicating that I should expect to hear from you soon.

I certainly did not advocate for an ocean discharge, or comment on its viability in this case. I did let him know that the ministry does not take a position on these types of things other than to say that they must meet current standards as outlined in the Municipal Wastewater Regulation (MWR), and be in compliance with an LWMP as approved by the Minister. I probably did say in a general sense that ocean discharges are contemplated under the Municipal Wastewater Regulation and that any discharges to marine must meet the regulation. I also recall stating that his concerns about ground discharge (where will all that water go) would be looked at through the EIS work for the ground discharge and at least meet minimum standards before they could be authorised. I encouraged him to make his views known in the ongoing LWMP planning processes as they were available to him.

So to summarize, I have no preference for how CVRD will treat and discharge sewage in the south sector, other than in accordance with the MWR. I can also say that the Ministry is not interested in directing the outcome of the LWMP process currently underway.

I hope this helps. I would be happy to discuss on the phone if that would be useful for you.

Regards.

Bryan Vroom, M.Sc., P.Ag.  
Section Head, Municipal Liquid Waste

Authorizations – South : Regional Operations Branch : Environmental Protection Division  
Ministry of Environment and Climate Change Strategy

2080A Labieux Road, Nanaimo, BC V9T 6J9

[bryan.vroom@gov.bc.ca](mailto:bryan.vroom@gov.bc.ca)

Phone: 250 751 3188

[Waste Authorisation Application Website](#)

24-hour Spill/Environmental Emergency Reporting: 1-800-663-3456 (Emergency Management BC)

If the situation is not an emergency, call 1-877-952-7277 (RAPP) or #7277 on the TELUS Mobility Network, [online](#) or contact the nearest [Conservation Officer Service district office](#).

---

**From:** Brian Dennison <[Brian.Dennison@cvr.bc.ca](mailto:Brian.Dennison@cvr.bc.ca)>  
**Sent:** November 6, 2019 3:47 PM  
**To:** Vroom, Bryan ENV:EX <[Bryan.Vroom@gov.bc.ca](mailto:Bryan.Vroom@gov.bc.ca)>  
**Cc:** Vanessa Thomson <[Vanessa.Thomson@cvr.bc.ca](mailto:Vanessa.Thomson@cvr.bc.ca)>; Kate Miller <[Kate.Miller@cvr.bc.ca](mailto:Kate.Miller@cvr.bc.ca)>  
**Subject:**

Hello Bryan

a resident of Mill Bay, has been here a number of times with concerns about planned expansion of the discharge to ground at Mill Springs for our Mill Bay integration project for which we have a \$5.9 million grant. This project would see three existing CVRD sewer utilities and a number of developments and private partners join into one system with treatment and disposal based on upgrades to the existing Mill Springs system.

John is a rather intense person. A little hard to deal with.

Anyway he says that he really wants to see that we use the existing outfall and permit for Brentwood College. I have said that:

1. It's way too small and not far enough out or deep enough.
2. We would have to do a number of technical studies to determine where a diffuser could be located.
3. The permit would have to be dramatically increased in capacity and converted to a registration.
4. An outfall registration would require consultation with all the First Nations in Saanich Inlet and some further north.
5. An outfall registration would require a comprehensive environmental assessment on the scale of or greater than the \$1 million Saanich Inlet Study of 20 or so years ago.
6. All of this process would take many years to accomplish and the likelihood of success is rather remote especially as we have a viable ground discharge option.
7. Brentwood College wants to get rid of the outfall not expand it.
8. In our own SSLWMP amendment outfalls are not even being considered.

He said a couple of days ago that none of this is true because the MoE told him it's all OK. I asked who it was in the MoE that said these were not issues.

He said "Bryan Vroom" told him that.

Would you mind please confirming my understanding of the outfall situation so that we don't have John running around the Mill Bay community saying that Bryan Vroom of the MoE said it's fine to just use the Brentwood outfall and it's the CVRD that will not listen to his great idea?

Thanks

*Brian Dennison, P. Eng.,*  
Manager, Water Management  
Engineering Services  
Cowichan Valley Regional District  
E-mail: [bdennison@cprd.bc.ca](mailto:bdennison@cprd.bc.ca)  
Tel: 250-746-2530

**Lynda Lee**

---

**From:**  
**Sent:** Wednesday, November 06, 2019 11:26 AM  
**To:** Keith Lawrence  
**Cc:** Blaise Salmon; Mike Wilson  
**Subject:** South Sector Liquid Waste Management Planning  
**Attachments:** Septic System Maintenance Reporting (2019-11-06).pdf

Keith,

Attached is an updated strategy I provided as input to the CVRD the last time we were working on the SSLWP.

Feel free to call me if you want to walk through it or if you have any questions.

\_\_\_\_\_  
\_\_\_\_\_  
Shawnigan Lake, BC V0R 2W1

Follow-me: +1

Toll-Free: +

# Septic Scenarios



# Root Problems

- Fragmented jurisdiction: VIHA, Qualified Service Providers, CVRD, Ministry of Environment
- Problem reporting depends on community observations (neighbourhood odors?)
- Not all problems are observable – testing may not identify the source
- Remedy to a problem depends on home owner action
- Remedy cost to home owner can be a deterrent to standard maintenance (don't look, don't find)
- Nobody really knows how bad it is – both old and new but badly maintained systems can be problems
- Many unverified assumptions for expensive capital sewer projects

# What do you want to know?

Primarily:

- Where are the problems?
- Where are septic systems operating effectively?

For Planning:

- Are they confined to a few problem areas?
- Are problems fixed reliably (over time)?
- Did water quality improve after septic system maintenance improved?
- What is the capacity of an area for septic systems?
- How do we optimize our multi-million dollar investments in community sewers?

## How do we incent homeowner participation?

- Septic system inspection tax levy
- Granted back to home owner for standard maintenance reporting by a CVRD qualified service provider
- Compliant home owners have very low cost
- Non-compliant home owners continue to pay annually

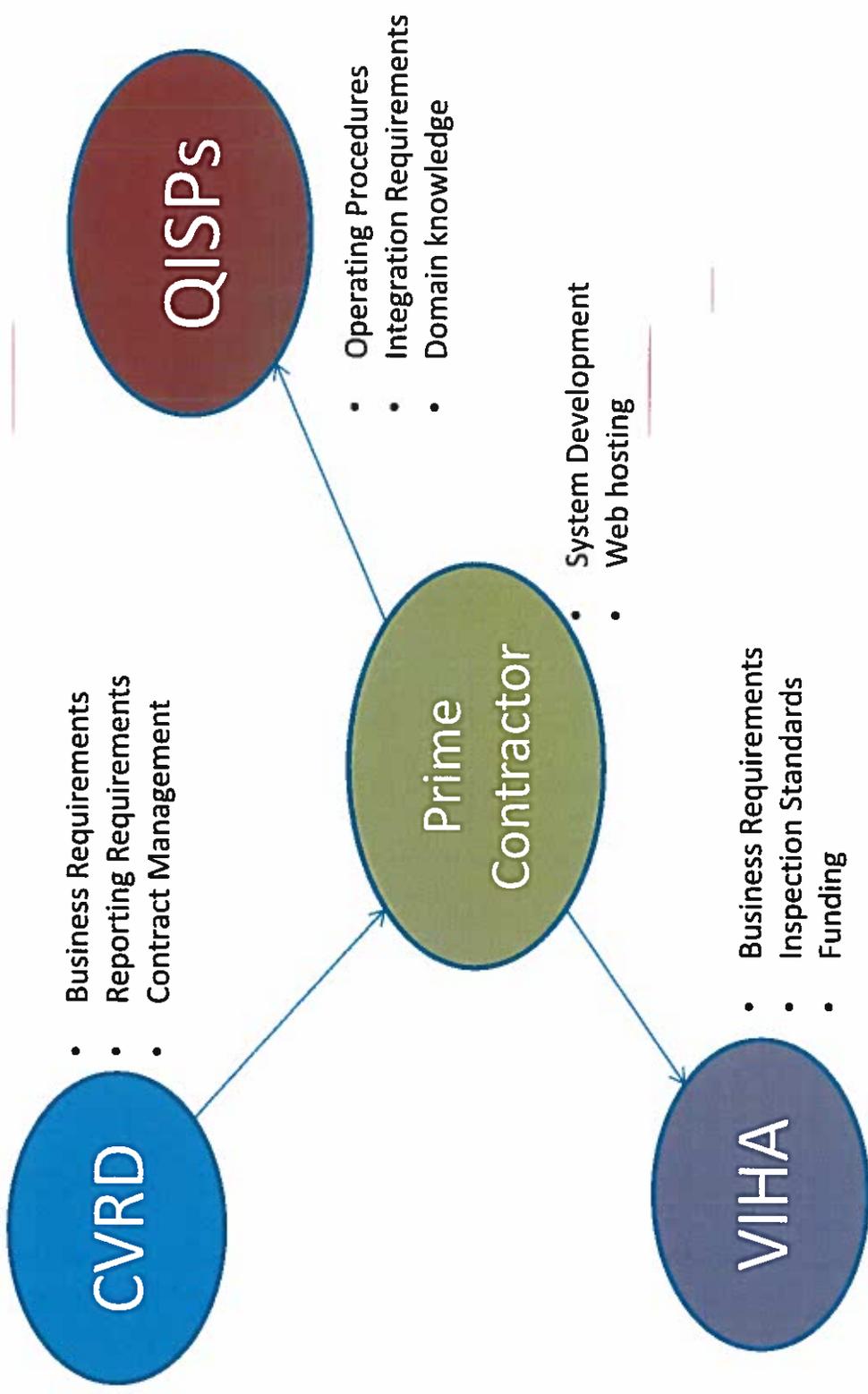
# Program Implementation Phase 1

- Qualify inspection service providers (QISP) through an Request For Qualification procurement process:
  - Team with VIHA and service providers to develop standard service requirements for the procurement process
  - Complete QISP procurement resulting in a list of QISPs
  - Publish home owner service information and costs for QISP services (promote QISPs)
- Qualified Inspection Service Providers (QISP) must:
  - Meet VIHA inspection protocol and standards (perhaps not new)
  - Meet VIHA and CVRD reporting requirements
- Implement CVRD function administrative processes:
  - Develop communication processes for home owners
  - Phase in by area and capacity of QISPs
  - Collect and review hardcopy inspection reports for analysis
  - Report non-compliance to VIHA

