



Making a difference...together

**JUAN DE FUCA WATER DISTRIBUTION COMMISSION**  
 Notice of Meeting on **Tuesday, October 5, 2021 at 12 pm**  
 Goldstream Room, 479 Island Highway, Victoria, BC

For members of the **public who wish to listen to the meeting** via telephone please call **1-833-353-8610** and enter the **Participant Code 1911461 followed by #**. You will not be heard in the meeting room but will be able to listen to the proceedings.

G. Logan (Chair)  
 J. Rogers (V. Chair)  
 G. Baird  
 M. Hicks

K. Kahakauwila  
 E. Logins  
 L. Szpak  
 R. Wade

## AGENDA

1. TERRITORIAL ACKNOWLEDGEMENT
2. APPROVAL OF AGENDA
3. ADOPTION OF MINUTES .....3  
     *Recommendation: That the minutes of the September 7, 2021 meeting be adopted.*
4. CHAIR'S REMARKS
5. PRESENTATIONS/DELEGATIONS  
     *This meeting will be held by without the public present. A phone in number is provided above that will allow the public to listen to the meeting.*  
     *Presentation and Delegation requests can be made [online](#) or complete this [printable form](#) (PDF). Requests must be received no later than 4:30 p.m. two calendar days prior to the meeting.*
6. GENERAL MANAGER'S REPORT
  - 6.1. Water Supply Outlook [Verbal]
7. COMMISSION BUSINESS
  - 7.1. 2022 Service Planning – Water .....6

***Recommendation:** The Juan de Fuca Water Distribution Commission recommends the Committee of the Whole recommend to the Capital Regional District Board:*

*That Appendix A, Community Need Summary – Water, be approved as presented and form the basis of the 2022-2026 Financial Plan.*

*To ensure quorum, advise **DENISE DIONNE, 250.360.3087** if you cannot attend.*

**7.2. Juan de Fuca Water Distribution Service 2022 Operating and Capital Budget....23**

**Recommendation:** *That the Juan de Fuca Water Distribution Commission recommends the Committee of the Whole recommend to the Capital Regional District Board to:*

1. *Approve the 2022 Operating and Capital Budget and the Five Year Capital Plan;*
2. *Approve the 2022 Juan de Fuca Water Distribution Service retail water rate of \$2.4024 per cubic metre, adjusted if necessary by any change in the Regional Water Supply wholesale water rate; and*
3. *Direct staff to amend the Water Distribution Local Service Conditions, Fees and Charges Bylaw accordingly.*

**7.3. Water Watch Report .....60**

**Recommendation:** *That the Water Watch Report be received for information.*

**8. NOTICE(S) OF MOTION**

**9. NEW BUSINESS**

**10. ADJOURNMENT**

**Next Meeting:** Tuesday, November 2, 2021



Making a difference...together

**MINUTES OF A MEETING OF THE Juan de Fuca Water Distribution Commission, held Tuesday, September 7, 2021 at 12 pm, Goldstream Room, 479 Island Highway, Victoria, BC, Victoria, BC**

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**PRESENT: Commissioners:** G. Logan (Chair); J. Rogers (V. Chair) (EP); G. Baird (EP); M. Hicks (EP); K. Kahakauwila (EP); E. Logins (EP); L. Szpak; R. Wade (EP)  
**Staff:** T. Robbins, General Manager; I. Jesney, Senior Manager, Infrastructure Engineering; J. Marr, Manager, Water Distribution & Planning; D. Dionne, Administrative Coordinator (Recorder)

**REGRETS:**

EP = Electronic Participation

The meeting was called to order at 12:03 pm.

**1. TERRITORIAL ACKNOWLEDGEMENT**

Chair Logan provided the Territorial Acknowledgement.

**2. APPROVAL OF AGENDA**

**MOVED** by Commissioner Szpak, **SECONDED** by Commissioner Kahakauwila,  
That the agenda be approved.

**CARRIED**

**3. ADOPTION OF MINUTES**

**MOVED** by Commissioner Baird, **SECONDED** by Commissioner Rogers,  
That the minutes of the July 6, 2021 meeting be adopted.

**CARRIED**

**4. CHAIR'S REMARKS**

The Chair welcomed everyone back after the summer and stated that he hoped everyone was well rested and ready to continue the good work that this Commission does.

**5. PRESENTATIONS/DELEGATIONS**

There were none.

**6. GENERAL MANAGER'S REPORT**

**6.1. Water Supply Outlook [Verbal]**

T. Robbins stated that it's been a hot dry summer with record temperatures and that even into September daily demand continues to be in the 170 to 180 mega liters per day range and the September average is 150 mega liters per day. Demand should begin to slow over the next couple of weeks as cooler temperatures move in.

Staff responded to questions from the Commission regarding:

- Budget impacts due to increased sales from the higher than normal water usage this summer.
- Available water flows to support hatchery and fish streams. Water has continued to be released throughout the summer.
- Request from the Commission to post the water release volumes in the weekly water watch reports.
- Aquifer water levels versus Sooke Lake Reservoir water levels and whether there is any relationship, there is no information to confirm that Sooke Lake Reservoir is connected to the aquifers.

## 7. COMMISSION BUSINESS

### 7.1. Rocky Point Water Upgrades Tender – Recommendation to Award

I. Jesney provided a summary of the report as circulated in the agenda package.

Staff responded to questions from the Commission regarding:

- Price variance between the two bidders which could be reflective of higher costs of materials and supplies.
- Any budget surplus at the end of a project is put back into the capital reserve fund for the service.

**MOVED** by Commissioner Kahakauwila, **SECONDED** by Commissioner Rogers,  
That the Juan de Fuca Water Distribution Commission approves the award of Contract 2019-537, Rocky Point Water Upgrades, to Industria Construction Corp. in the amount of \$7,927,793.44 plus GST.

**CARRIED**

### 7.2. Summary of Other Water Commission Recommendations

Staff was asked to provide an update on the once-through-cooling motion that was passed at the last Regional Water Supply Commission meeting. Staff advised that the recommendation included \$20,000 funding for a rebate program. Staff will be preparing a report that will outline how the rebate program would be implemented, what the rebate would be set at as well as the most recent information on how many once-through-cooling units are in service in the region.

**MOVED** by Commissioner Szpak, **SECONDED** by Commissioner Baird,  
That the Summary of other Water Commission recommendations be received for information.

**CARRIED**

### 7.3. Water Watch Report

**MOVED** by Commissioner Baird, **SECONDED** by Commissioner Rogers,  
That the August 30, 2021 water watch report be received for information.

**CARRIED**

## 8. NOTICE(S) OF MOTION

There were none.

#### 9. NEW BUSINESS

There was none.

#### 10. ADJOURNMENT

**MOVED** by Commissioner Kahakauwila, **SECONDED** by Commissioner Szpak,  
That the September 7, 2021 meeting be adjourned at 12:30 pm.

**CARRIED**

\_\_\_\_\_  
**CHAIR**

\_\_\_\_\_  
**SECRETARY**

**REPORT TO JUAN DE FUCA WATER DISTRIBUTION COMMISSION  
MEETING OF TUESDAY, OCTOBER 05, 2021**

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**SUBJECT     2022 Service Planning - Water**

**ISSUE SUMMARY**

To provide the Juan de Fuca Water Distribution Commission with an overview of core service levels, new and progressing initiatives and performance metrics related to the Water Community Need. These activities are undertaken by the Integrated Water Services Department and deliver on approved Board Strategic Priorities and the Capital Regional District (CRD) Corporate Plan.

**BACKGROUND**

The CRD Board identified its strategic priorities in early 2019. Subsequently, staff prepared the 2019-2022 CRD Corporate Plan to align with this direction. The CRD Corporate Plan presents the work the CRD needs to deliver over the Board term to meet the region's fifteen most important needs (community needs). These initiatives are delivered in conjunction with the mandated core services and regulatory requirements that the CRD is accountable for delivering. The priorities were re-confirmed by the CRD Board at the annual check-ins on May 13, 2020 and May 12, 2021.

At the start of the Board term, staff identified that the ambitious plan for the region would require a significant amount of effort and resources to action and implement Board and Corporate Priorities and to keep pace with the anticipated increase in service demands, primarily driven by population growth and construction activity. The general level of effort deployed by the organization has been increasing to keep pace since the direction was set and in some cases emerging trends and changes in economic activity has had a significant impact on the demand for services driving additional resource requirements.

This is the final year of service plan and budget approvals for this CRD Board as well as the final year of implementation of its strategic priorities. For 2022, staff are recommending a significant package of work to finalize the delivery of the strategic priorities and CRD Corporate Plan. Implementation timeframes for much of the work initiated in 2022 will carry into 2023.

2022 is a transition year for the CRD Board. Staff anticipate that any service planning requests for 2023 will be focused on operational adjustments while the Board is determining its strategic priorities for the 2023-2026 term.

The Community Need Summary Report (Appendix A) provides an overview of the strategic context for service areas by department, core service levels for services, new initiatives and a summary of the business model and performance metrics associated with targeted outcomes.

## **ALTERNATIVES**

### *Alternative 1*

The Juan de Fuca Water Distribution Commission recommends the Committee of the Whole recommend to the Capital Regional District Board:

That Appendix A, Community Need Summary – Water, be approved as presented and form the basis of the 2022-2026 Financial Plan.

### *Alternative 2*

The Juan de Fuca Water Distribution Commission recommends the Committee of the Whole recommend to the Capital Regional District Board:

That Appendix A, Community Need Summary – Water, be approved as amended and form the basis of the 2022-2026 Financial Plan.

## **IMPLICATIONS**

The Executive Leadership Team (ELT) is taking steps to mitigate the financial impacts resulting from the work. ELT has reviewed the phasing of the work for 2022 to ensure that the activities and resources are allocated as efficiently as possible. Phasing out the initiatives over a longer period of time helps avoid delays which can occur when staff are too thinly spread across projects. Additionally, timing initiatives to start mid-year will also reduce the impact in 2022, but will have an incremental annualization impact in 2023 for ongoing impacts.

The CRD continues to look for ways to fund its services in a manner that relieves affordability pressure for the taxpayer. This is reflected in the policy for reserve balance measures and gaps/surplus which was approved by the CRD Board on July 14, 2021. The CRD has had other funding successes optimizing capital funding and leveraging grant funding in a more aggressive way than ever before.

Finally, where feasible, an incremental change management strategy has been adopted for larger projects. This means that divisions are testing out the objectives and delivery approach with a proof-of-concept and then deploying out more broadly, if the benefits can be demonstrated. This has been a successful strategy adopted for our enterprise asset management strategy deployment, for example.

A comprehensive overview of the resources required to advance the initiatives listed in all Community Need Summaries, including all proposed staffing changes, will be presented to the Committee of the Whole at the 2022 provisional budget review.

### **New Integrated Water Services initiatives proposed for 2022:**

Staff have identified three initiatives in support of this community need that will have budget implications in 2022 (Table 1). The key drivers for this work are:

1. Responding to an increase in demand or workload for an existing service: the significant on-going capital investment in the drinking water systems is generating an important asset base which has to be managed and maintained. The utility asset management scope includes oversight for 45,000+ equipment records for 35 water and wastewater services spread across 320+ sites. On-boarding new assets following design and construction is the first step in establishing an operations and maintenance plan for a new asset; then monitoring the asset performance and condition will determine a replacement schedule. In addition, the scope of

the overall utility capital program is such that a full time Contracts Coordinator is required; the role was previously split with a Committee Clerk role.

2. Advancing a Board Strategic Priority: the CRD, in line with the Climate Action & Environmental Stewardship priority, monitors the environment of the Greater Victoria Watershed Supply Area (GVWSA) to detect trends and events of interest to climate change.

Table 1: Water Community Need Initiatives

#	Initiative	Description	Year(s)	FTE impacts (2022)	Cost impacts (2022)	Funding source
10a-2	Infrastructure Integration Technician	On-board new assets and proactively monitor and manage asset conditions with operations and engineering teams	2022	+1.0 FTE* regular	\$65K	Allocation (Split between regional/sub-regional Water and Wastewater Services)
10d-3	Watershed Hydrology Monitoring*	Expand and increase watershed hydrology monitoring in the Greater Victoria Water Supply Area	2022 (Year 3 of 5)	--	\$150K	Fee-for-service (Regional Water Supply)
10e-1	IWS Contracts Coordinator	Departmental contract coordination and support for corporate & legislated procurement policies & procedures	2022	+1.0 FTE ongoing	\$94K	Allocation (Split between regional/sub-regional Water and Wastewater Services)

*Blue highlighted areas are initiatives that directly address a Board Priority.*

*\* Also includes minor support service(s) adjustment*

This information reflects the business case costs which the executive leadership team reviewed as part of their annual assessment of initiatives.

#### 10a-2 Infrastructure Integration Technician

There is currently a delay in receiving and recording new and updated asset information (on-boarding new assets) in the system and developing preventative maintenance plans, in line with the Corporate Asset Management Strategy. Proactively monitoring and managing asset condition is a crucial part of improving the reliability of the water and wastewater infrastructure and service.

Initiative 10a-2 seeks to create a new ongoing position (+1.0 FTE) in the Customer & Technical Services division to follow-up on capital programs and corrective maintenance actions and gather and record information about assets in a manner that supports the development of future

maintenance programs and decision-making. The resource will also build a program for performing on-site audits of critical facilities.

This initiative will also increase demand and requirements for support services (e.g. asset information, asset management support, technical support, etc.). This initiative, alongside others, will result in a small adjustment to the Financial Services and Information Technology & GIS staffing model to accommodate the demand. To provide full transparency, the financial impact of the initiative reflects the whole cost of delivering the work, including flow-down impacts on support services. The position funding will be shared across the regional/sub-regional water and wastewater services.

#### 10d-3 Watershed Hydrology Monitoring

The CRD monitors the environment (hydrology and meteorology) of the GVWSA to detect trends and events of interest to climate change (e.g. forest change, wildfires). This directly supports the Climate Action & Environmental Stewardship Board Priority.

The data also informs and supports decision-making in relation to infrastructure upgrades and data modelling about current and future water quality and supply. The existing monitoring of the Sooke and Goldstream water supply areas, as well as the newly instrumented Leech water supply area, require increased or new monitoring and maintenance efforts.

Initiative 10d-3 seeks to renew the annual specialist service contract to install, modify and maintain hydromet instrumentation as well as collect, quality assure and analyze hydromet data. The contract was funded through a single supplementary budget increase request in 2020 and 2021. In year 2024, staff will determine the on-going requirement.

#### 10e-1 Contracts Coordinator

The Integrated Water Services department has experienced growth in capital projects being delivered across all of the water and wastewater utility services as well as additional demand for support required for the expanded core area wastewater service. This has resulted in a material increase in contract management activities.

Initiative 10e-1 seeks to create a new position (+1.0 FTE) in the Integrated Water Services Administrative Services division to provide cross-departmental contract coordination and support corporate and local government procurement policies and procedures. The function was previously included under a committee clerk role. This initiative results in a dedicated Contracts Coordinator role.

#### *Alignment with Board & Corporate Priorities*

The direction given to staff was to bring forward work that is of essential nature. This was defined as:

- Initiatives that provide for public health and safety and/or deliver on a regulatory requirement
- Initiatives that are required to deliver the Board Strategic Priorities
- Initiatives that will prevent the materialization of significant negative impacts on service customers, partners, the region, local services or the CRD's finances
- Initiatives that minimise the materialization of financial, reputational or other risks and liabilities for the CRD by ensuring the organisation is keeping pace with expectations and demand

- There is an imperative to deliver the work immediately and/or quickly

The ELT has reviewed and assessed all business cases against the criteria. The consolidated package of work is appropriate and commensurate to the challenge facing the organization.

### **CONCLUSION**

Staff have been progressing initiatives and actions identified in the Capital Regional District (CRD) Corporate Plan, including Board Strategic Priorities. The CRD Board determines resourcing through its annual review and approval of financial plans. As per previous years, to support the Board's decision-making, staff are providing recommendations on funding, timing and service levels through the service and financial planning processes.

### **RECOMMENDATION**

The Juan de Fuca Water Distribution Commission recommends the Committee of the Whole recommend to the Capital Regional District Board:

That Appendix A, Community Need Summary – Water, be approved as presented and form the basis of the 2022-2026 Financial Plan.

Submitted by:	Ted Robbins, B.Sc., C.Tech., General Manager, Integrated Water Services
Concurrence:	Robert Lapham, MCIP, RPP, Chief Administrative Officer

### **ATTACHMENTS**

Appendix A: Community Need Summary – Water

Appendix B: Capital Plan Report

Appendix C: Initiatives Progress Report

# Community Need

2022 Summary

## Water

### Strategy

#### Target Outcome

We envisage a sustainable and resilient water supply.

