Budget Summary Reference

Appendix B

RCU-1

Project/Capital Name: WW-0051 - French Creek Pollution Control Centre Influent Pipe Repair

Division:Regional & Community UtilitiesService Area:Wastewater - Northern

Participants: Parksville, Qualicum Beach, E, G

 Project/Capital Cost:
 \$ 1,005,000

 2023 Tax Implication:
 \$

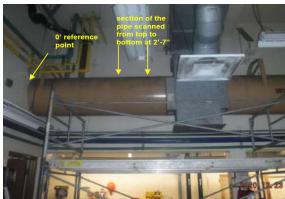
	2023	2024	2025	2026	2027
Capital Budget:	1,005,000	-	-	-	-
Operating Impact	-	-	-	-	-
Funding Sources:					
Cash-in-lieu Reserve	-	-	-	-	-
Reserves	1,000,000	-	-	-	-
Borrowing	-	-	-	-	-
Taxation/User Funded	5,000	-	-	-	-
	\$1,005,000	\$0	\$0	\$0	\$

Scope:

The FCPCC Influent Pipe directs incoming flow from the property boundary of the French Creek Pollution Control Centre (FCPCC) to the Headworks for treatment. This pipe is a combination of reinforced concrete and steel, both buried and exposed inside the building.

Inspection and thickness testing indicates that the pipe requires replacement or rehabilitation. There are no simple options for twinning this pipe and a temporary bypass pumping system will be required to facilitate construction.





Implications if not approved:

This is the only pipeline feeding FCPCC. Failure of this pipe will stop all treatment of wastewater at FCPCC and result in a major backup and or spill in the wastewater collection system

Budget Summary Reference

Appendix B

Project/Capital Name: WW-0039 - French Creek Pollution Control Centre Bay Avenue Forcemain Replacement

Division: Regional & Community Utilities

Service Area:Wastewater - NorthernParticipants:Parksville, Area GProject/Capital Cost:\$ 3,235,820

2023 Tax Implication:

	2023	2024	2025	2026	2027
Capital Budget:	105,940		-	-	278,440
Operating Impact	-	-	-	-	-
Funding Sources:					
Cash-in-lieu Reserve	-	-	-	-	-
Reserves	72,900	-	-	-	212,625
Grants	-	-	-	-	-
DCC	17,100	-	-	-	49,875
Taxation/User Funded	15,940	-	-	-	15,940
-	\$105,940	\$0	\$0	\$0	\$278,440

Scope:

The Bay Avenue Forcemain has been in service since 1976 and is constructed with ductile iron pipe. This pipeline is in the latter part of its theoretical design life, and a detailed condition assessment is required to determine the remaining service life of the pipeline. \$2.85 Million has been accounted for in 2028 in preparation for the renewal of this pipeline, but the actual renewal date will be determined from the condition assessment.



Implications if not approved:

This is an asset management project. Not replacing this pipeline before it fails due to age and wear will have a significant impact in the ability to treat and transfer wastewater from Parksville and parts of Area G.

Budget Summary Reference

Appendix B

RCU-3

Project/Capital Name: WW-0018 - French Creek Pollution Control Centre Auto Thermophilic Aerobic Digester Mixer Replacemt

Division: Regional & Community Utilities
Service Area: Wastewater - Northern

Participants: Wastewater - Northern
Parksville, Qualicum Beach, E, G
Project/Capital Cost: \$ 4,750,000

2023 Tax Implication:

2023	2024	2025	2026	2027
2,150,000	2,544,432	-	-	-
-	-	-	-	-
-	-	-	-	-
1,290,000	1,504,432	-	-	-
-	-	-	-	-
860,000	1,040,000	-	-	-
\$2,150,000	\$2,544,432	\$0	\$0	\$0
	2,150,000 - - 1,290,000 - 860,000	2,150,000 2,544,432	2,150,000	2,150,000

Scope:

The Auto Thermophilic Aerobic Digester (ATAD) tanks at FCPCC Utilizes Turburator mixers for mixing and oxygen. These Mixers are no longer manufactured and do not mix the tanks well. Additional submersible mixers are lowered into the tanks to assist mixing and reduce solids deposition. These submersible mixers are prone to failure due to the temperature of the sludge in the process. Upgrading these agitators with modern units will improve the mixing and improved aeration control will have many benefits including, mechanical reliability, reduced solids accumulation in the tank, reduced odors and process stabilization.