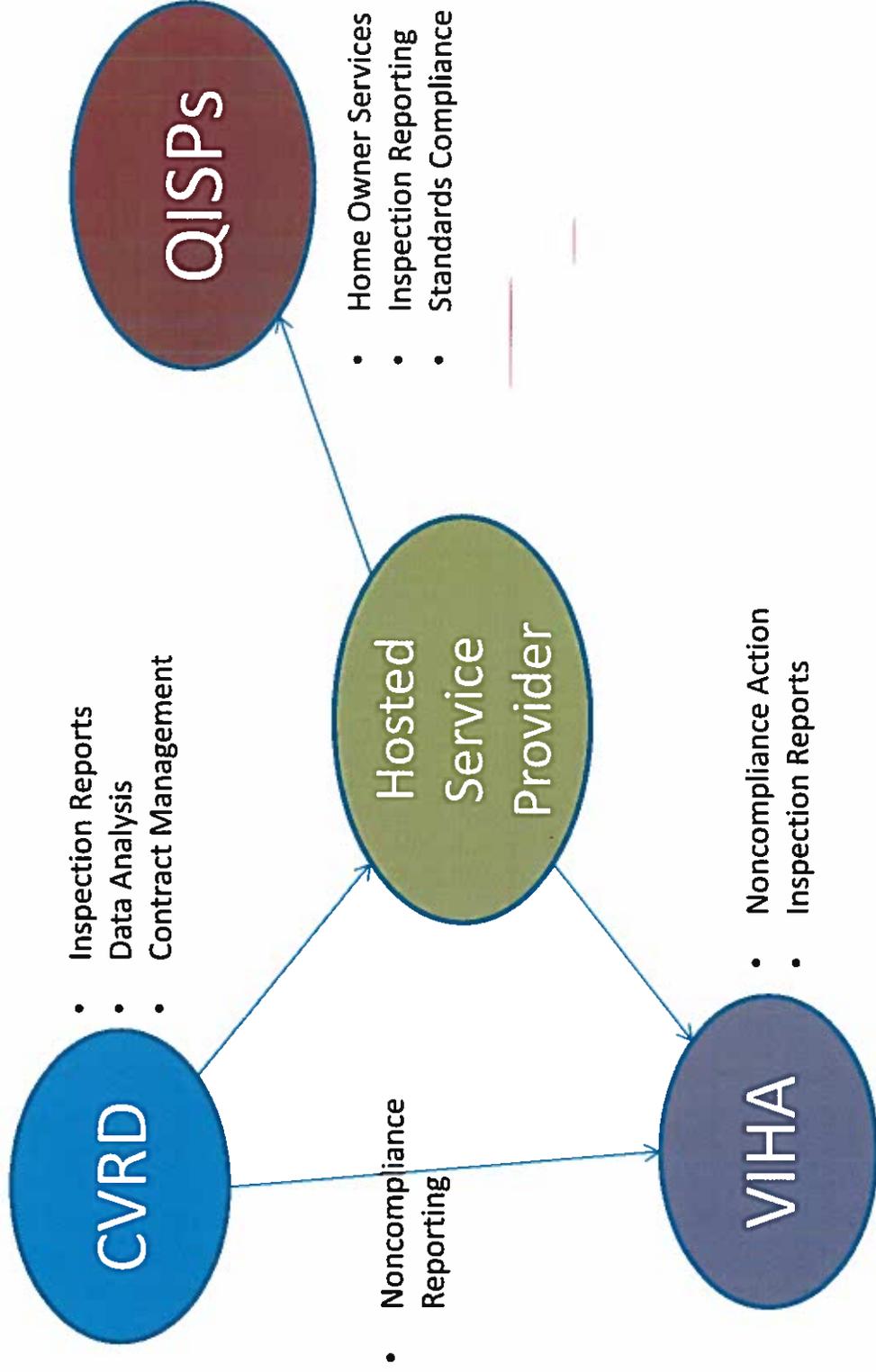
# Program Implementation Phase 2

- Obtain grants to acquire a service provider to outsource the development of a common web service/data exchange to:
  - Collect service provider reports
  - Enable compliance analysis and reporting by CVRD (or VIHA)
  - Improve CVRD administrative processes and property system integration
  - Meet partners' information needs

# Development



# Operating



## Vision: Strategic Value of Information

- Knowing where the problems are: a shared map layer with geocoded system locations
- History of system maintenance for analysis and **detection of homeowner inaction**
- Improve inspection standards and approvals over time (by geography and density)
- Verifiable remedies: know where to test
- Improve sewer capital planning information



**Lynda Lee**

---

**From:**  
**Sent:** Thursday, November 14, 2019 1:30 PM  
**To:** Keith Lawrence  
**Subject:** Fwd: Small town liquid waste plan

Hi Keith,

I am a member of the Area A APC and was at the joint meeting last Monday. I was given your contact by Blaise Salmon who thought you might find this valuable (and hopefully not too far fetched!) I don't know much about liquid waste management, but from what Archie Staats (a retired liquid waste manager) says the systems that the CVRD wants to put in are the most expensive and maintenance heavy of all the options, and are options that cities would never use. Someone at that joint APC meeting brought up the technology the Bill & Melinda Gates foundation was developing, so I reached out to see if that was actually a possibility. Their response is below. I'm not sure if it fits with your timeline.

Also, if you haven't watched "Inside Bill's Brain: Decoding Bill Gates" on Netflix, it is very inspiring!

Here is hoping, and thanks for taking the time to listen :),

----- Forwarded message -----

**From:**  
**Date:** Wed, Nov 6, 2019 at 11:53 AM  
**Subject:** RE: Small town liquid waste plan  
**To:**

Hello

Thank you for your interest in the Janicki Omni Processor as a possible solution for your application in Canada. Right now, we are focusing on opportunities within West Africa as we mature our initial iterations of the technology. Therefore, we are not pursuing opportunities outside of that region at this time. We hope to be in a position to expand the reach of the technology beyond West Africa in about 18-24 months. Our recommendation is to check back in at that time if our equipment makes sense for your application and you are still interested in pursuing the technology. Again, we appreciate your interest and apologize for any inconvenience.

Best regards,

Senior Program Assistant & Marketing

**From:**

**Sent:** Tuesday, November 5, 2019 1:59 PM

**To:**

**Subject:** Small town liquid waste plan

Hello,

I'm a part of a local Advisory Planning Commission in a small community on an island on the west coast of Canada. My regional district is currently planning to install a series of liquid waste treatment plants (most residents are currently have individual septic fields).

I wanted to reach out to see if it is possible to have a plant like I saw on the Bill Gates documentary in my area? Or is that too far fetched? The current proposal creates a lot of solid waste and requires lots of land for dispersion. I would love to see more innovation in my local community.

Thanks so much for taking the time!

**Lynda Lee**

---

**From:**  
**Sent:** Friday, November 08, 2019 11:26 PM  
**To:** Keith Lawrence  
**Subject:** Area B Waste Management and Water

As a matter of policy, I do not participate in “presentations” or answer pre-set questions regarding governmental matters. Keeping this in mind, I understand you are looking into waste management in my area.

Although I am in Area B, I live about 5km from Shawnigan Lake. I have my own well and a septic system that operates very well and does not intrude on neighbouring properties. I maintain these systems at my own expense.

It is my understanding that if - according to current zoning - every lot that is now in existence were occupied, we would be oversubscribed. Although 100% infilling is probably not something that will happen, it is simply common sense that before any future plans are inaugurated the issue of overpopulating the area as well as our legal responsibilities should be addressed.

Would it not be prudent to plan to avoid “the tragedy of the commons” before we experience it?

Sent from my iPad



### Solutions

Posted by Topic Administrator

5 views | 1 comment



follow discussion

Are there any options you think are problematic? (please identify why) Options (<https://www.cvrdbc.ca/3231/Community-Sewer-Servicing-Options>)

Comment

Sort by Date ▾ Rating

November 4th 2019, 3:02 pm

↑ 0 rating ↓ ⓘ

I would like to see a system installed in the Shawnigan Village. Many of the commercial properties in the core of the village have big chunks of their properties that are used for sewage that could instead be used for parking and/or expansion of the existing retail space. This would benefit the entire community

Shawnigan Creek

0 replies

Reply to Comment

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<https://www.placespeak.com/en/topic/6248-planning-for-current-and-future-communities...>

[English](#)   [Français](#)

**Lynda Lee**

---

**From:**  
**Sent:** Friday, November 08, 2019 10:39 PM  
**To:** Brian Dennison  
**Cc:** Vanessa Thomson; Keith Lawrence; Kate Miller; bryan.vroom@gov.bc.ca  
**Subject:** Re: FW: Enhanced environmental impact study needed - Saanich Inlet

Thanks very much for the reply.

I think everyone should slow down and have a good look at the severity of this whole idea by bringing additional sewage into Mill Springs treatment plant.

The original Permit PE-06435 was designed for Mill Springs Village "only," to a maximum authorized rate of 565 m<sup>3</sup>/d.

If you do the math on that amount, it is a staggering 34.2 million gallons a year. Or if you can, try to imagine 52 Olympic swimming pools feeding into those disposal fields.

Remember, that is for 400 homes. The numbers for even the first phase of this Integration Project could be 4 or 5 times that amount.

