



Making a difference...together

SAANICH PENINSULA WASTEWATER COMMISSION

Notice of Meeting on **Thursday, May 16, 2024 at 9:30 am**

Meeting Room 2, Sidney Community Safety Building, 2245 Oakville Ave., Sidney, 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.

D. Kelbert (Chair)

P. Jones

S. Shrivastava

M. Doehnel (Vice Chair)

Z. King

R. Windsor

S. Duncan

C. McNeil-Smith

D. Halldorson

C. Pinches

AGENDA

1. TERRITORIAL ACKNOWLEDGEMENT

2. APPROVAL OF AGENDA

3. ADOPTION OF MINUTES3

Recommendation: That the minutes of the March 21, 2024 meeting be adopted.

4. CHAIR’S REMARKS

5. 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 Saanich Peninsula Wastewater Commission at iwsadministration@crd.bc.ca. Requests must be received no later than 4:30 p.m. two calendar days prior to the meeting.

6. GENERAL MANAGER’S REPORT

7. COMMISSION BUSINESS

7.1. Saanich Peninsula Wastewater Treatment Plant Capacity Update7

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

7.2. Saanich Peninsula Wastewater Asset Management Update9

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

7.3. Biosolids Plan Update [Verbal]

To ensure quorum, advise IWSAdministration@crd.bc.ca if you cannot attend.

8. NOTICE(S) OF MOTION

9. NEW BUSINESS

10. ADJOURNMENT

Next Meeting: Thursday, July 18, 2024

MINUTES OF A MEETING OF THE Saanich Peninsula Wastewater Commission, held Thursday, March 21, 2024 at 9:30 am, Meeting Room, Sidney Community Safety Building (Fire Hall), 2245 Oakville Ave, Sidney BC

PRESENT: Commissioners: D. Kelbert (Chair); M. Doehnel (Vice Chair); S. Duck for S. Duncan; D. Halldorson; Z. King; C. McNeil-Smith; C. Pinches (EP); S. Shrivastava (EP)

Staff: A. Fraser, General Manager, Integrated Water Services; G. Harris (EP), Senior Manager, Environmental Programs; J. Dales, Senior Manager, Wastewater Infrastructure Operations; Ye Li, Senior Financial Advisor; D. Dionne, Administrative Coordinator, Integrated Water Services (Recorder)

REGRETS: P. Jones; R. Windsor

EP = Electronic Participation

The meeting was called to order at 10:31 am.

1. TERRITORIAL ACKNOWLEDGEMENT

An Acknowledgement was provided in the preceding meeting.

2. APPROVAL OF AGENDA

MOVED by Commissioner King, **SECONDED** by Commissioner Halldorson, That the agenda be approved.

CARRIED

3. ADOPTION OF MINUTES

MOVED by Commissioner McNeil-Smith, **SECONDED** by Commissioner King, That the minutes of the January 18, 2024 meeting be adopted.

CARRIED

4. CHAIR'S REMARKS

The Chair made no remarks.

5. PRESENTATIONS/DELEGATIONS

There were no presentations or delegations.

6. GENERAL MANAGER'S REPORT

There was no report.

7. COMMISSION BUSINESS

7.1. Update on the Progress of the Saanich Peninsula Wastewater Services Loan Authorization

A. Fraser stated that this report is to inform the municipal representatives that their councils can be expecting a letter from the Capital Regional District (CRD) Legislative Services department over the next few days seeking feedback. Once the letters are received, the bylaw will be sent to the Ministry of Municipal Affairs.

Discussion ensued and staff responded to questions regarding:

- Borrowing – staff advised that this bylaw provides authorization for staff to borrow funds for the completion of projects.
- Process, since the Bylaw has already received first reading at the CRD Board, the requirement for approval from the three municipalities is because it is a sub-regional service. Staff noted that letters from the municipalities are submitted with the Bylaw as support documents to the Ministry.

The report was received for information.

7.2. Biosolids Monthly Update to the Capital Regional District Board – March 13, 2024

G. Harris provided an overview of the staff report that was presented to the CRD Board at its Marcy 13, 2024 meeting.

Discussion ensued and staff responded to questions regarding:

- Negotiations with Synagro and whether the Commission can assist. Staff noted that until the completion under the Project Agreement has been met, Synagro is not obligated to receive Other Municipal Solids.
- Lafarge receiving – staff are hoping that Lafarge will be ready to start receiving biosolids again next week. Lafarge has been dealing with several operational issues.
- Timeline for upgrading the Residual Treatment Facility to receive municipal biosolids – staff noted that all the parts are onsite and ready to go, biosolids could be being received as soon as possible following the Project Agreement sign off.
- Beneficial use of Biosolids exemption by the Province – staff noted that the Province has been sympathetic to the CRD as we work through the long-term planning and the short-term plan challenges.
- The last review of the Organic Matter Recycling Regulation (OMRR) was completed in 2015. Staff are awaiting the release of a report from the Province on the scientific and regulatory review OMRR.