Implications if not approved:

Custom spare parts will need to be machined to keep the existing Turburators running as these units are no longer manufactured. This project will have a positive effect on odour reduction.

Budget Summary Reference

Appendix B

RCU-4

Project/Capital Name:

WW-0038 - Greater Nanaimo Pollution Control Centre Grit and Sedimentation Tank Relining

Division: Regional & Community Utilities

Service Area:Wastewater - SouthernParticipants:Nanaimo, LantzvilleProject/Capital Cost:\$ 7,070,0002023 Tax Implication:\$ -

	2023	2024	2025	2026	2027
Capital Budget:	1,430,000	3,440,000	2,125,000	-	-
Operating Impact	-	-	-	-	-
Funding Sources:					
Cash-in-lieu Reserve	-	-	-	-	-
Reserves	1,430,000		-	-	-
Borrowing	-	3,440,000	2,125,000	-	-
Taxation/User Funded	-	-	-	-	-
	\$1,430,000	\$3,440,000	\$2,125,000	\$0	\$
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Scope:

The Grit and Sedimentation tanks in the Greater Nanaimo Pollution Control Centre are scheduled for relining of the internal wetted concrete surfaces and the replacement of the collector systems. This is part of the GNPCC Preventative Maintenance and Asset Management Program



Implications if not approved:

One of the functions of the outer layer in structural concrete is to protect the reinforcing steel from moisture ingress and the associated corrosion. Failing to carry out this remedial concrete work will ultimately result in structural failure of the tanks. Completing this work will extend the life by at least 30 years.

Budget Summary Reference

Appendix B RCU-5

Project/Capital Name: WW-0022 - Nanoose Bay Pollution Control Centre Wastewater Nanoose Forcemain Replacement Ph1

Division: Regional & Community Utilities

Service Area: Wastewater - Nanoose
Participants: Electoral Area E
Project/Capital Cost: \$ 7,249,780
2023 Tax Implication: \$ -

	2023	2024	2025	2026	2027
Capital Budget:	1,900,000	-	_	_	2,000,000
Operating Impact	-	-	-	-	-
Funding Sources:					
Cash-in-lieu Reserve	-	-	-	-	-
Reserves	1,240,000	-	-	-	-
Borrowing	660,000	-	-	-	2,000,000
DCC	-	-	-	-	-
	\$1,900,000	\$0	\$0	\$0	\$2,000,000

Scope:

Wastewater Forcemains were installed by a contractor hired by the Fairwinds Developer. Once installed and operational, the sewer system was turned over to the RDN to operate and maintain.

Poor quality workmanship by the contractor and lack of quality control oversight by the developer has resulted in inferior piping installation from a piping material perspective and lack of protection of the piping through the use of inferior or, in places, no suitable pipe bedding material. These pressurized pipes have been prone to several failures, typically caused by sharp rocks penetrating the pipe wall.

This project will start replacing the pressurized forcemains that have been prone to failure in a systematically staged approach to eliminate the risk of a breach of untreated sewage to the environment.

Wastewater Lift Stations in Nanoose have been in service for over 30 years and are requiring major maintenance to replace worn and corroded piping, valves and pump electrical and control infrastructure to ensure asset reliability. The configuration of the piping and valves will be upgraded to minimize the hazard of confined space work for operating personnel during routine maintenance. an additional future spending or \$2,530,431 is anticipated in 2028.