Remember, this is first and foremost a residential subdivision with houses surrounding these disposal fields. I think its called Hydraulic Overloading when the amount of effluent exceeds the field capacity. The Lawsuits will start.

There also seems to be a sense of glee with using this membrane reactor for all this additional treatment. The fact still remains that this treated effluent is not fit to drink.

I'm sure you are aware that one of the biggest producing aquifers for Mill Bays' potable water supply exists right underneath these disposal fields.

I have no doubt that over time they will become totally polluted given these huge volumes. What will we do then?

Direct discharge into Handysen Creek would be an alternative. Perhaps MOE could help with that one.

In any event, the discharge will eventually end up in the creek so why take a chance of destroying the groundwater and possible aquifer contamination before it gets there.

Creek augmentation would be a good thing based on the degree of effluent treatment. The college relies on this for field irrigation in the summer months. The winter flow rates naturally occur anyway.

Please don't cut corners when it comes to Mill Bays drinking water.

Many Thanks.

I

On Fri, 8 Nov 2019 at 10:56, Brian Dennison <[Brian.Dennison@cverd.bc.ca](mailto:Brian.Dennison@cverd.bc.ca)> wrote:

Hi

Here below, by the way, is the section in the current Municipal Wastewater Regulation with the special reference to Saanich Inlet. The original Saanich Inlet Study cost the province about \$1 million about 20 years ago. One can only imagine what an "enhanced" study would cost now and how long it might take. As noted previously there are also several First Nations communities that would require extensive consultation and agreement prior to any approval.

The existing Brentwood College outfall has only an old permit. When changing the nature of a discharge in any way you have to abandon any existing permits and go through a registration process which would then kick in the requirements discussed.

I checked in with Bryan Vroom whom I have copied here. He certainly did not advocate for any particular solution to management of wastewater in the SSLWMP study area nor did he say that use of Brentwood College's existing outfall for all the flows from the proposed Mill Bay system would be fine, merely that MoE has no opinion on the matter and the CVRD is free to pursue whatever solutions we choose. However, as expected, he re-iterated that the Municipal Wastewater Regulation must be followed, which includes the requirement stipulated below.

Brian

---

**From:** Keith Lawrence <[Keith.Lawrence@cvrd.bc.ca](mailto:Keith.Lawrence@cvrd.bc.ca)>  
**Sent:** November-08-19 10:32 AM  
**To:** Brian Dennison <[Brian.Dennison@cvrd.bc.ca](mailto:Brian.Dennison@cvrd.bc.ca)>  
**Cc:** Kate Miller <[Kate.Miller@cvrd.bc.ca](mailto:Kate.Miller@cvrd.bc.ca)>  
**Subject:** Enhanced environmental impact study needed - Saanich Inlet

Hi Brian,

As discussed, this is from the BC Municipal Waste Water Regulation:

### **Enhanced environmental impact study needed**

**98**

(1) The terms of reference of an enhanced environmental impact study under this section must be established in consultation with a director.

(2) Discharge to the **Saanich Inlet** is under a moratorium, and a discharger must not discharge to the **Saanich Inlet** unless the discharger first conducts an enhanced environmental impact study as recommended by the **Saanich Inlet** Study.

Keith Lawrence

Senior Environmental Analyst, Environmental Services Division

Engineering Services Department

Cowichan Valley Regional District

175 Ingram Street, Duncan, BC V9L 1N8

e-mail: [klawrence@cvrd.bc.ca](mailto:klawrence@cvrd.bc.ca)

Tel: 250.746.2643 Toll free: 1.800.665.3955 Fax: 250.746.2543

## Lynda Lee

---

**From:**  
**Sent:** Monday, November 11, 2019 3:33 PM  
**To:** Lynda Lee  
**Cc:** Keith Lawrence  
**Subject:** RE: Joint APC Meeting - South Cowichan - Feedback

Hey Lynda,

When speaking with the presenters of the Liquid Waste Management Plan meeting last week, it was recommended that I send in feedback and you would be able to direct them to the right person. Thank-you!

The meeting presentation was very detailed and gave a good overview as described in the invitation. The two presenters did an excellent job of answering every question (simply) and clearly understood the parts, background and complexities of the project.

Feedback items for your consideration:

- 1) The weighting percentage for each of the evaluation criteria (Finance, Technical, Environmental etc.) appeared to be equal. In reality if finance and the environment are most important to the decision making, should they not be given heavier weight?
- 2) For Shawnigan lake like so many other areas, it appears that we are only looking at past technology solutions for the treatment systems when planning for growth. If the environment is truly something that we are attempting to address, what about exploring more advanced technologies from other jurisdictions that are tomorrow solutions. What about a closed treatment facility that dumps nothing back into the environment for some developments.
- 3) (This item may or may not apply here.) If water conservation, supply and capacity are going to be more strategically addressed for the long term, are we looking at modifying the building codes to address storage as there is a lot of rain that falls from the sky on a yearly bases that we are letting get away. Could there be incentives put in place to encourage new and existing property owners to install water capture and storage systems?
- 4) In the projected population numbers for each region, it did not appear to take into consideration the seasonal fluctuations that happen in the busy summer months. The seasonal increases must have a material bearing on all of the system demands, large and small. What about talking to tourism for any relevant data?
- 5) The presentation mentioned working with partners to help with costs, what about partnering with BC hydro or other provincial or federal source.

Cheers,

Area B ACP

Ph:  
Cel:

Verlon Road

---

**From:** Lynda Lee [mailto:Lynda.Lee@cvrld.bc.ca]  
**Sent:** Monday, November 4, 2019 9:08 AM  
**To:** Keith Lawrence  
**Subject:** RE: Joint APC Meeting - South Cowichan

Hi Folks

Just a reminder about tonight's meeting. Hope to see you there.

-----Original Appointment-----

**From:** Lynda Lee  
**Sent:** Wednesday, September 25, 2019 3:46 PM  
**To:** Lynda Lee; Keith Lawrence (Keith.Lawrence@cvrld.bc.ca)  
**Subject:** Joint APC Meeting - South Cowichan  
**When:** Monday, November 04, 2019 6:30 PM-7:30 PM (UTC-08:00) Pacific Time (US & Canada).  
**Where:** kprc

Hi Folks,

You are invited to a joint APC meeting for the Mill Bay, Shawnigan and Cobble Hill areas from **6:30 pm to 7:30 pm on November 4<sup>th</sup>** at the **Kerry Park Curling Lounge, 1035 Shawnigan Lake-Mill Bay Rd.** This meeting is an opportunity to sit with other community planning advisors to discuss the long term development strategies for the CVRD south end. This planning process focuses on the management strategies to protect the environment from the impacts of sewage treatment while providing for long term and affordable infrastructure for communities in the plan area.

The CVRD is currently working on a three stage update to the South Sector Liquid Waste Management Plan that will guide long term planning for communities in the South Cowichan (map of plan area below). The Management Plan establishes a long term strategy for providing sewer servicing to the communities to take into consideration anticipated growth and the protection of the environment. **The purpose of this meeting is to gather your feedback on matters related to liquid waste management planning including:**

- **An update on the work to date and the ongoing process**
- **Long list of options for managing liquid waste prior to the public presentation**
- **A brief on the proposed process to evaluate the options**
- **Approaches for project consultation within the communities as well as the general public**

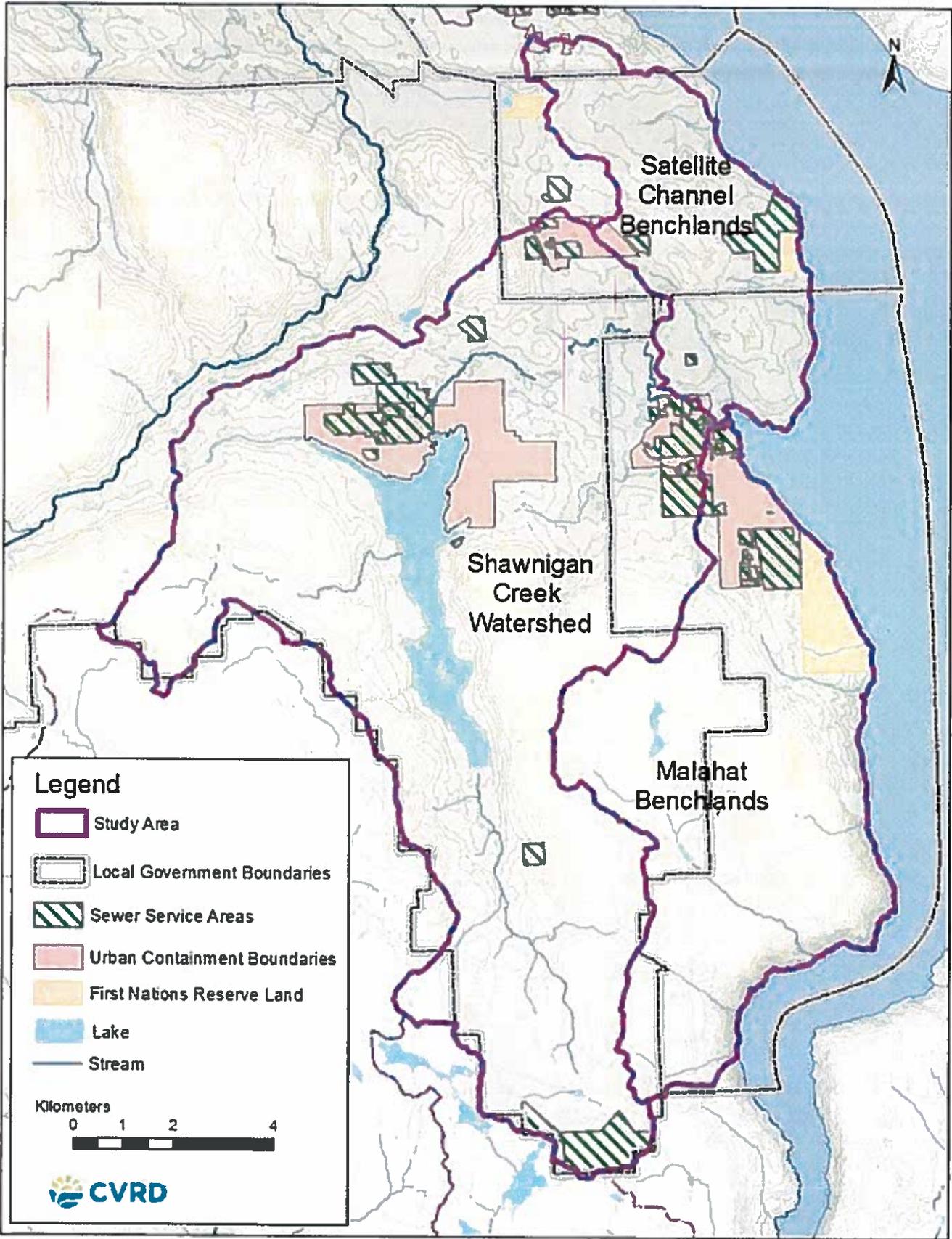
The planning process includes three key stages:

