



Making a difference...together

**LYALL HARBOUR BOOT COVE WATER LOCAL SERVICE COMMITTEE**

Notice of Meeting on **Thursday, March 7, 2024 at 9:30 a.m.**  
Goldstream Conference 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.

P. Brent  
J. Crerar

T. McLeod  
J. Money

A. Olsen  
I. Rowe

---

**AGENDA**

**1. ELECTION OF CHAIR**

*Pursuant to Bylaw No. 1875  
Election conducted by Senior Manager*

**2. ELECTION OF VICE CHAIR**

*Election conducted by the Chair*

**3. APPROVAL OF AGENDA**

**4. ADOPTION OF MINUTES .....3**

*Recommendation: That the minutes of the November 20, 2023 meeting be adopted.*

**5. CHAIR’S REMARKS**

**6. PRESENTATIONS/DELEGATIONS**

*Delegations will have the option to participate electronically. Please complete the [online](#) application for “Addressing the Board” on our website and staff will respond with details.*

*Alternatively, you may email your comments on an agenda item to the Lyall Harbour Boot Cove Water Local Service Committee at [iwsadministration@crd.bc.ca](mailto:iwsadministration@crd.bc.ca).*

*Requests must be received no later than 4:30 p.m. two calendar days prior to the meeting.*

**7. SENIOR MANAGER’S REPORT**

**8. COMMITTEE BUSINESS**

**8.1. Project and Operations Update .....7**

*There is no recommendation. This report is for information only.*

---

*To ensure quorum, advise [IWSadministration@crd.bc.ca](mailto:IWSadministration@crd.bc.ca) if you cannot attend.*

**8.2. Asset Management Replacement Report Card .....10**

*There is no recommendation. This report is for information only.*

**8.3. Lyll Harbour/Boot Cove Water System Water Usage Statistics .....14**

*There is no recommendation. This report is for information only.*

**9. LYALL HARBOUR/BOOT COVE WATER LOCAL SERVICE COMMITTEE MEETING  
SCHEDULE**

*Regular meetings of the Lyll Harbour/Boot Cove Water Local Service Committee shall be held in the Goldstream Conference Room, 479 Island Highway, Victoria, BC in March, June, and November to approve the Operating and Capital Budget.*

**10. CORRESPONDENCE**

**11. NEW BUSINESS**

**12. ADJOURNMENT**

**Next Meeting:** At the call of the Chair



Making a difference...together

**MINUTES OF A MEETING OF THE Lyall Harbour Boot Cove Water Local Service Committee, held Monday, November 20, 2023 at 9:30 a.m., In the Goldstream Conference Room, 479 Island Highway, Victoria, BC**

---

**PRESENT: Committee Members:** J. Crerar (Chair); J. Money (Vice Chair); R. Fenton (Alt. EA Director); A. Olsen; T. McLeod (EP)

**Staff:** J. Marr, Senior Manager, Infrastructure Engineering; S. Henderson, Senior Manager, Real Estate and Southern Gulf Islands Administration; D. Robson, Manager, Saanich Peninsula Gulf Island Operations; C. Moch, Manager, Water Quality; L. Xu, Manager, Local Services and Corporate Grants; J. Kelly, Manager, Capital Projects; M. Risvold (recorder)

**REGRETS:** P. Brent (EA Director)

EP = Electronic Participation

The meeting was called to order at 9:30 am.

**1. APPROVAL OF AGENDA**

**MOVED** by J. Money, **SECONDED** by A. Olsen,  
That the agenda be approved.

**CARRIED**

**2. ADOPTION OF MINUTES**

**MOVED** by J. Money, **SECONDED** by A. Olsen,  
That the minutes of the June 15, 2023 meeting be adopted.

**CARRIED**

**3. CHAIR'S REMARKS**

The Chair advised there is a flu clinic scheduled to take place at the community building on the same day as the scheduled water main flushing. She has been in contact with D. Robson who advised there will be a short water service interruption for the community building. Work will begin early in the morning and should be completed by the time the flu clinic begins.

**4. PRESENTATIONS/DELEGATIONS**

There were none.

**5. SENIOR MANAGER'S REPORT**

J. Marr provided the following updates:

- Private property winterization. Capital Regional District (CRD) is running a campaign to inform homeowners in small water systems on the benefits of winterization to try and avoid leaks on private properties during the colder seasons. Poster style information is being shared on CRD social media platforms. Information posters will be shared with the committee.
- Growing communities grant opportunity. Staff applied for the internal grant in the amount of \$562,000 to undertake the groundwater well assessment and dam safety improvements. The grant was unsuccessful, and staff will continue to look for grant opportunities for the service.

