

COMOX VALLEY SEWERAGE SYSTEM (CVSS) LIQUID WASTE MANAGEMENT PLAN (LWMP)



Joint Technical Advisory Committee and Public Advisory Committee
(TACPAC)

Meeting #1

November 12, 2018

Today's Goals

Introduction to:

- Each other
- The CVSS wastewater system
- The issues to be addressed
- The LWMP process
- The road map for 2018 and 2019
- Meeting #2

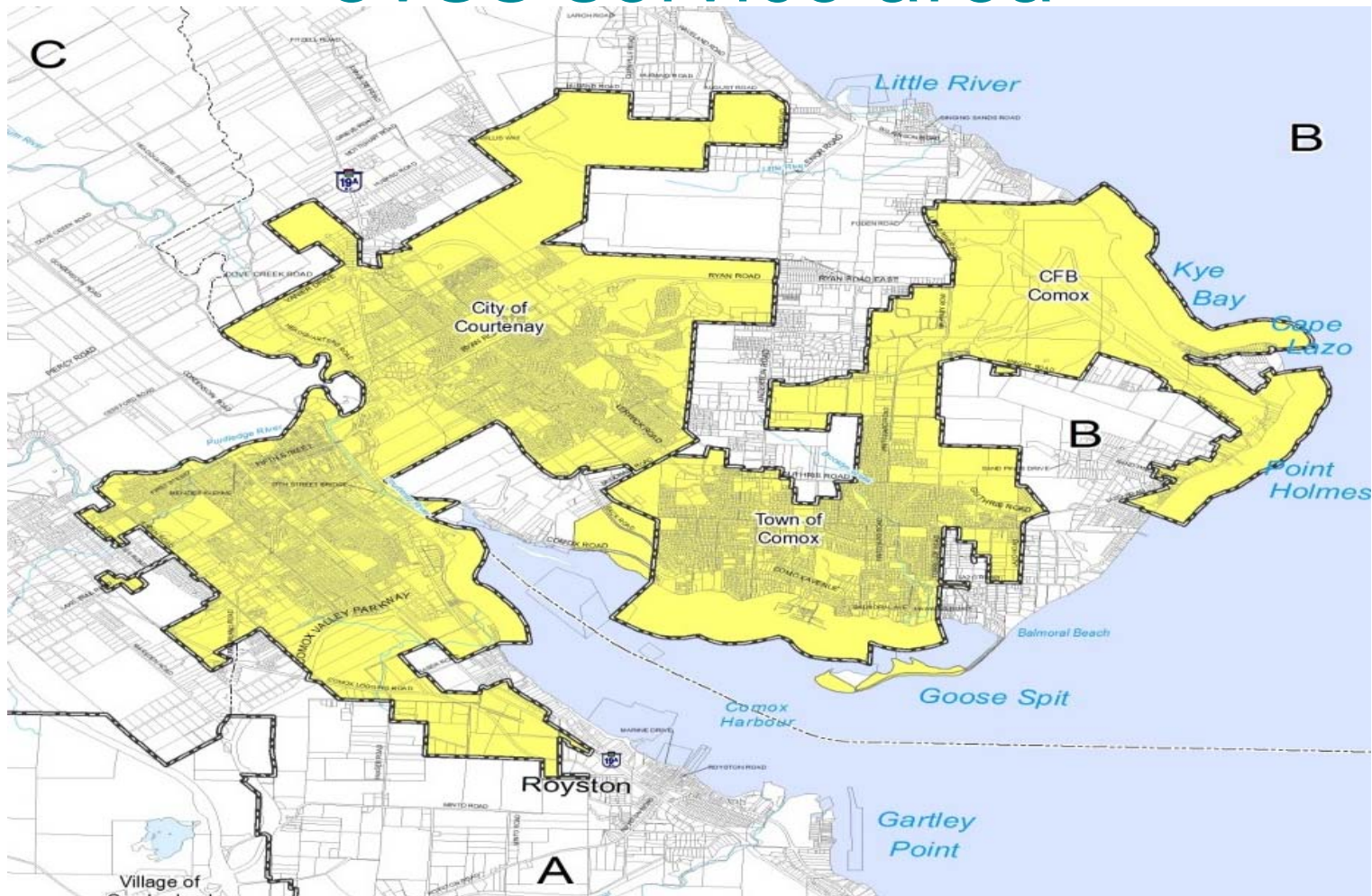
Introductions: project team

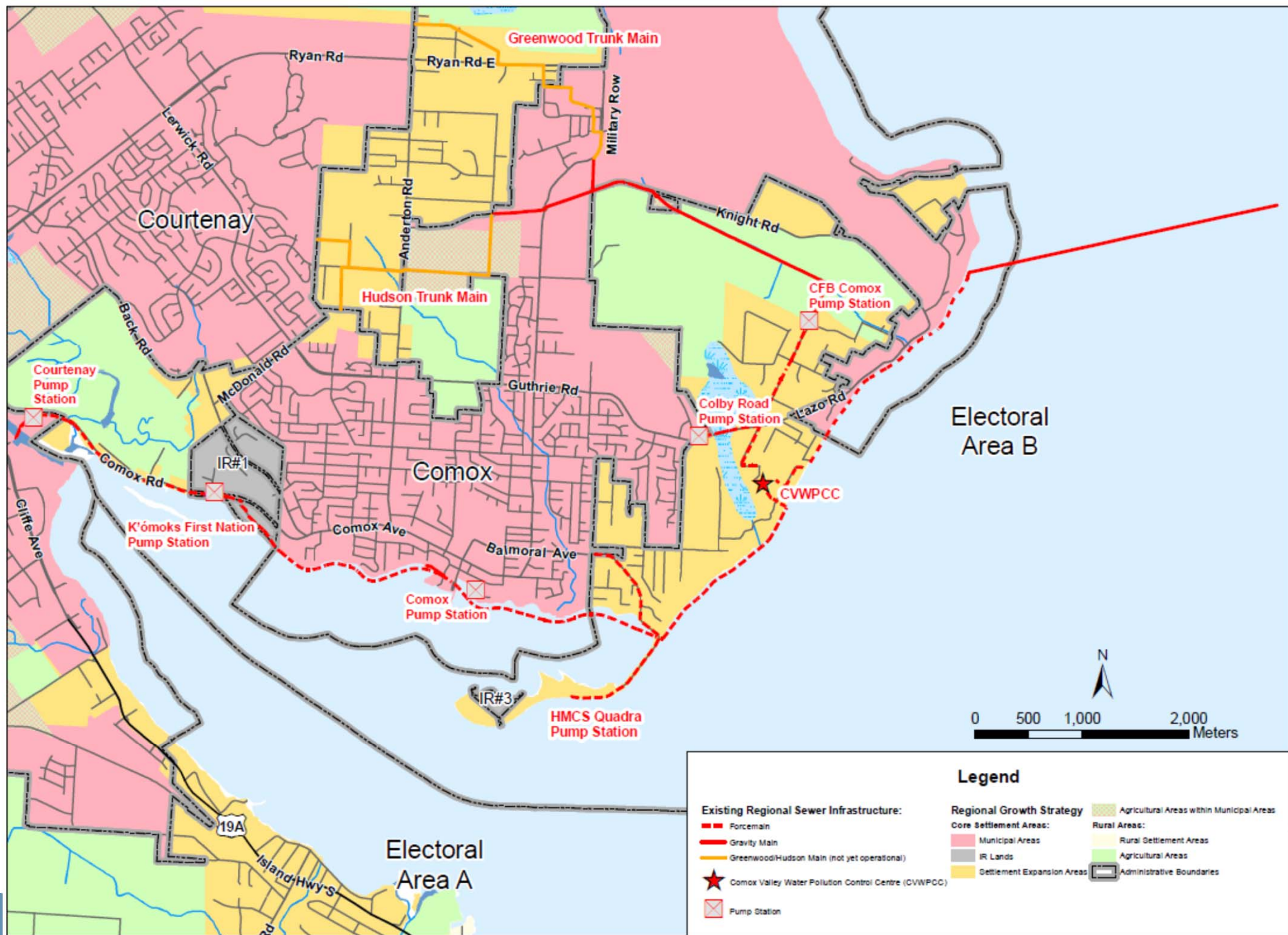
- Project manager: Kris La Rose
- Project coordinator: Paul Nash
- Communications lead: Christianne Wile
- TACPAC mtg facilitator: Allison Habkirk
- Mngr of WW services: Mike Imrie
- Administrative support: Jenna Boguski
- Technical consultants: WSP (pka Opus)

Outline

- System overview
- What was built in 1984
- Changes/significant events since
- Comox 2 project
- Recent capital/planning work
- Why are we here?

CVSS service area





Prior to 1984

- Courtenay
 - Primary treatment at lagoon near airpark
 - Discharge to estuary
- Comox
 - Discharge of untreated wastewater to estuary
- CFB Comox
 - Primary treatment at lagoon near airport
 - Discharge to Queen's Ditch

