



CVRD

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graph TD; A([Integration of Cobble Hill Sewer Systems Project]) --- B([Twin Cedars Sewer System]); A --- C([Cobble Hill Sewer System (Gallier Road)]); A --- D([More servicing for the Cobble Hill Core]);
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Integration of
Cobble Hill
Sewer Systems
Project

Twin Cedars
Sewer System

Cobble Hill
Sewer System
(Gallier Road)

More servicing
for the Cobble
Hill Core

**\$1.9 Million
Federal Gas Tax
Grant Funding**



**Funding will pay
for 100% of the
Project Cost**

Previously Completed Work Paid for, in part, by a Towns for Tomorrow Grant (\$400,000)



The installation of the
sewer lines to connect
Cobble Hill Sewer
(Gallier Road) with
Twin Cedars Treatment
Plant



Toilet Flushing
with
Reclaimed
Water

Toilet Flushing
with
Reclaimed
Water

Toilet Flushing
with
Reclaimed
Water



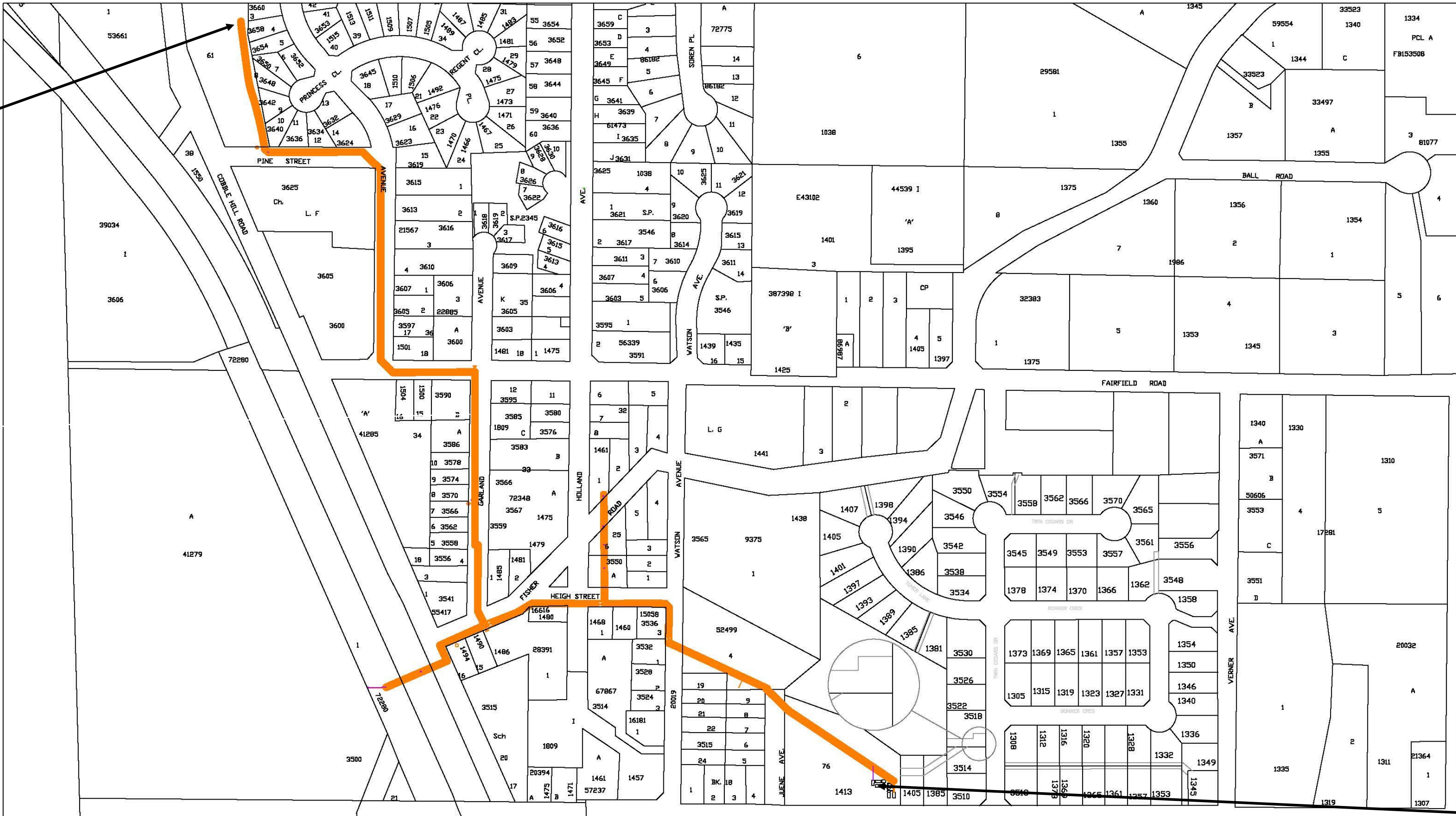
Irrigation with
Reclaimed
Water

