DISTRICT OF CENTRAL SAANICH

2022 ASSET MANAGEMENT PLAN & LONG-TERM FINANCIAL STRATEGY

PREPARED FOR:

DISTRICT OF CENTRAL SAANICH
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1.0 INTRODUCTION

1.1 CONTEXT

In 2021, the District of Central Saanich (the District) initiated a joint update to its Asset Management Plan (AMP) and Long-Term Financial Strategy (LTFS), previously completed in 2017. The 2017 AMP and LTFS were significant tools that provided an initial understanding of the District's assets and how to fund them to support service and financial resiliency. The 2017 AMP and LTFS identified three recommended approaches (Table 1) to increase the current level of capital investment to reach sustainable infrastructure replacement levels.

Table 1. 2017 Sustainable Asset Management Plan (AMP) Financial Recommendations

Fund	Recommendation
General Fund	Increase contribution to reserves by 1.25% per year over 15 years
Water Fund	Increase contribution to reserves by 1.50% per year over 10 years
Sewer Fund	Increase contribution to reserves by 5.0% per year over 15 years

Since the 2017 recommendations were made, the District has implemented a dedicated asset management levy for replacing assets in the General Fund, Water Fund, and Sewer Fund. The 2022 AMP and LTFS includes an assessment of whether these recommendations are still appropriate given what is known about the District's current asset inventory and funding levels, and recommendations for adjustments.

> *The integration of the AMP and the LTFS support continuous improvement to the District's understanding of the state of its assets, long-term funding needs for their replacement, ways for improving asset data over time, and funding strategies based on projected costs and revenues.*

Ultimately, the joint AMP and LTFS will be used to help the District make informed decisions about its assets and financial strategies for service and financial resiliency.

1.2 WHAT ASSET MANAGEMENT IS AND WHY IT IS IMPORTANT

Asset management is the formalized, integrated, collaborative, and continuous process of bringing together the skills and expertise of people with information about assets and finances, to make informed decisions about assets and the services they provide. This means considering level of service, lifecycle cost, and risk (and the trade-offs between them) when making decisions.

> *The goal of asset management is sustainable service delivery.*

When decisions are made that *don't* consider these factors, they can potentially lead to misalignment between the level of service that is being provided and funding levels required to sustain it. This can result in service interruptions due to deteriorated asset condition, insufficient funding levels, or other risks and ultimately, erosion of public trust. Good asset management processes and practices help mitigate these problems.

The asset management process, as outlined in Asset Management for Sustainable Service Delivery: A BC Framework (AMBC Framework), is a high-level, systematic approach to advancing service, asset, and financial sustainability.

This 2022 AMP update is an outcome of the District undertaking the following steps in the continuous asset management improvement process (Table 2):

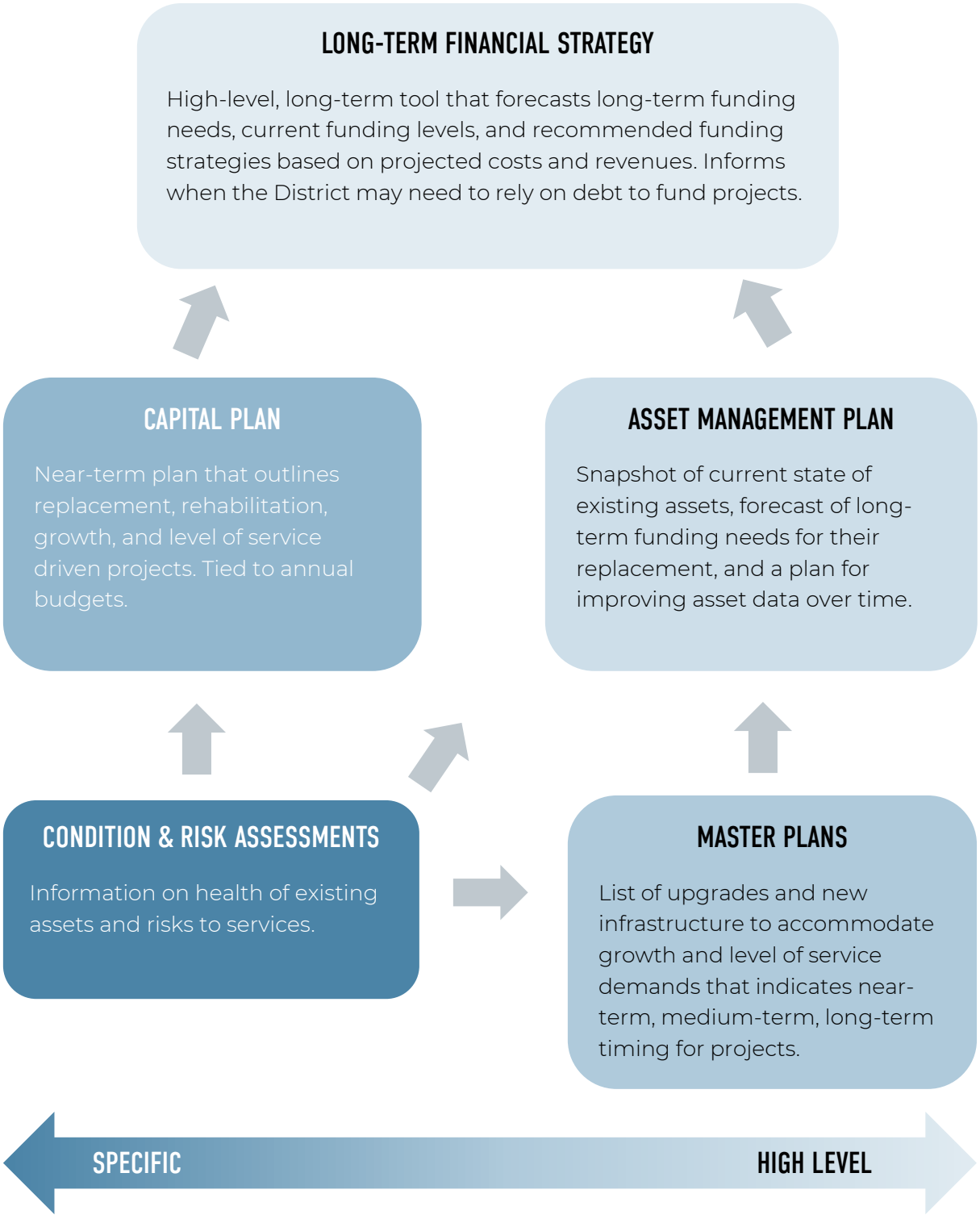
- Assessing the current state of the assets
- Incorporating updates to the current state of assets into the AMP
- Integrating the AMP into LTFS

Figure 1. Asset Management Process

Table 2. Review of the Asset Management Process

ASSESS
▸ Assessing Asset Management Practices Helps identify ongoing asset management practices, how they work together, and how effective they are through the lens of people, information, assets, and finances. ▸ Assess the Current State of Assets Helps build an understanding of the assets owned by an organization, their service performance, risks, and related costs. The assessment of the current state of assets is the foundation for the development of asset management plans.
PLAN
▸ Asset Management Policy Outlines the implementation of asset management across the organization in a systematic and coordinated way that is aligned with the District's plans. ▸ Asset Management Strategy Summarizes asset management objectives and how they relate to organizational objectives, and how the organization will approach the development of asset management practices and plans to achieve the objectives. ▸ Asset Management Plan (AMP) Tells the story of the current state of existing assets, forecast of long-term funding needs for their replacement, and a plan for improving asset data over time. ▸ Integrate to Long-Term Financial Plan / Strategy (LTFP/S) Funding for long-term asset replacement needs is considered along with funding for new infrastructure and upgrades, to inform decisions on funding and financing strategies.
IMPLEMENT
▸ Implementing Asset Management practices Includes wide-ranging activities that are guided by the priorities and projects identified in the asset management policies, strategies, and plans. Implementation can be incremental over time based on available resources ▸ Measure and Report Measures and reports on asset management progress using high-level, corporate-wide indicators expressed in financial terms to highlight the connections between cost, service, and performance trends over time. Reporting demonstrates measurable progress in implementing the process and achieving sustainable service delivery.