Implications if not approved:

Continued risk of pipeline breaks and operational system reliability, which could result in an environmental spill



Budget Summary Reference

Appendix B RCU-6

WW-0032 - Greater Nanaimo Pollution Control Centre Basement Motor Control Centre Replacement Project/Capital Name:

Regional & Community Utilities

Division: Service Area: Wastewater - Southern Participants: Nanaimo, Lantzville Project/Capital Cost: 2,067,470

2023 Tax Implication: 10,235

	2023	2024	2025	2026	2027
Capital Budget:	420,235	1,127,235	-	-	-
Operating Impact	-	-	-	-	-
Funding Sources:					
Cash-in-lieu Reserve	-	-	-	-	-
Reserves	410,000	-	-	-	-
Borrowing	-	1,117,000	-	-	-
Taxation/User Funded	10,235	10,235	-	-	-
-	\$420,235	\$1,127,235	\$0	\$0	\$0

Scope:

The Motor Control Centres (MCCs) located in the basement at the GNPCC Facility are past the design life and are a risk to plant reliability through the failure of components that are now obsolete. This project is required to be carried out to maintain operational integrity. It has been determined through historical projects that it is most cost effective and the least disruptive to the operation to purchase pre-assembled Electrical Cabinets that are fabricated in a controlled workshop environment as opposed to retrofitting and replacing components in the field. This shop assembly process allows for strict quality control and Factory Acceptance Testing, where the RDN personnel and Engineering Specialist from the design consultant can witness the performance of the assembled panels through simulated testing prior to shipping to site and installation. This process substantially reduces the installation time on site and risk of a delayed start up to the operation.



Implications if not approved:

Not completing this work will result in operational challenges and downtime as spare components within these MCCs are obsolete.

Budget Summary Reference

Appendix B

Project/Capital Name: WW-0042 - Greater Nanaimo Pollution Control Centre Biogas Blower Relocation

Division: Regional & Community Utilities

Service Area: Southern Community

Participants: Nanaimo

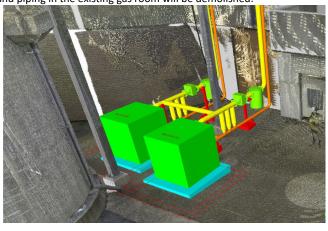
 Project/Capital Cost:
 \$ 984,455

 2023 Tax Implication:
 \$ 4,880

	2023	2024	2025	2026	2027
Capital Budget:	710,880	-	-	-	-
Operating Impact	-	-	-	-	-
Funding Sources:					
Cash-in-lieu Reserve	-	-	-	-	-
Reserves	706,000	-	-	-	-
Borrowing	-	-	-	-	-
Taxation/User Funded	4,880	-	-	-	-
-	\$710,880	\$0	\$0	\$0	\$

Scope:

The intent of the project is to create a new open-air gas circulation blower area to the immediate south of the existing blower room. The new blower area will be protected from weather by a canopy-type cover, and utilize new equipment bases and supports. Existing gas piping will be reused, modified, and extended to convey the biogas to/from the new location, likely requiring an extension to the existing pipe rack at digester 1. Existing instruments and equipment currently located within the gas room will be relocated and/or replaced based on condition and age. Manometer gas pressure lines will be re-routed primarily near the gas room, but also at the location of PCV-645 to improve maintenance access. All biogas-related equipment and piping in the existing gas room will be demolished.



Implications if not approved:

The gas room has a risk of contaminating the atmosphere with biogas. Main sources: Vibration causing damage to piping equipment, poor ventilation.

Budget Summary Reference

Appendix B

RCU-8

Project/Capital Name: WW-0036 - Greater Nanaimo Pollution Control Centre Wellinton Pump Station Generator Upgrade

Division: Regional & Community Utilities

Service Area: **Southern Community**

Participants:

Nanaimo

Project/Capital Cost: 2023 Tax Implication: \$ 3,783,712 18,731

	2023	2024	2025	2026	2027
Capital Budget:	1,445,981	2,307,731	-	-	-
Operating Impact	-	-	-	-	-
Funding Sources:					
Cash-in-lieu Reserve	-	-	-	-	-
Reserves	1,427,250		-	-	-
Borrowing	-	2,289,000	-	-	-
Taxation/User Funded	18,731	18,731	-	-	-
	\$1,445,981	\$2,307,731	\$0	\$0	\$0

Scope:

Equipment upgrades and replacements are required due to the age of this facility (40+ years). The work will address risks of spills to the environment, maintenance and service interruptions, ventilation, and odour. The work is included in the 5 Year Capital Plan. This will involve:

- Replacing eroded process piping and pipe supports within the pump station
- Relocating HVAC equipment and ducting to improve air quality in the wet well
- Replacing odour control with system compliant with electrical classification
- Replacement of obsolete programmable Logic Control System
- Replacement of obsolete pump motor control centers and
- Replacement of corroded structural steel platform within the pump station
- Add an on-site standby electrical generator





Implications if not approved:

Not proceeding with this project may result in environmental incidents and loss of service to the public.