The report was received for information.

8. NOTICE(S) OF MOTION

8.1. Motions with Notice

8.1.1. **Redirection of Saanich Peninsula Septic Tank Effluent: M. Doehnel, January 18, 2024**

MOVED by Commissioner Doehnel, **SECONDED** by Commissioner King,
Be it resolved that the Saanich Peninsula Wastewater Commission mandate the redirection of local Saanich Peninsula septic tank effluent from SPL Waste Recovery Center to the Saanich Peninsula Waste Water Treatment Plant in an orderly and prescribed fashion for processing. Thereby keeping with both the spirit, and the letter of the bylaw prohibiting the land application of biosolids within the CRD.

There was a discussion regarding the standard practice of obtaining staff's input on implications prior to mandating service changes.

MOVED by Commissioner McNiel-Smith, **SECONDED** by Alternate Commissioner Duck,
That the recommendation be amended to add the words "staff be directed to report back on the implications of" after "Be it resolved that". And then amend the word "mandate" to "mandating".

Be it resolved that staff be directed to report back on the implications of the Saanich Peninsula Wastewater Commission mandating the redirection of local Saanich Peninsula septic tank effluent from SPL Waste Water Recovery Centre to the Saanich Peninsula Wastewater Treatment Plant in an orderly and prescribed fashion for processing. Thereby keeping with both the spirit and the letter of the bylaw prohibiting the land application of biosolids with the Capital Regional District.

CARRIED as amended
Opposed: Doehnel

Staff advised of two previous staff reports in response to similar requests by the Commission on the same issue, one in 2014 and the other in 2022, in which implications were outlined. Staff stated that they could provide those two reports to all Commissioners for their review, then respond to specific concerns that may not have been already addressed in those reports.

There was a discussion regarding the procedure of not bringing the same subject before the Commission as has previously been decided, unless there is new information arising since the previous decision. There was debate as to the subjectivity of whether there is new information since then or not.

MOVED by Commissioner Halldorson, **SECONDED** by King,
That staff review the Commission's authority to do this, especially the mandate part and how it would affect treatment plant capacity and any fees related.

CARRIED

9. NEW BUSINESS

There was no new business.

10. ADJOURNMENT

MOVED by Commissioner King, **SECONDED** by Commissioner Doehnel,
That the March 21, 2024 meeting be adjourned at 11:14 am.

CARRIED

CHAIR

SECRETARY

DRAFT

**REPORT TO SAANICH PENINSULA WASTEWATER COMMISSION
MEETING OF THURSDAY, MAY 16, 2024**

SUBJECT Saanich Peninsula Wastewater Treatment Plant Capacity Update

ISSUE SUMMARY

To provide the Saanich Peninsula Wastewater Commission (Commission) with an update on average annual and peak wastewater flows at the Saanich Peninsula Wastewater Treatment Plant (SPWWTP) for the period from October 1, 2022 to September 30, 2023.

BACKGROUND

The previous capacity update of the SPWWTP was provided to the Commission at its January 20, 2022 meeting.

This report provides an update on the latest flow capacity at SPWWTP for last year (from October 1, 2022 to September 30, 2023). Flows are reported for that specific period so that the Capital Regional District (CRD) can use that data for annual financial requisitions in the upcoming budget year (i.e. 2024). The individual capacity allocations by participant and the actual measured average day and peak day flows, are noted in Tables 1 and 2, respectively.

Table 1: Annual Average Day Flow (ADF)

Participant	ADF Capacity Allocation (m ³ /day)	Measured ADF (Oct 1, 2022 to Sep 30, 2023) (m ³ /day)	Percent (%) of Avg. Day Capacity Used
Central Saanich	7,710	3,655	47.4
Sidney	7,160	3,453	48.2
North Saanich	2,650	1,412	53.3
Institute of Ocean Sciences	79 ¹	11	14.3
Airport Authority	682 ¹	146	21.3
Pauquachin First Nation	219 ¹	97	44.4
Tseycum First Nation	96 ¹	39	40.3
TOTAL	18,596	8,813	47.4

Table 2: Peak Day Flow (PDF)

Participant	PDF Capacity Allocation (m ³ /day)	Measured PDF (Oct 1, 2022 to Sep 30, 2023)		Percent (%) of Peak Day Design Capacity Used
	Design	(m ³)	Date	
Central Saanich	16,962	9,917	Dec 26, 2022	58.5
Sidney	15,752	10,080	Dec 26, 2022	64.0
North Saanich	5,830	3,638	Dec 27, 2022	62.4
Institute of Ocean Sciences	159 ¹	62	Dec 26, 2022	39.0
Airport Authority	1,363 ¹	925	Dec 27, 2022	67.9
Pauquachin First Nation	775 ¹	196	Dec 26, 2022	25.3
Tseycum First Nation	326 ¹	185	Dec 26, 2022	56.7
TOTAL	41,167	25,003	n/a	60.7

¹The allocations for IOS, Airport Authority, Pauquachin and Tseycum are all based on signed agreements with those participants.