- Groundwater well update. Staff continue to negotiate with Nature's Trust regarding the well. Nature's Trust is wanting to charge an annual fee which CRD is opposed to. A lawyer is reviewing the documents to ensure everything is satisfactory.
- Water conservation. Staff advised Lyll Harbour/Boot Cove (LH/BC) is currently off water restrictions as of November 1, 2023.
- Paving the road around Money Lake. CRD has been in discussions with the Ministry of Transportation and Infrastructure (MoTI) regarding paving the road around Money Lake. CRD has been working with MoTI and CRD's Water Quality Department to consider the application of a sealed coat for the entire 900-meter section of Harris Road, agreeing that it could reduce the sediment supply to the lake and should be beneficial for water quality. CRD has noted that extra care needs to be taken during construction to ensure that no vitamin or other materials of concern end up in the lake.
- Potential culvert upgrade project on Harris Road. Staff advised they are waiting for MoTI to confirm the timeline of when the culvert under Harris Road will be upsized. CRD has done a scope of work for the drainage reconfiguration and are currently confirming costs for a consultant to complete the design. There are Community Works Funds that have been committed for the work.
- Current boil water advisory (BWA). Staff advised LH/BC is currently on a BWA as of October 25, 2023, due to elevated turbidity. The treated water colour turbidity meter has been purchased and received and installation is planned for November 23 and 24, pending confirmation for parts. There will be no water shutdown required for the installation.
- Email addresses of people located in the service area. Staff contacted CRD Water Billing, who advised they are unable to provide personal email addresses to the committee in accordance with the Privacy Act. Staff noted there is room on the water bills to include a short note if desired.
- Water disruption for the community building. Staff advised there will be a small window of disruption while the work is completed. An email was sent to the committee regarding the notice, signage has been posted in the community and on social media sites. The committee requested more advanced notice for work being done in the community.

## **6. COMMITTEE BUSINESS**

### **6.1. 2024 Operating and Capital Budget**

J. Marr spoke to item 6.1.

Staff responded to the following questions:

- Borrowing funds for capital projects. Staff noted it would be ideal to acquire and complete studies on the well in order for it to be utilized during the shoulder seasons when demand is low to avoid boil water advisories. If the well does not work, long-term treatment plant upgrades will be required. As there are a lack of funds, borrowing will be necessary to complete the dam upgrades. Dam safety work is regulated and the Province has the ability to provide an order to complete the required work. Staff suggest a dam strategy be in place for 2024 and recommend leaving capital projects on the five-year capital plan in case grants come available. Staff are actively pursuing grant opportunities for the service.

- Dam safety review (DSR). Staff advised the dam work has evolved while going through the DSR and design review. Staff recommend hiring an engineering consultant before beginning the alternative approval process (AAP) to obtain a better idea of the amount of funding required. A quote was received from a hydrogeologist who estimated between \$50,000-\$100,000 for the development study of the well. Staff noted debt related projects cannot proceed without an AAP and suggest completing work in the new year.
- Community works funds (CWF) to complete the filter blanket work. Staff advised they are confident there are not enough funds to complete the filter blanket work, however, there may be enough funds to complete some of the short-term pipe work.
- The ability to sell excess water to generate additional revenue. Staff advised the water system does not have an abundance of water and there may be bylaws regarding the sale of water outside the service area. The water utility is currently selling water to its customers, however, only within the confined boundary of the service area. Legal action would be required to have the ability to sell bulk water outside of the service.
- Water conservation. Staff advised having metered water is a great tool for water conservation, and suggested the service could go to tiered-billing system.

Staff advised that \$390,000 of Community Works Funds (CWF) have been secured, noting there are rules on stacking grants and federal funding. Staff added that \$130,000 of the \$390,000 is allocated for the DSR. With the recommendations on the DSR report, staff estimate costs to be around \$450,000-\$500,000 which does not include the cost estimates for the well development. Additional recommendations from the DSR report are:

- Repairs and resealing of concrete joints in the spillway.
- Re-establishing a rock stilling basin on the downstream of the discharge side of the spillway.
- Additional study for dam break analysis and imitation study.
- Scoping the high-density polyethylene (HDPE) intake pipe within the dam.

Discussion ensued regarding:

- Applying for grants
- Loan authorization
- Debt retirement
- Stockpiling material on-island
- Seasonal water quality changes
- Current water rates
- Underfunded reserves
- Water conservation

Staff advised the operating reserve fund (ORF), and capital reserve fund (CRF) are currently underfunded and recommended increasing transfers to each reserve fund.

**Requests from the committee:**

- That staff move capital project 22-02 Dam Improvements and Regulatory Requirements from 2024 to 2025 and change the funding source from grant to debt.

- That staff increase the capital reserve fund transfer by \$3,000 from \$22,680 to \$25,680 and operating reserve fund transfer by \$3,000 from \$24,460 to \$27,460 and to balance the \$6,000 increase on user charge and parcel tax.

**MOVED** by R. Fenton, **SECONDED** by A. Olsen,  
The Lyll Harbour Boot Cove Water Local Service Committee:

1. Approve the 2024 operating and capital budget as amended and that the 2023 actual operating deficit be balanced on the 2023 Reserve Funds transfer (Capital Reserve Fund and/or Operating Reserve Fund); and
2. Recommends that the Electoral Areas Committee recommends that the Capital Regional District Board approve the 2024 Operating and Capital Budget and the five-year Financial Plan for the Lyll Harbour/Boot Cove Water Service as amended.