1.3 HOW DO THE AMP AND LTFS UPDATE RELATE TO OTHER DISTRICT PLANS AND DOCUMENTS?



2.0 ASSET MANAGEMENT PLAN

2.1 PURPOSE AND SCOPE OF THIS PLAN

The Asset Management Plan (AMP) summarizes key information about the current state of District-owned infrastructure assets and funding levels. It also provides direction for how to move towards more resilient funding levels and a better understanding of assets through improvements to asset data and other management practices over time. It answers the following key questions:

- What assets do we own?
- How much are our assets worth?
- When might our assets need to be replaced?
- How much do we need to invest in our assets?

> *This AMP is a tool for both Council and staff to inform long-term financial planning, decisions on funding levels, communications with the community on service levels and funding needs, and improvements to asset data and asset management processes and practices.*

It is important to note that the AMP is not:

- A capital plan that sets out specific projects for the community to undertake
- An infrastructure cost tool that can be used to predict exact replacement costs
- The sole component of the District's asset management program
- A document addressing the requirements of new or upgraded infrastructure to meet the community's growth needs or demands for increased levels of service

This AMP considers all of the built/engineered assets that are owned by the District. It considers the investments needed based on like-for-like replacement of these assets, except for the replacement of the District's Municipal Hall (1903 Mount Newton) as discussed further below.

2.2 WHAT ASSETS DO WE OWN?

The cost and number of assets the District owns have substantial implications for required funding levels to sustain the services provided by those assets. Below is a summary of the quantity of assets owned by the District, by fund and asset class.

Table 3. Asset Count Summary

Asset Components	Quantity
General Fund	
Roads (base and surface)	137,039 m
Sidewalks	34,363 m
Streetlights	474 ea
Mains and Laterals (stormwater drainage)	81,378 m
Culverts (drainage)	2,161 m (105 ea)
Facilities	35 ea
Parks and Trails	102 ea
Vehicles	124 ea
Equipment	numerous
Water Fund	
Mains	124,105 m
Hydrants	499 ea
Pump Stations (PRV stations)	9 ea
Reservoirs	1 ea
Sewer Fund	
Mains	102,977 m
Pump Stations	28 ea
N.B. quantity is in meters (m), and number of units/each (ea)	

An important consideration in asset management planning is asset material, as it is a factor in the theoretical service life of assets.

Table 4. Asset Material (Linear Assets)

Material	Quantity (m)
General (drainage)	
Concrete (culverts)	968
Concrete (mains and laterals)	8,066
Corrugated Metal Pipe (CMP)	1,160
Asbestos Cement	25,906
PVC	41,380
Other	5,952
Water (mains)	
Asbestos Cement	59,350
PVC	60,948
Other	3,808
Sewer (mains)	
Asbestos Cement	27,517
PVC	52,214
Vitrified Clay	19,580
Other	3,666

The District's asset inventory is not linked to a Geographic Information System (GIS). As such there is no location data linked to the asset inventory. The District has condition information that has not yet been integrated into the asset inventory. Establish a Geographic Information System-based inventory to support planning and analysis is a key next step for the District to improve their understanding of their assets.

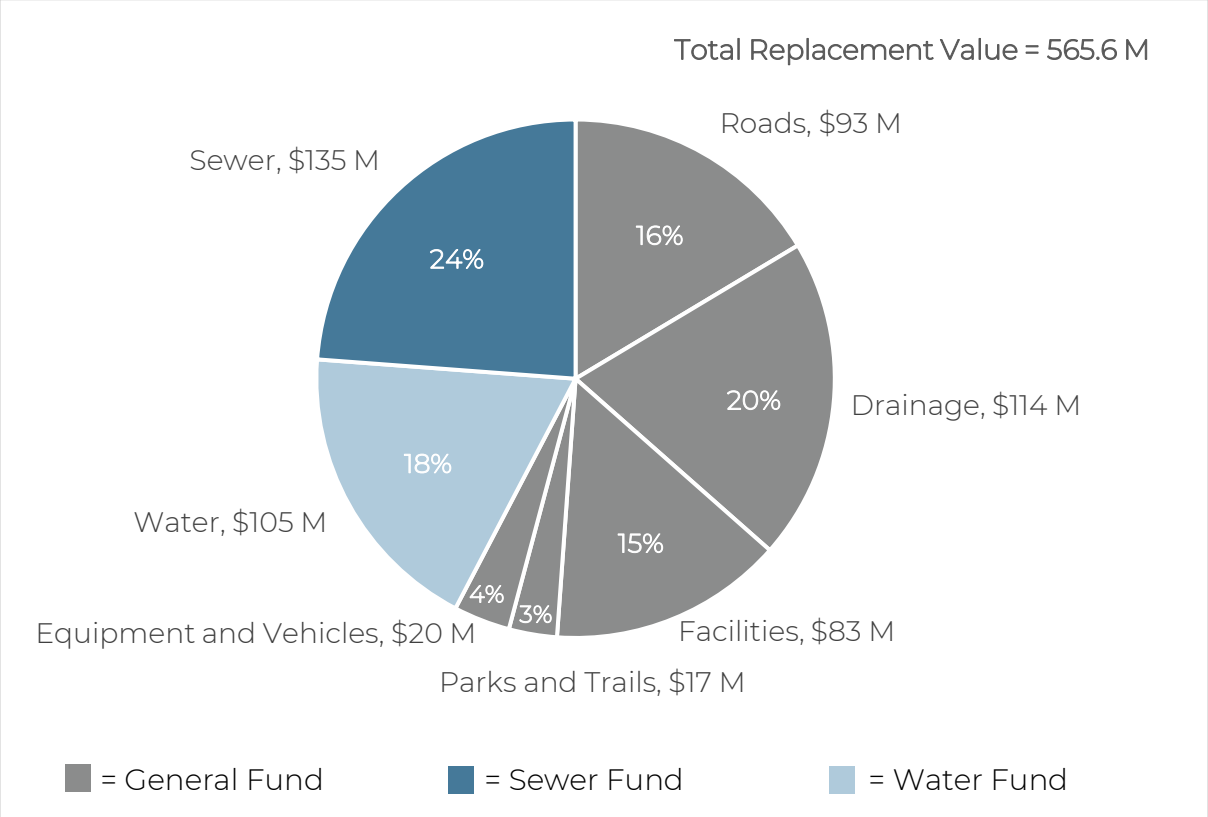
2.3 HOW MUCH ARE OUR ASSETS WORTH?

The total replacement cost of the District's existing assets is approximately **$565.6 million (M)**.

> *Replacement costs represent the total value of the District's assets and the magnitude of investment required to replace all assets as they exist today, assuming "like for like" replacement.*

Asset replacement costs do not account for new investment required to satisfy regulatory requirements, growth/expansion, safety improvements, or economic development. All values are reported in millions (M), in 2021 dollars.

Figure 2. Total Asset Value by Asset Fund



The valuation was based on unit rates developed for this project, which are provided in Appendix A. The value for replacement of the Municipal Hall (1903 Mount Newton) is $42M and is based on estimated costs provided by the District and based on feasibility studies conducted or in-process by the District (rather than like-for-like replacement values). The value for the Public Works ($20M) facilities is not considered in the total replacement value.

2.4 WHEN MIGHT OUR ASSETS NEED TO BE REPLACED?

The graph below is a 50-year, high-level Asset Replacement Forecast (ARF) of when assets may need to be replaced, using industry-standard theoretical service life values (Appendix A) and asset age to inform the forecast. This information shows where the District may face investment-heavy years and whether they are in the near-term or more over the long-term, to support decisions on funding levels.