1984



1984



1984



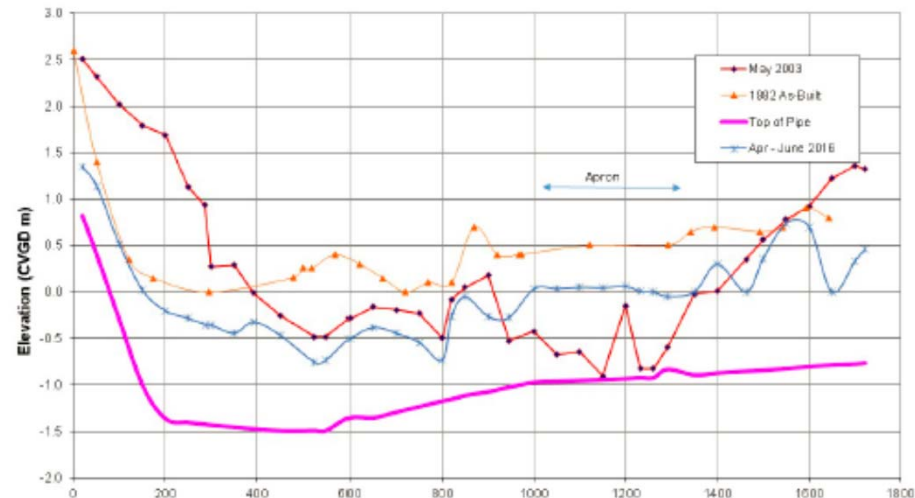
1984



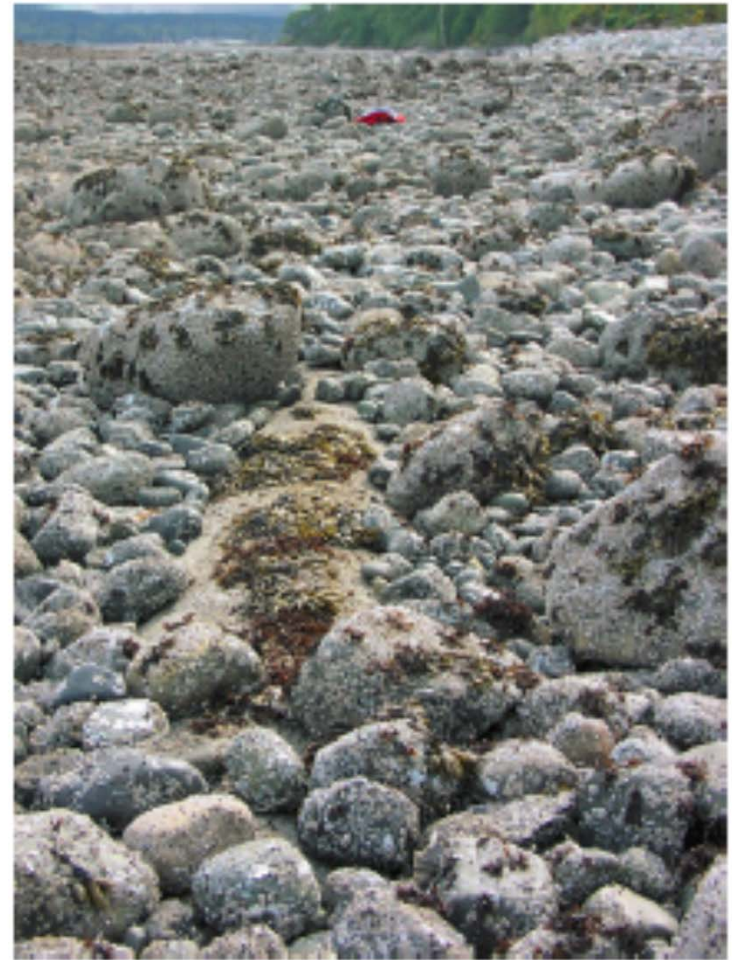
1999: biosolids to landfill



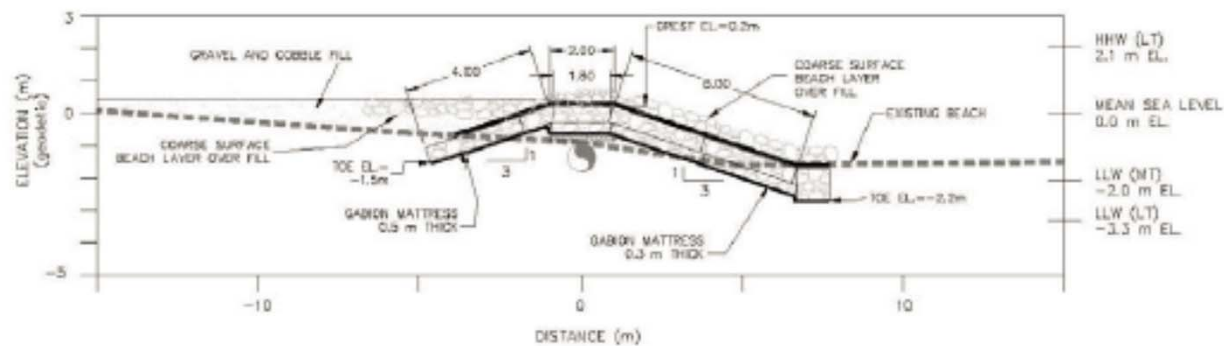
80's and 90's: erosion of Willemar Bluffs