As noted in the above tables, average day and peak day flow capacity used at the plant is at 47.4% and 60.7%, respectively. The peak day flow for the October 1, 2022 to September 30, 2023 period occurred on December 26 and 27, 2022 and was due to a one-year storm event (with about 26 millimeters (mm) of rainfall occurring over 24 hours).

In general, 2023 was a very dry year with less rainfall and lower intense storms than normal. As a result, both the average day and peak day flows were lower for this period compared to the previous period.

IMPLICATIONS

Service Delivery Implications

There is still ample capacity for all participants in the Saanich Peninsula wastewater system under average annual flow conditions, but it is still important for participants to continue to reduce their inflow and infiltration to meet their commitments in the Saanich Peninsula Liquid Waste Management Plan and remain under peak flow capacity during storm events.

CONCLUSION

Bylaw No. 2388 establishes the maximum allocated capacity for each of the Saanich Peninsula Wastewater Treatment Plant participants. Based on the flow data for the period from October 1, 2022 to September 30, 2023, the plant operates at about 47.4% of its average daily capacity and 60.7% of its peak daily capacity. However, ongoing effort is required by all participants to lower their inflow and infiltration so that peak flows do not exceed the capacity of the system and result in overflows.

RECOMMENDATION

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

Submitted by:	Joseph Marr, P.Eng., Senior Manager, Infrastructure Engineering
Concurrence:	Alicia Fraser, P. Eng., General Manager, Integrated Water Services
Concurrence:	Ted Robbins, B. Sc., C. Tech., Chief Administrative Officer

**REPORT TO SAANICH PENINSULA WASTEWATER COMMISSION
MEETING OF THURSDAY, MAY 16, 2024**

SUBJECT Saanich Peninsula Wastewater Asset Management Update

ISSUE SUMMARY

To provide the Saanich Peninsula Wastewater Commission (Commission) with an update on the Saanich Peninsula Wastewater Assets.

BACKGROUND

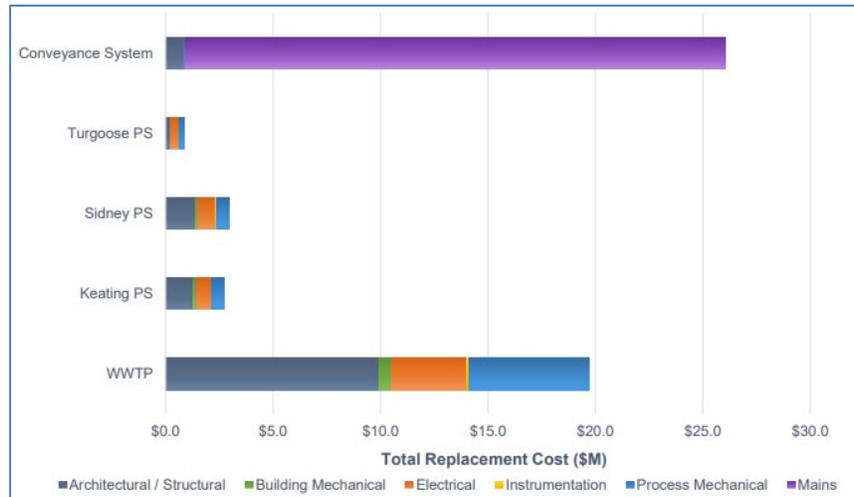
In 2021, the Capital Regional District (CRD) retained AECOM to produce an Asset Management Plan for the Saanich Peninsula Wastewater System (SPWWS) which was completed in July, 2022. The SPWWS serves the municipalities of North Saanich, Sidney, Central Saanich in addition to the following participants, (through service agreements): Victoria Airport Authority, Institute of Ocean Sciences, Pauquachin and Tseycum First Nations. The SPWWS generally includes about 25 kilometers (km) of wastewater pipes, three pump stations (Sidney, Keating and Turgoose), and the wastewater treatment plant at 9055 Mainwaring Road as shown in Appendix A.

The asset management plan generally includes the following key components:

- condition assessment of the existing assets
- hydraulic modelling and capacity assessment of the system based on projected growth
- risk assessment and management of assets
- maintenance, repair and replacement strategies
- financial planning

The objective of the asset management plan is to provide a financial and technical road map for the management of and reinvestment in the SPWWS assets to ensure the ongoing reliability of the system.

The total estimated replacement value of the SPWWS to be about \$53 million (based on the cost to replace the infrastructure in 2021 dollars). Due to substantial inflation since 2021, the replacement cost in 2024 dollars is expected to be considerably higher, these costs will be refined as projects are added to the 5 Year Capital Plan. The figure below shows the 2021 breakdown of the replacement value by asset type and facility/system.