**CARRIED**

**MOVED** by J. Crerar, **SECONDED** by A. Olsen,  
That staff be directed to provide a water consumption statistics report to the committee at the next meeting.

**CARRIED**

## **6.2. Project and Operations Update**

Staff provided capital projects and operational update.

Discussion ensued regarding the WorkSafe BC requirements for confined space entry.

The report was received for information.

## **7. CORRESPONDENCE**

There was no correspondence.

## **8. NEW BUSINESS**

There was no new business.

## **9. ADJOURNMENT**

**MOVED** by R. Fenton, **SECONDED** by J. Money,  
That the November 20, 2023 meeting be adjourned at 11:43am.

**CARRIED**

---

**CHAIR**

---

**SECRETARY**



Making a difference...together

## REPORT TO LYALL HARBOUR/BOOT COVE WATER LOCAL SERVICE COMMITTEE MEETING OF THURSDAY, MARCH 07, 2024

---

**SUBJECT**     **Capital Project Status Reports and Operational Updates**

### **ISSUE SUMMARY**

To provide the Lyall Harbour/Boot Cove Water Local Service Committee with capital project status reports and operational updates.

### **BACKGROUND**

The Lyall Harbour/Boot Cove Water System is located on the west side of Saturna Island in the Southern Gulf Islands Electoral Area and provides drinking water to approximately 166 single family equivalents. Capital Regional District (CRD) Integrated Water Services is responsible for the overall operation of the water system with day-to-day operation, maintenance, design, and construction of water system facilities provided by the CRD Infrastructure Engineering and Operations Divisions. The quality of drinking water provided to customers in the Lyall Harbour/Boot Cove Water System is overseen by the CRD Water Quality Section.

### **CAPITAL PROJECT UPDATE**

#### **19-02 | Pressure Release Valve (PRV) Bypass Assembly Replacement**

**Project Description:** Construct bypasses on the East Point, Narvaez, and Boot Cove PRV stations to maintain system operation while the PRV's undergo maintenance.

**Project Rationale:** The inlet and outlet piping at the East Point, Narvaez, and Boot Cove Pressure Reducing Valve (PRV) stations are very corroded and there is no way to isolate the stations to replace or maintain the PRVs. It is proposed that new inlet and outlet piping be installed with 100-millimeter gate valves and bypass piping so that customers are not without water when PRV's are being serviced.

**Project Update and Milestones:**

- Operations to undertake the works.
- Narvaez PRV bypass work 100% complete.
- Scheduling of the remaining work and completion will be in the fall/winter during lower water demands on the system.

#### **19-04 | Alternative Approval Process**

**Project Description:** Conduct public consultation and carry out an Alternative Approval Process (AAP) to assess public willingness to utilize debt to fund necessary capital upgrades for the water service.

**Project Rationale:** Multiple projects including the dam improvements and the future ground well suitability study are deemed necessary for the water service and Capital Reserves are insufficient to cover the capital costs.

## Lyall Harbour Boot Cove Water Local Service Committee – March 7, 2024 Capital Project Status Reports and Operational Updates

2

With several grant funding attempts having been unsuccessful, an AAP is proposed to obtain approval to take on debt to fund projects that are critical for the water service.

### Project Update and Milestones:

- The AAP process has not yet been progressed but following the November 20, 2023, budget meeting, it was agreed that staff would initiate the process in 2024 once some certainty around obtaining use of a well on private land was clear so that this potential water source could be factored into the future planning.
- Progress was made in Q1 2024 regarding access to the private well. CRD hope to consolidate information to be able to start compiling information for an AAP in Q2 and Q3 of 2024.

### 22-02 | Dam Improvements & Regulatory Requirements

**Project Description:** Seismic reinforcement of Money Lake Dam based upon the 2016 Dam Safety Review. Includes seepage pit construction and Dam Safety Review.

**Project Rationale:** This is a continuation of project 18-03, where seismic reinforcement of the Money Lake Dam will commence. Funds are required to retain a contractor to undertake the works and retain a consultant to conduct the dam safety review.

### Project Update and Milestones:

- The Community Works Funds (CWF) were approved in 2021 for design work to start in 2022.
- Staff are currently engaging consultants to provide quotes for design and construction services.
- Geotechnical Engineer (Thurber) has conducted more detailed 3D analysis of the dam to better assess seismic risks and are reviewing the results and recommendations with CRD.
- Geotechnical Engineer (Thurber) has drafted a downstream toe filter design memo and are reviewing the results and recommendations with CRD.
- Assessment of constructability of recommendations resulted in concerns over funding availability to carry out the complete works. CRD submitted an internal Growing Communities Fund (GCF) grant application for additional funding (in combination with works to develop a future well) but this was determined to be unsuccessful at the September 13, 2023 CRD Board Meeting.
- CRD will continue to pursue other grant opportunities but in the absence of grant funding, debt will need to be secured to carry out this work, as well as future additional work identified within the DSR.