2003: exposure of forcemain



2003: installation of gabion baskets

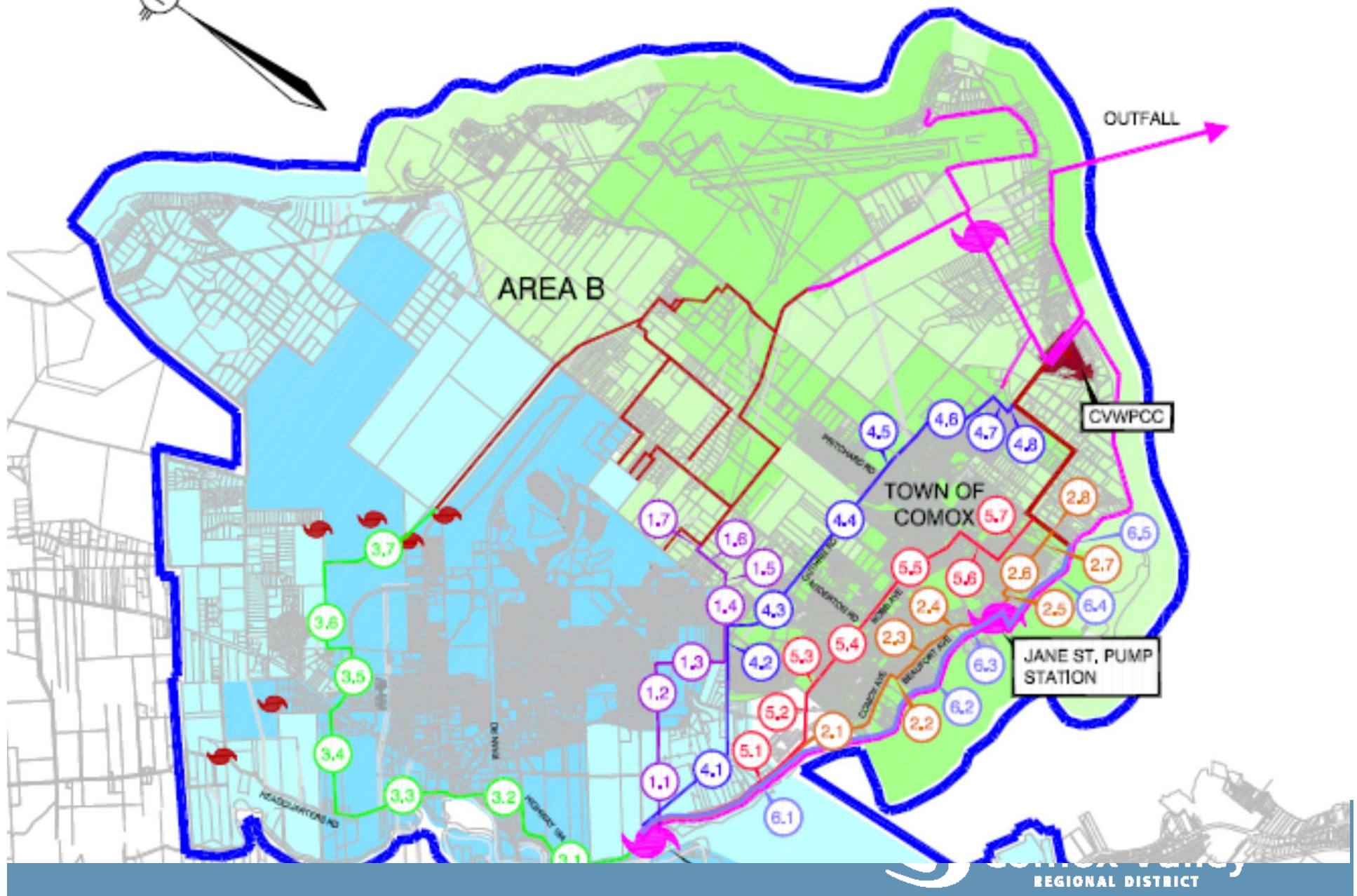


2008: installation of effluent pumps

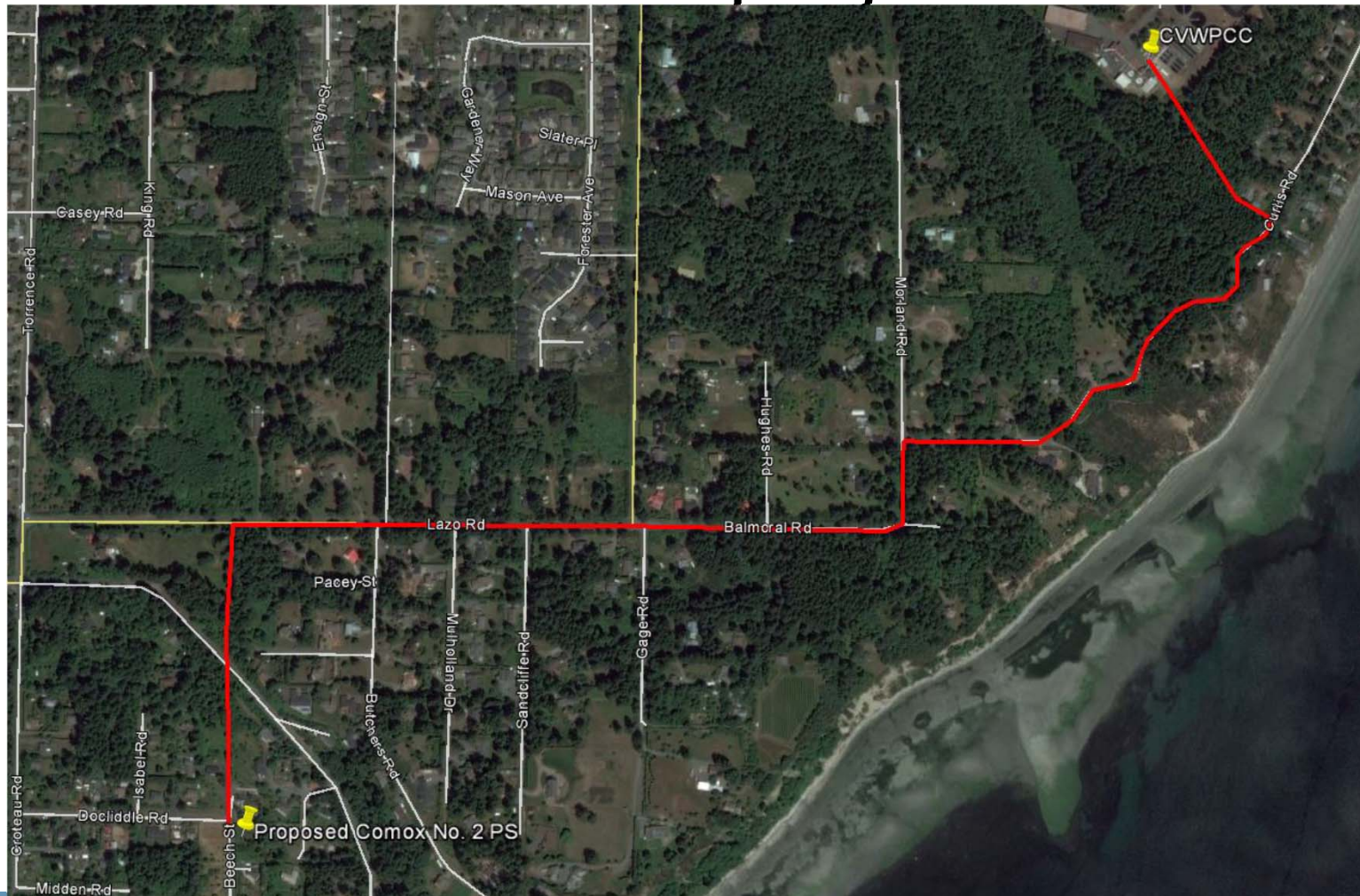


2011: Sewer master plan

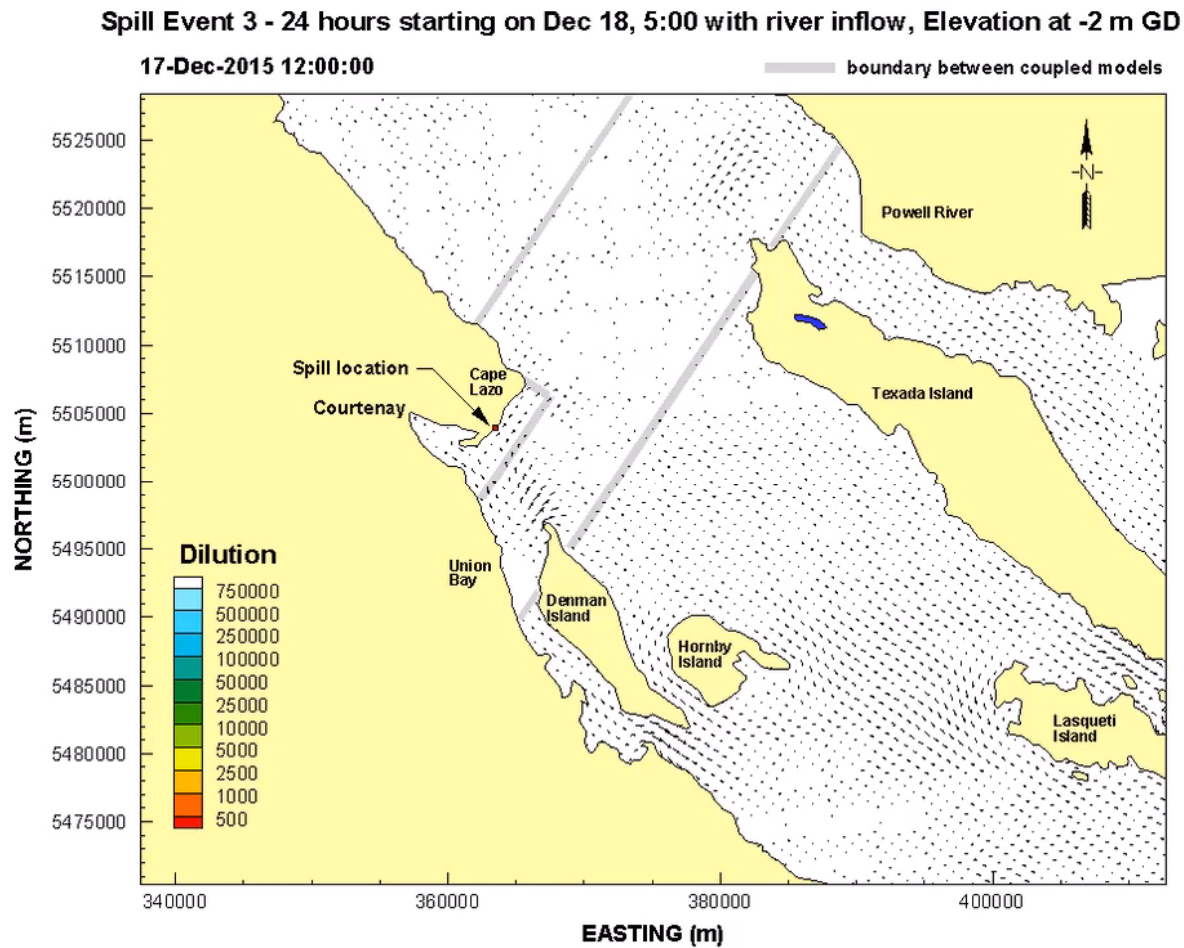
STRAIT OF GEORGIA



Comox 2 project



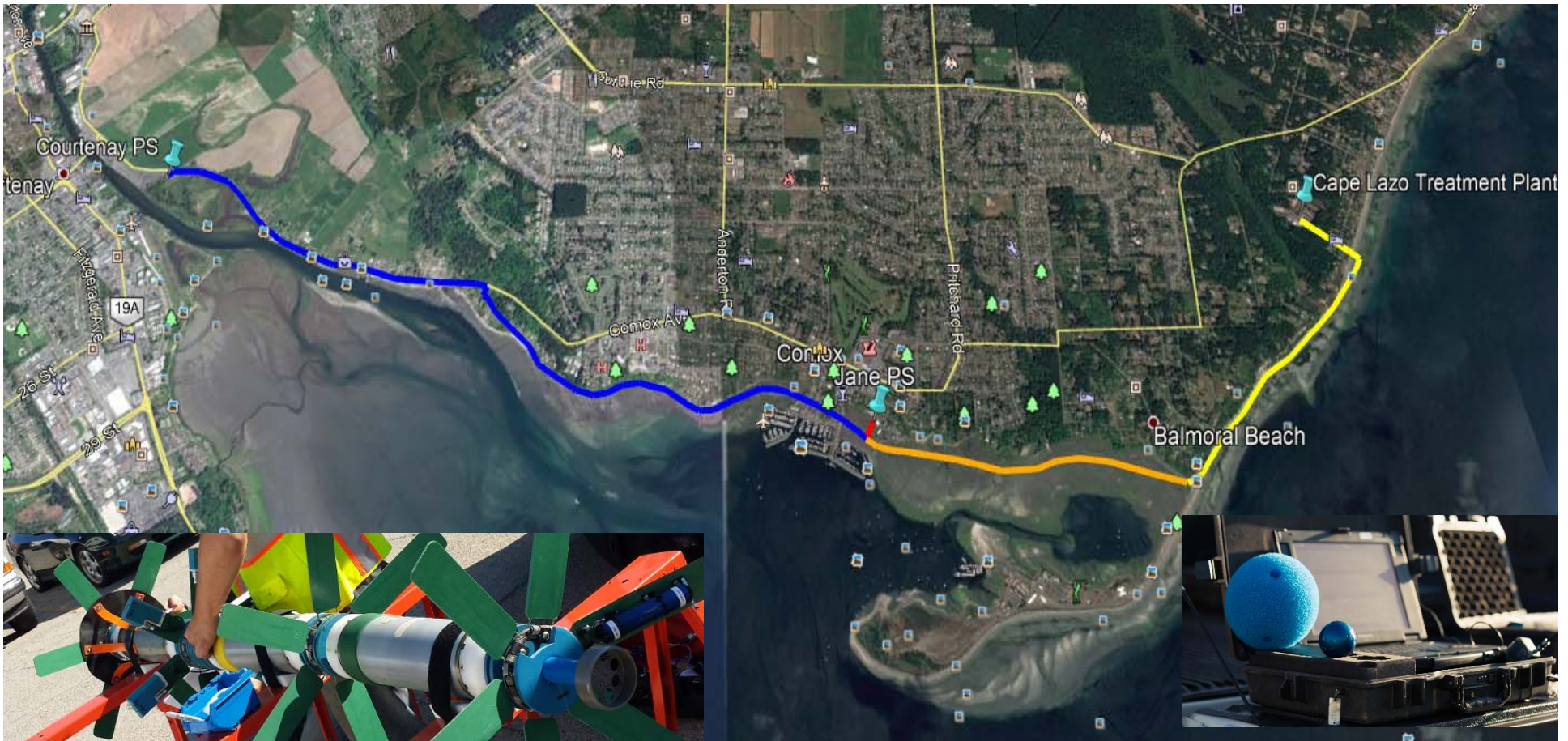
Risk Assessment



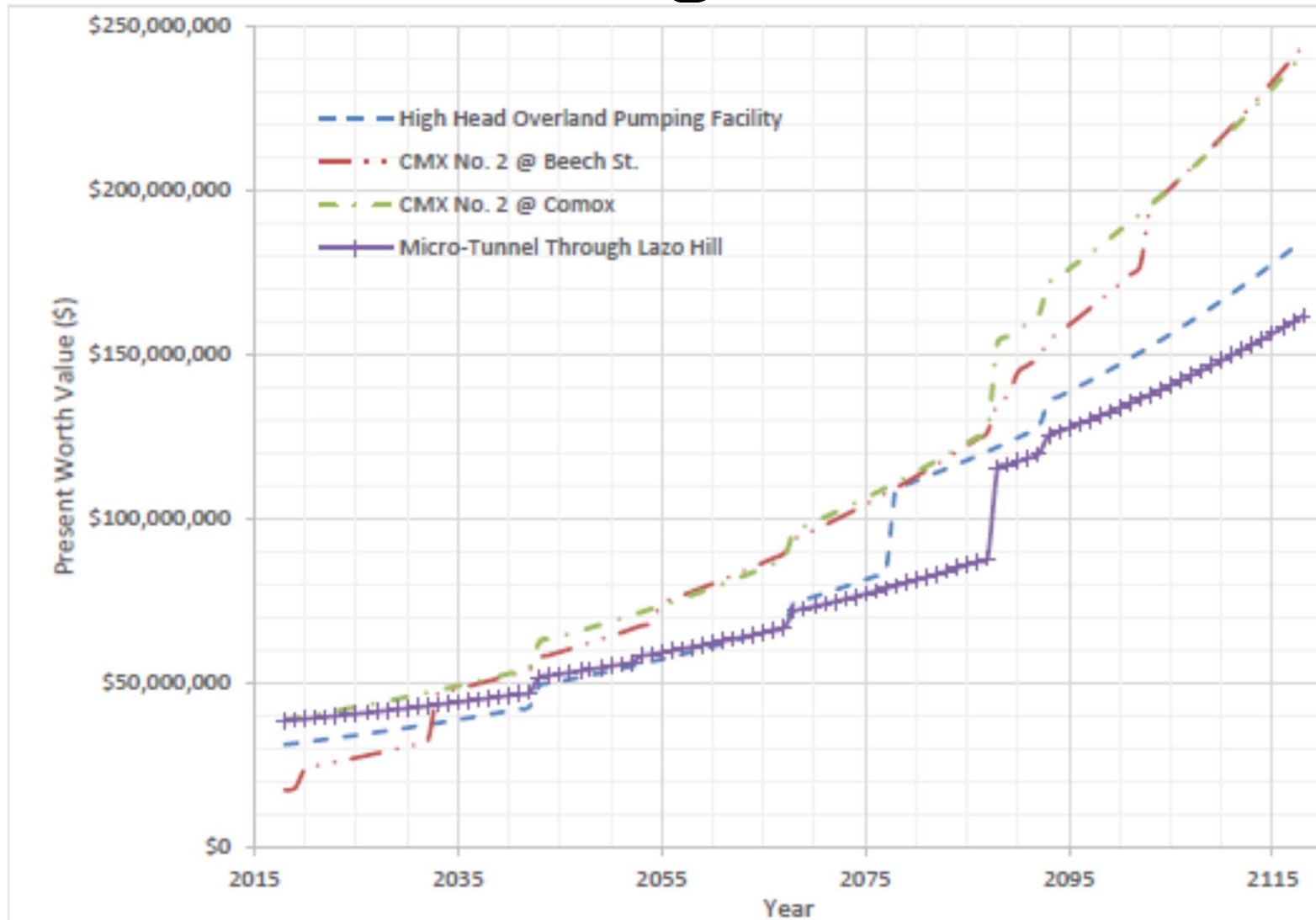
Indicative design



Forcemain condition assessment



Forcemain alignment review



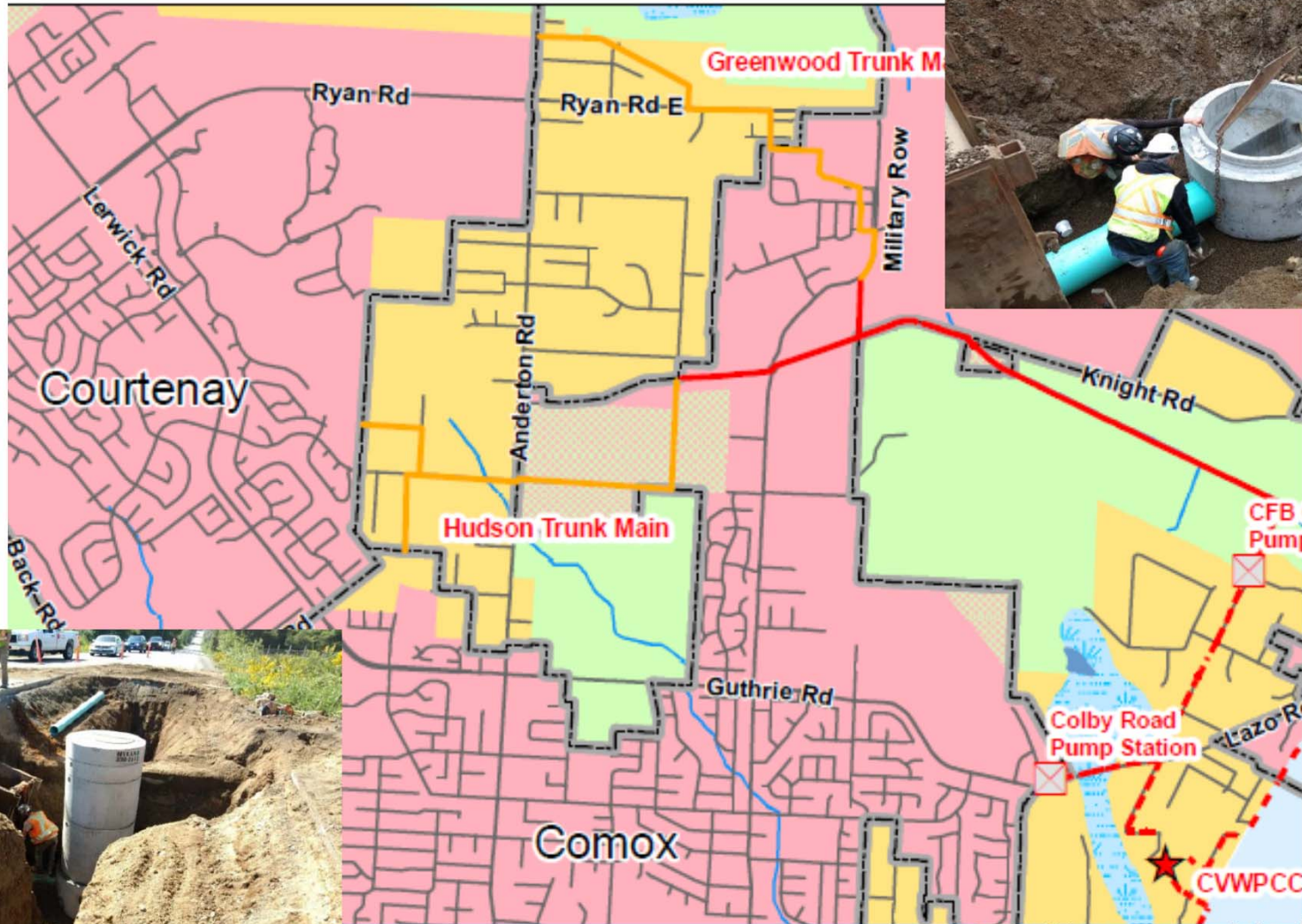
Comox 2 outcome

- Capital/lifecycle costs higher than expected
- Less expensive/lower risk solution likely exists
- Results of condition assessment bought time
- Capacity at the Courtenay PS remains a concern
- Replacing Willemar Bluffs section still a priority
- LWMP process selected to assess alternatives and select optimum solution