- **Stage 1 - Identifying the problem, background growth and development studies, development of a long list of potential solutions and evaluation criteria**
- **Stage 2 - Refinement to short list of solutions, refined evaluation criteria, preliminary cost evaluations**
- **Stage 3 - Detailed master plan development and engineering studies**

Each of the stages include public consultation as well as ongoing discussions with staff from Cowichan Tribes, Malahat Nation and Pauquachin First Nation to ensure the master plan meets community objectives.

The CVRD has been undertaking the necessary background studies related to Stage 1 and is now in the position to begin the needed public and technical review of that work. Our target is to complete the first stage by the end of 2019.

Please RSVP to Lynda Lee at [lynda.lee@cvrld.bc.ca](mailto:lynda.lee@cvrld.bc.ca).



Keith Lawrence  
Senior Environmental Analyst, Environmental Services Division  
Engineering Services Department  
Cowichan Valley Regional District  
175 Ingram Street, Duncan, BC V9L 1N8  
e-mail: [klawrence@cprd.bc.ca](mailto:klawrence@cprd.bc.ca)  
Tel: 250.746.2643 Toll free: 1.800.665.3955 Fax: 250.746.2543



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# Planning for current and future communities - Sewage infrastructure

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## Solutions

Posted by Topic Administrator

5 views | 1 comment



follow discussion

Are there any options you think are problematic? (please identify why) Options (<https://www.cvr.bc.ca/3231/Community-Sewer-Servicing-Options>)

Comment

Sort by Date ▾ Rating

Posted by Sonja Clarke

November 4th 2019, 3:02 pm

↑ 0 rating ↓



I would like to see a system installed in the Shawnigan Village. Many of the commercial properties in the core of the village have big chunks of their properties that are used for sewage that could instead be used for parking and/or expansion of the existing retail space. This would benefit the entire community.

Shawnigan Creek

0 replies

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## **Appendix D – Technical & Community Advisory Group Materials**

Meeting Agendas

Meeting Minutes



## Agenda

### South Sector Liquid Waste Management Plan

Technical and Community Advisory Group

**May 28th, 2019**

**1:30 pm to 4 pm**

**CVRD Board Room**

#### **Invitees:**

Curtis Weber, Environment and Climate  
Change Canada  
Shannon Waters, Island Health  
Mark Hall, Island Health  
Rory Beise, Island Health  
Doug Pepper, Ministry of Agriculture  
Brian Bedford, BC Ministry of Municipal  
Affairs and Housing  
Liam Edwards, BC Ministry of Municipal  
Affairs and Housing  
Peter Mazey, First Nations Health  
Authority  
Karen Larson, First Nations Health  
Authority  
Melissa Nottingham, Fisheries and  
Oceans Canada,  
Rod Lidstone, Lidstech Holdings  
Mill Bay Waterworks

Rick Lawrence, South Sector Liquid  
Waste Systems  
Kelly Musselwhite, Shawnigan Basin  
Society  
Dave Munday, Shawnigan Research  
Group  
Ted Brookman, Mill Bay District  
Conservation Society  
Heather Adams, Malahat Nation  
Melissa Tokarek, Cowichan Tribes  
Candace Charlie, Cowichan Tribes  
Susan Miller, Pauquachin First Nation  
Hamid Hatami, CVRD  
Brian Dennison, CVRD  
Kate Miller, CVRD  
Keith Lawrence, CVRD  
Mike Tippett, CVRD

#### **Meeting Agenda**

- LWMP 101 - why and how
  - Strategy versus projects
  - 3 Phases of a LWMP as set out by regulation
- Terms of Reference for Technical and Community Advisory Group
  - Governance diagram
- Stage 1 (Phase 1) Work to date
  - Definition of study area
  - Problem statement
  - Population projections
  - State and inventory of existing systems in area
  - Relationship building
  - Watershed characteristics (watershed atlas and water quality)
  - Initial Policy Scan
- Stage 1 (Phase 2) Engineering and evaluation criteria development
  - Scope of current engineering work under 2019 budget



- Current phase objective – agreement of evaluation criteria, engineering, long list of options and ongoing public consultation
- Timeline
- Initial review and feedback on Criteria currently under development

**Reference Materials for review prior to meeting:**

1. Project Charter
2. Draft Terms of Reference
3. Population Forecast and Analysis
4. Environmental Policy Scan
5. Evaluation criteria process
6. State of infrastructure - review



**SOUTH SECTOR LIQUID WASTE MANAGEMENT PLAN  
TECHNICAL AND COMMUNITY ADVISORY GROUP**

**June 27, 2019**

**1:30 – 3:30 PM**

**Boardroom 175 Ingram Street, Duncan BC**

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**AGENDA**

<b><u>REFERENCE MATERIALS FOR REVIEW PRIOR TO MEETING:</u></b>	<b>Distributed via email June 26, 2019</b>
1. Project Process Timeline Diagram (Consultation Diagram)	
2. Technical Memo #1	
3. Long List of Alternative Solutions	
4. Evaluation Criteria	
5. 2018 South Cowichan Population Review and Growth Projections (Urban Systems)	
6. 2019 CVRD Population Forecast (Rennie) – Attachments A, B and C	
7. 2019 Water Quality Assessment of the Upper Shawnigan Lake Watershed (2013 Data)	
8. 2019 Water Quality Objectives Attainment for Shawnigan Lake (2006 – 2014)	
9. May 28, 2019 SSLWMP TCAG Meeting Minutes	
<b>1. <u>CALL TO ORDER:</u></b>	
<b>2. <u>WELCOME AND INTRODUCTIONS:</u></b>	<b>5 minutes</b>
<b>3. <u>ADOPTION OF MINUTES FROM MAY 28, 2019:</u></b>	<b>5 minutes</b>
<b>4. <u>ADDITIONAL COMMENTS TO PROJECT PROCESS AND TIMELINE:</u></b>	<b>5 minutes</b>
<b>5. <u>REVIEW OF INFORMATION RECEIVED SINCE LAST MEETING:</u></b>	<b>10 minutes</b>
<b>6. <u>OTHER PARALLEL PROJECT – WATER QUALITY PROGRAM AND CONTRACT WITH LGL:</u></b>	<b>5 minutes</b>
<b>7. <u>CURRENT WATER QUALITY INFORMATION AVAILABLE FOR THE RECEIVING ENVIRONMENTS:</u></b>	<b>10 minutes</b>
<b>8. <u>TECHNICAL MEMO #1 FROM MCELHANNEY:</u></b>	<b>1 hour</b>
Population projection scenarios. Do the scenarios fit? Are there adjustments to be made?	<b>20 minutes</b>
Liquid waste systems inventory. Key issues, deficits and opportunities.	<b>10 minutes</b>
Preliminary long list of alternative solutions. Presentation of initially identified infrastructure based solutions and discussion of other potential solutions.	<b>20 minutes</b>
Review evaluation criteria and RIAM model. Presentation of draft evaluation criteria and how they will be integrated in the RIAM tool to	<b>20 minutes</b>

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address complexity. Does the criteria breakdown work? Is there anything missing? How should weighting and trade off be addressed?