> *Based on the high-level 50-year forecasting, the District can anticipate infrastructure rehabilitation or replacement needs for multiple asset types over the next ten to twenty years. Understanding the when the District's assets need to be replaced supports long-term financial planning and decision-making on funding and financing strategies, as funds must be available when needed to avoid interruptions to service.*

Significant investments needs over the next ten to twenty years include:

- General Fund – Facilities

  There is approximately $44.5 M in facilities replacement needs and upgrades (2027). The Municipal Hall at 1903 Mt. Newton is at the end of its useful life and there are capacity issues with the current facility. Replacement of the 1903 Mt. Newton is estimated at $42 M and to take place over the next five years.

  The Public Works Yard is also beyond its useful life and capacity is limited. However, given the uncertainty of the timing of this project it is not reflected in the ARF. The replacement of the Public Works Building is estimated roughly at $20 M.

- General Fund – Drainage

  Over the next twenty years, there is over $53 M in stormwater drainage replacement needs ($30.2 M, 2032; $10.8 M, 2035; $12.1 M, 2040) due to aging Corrugated Metal Pipe (CMP) infrastructure that is reaching the end of its useful life.

- Water Fund

  In the next decade, it is estimated that there will be $21 M in water main replacement needs due to aging Asbestos Cement (AC) pipe infrastructure (2030).

- Sewer Fund

  It is estimated there will be $42.8 M in sewer main replacement needs due to aging Asbestos Cement (AC) and Vitrified Clay (VC) pipe infrastructure (2033).

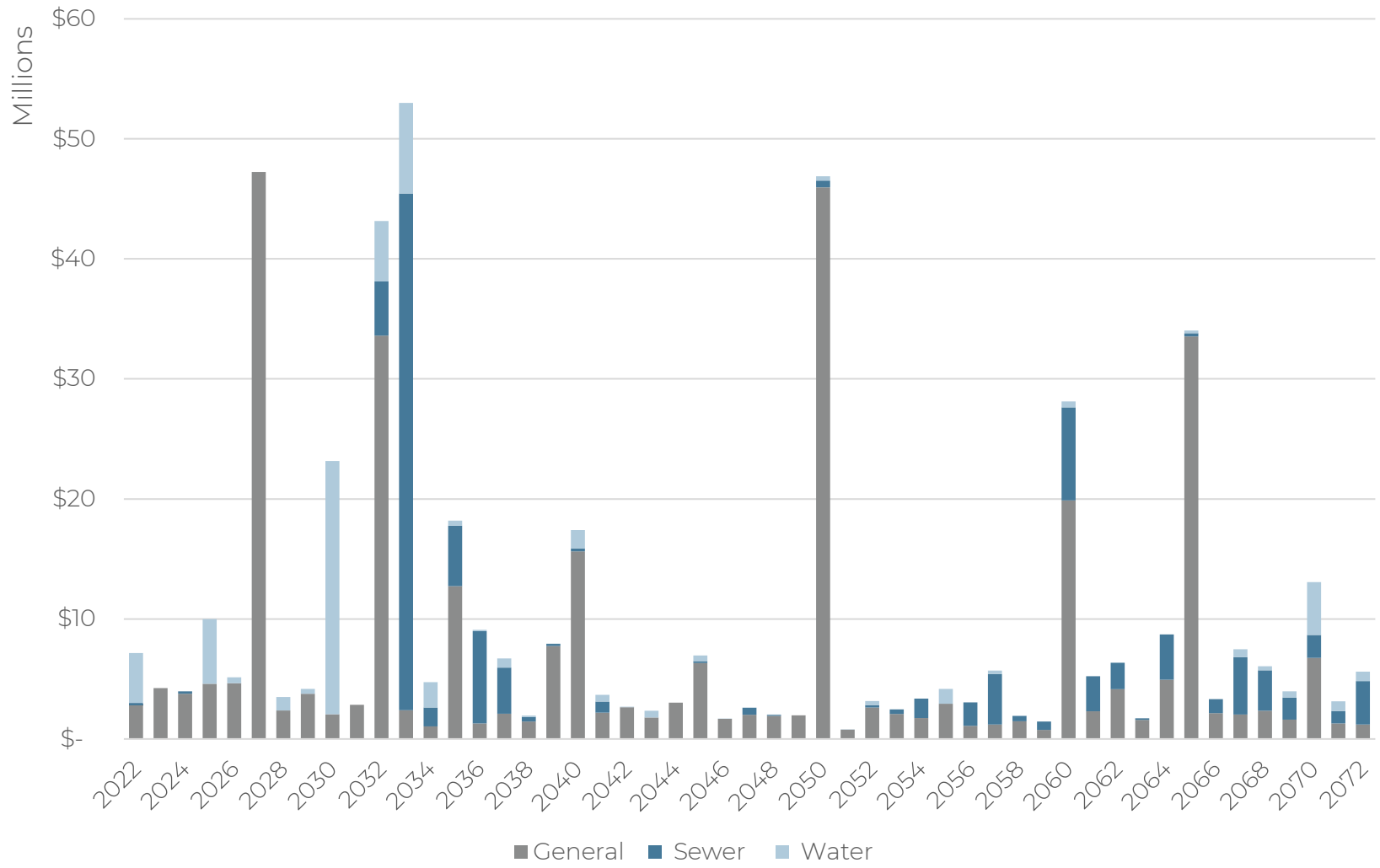
This ARF should not be used to support near-term capital planning decisions. The timing of an asset's actual replacement is a decision that should be based on numerous factors and the trade-offs between them, including asset condition and risk of failure; the cost to replace

the asset; other risks to service delivery; growth and level of service increases; and needs across asset classes.

Theoretical service life estimates are generally based on rule-of-thumb values and are typically conservative; longer service lives may be achieved in practice. Actual service life varies by asset and typically depends on many factors, such as the materials used, demands, environmental conditions, and maintenance and rehabilitation activities performed.

Developing an understanding of asset condition and risk of asset failure is important to support the theoretical service life estimates. Condition data was not available in GIS to factor into this forecast, and it is recommended that the District include condition data in the next iteration of its AMP.

Figure 3. 50-year Asset Replacement Forecast for all Funds



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2.5 WHAT IS THE CURRENT CONDITION OF OUR ASSETS?

The District's infrastructure report card was updated to reflect the current known state of infrastructure and to reflect changes to asset condition over the past five years. The infrastructure report card is a high-level assessment based on a modified American Society of Civil Engineers (ASCE) alphanumeric rating system for each asset component grouping.

Assets are evaluated on a simplified component-by-component basis. The rating system is based on anecdotal knowledge of the employees with respect to the assets and does not incorporate quantitative asset condition information. The following infrastructure report card ratings were not used to inform the estimated service life of assets.

Table 5. Rating Criteria for Infrastructure Report Cards

Rating Criteria	Grading Scale
Condition and Performance	The physical condition of infrastructure systems are: A. Excellent – No noticeable defects. Some ageing or wear may be visible. B. Good – Only minor deterioration or defects are evident C. Fair – some deterioration or defects evident, but function not significantly affected. D. Poor – serious deterioration in at least some portion of the structure. Function is inadequate. F. Failed – No longer functional. A general failure or complete failure of a major structural component.
Capacity v. Need	The demand on the systems can support: A. 100% or more of demand B. 90% to 99% of demand C. 80% to 89% of demand D. 70% to 79% of demand F. Less than 70% of demand
Funding v. Need	The status of funding that is dedicated meets: A. 90% to 100% of need B. 80% to 89% of need C. 70% to 79% of need D. 41% to 69% of need F. Under 40% of need

GENERAL FUND

Roads

Annual rehabilitation of the roads network has improved the condition of road surfaces since 2017. Local roads are lasting longer due to annual rehabilitation efforts, including chip sealing and overlays. The District's ability to extend the life of its road assets should factor into decisions on funding levels for the General Fund.