#### Strategic Context

##### Strategies

- [Regional Water Supply Strategic Plan](#)
- [Regional Growth Strategy](#)
- [Special Task Force on First Nations Relations](#)
- [Statement of Reconciliation](#)

##### Trends, risks and issues

- **Security and patrols:** there have been an increased number of security incursions/recreational pressure into the Greater Victoria Water Supply Area (GVWSA) from Sooke Hills Wilderness Regional Park and from the rapidly developing residential area around Langford and Goldstream. This is putting additional pressure on the Watershed team.
- **Climate Action:** the most significant risks for water services relate to climate and environmental changes. Predicted trends of drier, hotter summers will impact the water services in a number of ways:
  - Demand for water, including for local agricultural activities – this is monitored closely and evaluated against historical trends. Model predictions are updated for areas exhibiting higher than predicted demands, this will inform future infrastructure upgrades to meet growing demands.
  - Water quality may be affected due to increased biological growth in the source water and distribution system; expecting to see increasing pressure to include filtration as a step in the RWS treatment process
  - In the GVWSA, increasing periods of elevated wildfire risk, peak flows from winter storms, drought stress on trees which could lead to increased mortality and forest pests/diseases
  - Increased risk of power outages
- **Infrastructure Vulnerability, resiliency, and Emergency Preparedness:** we are seeing increases in operation and maintenance demand from a growing region combined with aging infrastructure. An updated Water Management Plan for water supply will identify a strategy to address supply (quantity) and critical delivery infrastructure (redundancy) needs
- **Asset Management:** the ongoing trend in reviewing, updating and completing asset management plans and the continuous upgrading, replacement and growth of assets in the water and wastewater systems

# Community Need

## 2022 Summary

rely on having an up-to-date asset registry as well as an asset onboarding process. Both the Scottish Water Review in 2018 and the EMA Readiness Assessment of 2020 highlighted the need for a reliable asset registry for Water and Wastewater.

- The risk of assets not being maintained, replaced in a timely manner and failing could impact the CRD's ability to provide the expected water and wastewater level of service and could even result in environmental and public safety risks.
- The asset registry is an important step in ensuring that assets are captured in the Maintenance Management System and Preventative Maintenance Plans are developed. This information is also critical with regards to capital and financial planning for the utility services.

## Services

Core Services Levels	
Service	Levels
<b>Regional Water Supply (RWS), Juan de Fuca (JdF) Water Distribution, Saanich Peninsula Water and Small Water Systems in the Electoral Areas (EAs)</b> Wholesale water supply to the 370,000 consumers in Greater Victoria and residents in three municipalities on the Saanich Peninsula, water distribution system within Langford, Sooke, View Royal, Colwood, East Sooke, Metchosin and Highlands and the small water systems in the EAs supported through following key service areas:	
<b>Water Systems Operations and Maintenance</b> Water treatment, supply and distribution system operation and monitoring. System and facility maintenance, consumables management and preventative maintenance	<ul style="list-style-type: none"> <li>• 24/7 water treatment operations for two facilities for Greater Victoria              ➔ Service level adjusted (absorbed), assessment following recent reclassification of two facilities to level III treatment plants showed need to increase staffing levels &amp; operator certification level; addressed through internal staffing shifts</li> <li>• Supply and distribution system operation</li> <li>• System monitoring</li> <li>• Customer service</li> <li>• System and facility maintenance</li> <li>• Consumables management</li> <li>• Component preventative maintenance</li> </ul>
<b>Emergency Response/System Failure</b> Water main breaks	<ul style="list-style-type: none"> <li>• 24/7 emergency response to water main breaks and other system emergencies</li> </ul>
<b>Infrastructure Planning</b>	<ul style="list-style-type: none"> <li>• Asset management and capital planning              ➔ Service level adjusted, see IBC 10a-2</li> </ul>

# Community Need

## 2022 Summary

Strategic asset management for all services/systems including modeling and capacity analysis, vulnerability assessment, infrastructure renewal plans.	<ul style="list-style-type: none"> <li>• Adjust plans for 15 water services</li> <li>• System expansion and growth planning</li> </ul>
<b>Capital Project Delivery and Works</b> Project design, procurement and delivery of capital projects annually on time/budget. Main installations, dam upgrades, equipment replacement and capital projects support	<ul style="list-style-type: none"> <li>• Capital program delivery</li> <li>• Water main installations and equipment replacement</li> <li>• Dam maintenance and upgrade projects</li> <li>• Capital project support &amp; contract management              → Service level adjusted, see IBC 10e-1</li> </ul>
<b>Engineering Services</b> Development referrals, survey and mapping, engineering support to utility operations, and dam safety inspections and administration.	<ul style="list-style-type: none"> <li>• Engineering support of utility operations for the 15 water services.</li> </ul>
<b>Watershed Protection</b> Forest land management of the 20,550 hectares of the Greater Victoria Water Supply Area to ensure high-quality source drinking water for the Regional Water Supply System through following service areas:	
<b>Wildfire, Security &amp; Emergency Response:</b> Watershed security, and wildfire and spill preparedness, prevention and response	<ul style="list-style-type: none"> <li>• 24/7 watershed emergency duty officer standby</li> <li>• Security/wildfire patrols (weekends and holidays; daily during elevated fire conditions)</li> <li>• Wildfire detection air patrol during high and extreme fire hazard</li> </ul>
<b>Watershed Operations</b> Silviculture, forest health and forest fuel management; invasive plant management; vegetation management and road maintenance, upgrades and rehabilitation	<ul style="list-style-type: none"> <li>• Winter/summer road maintenance</li> <li>• Culvert and bridge upgrades to accommodate higher peak flows to higher standards and changing climate</li> <li>• Fuel management treatment and fire smarting maintenance</li> <li>• Brushing around facilities, dams, for tree release</li> <li>• Danger tree assessment and removal along roads and powerlines</li> <li>• Invasive plant management</li> </ul>
<b>Resource Planning</b> Wildlife management, ecological inventories and analyses, risk assessment and management, and GIS and data management	<ul style="list-style-type: none"> <li>• Development of a comprehensive hydrology monitoring program</li> <li>• Annual forest health survey</li> <li>• Partnering in climate change and other research in the GVWSA</li> <li>• Management of beaver, Canada geese and bullfrogs</li> <li>• Public tours of the Water Supply Area and facilities</li> </ul>

# Community Need

## 2022 Summary

<b>Environmental Protection</b> Regulatory and non-regulatory services and a support role across the organization that focuses on enhanced integration of drinking water quality protection programs and integration of communication initiatives.	
<b>Water Quality</b> Monitoring, assessment, reporting and technical advice to meet water quality regulatory requirements	<ul style="list-style-type: none"> <li>• Source water and distribution system monitoring, assessment and reporting</li> <li>• Physical, chemical and biological analytical services, assessment and reporting</li> </ul>
<b>Demand Management</b> Research and data to inform capital planning, water conservation, and communications and education	<ul style="list-style-type: none"> <li>• Accurate data</li> <li>• Per capita targets (residential and ICI)</li> </ul>
<b>Cross Connection Control</b> Oversight, monitoring and reporting of potential sources of contamination that may flow in a reverse direction into the Regional Water Supply	<ul style="list-style-type: none"> <li>• Contamination prevention through facility inspections, testing and education for backflow prevention devices</li> <li>• Monitor and track (&gt;28,000) backflow prevention devices</li> </ul>
<b>Communications &amp; Environmental Education</b> Public education and engagement in the region to promote sustainable behavior through campaigns, initiatives and services	<ul style="list-style-type: none"> <li>• Increased public awareness of CRD messages and subsequent behavior changes (declining trend in per capita and per sector water use)</li> </ul>
<b>Support Services</b>	
<b>Support Services</b> The core services listed rely on the support of several corporate and support divisions to effectively operate on a daily basis. These services are reported on in the Accountability Community Need Summary.	<ul style="list-style-type: none"> <li>• Services include Human Resources &amp; Corporate Safety, Corporate Communications, Asset Management, Financial Services, Information Technology &amp; GIS, Information Services, Legislative Services, Facility Management, Fleet Management, Legal Services, Risk &amp; Insurance and Real Estate Services.</li> </ul>

# Community Need

## 2022 Summary

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Initiatives					
Ref	Initiative	Description	Year(s)	2022 impacts	
10a-2	Infrastructure Integration Technician	Proactively monitor and manage of assets conditions and develop preventative maintenance plans	2022	+1.0 FTE regular	\$65K allocation
10d-3	Watershed Hydrology Monitoring*	Expand and increase watershed hydrology monitoring in the Greater Victoria Water Supply Area	2022	--	\$150K fee-for-service
10e-1	IWS Contracts Coordinator	Departmental contract coordination and support for corporate & legislated procurement policies & procedures	2022	+1.0 FTE ongoing	\$94K allocation

# Community Need

2022 Summary



## Business Model

### Funding

#### Who contributes

##### Water Supply and Distribution:

- Regional Water Supply: All Municipalities, JdF EA, First Nations (via Distribution Systems)
- Saanich Peninsula Water Supply: Municipalities (Central Saanich, North Saanich, Sidney)
- JdF Water Distribution: Langford, Colwood, View Royal, Metchosin, Highlands, Sooke, JdF EA
- Local Water Service Areas in the EAs

##### Environmental Protection

- Water Quality Service: Allocation from Integrated Water Services and Local Service Areas (LSA) from municipalities of RWS area, JdF and various local service areas, Sidney, North Saanich, Central Saanich and Peninsula First Nations
- Demand Management, Cross Connection Control Services: water rate from all Municipalities and EAs
- Communications and Environmental Education: all Municipalities and EAs

##### Support Services

- Varies per service

#### Funding Sources

- Regional Water Supply: Bulk water sales revenue
- JdF Water Distribution System: Retail water sales revenue in West Shore Municipalities
- Saanich Peninsula Water: Wholesale water sales revenue
- Environmental Protection services: water rate and requisition

# Community Need

## 2022 Summary

### Reporting Structure

[Regional Water Supply Commission](#) – [Water Advisory Committee](#) – [Saanich Peninsula Water Commission](#) – [JDF Water Distribution Commission](#) – [Various LSA Commissions](#) (Port Renfrew, Lyall Harbour/Boot Cove, Magic Lake Estates, Skana, Beddis, Cedar Lane, Cedars of Tuam, Fernwood, Fulford, Highland, Sticks Allison, Surfside Park, Wilderness Mountain)

### Performance

Definition and Source	Service	2020 Actual	2021 Forecast	2022 Target
<b>Metric 1: Regulatory Compliance</b> Non-compliance with Island Health, provincial and federal regulatory requirements and operational certificates that result in Boil Water Advisories or Do Not Consume Events	Regional Water Supply	None	None	None
	JDF Water Distribution	None	None	None
	Saanich Peninsula Water Supply	None	None	None
	Local Services	6	4	None
<b>Metric 2A: Water Quality Sampling – Raw water</b> Water quality samples analyzed annually from source reservoirs (raw water)	Regional Water Supply	12,090	12,585	15,392
	Local Services	4,181	3,670	3,670
<b>Metric 2B: Water Quality Sampling – treated water</b> Water quality samples analyzed annually from transmission/distribution systems (treated water)	Regional Water Supply	1,753	1,787	1,787
	JDF Water Distribution	7,675	7,531	7,531
	Saanich Peninsula Water Supply	1,979	2,102	2,102
	Local Services	31,216	24,903	24,904
<b>Metric 3: Average day per capita water use (litres per capita per day)</b>	Regional Water Supply	340	337	334
	JDF Water Distribution	301	299	297
	Saanich Peninsula Water Supply	435	424	413

# Community Need

## 2022 Summary

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	Local Services	215	192	202
<b>Metric 4:</b> Annual operating cost per megaliter of drinking water treated and supplied/distributed	Regional Water Supply	\$93.80	\$100.00	\$100.00
<b>Metric 5:</b> Annual Energy use (kWh) per megaliter of drinking water treated and supplied/distributed	Regional Water Supply	66	66	66
<b>Metric 6:</b> Volume of raw water released annually from RWS watersheds to rivers to support fish habitat (megaliters)	Regional Water Supply	11,489	10,500	12,200
<b>Metric 7:</b> Number of watermain leak repairs and service line leaks annually per 100 kilometers of pipe (distribution systems)	JDF Water Distribution	0.9	0.9	<1
	Local Services	33.2	35	<30
<b>Metric 8:</b> Preventative maintenance completed	Regional Water Supply	85%	97%	100%
	JDF Water Distribution	91%	96%	100%
	Saanich Peninsula Water Supply	95%	100%	100%
	Local Services	79%	99%	100%

# Community Need

## Capital Plan Report

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### Water

#### Highlights since 2019

- The CRD has allocated **\$87M since 2019** on projects across the region that advance the Water Community Need. This was primarily funded through water fees, reserves and capital funds at hand.
- Some of the projects included:
  - Replacing aged infrastructure including asbestos cement pipes in the Juan de Fuca Water Distribution Service Area, and intake tower screening equipment at Sooke Lake Reservoir
  - Replacement of Lubbe Dam and rehabilitation of Butchart Dam number 5 and a safety review and resulting improvements at Sooke Lake Dam in the Regional Water Supply Service
  - Constructing new infrastructure to support growth related capacity needs under the Juan de Fuca Water Distribution development cost charge program
  - Completing the Regional Water Supply Master Plan update to determine long term water supply needs for the Greater Victoria Area
  - Various studies, renewals and replacement projects to support numerous local services including Beddis Water, Cedar Lane Water, Cedars of Tuam Water, Fulford Water, Highland & Fernwood Water, Highland Water, Lyall Harbort Boot Cove, Magic Lake Estates, Port Renfrew Water, Skana Water, Sticks Allison Water, Surfside Park Estates and Wilderness Mountain Water Service.

#### Planned for 2022

- The CRD will allocate **\$36M in 2022** on projects across the region that advance the Water Community Need. Projects to be undertaken include:

# Community Need



## Capital Plan Report

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- Upgrading the Rocky Point pump station, reservoir and piping and replacing aged infrastructure including asbestos cement pipes on Goldstream Avenue and several other streets throughout the Juan de Fuca Water Distribution Service
  - Planning for upgrades to vulnerable transmission main sections of the Regional Water Supply and Saanich Peninsula Water System, including Transmission Main No.4 and Main No.3
  - Replace the Ultra Violet system at the Goldstream Water Treatment Plant, the primary disinfection facility for the Regional Water Supply System
  - Undertaking design and construction of a new Watershed Operations Field Office to replace the temporary trailers currently in use
  - Replacement of vehicle and equipment used for day-to-day operations and maintenance of water systems
  - Various studies, renewals and replacement projects to support numerous local services including Beddis Water, Cedar Lane Water, Cedars of Tuam Water, Florence Lake Water System, Fulford Water, Highlands & Fernwood Water, Juan de Fuca Water Distribution, Lyall Harbour Boot Cove Water, Magic Lake Estates Water, Port Renfrew Water, Saanich Peninsula Water Supply, Skana Water, Sticks Allison Water, Surfside Park Estates and Wilderness Mountain Water.
- This work is funded through the water rates and some reserves (including equipment reserve fund) and capital funds on hand.