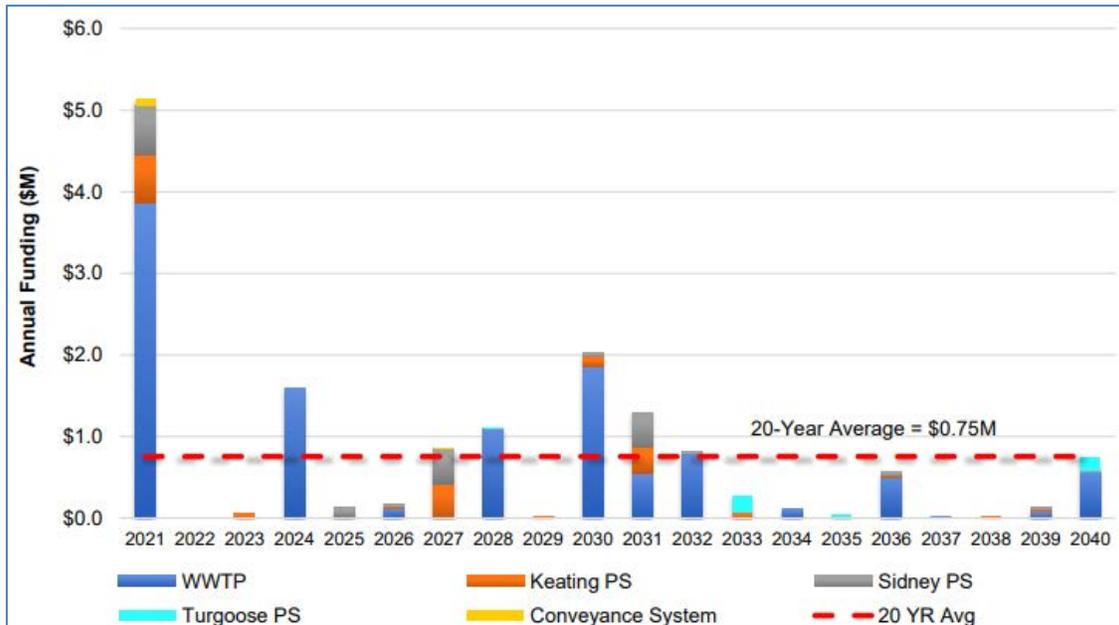


SPWWS Replacement Value by Facility/System (2021 dollars)

The overall report card for the SPWWS is attached in Appendix B. In summary, the majority are less than 30 years old and are in good condition. However, some assets have shorter expected service lives than others, or have been in service for longer, this includes many of the mechanical, electrical, and instrumentation components, and some of the older concrete gravity mains. These asset classes may need to be replaced or renewed (relined) in the coming years but this will be informed by asset specific condition assessment and reliability.

In terms of capacity, the existing pipelines, pump stations, and treatment plant all have sufficient capacity for the next 15 to 20 years. Growth projections and capacity analysis is typically done every five years through a Development Cost Charge Program update with the next scheduled update to begin late 2024 or early 2025. Turgoose Pump Station was upgraded in 2021 to accommodate growth from the Marigold Development. Sidney and Keating pump stations are projected to have sufficient capacity until 2040, and the treatment plant consistently meets its effluent requirements and is operating at about 50 percent of its average day flow design capacity. However, some individual systems in the plant may require upgrades to improve hydraulic performance, like the headworks and piping upstream of the primary clarifiers.

A summary was created that documents the assets, their age, expected service life, and replacement values, this is the basis for a theoretical replacement cycle for each asset. The graph below summarizes the estimated asset renewal expenditure by facility over 20 years. The average annual renewal expenditure is approximately \$0.75 million, for a total approximate cost of \$15 million over the next 20 years (in 2021 dollars).