Irrigation and toilet flushing in the
public washrooms

The installation of the effluent re-use
lines from Twin Cedars to Quarry
Park

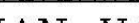
Existing Sewer Lines

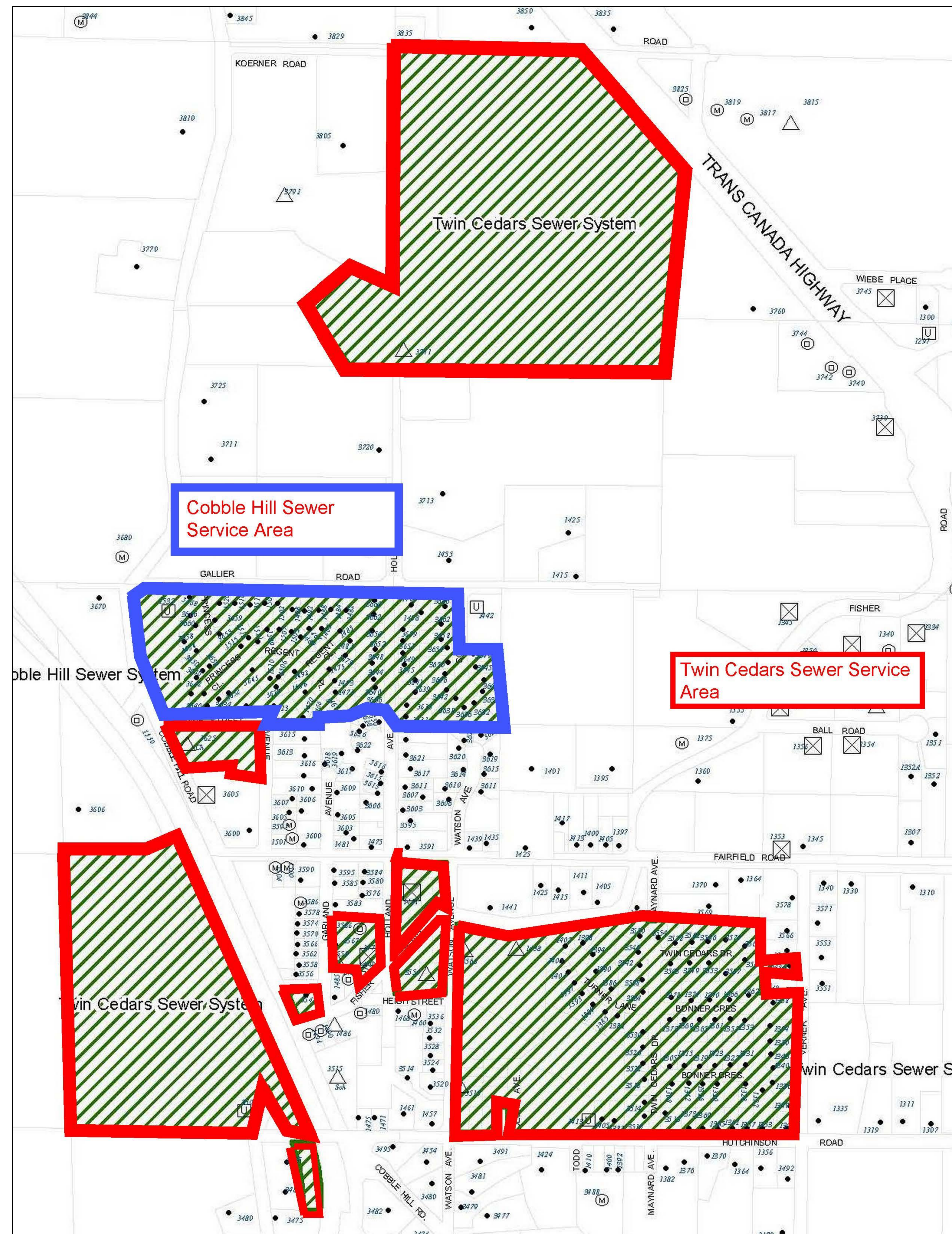
Cobble Hill
Wastewater
Plant



Twin Cedars
Wastewater Plant



			LEGEND - Existing services shown solid			 COWICHAN VALLEY REGIONAL DISTRICT			SHEET		
			SIDEWALK	S/W	SEWER	S	VALVE	◇	DATE:		
			WATER	W	MANHOLE	○	FLUSH VALVE	→	DRAWN:		
			CURB	C	CLEANOUT	□	HYDRANT	⊗	DESIGN BY:		
			DITCH	D	SILT TRAP	⊠	REDUCER	→	CHECKED BY:		
			DRAIN	D	CONC. BOX	⊠	PLUG	→	APPROVED BY:		
			GAS	G	CATCHBASIN	⊠	CAP	→	SCALE: NTS		
			SERVICE AREA BOUNDARY								
						175 INGRAM STREET DUNCAN, BRITISH COLUMBIA V9L 1N8 PH: 746-2530 FAX: 746-2543					
						PROJECT TITLE: Existing Lines					
						DESIGN DWG.No.					
No.	Date	Revision	Dwn	Apr.							



Cobble Hill Sewer
Service Area

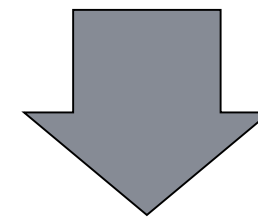
Twin Cedars Sewer
Service Area

Cobble Hill Sewer System