# Community Need

## Initiative Progress Report



### Water

Initiatives approved in 2020 and 2021			
Ref	Initiative	% Complete	Progress to date
10a-0.1	Watershed Security Position	--	Lead: Watershed Protection (2021) Not started - pending union bargaining
10a-1	Post-Disaster Water Supply Plan	On-going	Lead: Infrastructure Engineering (2020) Progressing – continued implementation of resilient infrastructure including hardened hydrants, restrained pipe and seismic valves, as well as acquisition of emergency distribution supplies. Additional education and coordination with municipal distributors and emergency services planned for 2021.
10a-2	Water Infrastructure Resilience	On-going	Lead: Infrastructure Operations Water (2020) Progressing – Infrastructure renewal programs continue with appropriate funding levels; recruitment of new staffing approved in 2020 complete.
10a-2.1	Water Infrastructure Resilience	100%	Lead: Infrastructure Operations Water (2021) Part of core services - Recruitment of new staff for 2021 is now complete and work is progressing.
10a-3	RWSSP Update	100%	Lead: Infrastructure Engineering (2020) Part of core services – continuing progress on strategic plan initiatives; progress report was presented to RWSC in October 2020.
10a-4	Cross Connection Control Inspector	100%	Lead: Environmental Protection (2021) Part of core services
10a-5	Water Billing	100%	Lead: Financial Services (2020) Part of core services - recruitment completed
10a-7	SSI + SGI Water Operations	100%	Lead: Infrastructure Operations Water (2020) Part of core services
10b-1	Water Conservation through Demand Management	100%	Lead: Environmental Protection (2020) Part of core services

# Community Need

## Initiative Progress Report

Initiatives approved in 2020 and 2021			
Ref	Initiative	% Complete	Progress to date
10c-1	Agricultural Water Subsidy	50%	Lead: Infrastructure Operations Water (2020) Progressing - Agricultural land use inventory and agricultural water demand model completed and presented to Commissions in 2020. Agricultural water rate review will be completed in 2021/2022.
10d-1	Future Water Supply + Infrastructure	70%	Lead: Infrastructure Engineering (2020) Progressing – Consultant has been retained to complete the Regional Water Master Plan Update with completion in 2021 with a focus on long term water supply and infrastructure.
10d-2	Leech River Water Quality Operations	80%	Lead: Environmental Protection (2021) Progressing - sampling completed; report being developed for Q3 2021 which will be considered in Drinking Water master Planning project
10d-4	SSI Watershed Protection	--	Lead: Environmental Protection (2020) On hold
10d-3	Watershed Hydrology Monitoring	100%	Lead: Watershed Protection (2020) Completed – funding spent on: hydrology station upgrades, stream discharge measurements, and snow analysis.
10d-3	Watershed Hydrology Monitoring	60%	Lead: Watershed Protection (2021) Progressing - continuing on from 2020 IBC into 2022, renewal of contracts to be completed on budget approval – hydrology station upgrades and discharge measurements

**REPORT TO JUAN DE FUCA WATER DISTRIBUTION COMMISSION  
MEETING OF TUESDAY, OCTOBER 5, 2021**

**SUBJECT**     **Juan de Fuca Water Distribution Service - 2022 Operating and Capital Budget**

**ISSUE SUMMARY**

To provide an overview of the 2022 Juan de Fuca Water Distribution Service budget, highlighting the proposed significant changes from the 2021 budget. The report generally follows the sequence of information provided in the attached draft budget document (Appendix A).

**BACKGROUND**

The draft 2022 Juan de Fuca (JDF) Water Distribution Service budget has been prepared for the JDF Water Distribution Commission's (Commission) consideration. The Commission will make budget recommendations to the Capital Regional District (CRD) Board through the Committee of the Whole in October. As in previous years, the draft 2022 JDF Water Distribution Service budget has been prepared considering the CRD Board's 2022 service planning and financial expectations, which include identifying opportunities to realign or reallocate resources and seek potential efficiencies between departments and services, reviewing of service levels and adjustments related to regulatory compliance, and undertaking infrastructure improvements to maintain service levels across the service area, including incremental ongoing operational and maintenance requirements in the expanding service area. The following sets out the key components of the budget.

**2021 Year End Financial Projections**

Year-end revenue and expenditure projections have been established and estimated variances are summarized as follows:

Budget Item	Variance (\$)	Variance (%)
Distribution System operating expenditures	\$390,735	-5.6%
Bulk water purchase cost	\$358,280	5.6%
Capital expenditures and transfers	\$1,321,891	23.6%
Debt servicing - principal and interest expenditures	\$19,500	-1.0%
Revenue	\$1,269,939	6.1%
Transfers from Development Cost Charges (DCC) reserves to fund DCC debt	\$0	0.0%

**Rate Base**

The rate base for 2022 has increased by \$9,197,641 from 2021. This increase relates to physical plant additions, including distribution pipes, water meters and services, and pump station upgrades (Pages 3 & 4 of the budget document).

### Revenue Requirement

The revenue requirement for 2022 has increased by \$1,342,939 over 2021. This is resulting from an increase in operational expenses of \$208,665, increased depreciation expenses of \$102,210 net of expired depreciation on existing assets, and a net increase in the return on the rate base of \$834,500. The increase in the return on the rate base is a result of the growing asset base (Page 6 of the budget document).

### Operating Budget

The 2022 operating budget reflects an increase in non-discretionary expenses such as negotiated wage/salary increases, departmental support service allocation increases, maintenance expenses due to new infrastructure additions, and other operating expense increases such as electricity costs.

As reported in recent years, as

a result of continued growth in new land development in the service area over the last several years, the distribution system has and continues to expand at an accelerated rate. For context, the following summarizes the additions in 2021 (over 2020) to the asset units in the major categories, all of which require regular maintenance to ensure reliable performance:

- |                               |                              |
|-------------------------------|------------------------------|
| • Water distribution mains    | 5,000 metres                 |
| • Service laterals            | 445 (9 metre length average) |
| • Fire hydrants               | 67                           |
| • Line valves                 | 150                          |
| • Flush, air and check valves | 22                           |
| • Water meters <50mm          | 360                          |
| • Water meters =/>50mm        | 85                           |

As noted previously, with at least four major developments underway in the service area including South Skirt Mountain, Bear Mountain, Royal Bay and Centre Mountain, it is expected that the water system asset base will continue to grow significantly in the near future as initial water servicing infrastructure is installed which will impact operating and maintenance costs. Given the size of the developments and anticipated phasing and build-out timelines, it is expected that there will be an element of 'revenue lag', before revenue generated from retail water sales in these and other developments offsets the initial infrastructure operating and maintenance costs. Staff will be examining this issue and possible rate options to mitigate the budget implications further this year through the Water Rate Methodology and Option Study, directed by the Commission and included in the 2021 budget funding. Any potential changes to the rate methodology will be presented to the Commission in 2022.

The net core 2022 operating budget increase is \$208,665. The core operating budget increase is primarily due to labour budget adjustments, including a proportional share of the costs associated with the new departmental Contracts Coordinator and Infrastructure Integration Technician positions, and corporate overhead allocation adjustments. Operating budget forecasts for 2023 through 2026 have been presented for information.

### Capital Budget

There are a number of capital projects planned for 2022 with a total value of \$33,396,000 including \$19,653,000 that are in progress or are multi-year projects, and \$8,675,000 in Development Cost Charge (DCC) projects. There are also \$2,240,000 in projects cost-shared with the Regional

Water Supply Service. See pages 13 to 26 of the budget document for capital plan details.

A large portion of the work in progress and resulting capital expenditure variance is related to five major projects summarized below:

1. Project 18-05 Rocky Point Upgrades - This project is cost-shared with the Federal government through a contribution agreement with the Department of National Defence (DND). The planned carry-forward of \$8,871,000 includes the JDF Water Distribution Service portion of \$3,320,000 and DND's portion of \$5,551,000. Some delays were encountered during the detailed design portion of the project related to a rezoning variance requirement as well as additional engineering to address any potential archeological issues that may be encountered during construction. The project is fully designed, tendered and has been awarded to a contractor with construction expected to commence prior to the end of 2021.
2. Project 20-07 Goldstream Asbestos Cement (AC) Replacement - The planned carry-forward of \$4,000,000 is related to the majority of construction being delayed until 2022. Design for replacement started in January 2021 with conceptual design completed in April 2021 and final design is now completed. A Construction Contract Request for Qualifications was issued September 15, 2021, with award expected by the end of 2021 and construction in 2022.
3. Project 16-05 Comprehensive Pump Station Upgrades (Ludlow Pump Station Project) - The comprehensive pump station upgrade project is a 10-year program and the scheduled upgrade for 2021 was the Ludlow pump station. A carry-forward of \$600,000 is proposed. The design was complete in January 2021 and tendered in February. Construction of the Ludlow pump station reconstruction has been delayed due to long equipment lead time. The pump station is scheduled to be complete by summer of 2022.
4. Project 20-06 Sunriver Reservoir Replacement - The planned carry-forward of \$700,000 is related to the majority of construction being delayed until 2022 due to resolution of site zoning and utility encumbrance issues. Final design is complete and the project is planned to be tendered and construction awarded prior to the end of 2021.
5. Project 23-01 Tank 4 and McCallum Pump Station (2020-2021) and Pump Station 7 and remaining Supply Main to Skirt Mountain Reservoir (2022) – The project was put on hold temporarily over concerns with rising material costs and scheduling concerns related to timing of development servicing needs, resulting in a \$4,000,000 carry-forward. Engineering design and construction tendering is planned to be complete prior to the end of 2021, with construction to start in early 2022. The project is fully funded through the Development Cost Charge (DCC) Program.

In addition to the above projects, the major projects in 2022 include:

- Accelerated AC water main replacements: Dufour Road, Goldfinch Road, Lagoon Road, Milburn Drive, O'Neill Road, Possession Point Road, Richview Drive, Whiffin Spit Road
- Reservoir upgrades: Peacock and Skirt Reservoirs
- Pump station upgrades: Coppermine Pump Station

Under the DCC program, most of the construction planned in 2021 at the McCallum Pump Station and South Skirt Mountain Tank 4 and Pump Station 7, will be scheduled in 2022 as previously noted.

A five year capital plan has been presented for information. The total five year (2022-2026) capital plan budget is currently \$64,660,000.

### Capital and Debt Expenditures

The 2022 capital expenditures will be partially funded through a transfer to the water capital fund budgeted at \$6,374,922, with the balance funded through debt. 2022 debt expenditures for existing and new debt servicing are budgeted to be \$1,893,503. Debt servicing expenditures have only increased by \$5,167 over 2021. Additional projected water sales revenue and corresponding capital reserve fund transfer, will reduce the borrowing needs in 2022. A new loan authorization in the amount of \$14,800,000 was approved this year to allow continued partial funding of the five year capital plan. The upcoming debt retirements on existing borrowings are summarized as follows:

Loan Number	Retirement Date	Loan Amount
LA3164-099	October 2021	\$500,000
LA3164-101	April 2022	\$500,000
LA3782-118	April 2027	\$2,500,000
LA3782-124	April 2028	\$4,500,000
LA3782-127	April 2029	\$5,000,000
LA3981-137	April 2031	\$2,000,000
LA3981-145	April 2033	\$3,000,000
LA3981-150	April 2035	\$5,100,000
LA4379-15X	April 2037-2038	\$11,200,000

When assessing key financial health indicators, the service maintains an affordable level of debt over the next five years. The percentage of revenue dedicated to debt costs is forecast to be between 10 to 12%, which is less than an annual benchmark rate of 25%. Additionally, the debt funding for capital investment in each of the next five years does not exceed 46%. A summary indicator table is provided below:

Year	% Revenue for Debt	Capital Funded by Debt
2022	8.4%	18.3%
2023	10.0%	45.7%
2024	10.7%	0.0%
2025	10.2%	0.0%
2026	9.8%	0.0%

A \$263,494 transfer to the vehicle/equipment replacement fund is planned in 2022. The reserve fund balance is estimated at \$730,251 at year end 2021 (See reserve schedule – Page 29 of the budget document).

The DCC projects will be funded entirely from the DCC reserve fund, which is projected to have a balance of \$11,509,396 at year end 2021 (See reserve schedule – Page 28 of the budget document).

### Bulk Water Purchase

Based on the proposed 2022 budgeted water demand and Regional Water Supply wholesale water rate, the bulk water purchase budget has been set at \$6,818,760.

### Water Demand

Total water demand in the service area is anticipated to continue to increase year over year, primarily as a result of growth in the service area. This trend, combined with one of the hottest and driest years on record, has resulted in actual demand exceeding budgeted demand in 2021; the 2021 year end demand is projected to be 500,000 cubic metres over budget at 9,400,000 cubic metres.

The recommended 2022 water rate has been calculated using a budget demand of 9,300,000 cubic metres (Page 7 of the budget document), which is 400,000 cubic metres greater than the volume used in the 2021 budget.

### Proposed 2022 Wholesale Water Rate

The proposed 2022 wholesale water rate is \$0.7332 per cubic metre, a 2.57% increase from the 2021 rate, subject to the Regional Water Supply Commission's approval.

### Proposed Agricultural Water Rate

Although the agricultural water rate is currently under review, the proposed 2022 agricultural water rate has been maintained at the 2021 rate of \$0.2105 per cubic metre, subject to the Regional Water Supply Commission's approval. The Regional Water Supply agricultural water rate budget funds the difference between the municipal retail water rate and the agricultural water rate.

### Proposed 2022 Juan de Fuca Water Distribution Service Retail Water Rate

The recommended retail water rate has taken into consideration the revenue required to meet operating and capital expenditures, debt obligations, the bulk water purchase expense, and the budget demand volume established for 2022. The proposed 2022 Juan de Fuca Water Distribution Service retail water rate is \$2.4024 per cubic metre, a 4.09% increase from the 2021 rate (Page 8 of the budget document).

### Retail and Wholesale Water Rate History and Projection

The retail and wholesale water rate history and projection is attached (Appendix C). The rates may be adjusted in the future to reflect actual revenue and expenditure circumstances and water demand volumes.

## **ALTERNATIVES**

### *Alternative 1*

That the Juan de Fuca Water Distribution Commission recommends the Committee of the Whole recommend to the Capital Regional District Board to:

1. Approve the 2022 Operating and Capital Budget and the Five Year Capital Plan;
2. Approve the 2022 Juan de Fuca Water Distribution Service retail water rate of \$2.4024 per cubic metre, adjusted if necessary by any change in the Regional Water Supply wholesale water rate; and
3. Direct staff to amend the Water Distribution Local Service Conditions, Fees and Charges Bylaw accordingly.

### *Alternative 2*

That the Juan de Fuca Water Distribution Commission directs staff to bring back a revised 2022 Operating and Capital Budget for the Commission's consideration.

## **IMPLICATIONS**

The 2022 operating and capital budget and resulting annual water rate have been prepared to meet the needs of the service. The proposed 2022 water rate aligns closely with the rate previously presented in the five-year rate projections. The rate would result in a \$22.07 annual increase in the cost of water for an average household.

## **CONCLUSION**

The draft 2022 Juan de Fuca Water Distribution Service budget has been prepared for the JDF Water Distribution Commission's consideration. The Commission will make budget recommendations to the Capital Regional District Board through the Committee of the Whole in October. The draft 2022 JDF Water Distribution Service budget has been prepared considering the requirement to maintain regulatory compliance, the on-going need to undertake infrastructure renewal to ensure the system operates reliably, and annual operational adjustments, including incremental maintenance requirements associated with new development infrastructure in the expanding service area.

## **RECOMMENDATION**

That the Juan de Fuca Water Distribution Commission recommends the Committee of the Whole recommend to the Capital Regional District Board to:

1. Approve the 2022 Operating and Capital Budget and the Five Year Capital Plan;
2. Approve the 2022 Juan de Fuca Water Distribution Service retail water rate of \$2.4024 per cubic metre, adjusted if necessary by any change in the Regional Water Supply wholesale water rate; and
3. Direct staff to amend the Water Distribution Local Service Conditions, Fees and Charges Bylaw accordingly.

Submitted by:	Ted Robbins, B.Sc., C.Tech., General Manager, Integrated Water Services
Concurrence:	Nelson Chan, MBA, FCPA, FCMA, Chief Financial Officer
Concurrence:	Robert Lapham, MCIP, RPP, Chief Administrative Officer

## **ATTACHMENTS**

Appendix A: 2022 Juan de Fuca Water Distribution Service Budget  
Appendix B: Long Term Debt Obligations Summary  
Appendix C: Retail and Wholesale Water Rate History and Projection

# **CAPITAL REGIONAL DISTRICT**

## **2022 BUDGET**

### **JDF Water Distribution**

#### **COMMISSION REVIEW**

OCTOBER 2021

**Service:** 2.680 JDF Water Distribution

**Commission:** Juan De Fuca Water Distribution

#### DEFINITION:

To finance the administration, development, maintenance, and operational expenses, of the Juan de Fuca Water Distribution local service in the Western Communities of the Capital Regional District, as per the Water Distribution Local Service Area Establishment Bylaw No. 2538.

The establishment and operation of a Juan de Fuca water Distribution Commission is done by Bylaw No. 2540.

#### SERVICE DESCRIPTION:

Juan de Fuca Water Distribution Service provides retail water distribution system to participants within the Western Communities. The service administration and operation is provided by the Integrated Water Services Department.

#### PARTICIPATION:

City of Colwood	District of Metchosin
City of Langford	District of Sooke
Town of View Royal	District of Highlands
Juan de Fuca Electoral Area	

#### MAXIMUM LEVY:

The maximum amount that may be requisitioned is NIL.

#### MAXIMUM CAPITAL DEBT:

Authorized:		\$19,000,000 Pre - (Consolidated MFA Loan Authorizations - Juan de Fuca Water Distribution Facilities)
Borrowed:		\$17,500,000 Pre - (Consolidated amounts borrowed - Juan de Fuca Water Distribution Facilities)
Remaining:	Expired	\$1,500,000
Authorized:		\$14,800,000 2015 - (MFA Bylaw No. 3981 Juan de Fuca Water Distribution Facilities)
Borrowed:		\$10,100,000
Remaining:	Expired	\$4,700,000
Authorized:		\$10,000,000 DCC - (MFA Bylaw No. 3164 Juan de Fuca Water Distribution Facilities Development-DCC)
Borrowed:		\$3,500,000 DCC - (MFA Bylaw No. 3164 Juan de Fuca Water Distribution Facilities Development-DCC)
Remaining:	Expired	\$6,500,000
Authorized:		\$14,800,000 2021 - (MFA Bylaw No. 4379 Juan de Fuca Water Distribution Facilities)
Borrowed:		\$0
Remaining:		\$14,800,000

#### FUNDING:

Costs are recovered from Water Sales, and transfer from DCC reserves to service DCC debt.