Milestone	Completion Date
CWF Approval	October 10, 2021
Consultant Contract Award	July 27, 2022
Consultant field investigation	August 31, 2022
Draft Dam Safety Review submission and CRD review meeting	Jan 27, 2023
Dam Safety Review Report - Final	March 15, 2023
Toe Filter Design Memo	March 27, 2023
Seismic Stability Assessment	April 21, 2023
Growing Communities Fund Grant Application – Not Approved	September 13, 2023
Action Planning Memo to address DSR items	Q1 2024

### **OPERATIONAL UPDATE**

This is an operational update reporting period from October 2023 through January 2024.

- Completed preventative maintenance draining, cleaning and inspection of the water reservoir (tank). This maintenance is performed on a five-year cycle and funded by the operating reserves through the annual operating budget. Some deficiencies were observed, and corrective maintenance performed at the time of inspection. Further corrective maintenance post inspection is also required. A minor leak has developed of which will require an assessment and a repair plan prepared.
- Completed preventative maintenance on the buried chlorine contact tank located next the water treatment plant. The maintenance includes isolating the tank from the water system, removal of the top access hatch, pumping the water out of the tank and removal of the biofilm and sediment buildup. Minor deficiencies were noted and corrective maintenance is planned during the next inspection that will take place in five years. This work is also funded by the operating reserves through the annual operating budget.
- Installation and commissioning of turbidity analyzer that corrects for colour interference. Data will be collected throughout 2024 and reviewed to determine if colour is the primary cause of the turbidity exceedance events that occur annually resulting in boil water advisories being issued for the service.
- Several emergency call outs during this reporting period related to extended power outages requiring manual deployment of the standby generator.
- Multiple hours performing leak detection efforts due to high daily water production during the reporting period. Increased water demand was the result of leaks identified on over nine private properties. Water was shut off and the residents notified. Most properties identified having leaks were either not adequately winterized or maintained to ensure the security of the water system.
- Narvaez Pressure Regulating Valve Station bypass capital work completed.
- Installation of a water service connection for a property within the service area during this reporting period. All costs for the installation are paid by the property owner.

### **RECOMMENDATION**

There is no recommendation. This report is for information only.

Submitted by:	Jared Kelly, P.Eng., Manager, Capital Projects
Submitted by:	Dan Robson, A.Sc.T., Manager, Saanich Peninsula and Gulf Islands Operations
Concurrence:	Joseph Marr, P.Eng., Senior Manager, Infrastructure Engineering
Concurrence:	Jason Dales, B.Sc., WD IV., Senior Manager, Wastewater Infrastructure Operations
Concurrence:	Alicia Fraser, P.Eng., General Manager, Integrated Water Services



Making a difference...together

**REPORT TO LYALL HARBOUR/BOOT COVE WATER LOCAL SERVICE COMMITTEE  
MEETING OF THURSDAY, MARCH 07, 2024**

---

**SUBJECT     Asset Replacement Report Card**

**ISSUE SUMMARY**

To provide the Lyall Harbour/Boot Cove Water Local Service Committee with an asset replacement report card for the Lyall Harbour/Boot Cove Water Local Service.

**BACKGROUND**

The Capital Regional District (CRD) has prepared an asset replacement report card for the Lyall Harbour/Boot Cove Water Local Service. The objective of the report card is to provide an overview of asset replacement values and an asset renewal forecast for the next 40 years.

**DISCUSSION**

An asset register was prepared using the inventory of all existing assets from the CRD's maintenance management and Geographic Information Systems (GIS). There are 395 asset components in the register that are grouped by asset class with replacement values as follows:

<b>Asset Class</b>	<b>Average Asset Condition</b>	<b>Replacement Value</b>
Dams *	Good	\$1,610,000
Distribution Mains	Fair	\$11,190,000
Hydrants & Standpipes	Poor	\$280,000
Pressure Reducing Valve Stations	Good	\$260,000
Supply Mains	Fair	\$1,950,000
Water Intake	Good	\$180,000
Water Meters	Fair	\$280,000
Water Storage	Good	\$240,000
Water Treatment	Fair	\$1,550,000
<b>Total</b>	<b>Fair</b>	<b>\$17,540,000</b>

\* Does not include any required regulatory/seismic upgrades

Replacement values are in 2024 dollars, based on inflated historical costs or unit rates from suppliers. The total asset replacement value for the service is \$17.5 million dollars.

Assets are due for replacement at varying times, based on their installation year, expected service life, and condition. A report card is provided in Appendix A, which includes graphical breakdowns of current asset condition and forecasted replacement year for each asset class. An analysis of the asset register indicates that 82 percent of assets will require replacement in the next 40 years at a cost of \$15.5 million. There is also a backlog of assets that have reached their expected service life and are overdue for replacement. These assets are forecasted for replacement over the next 10 years.

**Lyall Harbour Boot Cove Water Local Service Committee – March 7, 2024**  
**Asset Value and Forecasting**

2

The report card provides a 40-year asset renewal forecast. Based on current revenue, there appears to be insufficient capital budget to sustain an asset replacement program.