The majority of the District's road base condition is in good condition, with the exception of Keating Cross Road. Keating Cross Road eventually requires reconstruction to avoid frequent road overlays, which are currently required.

The current Pavement Management Plan (PMP) is from 2013. The PMP is outdated, and it is recommended to update the plan on a regular basis to align with current costs and rehabilitation needs.

New active transportation network infrastructure has been identified through the Active Transportation Plan (ATP). Additional funding will be required for the capital costs of building new infrastructure. As new infrastructure is constructed, renewal costs should be considered in updates to the AMP.

Table 6. Roads Infrastructure Report Card

Overall Rating	Asset Component Groupings	Rating
B-	Road base	B+
	Condition and Performance	B
	Capacity versus Need	B
	Funding versus Need	A
	Road surface	C
	Condition and Performance	C+
	Capacity versus Need	C
	Funding versus Need	C

Drainage

Corrugated Metal Pipe (CMP) within the drainage system infrastructure is at end of its useful life and failures are increasing. Currently, there are challenges monitoring the condition of deeper culverts, which means failures can go undetected. Culvert failures have resulted in costly unplanned repairs in the past two years (approx. $100K & $200K).

The Integrated Storm Water Management Plan (2009) should be updated, including improving the District's understanding of high-risk assets. Culvert replacement should be conducted on an annual basis over next ten years until completed

Table 7. Drainage Infrastructure Report Card

Overall Rating	Asset Component Groupings	Rating
C	Mains and laterals	C-
	Condition and Performance	D
	Capacity versus Need	C+
	Funding versus Need	C-
	Culverts	C
	Condition and Performance	C
	Capacity versus Need	B-
	Funding versus Need	C-

Facilities

The District completed a Facilities Master Plan in 2015, which should be kept updated every 5 to 10 years, especially as new facilities are developed. The Municipal Hall (1903 Mt. Newton) and the Public Works facility are both at the end of their useful life and there and capacity is limited or surpassed. It is a strategic priority for the District to assess the feasibility of a new buildings and site(s). Replacement (and upgrade) of the Public Works facility should be considered in updates to the AMP.

There are also two District owned docks that are nearing end of useful lives.

Table 8. Facilities Infrastructure Report Card

Overall Rating	Asset Component Groupings	Rating
C	Municipal	D+
	Condition and Performance	C
	Capacity versus Need	D
	Funding versus Need	D
	Parks and recreation	C+
	Condition and Performance	C+
	Capacity versus Need	C+
	Funding versus Need	C
	Heritage	C+
	Condition and Performance	C+
	Capacity versus Need	B
	Funding versus Need	C
	Special interest external users	C+
	Condition and Performance	C+
	Capacity versus Need	B
	Funding versus Need	C

Parks and Trails

The District is currently in the process of completing a Parks Master Plan. Playground replacement has been deferred until the Parks Master Plan is completed.

Overall Rating	Asset Component Groupings	Rating
C	Amenities	C-
	Condition and Performance	C-
	Capacity versus Need	C-
	Funding versus Need	C-
	Trails and accesses	C
	Condition and Performance	C+
	Capacity versus Need	C
	Funding versus Need	C
	Grounds	B-
	Condition and Performance	B
	Capacity versus Need	B
	Funding versus Need	C

Vehicles and Equipment

Fleet assets have been reduced since the last AMP update. Some flexibility has been required to adjust to pooled vehicle system to downsize fleet. Upcoming renewal of vehicles considers specific uses and opportunities to downgrade where appropriate.

The District is reviewing the feasibility to implement EV replacements where possible. It's expected some EV vehicles and equipment will require more funding than like-for-like replacements.

Table 9. Vehicles and Equipment Infrastructure Report Card

Overall Rating	Asset Component Groupings	Rating
C	Vehicles	C
	Condition and Performance	C
	Capacity versus Need	C-
	Funding versus Need	C
	Information technology	C+
	Condition and Performance	C+
	Capacity versus Need	C+
	Funding versus Need	C

WATER

It is recommended that the District update the Water Master Plan and evaluate water capacity in early 2023, as future growth in the District is limited by the current capacity of the water distribution system. There is deterioration of Asbestos Cement (AC) pipes within the water system that is resulting in increasing failures, infiltration, and system leaking, and some fire flow requirements are not being met due to undersized water mains (6 inch / 150 mm or less). Additionally, Oldfield pump station is reaching the end of its useful life (1960s) and does not provide fire flows required.

Table 10. Water Infrastructure Report Card

Overall Rating	Asset Component Groupings	Rating
C	Mains	D+
	Condition and Performance	D
	Capacity versus Need	D
	Funding versus Need	C-
	Hydrants	B-
	Condition and Performance	C+
	Capacity versus Need	B
	Funding versus Need	C+
	Pump stations	C
	Condition and Performance	C
	Capacity versus Need	D+
	Funding versus Need	C+

SEWER

It is recommended that the District update the Sanitary Sewer Master Plan (2015) to better understand the current risks to assets and sewer service. Older mains within the sewer system are susceptible to damage from tree roots causing infiltration and backups into private property. Many sewer mains are on private land and are difficult to access. This presents a risk to the District.

Smaller diameter sewer mains restrict capacity and are the most susceptible to blockage (6 inch / 150 mm or less). The higher levels of infiltration during storms cause an increase in CRD sewer treatment charges.

Brentwood Bay Sewer pump station and main requires replacement due to age and capacity deficiency ($12-14M).

Table 11. Sewer Infrastructure Report Card

Overall Rating	Asset Component Groupings	Rating
D	Mains	D+
	Condition and Performance	C-
	Capacity versus Need	C-
	Funding versus Need	D-
	Pump stations	D
	Condition and Performance	D
	Capacity versus Need	D
	Funding versus Need	D

2.6 HOW MUCH DO WE NEED TO INVEST IN OUR ASSETS?

There is no easy answer to what the "right" investment level in asset replacement is. Deciding the funding level requires thoughtful review and consideration of trade offs between cost, risk, and level of service, and what is known and unknown about the current state of assets.

> *A key metric used to inform decisions on investment levels is the Average Annual Lifecycle Investment (AALCI). It is important to consider this metric, along with the District's current funding levels and understanding of risk, and the community's willingness to pay and expectations for service, when making decisions about what funding levels to ultimately provide.*

In this Asset Management Plan (AMP), the AALCI is the sum of the replacement cost of each asset divided by its theoretical service life. Any upgraded or new infrastructure acquired by the District will incur a future replacement cost that would need to be adjusted for future calculations of the AALCI. The AALCI, compared to the District's current funding levels, will be discussed further below.

As previously described, the theoretical service lives used to estimate the AALCI are conservative. In practice, assets could last longer, which will reduce the AALCI. As such, three scenarios are considered for estimating the AALCI:

- Scenario 1: Theoretical service life – based on industry standard values for theoretical service life as outlined in Appendix A.
- Scenario 2: 25% greater service life – this could potentially be achieved in practice through enhanced maintenance programs or by accepting a higher risk of failure as assets exceed their theoretical service life.
- Scenario 3: 50% greater service life – this could potentially be achieved through even more enhanced maintenance or by accepting an even higher risk of failure as assets exceed their theoretical service life.

Table 12. Average Annual Lifecycle Investment (AALCI) Scenarios for Renewal

Asset Fund and Class	Scenario 1 *Theoretical service life*	Scenario 2 *25% greater service life*	Scenario 3 *50% greater service life*
General Fund	$7.2 M	$5.8 M	$4.8 M
Roads	$1.9 M	$1.5 M	$1.3 M
Drainage	$1.7 M	$1.4 M	$ 1.1 M
Facilities	$1.6 M	$1.3 M	$ 1.1 M
Parks and Trails	$ 3 M	$ 2 M	$ 2 M
Equipment and Vehicles	$1.6 M	$1.3 M	$ 1.1 M
Water Fund	$ 1.5 M	$ 1.2 M	$ 1 M
Sewer Fund	$ 2.1 M	$ 1.7 M	$ 1.4 M
Total All Capital	$10.8 M	$8.7 M	$ 7.2 M

The average annual funding needs do not include new infrastructure, except for upgrade to Municipal Hall and Police Station (1903 Mt. Newton) for $44.5M in 2027. It does not include the costs to upgrade the Public Works Building.

