CAPITAL REGIONAL DISTRICT

FIVE YEAR CAPITAL EXPENDITURE PLAN SUMMARY - 2024 to 2028

Service No.	3.798C Debt - Core Area Wastewater Treat	Carry Forward from 2023	2024	2025	2026	2027	2028	TOTAL
EXPENDITURE								
Buildings		$0	$0	$0	$0	$0	$0	$0
Equipment		$300,000	$550,000	$0	$0	$0	$0	$550,000
Land		$0	$0	$0	$0	$0	$0	$0
Engineered Structures		$6,465,000	$32,270,000	$16,300,000	$7,475,000	$12,025,000	$12,150,000	$80,220,000
Vehicles		$0	$0	$0	$0	$0	$0	$0
		$6,765,000	**$32,820,000**	**$16,300,000**	**$7,475,000**	**$12,025,000**	**$12,150,000**	**$80,770,000**
SOURCE OF FUNDS								
Capital Funds on Hand		$0	$0	$0	$0	$0	$0	$0
Debenture Debt (New Debt Only)		$5,665,000	$28,565,000	$14,600,000	$6,075,000	$10,275,000	$10,750,000	$70,265,000
Equipment Replacement Fund		$400,000	$805,000	$700,000	$400,000	$750,000	$400,000	$3,055,000
Grants (Federal, Provincial)		$0	$0	$0	$0	$0	$0	$0
Donations / Third Party Funding		$0	$0	$0	$0	$0	$0	$0
Reserve Fund		$700,000	$3,450,000	$1,000,000	$1,000,000	$1,000,000	$1,000,000	$7,450,000
		$6,765,000	**$32,820,000**	**$16,300,000**	**$7,475,000**	**$12,025,000**	**$12,150,000**	**$80,770,000**

CAPITAL REGIONAL DISTRICT

Project Number
Project number format is "yy-##"
"yy" is the last two digits of the year the project is planned to start.
"##" is a numberical value. For example, 23-01 is a project planned to start in 2023.

For projects in previous capital plans, use the same project numbers previously assigned.

Capital Project Description
Briefly describe project scope and service benefits.
For example: *"Full Roof Replacement of a 40 year old roof above the swimming pool area; The new roofing system meets current energy standards with an expected service life of 35 years".*

Carryforward from 2022
Input the carryforward amount from the 2022 capital plan that is remaining to be spent. Forecast this spending in 2023 to 2027.

Project Drivers
Maintain Level of Service = Project maintains existing or improved level of service.
Advance Board or Corporate Priority = Project is a Board or Corporate priority.
Emergency = Project is required for health or safety reasons.
Cost Benefit = Project provide economic benefit to the organization.

Capital Expenditure Type
Study - Expenditure for feasibility and business case report.
New - Expenditure for new asset only
Renewal - Expenditure upgrades an existing asset and extends the service ability or enhances technology in delivering that service

Total Project Budget
Provide the total project budget, even if it extends beyond the 5 years of this capital plan.

Funding Source Codes
Debt = Debenture Debt (new debt only)
ERF = Equipment Replacement Fund
Grant = Grants (Federal, Provincial)
Cap = Capital Funds on Hand
Other = Donations / Third Party Funding
Res = Reserve Fund
STLoan = Short Term Loans
WU - Water Utility
If there is more than one funding source, use additional rows for the project.

Long-term Planning
Master Plan / Servicing Plan = Plan that identifies new assets required to meet future needs.
Asset Management Plan / Sustainable Service Delivery Plan = Integrated plan that identifies asset replacements based on level of service, criticality, condition, risk, replacement costs as well as external impacts.
Replacement Plan = Plan that identifies asset replacements based primarily on asset age or asset material/type.
Condition Assessment = Assessment that identifies asset replacements based on asset condition.

Capital Project Title
Input title of project. For example "Asset Name - Roof Replacement", "Main Water Pipe Replacement".