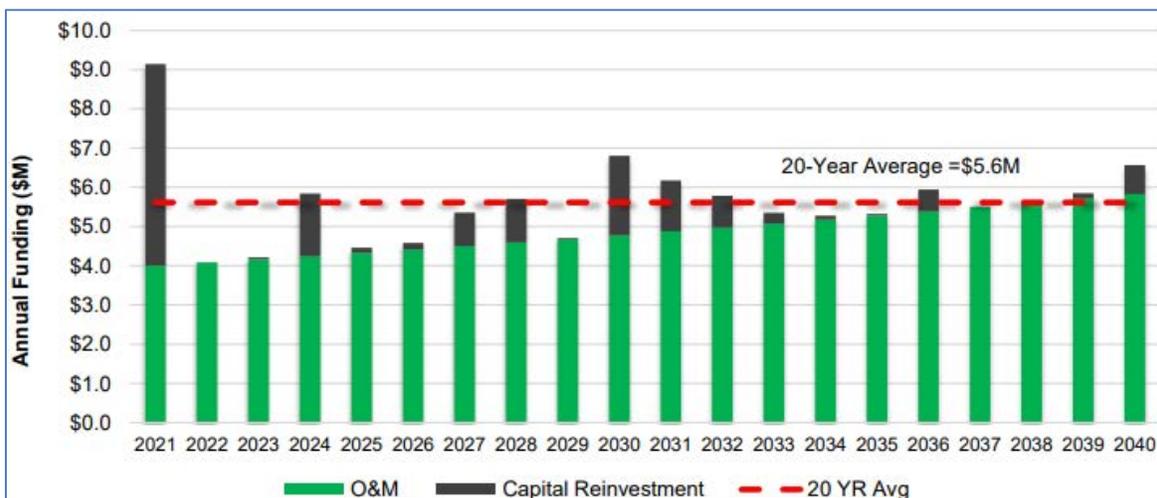


20-Year SPWWS Asset Renewal Expenditure Need by Facility/System

Assets that were identified to be beyond their service life, including odour and electrical control systems at the WWTP, and components requiring upgrades at Keating and Sidney pump stations, were incorporated into the 5 Year Capital Plan in 2023. The CRD is continuing to progress with these upgrades in 2024 and into the future.

It is expected that a combination of Capital Reserve Funds combined with short-term borrowing will be required to pay for ongoing asset renewal.

Lastly, the plan included a review of the SPWW annual Operating and Maintenance (O&M) costs and superimposed the annual capital renewal values from the above graph to determine a total annual expenditure for the SPWWS for the next 20 years which is estimated at an average of \$5.6 million per year.



20-Year Total Funding Projection for O&M and Capital

It is worth highlighting that the annual O&M costs are many multiples greater than the ongoing capital renewal expenditures. By making on-going annual investments in preventative maintenance, the service life of an asset can be extended resulting in potentially lower capital expenditures over time. This ensures the longevity of SPWWS assets and minimizes risk of premature asset failure. However, condition of assets and costs will change over time, and it is planned to update the asset management plan every five years.

IMPLICATIONS

Alignment with Existing Plans & Strategies

The Saanich Peninsula Wastewater Asset Management Plan advances the CRD’s corporate objectives as outlined in the Corporate Asset Management Strategy as follows:



1. **Service Delivery & Community:** The CRD will put community service delivery needs first and foremost.



2. **Financial Strategy:** The CRD will evaluate and include full life cycle costs in financial decisions.



3. **Decision-Making:** The CRD will make well-informed and evidence-based decisions.



4. **Transparency:** The CRD will establish a systematic and integrated approach to asset management and require rigorous and transparent processes.



5. **Sustainability:** The CRD will deliver services that are environmentally, socially and economically sustainable for current and future generations.



6. **Continual Improvement:** The CRD will commit to continual improvement, encouraging innovation of asset management practices and service delivery.



7. **Risk & Resiliency:** The CRD will manage risk and build resilient infrastructure.

The corporate asset management division works across the organization to develop and implement standards, processes, and tools for asset management reporting and decision-making. Asset Management Plans are an opportunity to work collaboratively to deliver on the actions and objectives in the CRD’s Corporate Asset Management Strategy.

CONCLUSION

AECOM has completed an Asset Management Plan for the Saanich Peninsula Wastewater System (SPWWS). The assets are in relatively good condition and there is sufficient capacity in the system to meet anticipated growth, but upgrades and replacement for some bottlenecks and end-of-life assets are required over the next 20 years. Most of the funding for capital upgrades will come from the Capital Reserve Fund but some short-term borrowing will be required when there are insufficient reserve funds available. Currently, the SPWWS assets are being maintained in a sustainable and cost-effective manner, and the CRD will continue to look for opportunities for further improvement. The CRD aims to update asset management plans every five years.