Recent capital work

- Hudson Trunk
- Greenwood Trunk
- CVWPCC odor control
- Biosolids composting facility expansion
- EQ basin
- HMCS Quadra

Hudson and Greenwood Trunks



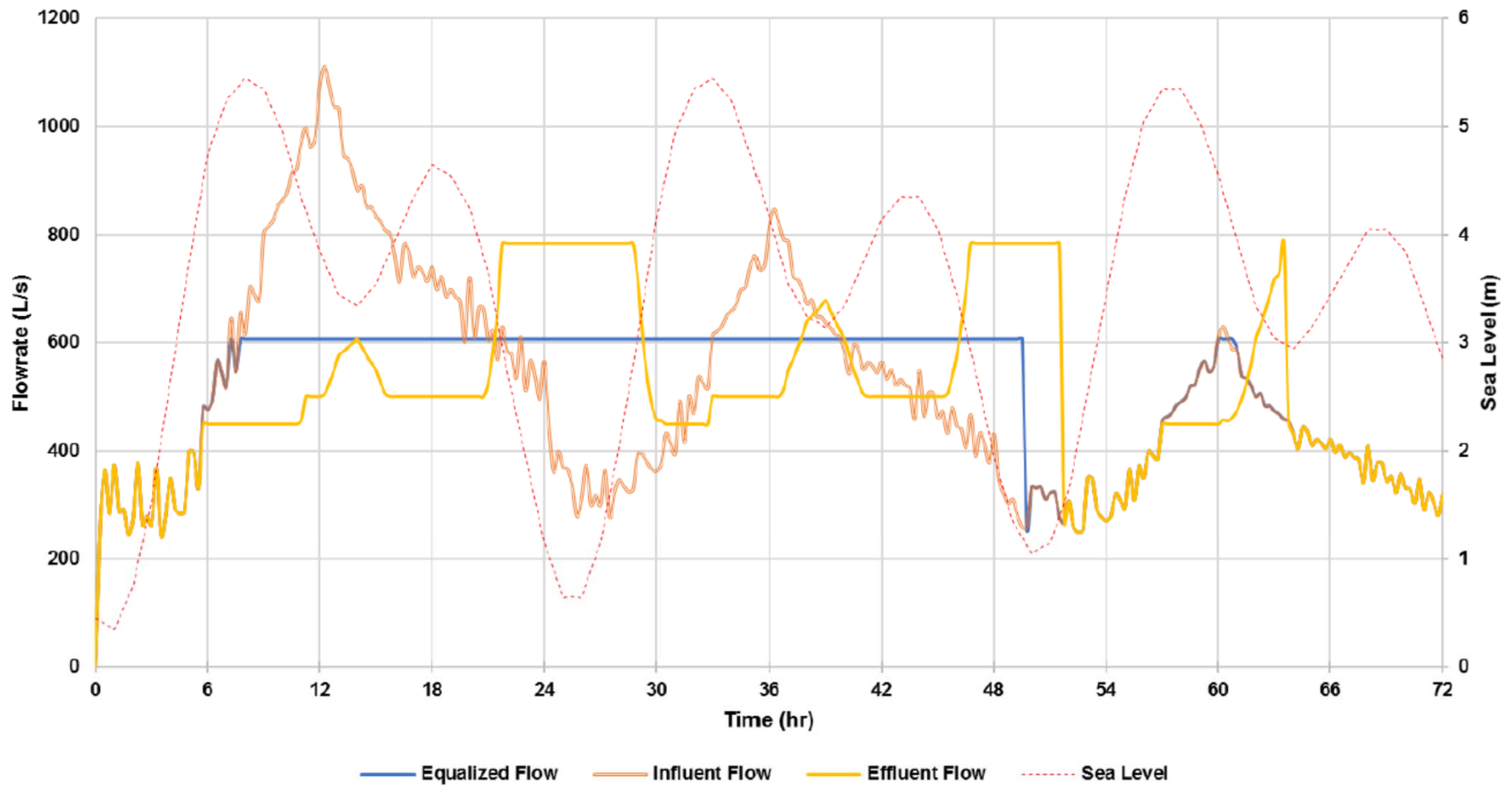
CVWPCC odor control



Biosolids composting expansion

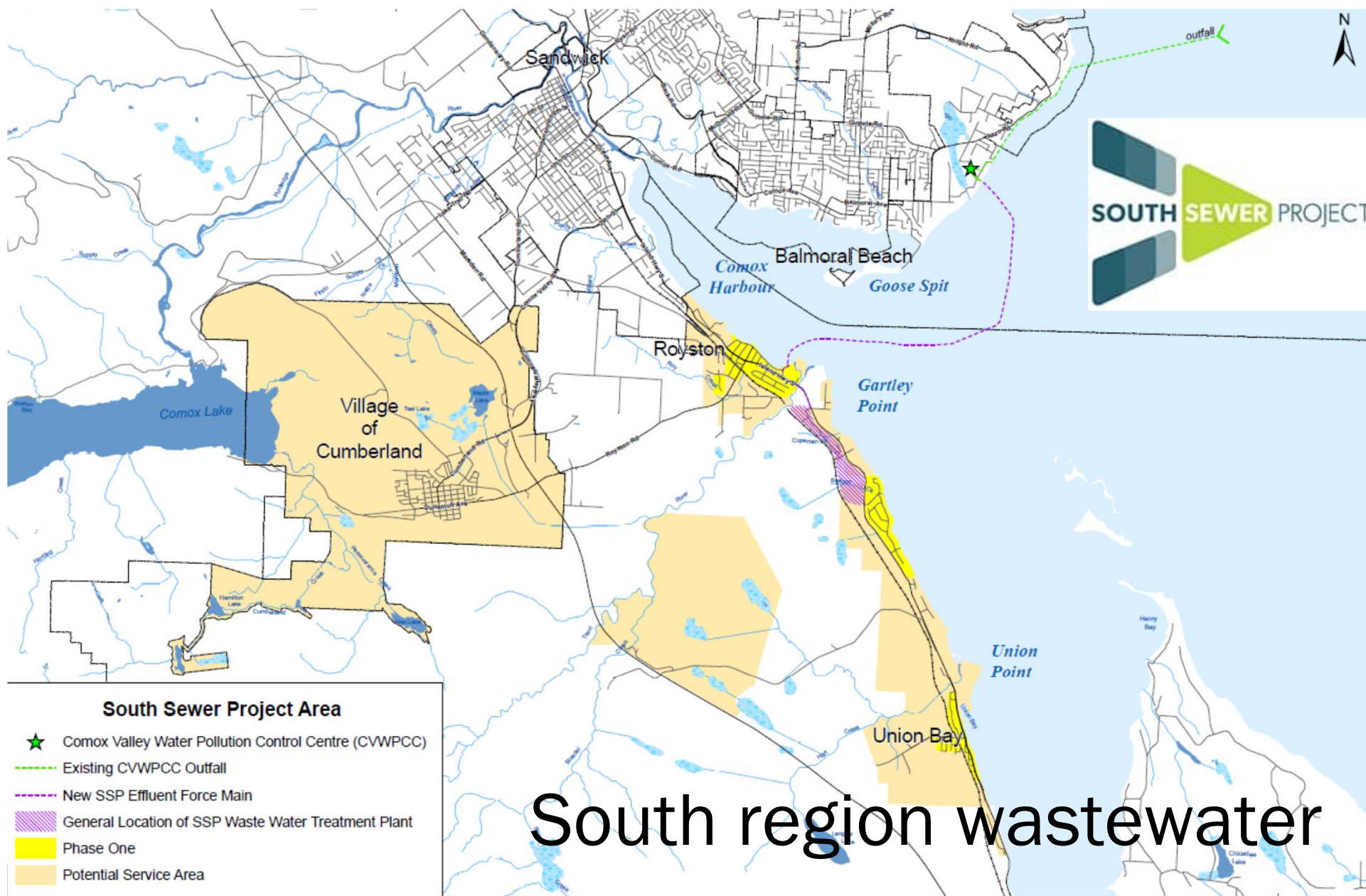


EQ basin



HMCS Quadra pump st./forcemain





To summarize

- Regional system built in 1984
- Some changes and challenges along the way
- Willemar Bluffs, PS/FM capacity, peak flows are known issues
- Lots done/underway, but items of highest public interest saved for LWMP

Agenda item 1.5: Why CVSS LWMP?