Asset Class
L - Land
S - Engineering Structure
B - Buildings
V - Vehicles
E - Equipment

Cost Estimate Class
Class A (±10-15%) = Estimate based on final drawings and specifications; used to evaluate tenders.
Class B (±15-25%) = Estimate based on investigations, studies or preliminmary design; used for budget planning.
Class C (±25-40%) = Estimate based on limited site information; used for program planning.
Class D (±50%) = Estimate based on little/no site information; used for long-term planning.

Service #: 3.798C

Service Name: Debt - Core Area Wastewater Treatment Program

				PROJECT BUDGET & SCHEDULE									
Project Number	Capital Expenditure Type	Capital Project Title	Capital Project Description	Total Project Budget	Asset Class	Funding Source	Carryforward	2024	2025	2026	2027	2028	5 - Year Total
PUMP STATIONS													$ -
21-01	Renewal	Lang Cove Electrical and Building Upgrades	Renewals based upon Delcan's condition assessment and EIC inspections. Work includes electrical (replace PLC, SCADA pack, communications), and building upgrades.	**$ 1,200,000**	S	Res	$ 200,000	**$ 550,000**	$ -	$ -	$ -	$ -	$ 550,000
21-02	Renewal	Marigold Electrical and Building Upgrades	Renewals are based upon Delcan's condition assessment and EIC inspections. Work includes electrical (replace MCC, PLC, VFD's, 480v to 600v upgrade, etc), and building upgrades.	**$ 5,850,000**	S	Debt	$ 1,900,000	**$ 5,500,000**	$ -	$ -	$ -	$ -	$ 5,500,000
21-03	Renewal	Currie Major Electrical and Seismic Upgrades	Renewals based upon Delcan's condition assessment and EIC inspections. Work includes electrical (replace VFDs, PLC, SCADA pack, communications), seismic upgrades and driveway repairs.	$ 2,300,000	S	Debt	$ 140,000	$ 2,040,000	$ -	$ -	$ -	$ -	$ 2,040,000
21-05	Replacement	Harling PS - Complete Replacement	Based on Delcan's condition assessment and the age of this facility, replacement of Harling Point PS is required.	**$ 2,500,000**	S	Debt	$ 250,000	**$ 1,000,000**	**$ 1,450,000**	$ -	$ -	$ -	$ 2,450,000
22-01	Renewal	Odour Control HVAC Testing and Balancing	Based upon KWL's 2018 condition assessment review, upgrades are required to several odour control facilities (ie. carbon scrubbers, bioxide injection, etc). In addition, HVAC testing & balancing and process narratives are required.	$ 200,000	S	Debt	$ 150,000	$ 150,000	$ -	$ -	$ -	$ -	$ 150,000
22-05	Replacement	Lang Cove Discharge Isolation Valves	Replace seized, direct buried isolation valves on at the Lang Cove pump station with new valves in a manhole.	$ 400,000	S	ERF	$ 300,000	$ -	$ 300,000	$ -	$ -	$ -	$ 300,000
24-01	Renewal	Trent PLC Upgrade	The Programmable Logic Controller needs to be upgraded to meet new software standards.	$ 250,000	S	ERF	$ -	$ 250,000	$ -	$ -	$ -	$ -	$ 250,000
24-02	Renewal	Hood Mechanical and Electrical Renewal	Upgrades are based upon Delcan's condition assessment and EIC inspections. The work includes pump replacement, installation of a new valve chamber, RTU upgrade, and site improvements.	$ 870,000	S	Debt	$ -	$ 50,000	$ 420,000	$ 400,000	$ -	$ -	$ 870,000
24-03	Renewal	Currie Minor Mechanical and Electrical Renewal	Upgrades are based upon Delcan's condition assessment and recent inspections. The work includes pump and valve replacement.	$ 580,000	S	Debt	$ -	$ 50,000	$ 230,000	$ 300,000	$ -	$ -	$ 580,000
24-04	Renewal	Humber Electrical and Mechanical Renewal	Upgrades are based upon Delcan's condition assessment and EIC inspections. The work includes pump and valve replacements, PLC/RTU upgrade and site improvements.	$ 640,000	S	Debt	$ -	$ 50,000	$ 290,000	$ 300,000	$ -	$ -	$ 640,000
24-05	Renewal	Rutland Electrical and Mechanical Renewal	Upgrades are based upon Delcan's condition assessment and EIC inspections. The work includes pump and valve replacements, PLC/RTU upgrade and site improvements.	$ 640,000	S	Debt	$ -	$ 50,000	$ 290,000	$ 300,000	$ -	$ -	$ 640,000