The consequences of an insufficient capital budget are increased service interruptions due to failing assets, reduced level of service including fire flows and an inability to invest in new assets to meet demands and to meet regulatory requirements. Debt financing and grants are options to address revenue shortfalls; these options should be supported by a long-term financial plan.

Investment in new assets to expand or optimize the service have not been captured in the capital renewal forecast. This report card is intended for budgeting and capital planning purposes in conjunction with other asset and financial processes. The report card could be further developed into a long-term financial plan and asset management plan.

**RECOMMENDATION**

There is no recommendation. This report is for information only.

Submitted by:	Laura Hardiman, P.Eng., Manager, Asset Management
Submitted by:	Stephen Henderson, BSc, PG.Dip.Eng., MBA, Senior Manager of Real Estate and Administration of the Southern Gulf Islands Electoral Area
Concurrence:	Joseph Marr, P.Eng, Senior Manager, Infrastructure Engineering
Concurrence	Alicia Fraser, P.Eng, General Manager, Integrated Water Services

**ATTACHMENT**

Appendix A: Asset Replacement Report Card

# 12 Asset Replacement Report Card

2.640 Lyall Harbour/Boot Cove Water Local Service

Services Provided:

- Water Distribution
- Water Supply
- Water Treatment

Total Replacement Cost

**\$17.5M**

Average Condition

**Fair**

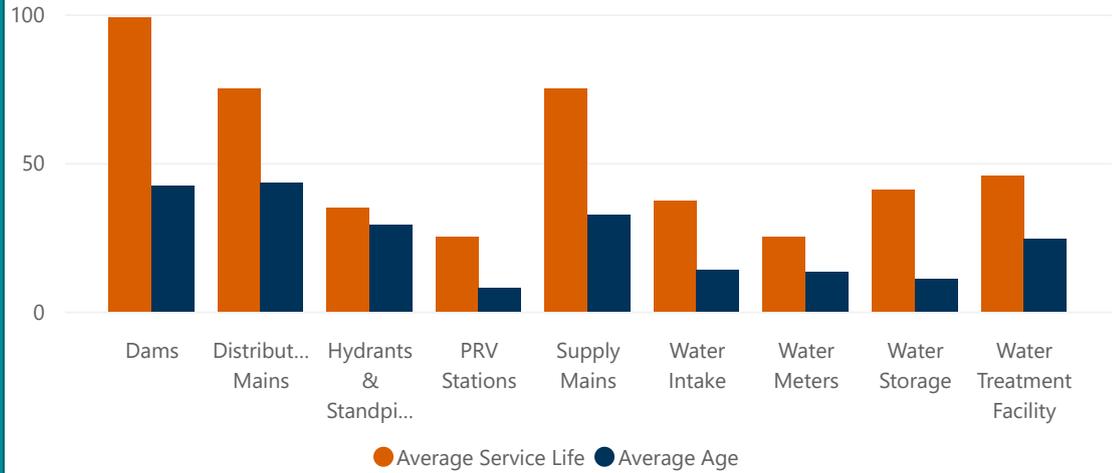
Infrastructure Backlog

**\$150K**

Asset	Quantity
Dams	1
Distribution Mains	7348 m
Hydrants & Standpipes	14
PRV Stations	3
Storage Tanks	1
Supply Mains	1086 m
Treatment Facilities	2
Water Meters (Customer)	156

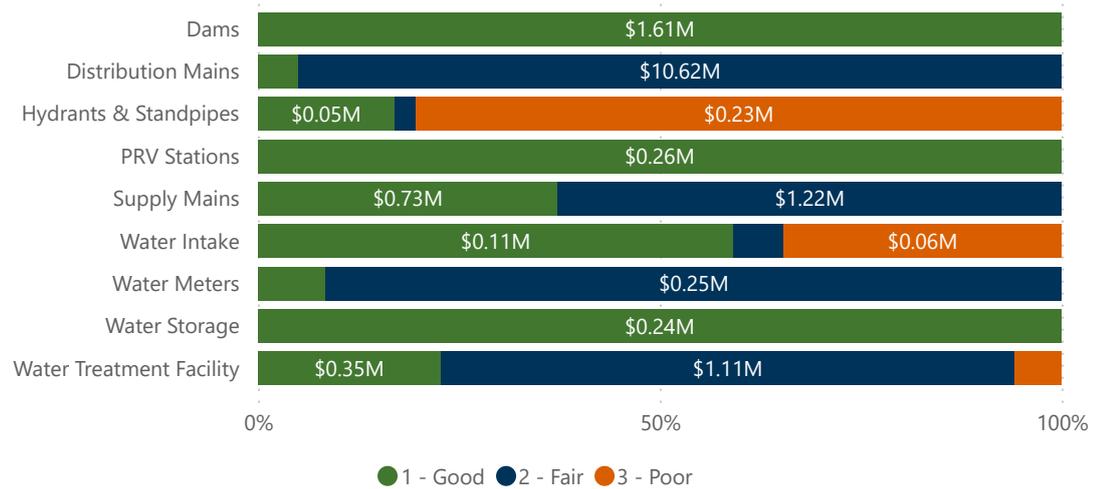


## Asset Service Life



Some assets last longer than others before they require renewal. This chart shows the average expected service life of each asset class in relation to the average age of the assets within the class. A weighted average is used based on replacement value.