**9. FINAL COMMENTS:**

**10. NEXT MEETING:**

**11. ADJOURNMENT:**

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**Distribution:**

Kate Miller, CVRD, Program Chair  
Hamid Hatami, CVRD, Program Sponsor  
Keith Lawrence, CVRD, Program Support  
Lynda Lee, CVRD, Administrative Support  
Brian Dennison, CVRD, Utilities  
Mike Tippett, CVRD, Land Use Planning  
Curtis Weber, Environment and Climate Change Canada  
Shannon Water, Island Health  
Mark Hall, Island Health  
Rory Beise, Island Health  
Doug Pepper, Ministry of Agriculture  
Brian Bedford, BC Ministry of Municipal Affairs and Housing  
Liam Edwards, BC Ministry of Municipal Affairs and Housing  
Peter Mazey, First Nations Health Authority  
Karen Larson, First Nations Health Authority  
Melissa Nottingham, Fisheries and Oceans Canada  
Rod Lidstone, Lidstech Holdings  
Paul Laraman, Mill Bay Waterworks  
Rick Lawrence, South Sector Liquid Waste Systems  
Kelly Musselwhite, Shawnigan Basin Society  
Dave Mundy, Shawnigan Research Group  
Ted Brookman, Mill Bay District Conservation Society  
Heather Adams, Malahat Nation  
Melissa Tokarek, Cowichan Tribes  
Candace Charlie, Cowichan Tribes  
Susan Miller, Pauquachin First Nation  
Josh Handysides, Malahat Nation  
Keir Cordner, First Nations Health Authority  
Alva Bob, Pauquachin First Nation  
Dragan Rokic, McElhanney



**SOUTH SECTOR LIQUID WASTE MANAGEMENT PLAN  
TECHNICAL AND COMMUNITY ADVISORY GROUP**

**July 18, 2019**

**1:30 – 3:30 PM  
Boardroom Unit 201, 55 Canada Avenue, Duncan BC**

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**AGENDA**

- |    |  |                   |
|----|--|-------------------|
| 1. | <b><u>CALL TO ORDER</u></b>                          |                   |
| 2. | <b><u>WELCOME AND INTRODUCTIONS</u></b>              | <b>5 minutes</b>  |
| 3. | <b><u>ADOPTION OF MINUTES FROM JUNE 27, 2019</u></b> | <b>5 minutes</b>  |
| 4. | <b><u>REVIEW OF OPTIONS TO DATE</u></b>              | <b>30 minutes</b> |
| 5. | <b><u>REFINED EVALUATION CRITERIA</u></b>            | <b>40 hour</b>    |
| 6. | <b><u>DRAFT CONSULTATION PLAN</u></b>                | <b>20 minutes</b> |
| 7. | <b><u>FINAL COMMENTS</u></b>                         |                   |
| 8. | <b><u>NEXT MEETING</u></b>                           |                   |
| 9. | <b><u>ADJOURNMENT</u></b>                            |                   |

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**REFERENCE MATERIALS FOR REVIEW PRIOR TO MEETING:**

1. Long List of Alternative Solutions
2. Evaluation Criteria
3. Draft Consultation Plan
4. June 27, 2019 SSLWMP TCAG Meeting Minutes

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**Distribution:**

Kate Miller, CVRD, Program Chair  
Hamid Hatami, CVRD, Program Sponsor  
Keith Lawrence, CVRD, Program Support  
Lynda Lee, CVRD, Administrative Support  
Brian Dennison, CVRD, Utilities  
Mike Tippett, CVRD, Land Use Planning  
Curtis Weber, Environment and Climate Change Canada  
Shannon Water, Island Health

Mark Hall, Island Health  
Rory Beise, Island Health  
Doug Pepper, Ministry of Agriculture  
Brian Bedford, BC Ministry of Municipal Affairs and Housing  
Liam Edwards, BC Ministry of Municipal Affairs and Housing  
Peter Mazey, First Nations Health Authority  
Karen Larson, First Nations Health Authority  
Melissa Nottingham, Fisheries and Oceans Canada  
Rod Lidstone, Lidstech Holdings  
Paul Laraman, Mill Bay Waterworks  
Rick Lawrence, South Sector Liquid Waste Systems  
Dave Mundy, Shawnigan Research Group and Shawnigan Basin Society  
Ted Brookman, Mill Bay District Conservation Society  
Heather Adams, Malahat Nation  
Melissa Tokarek, Cowichan Tribes  
Candace Charlie, Cowichan Tribes  
Susan Miller, Pauquachin First Nation  
Josh Handysides, Malahat Nation  
Keir Cordner, First Nations Health Authority  
Alva Bob, Pauquachin First Nation  
Dragan Rokic, McElhanney



**SOUTH SECTOR LIQUID WASTE MANAGEMENT PLAN  
TECHNICAL AND COMMUNITY ADVISORY GROUP**

**December 12, 2019**

**1:30 – 3:30 PM  
Boardroom, 175 Ingram Street, Duncan BC**

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**AGENDA**

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|----|--|-------------------|
| 1. | <b><u>CALL TO ORDER</u></b>                              |                   |
| 2. | <b><u>WELCOME AND INTRODUCTIONS</u></b>                  | <b>5 minutes</b>  |
| 3. | <b><u>ADOPTION OF MINUTES FROM SEPTEMBER 5, 2019</u></b> | <b>5 minutes</b>  |
| 4. | <b><u>REVIEW DRAFT STAGE 1 REPORT</u></b>                | <b>60 minutes</b> |
| 5. | <b><u>REVIEW DRAFT CONSULTATION REPORT</u></b>           | <b>30 minutes</b> |
| 6. | <b><u>2020 PROPOSED WORKPLAN AND NEXT STEPS</u></b>      | <b>10 minutes</b> |
| 7. | <b><u>FINAL COMMENTS</u></b>                             |                   |
| 8. | <b><u>NEXT MEETING</u></b>                               |                   |
| 9. | <b><u>ADJOURNMENT</u></b>                                |                   |

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**REFERENCE MATERIALS FOR REVIEW PRIOR TO MEETING:**

1. Draft Stage 1 Report
2. Draft Consultation Report

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**Distribution:**

Kate Miller, CVRD, Program Chair  
Hamid Hatami, CVRD, Program Sponsor  
Keith Lawrence, CVRD, Program Support  
Lynda Lee, CVRD, Administrative Support  
Brian Dennison, CVRD, Utilities  
Mike Tippett, CVRD, Land Use Planning  
Curtis Weber, Environment and Climate Change Canada  
Shannon Waters, Island Health  
Mark Hall, Island Health  
Rory Beise, Island Health

Doug Pepper, Ministry of Agriculture  
Brian Bedford, BC Ministry of Municipal Affairs and Housing  
Liam Edwards, BC Ministry of Municipal Affairs and Housing  
Peter Mazey, First Nations Health Authority  
Karen Larson, First Nations Health Authority  
Melissa Nottingham, Fisheries and Oceans Canada  
Rod Lidstone, Lidstech Holdings  
Paul Laraman, Mill Bay Waterworks  
Rick Lawrence, South Sector Liquid Waste Systems  
Dave Mundy, Shawnigan Research Group and Shawnigan Basin Society  
Ted Brookman, Mill Bay District Conservation Society  
Heather Adams, Malahat Nation  
Melissa Tokarek, Cowichan Tribes  
Candace Charlie, Cowichan Tribes  
Susan Miller, Pauquachin First Nation  
Josh Handysides, Malahat Nation  
Keir Cordner, First Nations Health Authority  
Alva Bob, Pauquachin First Nation  
Catriona Weidman, Ministry of Municipal Affairs and Housing  
Jennifer Pape, Ministry of Environment and Climate Change Strategy  
Trevor Hamelin, Ministry of Environment and Climate Change Strategy  
Dragan Rokic, McElhanney

Minutes from the South Sector Liquid Waste Management Plan Technical and Community Advisory Group Meeting held on Tuesday, May 28, 2019 in the Boardroom, 175 Ingram Street, Duncan BC at 1:30 PM.

**PRESENT:** Hamid Hatami, General Manager Engineering Services  
Kate Miller, Chair  
Keith Lawrence, Senior Environmental Analyst  
Lynda Lee, Secretary IV  
Shannon Waters, Island Health  
Mark Hall, Island Health  
Rory Beise, Island Health (via conference call)  
Rick Lawrence, South Sector Liquid Waste Systems  
Heather Adams, Malahat Nation  
Candace Charlie, Cowichan Tribes  
Doug Pepper, Ministry of Agriculture  
Dave Munday, Shawnigan Research Group  
Alva Bob, Pauquachin First Nation  
Trevor Hamlin, Ministry of Environment and Climate Change (via conference call)  
Josh Handysides, Malahat Investment Corporation  
Paul Laraman, Mill Bay Waterworks

**ABSENT:** Brian Dennison, Manager, Water Management  
Mike Tippet, Manager, Community & Regional Planning  
Susan Miller, Pauquachin First Nation  
Curtis Weber, Environment and Climate Change Canada  
Brian Bedford, BC Ministry of Municipal Affairs and Housing  
Peter Mazey, First nations Health Authority  
Liam Edwards, BC Ministry of Municipal Affairs and Housing  
Karen Larson, First Nations Health Authority  
Melissa Nottingham, Fisheries and Oceans Canada  
Rod Lidstone, Lidstech Holdings  
Ted Brookman, Mill Bay District Conservation Society  
Melissa Tokarek, Cowichan Tribes  
Kelly Musselwhite, Shawnigan Research Group

**ITEMS:** Introductions were made and participants were provided with a binder containing the following documents:

2019 Draft Terms of Reference for the TCAG  
2017 Population Analysis  
2017 Environmental Policy Scan  
2011 Liquid Waste Management Plan Guidelines  
1998 SSLWMP  
RIAM Evaluation Process  
CVRD South Sector Sewer Systems  
Draft Evaluation Criteria  
SSLWMP Aquifers  
SSLWMP Environmentally Sensitive Areas

### SSLWMP Sewer Systems

Participants are provided time to review the materials packages prior to the next scheduled meeting where additional supporting discussions can be had if necessary.

Risk Lawrence clarified that he is representing himself and his group not the larger assembly of small system operators.

### **South Sector Liquid Waste Management Plan Presentation**

A PowerPoint Presentation was provided outlining the project governance, roles and responsibilities for TCAG, work to date and engineering and evaluation criteria development.

Action:

Noted that the governance chart needs to be updated to reflect Pauquachin and the potential role of FN on the advisory group if they desire.

Discussion regarding the timing and sequence of the groups meetings over the upcoming year. Agreement by group that the timeline and schedule was achievable with early scheduling of meetings

### **LWMP 101 – why and how**

#### **Presentation by Keith Lawrence**

Strategy versus projects – Main drivers and sources of liquid waste were discussed. The plan is watershed based, will not address stormwater at this time and will utilize an adaptive process.