24-06	Renewal	Penrhyn Electrical and Mechanical Renewal	Upgrades are based upon Delcan's condition assessment and EIC inspections. The work includes electrical (replace PLC and MCC), mechanical (replace pumps and upgrade HVAC), and structural/building upgrades.	$ 1,470,000	S	Debt	$ -	$ 100,000	$ 670,000	$ 700,000	$ -	$ -	$ 1,470,000
													$ -
GRAVITY SEWERS AND MANHOLES													$ -
21-06	Renewal	Shoreline Trunk Sewer Upgrade	The hydraulic model and capacity assessment of the system by KWL in 2018-19, has identified that the Shoreline Trunk must be twinned to prevent overflows into Portage Inlet during peak storm events.	**$ 3,400,000**	S	Debt	$ 300,000	$ 450,000	$ 2,900,000	$ -	$ -	$ -	$ 3,350,000
21-07	New	Western Trunk Sewer Twinning	The hydraulic model and capacity assessment of the system by KWL in 2018-19, has identified that the Western Trunk Sewer must be twinned from Aldeane to Craigflower PS to prevent overflows upstream of Parson's siphon during peak storm events.	**$ 25,000,000**	S	Debt	$ 300,000	$ 500,000	$ -	$ -	$ -	$ -	$ 500,000
21-10	Renewal	Sewer Cleaning and Inspection	Core Area sewers should be cleaned and inspected on a 5-year cycle. This program will support that continued cycle.	$ 750,000	S	Debt	$ 50,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ -	$ 600,000
21-11	Renewal	Manhole Repairs and Replacement	Based upon CCTV and staff inspections on manholes, there are a number of deteriorated MH's that require repair or replacement.	**$ 2,000,000**	S	Debt	$ 700,000	$ 2,000,000	$ 1,000,000		$ 1,000,000		$ 4,000,000
23-01	Renewal	Cecelia Ravine Pipe Protection	Based on geotechnical review, a section of the exposed NWT in Cecelia Ravine should be covered & protected from falling rocks upslope from the pipe.	$ 1,000,000	S	Debt	$ -	$ -	$ -	$ -	$ -	$ 1,000,000	$ 1,000,000
24-10	Renewal	East Coast Interceptor and Bowker Sewer Rehabilitation Ph2	Based on results of CCTV inspection about 2,000m of sewer needs to be relined along Beach Dr (from Bowker toWindsor) and along Doncastor Dr., Shelbourne St. and Kings Rd.	$ 8,000,000	S	Debt	$ -	$ 8,000,000	$ -	$ -	$ -	$ -	$ 8,000,000
24-11	**Renewal**	**Western Trunk Grit Chamber Repairs**	**The Western Trunk (Island Highway) Grit Chamber is badly corroded and requires repairs before extensive structural damage occurs.**	**$ 1,500,000**	**S**	**Debt**	**$ -**	**$ 1,500,000**					**$ 1,500,000**
26-01	**Renewal**	**NWT Sewer Replacement at Alpha-Terrace**	**A 5m long section of old concrete pipe downstream of Boundary Transition Chamber is badly corroded and needs to be replaced with new PVC pipe.**	**$ 1,000,000**	**S**	**Debt**	**$ -**	**$ -**	**$ -**	**$ 1,000,000**	**$ -**	**$ -**	**$ 1,000,000**
PRESSURE PIPES AND APPURTENANCES													$ -
21-12	Renewal	Gorge Siphon Inlet Chamber Upgrade	The concrete chamber is badly corroded and the control gates are seized on this chamber and they need to be replaced so that the individual siphons can be isolated or activated.	$ 500,000	S	Res	$ 500,000	**$ 1,000,000**	$ -	$ -	$ -	$ -	$ 1,000,000
21-13	New	Craigflower Forcemain Twinning	The hydraulic model and capacity assessment of the system by KWL in 2018-19, has identified that the Craigflower Forcemain must be twinned to prevent overflows into Portage Inlet during peak storm events.	$ 13,655,000	S	Debt	$ 200,000	$ 400,000	$ -	$ -	$ 6,500,000	$ 6,500,000	$ 13,400,000
23-02	Renewal	Penrhyn Siphon Assessment	The Penrhyn Siphon is PVC pipe, and has never been flushed or assessed. Flushing and assessment of the pipe is required.	$ 500,000	S	Debt	$ -	$ -	$ 500,000	$ -	$ -	$ -	$ 500,000
24-07	Renewal	Parsons Siphon Assessment	The Parsons Siphons are PVC and steel pipe, and have never been flushed or assessed. Flushing and assessment of the pipe is required.	$ 500,000	S	Debt	$ -	$ -	$ 500,000	$ -	$ -	$ -	$ 500,000