Budget Summary Reference

Appendix B

RCU-9

Project/Capital Name: WW-0041 - Greater Nanaimo Pollution Control Centre North Slope Interceptor Beach Erosion

Division: Regional & Community Utilities

Service Area:Wastewater - SouthernParticipants:Nanaimo, LantzvilleProject/Capital Cost:\$ 1,414,2752023 Tax Implication:\$ 7,025

	2023	2024	2025	2026	2027
Capital Budget:	1,312,025		-	-	-
Operating Impact	-	-	-	-	-
Funding Sources:					
Cash-in-lieu Reserve	-	-	-	-	-
Reserves	1,305,000	-	-	-	-
Borrowing	-	-	-	-	-
Taxation/User Funded	7,025	-	-	-	-
	\$1,312,025	\$0	\$0	\$0	\$

Scope:

The Grit and Sedimentation tanks in the Greater Nanaimo Pollution Control Centre are scheduled for relining of the internal wetted concrete surfaces and the replacement of the collector systems. This is part of the GNPCC Preventative Maintenance and Asset Management Program



Implications if not approved:

One of the functions of the outer layer in structural concrete is to protect the reinforcing steel from moisture ingress and the associated corrosion. Failing to carry out this remedial concrete work will ultimately result in structural failure of the tanks. Completing this work will extend the like by at least 30 years.

Budget Summary Reference

Appendix B RCU-10

Project/Capital Name: SW-0015 - CRTS Containerized Waste Water Treatment Plant Upgrade/Replacement

Division: Regional & Community Utilities

Service Area:Solid WasteParticipants:All Service AreasProject/Capital Cost:\$ 606,0002023 Tax Implication:\$ 3,000

	2023	2024	2025	2026	2027
Capital Budget:	453,000	153,000	-	-	-
Operating Impact	-	-	-	-	-
Funding Sources:					
Cash-in-lieu Reserve	-	-	-	-	-
Reserves	450,000	150,000	-	-	-
Borrowing	-	-	-	-	-
Taxation/User Funded	3,000	3,000	-	-	-
<u>-</u>	\$453,000	\$153,000	\$0	\$0	\$(

Scope:

The containerized Waste Water Treatment Plant (WWTP) at the Church Road Transfer Station (CRTS) was installed during the facilities upgrade in 2009. The CRTS WWTP treats all of the leachate generated on-site, from the tipping of residential and commercial wastes. Leachate, once treated and processed into non-potable water is reused onsite to wash the tipping floors, eliminating slippery conditions, reducing odor concerns, while maintaining the sites overall cleanliness. To date the CRTS WWTP has processed more than 1.85 million litres of leachate into reclaimed usable wash water, saving more than \$4.5 million in pumping and hauling fees. The CRTS WWTP has reached the end of its useful life, and is scheduled for replacement and upgrade. Staff will consider alternatives, including infrastructure upgrades, variations on plant design, and new/emerging technology, before moving forward with the project.



Implications if not approved:

Increased annual expenses in excess of \$400,000 for pumping and hauling of leachate. Increased demand on local water systems, in order to maintain a comparable level of site cleanliness.

2023 Details of Recommended Budget Summary Reference	Projects or Other Capital >	> \$500k			Appendix B PR-1
Project/Capital Name:	PR-0039 - Anders Dorrit	Park Development			
Division:	Recreation & Parks Serv	vices			
Service Area:	Community Parks				
Participants:	Electoral Area C				
Project/Capital Cost:	\$ 737,000				
2023 Tax Implication:	\$ -				
	2023	2024	2025	2026	2027
Capital Budget:	400,000	-	-	-	-
Operating Impact	-	-	-	-	-
Funding Sources:					
Grants	400,000	-	-	-	-
Reserves	-	-	-	-	-
Borrowing	-	-	-	-	-
Taxation/User Funded	-	-	-	-	-
	\$400,000	\$0	\$0	\$0	\$0
Scope:	Board approved budget 2022 and included a new Additional funds are rec boardwalks and foot bri	w parking lot, plaza quired in 2023 to co	area and planting. mplete phase 2, whi	ch includes trail im	
Implications if not approved:	The trail improvements, was presented and supprommunity but requires upgrades it requires.	oorted by the comm	unity. The trail is cu	rrently well used b	y the