## Rate Base for 2022 Revenue Year

	<u>2020</u> <u>Applic</u>	<u>2021</u> <u>Applic</u>	<u>End of 2021</u> <u>for '22 Applic.</u>	<u>Change</u>	
<b>Retail System</b>					
Physical Plant	\$ 166,168,703	\$ 174,624,245	\$ 179,090,334	\$ 4,466,089	Note 1
Construction Work In Progress	1,019,107	962,562	5,668,389	4,705,827	Note 1
Cash Working Capital	826,902	854,959	880,685	25,726	
Inventory	<u>525,000</u>	<u>525,000</u>	<u>525,000</u>	<u>-</u>	
Total Retail Rate Base	\$ 168,539,712	\$ 176,966,766	<b>\$ 186,164,408</b>	\$ 9,197,641	

Note 1: Refer to the Schedule of Change in Physical Plant & Work in Progress for details.

### Schedule of Change in Physical Plant & Work In Progress

#### Retail

Projected Asset Additions	Projected Assets Capitalized
Pipes	\$ 3,300,302
Pump Stations	1,107,069
Meters	1,050,000
SCADA	396,778
Hydrants	225,000
Valve Replacement	200,000
Building Modification	120,211
Reservoir Rehabilitation and Upgrades	100,000
Other Projects (16 minor projects under \$50k)	245,456
Total projected assets capitalized	\$ 6,744,816
Less: current year's depreciation	(4,905,802)
Less: change in prior year forecast addition estimates, & disposals.	2,627,075
Change in Physical Plant	<u>\$ 4,466,089</u>

#### Projected Construction Work In Progress (CWIP)

Pump Stations	\$ 2,488,664
Reservoir Rehabilitation and Upgrades	1,102,067
Pipes	1,050,000
Radio Upgrades	250,000
Meters	150,000
Small Diameter Program Update	99,235
Update Procedures & Eng Specifications	90,257
Disaster Response Studies	87,488
Reservoir Demolition	80,696
Studies (Hydraulic model)	60,000
Fire Storage	60,000
SCADA	50,000
Other Projects (9 minor projects under \$50k)	99,982
Projected CWIP	\$ 5,668,389
Less Prior year's projected CWIP	(962,562)
Change in CWIP	<u>\$ 4,705,827</u>

**Schedule A**  
**Asset Useful Life Assignments - PSAB**

<u>Classes:</u>	<u>Code</u>	<u>Asset Categories</u>	<u>Useful Life, Years</u>
<b>Land</b>	LAND	Land & Rights of Way * (Note 1)	N/A
<b>Building</b>	BLDG	Building, Permanent	50
	BLOT	Building, Temporary/ Portable	20
	BLFX	Building fixture ( <i>sprinklers</i> )	20
<b>Equipment</b>	BOAT	Boats & Marine Equipment	10
	COMP	Computer Equipment ( <i>includes software</i> )	5
	ELEC	Electronic Equipment( <i>hydromet, weather stn eqpt</i> )	5
	FIRE	Fire & Safety Equipment	10
	GENT	Generator	20
	HYDR	Hydrants and Standpipes	20
	HYDY	Hydrology	10
	MTRS	Meters	20
	OFFE	Office Equipment	5
	OFFF	Office Furniture	10
	SCDA	SCADA Equipment	10
	SCRN	Intake Screens/Membranes ( <i>stop logs</i> )	20
	SHOP	Shop Equipment	10
	TELE	Telecommunication Eqpt ( <i>radios, phone systems</i> )	10
	WEQP	Water Works Eqpt( <i>W. Quality lab, Wshed eqpt</i> )	10
	NEW GRP	Weather stn & communication tower	15
<b>Vehicle</b>	VEHC	Vehicles	8
<b>Engineering</b>	BRDG	Bridge	50
<b>Structure</b>	CANL	Canal	50
	DAMS	Dam Structures	100
	PIPE	Pipelines, includes Vaults, Kiosks, Valve chambers	75
	PIPF	Pipelines, fittings	20
	PLPV	Parking lot paved	40
	PSEQ	Pump Station Equipment	20
	PSHS	Pump Station Housing	50
	PRVS	Valves, Flushes & PRV's	20
	RDGR	Roads gravel	20
	RDPV	Roads paved	40
	RESS	Reservoirs (steel & concrete)	50
	REST	Reservoirs (tower/tank)	35
	TANK	Storage tank	40
	TELP	Telephone and Power Lines	50
	TUNN	Tunnel, Culvert and Diversions	50
	WATP	Water Treatment Plant	25
	WELL	Wet well/ Well	50
<b>Other Assets</b>	CSTU	Capital Management Studies	5
	FENC	Fences	15
	LIMP	Land & Yard Improvements	20

Note 1: Land is not depreciated so a useful life assignment is not applicable.

## Revenue Requirements for 2022 Year

	2020 Application	2021 Application	2022 Application	Change	
<b>Retail</b>					
Operations & maintenance	\$ 6,707,098	\$ 6,934,667	\$ 7,143,332	\$ 208,665	
Depreciation	4,532,773	4,833,774	4,935,985	102,210	
Return on rate base	<u>2,682,900</u>	<u>2,814,700</u>	<u>3,649,200</u>	<u>834,500</u>	Note 1
Subtotal of above	\$ 13,922,771	\$ 14,583,141	\$ 15,728,517	\$ 1,145,375	
Non-rate revenue	(174,500)	(174,500)	(174,500)	-	
DCC Repayment	<u>(228,160)</u>	<u>(228,160)</u>	<u>(30,596)</u>	<u>197,564</u>	
Total retail	\$ 13,520,111	\$ 14,180,481	\$ 15,523,421	\$ 1,342,939	

Note 1: Return on rate base is calculated with reference to the long term Canada bond rate & the average debt rate.

**2022 Demand Estimate****Retail Demand**

Years	Actual Demand cu.metre	Budgeted Demand cu.metre
2017	8,595,300	8,000,000
2018	8,853,800	8,200,000
2019	8,911,315	8,600,000
2020	9,345,130 <sup>1</sup>	8,900,000
2021	9,400,000 <sup>2</sup>	8,900,000
<b>2022 Demand Estimate</b>	<b>9,300,000</b>	

<sup>1</sup> Normalized for additional billing cycle in 2020

<sup>2</sup> Projected consumption for 2021

### Summary of Retail Water Rates

	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>Change</u>
<b>Retail (direct) water rate</b>						
Unit cost per cu.m.	\$2.0739	\$2.1132	\$2.2159	\$2.3081	\$2.4024	\$0.0943

### Retail Water Rate Increase Impact on Residential Water Bill

Average consumption per 2 month billing cycle: \* 39.0 cubic meters (annual = 234.0 cu.m)

<u>Charge for Two Months Consumption</u>	<u>Year</u>	<u>Bi monthly Charge</u>	<u>Annual Charge</u>	<u>2022 Annual Change \$</u>
Average Consumption	2021	\$ 90.02	\$ 540.10	
	2022	\$ 93.69	\$ 562.16	\$ 22.07
Half Average Consumption	2021	\$ 45.01	\$ 270.05	
	2022	\$ 46.85	\$ 281.08	\$ 11.03
Twice Average Consumption	2021	\$ 180.03	\$ 1,080.19	
	2022	\$ 187.39	\$ 1,124.32	\$ 44.13

**Change in Budget 2021 to 2022****Service: 2.680 Juan de Fuca Water Distribution****Total Expenditure****Comments****2021 Budget****20,793,372****Change in Salaries:**

Base salary change

3,581

Inclusive of estimated collective agreement changes

Total Change in Salaries

3,581

**Other Changes:**

Transfers to Capital Fund

1,096,147

Bulk Water Purchase

457,040

Allocation - Operations

311,654

Standard Overhead Allocation

86,542

Principal &amp; Interest Payments

5,167

Contract for Services

(129,450)

Shift costs to internal labour

Other Costs

(63,662)

Total Other Changes

1,763,438

**2022 Budget****22,560,391**

% expense increase from 2021:

**8.5%****Overall 2021 Budget Performance**

(expected variance to budget and surplus treatment)

*Favourable revenue and water sales variance of \$1,270,000 (6.1%) due to higher than budgeted water sales largely a result of increased temperatures. There is an additional favourable variance of reduced labour (\$230,000) and savings on debt payments (\$90,000). This additional revenue will be partially offset by bulk water purchase overages. The net surplus of \$1,387,000 will be transferred to the Capital Reserve Fund.*

# APPENDIX A

## CAPITAL REGIONAL DISTRICT

Program Group: CRD-JDF Water Distribution	2022 BUDGET REQUEST						FUTURE PROJECTIONS				
	2021 BOARD BUDGET	2021 ESTIMATED ACTUAL	2022 CORE BUDGET	2022 ONGOING	2022 ONE-TIME	TOTAL (COL 4, 5 & 6)	2023	2024	2025	2026	
	1	2	3	4	5	6	7	8	9	10	11
SUMMARY											
OPERATING EXPENDITURES											
ALLOCATION - OPERATIONS	4,539,881	4,305,840	4,851,535	-	-	4,851,535	4,948,557	5,047,485	5,148,388	5,251,343	
OPERATING - OTHER COSTS	937,033	892,192	873,371	-	-	873,371	880,076	887,005	894,080	901,330	
SALARIES AND WAGES	547,368	483,000	550,949	-	-	550,949	562,779	574,864	587,205	599,801	
CONTRACT FOR SERVICES	435,935	388,450	306,485	-	-	306,485	311,607	316,832	322,169	327,610	
ALLOCATION - STANDARD OVERHEAD	474,450	474,450	560,992	-	-	560,992	572,212	583,656	595,329	607,236	
TOTAL OPERATING EXPENDITURES	6,934,667	6,543,932	7,143,332	-	-	7,143,332	7,275,231	7,409,842	7,547,171	7,687,320	
Percentage increase over prior year's board budget			3.01%			3.01%	1.85%	1.85%	1.85%	1.86%	
BULK WATER PURCHASE	6,361,720	6,720,000	6,818,760	-	-	6,818,760	7,100,760	7,461,300	7,932,480	8,313,870	
BULK WATER EXPENDITURES	6,361,720	6,720,000	6,818,760	-	-	6,818,760	7,100,760	7,461,300	7,932,480	8,313,870	
			7.18%			7.18%					
CAPITAL EXPENDITURES & TRANSFERS											
TRANSFER TO WATER CAPITAL FUND	5,278,916	6,665,810	6,374,922	-	-	6,374,922	6,980,000	7,740,000	8,310,000	8,910,000	
TRANSFER TO DEBT RESERVE FUND	71,730	6,730	66,380	-	-	66,380	55,770	4,770	4,770	4,770	
TRANSFER TO EQUIPMENT REPLACEMENT FUND	258,003	258,003	263,494	-	-	263,494	268,764	274,139	279,622	285,215	
TOTAL CAPITAL EXPENDITURES & TRANSFERS	5,608,649	6,930,543	6,704,796	-	-	6,704,796	7,304,534	8,018,909	8,594,392	9,199,985	
DEBT SERVICING											
DEBT - INTEREST & PRINCIPAL	1,888,336	1,868,836	1,893,503	-	-	1,893,503	2,408,604	2,747,525	2,747,525	2,747,525	
TOTAL DEBT EXPENDITURES	1,888,336	1,868,836	1,893,503	-	-	1,893,503	2,408,604	2,747,525	2,747,525	2,747,525	
TOTAL EXPENDITURES	20,793,372	22,063,311	22,560,391	-	-	22,560,391	24,089,129	25,637,576	26,821,568	27,948,700	
SOURCES OF FUNDING											
REVENUE - SALES	(20,542,201)	(21,696,140)	(22,342,320)	-	-	(22,342,320)	(23,909,859)	(25,458,306)	(26,642,298)	(27,769,430)	
REVENUE - OTHER	(181,230)	(297,230)	(187,475)	-	-	(187,475)	(179,270)	(179,270)	(179,270)	(179,270)	
TOTAL SOURCE OF FUNDING FROM OPERATIONS	(20,723,431)	(21,993,370)	(22,529,795)	-	-	(22,529,795)	(24,089,129)	(25,637,576)	(26,821,568)	(27,948,700)	
SOURCES OF OTHER FUNDING											
TRANSFER FROM DCC RESERVES TO FUND DCC DEBT	(69,941)	(69,941)	(30,596)	-	-	(30,596)	-	-	-	-	
TRANSFER FROM PRIOR YEAR	-	-	-	-	-	-	-	-	-	-	
TRANSFER TO FOLLOWING YEAR											
TOTAL SOURCES OF ALL FUNDING	(20,793,372)	(22,063,311)	(22,560,391)	-	-	(22,560,391)	(24,089,129)	(25,637,576)	(26,821,568)	(27,948,700)	
Percentage increase over prior year's board budget			8.50%			8.50%	6.78%	6.43%	4.62%	4.20%	

**CAPITAL REGIONAL DISTRICT**  
**FIVE YEAR CAPITAL EXPENDITURE PLAN SUMMARY - 2022 to 2026**

<b>Service No.</b>	<b>2.680</b>	<b>Carry Forward from 2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>TOTAL</b>
	<b>JDF Water Distribution</b>							

**EXPENDITURE**

Buildings	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Land	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Engineered Structures	\$19,291,000	\$32,336,000	\$10,880,000	\$6,760,000	\$6,555,000	\$6,035,000	\$62,566,000	
Vehicles	\$362,000	\$1,060,000	\$270,000	\$400,000	\$240,000	\$124,000	\$2,094,000	
	<b>\$19,653,000</b>	<b>\$33,396,000</b>	<b>\$11,150,000</b>	<b>\$7,160,000</b>	<b>\$6,795,000</b>	<b>\$6,159,000</b>	<b>\$64,660,000</b>	

**SOURCE OF FUNDS**

Capital Funds on Hand	\$9,740,000	\$12,010,000	\$5,760,000	\$6,740,000	\$6,535,000	\$6,035,000	\$37,080,000	
Debenture Debt (New Debt Only)	\$0	\$6,100,000	\$5,100,000	\$0	\$0	\$0	\$11,200,000	
Equipment Replacement Fund	\$362,000	\$1,060,000	\$270,000	\$400,000	\$240,000	\$124,000	\$2,094,000	
Grants (Federal, Provincial)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Donations / Third Party Funding	\$5,551,000	\$5,551,000	\$0	\$0	\$0	\$0	\$5,551,000	
Reserve Fund	\$4,000,000	\$8,675,000	\$20,000	\$20,000	\$20,000	\$0	\$8,735,000	
	<b>\$19,653,000</b>	<b>\$33,396,000</b>	<b>\$11,150,000</b>	<b>\$7,160,000</b>	<b>\$6,795,000</b>	<b>\$6,159,000</b>	<b>\$64,660,000</b>	

**CAPITAL REGIONAL DISTRICT**  
**FIVE YEAR CAPITAL EXPENDITURE PLAN SUMMARY - 2022 to 2026**

<b>Service No.</b>	<b>2.670/2.680 Regional Water Supply &amp; JDF Water Distribution Combo</b>	<b>Carry Forward from 2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>TOTAL</b>
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**EXPENDITURE**

Buildings	\$0	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000	\$400,000
Equipment	\$800,000	\$2,160,000	\$330,000	\$330,000	\$330,000	\$250,000	\$3,400,000
Land	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Engineered Structures	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Vehicles	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	<b>\$800,000</b>	<b>\$2,240,000</b>	<b>\$410,000</b>	<b>\$410,000</b>	<b>\$410,000</b>	<b>\$330,000</b>	<b>\$3,800,000</b>

**SOURCE OF FUNDS**

Capital Funds on Hand	\$800,000	\$2,240,000	\$410,000	\$410,000	\$410,000	\$330,000	\$3,800,000
Debenture Debt (New Debt Only)	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Equipment Replacement Fund	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Grants (Federal, Provincial)	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Donations / Third Party Funding	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Reserve Fund	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	<b>\$800,000</b>	<b>\$2,240,000</b>	<b>\$410,000</b>	<b>\$410,000</b>	<b>\$410,000</b>	<b>\$330,000</b>	<b>\$3,800,000</b>