Service #: 3.798C

Service Name: Debt - Core Area Wastewater Treatment Program

				PROJECT BUDGET & SCHEDULE									
Project Number	Capital Expenditure Type	Capital Project Title	Capital Project Description	Total Project Budget	Asset Class	Funding Source	Carryforward	2024	2025	2026	2027	2028	5 - Year Total
25-01	Renewal	Admirals Siphon Assessment	The Admirals Siphon is PVC pipe, and has never been flushed or assessed. Flushing and assessment of the pipe is required.	$ 500,000	S	Debt	$ -	$ -	$ 500,000	$ -	$ -	$ -	$ 500,000
24-12	**Renewal**	**Harriet Siphon Cleaning and Assessment**	**Speciallized flushing and cleaning to remove solids from both 400m siphons.**	**$ 500,000**	S	**Res**	**$ -**	**$ 500,000**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 500,000**
24-13	**Renewal**	**Craigflower Inlet Reconfiguration**	**Increasing flows and off-gassing from the vortex drop are generating odours and causing corrosion. Re-alignment of the influent sewer is required to mitigate odours, corrosion and address health and safety concerns.**	**$ 1,700,000**	**S**	**Debt**	**$ -**	**$ 1,700,000**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 1,700,000**
24-14	**Renewal**	**Parsons Siphon/Bridge Connection Repairs**	**The siphon pipe support connections to the Parsons Brdige require repairs.**	**$ 400,000**	**S**	**Res**	**$ -**	**$ 400,000**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 400,000**
25-03	**Renewal**	**Harriet Siphon Inlet Chamber Upgrade**	**Assess concrete corrosion and replace seized control gates.**	**$ 1,500,000**	**S**	**Debt**	**$ -**	**$ -**	**$ 1,500,000**	**$ -**	**$ -**	**$ -**	**$ 1,500,000**
27-01	**Study**	**Forcemain Pipe Assessment Study**	**There are several forcemain pipes downstream from each pump station that have never been assessed. A study is proposed to investigate various technologies to evaluate the condition of the pipes.**	**$ 250,000**	**S**	**Debt**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 250,000**	**$ -**	**$ 250,000**
FLOW METERS													$ -
21-15	Replacement	Parsons Meter Replacement	Based on KWL's 2018-19 Flow Meter Audit review, Parsons meter is to be replaced with two doppler meters and one magmeter on Wilfert PS (includes install of meters, kiosk and conduit).	$ 400,000	S	Debt	$ 170,000	$ 320,000	$ -	$ -	$ -	$ -	$ 320,000
21-16	New	Gorge & Chapman Meter	Based on KWL's 2018-19 Flow Meter Audit review, KWL recommended a new flodar meter to measure the unmetered Gorge and Champman catchments. Includes installation of new metering manhole.	$ 230,000	S	Debt	$ 100,000	$ 200,000	$ -	$ -	$ -	$ -	$ 200,000
21-17	New	Esquimalt Nation Meter	Based on KWL's 2018-19 Flow Meter Audit review, KWL recommended a new custom weir, kiosk and conduit to measure the unmetered Esquimalt Nation catchment.	$ 300,000	S	Debt	$ 165,000	$ 265,000	$ -	$ -	$ -	$ -	$ 265,000
21-18	New	Shoreline Trunk Meter	Based on KWL's 2018-19 Flow Meter Audit review, KWL recommended a new flodar meter to measure the unmetered Shoreline catchment. Includes installation of FloDar meter, kiosk and conduit.	$ 340,000	S	Debt	$ 200,000	$ 250,000	$ -	$ -	$ -	$ -	$ 250,000