RECOMMENDATION

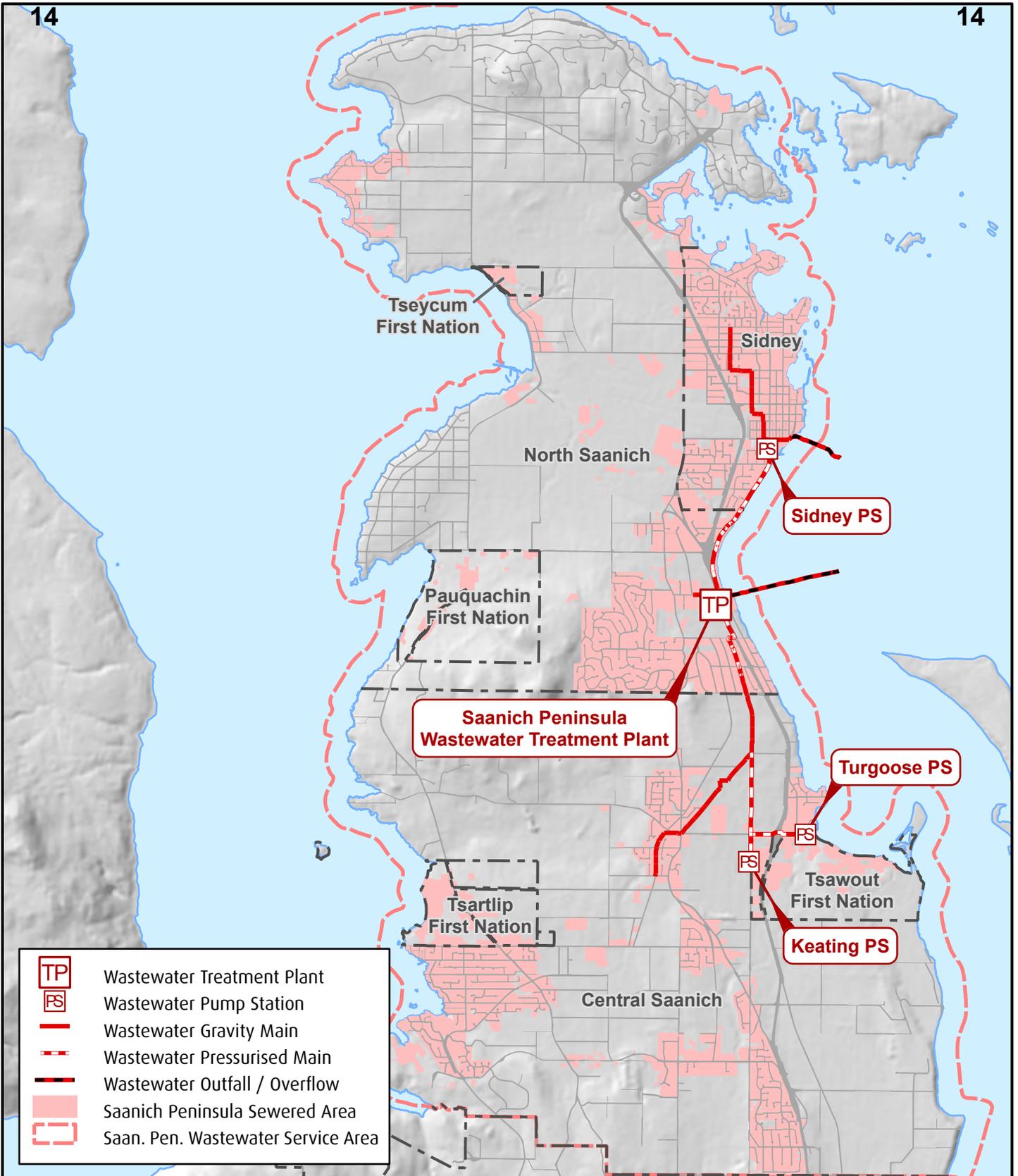
There is no recommendation, this report is for information only.

Submitted by:	Joseph Marr, P.Eng., Senior Manager, Infrastructure Engineering
Concurrence:	Alicia Fraser, P. Eng., General Manager, Integrated Water Services
Concurrence:	Ted Robbins, B. Sc., C. Tech., Chief Administrative Officer

ATTACHMENT(S)

Appendix A: Geographical Map of the Saanich Peninsula Wastewater Area and System

Appendix B: Asset Replacement Report Card for Saanich Peninsula Wastewater



UTM Zone 10N NAD 1983



Saanich Peninsula CRD Wastewater Collection System



DISCLAIMER

This map is for general information only and may contain inaccuracies.
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Asset Replacement Report Card

Saanich Peninsula Wastewater

Services Provided:

- Wastewater Conveyance
- Wastewater Treatment
- Wastewater Disposal

Total Replacement Cost (2021 dollars)*

\$53M

Average Condition

Good

Infrastructure Backlog

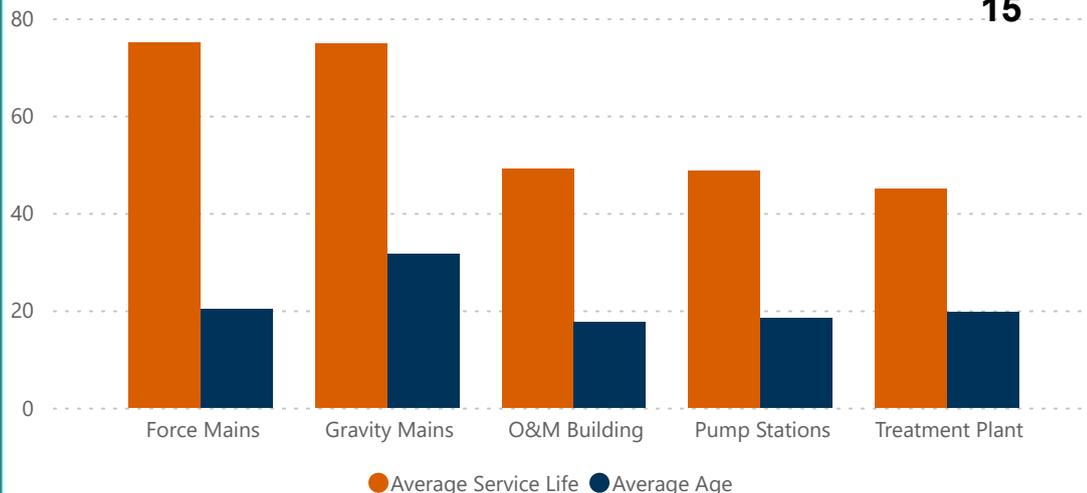
\$1.7M

Asset	Quantity
Force Mains	6 km
Gravity Mains	18 km
O&M Building	1
Pump Stations	3
Treatment Plant	1