CAPITAL REGIONAL DISTRICT  
5 YEAR CAPITAL PLAN  
2022 - 2026

<b>Project Number</b> Project number format is "yy-##" "yy" is the last two digits of the year the project is planned to start. "##" is a numerical value. For example, 22-01 is a project planned to start in 2022.  For projects in previous capital plans, use the same project numbers previously	<b>Capital Project Description</b> 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 is built current energy standards, designed to minimize maintenance and have an expected service life of 35 years".	<b>Carryforward from 2021</b> Input the carryforward amount from the 2021 capital plan that is remaining to be spent. Forecast this spending in 2022 to 2026.	<b>Project Drivers</b> <b>Maintain Level of Service</b> = Project maintains existing or improved level of service. <b>Advance Board or Corporate Priority</b> = Project is a Board or Corporate priority. <b>Emergency</b> = Project is required for health or safety reasons. <b>Cost Benefit</b> = Economic benefit to the organization.
<b>Capital Expenditure Type</b> <b>Study</b> - Expenditure for feasibility and business case report. <b>New</b> - Expenditure for new asset only <b>Renewal</b> - Expenditure upgrades an existing asset and extends the service ability or enhances technology in delivering that service <b>Replacement</b> - Expenditure replaces an existing asset	<b>Total Project Budget</b> Provide the total project budget, even if it extends beyond the 5 years of this capital plan.	<b>Funding Source Codes</b> 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 SLoan = Short Term Loans WU = Water Utility If there is more than one funding source, use additional rows for the project.	
<b>Capital Project Title</b> Input title of project. For example "Asset Name - Roof Replacement", "Main Water Pipe Replacement".	<b>Asset Class</b> <b>L</b> - Land <b>S</b> - Engineering Structure <b>B</b> - Buildings <b>V</b> - Vehicles	<b>Long-term Planning</b> <b>Master Plan / Servicing Plan</b> = Plan that identifies new assets required to meet future needs. <b>Asset Management Plan / Sustainable Service Delivery Plan</b> = Integrated plan that identifies asset replacements based on level of service, criticality, condition, risk, replacement costs as well as external impacts. <b>Replacement Plan</b> = Plan that identifies asset replacements based primarily on asset age or asset material/type. <b>Condition Assessment</b> = Assessment that identifies asset replacements based on asset condition.	
<b>Cost Estimate Class</b> 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 preliminary 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 #: 2.680

Service Name: JDF Water Distribution

Project List and Budget													
Project Number	Capital Expenditure Type	Capital Project Title	Capital Project Description	Total Project Budget	Asset Class	Funding Source	Carryforward from 2021	2022	2023	2024	2025	2026	5 - Year Total
<b>INFRASTRUCTURE ENGINEERING AND OPERATIONS</b>													
<b>Planning</b>													
16-03	Renewal	Asset Management Plan	Combine past studies to plan out future capital expenditures.	\$150,000	S	WU	\$150,000	-	\$50,000	\$100,000	-	-	\$150,000
21-14	Renewal	Fire Storage Analysis	Assess and update the fire flow upgrade program to inform future capital works.	\$120,000	S	WU	\$120,000	-	\$120,000	-	-	-	\$120,000
<b>Capital</b>													
16-05	Renewal	Comprehensive Pump Station Upgrades (10 year Program)	Continue pump station condition assessments, plan and carry out upgrades.	\$5,000,000	S	WU	\$600,000	\$700,000	\$1,000,000	-	-	-	\$1,700,000
18-02	Renewal	JDF Reservoir Upgrades	Reservoir improvements are required at Walfred, Peacock, and Helgesen Reservoirs. In 2018 a review of all three reservoirs was conducted including implementing improvements to Walfred.	\$1,250,000	S	WU	\$200,000	\$650,000	-	-	-	-	\$650,000
18-03	Renewal	JDF Site Decommissioning Program	Decommissioning of facilities that are no longer in use based on preliminary work from Annual Provisional	\$1,050,000	S	WU	\$350,000	\$450,000	\$350,000	\$100,000	-	-	\$900,000
18-05	Replacement	Rocky Point Upgrades	Replacement of Rocky Point P.S., additional storage at Rocky Point Reservoir & water main upgrades. Partnered with DND.	\$9,314,000	S	WU	\$3,320,000	\$3,320,000	-	-	-	-	\$3,320,000
18-05					S	Other	\$5,551,000	\$5,551,000	-	-	-	-	\$5,551,000
18-06	New	Disaster Response Plan for Water Supply and Distribution	Determine and supply response equipment for disaster response.	\$400,000	S	WU	-	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$250,000
19-06	Renewal	Corrosion Protection Program	Undertake a program to assess and prevent corrosion to existing steel pipe within the Juan du Fuca water system.	\$50,000	S	WU	-	\$5,000	\$5,000	\$5,000	-	-	\$15,000
19-09	New	Distribution System Seismic Resiliency Improvements	Determine and commence improvements to the distribution system to provide seismic resiliency.	\$1,750,000	S	WU	-	\$150,000	\$500,000	\$500,000	\$500,000	-	\$1,650,000
20-03	Replacement	AC Pipe Replacement Program	Replacement of aging asbestos cement pipe as highlighted in the 2019 update report	\$27,000,000	S	WU	-	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$15,000,000
20-04	Replacement	William Head & VGH Meter Replacement	Replacement of the meter and chambers at William Head & VGH with the possibility of resilient connections.	\$700,000	S	WU	\$300,000	\$550,000	-	-	-	-	\$550,000
20-06	Replacement	Sun River Reservoir Replacement	Replace the existing concrete tank with a steel tank for increased capacity and resilience.	\$1,100,000	S	WU	\$700,000	\$900,000	-	-	-	-	\$900,000
20-07	Replacement	Goldstream AC Replacement	Replacement of aging asbestos cement pipe within Goldstream Rd. from VMP to Spencer.	\$5,000,000	S	WU	\$4,000,000	\$4,000,000	-	-	-	-	\$4,000,000
21-02	Replacement	Sooke Rd - 2,200m of 600m Pipe - VMP to Jacklin	Replacement of aged, large diameter water main from Jacklin Rd to VMP	\$3,000,000	S	WU	-	\$200,000	\$2,800,000	-	-	-	\$3,000,000
21-13	Replacement	SCADA Master Plan Update & Upgrades	Update the SCADA Master Plan in conjunction with the RWS, Saanich Peninsula and Core Area infrastructure.	\$700,000	S	WU	-	\$500,000	-	-	-	-	\$500,000
22-01	New	East Sooke Interconnect Water Main	Construction approximately 430 m of watermain for system improvements.	\$500,000	S	WU	-	\$500,000	-	-	-	-	\$500,000
22-02	New	Microwave Radio Upgrades	Installation of high-bandwidth microwave radio infrastructure to accommodate CRD infrastructure	\$150,000	S	WU	-	\$150,000	-	-	-	-	\$150,000
<b>Sub-Total System Infrastructure Engineering and Operations</b>				<b>\$57,234,000</b>			<b>\$15,291,000</b>	<b>\$20,676,000</b>	<b>\$7,875,000</b>	<b>\$3,755,000</b>	<b>\$3,550,000</b>	<b>\$3,050,000</b>	<b>\$38,906,000</b>
<b>CUSTOMER AND TECHNICAL SERVICES</b>													
16-06	Replacement	Vehicle & equipment replacement (funding from replacement fund)	Vehicle and equipment replacement.	\$2,094,000	V	ERF	\$362,000	\$1,060,000	\$270,000	\$400,000	\$240,000	\$124,000	\$2,094,000
<b>Sub-Total Customer and Technical Services</b>				<b>\$2,094,000</b>			<b>\$362,000</b>	<b>\$1,060,000</b>	<b>\$270,000</b>	<b>\$400,000</b>	<b>\$240,000</b>	<b>\$124,000</b>	<b>\$2,094,000</b>

Service #: 2.680

Service Name: JDF Water Distribution

## Project List and Budget

Project Number	Capital Expenditure Type	Capital Project Title	Capital Project Description	Total Project Budget	Asset Class	Funding Source	Carryforward from 2021	2022	2023	2024	2025	2026	5 - Year Total
<b>ANNUAL PROVISIONAL ITEMS</b>													
17-07	New	Site Decommissioning - General	Planning for decommissioning of unused sites.	\$50,000	S	WU	-	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$50,000
17-09	Replacement	Emergency Main Replacement	Major main replacement under emergencies.	\$500,000	S	WU	-	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$500,000
17-12	Replacement	Large Meters/Meter Vaults Components Replacement	Replacement or repairs to components in large meters/vaults as required.	\$1,250,000	S	WU	-	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$1,250,000
17-13	New	Site Security Upgrades	Upgrading and replacement of security systems for sites as required.	\$200,000	S	WU	-	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$200,000
17-15	Renewal	Distribution System Improvements	Unplanned distribution system improvements.	\$2,250,000	S	WU	-	\$450,000	\$450,000	\$450,000	\$450,000	\$450,000	\$2,250,000
17-16	New	Hydraulic Model Yearly Update	Annual hydraulic model update.	\$300,000	S	WU	-	\$60,000	\$60,000	\$60,000	\$60,000	\$60,000	\$300,000
21-03	Replacement	Hydrant & Flush Replacement, Upgrades and Additions	Upgrade, replacement or installation of flushes and fire hydrants, and fire flow testing.	\$1,125,000	S	WU	-	\$225,000	\$225,000	\$225,000	\$225,000	\$225,000	\$1,125,000
21-04	Replacement	Residential Service & Meter Replacement	Replacement of residential water meters as highlighted by the 2017 KWL Water Audit report.	\$6,500,000	S	WU	-	\$1,300,000	\$1,300,000	\$1,300,000	\$1,300,000	\$1,300,000	\$6,500,000
21-05	Replacement	Pump Station Equipment Replacements	Unplanned pump station repairs and equipment replacement.	\$750,000	S	WU	-	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$750,000
21-06	Replacement	SCADA Equipment Replacement	Unplanned replacement of SCADA and electrical equipment.	\$500,000	S	WU	-	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$500,000
21-07	Renewal	Reservoir Equipment Replacement	Replacement or repairs to components at reservoir sites.	\$500,000	S	WU	-	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$500,000
21-09	Replacement	Valve Replacement	Unplanned replacement and repair of isolation and line valves, air valves, and pressure control valves.	\$1,000,000	S	WU	-	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$1,000,000
<b>Sub-Total for Annual Provisional Items</b>				<b>\$14,925,000</b>			<b>\$0</b>	<b>\$2,985,000</b>	<b>\$2,985,000</b>	<b>\$2,985,000</b>	<b>\$2,985,000</b>	<b>\$2,985,000</b>	<b>\$14,925,000</b>
<b>DEVELOPMENT COST CHARGE (DCC)</b>													
16-07	New	Update DCC Bylaw (Comprehensive Update in 2022)	Planned update of the DCC Bylaw.	\$255,000	S	Res	-	\$175,000	\$20,000	\$20,000	\$20,000	-	\$235,000
20-02	New	Bear Mountain Parkway Extension Supply Mains	Supply mains installed by the City of Langford.	\$2,000,000	S	Res	-	\$1,500,000	-	-	-	-	\$1,500,000
21-01	New	Sooke Henlyn Supply & Distribution Mains	Construction of water mains based upon development predictions from the Helgesen Pump Station westwards.	\$1,000,000	S	Res	-	\$1,000,000	-	-	-	-	\$1,000,000
23-01	New	Tank 4 and McCallum Pump Station (2020-2021) and Pump Station 7 and remaining Supply Main to Skirt Mtn Reservoir (2022)	Upgrades to complete the South Skirt Water System	\$7,110,000	S	Res	\$4,000,000	\$6,000,000	-	-	-	-	\$6,000,000
<b>Sub-Total for Development Cost Charges (DCC)</b>				<b>\$10,365,000</b>			<b>\$4,000,000</b>	<b>\$6,675,000</b>	<b>\$20,000</b>	<b>\$20,000</b>	<b>\$20,000</b>	<b>\$0</b>	<b>\$8,735,000</b>
<b>GRAND TOTAL</b>				<b>\$84,618,000</b>			<b>\$19,653,000</b>	<b>\$33,396,000</b>	<b>\$11,150,000</b>	<b>\$7,160,000</b>	<b>\$6,795,000</b>	<b>\$6,159,000</b>	<b>\$64,660,000</b>

CAPITAL REGIONAL DISTRICT  
5 YEAR CAPITAL PLAN  
2022 - 2026

<b>Project Number</b> Project number format is "yy-##" "yy" is the last two digits of the year the project is planned to start. "##" is a numerical value. For example, 22-01 is a project planned to start in 2022.  For projects in previous capital plans, use the same project numbers previously assigned.	<b>Capital Project Description</b> Briefly describe project scope and service benefits. For example: <i>"Full Roof Replacement of a 40 year old roof above the swimming pool area; The new roofing system is built current energy standards, designed to minimize maintenance and have an expected service life of 35 years".</i>	<b>Carryforward from 2021</b> Input the carryforward amount from the 2021 capital plan that is remaining to be spent. Forecast this spending in 2022 to 2026.	<b>Project Drivers</b> <b>Maintain Level of Service</b> = Project maintains existing or improved level of service. <b>Advance Board or Corporate Priority</b> = Project is a Board or Corporate priority. <b>Emergency</b> = Project is required for health or safety reasons. <b>Cost Benefit</b> = Economic benefit to the organization.
<b>Capital Expenditure Type</b> <b>Study</b> - Expenditure for feasibility and business case report. <b>New</b> - Expenditure for new asset only <b>Renewal</b> - Expenditure upgrades an existing asset and extends the service ability or enhances technology in delivering that service. <b>Replacement</b> - Expenditure replaces an existing asset	<b>Total Project Budget</b> Provide the total project budget, even if it extends beyond the 5 years of this capital plan.	<b>Funding Source Codes</b> 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.	<b>Long-term Planning</b> <b>Master Plan / Servicing Plan</b> = Plan that identifies new assets required to meet future needs. <b>Asset Management Plan / Sustainable Service Delivery Plan</b> = Integrated plan that identifies asset replacements based on level of service, criticality, condition, risk, replacement costs as well as external impacts. <b>Replacement Plan</b> = Plan that identifies asset replacements based primarily on asset age or asset material/type. <b>Condition Assessment</b> = Assessment that identifies asset replacements based on asset condition.
<b>Capital Project Title</b> Input title of project. For example "Asset Name - Roof Replacement", "Main Water Pipe Replacement".	<b>Asset Class</b> <b>L</b> - Land <b>S</b> - Engineering Structure <b>B</b> - Buildings <b>V</b> - Vehicles	<b>Cost Estimate Class</b> 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 preliminary 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 #: 2.670/2.680

Service Name: Regional Water Supply & JDF Water Distribution Combo

Project List and Budget													
Project Number	Capital Expenditure Type	Capital Project Title	Capital Project Description	Total Project Budget	Asset Class	Funding Source	Carryforward from 2021	2022	2023	2024	2025	2026	5 - Year Total
<b>SYSTEM REPLACEMENT AND UPGRADES THAT BENEFIT REGIONAL WATER SUPPLY AND JUAN DE FUCA DISTRIBUTION</b>													
16-01	Renewal	Upgrades to Buildings at 479 Island Highway	Maintenance and changes to buildings and office layouts.	\$320,000	B	WU	\$0	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000	\$400,000
17-01	Renewal	Voice Radio Upgrade	Replacement of end of life voice radio system repeaters, office, vehicle and handheld radios.	\$1,560,000	E	WU	\$600,000	\$1,250,000	\$0	\$0	\$0	\$0	\$1,250,000
20-01	New	Portable Pump Station	Portable pump station and generator to provide backup when a pump station is offline, in construction or to bypass a section of pipe.	\$750,000	E	WU	\$200,000	\$550,000	\$0	\$0	\$0	\$0	\$550,000
<b>Sub-Total System Replacement and Upgrades That Benefit Regional Water Supply and Juan de Fuca Distribution</b>				\$2,630,000			\$800,000	\$1,880,000	\$80,000	\$80,000	\$80,000	\$80,000	\$2,200,000
<b>ANNUAL PROVISIONAL CAPITAL ITEMS</b>													
17-03	Replacement	Office Equipment, Upgrades and Replacements	Upgrade and replacement of office equipment as required.	\$225,000	E	WU	\$0	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$225,000
17-04	Replacement	Computer Upgrades	Annual upgrade and replacement program for computers, copiers, printers, network equipment as required.	\$850,000	E	WU	\$0	\$170,000	\$170,000	\$170,000	\$170,000	\$170,000	\$850,000
17-05	New	Development of the Maintenance Management Systems	Develop maintenance management system.	\$100,000	E	WU	\$0	\$50,000	\$20,000	\$20,000	\$20,000	\$20,000	\$130,000
17-06	Replacement	Small Equipment & Tool Replacement (Water Operations)	Replacement of tools and small equipment for Water Operations as required.	\$400,000	E	WU	\$0	\$80,000	\$80,000	\$80,000	\$80,000	\$0	\$320,000
17-07	Replacement	Small Equipment & Tool Replacement (Corporate Fleet)	Replacement of tools and small equipment for Fleet as required.	\$75,000	E	WU	\$0	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$75,000
<b>Sub-Total for Annual Provisional Capital Items</b>				\$1,650,000			\$0	\$360,000	\$330,000	\$330,000	\$330,000	\$250,000	\$1,600,000
<b>GRAND TOTAL</b>				\$4,280,000			\$800,000	\$2,240,000	\$410,000	\$410,000	\$410,000	\$330,000	\$3,800,000

Service: 2.680 JDF Water Distribution			
Project Number	16-03	Capital Project Title	Asset Management Plan
Capital Project Description	Combine past studies to plan out future capital expenditures.		
Project Rationale	Several studies have been completed and are in progress to assess the JDF assets and programs and the proposed Strategic Asset Management Plan will consolidate the findings of the previous studies in a comprehensive approach to identify and prioritizes future capital expenditures and programs.		
Project Number	21-14	Capital Project Title	Fire Storage Analysis
Capital Project Description	Assess and update the fire flow upgrade program to inform future capital works.		
Project Rationale	In order to meet Fire Underwriters Survey recommendations for fire protection, it is necessary to provide certain volumes of water storage. It is proposed to assess fire storage volume requirements for different parts of the system and determine any required upgrades. Funding is required to retain a consultant to complete the analysis.		
Project Number	16-05	Capital Project Title	Comprehensive Pump Station Upgrades (10 year Program)
Capital Project Description	Continue pump station condition assessments, plan and carry out upgrades.		
Project Rationale	A previous capital project was completed by Delcan Corp. in 2012 which assessed each existing pump station and identified building deficiencies. This study concluded that on average approximately \$1.0M per year for the next ten years is needed to upgrade existing pump stations. Design and construction of the Ludlow Pump Station replacement was undertaken in 2020 and 2021. Funds in 2022 are for completion of design of and to start construction of the Coppermine PS.		
Project Number	18-02	Capital Project Title	JDF Reservoir Upgrades
Capital Project Description	Reservoir improvements are required at Walfred, Peacock, and Helgesen Reservoirs. In 2018 a review of all three reservoirs was conducted including implementing improvements to Walfred.		
Project Rationale	Numerous deficiencies at the Walfred, Peacock and Helgesen reservoirs have been identified while operating the infrastructure. In 2021 planning and design of improvements like valve reconfiguration, site drainage and controls will be undertaken in 2022 at the Peacock and Skirt reservoirs.		