21-19	New	Selkirk Meter	Based on KWL's 2018-19 Flow Meter Audit review, KWL recommended a new flume meter to measure the unmetered Selkirk catchment (install weir, kiosk and conduit).	$ 340,000	S	Debt	$ 160,000	$ 310,000	$ -	$ -	$ -	$ -	$ 310,000
GENERAL													$ -
21-22	Study	Asset Management Plan Update	Previous condition assessment studies will be updated and incorporated into a long-term asset management plan to meet expected level-of-service requirements.	$ 250,000	S	Debt	$ 250,000	$ 250,000	$ -	$ -	$ -	$ -	$ 250,000
21-23	Study	DCC Program Development	With the completion of CAWTP and amendment of the Service Establishment Bylaw, it was noted that a DCC Program would be established to fund future wastewater projects related to growth. This project is to create the program, consult with stakeholders and prepare a new DCC bylaw.	$ 400,000	S	Debt		$ -	$ -	$ -	$ -	$ -	$ -
21-24	Renewal	Record Drawing and Wastewater Agreement Updates	The old as-built drawings, connection points and wastewater agreements with the contributing municipalities has not been updated in many years. Updates are required to reflect changes in the system, identify clear demarcation points, and reflect updates in the LWMP.	$ 1,100,000	S	Debt	$ 30,000	$ 230,000	$ 250,000	$ 250,000	$ -	$ -	$ 730,000
21-25	Renewal	SCADA and Radio Assessment	Majority of the radio and SCADA equipment are nearing end of life, technological advances do not allow for straight replacements, funding is required for assessments of existing equipment and site requirements.	$ 3,900,000	S	Debt		$ 750,000	$ 750,000	$ 750,000	$ 750,000	$ -	$ 3,000,000
22-03	Renewal	Acquisition of Outstanding Right-of-Ways	Some of the infrastructure is located on privately owned land that do not have rights-of-way. A plan is being developed to acquire SRW's for all infrastructure over time. Initial spending requires a study and plan prior to acquisition.	$ 1,200,000	S	Debt		$ -	$ 500,000	$ 500,000	$ -	$ -	$ 1,000,000
21-27	New	New Infrastructure Optimization	Unforeseen and unplanned optimization at a number of new facilities to improve operation and health and safety requirements.	$ 500,000	S	Debt	$ 300,000	$ 300,000	$ -	$ -	$ -	$ -	$ 300,000
22-04	New	Microwave Radio Upgrades	To provide a high bandwidth communications backbone to the CAWWT system, a microwave communications system will be installed.	$ 600,000	S	ERF	$ 100,000	$ 200,000	$ 100,000	$ 100,000	$ 100,000	$ -	$ 500,000
23-07	New	Enterprise Data Historian Management System	A data historian is required to store large amounts of data that is required for compliance reporting to regulators, operational performance reports, cost allocation, and engineering analysis.	$ 300,000	E	Debt	$ 300,000	$ 300,000	$ -	$ -	$ -	$ -	$ 300,000
28-01	**Decommission**	**Marigold Surge Tank Deconstruction**	**The old Mariogld Surge Tank has been abandond for many years, is becoming a safety concern for youth, a needs to be removed.**	**$ 1,800,000**	**S**	**Debt**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 300,000**	**$ 1,500,000**	$ 1,800,000