- Conveyance
- Treatment
- Resource recovery

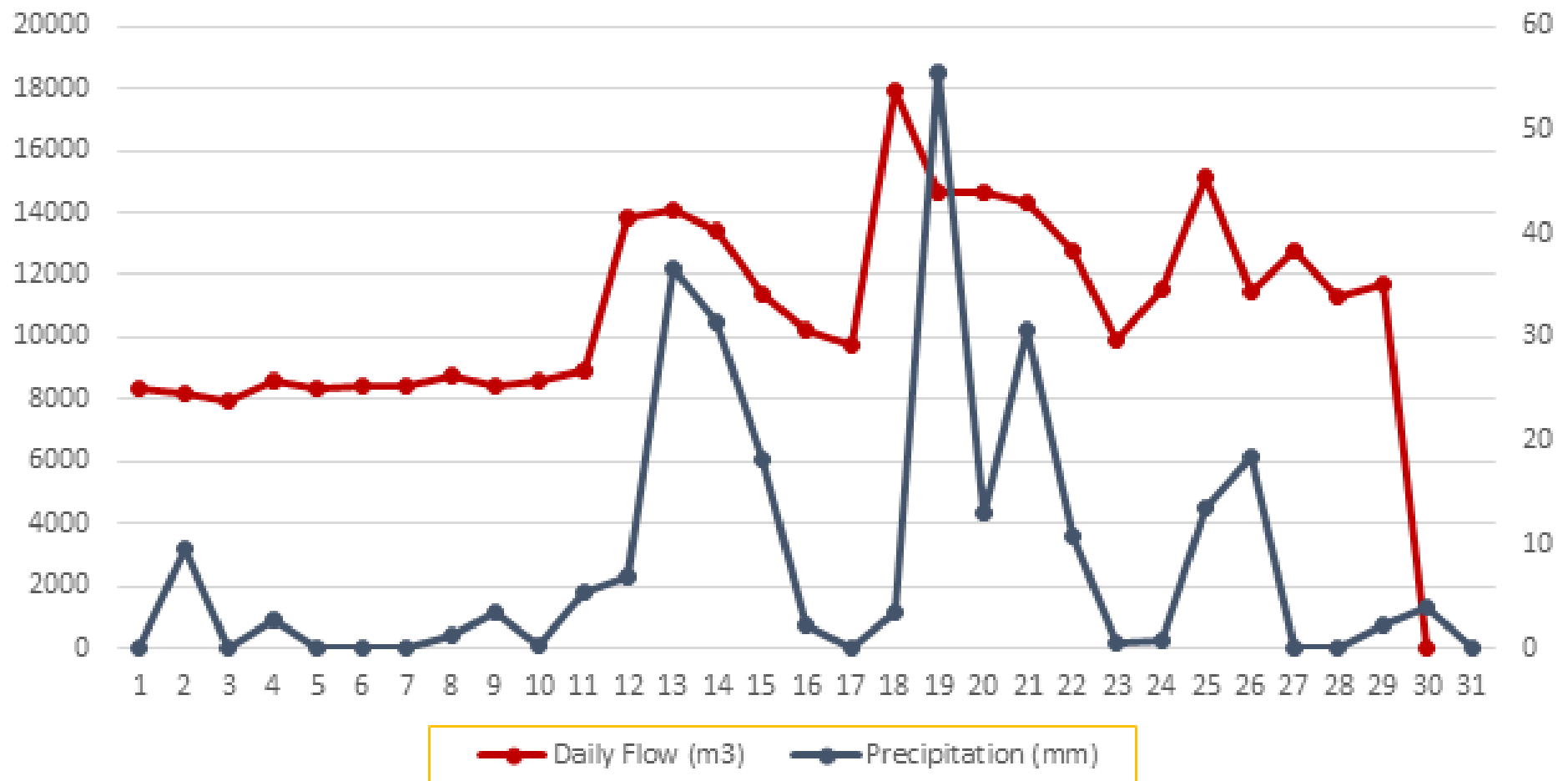
CVSS LWMP - Conveyance

- Challenge
 - Risky section of forcemain along Willemar Bluffs
 - Major pump stations at capacity
 - Forcemain not up for more pressure
- Objective
 - Identify optimum long term conveyance solution
- Considerations
 - Full life cycle costs must be considered
 - More urgent than treatment objectives
 - May need to be removed from LWMP once solution identified

CVSS LWMP - Treatment

- Challenge
 - Certain components at/near capacity during peak rain events
 - Effluent quality upgrades req. to ensure wet weather perform.
- Objective
 - Identify level of treatment for upgraded CVWPCC
- Considerations
 - The valley is growing rapidly, regulations are evolving
 - Municipalities improving I&I but extreme rain events on the rise
 - Focus on treatment level rather than specific technologies

Courtenay Sewage Flow and Precipitation



CVSS LWMP – Resource Recovery

- Challenge
 - N/a
- Objective
 - Identify other potential opportunities to extract beneficial resources from treatment processes
- Considerations
 - LWMP guideline requires us to identify and assess
 - Reclaimed water top of the list, but other opportunities should be explored
 - Could be immediate, or be provided for in the future as technology/demand grows

LWMP Public Consultation Plan

QUESTIONS?

What is a Liquid Waste Management Plan?

Bryan Vroom, M.Sc., P.Ag.
Section Head, Municipal Liquid Waste
Ministry of Environment and Climate Change

Liquid Waste Management Plan

PUBLIC CONSULTATION STRATEGY

Public Participation Spectrum

Increasing level of public involvement in decision-making

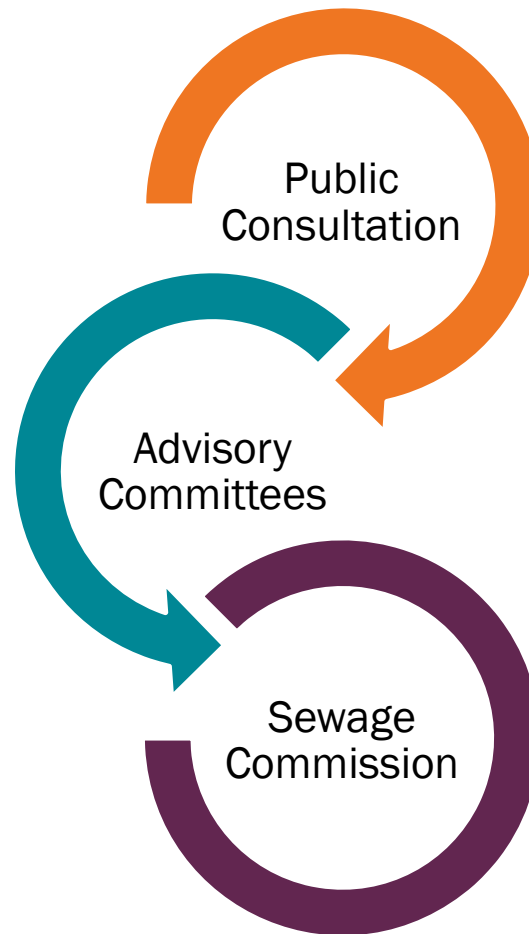


INFORM	CONSULT	INVOLVE	COLLABORATE	EMPOWER
Keep residents informed about the process	Obtain feedback from residents on analysis of options	Work directly with residents to address concerns	Partner with residents to develop a preferred solution	Place final decision making in the hands of residents

Engagement Process

Collaborate

- Technical Advisory Committee
- Public Advisory Committee



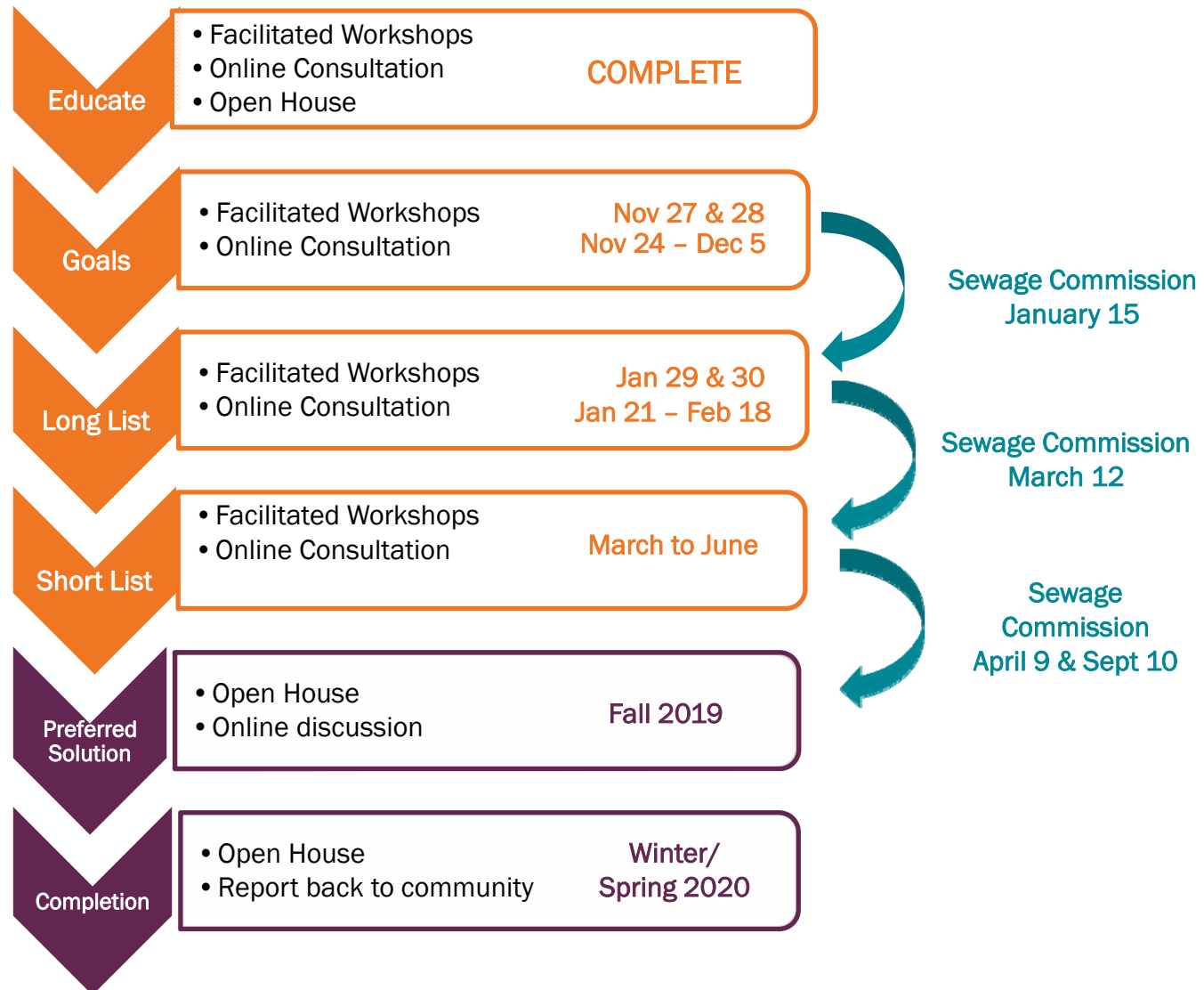
Consult

- Facilitated Workshops
- Online consultation

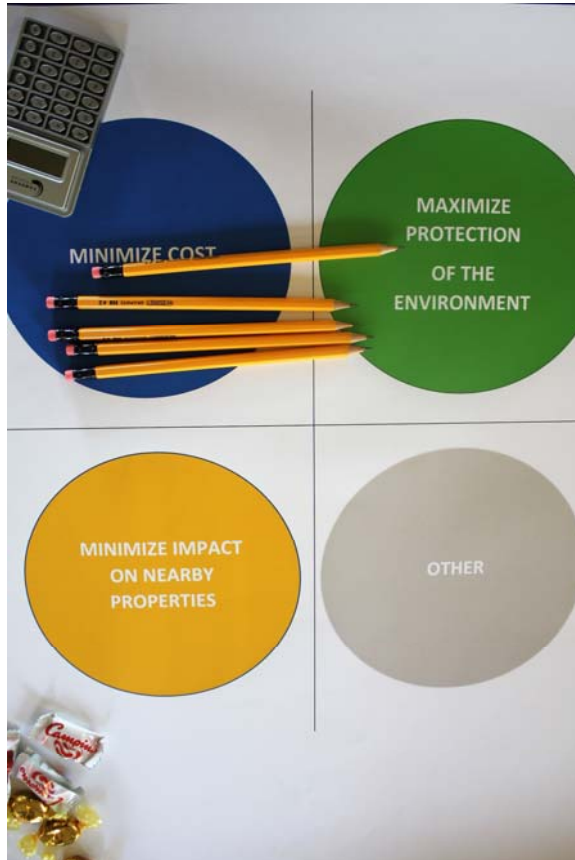
Inform

- Open Houses
- Online discussion

Engagement Milestones



Consultation Options




[sign up.](#) [stay engaged.](#) [have your say](#)


Key Dates

Open House - Sewer Consultation
November 06 2018

Open House - Sewer Consultation
November 08 2018

Who's listening

Kris La Rose
Senior Manager of Water and Wastewater
Comox Valley Regional District



[more..](#)



Help shape the future of our Sewer Service

About the Comox Valley Sewer Service Liquid Waste Management Plan

Ensuring our sewer system meets the needs and goals of the community is a critical part of the Comox Valley Regional District's services. To plan for the future, the CVRD has elected to use a Liquid Waste Management Plan process to identify the improvements required for the sewer system in Courtenay and Comox and engage the public in the creation of a future vision for the sewer service in these communities.

We want to hear from you as we plan our sewer service for the years to come.

Over the coming 18 months, we will be asking you for input on what's important for the sewer service in Courtenay and Comox. What are your priorities? What do we need to consider when making decisions about the service? What is the best approach?