## Overall Asset Condition by Asset Class



Overall condition rating of the asset classes is based on remaining expected service life. Replacement values are shown in relation to the condition rating.

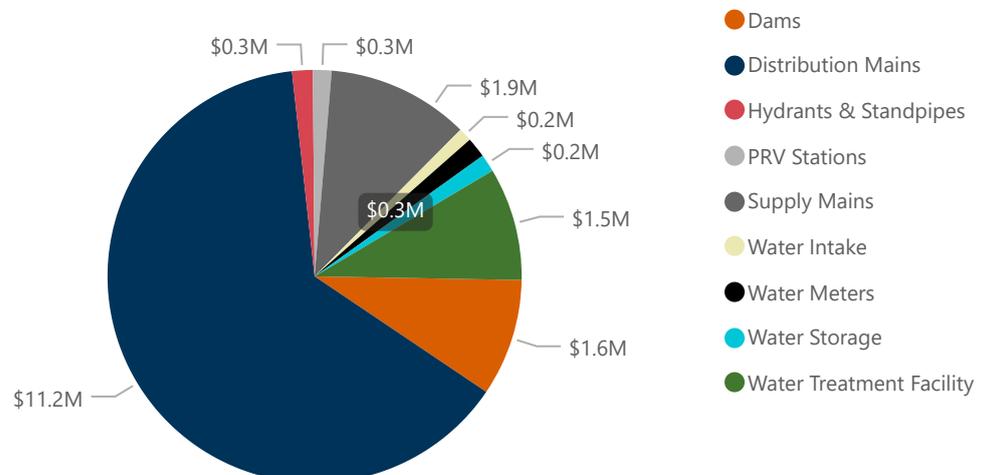
**Good** - Asset has more than 50% of remaining expected service life.

**Fair** - Asset has between 1% and 50% of remaining expected service life.

**Poor** - Asset has reached the end of expected service life.

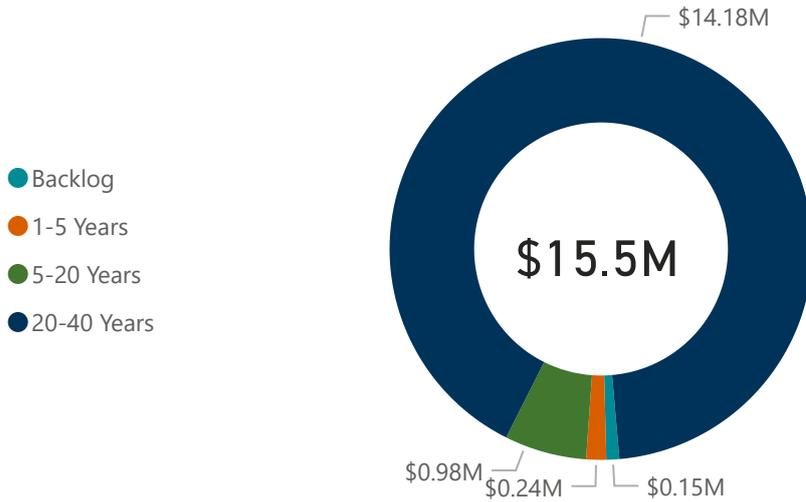
Assets identified in poor condition may still be performing adequately for the service. A condition assessment is advised prior to replacement.