2.7 CONCLUSIONS FROM CURRENT STATE ASSESSMENT

The District is responsible for the management of a significant asset inventory, valued at approximately $565.6 M—this is equivalent to approximately $32,500 worth of infrastructure per resident of Central Saanich.

> *Analysis of the District's assets indicates that there are significant near-term expenditures for infrastructure rehabilitation or replacement needs for linear assets and facilities over the next ten to twenty years. The Long Term Financial Strategy (LTFS), further discussed below, supports the District's planning for these financial needs.*

The District has a modest team of staff that manage and maintain infrastructure. Staff have done an excellent job of stewarding the District's infrastructure with the resources that are available. The challenge with maintaining a lean team is that there has not been as much infrastructure planning work as staff would have liked, and the District faces challenges carrying out larger renewal and rehabilitation programs.

Additional work is required to refine replacement plans for the next 10 to 20 years, including planning, risk and condition assessments, master plans, and GIS systems. The recommended work presents an upfront investment; however, developing a better understanding of the District's assets through study work over the next three to five years will improve how the District invests into maintaining and replacing its infrastructure assets. Ultimately, it can help to reduce annual funding requirements, which may have significant impacts on funding over the long-term. The recommendations are further discussed below (section 4.0).

3.0 LONG TERM FINANCIAL STRATEGY

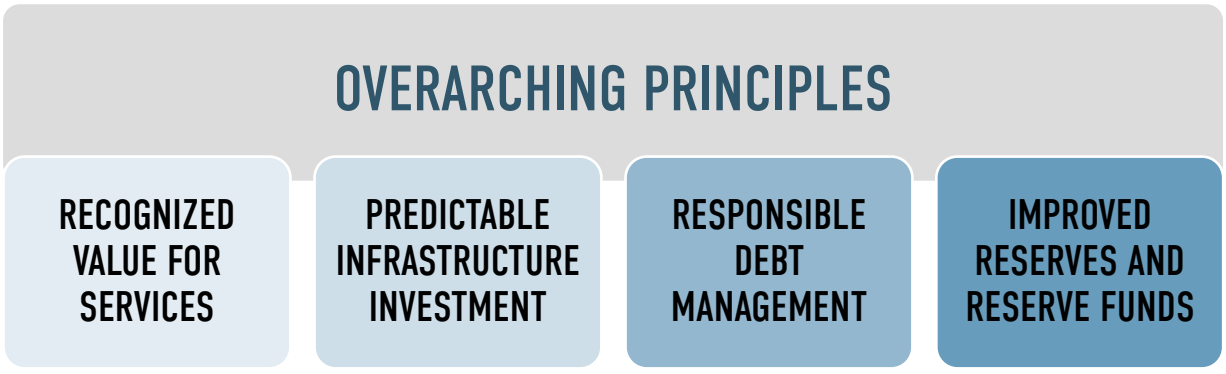
The integration of the Asset Management Plan (AMP) with Long-Term Financial Strategy (LTFS) identifies gaps between long-term potential costs and available funding and provides strategies for financial resiliency. The LTFS considers the costs to replace what the District currently owns and the costs for new and upgraded infrastructure to meet growth and level of service needs when deciding on funding and financing strategies. This can support decisions around whether the capital program is deemed to be affordable or needs to be adjusted to contains costs. It includes the District's principles for infrastructure investments, the current financial position, and the revised financial trajectory.

Residents and ratepayers are both the recipients of services and the primary source of funding. Therefore, adjustments between service levels and funding should reflect the community's priorities, willingness to pay, and Council decisions in fulfilling their stewardship and governance obligations. The AMP and the LTFS require regular updates (every 5 years) and are the foundation for significant parts of the annual budget.

Financial Resilience is the ability to manage likely developments and expected financial shocks in future periods without having to introduce substantial and economically significant revenue, expenditure, or service level adjustments

3.1 PRINCIPLES FOR INFRASTRUCTURE INVESTMENTS

The following principles clarify the desired general "philosophy" of how the District will prioritize and fund infrastructure investment into the future.



ORGANIZATIONAL CAPACITY

- Staffing levels will need to be reviewed with AMP progress, to ensure reasonable capacity for future levels of service required
- Strategic and financial plans are informed by available information about assets

PROPERTY TAXES

- Tax revenues, in combination with other sources of revenues, recognize the full cost of delivering services and are sufficient to support the long-term health of the infrastructure
- Everyone pays a fair amount for the services that are available to them
- Property tax increases be kept as consistent as possible over time
- Maintain a proportionate relationship between the property classes

UTILITY USER FEES

- Utility revenues recognize the full cost of delivering the service and are sufficient to support the long-term health of the infrastructure
- Everyone pays a fair amount for the services they are able to receive
- Increases to utility user fees will be kept as consistent as possible over time

RESERVE AND SURPLUS FUNDS

- Uncommitted annual surplus will be directed to reserve funds or early debt retirement
- Contributions to reserves will be consistent and informed by the Financial Plan and reserves scorecard
- On-going operating expenses will not be funded through reserves
- Total reserve balances will be informed by the AMP and the LTFS

DEBT

Consider debt financing for:

- For new and upgraded infrastructure
- Large projects where sufficient reserves are not available
- Projects tied to third party matching funds
- Project costs not recoverable from development charges

Consider actions to use debt efficiently:

- As debt charges decline through the retirement of debt, the District will direct those funds to capital reserves
- The term of debt will consider interest rate, and the benefit of the project to current and future taxpayers

GRANTS

- Reduce reliance on uncertain grant funding
- Focus the pursuit of conditional grants on identified priority projects

DEVELOPMENT FINANCING

- Ensure developers pay their fair share for growth related infrastructure through DCC's and other tools

ASSET RENEWAL AND REPLACEMENT

- Maintain assets in an appropriate state of repair
- Periodically review the AMP and funding levels
- In general, the renewal of linear assets will be financed through reserves or current revenues first, and debt where reserves are insufficient
- Balance asset renewal funding and reserve levels with tolerance for risk and service levels

3.2 WHAT IS OUR CURRENT FINANCIAL POSITION?

The District has implemented increases to annual asset management investments over the past five years, as part of a fifteen-year program to reach targeted funding levels for asset replacement. The program has consisted of annual increases to each of the following funds for dedicated asset management activities:

- General Fund: 1.25% annual increase
- Sewer Fund: 5.0% annual rate increase
- Water Fund: 1.5% annual rate increase

As a result, the current funding that is available for capital has been increasing every year through asset management levies and fees. Currently, the District is setting aside **$5.8M** in funding each year towards asset replacement. The current contributions to reserves for each fund (2021), are as follows:

Table 13. Contributions to Reserves for Dedicated Asset Renewal

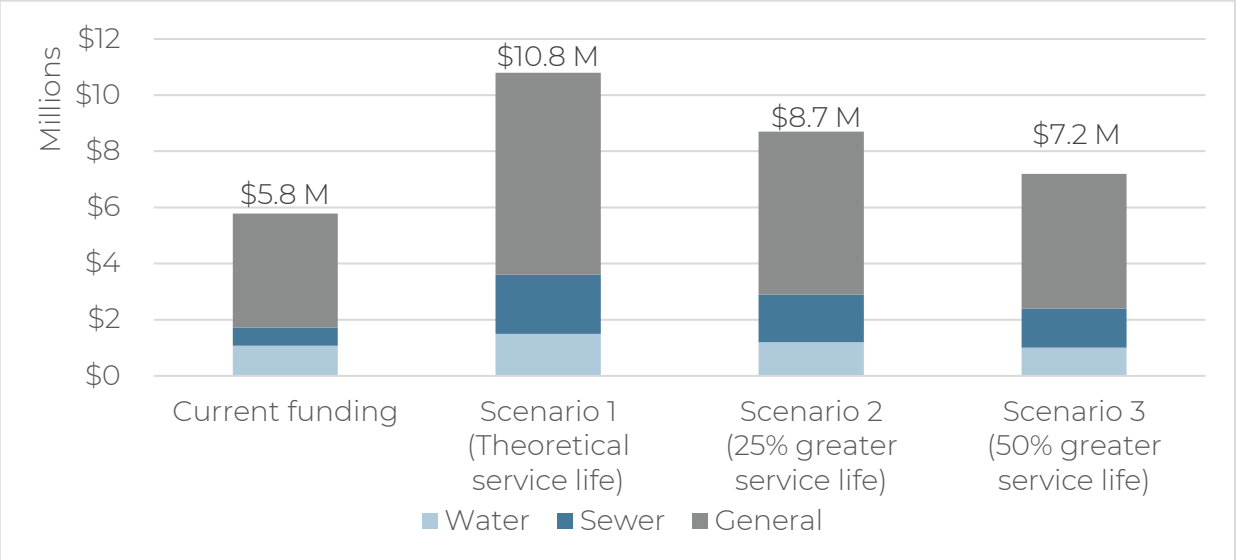
Fund	Contributions to Reserves
Water	$1,075,000
Sewer	$653,000
General	$4,059,000
Total	**$5,787,000**

In comparison to the AALCI calculated for various service life scenarios in the AMP, **$10.8M** of annual funding may ultimately be required for the ongoing replacement of all assets based on their theoretical expected life.

Understanding the gap between the theoretical remaining service life of the assets (rather than on known asset condition and what that means for remaining service life) and the current contribution to reserves provides insight into assumptions the District may implicitly be making about how long its assets will last, and risk it is inherently accepting, by virtue of the current funding levels.

Improving the District's understanding of asset condition can inform enhanced maintenance practices that can extend the life of assets where appropriate, thereby reducing the frequency that assets are replaced and reducing the AALCI

Figure 4. Current to Reserves Contributions versus Average Annual Lifecyle Investment (AALCI) Scenarios



Over the next ten years, if the District continues to contribute to their reserve contributions at the current rate, they will raise **$0.8M** beyond the theoretical service life of the District's assets (as determined in the 2021 AMP). By 2032., there will be a small surplus to the General Fund and the Water Fund, and a small deficit to the Sewer Fund.

There is significant work to be done over the course of the next three to five years to improve the District's understanding of their assets, including the capacity, condition, and risks to water, sewer, and drainage systems. It is recommended that the District continue the current overall trajectory with minor adjustments to the Water Fund and the Sewer Fund.

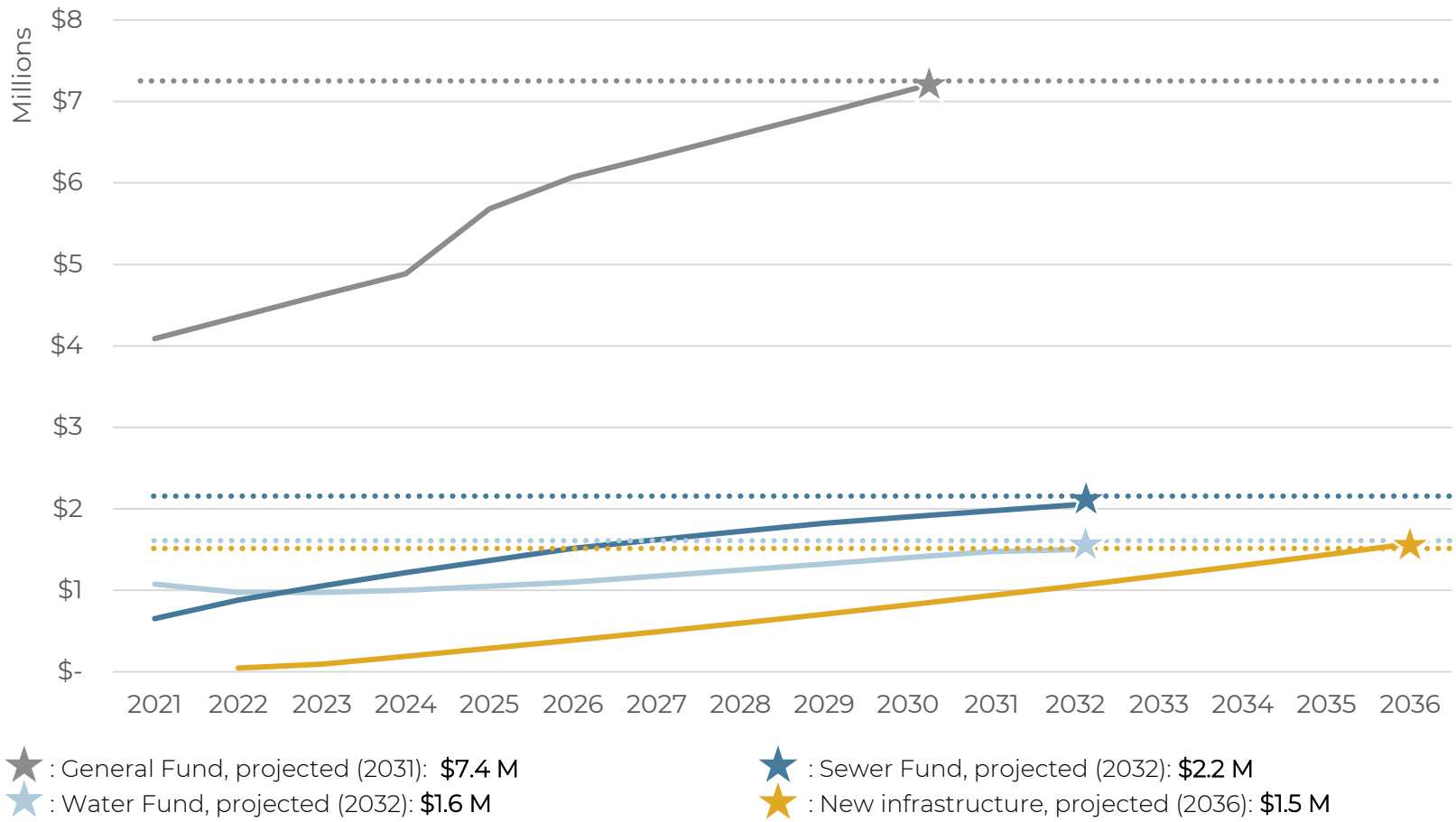
Table 14. 2021 Average Annual Funding Needs for Renewal – Scenario 1

Fund	Scenario 1 *Theoretical service life*	Previous Financial Trajectory to 2032 *(based on 2017 Plan)*	Surplus / Deficit
Water Fund	$1.5 M	$2.2 M	+$700,000
Sewer Fund	$2.1 M	$1.6 M	-$500,000
General Fund	$7.2 M	$7.7 M	+$540,000
Total	**$10.8 M**	**$11.6 M**	**+$840,000**

3.3 REVISED FINANCIAL TRAJECTORY

The following financial trajectories (graph below) have been revised to as follows to generating funding towards meeting the theoretical service life by 2031 for the General Fund, and 2032 for the Water Fund and the Sewer Fund.

Figure 5. Projected Contributions to Reserves versus AALCI Scenario 1



The above charts shows when the District dedicated asset management reserve contributions will meet the funding levels for theoretical service life (AALCI Scenario 1) for the general, water, and sewer fund. It also shows the capital funding needs for new infrastructure (i.e., active transportation) which will meet the funding target ($1.5 M) by 2036.