3 phases of a LWMP as set out by regulation – This is part of the three stage process. The goal of Stage 1 is to develop a shortlist of options. Phase 1 of Stage 1 completed population forecast and gathered area characteristics background information. \$5m funding was acquired to begin the Mill Bay/Cobble Hill liquid waste integration capital project which supports the overall program goals to upgrade and provide services within the existing urban containment boundaries

Action:

None

### **Terms of Reference for Technical and Community advisory Group**

#### **Presentation by Keith Lawrence**

Governance diagram – Outlining the project organizational structure and the roles of the Technical and Community Advisory Group. A series of five meetings of this group will be held ending in December 2019. Meeting 2 and 3 are to review technical memos long list options and review public consultation process. The fourth meeting will be to review public input received and a final meeting to review the draft Stage 1 Report. This plan is based on the current budget and additional funding is not certain.

Action:

Schedule upcoming meeting as soon as possible with hold the dates for attendees. Thursday is a convenient day for the group generally.

### **Stage 1 (Phase 1) Work to date**

**Presentation by Keith Lawrence**

Definition of study area – Each of the 3 watersheds have distinct land use characteristics.

Problem statement – There are 25 sewage treatment systems in south sector. Individual systems, contaminated soil and stormwater are managed under other authorities.

Agricultural run-off was identified as a source of contamination and acknowledgement that a strong recommendation to senior levels of government for policy levers and integrated plan.

State and inventory of existing systems in area – Helps to identify potential expansion areas.

Relationship building – Currently there is no regional growth management plan.

Watershed characteristics (watershed atlas and water quality) – Availability of water will influence growth.

Initial policy scan complete but work ongoing as the engineering program phase moves forward

**Action:**

Josh to share Malahat Development projections and data to add to overall information for planning purposes.

Continued discussions regarding carrying capacity generally in area in particular accuracy of growth projections is water is limited.

Population projections – It was suggested that growth in neighboring jurisdictions be considered.

Group to review Phase 1 material provided and ask for clarification at next meeting if possible

Ava Bob leaves meeting with apologies due to other meeting conflict

**Stage 1 (Phase 2) Engineering and evaluation criteria development**

**Presentation by Keith Lawrence**

Scope of current engineering work under 2019 budget

Current phase objective – agreement of evaluation criteria, engineering, long list of options and ongoing public consultation

Timeline

Initial review and feedback on criteria currently under development

Progress is in line with MOE expectations, with public consultation being their most important concern.

**Action:**

Group to review initial evaluation criteria provided and provide preliminary feedback at next meeting

Book follow up meeting with Paquachin to brief on program and objectives.

**Next Steps**

Next meeting to be scheduled Focus on preliminary engineering work to date and presentation by McElhanney

**Adjournment**

Meeting ended at 2:50 pm.

**Reference materials for review provided prior to meeting:**

1. Project Charter
2. Draft Terms of Reference
3. Population Forecast and Analysis
4. Environmental Policy Scan
5. Evaluation criteria process
6. State of infrastructure - review

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Minutes from the South Sector Liquid Waste Management Plan Technical and Community Advisory Group Meeting held on Thursday, June 27, 2019 in the Boardroom, 175 Ingram Street, Duncan BC at 1:30 PM.

**PRESENT:** Hamid Hatami, General Manager Engineering Services – Project Sponsor  
Kate Miller, Manager, Environmental Services – Project Manager, Chair  
Keith Lawrence, Senior Environmental Analyst  
Mike Tippet, Manager, Community & Regional Planning  
Louise Knodel-Joy, Senior Engineering Technologist  
Todd Etherington, Superintendent, Utilities Operations  
Vanessa Thomson, Assistant Project Engineer  
Lynda Lee, Secretary IV  
Shannon Waters, Island Health  
Mark Hall, Island Health  
Rick Lawrence, South Sector Liquid Waste Systems  
Heather Adams, Malahat Nation  
Candace Charlie, Cowichan Tribes  
Doug Pepper, Ministry of Agriculture  
Dave Munday, Shawnigan Research Group  
Paul Laraman, Mill Bay Waterworks  
Heather Adams, Malahat Nation (1:50 pm.)  
Keir Cordner, First Nations Health Authority

**ABSENT WITH NOTICE:** Brian Dennison, Manager, Water Management  
Curtis Weber, Environment and Climate Change Canada  
Brian Bedford, BC Ministry of Municipal Affairs and Housing  
Liam Edwards, BC Ministry of Municipal Affairs and Housing  
Rory Beise, Island Health  
Trevor Hamlin, Ministry of Environment and Climate Change  
Rod Lidstone, Lidstech Holdings  
Alva Bob, Pauquachin First Nation  
Josh Handysides, Malahat Nation  
Peter Mazey, First nations Health Authority  
Karen Larson, First Nations Health Authority  
Kelly Musselwhite, Shawnigan Research Group  
Ted Brookman, Mill Bay District Conservation Society  
Melissa Tokarek, Cowichan Tribes  
Catriona Weidman, Ministry of Municipal Affairs and Housing  
Melissa Nottingham, Fisheries and Oceans Canada  
Susan Miller, Pauquachin First Nation

**ITEMS:**

1. **Call to Order**  
The meeting was called to order at 1:33 pm. by the Chair.
2. **Welcome and Introductions**

Committee members were provided a link to reference material documents available at sync.com. Background information referred to in the Urban System report can be obtained from the Senior Environmental Analyst.

**3. Adoption of Minutes from May 28, 2019**

Minutes from the May 28, 2019 TCAG meeting were adopted.

**4. Additional Comments to Project Process and Timeline**

A Power Point Presentation was provided by Keith Lawrence. A water quality report for Mill Bay is forthcoming and a recent population projection will be shared. A meeting with Pauquachin First Nation is being arranged for early July.

**5. Review of Information Received Since Last Meeting**

Pauquachin First Nation have unsettled reserve within the project area and are participating in the SSLWMP amendment process. A comprehensive development plan was received from Malahat Nation and is reflected in the population projections.

**6. Other Parallel Project – Water Quality Program and Contract with LGL**

Monitoring water quality of Shawnigan Lake is ongoing.

**7. Current Water Quality Information Available for the Receiving Environments**

Data from 2006 and 2013 is available.

**8. Technical Memo #1 from McElhanney- Dragan Rokic**

Four population projection scenarios were presented:

- Scenario 1 - similar results
- Scenario 2 - different results
- Scenario 3 – adjusted UCB include Malahat member housing needs
- Scenario 4 - total Malahat developed housing (non members)

Options are designed for 20 years, to meet 40 year projections and based on 100% connection for planning purposes.

Long list of options is focused at this time on structural solutions. Existing technology is used for projections and scenarios. Changes to technology and innovation in this field is slow to respond therefore this approach references existing technologies and innovation not new innovation as yet undetermined.

Options – 15 identified to address growth in the CVRD urban containment areas or centers for the additional Malahat and Pauchachin scenarios.

Effluent disposal site, collection system upgrades. Outfall could be eliminated. The focus is on CVRD operated systems. The CVRD has no authority to force connection at this time.

This is A coarse masterplan with schedule C or D cost scenarios. We have an idea of what the system would look like. All class A systems.

Participants were requested to bring forward any problems.

The next step in the process is the evaluation criteria. Participants were requested to review with their organizations and provide feedback on additional evaluation criteria or factors for consideration before next meeting. Space will be made to consider all views.

This is a transparent process focused on community based solutions and major infrastructure.

**9. Final Comments**

Those interested in a plan area tour should contact the Senior Environmental Analyst.

Participants were requested to consider population projection scenarios. Do the scenarios fit? Are there adjustments to be made?  
Liquid waste systems inventory. Key issues, deficits and opportunities.  
Preliminary long list of alternative solutions. – are there others we have missed?  
Preliminary identified infrastructure based solutions. Are there others we have missed? Review evaluation criteria and RIAM model.  
Does the criteria breakdown work? Is there anything missing? How should weighting and trade off be addressed?

**10. Next Meeting**

An email will be sent out for the next meeting towards the end of July.

**11. Adjournment**

The meeting adjourned at 3:50 pm.

Minutes from the South Sector Liquid Waste Management Plan Technical and Community Advisory Group Meeting held on Thursday, July 18, 2019 in the Boardroom, 55 Canada Avenue, Duncan BC at 1:30 PM.

**PRESENT:** Hamid Hatami, General Manager Engineering Services – Project Sponsor  
Kate Miller, Manager, Environmental Services – Project Manager, Chair  
Keith Lawrence, Senior Environmental Analyst  
Louise Knodel-Joy, Senior Engineering Technologist  
Lynda Lee, Secretary IV  
Mark Hall, Island Health  
Heather Adams, Malahat Nation  
Candace Charlie, Cowichan Tribes  
Dave Munday, Shawnigan Research Group  
Paul Laraman, Mill Bay Waterworks  
Keir Cordner, First Nations Health Authority  
Rod Lidstone, Lidstech Holdings  
Dragan Rokic, McElhanney (via telephone)

**ABSENT WITH NOTICE:** Brian Dennison, Manager, Water Management  
Curtis Weber, Environment and Climate Change Canada  
Brian Bedford, BC Ministry of Municipal Affairs and Housing  
Liam Edwards, BC Ministry of Municipal Affairs and Housing  
Rory Beise, Island Health  
Trevor Hamlin, Ministry of Environment and Climate Change  
Alva Bob, Pauquachin First Nation  
Josh Handysides, Malahat Nation  
Peter Mazey, First nations Health Authority  
Karen Larson, First Nations Health Authority  
Kelly Musselwhite, Shawnigan Research Group  
Ted Brookman, Mill Bay District Conservation Society  
Melissa Tokarek, Cowichan Tribes  
Catriona Weidman, Ministry of Municipal Affairs and Housing  
Melissa Nottingham, Fisheries and Oceans Canada  
Susan Miller, Pauquachin First Nation  
Mike Tippet, Manager, Community & Regional Planning  
Todd Etherington, Superintendent, Utilities Operations  
Vanessa Thomson, Assistant Project Engineer  
Shannon Waters, Island Health  
Rick Lawrence, South Sector Liquid Waste Systems  
Doug Pepper, Ministry of Agriculture

**ITEMS:**

1. **Call to Order**  
The meeting was called to order at 1:33 pm. by the Chair.
  