## Asset Replacement Value by Asset Class



# 2.640 Lyall Harbour - Boot Cover Water

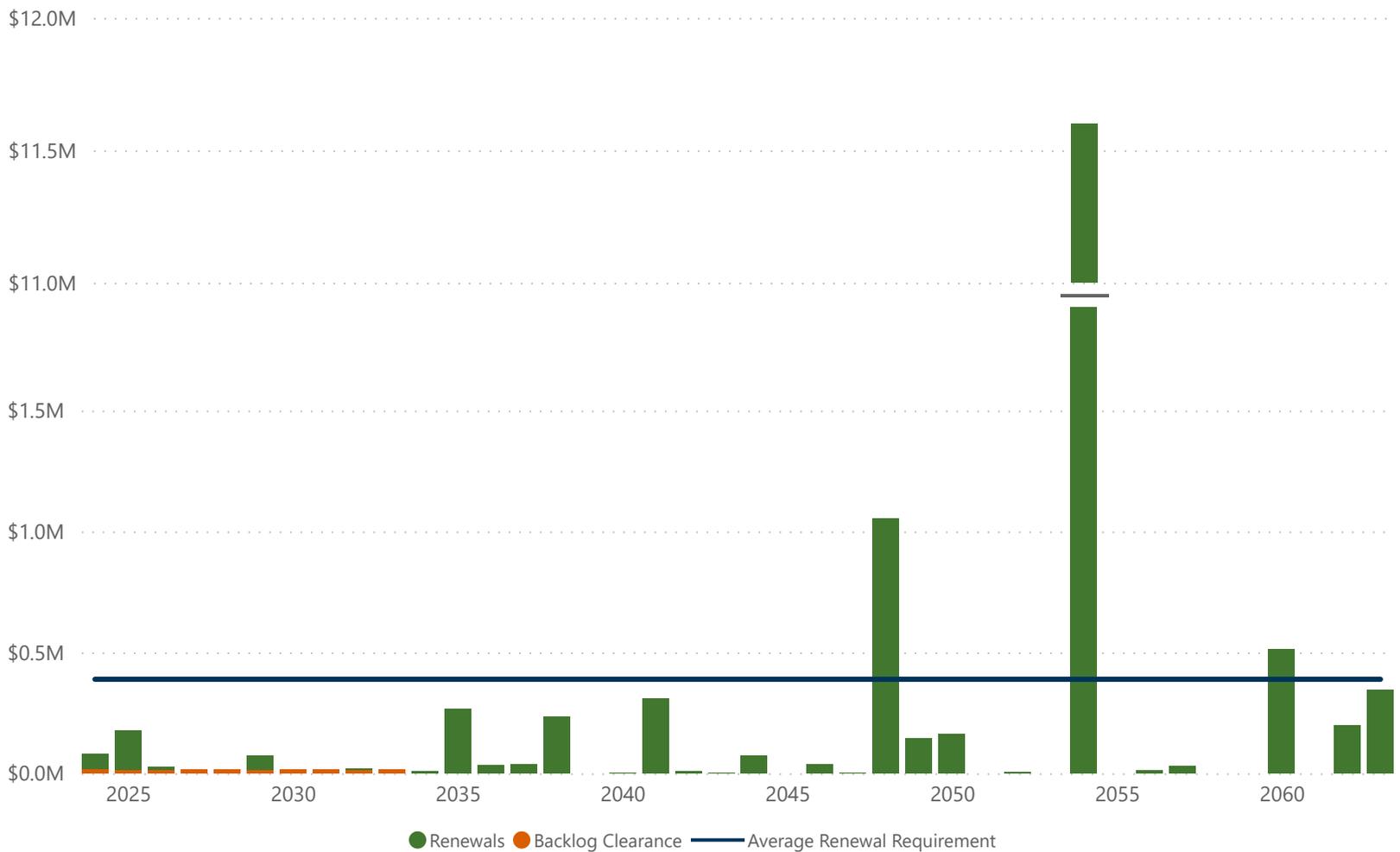
40-Year Asset Replacement Cost by Renewal Timeframe



In the next 40 years, it is estimated that \$15.5M in assets will need to be replaced (an average of \$390,000 per year).

Approximately \$13M of these replacements are for water mains. There is \$0.15M in assets identified as backlog; these are assets that have passed their expected service life and are due for replacement.

40-Year Capital Renewal Forecast



The capital renewal forecast is based on the expected service life of assets and their replacement cost (in 2024 dollars). Instances where an asset requires multiple replacements over the 40 year period are accounted for in the projection. Backlog clearance is shown at over 10 years to distribute these costs over that timeframe. Since these assets are beyond their expected service life, they may fail prior to renewal. Given the large renewal cost in some years (i.e. 2048 and 2054), a replacement plan can be developed to spread the renewals out over multiple years. A more comprehensive long-term financial plan will inform replacement planning for budgeting purposes.



**REPORT TO LYALL HARBOUR BOOT COVE WATER LOCAL SERVICE COMMITTEE  
MEETING OF THURSDAY, MARCH 7, 2024**

**SUBJECT    Lyall Harbour/Boot Cove Water System Water Usage Statistics**

**ISSUE SUMMARY**

To provide the Lyall Harbour/Boot Cove Water Local Service Committee with water usage statistics, based on volume-based billing tiers, to aid in the discussion on water conservation.

**BACKGROUND**

On November 20, 2023, at the Lyall Harbour/Boot Cove (LHBC) Water Local Service Committee meeting, CRD staff advised the Committee that having metered water is a good tool for fostering water conservation and suggested the service could go to a tiered billing system. This report presents water usage data statistics for the year 2023 and shows the breakdown of high, medium, and low water users.

Tiered billing structures based on volume of water used per quarter is implemented in other gulf island local water service areas. Currently, the LHBC Water System water users are billed a fixed user charge of \$193.25 per quarter regardless of actual volume of water used.