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> *The current approach to increasing the dedicated asset management levies has been successful. It is recommended to continue levy increases over the next ten years, making minor updates to adjust asset management and new infrastructure levies as needed every five years.*

Revised Asset Management Levies

The updated LTFS program consists of the following annual increases to each of the funds for dedicated asset management activities:

Table 15. Dedicated Asset Management Levies

Fund	Revised Financial Trajectory to 2026	Revised Financial Trajectory to 2032
General Fund:	$6.1M	$7.7M
Sewer Fund:	$1.5M	$2.1M
Water Fund:	$1.1M	$1.5M
**Utility rates will be set according to the replacement reserves funding trajectory set out in the attached report, so each can reach targeted funding (Water – $1.5M, Sewer $2.1M) by 2032.*		

- General Fund

  The current trajectory projects funding for the General Fund ($7. 2 M) will be achieved by 2031 – a year earlier than expected. It is recommended that the District maintains the current annual tax increase (1.25%) until the next AMP update. Additional work is recommended over the next three to five years to refine the District's replacement plans, it is recommended to stay the course until further information is known.

- Water Fund

  The current trajectory projects funding for the Water Fund ($1.5 M) will be achieved by 2026. Since the current trajectory will lead to a funding surplus by 2032, it is recommended that levies for the Water Fund be reduced to provide a consistent trajectory toward the 2032 funding target while supporting higher increases required in the Sewer Fund.

- Sewer Fund

  On the other hand, funding for the Sewer Fund ($2.1 M) will be achieved in 2036. Sewer infrastructure has a greater annual replacement need over the next decade for asbestos concrete pipe replacement, as well as for the Brentwood/Hagen pump station and pipe replacements. It is recommended that the levies for the Sewer Fund be increased on a consistent trajectory to meet funding levels by 2032.

Currently, annual asset management levies for water and sewer combined equal $160,000 to $200,000, or a $35 to $40 increase to the average homeowner. Adjusted rates would keep this combined increase consistent.

New Infrastructure Levies

The recent completion of the District's Active Transportation Plan (ATP) identifies over $52 M of improvements to new infrastructure over approximately fifty years. Property taxation is the primary funding source for the ongoing and consistent construction of new infrastructure, both to fund projects and service-related debt.

The updated LTFS program consists of a 0.25% property tax increase in 2022 and 2023, and 0.50% annually thereafter to the General Fund for new capital infrastructure construction and upgrades until $1.5 M annual funding is reached by 2036.

Table 16. New Infrastructure funding levies

Fund	Revised Financial Trajectory to 2031	Revised Financial Trajectory to 2036
New Infrastructure (i.e., active transportation)	$1.0M	$1.5M

3.4 CONCLUSIONS FROM THE LONG-TERM FINANCIAL STRATEGY

In 2017, the District implemented resilient financial strategies to enable replacement of existing infrastructure. After five years, the LTFS update finds the financial trajectories to be sufficient given construction cost escalation with some adjustments required between water and sewer funding. The update has identified the need of additional funding for new infrastructure including active transportation.

> *Success is carrying out these strategies that have been approved as part of the 2022 Five Year Financial Plan, to implement incremental and steady financial annual increases over the next five years to reach the revised financial trajectories, and to continue to review and update the Long-Term Financial Strategy every five years.*

4.0 CONCLUSIONS AND RECOMMENDATIONS

The 2021 AMP and LTFS Update is a tool for both Council and staff to inform decisions on funding levels, communications with the community on service levels and funding needs, and improvements to asset data and asset management processes and practices. The AMP and LTFS will assist the District in making more resilient funding decisions for the long-term benefit of the community. The AMP focuses on existing infrastructure and does not consider new infrastructure or increased levels of service, with the exception of the Municipal Hall at 1903 Mt. Newton and Public Works facilities.

Based on the analysis completed, infrastructure maintenance has gone a long way in terms extending the service life of some assets. The District's 2017 fifteen-year funding trajectory for 2032 is achievable given current annual funding targets. Adjustments should be made to redistribute funding increases from water to sewer so both can reach targeted funding by 2032.

> *The AMP and LTFS should be reviewed and updated **every 5 years** to capture new information and improvement to the asset inventory (e.g., condition data). The updated AMP should inform a review of funding levels and LTFS targets to support the District in meeting targeted funding levels for renewal.*

In order to make the best use of existing resources and infrastructure, it is recommended that the District conduct additional study over the next 3 to 5 years to refine replacement plans for the next 10 to 20 years. While the recommended study work presents an upfront investment, developing a better understanding of the District's assets will provide the District with an increasingly more refined picture of the states of its assets and the services they provide, supporting more informed decision making about how best to invest in them to achieve the District's goals for resiliency.

RECOMMENDATIONS FOR IMPROVEMENTS TO DATA AND PLANNING

1- Establish a Geographic Information System-based inventory to support planning and analysis

   Integrate asset inventory and location data into a single source of truth for linear and non-linear assets.

   Maintain an accessible and clear source of asset information – this is fundamental to effective integrated capital planning, and risk-based decision-making.

2- Data Governance Framework

   Develop an operational tool that will help maintain the asset inventory. It should outline how the existing asset register will be updated and maintained as new

information becomes available and what information is needed to support asset management planning and decision-making.

3- Undertake and incorporate condition assessments for core assets

Incorporate condition data gathered on assets into the District's Geographical Information System (GIS) (e.g., CCTV data gathered on linear assets). All condition data for linear infrastructure should be tied to a unique asset identifier within the GIS).

Conduct condition assessments on assets that are approaching the end of their expected useful life, such as linear assets made of asbestos cement (AC), corrugated metal (CMP), and vitrified clay (VC).

4- Conduct risk assessments to prioritize asset replacement

Develop and apply a consistent risk evaluation framework that considers both the consequences of asset failure and the likelihood of a failure. Use the risk assessment to identify the highest capital priorities and priorities for investments in condition assessments.

5- Update Master Plans and Pavement Management Plan every 5 to 10 years

- Update the Water Master Plan and evaluate capacity in early 2023
- Update the Integrated Storm Water Management Plan (2009) to consider future environmental trends and major events (e.g., 2021 rain event)
- Update the Sanitary Sewer Master Plan (2015)
- Update the Facilities Master Plan (2015)
- Complete the Parks Master Plan (ongoing)
- Update the Pavement Management Plan (PMP) (2013)
- Update the PMP every 7-8 years

6- Develop Integrated Capital Plans

In order to optimize resources and minimize interruptions to service delivery, develop Integrated Capital Plans that support coordination of replacement, upgrade, and installation of water, sewer, and roads assets in an integrated way based on needs within the same road corridor.

RECOMMENDATIONS ON INVESTMENT

1- Maintain current asset management levies

Maintain the current approach to annual levies for asset management to reach desired funding levels by 2032 or earlier and assess progress towards the desired funding levels every 5 years.

- General Fund: maintains the current annual property tax increase (1.25%) until the next AMP update until additional work is completed to refine the District's replacement plans.
- Water Fund: adjust the annual rate increase for the Water Fund to meet the targeted by 2032 with a consistent trajectory.
- Sewer Fund: adjust the annual rate increase for the Sewer Fund to meet funding levels by 2032 with a consistent trajectory.
- New Active Transportation Infrastructure: implement an additional levy for new infrastructure towards the General Fund beginning with annual increases of 0.25% for the first two years and 0.5% thereafter, until $1.5 M annual funding is reached by 2036.

2- Incorporate Master Plans into long term Capital Plan

The District should follow the guidance provided in Master Plans to inform long-term Capital Planning.

3- Review DCC Bylaw

Ensure developers pay an equitable share of the distribution towards infrastructure.