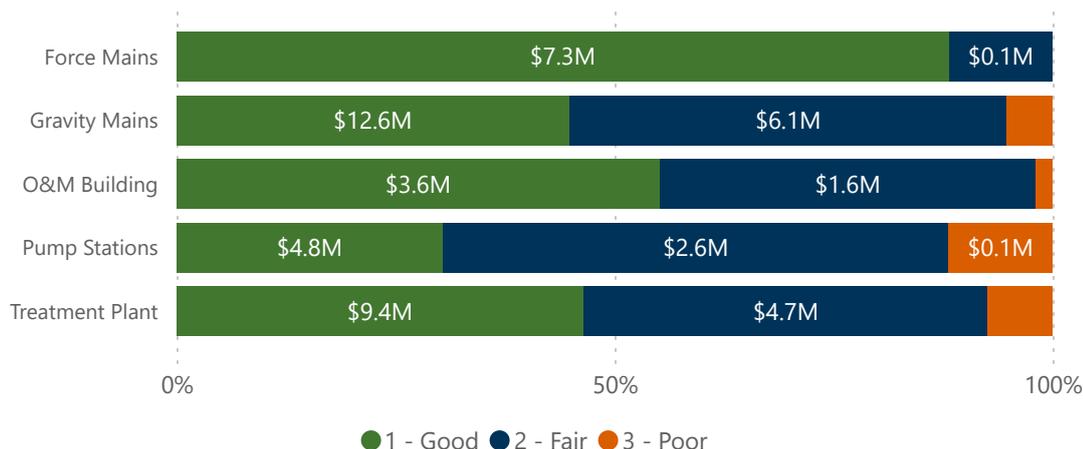
*Replacement values noted in this report card are likely less than the current actual replacement values. An assessment at current day market rates would need to be completed to obtain accurate values.

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 (both equipment and structures) 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 conclusions made by AECOM in the 2019 Asset Management Plan. For asset classes not covered by AECOM (sewer mains), condition is based on remaining expected service life assessed against the following criteria:

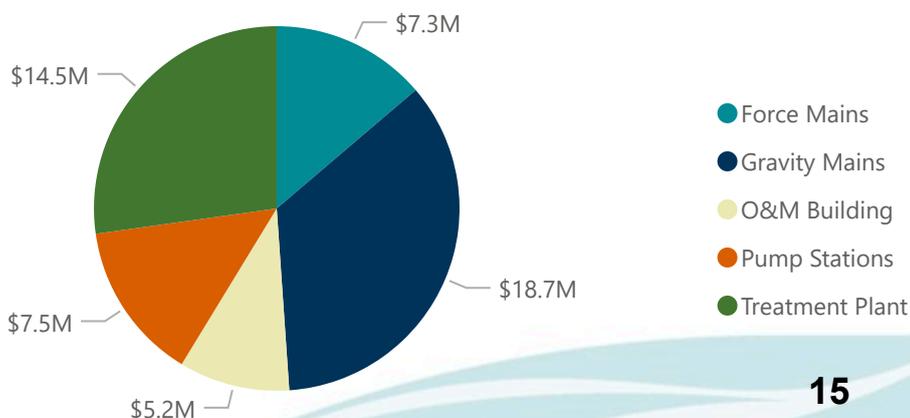
Good - Asset has more than 50% of remaining expected service life.

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

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

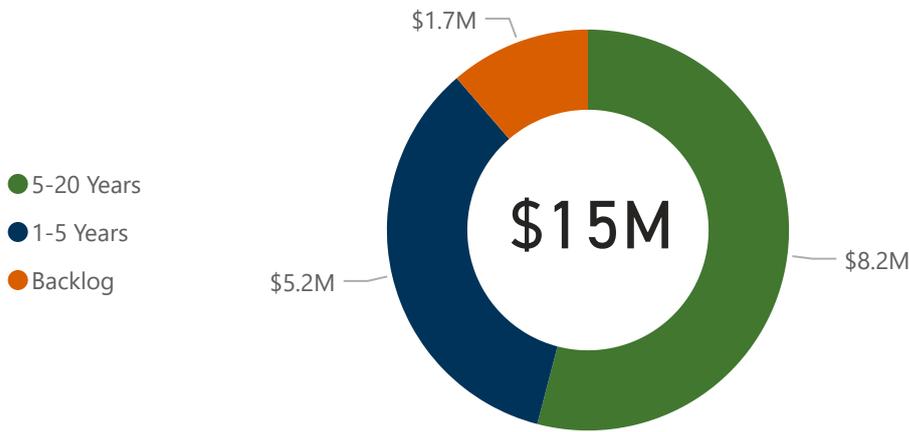
Assets identified in poor condition may still be performing adequately for the service. A condition assessment is advised prior to replacement. Replacement values are shown in relation to their average condition rating.