Service: 2.680 JDF Water Distribution			
Project Number	18-03	Capital Project Title	JDF Site Decommissioning Program
Capital Project Description	Decommissioning of facilities that are no longer in use based on preliminary work from Annual Provisional		
Project Rationale	Numerous pump station and PRV facilities have been made redundant or have been decommissioned within the JDF system. Sites have been identified as part of the annual provisional project and funds are required to complete decommission of the sites and then demolish them. In 2021 the Townsview tank and pump station planning and design, and Treanor pump station demolition were carried out. In 2022 the Townview tank and pump station will be addressed.		
Project Number	18-05	Capital Project Title	Rocky Point Upgrades
Capital Project Description	Replacement of Rocky Point P.S., additional storage at Rocky Point Reservoir & water main upgrades. Partnered with DND.		
Project Rationale	Proposed work includes the design and construction of upgrades to the existing Rocky Point Pump Station, storage tank and associated water main upgrades. This work will improve the level of service to both the existing Metchosin water users and the expected increase in flow associated with the Spirit Bay Development in Beecher Bay. Cost sharing with DND for design and construction is underway with construction completing in 2022.		
Project Number	18-06	Capital Project Title	Disaster Response Plan for Water Supply and Distribution
Capital Project Description	Determine and supply response equipment for disaster response.		
Project Rationale	Proposed work includes developing a response plan to disasters to the Juan de Fuca water supply or distribution system. Funds are required to procure equipment and carry out works developed		
Project Number	19-06	Capital Project Title	Corrosion Protection Program
Capital Project Description	Undertake a program to assess and prevent corrosion to existing steel pipe within the Juan du Fuca water system.		
Project Rationale	There are numerous steel pipes within the Juan du Fuca water distribution system. Some are located in corrosive conditions or connected to dissimilar metals. Funds are required to undertake a program to assess and prevent corrosion to existing pipes. A study started in 2021 will inform future works.		

Service: 2.680 JDF Water Distribution			
Project Number	19-09	Capital Project Title	Distribution System Seismic Resiliency Improvements
Capital Project Description	Determine and commence improvements to the distribution system to provide seismic resiliency.		
Project Rationale	Determine and commence improvements to the distribution system to provide resiliency. In 2022, sites will be prioritized with design commencing in 2023 and construction starting in 2023.		
Project Number	20-03	Capital Project Title	AC Pipe Replacement Program
Capital Project Description	Replacement of aging asbestos cement pipe as highlighted in the 2019 update report		
Project Rationale	This item is the 2021 to 2026 program for replacement of the water mains identified in the Water Main Upgrading and Replacement Program Update in 2021. All mains were assessed for such criteria as age, pipe material, record of leaks and hydraulic adequacy, and a long-term replacement program was developed. Planned works for 2022 include Dufour Road, Goldfinch Road, Lagoon Road, Milburn Drive, O'neil Road, Possession Point Road, Richview Road and Whiffin Spit Road.		
Project Number	20-04	Capital Project Title	William Head & VGH Meter Replacement
Capital Project Description	Replacement of the meter and chambers at William Head & VGH with the possibility of resilient connections.		
Project Rationale	Identified through Statement of Works, the William Head and Victoria General Hospital meters require replacement and redundancy to maintain service to the two facilities. In 2021 funds will be utilized to complete design of the two new meters that will allow for construction of the meters while maintaining service. Construction is to start in winter of 2021 and be completed in 2022.		
Project Number	20-06	Capital Project Title	Sun River Reservoir Replacement
Capital Project Description	Replace the existing concrete tank with a steel tank for increased capacity and resilience.		
Project Rationale	The Sun River reservoir is experiencing leakage through concrete form tie holes as a result of the original construction process. Funding is required to replace the existing concrete tank with a bolted steel tank.		

Service: 2.680 JDF Water Distribution					
Project Number	20-07	Capital Project Title	Goldstream AC Replacement	Capital Project Description	Replacement of aging asbestos cement pipe within Goldstream Rd, fromVMP to Spencer.
Project Rationale	The existing water main within Goldstream Rd, from VMP to Spencer Rd, is aging asbestos cement and identified as a risk for failure. Due to the numerous large connections to the RWS transmission main and complexity replacement of this water main cannot be carried out within the AC Replacement Program. Funds are required to completed design and construct replacement of the water main in 2021.				
Project Number	21-02	Capital Project Title	Sooke Rd - 2,200m of 600m Pipe - VMP to Jacklin	Capital Project Description	Replacement of aged, large diameter water main from Jacklin Rd to VMP
Project Rationale	According to a corrosion assessment, a 2.2 kilometre section of an existing steel pipe along Sooke Road and Allendale Road (between Wishart to Jacklin) was unprotected and in need of replacement. In 2014, the design of both phases of the water main was completed by a consultant and construction of the main from Wishart to VMP was completed by CRD resources. Due to increased material and construction costs, it is proposed to update the condition assessment to determin whether this project is still required or could be deferred.				
Project Number	21-13	Capital Project Title	SCADA Master Plan Update & Upgrades	Capital Project Description	Update the SCADA Master Plan in conjunction with the RWS, Saanich Peninsula and Core Area infrastructure.
Project Rationale	The 2015 SCADA Master Plan requires an update, additionally data radio and SCADA upgrades are required. Funds are required to update the joint SCADA Master Plan and conduct upgrades to pump stations, reservoirs and other communication sites.				
Project Number	22-01	Capital Project Title	East Sooke Interconnect Water Main	Capital Project Description	Construction approximately 430 m of watermain for system improvements.
Project Rationale	Funds are required to design and construct approximatly 430 m of a new watermain interconnection in East Sooke. Interconnection will provide redundancy and improve flows in the area.				

Service: 2.680 JDF Water Distribution			
Project Number	22-02	Capital Project Title	Microwave Radio Upgrades
Capital Project Description	Installation of high-bandwidth microwave radio infrastructure to accommodate CRD infrastructure		
Project Rationale	Installation of high-bandwidth microwave radio infrastructure to accommodate CRD infrastructure		
Project Number	16-06	Capital Project Title	Vehicle & equipment replacement (funding from replacement fund)
Capital Project Description	Vehicle and equipment replacement.		
Project Rationale	This is for the replacement of vehicles and equipment used by CRD Integrated Water Services for the day-to-day operation and maintenance of the Juan De Fuca distribution system. These replacements are funded from the Juan De Fuca Vehicle and Equipment Replacement Fund.		
Project Number	17-07	Capital Project Title	Site Decommissioning - General
Capital Project Description	Planning for decommissioning of unused sites.		
Project Rationale	This is a provisional item to allow engineering and planning reviews of old facilities with a view to possible future site uses.		
Project Number	17-09	Capital Project Title	Emergency Main Replacement
Capital Project Description	Major main replacement under emergencies.		
Project Rationale	This item is to fund the costs of responding to emergency major main breaks and conducting replacements.		

<b>Service:</b> 2.680 JDF Water Distribution			
<b>Project Number</b> 17-12	<b>Capital Project Title</b> Large Meters/Meter Vaults Components Replacement	<b>Capital Project Description</b> Replacement or repairs to components in large meters/vaults as required.	<b>Project Rationale</b> This is an annual provision for the replacement of obsolete and worn out large (greater than 2" diameter) meters, adding new meters and upgrading meter vaults.
<b>Project Number</b> 17-13	<b>Capital Project Title</b> Site Security Upgrades	<b>Capital Project Description</b> Upgrading and replacement of security systems for sites as required.	<b>Project Rationale</b> This is an annual allowance for upgrading and maintaining equipment, security and control systems at distribution facilities such as pump stations, PRV chambers and reservoirs. Items such as access hatches, fencing, etc., will be modified to provide a larger degree of security.
<b>Project Number</b> 17-15	<b>Capital Project Title</b> Distribution System Improvements	<b>Capital Project Description</b> Unplanned distribution system improvements.	<b>Project Rationale</b> Historically, opportunities to complete work arise during the year which were not specifically identified and budgeted. This item typically relates to coordinating work programs (i.e. JDF water main replacements and municipal paving programs) with the municipalities or development and taking advantage of opportunities during the year that were not specifically identified.
<b>Project Number</b> 17-16	<b>Capital Project Title</b> Hydraulic Model Yearly Update	<b>Capital Project Description</b> Annual hydraulic model update.	<b>Project Rationale</b> This item is required to input the pipes installed that year into the hydraulic computer model, followed by calibration and testing in order to keep the model up to date for design and planning purposes.

<b>Service:</b> 2.680 JDF Water Distribution			
<b>Project Number</b> 21-03	<b>Capital Project Title</b> Hydrant & Flush Replacement, Upgrades and Additions	<b>Capital Project Description</b> Upgrade, replacement or installation of flushes and fire hydrants, and fire flow testing.	<b>Project Rationale</b> This is an annual provision for replacing old and outdated hydrants, flushes and associated works and access, as well as adding new hydrants to the system where requested by the municipalities or fire departments.
<b>Project Number</b> 21-04	<b>Capital Project Title</b> Residential Service & Meter Replacement	<b>Capital Project Description</b> Replacement of residential water meters as highlighted by the 2017 KWL Water Audit report.	<b>Project Rationale</b> This is an annual provision for replacing failed residential services and meters, as well as proactively replacing services and meters in areas with historically large number of breaks.
<b>Project Number</b> 21-05	<b>Capital Project Title</b> Pump Station Equipment Replacements	<b>Capital Project Description</b> Unplanned pump station repairs and equipment replacement	<b>Project Rationale</b> This is an annual provision for unplanned pump station repairs and equipment replacement.
<b>Project Number</b> 21-06	<b>Capital Project Title</b> SCADA Equipment Replacement	<b>Capital Project Description</b> Unplanned replacement of SCADA and electrical equipment.	<b>Project Rationale</b> This is an annual provision for unplanned SCADA and electrical equipment replacement.

Service: 2.680 JDF Water Distribution			
Project Number	21-07	Capital Project Title	Reservoir Equipment Replacement
Capital Project Description	Replacement or repairs to components at reservoir sites.		
Project Rationale	This is an annual provisional for unplanned replacement of equipment, such as safety devices and mechanical fittings, at reservoir sites.		
Project Number	21-09	Capital Project Title	Valve Replacement
Capital Project Description	Unplanned replacement and repair of isolation and line valves, air valves, and pressure control valves.		
Project Rationale	This is an annual provisional for unplanned replacement of valves, including air valves and check valves.		
Project Number	16-07	Capital Project Title	Update DCC Bylaw (Comprehensive Update in 2022)
Capital Project Description	Planned update of the DCC Bylaw.		
Project Rationale	This is a provisional item to cover questions that arise and referred to our consultants for advice. Every 5 years a comprehensive update is required and the previous DCC update was completed in 2017, with the next update scheduled for 2022 for \$175,000.		
Project Number	20-02	Capital Project Title	Bear Mountain Parkway Extension Supply Mains
Capital Project Description	Supply mains installed by the City of Langford.		
Project Rationale	The City of Langford has installed DCC eligible supply water mains as part of their 2017 Bear Mountain Parkway extension road project to avoid future pavement restoration and traffic disruption. It is proposed to pay back the eligible costs in 2022.		

<b>Service:</b> 2.680 JDF Water Distribution			
<b>Project Number</b> 21-01	<b>Capital Project Title</b> Sooke Henlyn Supply & Distribution Mains	<b>Capital Project Description</b> Construction of water mains based upon development predictions from the Helgesen Pump Station westwards.	<b>Project Rationale</b> Proposed work includes the continued installation of the supply and distribution water mains connected to the Helgesen pump station which was previously constructed in 2011 as part of the DCC program. The supply and distribution water mains will continue west as development proceeds towards the proposed Henlyn Tank.
<b>Project Number</b> 23-01	<b>Capital Project Title</b> Tank 4 and McCallum Pump Station (2020-2021) and Pump Station 7 and remaining Supply Main to Skirt Mtn Reservoir (2022)	<b>Capital Project Description</b> Upgrades to complete the South Skirt Water System	<b>Project Rationale</b> Design and construct Tank 4, Pump Station 7, McCallum Pump Station and remaining supply main to the Skirt Mountain Reservoir based upon development and demand.

Service: 2.670/2.680 Regional Water Supply & JDF Water Distribution Combo			
Project Number	16-01	Capital Project Title	Upgrades to Buildings at 479 Island Highway
Capital Project Description	Maintenance and changes to buildings and office layouts.		
Project Rationale	<p>The budget includes the following funds to upgrade and renew the buildings at 479 Island Highway:</p> <ul style="list-style-type: none"> <li>• Repairs, upgrades and changes to the buildings (provisional \$50,000)</li> <li>• Painting of the buildings. (provisional \$10,000 annually)</li> <li>• Repair and replacement of carpets, floors and walls. (provisional \$10,000 annually)</li> <li>• Repair, refurbishment and replacement of equipment and property. (provisional \$10,000 annually)</li> </ul>		
Project Number	17-01	Capital Project Title	Voice Radio Upgrade
Capital Project Description	Replacement of end of life voice radio system repeaters, office, vehicle and handheld radios.		
Project Rationale	<p>Service Life and projected replacement:</p> <ul style="list-style-type: none"> <li>• The service life of the mobile and portable units was forecast as 10 years at minimum, 15 years at maximum in 2005.</li> <li>• The present radio models used in the system have just been taken out of production by the manufacturer, there will be no new units available for purchase as of July 1, 2015.</li> <li>• Support for repairs and maintenance of the present radio will continue for the next 3 years at least.</li> <li>• There are no pressing issues with equipment maintenance or repairs, present repair rates suggest we can maintain the system for the next few years, and perhaps reach a 12-15 year lifespan on the present equipment.</li> </ul>		
Project Number	20-01	Capital Project Title	Portable Pump Station
Capital Project Description	Portable pump station and generator to provide backup when a pump station is offline, in construction or to bypass a section of pipe.		
Project Rationale	The RWS and JdF operation numerous water mains and pump stations. There are situations, when a pump station fails, construction of a pump station or bypassing a section of pipe, where a portable pump station <b>with a generator</b> is required to maintain the level of service. Funds will be used in 2020 to design and in 2021 to procure a portable pump station <b>and generator</b> .		
Project Number	17-03	Capital Project Title	Office Equipment, Upgrades and Replacements
Capital Project Description	Upgrade and replacement of office equipment as required.		
Project Rationale	Funds will be used for the replacement and upgrading of office equipment and furniture, as required.		