2. **Welcome and Introductions**  
Committee members were provided with the following reference materials for review prior to meeting:
  1. Long List of Alternative Solutions

2. Evaluation Criteria
3. Draft Consultation Plan
4. June 27, 2019 SSLWMP TCAG Meeting Minutes

**3. Adoption of Minutes from June 27, 2019**

Minutes from the June 27, 2019 TCAG meeting were adopted.

**4. Review of Options to Date**

Keith Lawrence presented a recap of the agenda including options and updates, catchment areas and updated evaluation criteria. Dragan Rokic was available on speaker phone.

We are not choosing at this time, we are simply identifying options and developing the evaluation criteria. The long list of options will be shortened to potential solutions based on the evaluation criteria.

The strategy is based on watersheds and not political boundaries. Malahat Nation wants to participate regardless of governance.

In discussion a new option was suggested to take entire Shawnigan effluent to Mill Bay for treatment to take advantage of the capacity in that proposed treatment facility. This option will be added to the long list going forward..

**5. Refined Evaluation Criteria**

Continuing discussion on the evaluation criteria and any gaps identified or areas requiring additional detail.

O & M and Capital Cost are scored separately. The CVRD started working on an Asset Management Plan three years ago. The plan is 80% complete with inventory and condition of utilities done.

The identified solutions will include full financial cost but not detailed financial options at Stage One. Stage Two will be more detailed for cost estimate with additional clarification in technical aspect, size and footprint.

Based on feedback received, the Evaluation Criteria is further refined to include additional social criteria of equitability and fairness, ie. policy options, benefits and impacts to property owners, new category for First Nations cultural significance, impact to environment from infrastructure, community support through alignment with OCP, recognizing value of sensitive areas, opportunities to reduce septage transport and conversion to aerobic systems versus anaerobic septic systems.

Dragan Rokic defined the minimum weighing threshold as every option having a no-go trigger as part of the analysis. There is still opportunity to revise the evaluation criteria scoring process ie. Minimum scores as show stoppers. Keith Lawrence to provide visual comparison of options in addition to numerical. The weighting factors are based on feedback and input received so far. The timeline for changing weighting factors is one month from today.

The committee requested an additional opportunity to discuss the evaluation criteria before moving forward. A additional meeting will be added in early September to accommodate more discussion of this subject prior to moving forward on the evaluation itself by the consultant.

Keir Cordner will also sit with any of the associated first nations partners if they wish to discuss the application of the criteria.

**6. Draft Consultation Plan**

Key messages include working together through an open and transparent process, guiding efforts, land use planning and aiming to address complex planning of rural and urban areas with input from partners and participants, participation in TCAG, public open houses and effective use of CVRD website tools.

A question arose from the members about confidentiality and if they could share the information. It was reiterated that they are representatives of the wider community and we would welcome their sharing the information with other parties for input. A PowerPoint presentation with speaking notes and any desired supporting materials will be provided to them to help them do this effectively.

**7. Final Comments**

Committee is encouraged to share suggestions for a South Cowichan venue for public consultation.

Stage One report is on track. Visuals and slide deck will be provided.

**8. Next Meeting**

The next meeting is to discuss continue discussion on evaluation criteria and the public consultation process. Invitation for next meeting will be sent out shortly.

**9. Adjournment**

The meeting adjourned at 4:00 p.m.

Minutes from the South Sector Liquid Waste Management Plan Technical and Community Advisory Group Meeting held on Thursday, September 5, 2019 in the Boardroom, 175 Ingram Street, Duncan BC at 1:30 PM.

**PRESENT:** Hamid Hatami, General Manager Engineering Services – Project Sponsor  
Kate Miller, Manager, Environmental Services – Project Manager, Chair  
Keith Lawrence, Senior Environmental Analyst  
Louise Knodel-Joy, Senior Engineering Technologist  
Lynda Lee, Secretary IV  
Shannon Waters, Island Health  
Heather Adams, Malahat Nation  
Doug Pepper, Ministry of Agriculture  
Paul Laraman, Mill Bay Waterworks  
Todd Etherington, Superintendent, Utilities Operations  
Rod Lidstone, Lidstech Holdings  
Linda Gregory, Shawnigan Basin Society

Mike Tippet, Manager, Community & Regional Planning  
Melissa Nottingham, Fisheries and Oceans Canada

**ABSENT WITH NOTICE:** Brian Dennison, Manager, Water Management  
Curtis Weber, Environment and Climate Change Canada  
Brian Bedford, BC Ministry of Municipal Affairs and Housing  
Liam Edwards, BC Ministry of Municipal Affairs and Housing  
Rory Beise, Island Health  
Trevor Hamlin, Ministry of Environment and Climate Change  
Alva Bob, Pauquachin First Nation  
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Peter Mazey, First Nations Health Authority  
Karen Larson, First Nations Health Authority  
Ted Brookman, Mill Bay District Conservation Society  
Melissa Tokarek, Cowichan Tribes  
Catriona Weidman, Ministry of Municipal Affairs and Housing  
Susan Miller, Pauquachin First Nation  
Vanessa Thomson, Assistant Project Engineer  
Mark Hall, Island Health  
Rick Lawrence, South Sector Liquid Waste Systems  
Candace Charlie, Cowichan Tribes  
Dave Munday, Shawnigan Research Group  
Heather Adams, Malahat Nation  
Keir Cordner, First Nations Health Authority

**ITEMS:**

1. **Call to Order**  
The meeting was called to order at 1:37 pm. by the Chair.
  
2. **Welcome and Introductions**  
Committee members were previously provided a link to reference material documents available at [sync.com](http://sync.com).

**3. Adoption of Minutes from July 18, 2019**

It was noted that Kelly Musselwhite is no longer with Shawnigan Basin Society and Mike Tippet's name was spelled incorrectly. Minutes from the July 18, 2019 TCAG meeting were adopted as amended.

**4. Review Evaluation Criteria Including Weightings and Categories**

A Power Point Presentation was provided by Keith Lawrence. Various options for characterizing criteria were presented and discussed.

The evaluation criteria will be presented visually in order to drive meaningful input.

**5. Community Consultation Approach and Event Design**

Various ideas were discussed on how to gather input from the south sector community. TCAG members are requested to use their connections and resources to share information. A slide deck will be made available for presentations.

The CVRD website will mostly be utilized to communicate with the public due to limited budget for project. The project team is reaching out to Shawnigan and Brentwood private schools. Lidstone has 400 customers and can post information on their website. The Farmers Institute can distribute information to their members. TCAG members are requested to share ideas and feedback.

**6. Final Comments**

Meeting adjourned at 3:40 pm.

**7. Next Meeting**

To be announced.

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Minutes from the South Sector Liquid Waste Management Plan Technical and Community Advisory Group Meeting held on Thursday, December 12, 2019 in the Boardroom, 175 Ingram Street, Duncan BC at 1:30 PM.

**PRESENT:** Hamid Hatami, General Manager Engineering Services – Project Sponsor  
Kate Miller, Manager, Environmental Services – Project Manager, Chair  
Keith Lawrence, Senior Environmental Analyst  
Brian Dennison, Manager, Water Management Division  
Lynda Lee, Secretary IV  
Heather Adams, Malahat Nation  
Shannon Ralphs, Malahat Nation  
Paul Laraman, Mill Bay Waterworks  
Rod Lidstone, Lidstech Holdings  
Dave Mundy, Shawnigan Basin Society  
Shannon Waters, Island Health  
Dragan Rokic, McElhanney  
Jennifer Pape, Ministry of Environment and Climate Change Strategy  
Trevor Hamlin, Ministry of Environment and Climate Change (via conference call)

**ABSENT WITH NOTICE:** Mike Tippett, Manager, Community & Regional Planning  
Melissa Nottingham, Fisheries and Oceans Canada  
Doug Pepper, Ministry of Agriculture  
Curtis Weber, Environment and Climate Change Canada  
Brian Bedford, BC Ministry of Municipal Affairs and Housing  
Liam Edwards, BC Ministry of Municipal Affairs and Housing  
Rory Beise, Island Health  
Alva Bob, Pauquachin First Nation  
Josh Handysides, Malahat Nation  
Peter Mazey, First Nations Health Authority  
Karen Larson, First Nations Health Authority  
Ted Brookman, Mill Bay District Conservation Society  
Melissa Tokarek, Cowichan Tribes  
Catriona Weidman, Ministry of Municipal Affairs and Housing  
Susan Miller, Pauquachin First Nation  
Vanessa Thomson, Assistant Project Engineer  
Mark Hall, Island Health  
Rick Lawrence, South Sector Liquid Waste Systems  
Candace Charlie, Cowichan Tribes  
Dave Munday, Shawnigan Research Group  
Heather Adams, Malahat Nation  
Keir Cordner, First Nations Health Authority

**ITEMS:**

1.

**Call to Order**

The meeting was called to order at 1:42 pm. by the Chair.

- 2. Welcome and Introductions**  
Committee members were previously provided the Draft Stage 1 Report and the Draft Consultation Report via email.

- 3. Adoption of Minutes from September 5, 2019**  
Minutes from the TCAG meeting of September 5, 2019 were adopted.

**Draft Consultation Report**

A Power Point Presentation was provided by Keith Lawrence. Feedback on options and criteria, and general themes were summarized.

TCAG was advised that Stages 2 and 3 may be combined.

It was noted that stormwater and septic are excluded from the Draft Plan and that these two items should be identified as such in the report. The Regional District has limited funds for the Plan available at this time and has requested from the Ministry that stormwater and septic issues be set aside.

It was noted that appendices to reference material provided was difficult to review and the TCAG was assured that going forward material will be made available in a more readable format.