24-15	**Replacement**	**IT Core Infrastructure Replacement**	**Replacement of Core IT infrastructure such as servers, network switches, UPS, etc for equipment end of life**	$ 505,000	S	**ERF**	$ -	**$ 55,000**	**$ -**	**$ -**	**$ 350,000**	**$ 100,000**	$ 505,000
ANNUAL PROVISIONAL													$ -
21-26	Replacement	Annual Provisional Emergency Repairs	Unforeseen and unplanned emergency repairs can occur which require immediate attention.	$ 5,000,000	S	Res	$ -	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 5,000,000
23-06	Replacement	Annual Provisional Equipment Replacement	Replacement of at end of service life, including valves, variable frequency drives, capacitors.	$ 1,500,000	S	ERF	$ -	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 1,500,000
23-08	New	Process & Mechanical Upgrades	Upgrades to the Core Area Wastewater Treatment and Conveyance infrastructure in order to optimize operations	$ 4,250,000	S	Debt	$ -	$ 850,000	$ 850,000	$ 850,000	$ 850,000	$ 850,000	$ 4,250,000
23-09	New	Safety & Security Upgrades	Upgrades to the Core Area Wastewater Treatment and Conveyance infrastructure to improve worker health and safety	$ 2,400,000	S	Debt	$ -	$ 600,000	$ 600,000	$ 400,000	$ 400,000	$ 400,000	$ 2,400,000
													$ -
OUTFALLS / OVERFLOWS													$ -
24-08	Renewal	Clover Point Outfall Retrofit	The existing Clover outfall is no longer operated on a regular basis since wastewater is now conveyed to McLoughlin WWTP, but it must be ready for operation during peak storm events. As a result, the existing outfall will need to be assessed for best operational and maintenance practices based on limited use.	$ 500,000	S	Debt	$ -	$ -	$ 500,000	$ -	$ -	$ -	$ 500,000
25-02	Renewal	Macaulay Point Outfall Retrofit	A section of coating the emergency short outfall has failed and the pipe is corroding, and the long outfall needs to be modified to suit reduced usage. This project is to repair the coating, provide shoreline protection, and prepare a plan to maintain the deep outfall based on limited use.	$ 750,000	S	Debt	$ -	$ -	$ 750,000	$ -	$ -	$ -	$ 750,000
27-02	**Renewal**	**Broom Overflow Pipe Rehabilitation**	**Overflow pipe is cracked and severed in multiple locations and H2S gases and odours are present.**	**$ 575,000**	S	**Debt**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 75,000**	**$ 500,000**	**$ 575,000**
RESIDUAL SOLIDS													$ -
24-09	New	Centrate Return Line Automated Monitoring	Installation of level transducer at manhole 48 to monitor the centrate line level to avoid surcharging of the man hole and potential spill.	$ 175,000	S	Debt	$ -	$ -	$ -	$ 175,000	$ -	$ -	$ 175,000
24-16	New	Biosolids Particle Size Optimization	Installation of equipment to ensure biosolids particle size meets reuse option specifications.	$ 250,000	E	Debt	$ -	$ 250,000	$ -	$ -	$ -	$ -	$ 250,000
DCC PROJECTS													
			GRAND TOTAL	**$ 107,120,000**			**$ 6,765,000**	**$ 32,820,000**	**$ 16,300,000**	**$ 7,475,000**	**$ 12,025,000**	**$ 12,150,000**	**$ 80,770,000**