Budget Summary Reference					Appendix E PR-2
Project/Capital Name:	PR-0041 - Errington Pla	yground			
Division:	Recreation & Parks Serv	vices			
Service Area:	Community Parks				
Participants:	Electoral Area F				
Project/Capital Cost:	\$ 1,405,521				
2023 Tax Implication:	\$ -				
	2023	2024	2025	2026	2027
Capital Budget:	300,000	507,000	-	-	-
Operating Impact	-	-	-	-	-
Funding Sources:					
Grants	300,000	500,000	-	-	-
Reserves	-	7,000	-	-	-
Borrowing	-	-	-	-	-
Taxation/User Funded	-	-	-	-	-
	\$300,000	\$507,000	\$0	\$0	\$(
	additional \$507,000 is r	equired in 2024 to Co	onstruct a sports co	urt within the par	к.

2023 Details of Recommended Budget Summary Reference					PR-3
Project/Capital Name:	PR-0056 - Coats Marsh R	egional Park Weir R	eplacement		
Division:	Recreation & Parks Servi				
Service Area:	Regional Parks				
Participants:	All Service Areas				
Project/Capital Cost:	\$ 1,011,261				
2023 Tax Implication:	\$ 5,021				
Capital Budget:	2023 955,021	2024	2025	2026	2027
Operating Impact	-	-	-	-	-
Funding Sources:					
Grants	-	-	-	-	-
Reserves	950,000	-	-	-	-
Borrowing	-	-	-	-	-
Taxation/User Funded	5,021	-	-	-	-
	\$955,021	\$0	\$0	\$0	\$(
	funds were reserved for	sed to complete an a the design and cons			essment a
		the design and cons O was provided for	truction of a new v	veir. During the asse	

2023 Details of Recommended	d Projects	or Other Capita	l > \$500k			Appendix B
Budget Summary Reference						PR-4
Project/Capital Name:	PR-005	57 - Ravensong A	Aquatic Centre Expai	nsion		
Division:	Recrea	ition & Parks Se	rvices			
Service Area:	Raven	song Aquatic Ce	ntre			
Participants:	Parksv	ille, Qualicum B	each, F, G, H			
Project/Capital Cost:	\$	31,085,773				
2023 Tax Implication:	\$	77,328				
		2023	2024	2025	2026	2027
Capital Budget:	-	85,000	9,237,492		21,763,281	2027
Operating Impact		-	891,000	891,000	891,000	891,000
			,,,,,,	,,,,,,,	,,,,,,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Funding Sources:						
Cash-in-lieu Reserve		-	-	-	-	-
Reserves		-	5,500,000	-	-	-
Borrowing		85,000	3,660,164	-	21,685,953	-
Taxation/User Funded		-	968,328	891,000	968,328	891,000
		\$9,322,492	\$891,000	\$891,000	\$22,654,281	\$891,000
		40,011,101	+001,000	Ψ002/000	ψ==)00 ·)=01	\$252,000
	from t and ph		ed amount of \$19,93	14,117 to reflect th	ne Board's preferred	design option
Implications if not approved:						

Budget Summary Reference

Appendix B

Project/Capital Name: VH-2023 - Pumper Truck Vehicle Replacement

Division:Development & Emergency ServicesService Area:Nanoose Bay Volunteer Fire Department

Participants: Electoral Area E
Project/Capital Cost: \$ 800,000
2023 Tax Implication: \$ -

	2023	2024	2025	2026	2027
Capital Budget:	400,000	400,000	-	-	-
Operating Impact	-	-	-	-	-
Funding Sources:					
Cash-in-lieu Reserve	-	-	-	-	-
Reserves	400,000	400,000	-	-	-
Borrowing	-	-	-	-	-
Taxation/User Funded	-	-	-	-	-
-	\$400,000	\$400,000	\$0	\$0	\$0