<b>Service:</b> 2.670/2.680 Regional Water Supply & JDF Water Distribution Combo			
<b>Project Number</b>	17-04	<b>Capital Project Title</b>	Computer Upgrades
<b>Capital Project Description</b>	Annual upgrade and replacement program for computers, copiers, printers, network equipment as required.		
<b>Project Rationale</b>	<p><i>This is an annual upgrading and replacement program of computers, photocopiers, network, monitoring and associated equipment, as required. This item has been increased from \$160,000 to \$170,000 annually to reflect actual costs.</i></p> <p><i>Capital Budget</i>  <i>Network Switch Maintenance \$10,000</i>  <i>Additional Wireless Access Points and Maintenance \$15,000</i>  <i>Photocopier Replacement \$20,000</i>  <i>Additional Data Storage \$15,000</i>  <i>Replacement Computers \$75,000</i>  <i>Equipment Maintenance (contingency) \$23,000</i>  <i>Replace Access Control System - Gates/ Video Cameras \$12,000</i>  <i>Total Capital \$170,000</i></p>		
<b>Project Number</b>	17-05	<b>Capital Project Title</b>	Development of the Maintenance Management Systems
<b>Capital Project Description</b>	Develop maintenance management system.		
<b>Project Rationale</b>	<p><i>The maintenance management system needs further development to meet user needs and to facilitate reporting. It is proposed that funds be approved for the following projects:- Develop and Asset onboarding process and a fault code reporting process for the CMMS.</i></p>		
<b>Project Number</b>	17-06	<b>Capital Project Title</b>	Small Equipment & Tool Replacement (Water Operations)
<b>Capital Project Description</b>	Replacement of tools and small equipment for Water Operations as required.		
<b>Project Rationale</b>	<p>Funds will be used for replacement of a variety of Operations and Welding equipment such as cutting saws, portable generators, gas detectors, Hilti drills, plasma cutter, wire welder, etc.</p>		
<b>Project Number</b>	17-07	<b>Capital Project Title</b>	Small Equipment & Tool Replacement (Corporate Fleet)
<b>Capital Project Description</b>	Replacement of tools and small equipment for Fleet as required.		
<b>Project Rationale</b>	<p>Funds will be used for replacement of a variety of Fleet small equipment and tools as required. This includes provision to replace the Vehicle OBD reader for reading engine codes and the shop air compressor.</p>		

**2.680 Juan de Fuca Water Distribution**  
**Summary Schedule**  
**2022 - 2026 Financial Plan**

**Asset Profile**

**Juan de Fuca Water Distribution**

Juan de Fuca assets include lands, office buildings, pump stations, pipe lines, meters, equipment, vehicles and other infrastructure.

**Reserve/Fund Summary**

	Actual	Estimate	Budget				
	2020	2021	2022	2023	2024	2025	2026
DCC Reserve Account	9,229,337	11,509,396	5,003,800	7,183,800	9,363,800	11,543,800	13,743,800
Equipment Replacement Fund	556,248	730,251	92,745	132,009	66,148	141,770	321,585
<b>Total</b>	<b>9,863,189</b>	<b>12,317,253</b>	<b>5,174,153</b>	<b>7,393,419</b>	<b>9,507,560</b>	<b>11,763,184</b>	<b>14,143,001</b>

**2.680 Juan de Fuca Water Distribution**  
**Development Cost Charges**  
**2022 - 2026 Financial Plan**

**Development Cost Charges Reserve Schedule**

**Reserve Fund:** Development Cost Charges for Juan de Fuca Water Distribution (Bylaw # 2758)

Fund: 1055 Fund Center: 101532	Actual	Estimate	Budget				
	2020	2021	2022	2023	2024	2025	2026
Beginning Balance	7,436,981	9,229,337	11,509,396	5,003,800	7,183,800	9,363,800	11,543,800
Transfer to Cap Fund to fund DCC projects	(726,000)	-	(8,675,000)	(20,000)	(20,000)	(20,000)	-
Payment of P&I on LA 3164	(218,786)	(69,941)	(30,596)		-	-	-
Payment of DCC liability							
DCC's received From Member Municipalities	2,577,980	2,200,000	2,200,000	2,200,000	2,200,000	2,200,000	2,200,000
Interest Income*	159,163	150,000					
<b>Ending Balance \$</b>	<b>9,229,337</b>	<b>11,509,396</b>	<b>5,003,800</b>	<b>7,183,800</b>	<b>9,363,800</b>	<b>11,543,800</b>	<b>13,743,800</b>

General Comments:

Development Cost Charges Reserve Funds for Juan de Fuca Water Distribution was adopted in year 2000 for the purpose of providing funds for the capital costs of water facilities in the service areas.

These Reserve funds are received from Member Municipalities as Development Cost Charges (DCC's) to provide for the capital costs attributable to water sytem capacity improvements projects specified in the DCC capital expenditure program. Municipalities collect these DCC charges through building permits that are issued to developers for subdivision development

Future years DCC's received from member municipalities are difficult to predict, due to unknown development activity in the Municipalities, influenced by market conditions. Estimates based on recent annual collections of DCCs, and the cyclical nature of property development.

\* Interest should be included in determining the estimated ending balance for the current year. Interest in planning years nets against inflation which is not included.

**2.680 Juan de Fuca Water Distribution  
Equipment Replacement Reserve  
2022 - 2026 Financial Plan**

**Equipment Replacement Reserve Schedule**

**Reserve Fund:** Juan de Fuca Distribution Equipment Replacement Reserve (covered by CRD-ERF Bylaw)

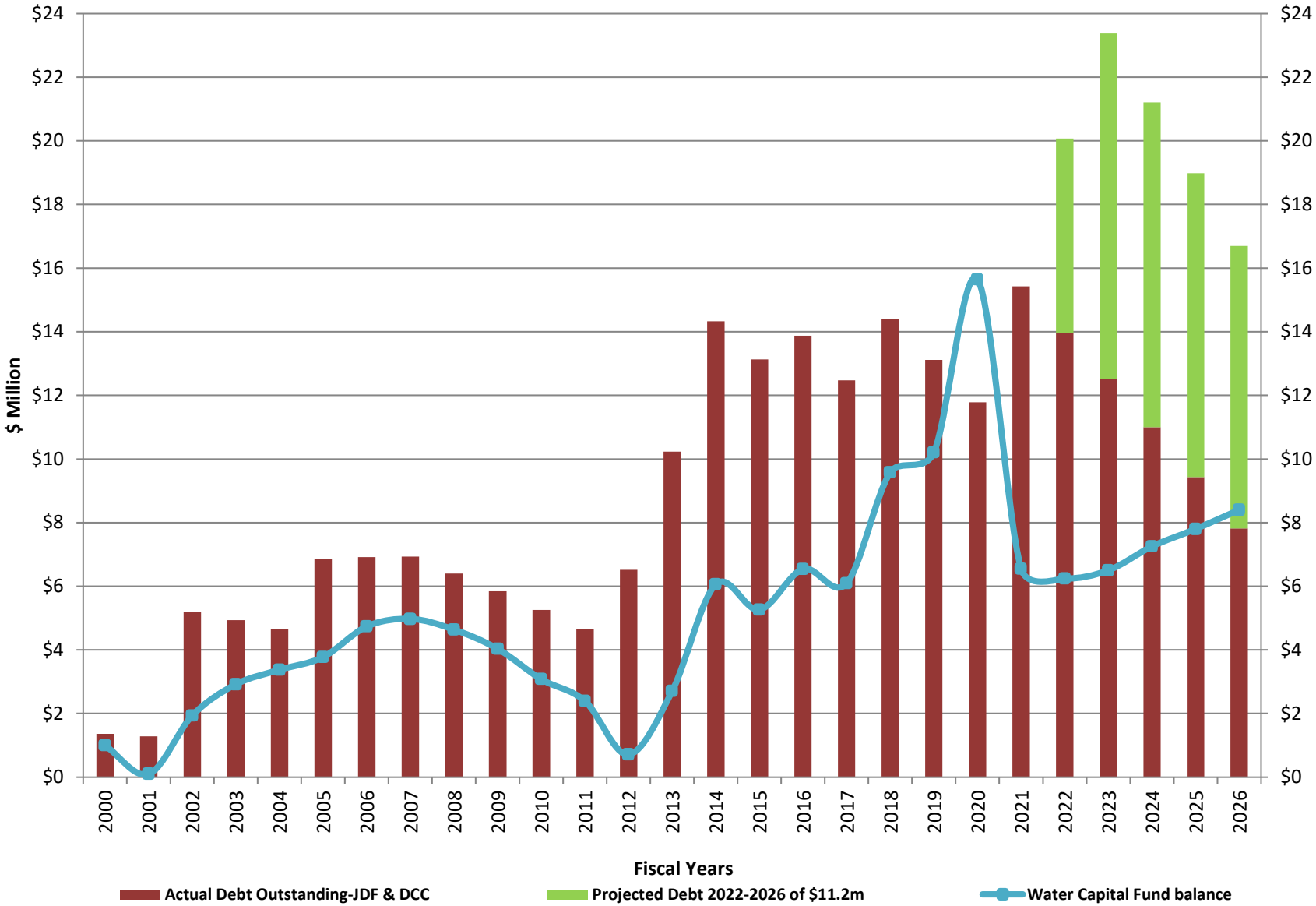
Fund: 1022 Fund Center: 101630	Actual	Estimate	Budget				
	2020	2021	2022	2023	2024	2025	2026
Beginning Balance	343,313	556,248	730,251	92,745	132,009	66,148	141,770
Equipment purchases (Based on Capital Plan)	(5,233)	(88,000)	(1,060,000)	(270,000)	(400,000)	(240,000)	(124,000)
Transfer from Operating Budget	213,945	258,003	263,494	268,764	274,139	279,622	285,215
Proceeds on disposals			159,000	40,500	60,000	36,000	18,600
Interest Income*	4,223	4,000					
<b>Ending Balance \$</b>	<b>556,248</b>	<b>730,251</b>	<b>92,745</b>	<b>132,009</b>	<b>66,148</b>	<b>141,770</b>	<b>321,585</b>

General Comments:

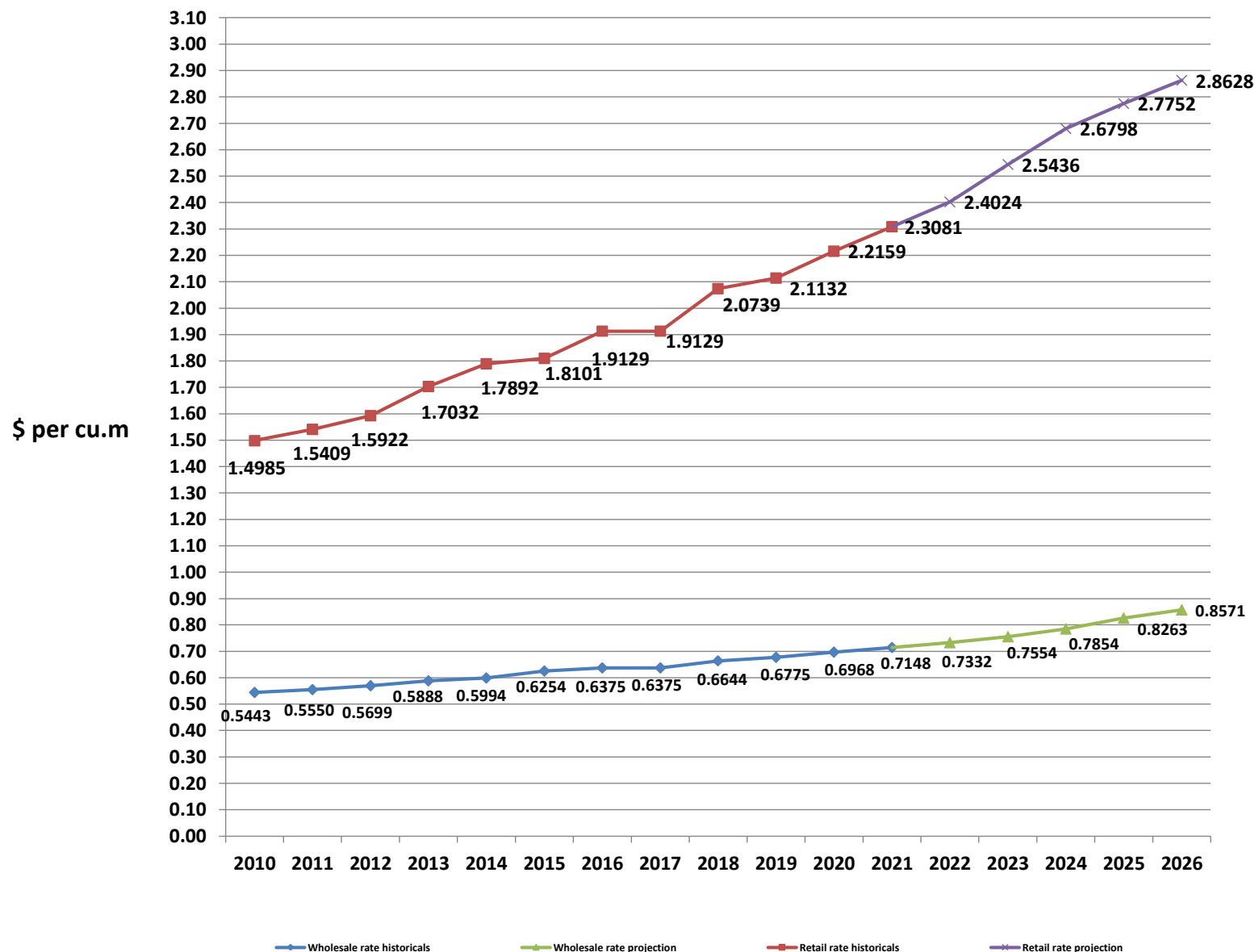
Reserve Fund is used for the purpose of replacing fleet vehicles including heavy equipment and associated mobile components, as outlined in the capital plan. Proceeds from disposals are estimated at 15% of replacement equipment purchases. Note not all vehicles are sold within the year in which they are replaced.

\* Interest should be included in determining the estimated ending balance for the current year. Interest in planning years nets against inflation which is not included.

JDF Water Distribution & DCC  
Debt Outstanding vs Water Capital Fund Balance



# CRD Water Wholesale & Retail Rate, Historicals & Projections



# CAPITAL REGIONAL DISTRICT - INTEGRATED WATER SERVICES

## Water Watch

Issued September 27, 2021

### Water Supply System Summary:

#### 1. Useable Volume in Storage:

Reservoir	September 30 5 Year Ave		September 30/20		September 26/21		% Existing Full Storage
	ML	MIG	ML	MIG	ML	MIG	
Sooke	63,903	14,059	65,479	14,405	61,087	13,439	65.9%
Goldstream	5,418	1,192	6,506	1,431	6,971	1,534	70.3%
Total	69,322	15,251	71,985	15,837	68,058	14,973	66.4%

#### 2. Average Daily Demand:

For the month of September	156.8 MLD	34.49 MIGD
For week ending September 26, 2021	130.2 MLD	28.64 MIGD
Max. day September 2021, to date:	209.3 MLD	46.04 MIGD

#### 3. Average 5 Year Daily Demand for September

Average (2016 - 2020)	149.3 MLD <sup>1</sup>	32.85 MIGD <sup>2</sup>
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<sup>1</sup>MLD = Million Litres Per Day      <sup>2</sup>MIGD = Million Imperial Gallons Per Day

#### 4. Rainfall September:

Average (1914 - 2020):	65.4 mm
Actual Rainfall to Date	141.4 mm (216% of monthly average)

#### 5. Rainfall: Sep 1- Sep 26

Average (1914 - 2020):	52.4 mm
2021	141.4 mm (270% of average)