We'll be hosting live events, but you can also follow along and provide input here at Connect CVRD. Your input will make a difference. And we will tell you how it was used


[QUICK POLL](#) [FORUM](#) [NEWS](#) [Q & A](#)

You need to be signed in to take this quick poll.

[Sign In](#)

[Register](#)

Getting the Word Out



LET'S TALK POOP

Come Learn About Your Sewer Service


Ever wonder what happens after you flush? Attend an open house at the sewage treatment plant and take a tour of the facility to learn more about our sewer system and help us plan for the future.

JOIN US:


Tuesday, November 6 or Thursday, November 8
5pm to 7pm
Comox Valley Water Pollution Control Centre
445 Brent Road, Comox

Or learn more online at: connectcvrd.ca/lwmp

For more information:
Call: 250-334-6000
Visit: comoxvalleyrd.ca/lwmp



Posters/electronic screens in
Community Hubs



LET'S TALK POOP

connectcvrd.ca
Join the Conversation this Summer. [LEARN MORE](#)

32 10 Comments

Facebook/Instagram



Radio



MusicFest weekend 'fantastic,' says promoter

the course of the festival, which ran July 13-15. The event featured Ontario rockers Walk Off The Earth, U.K. singer/songwriter Passenger, and folk legend Arlo Guthrie.

But for Cox, the highlight of the weekend was meeting American musician Ry Cooder.

"It was really one of the most fun moments of my life. He is personally one of my favorites and I've been trying to get him to come for 22 years," Cox and Cooder snapped a rare backstage photo together and Cox says Cooder had a great time at the festival.

The musician wasn't the only one enjoying the weekend, Passenger, otherwise known as Mike Rosenberg, was seen around the festival site following his Saturday night set on the main stage.

Cox, explains he was having a good time, and spent all of Sunday exploring the music and sounds of VIMF.

"That's a good sign," he says, and adds previous performers such as David Crosby and Emmylou Harris have spent additional time at the site outside of their respective performances.

"The festival is far enough away (geographically) and I think they love that it's not a huge music industry event. Sometimes they're unsure of where they're going to, and they might expect things to be a little bit rocky. But our production standards, especially on the main stage, are incredible. I hear that more and more."

Passenger was one of the performers who returned to the festival following his set to enjoy the sights and sounds that Vancouver Island MusicFest had to offer.

Photo by Erica Farrell

RESIDENTIAL, INDUSTRIAL & COMMERCIAL
Heating • Air Conditioning
Refrigeration • HRV's • Maintenance

Your Local Heat Pump Specialists
Serving the Comox Valley Since 2005

Thermolec Mechanical Ltd.

Ask us about INSTANT REBATES, H2O GRANTS, FINANCING, EXTENDED WARRANTIES

250.334.7782
911 McPhee Ave., Courtenay

www.thermotec.ca

Print

LWMP Public Consultation Plan

QUESTIONS?

Liquid Waste Management Plan

IMPLEMENTATION OF THE LWMP

LWMP - A real world example of the “Systems Approach” to problem solving

1. Identify the problem
2. Identify the alternatives
3. Select the best alternative

LWMP Stage 1 –

1. Identify the problem(s)
 - a) Conveyance
 - b) Treatment
 - c) Resource Recovery
2. Identify the Goals and Objectives -
“Needs and Wants”
3. Long List of potential options,
 - Conceptual cost comparisons
4. Evaluate to a short list for detailed study

LWMP Stage 2 –

1. Detailed study of Short List options
 - Class C cost estimates
2. Other technical studies, as/if required
3. Evaluate to choose Preferred Option

LWMP Stage 3

1. Implementation Planning for Preferred Option(s)
 - Construction planning, Class B cost
 - Operational planning
2. Financing Plan
 - Revenue planning (user fees, DCC's, Grant Funding)
 - ***Borrowing***
3. Submit report to MoE
4. Wait for Ministerial Approval

LWMP Implementation

- New “Plan Monitoring Committee”
- Borrowing Approved by MoE
- Construction
- Operation
- LWMP reviews at five year intervals

Committee Process

- Work according to the Terms of Reference
- TAC and PAC will operate as a joint committee
- Except if there is some specific need to do otherwise
- Decisions to be made by consensus

Committee Recommendations

Recommendations go to the;

- Public, for review and input
- Back to the TACPAC
- CVRD Sewage Advisory
- CV Sewage Commission (Steering Committee) for *Decision*.

Reporting

An official Stage 1&2 Report is produced, containing

- All technical studies (options details, etc)
- Record of public participation
- Chronology of decision making

Submit to MoE

End of Stage 2

Liquid Waste Management Plan - Stages 1 &

2

Technical & Public Advisory Committee Meeting #1

November 13th, 2018



WSP specializes in

Liquid waste management planning

Wastewater treatment plant master plans

Sanitary sewer planning and design

Design of wastewater treatment systems

Water and wastewater pumping station design

Resource recovery

Odour control

Outfall design

Stormwater management

Drinking water treatment and supply

Water supply planning

Watermain design

Asset management



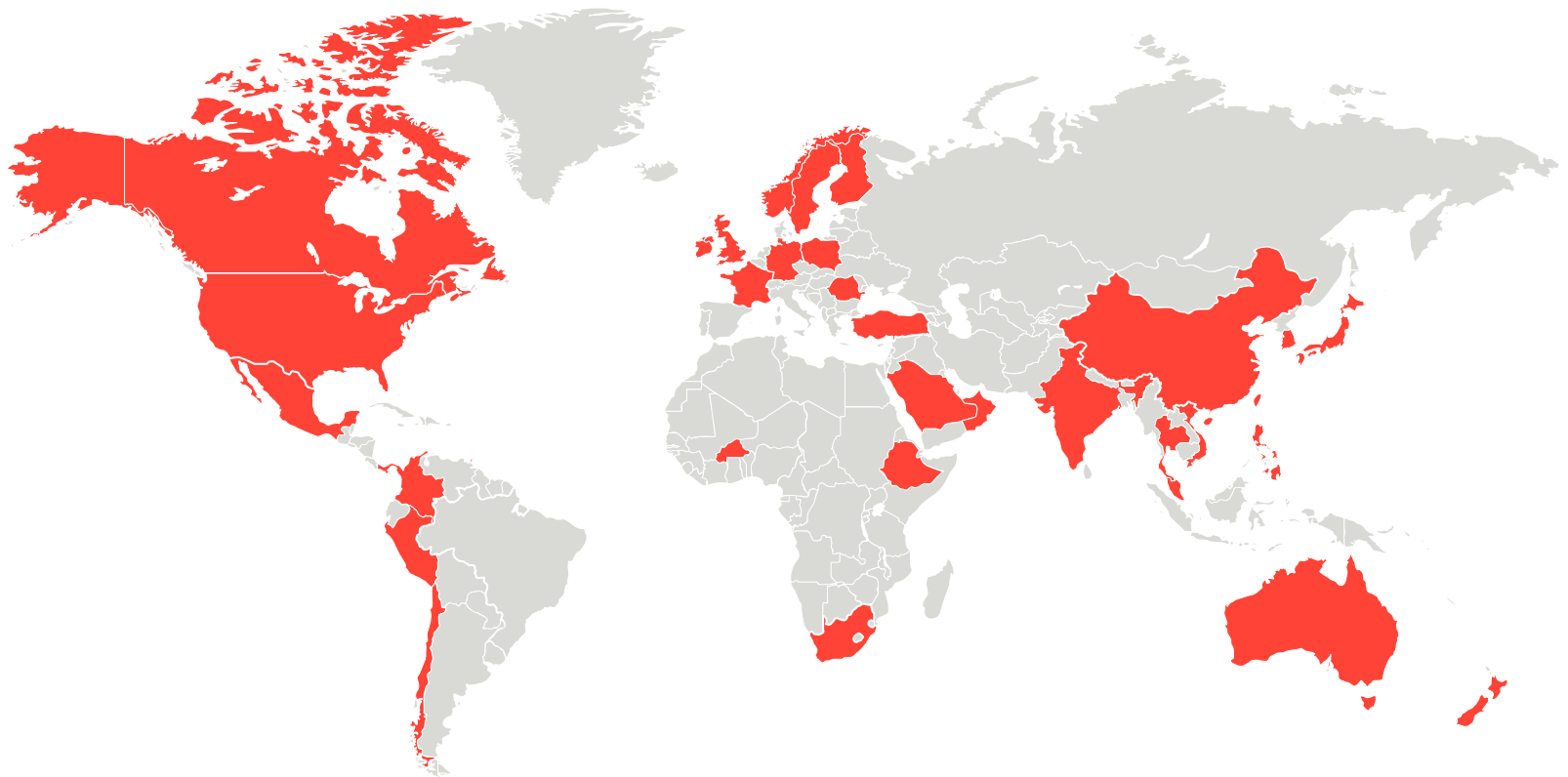
District Energy Recovery System in Saanich



Campbell River's Norm Wood Environmental Centre



Ladysmith's Wastewater Treatment Plant



LWMP Experience in BC

We have completed over 20 LWMPs for communities throughout BC and wrote the provincial guidelines for liquid waste management planning.

District of Tofino, LWMP Stage 3 (2015-2017)
www.tofino.ca/lwmp

Comox Valley Regional District, Sanitary Sewerage Master Plan Update (as a sub-consultant to McElhanney for wastewater treatment expertise), 2008.

Regional District of Kootenay Boundary, LWMP Stage 1 (2005 to 2008), Stage 2 (2008-2017), Stage 3 (currently nearing completion)

Town of Ladysmith LWMP, Stages 1 to 3 (Stage 3 approved in 2013)

City of Powell River, LWMP Stage 2 (2004 to 2011) and Stage 3 (currently underway)

City of Salmon Arm, LWMP, Stages 1, 2 and 3 (2002 to 2005) City of Armstrong Master Sewer Plan (2013)

Town of Smithers Sanitary Sewer Master Plan (2007).

Town of Fort Nelson Sanitary Sewer Master Plan (2006).

Capital Regional District, Performance Audit of Core Area LWMP (2011)

Resort Municipality of Whistler, LWMP Stages 1, 2 and 3 (1991 to 1993) and LWMP Update (2000 to 2005) and LWMP Update (2015-2018)

City of Revelstoke, LWMP Stage 1 to 3 (2006 to 2012)

District of Campbell River, LWMP (1991 to 1992)

Regional District of Nanaimo, LWMP Northern Community, Phase 1, Stages 1, 2 and 3 (1993)

Regional District of Nanaimo, LWMP Northern Community, Phase 2, Stages 1 and 2 (1995 to 1996)

Regional District of Nanaimo, LWMP Southern Community, Stages 1 and 2 (1995 to 1997)

Regional District of Nanaimo, LWMP, Stage 3, Northern and Southern Communities combined (1997)

City of Vernon, LWMP Update, Stages 1, 2 and 3 (1994 to 1999)

Sunshine Coast Regional District - LWMP (3 plan areas) (1992 to 2002)

Cowichan Valley Regional District, LWMP, Stages 1, 2 and 3, Central Sector (1995 to 1999)

Fraser Valley Regional District, LWMP (1999), Stage 1

City of Kimberley, LWMP, Stage 1 (1999)

North Okanagan Regional District - LWMP, EA A, B and C (1990)