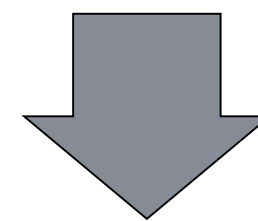


Cobble Hill Sewer System

Produces lower quality effluent (Class C)



25 years old = the typical lifespan of a treatment plant and disposal field using the technology in place at Cobble Hill Sewer



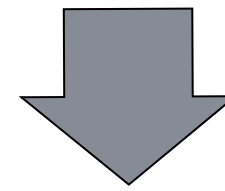
Requires costly upgrades:
Estimated at \$1.2 million

Twin Cedars Sewer System

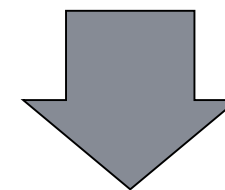


Twin Cedars Sewer System

Produces excellent quality wastewater (Class A, highest quality)



The treatment plant has the capacity to treat more wastewater



The treatment plant produces reclaimed water that is successfully used for irrigation in community parks and for toilet flushing

Upgrades to Cobble Hill Sewer (Gallier Road)

Convert the existing treatment plant to a pump station that will pump the sewage to Twin Cedars for treatment

Replace the existing disposal fields with new Rapid Infiltration Beds for ground disposal of the sewage treated at Twin Cedars