Scope:

Nanoose Bay Volunteer Fire Department has an aging fire engine that is quickly reaching end of life. Additionally, when originally brought into the fleet, Engine 16 had some issues with weight capacity when loaded with water, and thus was retrofitted with a smaller (800 gal) water tank in order to be within the specs of the axle load. This volume of water is less than other engines that are typical within the district, which usually carry approximately 1,000 gal of water. Replacement of Engine 16 would ensure insurance availability, which cannot be secured on a vehicle over 20 years old for underwriters insurance, while also ensuring a higher initial water capacity for fire response.



Implications if not approved:

Nanoose Bay Volunteer Fire Department has an aging fire engine that is quickly reaching end of life. If this engine is not replaced, the community will be without fire protection services as the aging engine will not be insurable beyond the maximum vehicle age threshold.

2023 Details of Recommended Projects or Other Capital > \$500k	Appendix B
Budget Summary Reference	PD-2

Project/Capital Name: VH-2026 - E-61 Fire Truck Replacement
Division: Development and Emergency Services
Service Area: Dashwood Volunteer Fire Department

Participants: Electoral Area F, G & H
Project/Capital Cost: \$ 910,000

2023 Tax Implication: \$ -

	2023	2024	2025	2026	2027
Capital Budget:	300,000	610,000	-	-	-
Operating Impact	-	-	-	-	-
Funding Sources:					
Cash-in-lieu Reserve	-	-	-	-	-
Reserves	300,000	460,000	-	-	-
Borrowing	-	150,000	-	-	-
Taxation/User Funded	-	-	-	-	-
	\$300,000	\$610,000	\$0	\$0	\$(

Scope:

Dashwood Volunteer Fire Department needs to purchase a new Fire Engine Apparatus to replace the current engine that is reaching end of life. The current engine is almost 20 years old, which is the maximum life span for front line service vehicles in order to maintain good mechanical reliability, as well as to be insured by underwriter insurance. This apparatus is also a vital component to the superior tender shuttle rating within the Oceanside area. The new engine apparatus is designed with a bigger pump capacity as well as better operational configuration.



Implications if not approved:

Dashwood Volunteer Fire Department's Engine 61 is at the end of its life and will be uninsurable once it goes beyond the 20 year life span. Short term extensions are possible but are a temporary measure, intended to apply to those cases where there is a delay in delivery/manufacture of a vehicle. If this apparatus is not replaced, insurance and tender shuttle rating may not be possible.

Budget Summary Reference

Appendix B

Project/Capital Name: VH-2029 - Wildland Engine Vehicle Replacement

Division:Development and Emergency ServicesService Area:Bow Horn Bay Volunteer Fire Department

Participants: Electoral Area H
Project/Capital Cost: \$ 500,000
2023 Tax Implication: \$ -

	2023	2024	2025	2026	2027
Capital Budget:	500,000	-	-	-	-
Operating Impact	-	-	-	-	-
Funding Sources:					
Cash-in-lieu Reserve	-	-	-	-	-
Reserves	250,000	-	-	-	-
Borrowing	250,000	-	-	-	-
Taxation/User Funded	-	-	-	-	-
-	\$500,000	\$0	\$0	\$0	\$

Scope:

Bow Horn Bay Volunteer Fire Department to purchase a Wildland Firefighting Apparatus to be used as a multi purpose vehicle. This apparatus will be used to transport firefighters to a fire incident of various scenarios as well as to be used for first responder services. A Wildland fire engine has 4 wheel drive capability, can drive through rough terrain, and the added capability of pumping water while driving rather than having to park for the water to flow. In lieu of purchasing a Command Vehicle or Duty Truck for the Fire Chief and a separate traditional Engine, the Wildland fire engine is smaller and is better suited to respond to first response medical incidents.



Implications if not approved:

Bow Horn Bay currently does not have a Command Vehicle (or smaller vehicle) for the Fire Chief or to provide first responder services and requires another engine as part of their capital plan. This purchase would result in not requiring two separate vehicles which would be more costly overall.