#### 6. Water Conservation Action Required:

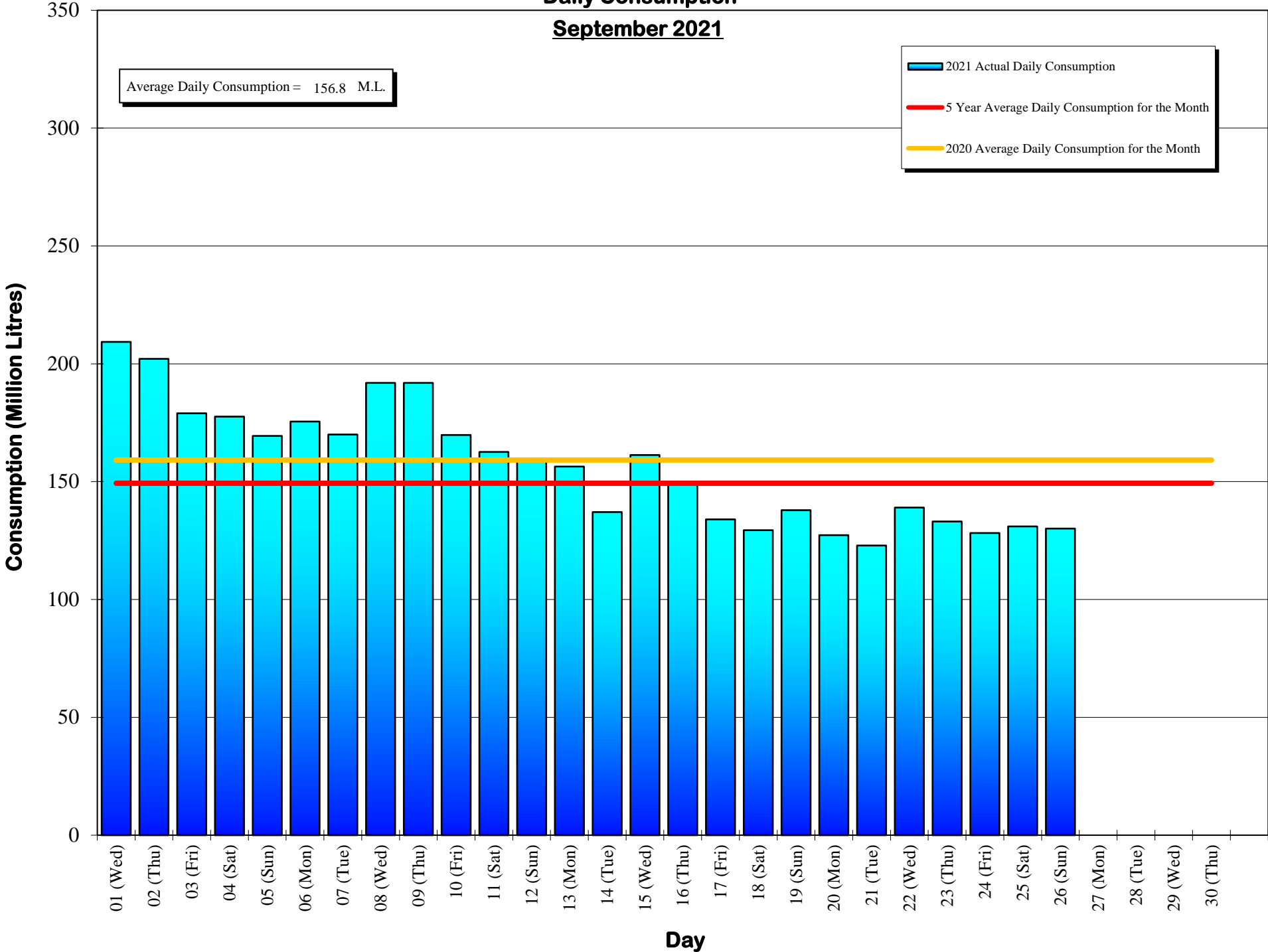
CRD's Stage 1 Water Conservation Bylaw is now in effect through to September 30, 2021.  
Visit our website at [www.crd.bc.ca/water](http://www.crd.bc.ca/water) for scheduling information.

If you require further information, please contact:

Ted Robbins, B.Sc., C.Tech  
General Manager, CRD - Integrated Water Services  
or  
Glenn Harris, Ph D., RPBio  
Senior Manager - Environmental Protection

Capital Regional District Integrated Water Services  
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**Daily Consumption**  
**September 2021**



## Daily Consumptions: - September 2021

Date	Total Consumption		Air Temperature @ Japan Gulch		Weather Conditions	Precipitation @ Sooke Res.: 12:00am to 12:00am			
	(ML) <sup>1.</sup>	(MIG) <sup>2.</sup>	High (°C)	Low (°C)		Rainfall (mm)	Snowfall <sup>3.</sup> (mm)	Total Precip.	
01 (Wed)	209.3	<=Max	46.0	21	8	Sunny	0.0	0.0	0.0
02 (Thu)	202.1		44.5	25	10	Sunny	0.0	0.0	0.0
03 (Fri)	179.0		39.4	22	11	Sunny	0.0	0.0	0.0
04 (Sat)	177.6		39.1	20	12	Cloudy / Showers	9.2	0.0	9.2
05 (Sun)	169.4		37.3	21	13	Cloudy / Showers / P. Sunny	0.3	0.0	0.3
06 (Mon)	175.5		38.6	22	10	Sunny	0.0	0.0	0.0
07 (Tue)	170.0		37.4	25	12	Sunny / P. Cloudy	0.0	0.0	0.0
08 (Wed)	191.9		42.2	24	15	Sunny / P. Cloudy / Showers	1.3	0.0	1.3
09 (Thu)	191.9		42.2	26	15	Sunny / P. Cloudy	0.0	0.0	0.0
10 (Fri)	169.8		37.4	23	14	Sunny / P. Cloudy	0.0	0.0	0.0
11 (Sat)	162.6		35.8	16	14	Cloudy / Showers	5.1	0.0	5.1
12 (Sun)	159.7		35.1	19	11	Sunny / P. Cloudy	0.0	0.0	0.0
13 (Mon)	156.4		34.4	20	10	Sunny / P. Cloudy	0.0	0.0	0.0
14 (Tue)	137.1		30.2	15	11	Cloudy / Showers	3.0	0.0	3.0
15 (Wed)	161.3		35.5	17	8	Sunny / P. Cloudy / Showers	0.3	0.0	0.3
16 (Thu)	149.8		33.0	17	6	Sunny / P. Cloudy / Showers	0.3	0.0	0.3
17 (Fri)	134.0		29.5	16	10	Cloudy / Rain	73.9	0.0	73.9
18 (Sat)	129.4		28.5	17	11	Sunny / P. Cloudy / Showers	8.4	0.0	8.4
19 (Sun)	137.9		30.3	16	10	Sunny / P. Cloudy / Showers	4.3	0.0	4.3
20 (Mon)	127.3		28.0	18	9	Sunny / P. Cloudy	0.0	0.0	0.0
21 (Tue)	122.9	<=Min	27.0	20	8	Sunny / P. Cloudy	0.0	0.0	0.0
22 (Wed)	139.0		30.6	19	11	Sunny / P. Cloudy	0.0	0.0	0.0
23 (Thu)	133.1		29.3	20	11	Sunny / P. Cloudy	0.0	0.0	0.0
24 (Fri)	128.2		28.2	21	10	Sunny / P. Cloudy	0.0	0.0	0.0
25 (Sat)	131.0		28.8	22	11	Sunny / P. Cloudy	0.0	0.0	0.0
26 (Sun)	130.1		28.6	13	11	Cloudy / Rain	35.3	0.0	35.3
27 (Mon)									
28 (Tue)									
29 (Wed)									
30 (Thu)									
TOTAL	4076.3 ML		896.83 MIG				141.4	0	141.4
MAX	209.3		46.04	26	15		73.9	0	73.9
AVG	156.8		34.49	19.8	10.8		5.4	0	5.4
MIN	122.9		27.04	13	6		0.0	0	0.0

1. ML = Million Litres

2. MIG = Million Imperial Gallons

3. 10% of snow depth applied to rainfall figures for snow to water equivalent.

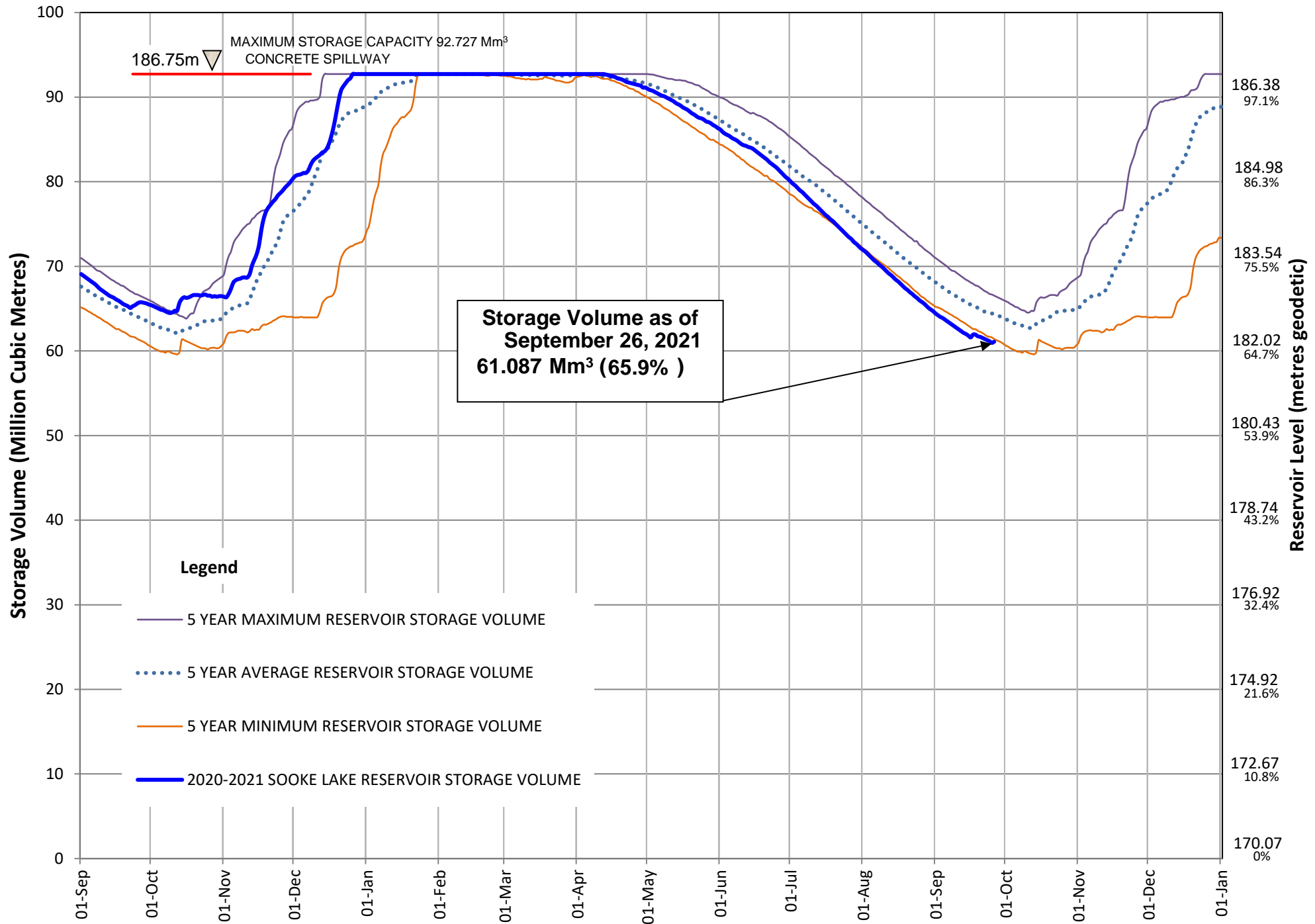
Average Rainfall for September (1914-2020)	65.4 mm
Actual Rainfall: September	141.4 mm
% of Average	216%
Average Rainfall (1914-2020): Sept 01 - Sep 26	52.4 mm
Actual Rainfall (2021): Sept 01 - Sep 26	141.4 mm
% of Average	270%

Number days with precip. 0.2 or more
11

Water spilled at Sooke Reservoir to date (since Sept. 1) = 0.00 Billion Imperial Gallons  
= 0.00 Billion Litres

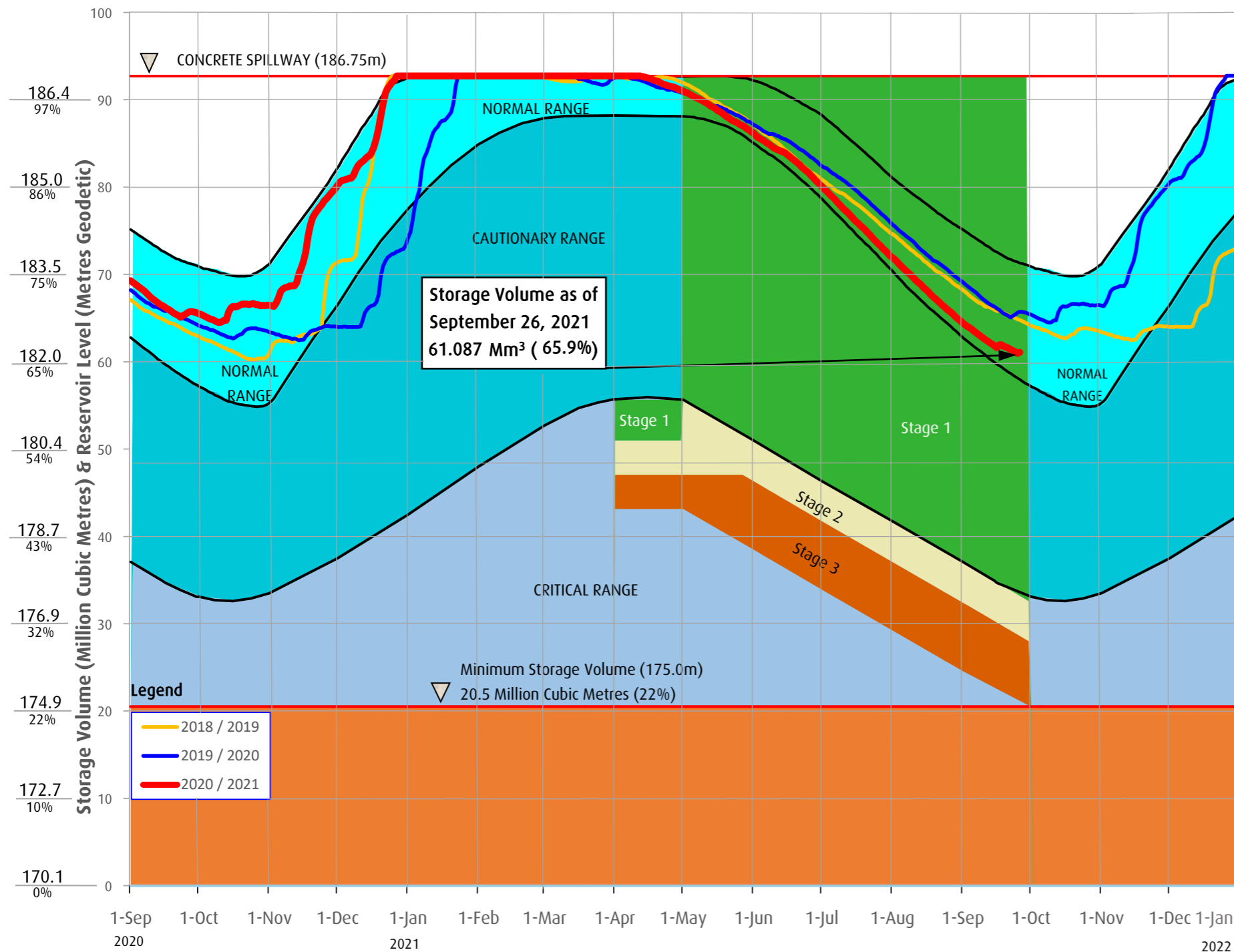
# SOOKE LAKE RESERVOIR STORAGE SUMMARY

## 2020 / 2021



# Sooke Lake Reservoir Storage Level

## Water Supply Management Plan



## FAQs

### How are water restriction stages determined?

Several factors are considered when determining water use restriction stages, including,

1. Time of year and typical seasonal water demand trends;
2. Precipitation and temperature conditions and forecasts;
3. Storage levels and storage volumes of water reservoirs (Sooke Lake Reservoir and the Goldstream Reservoirs) and draw down rates;
4. Stream flows and inflows into Sooke Lake Reservoir;
5. Water usage, recent consumption and trends; and customer compliance with restriction;
6. Water supply system performance.

The Regional Water Supply Commission will consider the above factors in making a determination to implement stage 2 or 3 restrictions, under the Water Conservation Bylaw.

At any time of the year and regardless of the water use restriction storage, customers are encouraged to limit discretionary water use in order to maximize the amount of water in the Regional Water Supply System Reservoirs available for nondiscretionary potable water use.

Stage 1 is normally initiated every year from May 1 to September 30 to manage outdoor use during the summer months. During this time, lawn watering is permitted twice a week at different times for even and odd numbered addresses.

Stage 2 is initiated when it is determined that there is an acute water supply shortage. During this time, lawn water is permitted once a week at different times for even and odd numbered addresses.

Stage 3 is initiated when it is determined that there is a severe water supply shortage. During this time, lawn watering is not permitted. Other outdoor water use activities are restricted as well.

For more information, visit [www.crd.bc.ca/drinkingwater](http://www.crd.bc.ca/drinkingwater)

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## Useable Reservoir Volumes in Storage for September 26, 2021