Installation of an Odour Control Unit for the pump station

Upgrades to Twin Cedars Wastewater Treatment Plant

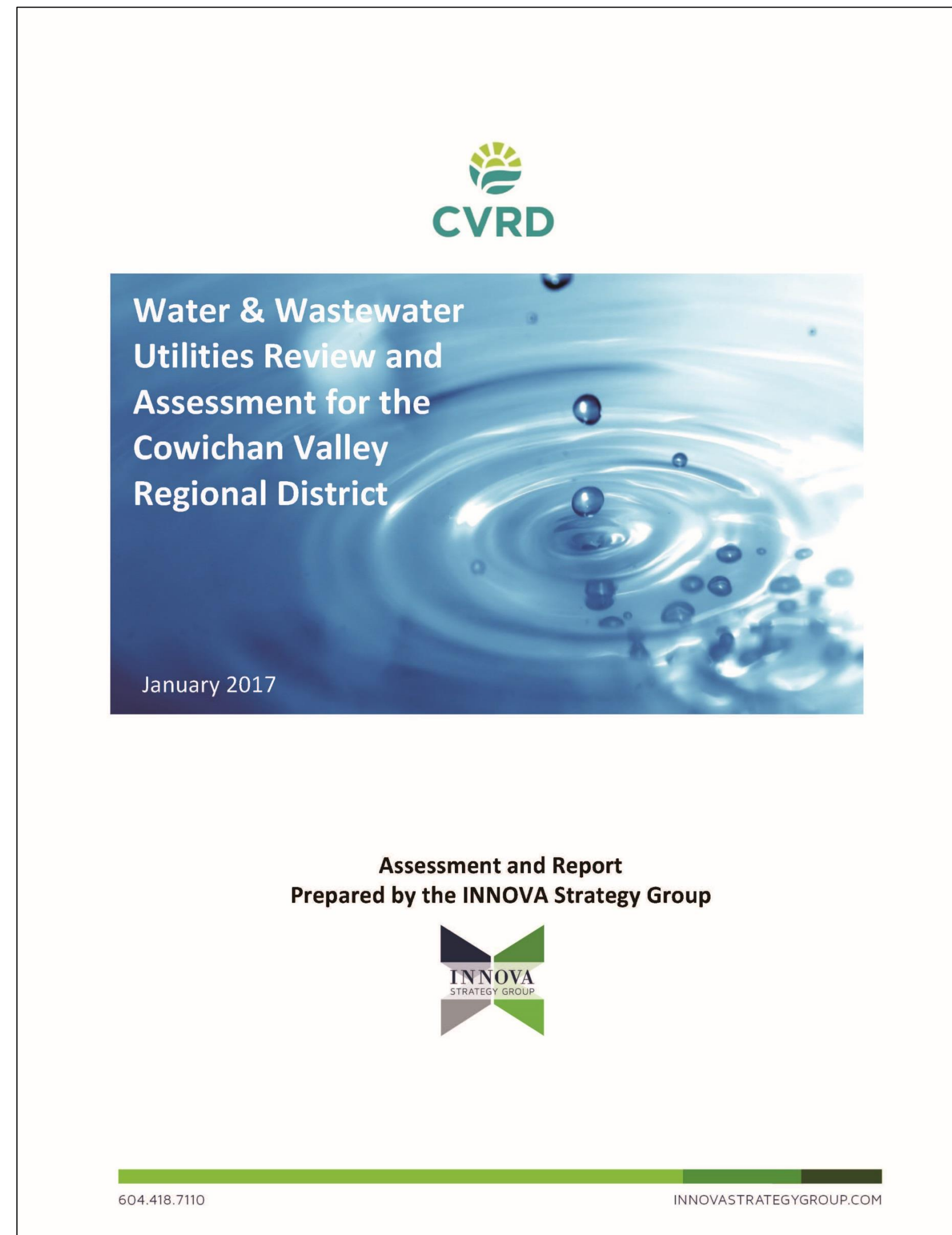
Upgrade of the Membranes (a critical treatment component) with new technology and other key system components

Addition of one more storage tank and dedicated supply line for expansion of the Reclaimed Water Program for irrigation to community parks