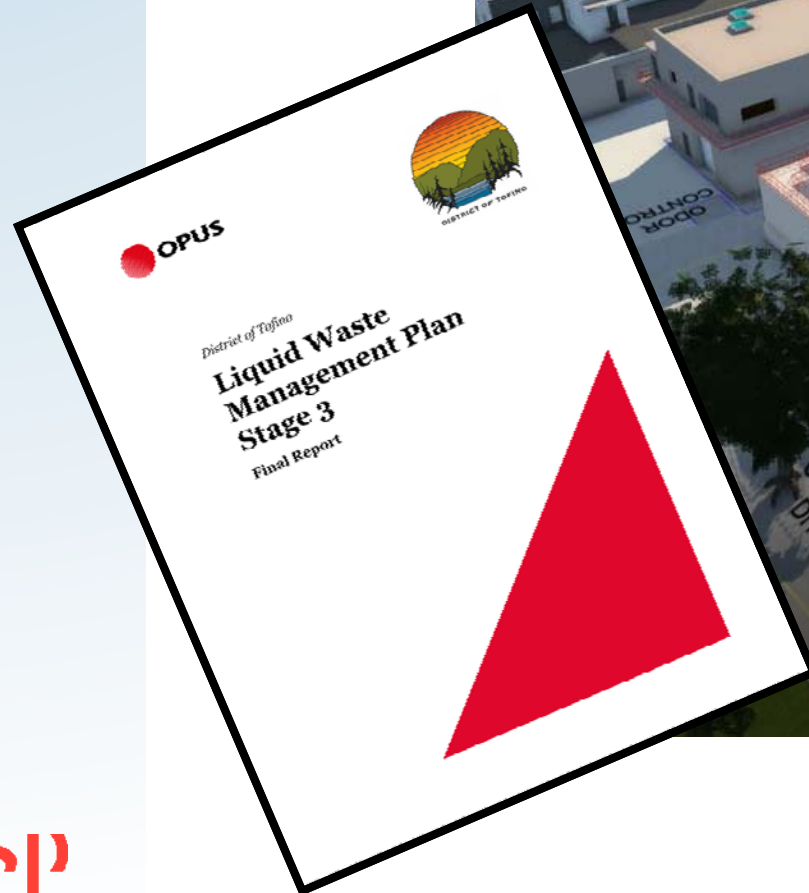
Ladysmith, BC

59

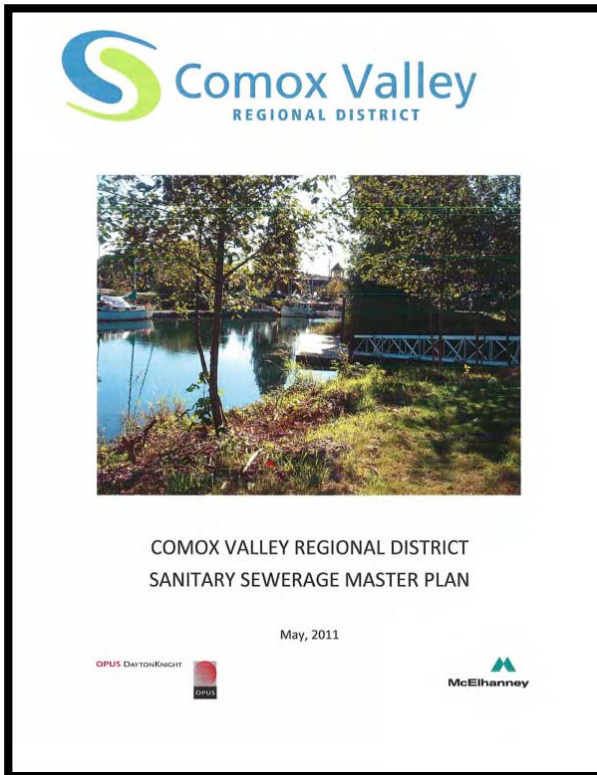


Tofino, BC

60



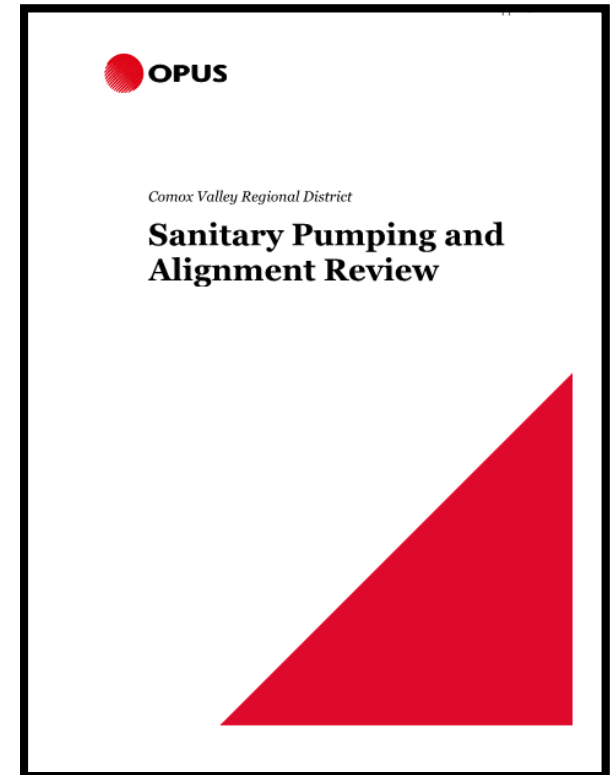
Experience with CVRD



Completed 2011



Completed 2017



What is a Liquid Waste Management Plan?

Generally, a three stage process defined by Provincial Guidelines. The LWMP process:

- *examines long term wastewater management needs for the whole community.*
- *is designed to be a participatory process, involving stakeholders and the public to guide decision making.*
- *and acts as a written record of a community's decisions and plans for managing liquid wastes.*
- *provides authorization for borrowing to implement capital projects.*

WSP's role

Assist the CVRD in completing a LWMP which follows provincial guidelines;

Assist the CVRD in providing information about the LWMP process to the TAC & PAC;

Provide technical information and support development of evaluation criteria for selection of preferred options;

Assist the CVRD in providing technical information about the options to the TAC & PAC and the public;

Incorporate stakeholder and public input into the LWMP;

Assist the CVRD in liaising with the Ministry of Environment;

Draft and finalize the LWMP report.

WSP's Work Plan

Stage 1 LWMP

- Help develop longlist of options for
 - conveyance
 - resource recovery and
 - wastewater treatment
- Provide a high level technical evaluation of options including feasibility, risks and high level costing.
- Support development of a shortlist of options to Stage 2 for more detailed evaluation and costing.

Stage 2 LWMP

- Detailed evaluation and costing of options for:
 - conveyance
 - resource recovery and
 - wastewater treatment.
- Provide a more detailed evaluation of options.
- Support advancement of one option for each of the three major study areas to a Stage 3 LWMP.

Question the predictable
stand for innovation
change the landscape

65

Al Gibb, PhD, P.Eng.

Director, Wastewater Treatment
al.gibb@wsp.com

Aline Bennett, MAsC, P.Eng.

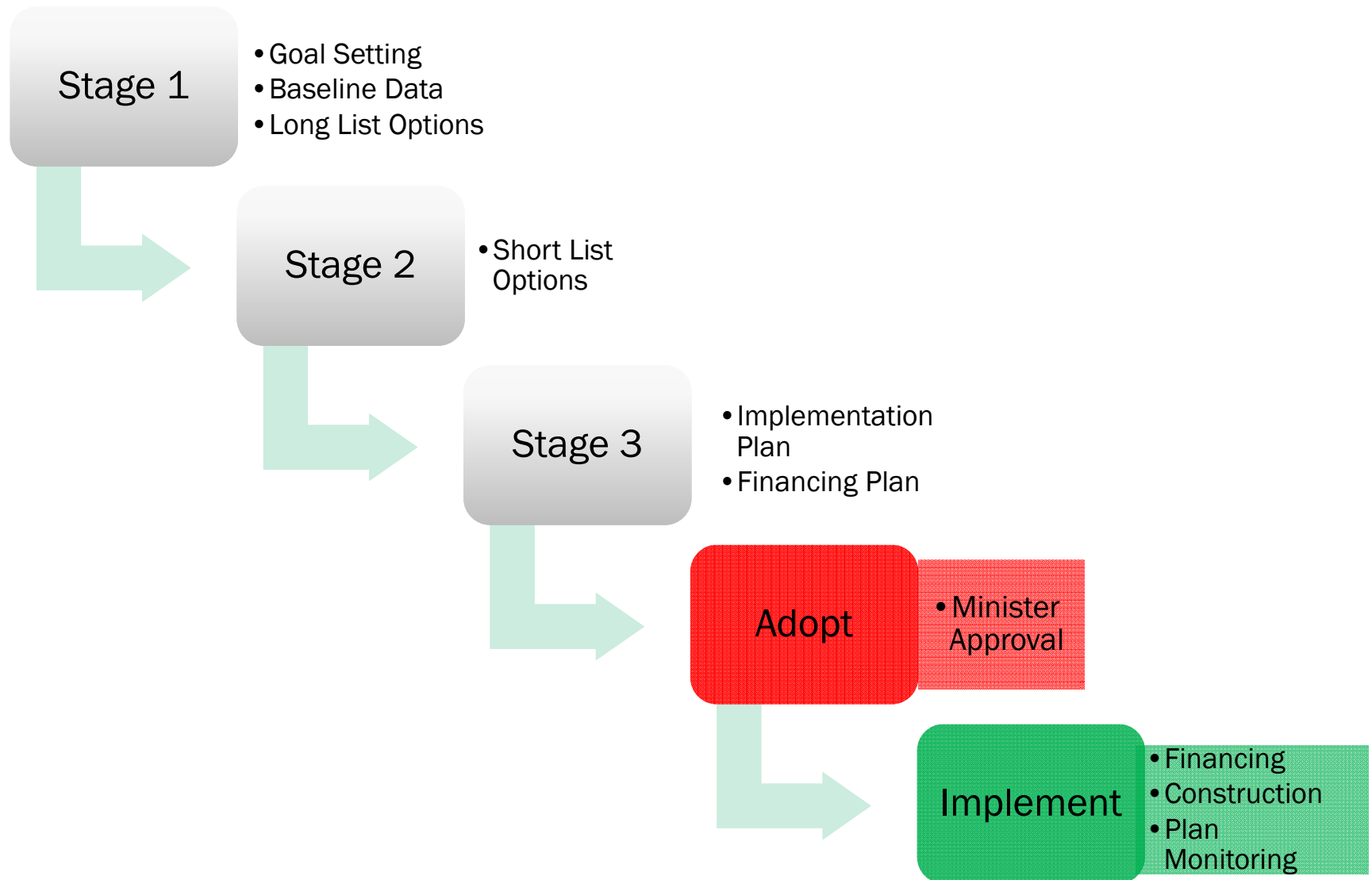
Engineer, Wastewater Treatment
aline.bennett@wsp.com