- 4. Draft Consultation Report**  
The TCAG agreed by consensus that the Stage 1 South Cowichan Liquid Waste Management Plan Amendment Study Report and Public Consultation Report be adopted in draft form and that any further comments from the Technical and Community Advisory Group are received by December 17, 2019.

- 5. Final Comments**  
The SSLWMP Stage 1 Consultation Report is to be presented to the Regional Services Committee in January.

The group was requested to continue reviewing materials and submit comments by December 17<sup>th</sup>.

Meeting adjourned at 3:25 pm.

- 6. Next Meeting**  
To be announced in the coming new year.

## **Appendix E – Steering Group Materials**

Meeting Agendas

Meeting Minutes

# Agenda

## South Sector Liquid Waste Management Plan Steering Committee April 10, 2019

**CVRD Board Room, 1:00-2:00**

**Invitees:**

Blaise Salmon  
Sierra Acton  
Mike Wilson  
Hamid Hatami

Brian Dennison  
Kate Miller  
Keith Lawrence

### **Meeting Agenda**

- 101 LWMP why and how – short
  - Strategy versus projects
  - 3 Phases of a LWMP as set out by regulation
- Work to date – (projections, scan of issues, problem statement, state of infrastructure, relationship building)
  - Current phase objective –agreement of evaluation criteria, engineering, long list of options and ongoing public consultation
  - Timeline
- Budget - current and going forward
- Governance discussion roles and responsibilities
  - Governance diagram and flow of information
  - Direction re FN consultation – **decision needed**
  - Technical and steering committee membership – **input needed**

**Reference Materials for review prior to meeting:**

1. Population Forecast and Analysis
2. Project Charter
3. Timeline
4. Evaluation Criteria
5. Budget



**SOUTH SECTOR LIQUID WASTE MANAGEMENT PLAN**

**STEERING GROUP**

**September 10, 2019**

**9 AM to 12 PM**

**CVRD BOARD ROOM, 175 INGRAM STREET, DUNCAN BC**

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**AGENDA**

- |    |   |                   |
|----|---|-------------------|
| 1. | <b><u>CALL TO ORDER</u></b>                           |                   |
| 2. | <b><u>WELCOME AND INTRODUCTIONS</u></b>               | <b>5 minutes</b>  |
| 3. | <b><u>ADOPTION OF MINUTES FROM APRIL 10, 2019</u></b> | <b>5 minutes</b>  |
| 4. | <b><u>WORK COMPLETED TO DATE</u></b>                  | <b>15 minutes</b> |
| 5. | <b><u>REVIEW OF OPTIONS TO DATE</u></b>               | <b>60 minutes</b> |
| 5. | <b><u>EVALUATION CRITERIA</u></b>                     | <b>30 minutes</b> |
| 6. | <b><u>DRAFT CONSULTATION PLAN</u></b>                 | <b>20 minutes</b> |
| 7. | <b><u>FINAL COMMENTS</u></b>                          |                   |
| 8. | <b><u>NEXT MEETING</u></b>                            |                   |
| 9. | <b><u>ADJOURNMENT</u></b>                             |                   |

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**REFERENCE MATERIALS FOR REVIEW PRIOR TO MEETING:**

1. Draft Project Charter
2. Consultation Diagram
3. South Cowichan Population Projections Summary
4. Long List of Alternative Solutions
5. Evaluation Criteria
6. Draft Consultation Plan
7. April 10, 2019 SSLWMP Steering Group Minutes

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**Distribution:**

Kate Miller, CVRD, Program Chair  
Hamid Hatami, CVRD, Program Sponsor  
Keith Lawrence, CVRD, Program Support  
Lynda Lee, CVRD, Administrative Support

Brian Dennison, CVRD, Utilities  
Blaise Salmon, CVRD, Director - Electoral Area A  
Sierra Acton, CVRD, Director - Electoral Area B  
Mike Wilson, CVRD, Director - Electoral Area C  
Lori Iannidinardo, CVRD, Director - Electoral Area D  
Ian Morrison, CVRD, Chair  
Rebecca David, Pauquachin First Nation, Chief  
Susan Miller, Pauquachin First Nation, Administrator  
Heather Adams, Malahat Nation, Referral Coordinator  
George Harry, Malahat Nation, Chief  
William Seymour, Cowichan Tribes, Chief  
Candace Charlie, Cowichan Tribes, Referral Coordinator  
Natalie Anderson, Cowichan Tribes, Referral Coordinator

Minutes from the South Sector Liquid Waste Management Plan Steering Group Meeting held on April 10, 2019, in the Boardroom, 175 Ingram Street, Duncan, BC at 1 PM.

**PRESENT:** Blaise Salmon, CVRD, Director - Electoral Area A  
Sierra Acton, CVRD, Director - Electoral Area B  
Mike Wilson, CVRD, Director - Electoral Area C  
Kate Miller, Manager, Environmental Services – Project Manager  
Hamid Hatami, General Manager Engineering Services – Project Sponsor  
Keith Lawrence, Senior Environmental Analyst  
Brian Dennison, Manager, Water Management

**ITEMS:**

1. **Call to Order**  
The meeting was called to order at 1 pm. .
2. **Welcome and Introductions**  
Committee members were provided reference material documents.
3. **Why a master plan is needed**  
Water quality studies indicate that fecal inputs are affecting surface water quality in Shawnigan Lake and Mill Bay. Groundwater quality is being impacted in Cobble Hill.  
  
More recent water quality reports for Mill Bay, Shawnigan Lake and Cowichan Bay are forthcoming. They are based on data from 2006 to 2013.  
  
Development of a LWMP is a provincial requirement and supports authorization from province to implement the plan as approved.  
  
Parallel Project - An RFP is being released for the development of a Regional Surface Water Quality Monitoring Strategy.
4. **Master Planning - 3 Stage Process**  
Stage 1 is divided into 2 phases due to funding constraints. Currently at the beginning of Stage 1 – Phase 2.  
  
Two processes underway – Master Planning and Mill Bay/Cobble Hill Capital Program. Ideal process is to complete Master Planning First. However funding opportunity meant that Capital Program would start concurrently.
5. **Plan Area**  
The plan area includes 3 watershed areas and parts of 3 Electoral Areas and 25 sewage treatment systems (15 private, 10 CVRD)
6. **Work to date – (projections, scan of issues, problem statement, state of infrastructure, relationship building)**

Overall growth in Electoral Areas A, B and C is 5.9%. Exceeds CVRD growth rate of 4.2% Shawnigan Lake growth occurs mostly outside the UCB. Most of the growth in Areas A and C occurs inside the UCBS.

**7. Project Governance Structure**

The South Sector Liquid Waste Steering Group is not a committee. The meetings do not follow Robert's Rules of Order. Group participants include: Directors for Area A, B and C, Representatives from Malahat Nation, Cowichan Tribes and Pauquachin First Nation and the CVRD Project Manager.

**8. Final Comments**

Next steps include development of a long list of alternative solutions, refinement of evaluation criteria and development of a consultation plan. The Stage 1 report according to BC guidelines is expected to be complete by the end of 2019.

**9. Next Meeting**

An email will be sent out for the next meeting in September.

**10. Adjournment**

The meeting adjourned at 2 pm.

Minutes from the South Sector Liquid Waste Management Plan Steering Group Meeting held on September 10, 2019, in the Boardroom, 175 Ingram Street, Duncan, BC at 9:00 a.m.

**PRESENT:**

Chair, Ian Morrison  
Director L. Iannidinardo  
Director B. Salmon  
Director S. Acton  
Director, Mike Wilson  
Brian Carruthers, CAO  
Hamid Hatami, General Manager Engineering Services – Project Sponsor  
Kate Miller, Manager, Environmental Services – Project Manager  
Brian Dennison, Manager, Water Management  
Todd Etherington, Water Management, Operations Superintendent  
Keith Lawrence, Senior Environmental Analyst  
Lynda Lee, Administrative Assistant  
Natalie Anderson, Cowichan Tribes Referrals Coordinator

**ITEMS:**

1. **Call to Order**  
The meeting was called to order at 9:20 a.m.
2. **Welcome and Introductions**  
Committee members were provided reference material documents.
3. **Review of Minutes from April 10, 2019**
4. **Work Completed to Date**  
Hamid Hatami provided an overview of the waste water master plan update. Kate Miller clarified the structure of the plan and regulatory implementation and integration into other plans. Keith Lawrence is identified as point of contact. Phase 1 completed. Next phase is public consultation. Feedback is encouraged collaboration between groups.
5. **Review of Options to Date**  
The Consultant has identified capacity and disposal for preliminary sorting. A current inventory was presented and compared to possible options. The timeline for the Plan is a 50 year projection depending on demand. Every 5-10 years assumptions need to be reevaluated.
6. **Evaluation Criteria**  
The proposed evaluation criteria has been refined. Useful feedback has been received and is invited. A scoring example was presented to give sense of ranking. There will be more opportunity to examine this
7. **Draft Consultation Plan**  
Key opportunities are identified with attention to public consultation. Input and feedback is valuable especially public consult. Including any events, criteria, options, evaluation.

The Plan is looking at strategies to manage waste but there is no money for public consultation. The group is asked for ways or recommendations for meaningful public consultation.

**8. Final Comments**

Key messages – drivers, reduce impacts of growth, aspects to plan, address uniqueness, engage public and gather input from partners and participants,

Next steps are for public consultation, Technical and Community Advisory Group meeting #4 and to review input and recommendations for short list, and schedule D cost estimates by the end of 2019.

The Plan requires support of funding from Community Works Fund for stage 2 and 3. Also, hoping for support of gas tax contributions of \$200,000 for each future stage. The annual requisition is \$160,000 for function 540.

**9. Next Meeting**

To be announced.

**10. Adjournment**

The meeting adjourned at 11:25 a.m.

## Appendix F - Communications Log