Aesthetic Upgrades

- Odour Control Unit
- Replacement of treatment components to newer and quieter models
- Additional hedging and buffering of the wastewater plant from the roadside

Utility Review and Assessment




The full report is available for viewing on the CVRD website at www.cvrld.bc.ca/utilities

The majority of the 35 CVRD utilities are not collecting enough funds to be sustainable. Overall, a 67% increase in revenue is required to generate the required funds for long term capital upgrades, refurbishment, and replacement of infrastructure. The following components will be critical to achieving financial sustainability:

Increase Rates – Based on individual system asset condition assessments, increase rates either in full, or incrementally, to reach a financial steady-state for each utility. Ensure users understand the precise allocations including separation of operations and asset replacement funding required. This will be very challenging for the smaller utility systems with some facing a 200% increase in rates to achieve sustainability.

Determine Alternate Funding Sources – Seek every opportunity to leverage federal and provincial funding to support capital replacement and improvements. Consider the use of regional gas tax funding to assist with immediate utility deficits.

Optimize CVRD Utility Operations – Based on the findings of this report and through continuous improvement, ensure operations are efficient and cost-effective throughout the CVRD. There is an immediate opportunity to increase productivity and capacity through the following specific measures:

- 
- Consolidate utilities whenever possible
 - Include a qualified trades electrician/instrumentation technician in the existing operations staff roster
 - Develop Standard Operating Procedures (SOP's)
 - Increase the use of technology to monitor, measure and manage utilities (system integration, digital work processes, asset management, GIS, Open Data, mobile solutions, etc.).

Report Budget Impacts – This report contains recommendations that both can be implemented within the existing CVRD resource and budget framework while others will require additional resources. The CVRD and its governance stakeholders will need to review the financial impacts of the multi-utility model, fees and existing budgets in order to provide additional resources required to execute fully on these recommendations. Without these budget increases the CVRD will not be capable of delivering the changes required nor the services expected by users.

Direct Benefits to the Twin Cedars Community

Reduced rates

- The cost to operate the system will be shared among more customers resulting in lower rates for existing customers

Odour control, noise reduction and other upgrades

- Installation of an odour control unit, enclosure of the screening building, additional landscaping and buffering material, replacement of system components to quieter models

Membrane upgrade cost (\$110,000) included as part of the project

- Replacement of the membranes (a critical component in the treatment process) is required approximately every 10 years and the existing membranes are due for replacement

Direct Benefits to the Cobble Hill (Gallier Road) Community

Eliminates the need to upgrade the existing treatment plant

- The replacement costs of the treatment plant is estimated at \$1.2 million

The installation of an odour control unit at the pump station

- Improvements to air quality

Benefits of the Project to the Overall Community

Financial Benefit

- The greater the number of customers contributing to the operation and maintenance of a utility, the lower the costs are to individual customers

Long-term stability

- Provides an environmentally sound and cost effective solution for the wastewater treatment needs of the community for the long term future

Expansion of Reclaimed Water Use

- Reduces the demand on the potable water system

Liability

- Future replacement costs and liability is shared among more customers reducing the cost to each customer

Purafil Odour Control Unit



Same unit that will be installed at Twin Cedars treatment plant and Gallier Road pumpstation