RECOMMENDATIONS FOR IMPROVEMENTS TO INFRASTRUCTURE

1- Implement annual replacement programs for linear assets

- Develop and implement annual replacement programs for water mains, prioritizing Asbestos Cement (AC) over the next 10 years, prioritizing where pipes are small in diameter (6 inch / 150 mm or less).
- Improve fire flows within water system in support of development as identified in an updated Water Master Plan.
- Develop and implement annual replacement programs for sewer mains, prioritizing Asbestos Cement (AC) pipes and Vitrified Clay (VC) pipes over the next 10 years, prioritizing where breaks are prevalent, pipes are small in diameter (6 inch / 150 mm or less), and where access is a concern.

- Develop annual replacement program for **drainage** culverts, prioritizing high-risk culverts over next ten years until completed.
- Develop annual replacement program for **drainage** mains, prioritizing corrugated metal pipe (CMP), concrete, and VC mains over next ten years until completed.
- Align annual spending for **roads** surface rehabilitation program to reach recommended levels in an updated Pavement Management Plan.
- Conduct a geotechnical study of Keating Road to determine optimal scope and timing of **road** replacement, between Central Saanich and Kirkpatrick.

2- Implement annual replacement programs for non-linear assets

- Plan for **water** and **sewer** pump station upgrades in accordance with updated Master Plans.
- Develop a replacement plan for the Municipal Hall (1903 Mt. Newton) and Public Works **facilities**, including funding for facility replacement and future facilities related debt.

APPENDIX A

UNIT RATES AND ESTIMATED SERVICE LIVES

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UNIT RATES

DESCRIPTION		UNIT COST	CONTINGENCY 25%	ENGINEERING 15%	TOTALS
	SANITARY (INCLUDING MANHOLES AND SERVICE CONNECTIONS)				
200	Sanitary	$868	$217	$130	$1,215
250	Sanitary	$918	$229	$138	$1,285
300	Sanitary	$968	$242	$145	$1,355
375	Sanitary	$1,018	$254	$153	$1,425
450	Sanitary	$1,068	$267	$160	$1,495
525	Sanitary	$1,118	$279	$168	$1,565
600	Sanitary	$1,168	$292	$175	$1,635
675	Sanitary	$1,268	$317	$190	$1,175
750	Sanitary	$1,318	$329	$198	$1,845
900	Sanitary	$1,368	$342	$205	$1,915
1050	Sanitary	$1,568	$392	$235	$2,195
1200	Sanitary	$1,668	$417	$250	$2,335
	WATER (INCLUDING VALVES, FITTINGS, AND SERVICE CONNECTIONS)				
150	Watermain	$571	$143	$86	$799
200	Watermain	$621	$155	$93	$869
250	Watermain	$671	$168	$101	$939
300	Watermain	$721	$180	$108	$1,009
350	Watermain	$771	$193	$116	$1,079
400	Watermain	$821	$205	$123	$1,149
450	Watermain	$871	$218	$131	$1,219
	STORM (INCLUDING MANHOLES AND CATCH BASINS)				
200	Storm Sewer	$827	$207	$124	$1,158
250	Storm Sewer	$877	$219	$132	$1,228
300	Storm Sewer	$927	$232	$139	$1,298
375	Storm Sewer	$977	$244	$147	$1,368
450	Storm Sewer	$1,027	$257	$154	$1,438
525	Storm Sewer	$1,077	$269	$162	$1,508
600	Storm Sewer	$1,127	$282	$169	$1,578
675	Storm Sewer	$1,227	$307	$184	$1,718
750	Storm Sewer	$1,277	$319	$192	$1,788
900	Storm Sewer	$1,327	$332	$199	$1,858
1050	Storm Sewer	$1,527	$382	$229	$2,138
1200	Storm Sewer	$1,627	$407	$244	$2,278
	ROADS – RURAL STANDARD (SURFACE ONLY)				
	Local (7m)	$370	$55	$95	$520
	Collector (9m)	$480	$70	$120	$670
	Arterial (11m)	$530	$80	$135	$745

Note: unit rates are in 2021 dollars.

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ESTIMATED SERVICE LIVES

ASSET	THEORETICAL EXPECTED LIFE
General Fund	
Equipment	Various
Facilities	Various
Vehicles	Various
Parks	Various
Drainage	
- Culverts	60 y
- Detention Tank	50 y
- Mains and Laterals	
o Asbestos Cement	60 y
o Corrugated Metal Pipe	60 y
o Concrete (culverts)	60 y
o PVC	80 y
o Other	60 y
- Skimming Tank	50 y
Streetlights	30 y
Transportation	
- Roads	50 y
- Sidewalks	50 y
Sewer Fund	
Mains	
- Asbestos Cement	60 y
- PVC	80 y
- Vitrified Clay	60 y
- Other	60 y
Pump Stations	30 y
Water Fund	
Mains	
- Asbestos Cement	60 y
- PVC	90 y
- Other	60 y
Pump Stations (PRV stations)	40 y
Reservoirs	30 y

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APPENDIX B

TERMS AND DEFINITIONS

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TERMS AND DEFINITIONS

ASSET	A District-owned entity that forms a part of the District's infrastructure system and provides a valuable service to the community.
ASSET MANAGEMENT	A formalized, integrated, collaborative, and continuous process of bringing together the skills and expertise of people with information about assets and finances, to make informed decisions about public assets so that they support sustainable service delivery. The key best practice in AM is to consider risk, lifecycle cost, level of service, and the trade-offs between them when making decisions about assets and services they provide.
ASSET CONDITION	A measure of the level of service provided by an asset and a factor in the remaining life of the asset. When physical condition is not known, it is assumed to be a function of asset age.
AVERAGE ANNUAL LIFECYCLE INVESTMENT (AALCI)	The replacement value of an asset divided by its service life (for example, an asset valued at $100 with an expected service life of 10 years would be considered to have an AALCI of $10). The summation of this value for all District-owned infrastructure serves as a tool for assessing the financial capacity of the District for infrastructure investment.
INFRASTRUCTURE BACKLOG	The value of assets that have reached their theoretical service life before 2021 and have not yet been replaced.
LEVEL OF SERVICE	A measure of the quality, quantity, and reliability of a service. Also, the standard to which service is provided and against which performance can be measured. It should reflect technical and regulatory requirements, as well as customer/community expectations.
LIFECYCLE COST	The total cost of an asset over its service life, including planning, design, construction, acquisition, operation, maintenance, rehabilitation, and disposal costs.
LINEAR ASSET	Assets that are defined by length, with their length directly impacting their maintenance, such as roads, water and sewer pipes, and drainage culverts.

NON-LINEAR ASSET	Non-linear assets (or vertical assets) is used to refer to buildings and facilities (as opposed to linear assets). They can include treatment plants, pump stations, fire halls, community centres, etc.
REMAINING LIFE	The number of years remaining until an asset reaches its theoretical service life, measured from the year of installation or previous renewal.
REPLACEMENT VALUE	The estimated cost to replace the asset, in 2021 dollars. Note: the replacement values used in this report are suitable for high-level, long-term financial planning; they are not intended for capital planning.
REPLACEMENT FORECAST	A high-level indication of when an asset will need to be replaced or rehabilitated.
REVENUE	The income received by the District from taxes, user fees, government transfers and other sources. Own-source revenue refers to income received from taxation, user fees, and any interest income.
RISK(S)	Events or occurrences that may have an undesired impact on level of service. Risk = Likelihood x Consequence.
SUSTAINABLE SERVICE DELIVERY	An approach to delivering services that ensures that services are provided to the community today in a way that: ▪ is fiscally, environmentally, and socially responsible ▪ is adaptive to changing circumstances and future conditions ▪ does not compromise the ability of future generations to meet their own needs.
THEORETICAL SERVICE LIFE	The number of serviceable years an asset is expected to provide.
USEFUL LIFE	Estimated time that an asset should remain in service to avoid asset failure or excessive maintenance costs.