Asset Replacement Value by Asset Class



Saanich Peninsula Wastewater

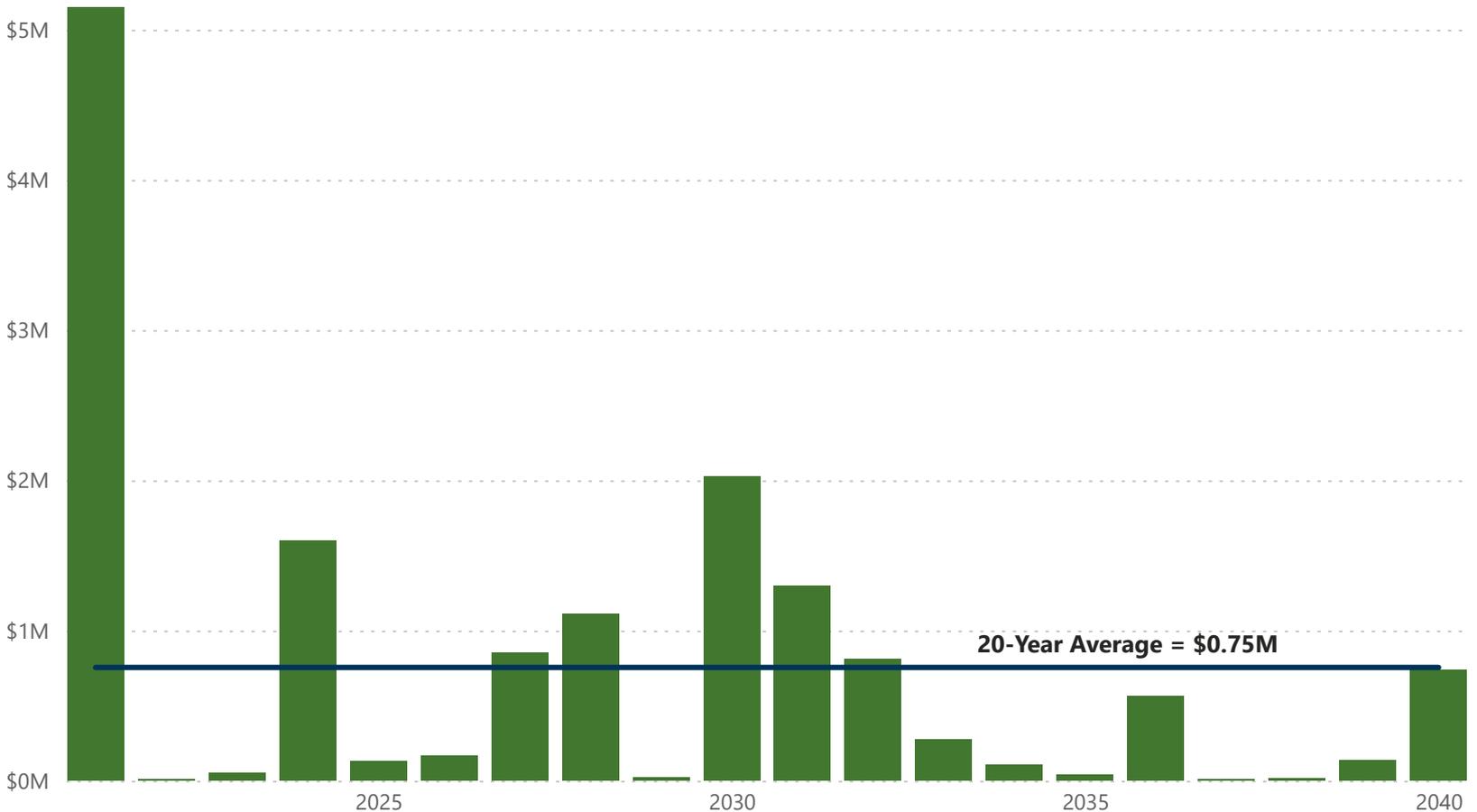
20-Year Asset Replacement Cost by Renewal Timeframe



In the next 20 years, it is estimated that \$15M in assets will need to be replaced (an average of \$750,000 per year).

There is an estimated \$1.7M in asset replacement backlog for the service.

20-Year Capital Renewal Forecast



The capital renewal forecast is based on the expected service life of assets and their replacement cost (in 2021 dollars). Instances where an asset requires multiple replacements over the 20 year period are accounted for in the projection.

Since 2021, there have been assets replaced that are not reflected in the renewal forecast.