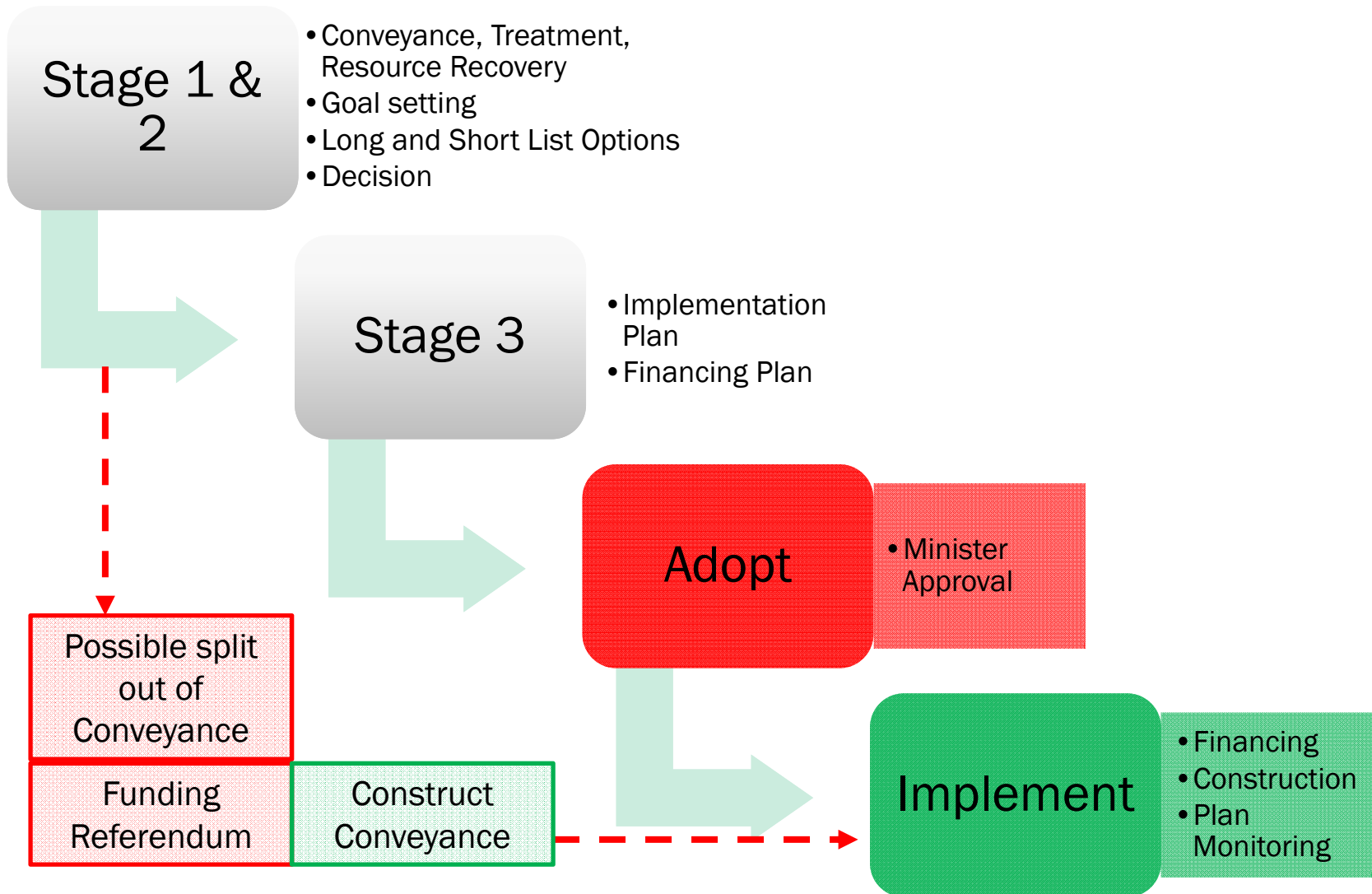
Liquid Waste Management Plan

ROAD MAP FOR 2018 & 2019

LWMP Road Map – Conventional

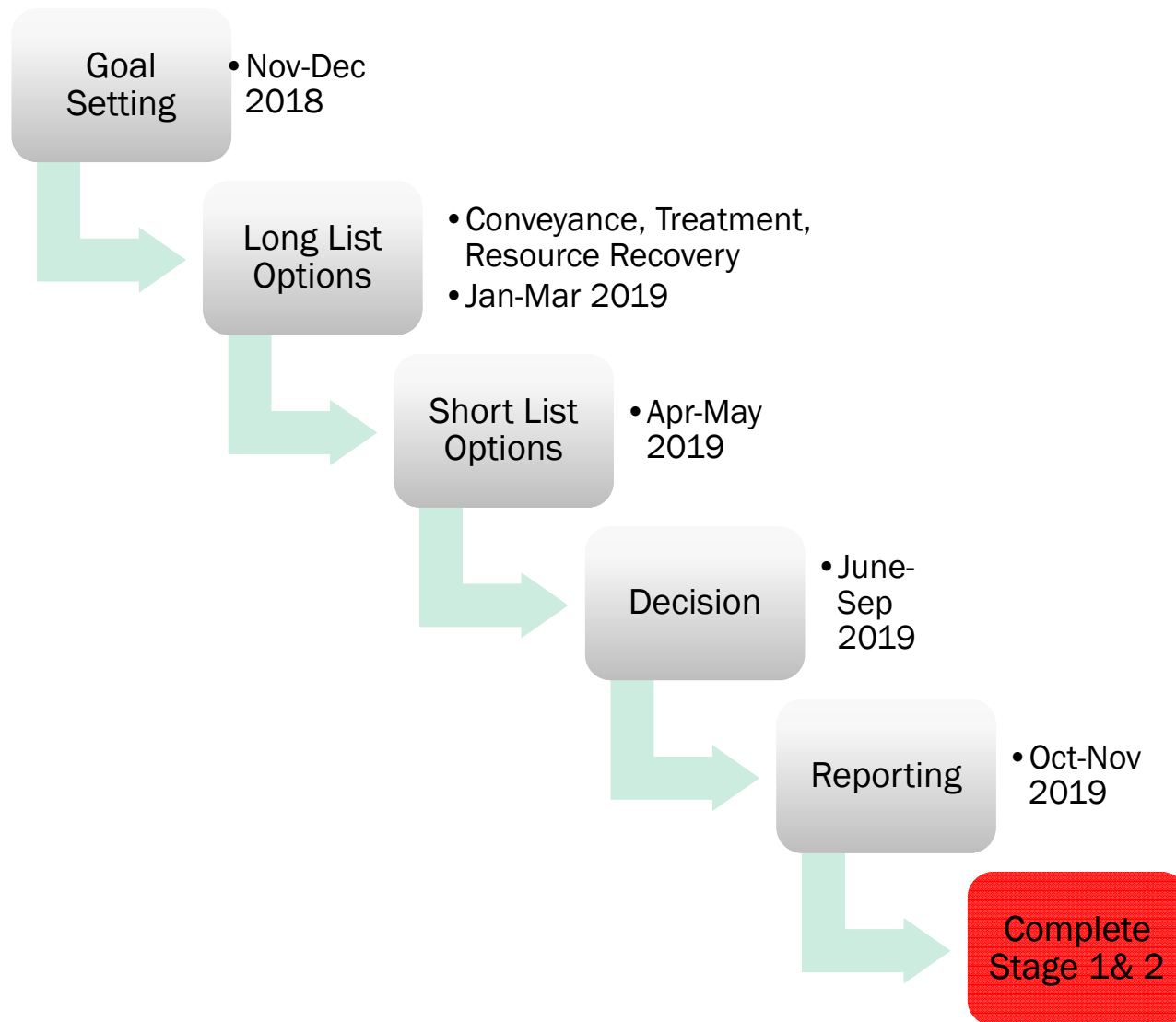


LWMP Road Map – CVSS



CVSS LWMP Objective – Complete
Stage 1 and 2 by end of 2019

LWMP Road Map – CVSS Stage 1 & 2



Liquid Waste Management Plan

PREVIEW OF TACPAC MTG 2 – GOAL SETTING

Goals – *What* are they?

The Aspirational Goals of the Community, or
The *wants*

- Characteristics of an ideal solution;
 - Population served and design horizon
 - Cost efficiency – up front or life-cycle?
 - How “clean” do we *want* the water to be?
- Co-benefits we would like to achieve;
 - Turning pipe ROW’s into trails
 - Other...

“Needs” & “Wants”

Needs - things that are outside the control of the CVRD community

- Provincial & Federal regulations
- Engineering Standards
- other

Role of the TAC to identify the Needs

“Wants”

Wants - things that are within the control of the CVRD community

- How much growth to allow for?
- Desirable and un-desirable locations
- Aspirational Goals
 - Non-regulated environmental goals
 - Sustainability goals
 - Social/community goals

Role of the PAC to identify, and prioritize, community wants

Goals – *Where* are they?

Contained within

- Official Community Plans
- Sustainability Plans
- Other Plans, e.g.
 - Parks Master Plan
 - Carbon neutral plan
- The hearts and minds of the people!

Goals – *Why* are we doing this?

If we know the aspirational goals at the start, they are considered all through the planning process, not just as an afterthought.

This makes them more likely – but not guaranteed – to be achieved.

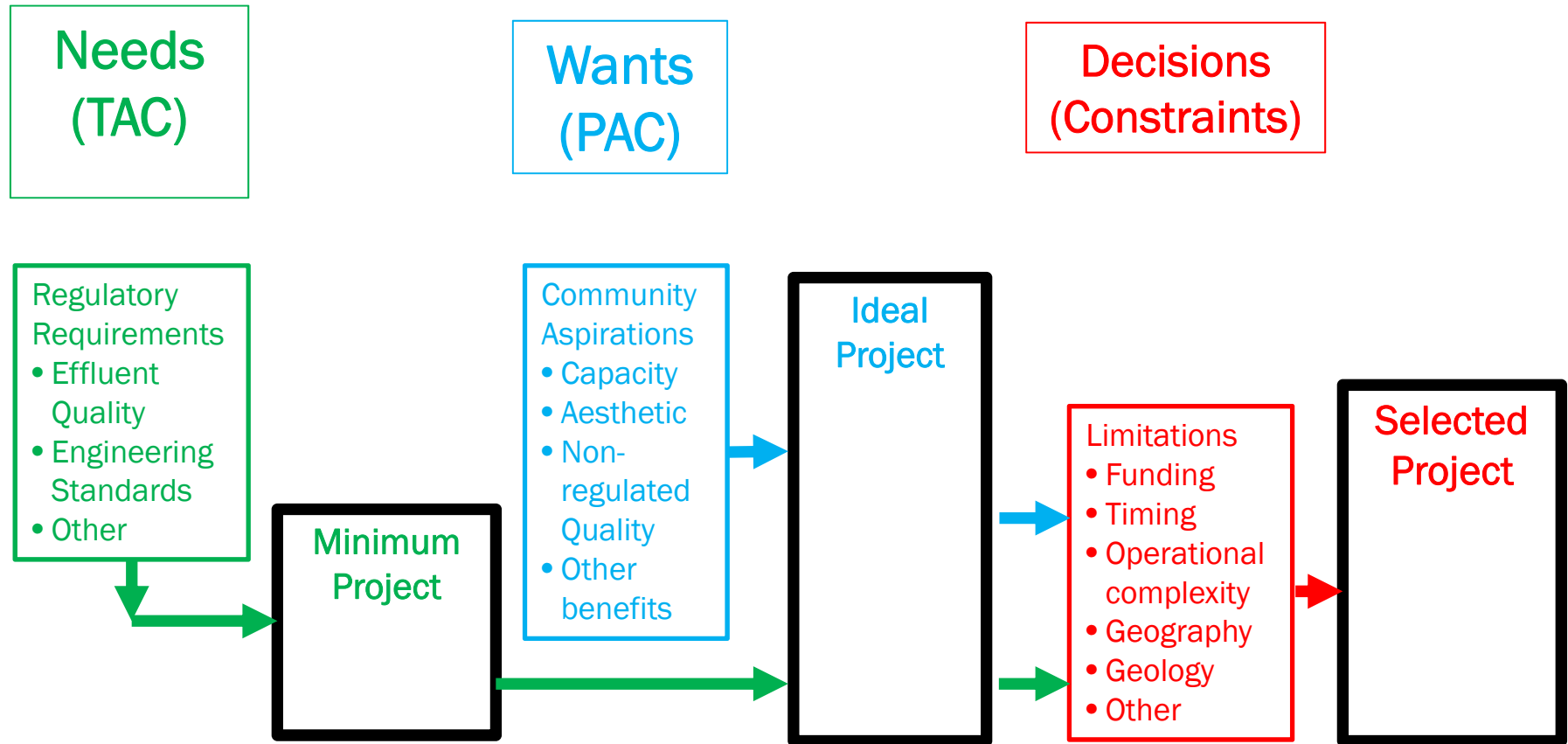
Goals – *How* to use them?

- As part of the *evaluation* of Options

But also

- As part of the *development* of Options

Reconciling Needs, Wants and Reality



For meeting # 2...

- Read through the Plans of interest to you – can any of their goals be actioned by the LWMP process?
- Bring your goals and ideas
- Bring an open mind!

After meeting # 2...

The goals we develop will be taken to public sessions on;

- Nov 27 - Courtenay
- Wed Nov 28 Comox
- Feedback to be reviewed at TACPAC 3 on Dec 11.

THANK YOU!

LWMP Public Consultation Plan

QUESTIONS?