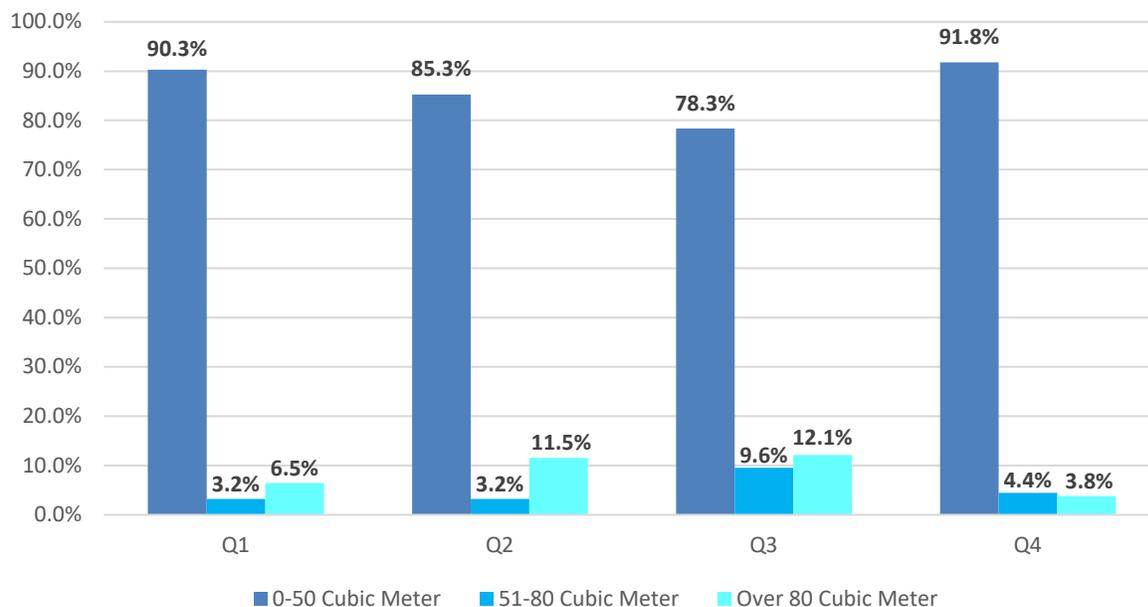
The LHBC Water System is metered, and water user billing data is collected quarterly. The most recent full year cycle of water usage data has been selected to represent annual water use statistics. The LHBC Water System usage statistics for 2023, based on metered services and categorized into three volume use-based tiers, are presented in Table 1.

*Table 1: 2023 LHBC Water System Quarterly Water Usage Data*

	Jan - Mar		Apr - Jun		Jul - Sep		Oct - Dec	
	Quarter 1		Quarter 2		Quarter 3		Quarter 4	
	Number of Metered Services	%						
<b>0-50 m<sup>3</sup></b>	140	90.3%	133	85.3%	123	78.3%	145	91.8%
<b>51-80 m<sup>3</sup></b>	5	3.2%	5	3.2%	15	9.6%	7	4.4%
<b>Over 80 m<sup>3</sup></b>	10	6.5%	18	11.5%	19	12.1%	6	3.8%
<b>Total</b>	155	100%	156	100%	157	100%	158	100%

Quarterly variation in billing tiered water use is presented in Figure 1. A larger variation in water use is noticeable in the second and third quarters which coincide with warmer and drier months and indicates a seasonal nature of occupancy. Despite this second and third quarter variation, the majority of metered services can be categorized as using less than 50 cubic meters per quarter.

*Figure 1: 2023 LHBC Water System Quarterly Water Usage Percentage of Users by Billing Tier*



The volume of water used by each metered service that exceeded 80m<sup>3</sup> per quarter is presented in Table 2, located in Appendix A.

**CONCLUSION**

Lyall Harbour/Boot Cove Water System water usage statistics, for the year 2023, categorized by volume-based billing tiers show that the majority of customers use less than 50 cubic meters of water per quarter. Based on the 2023 data, over 90% of users consume less than 50 cubic meters of water in Q1 and Q4 and over 78% of users consume less than 50 cubic meters of water in Q2 and Q3.

**RECOMMENDATION**

There is no recommendation, this report is for information only.

Submitted by:	Natalie Tokgoz, P.Eng., Manager, Water Distribution Engineering and Planning
Concurrence:	Joseph Marr, P.Eng., Senior Manager, Infrastructure Engineering
Concurrence:	Alicia Fraser, P. Eng., General Manager, Integrated Water Services

**ATTACHMENT**

Appendix A: Table 2

Table 2: Metered Volume ( $m^3$ ) by Quarter per Metered Service exceeding  $80m^3$

	Volume ( $m^3$ )			
	Q1	Q2	Q3	Q4
Meter 1	97			
Meter 2		102	103	
Meter 3		191	301	129
Meter 4		133	248	
Meter 5	154	136	138	132
Meter 6		176		
Meter 7		208	279	96
Meter 8			276	
Meter 9			287	
Meter 10	172	272	337	
Meter 11		86	162	
Meter 12		98		156
Meter 13			92	
Meter 14		136	274	
Meter 15	86	105	85	
Meter 16		87	147	
Meter 17	337	243		
Meter 18	176			
Meter 19	104			
Meter 20		194	215	
Meter 21		148	364	
Meter 22		524		
Meter 23				299
Meter 24		143	228	
Meter 25			414	
Meter 26	146	243	425	229
Meter 27	261			
Meter 28	99			
Meter 29			116	
<b>Total count</b>	10	18	19	6