Maple Hills Wastewater Treatment Plant – 3504 Sitka Way off Hutchinson Road

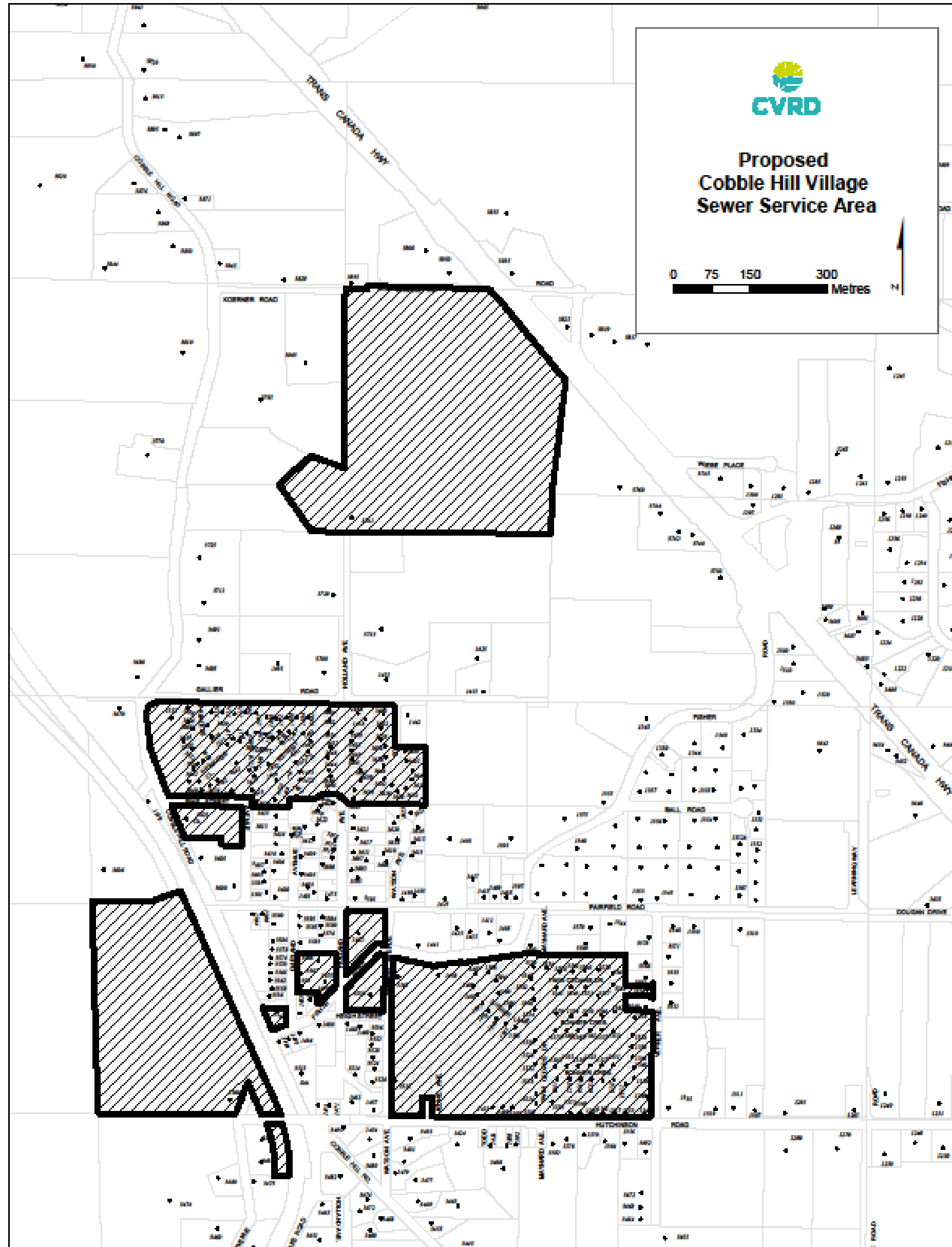
Expansion of Reclaimed Water Use for Community Parks



Cobble Hill Commons



Cobble Hill Cenotaph



Proposed New Service Area 'Cobble Hill Village Sewer Service Area'

Cobble Hill Village Sewer Service Area Rates

	Parcel Tax	User Fees (Bi-annual)	Total
Cobble Hill Sewer (Gallier Road)	\$392.00	\$380.00*	\$772.00**
Twin Cedars Sewer	\$657.00	\$475.00*	\$1132.00
Cobble Hill Village Sewer	\$400.00	\$500.00	\$900.00

* 2018 rate effective May 2018

** Cobble Hill Sewer treatment plant requires costly upgrades estimated at \$1.2 million = \$1500.00 annual cost/ per customer

Questions?