REGIONAL DISTRICT OF NANAIMO

SOLID WASTE FINANCIAL AND ASSET MANAGEMENT PLAN

2023-2047

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Contents

SERVICE AREA

The Regional District of Nanaimo's (RDN) Solid Waste Services (SWS) department provides a variety of services across the region.

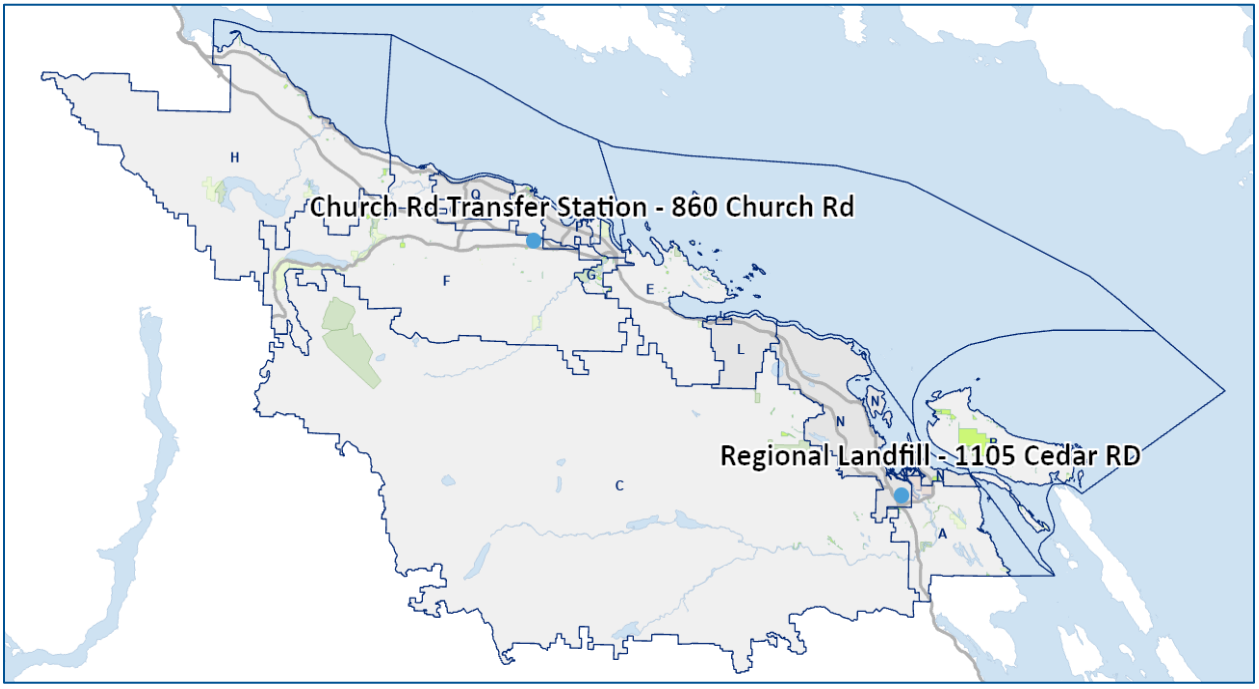
The Department owns and operates the Regional Landfill (RL) and the Church Road Transfer Station (CRTS). The Regional Landfill is located at 1105 Cedar Road, five kilometers south of downtown Nanaimo. The site was first used in the 1940s with the RDN assuming ownership and operation in 1967. The facility is approximately thirty-seven hectares in total size with the 13.7-hectare operational area of the site having a high-density polyethylene liner. The 8.8-hectare unlined portion of the site was permanently closed in 1996. The RL operates under an operational certificate issued by the Ministry of Environment and Climate Change Strategy (OC-1714).

Landfill gas (LFG) and leachate are collected from the landfill site in accordance with provincial and federal regulations. Leachate is directed into the sanitary sewer system for treatment at the Greater Nanaimo Pollution Control Centre. The landfill gas collection system collects and directs the gas to an onsite flare system, and a privately owned and operated facility which uses the landfill gas as a fuel in internal combustion engines to power a generator for electricity production.

The CRTS, located in the north, serves as the primary hub for the RDN Curbside Collection service, while also serving more than 90,000 customers annually.

The RL and CRTS are open to the public seven days a week (excluding statutory holidays). Tipping fees, charged based on weight and material type, are generated to fund current operations and future capital expenditures.

Figure 1 Service Area



1. EXECUTIVE SUMMARY

1.1. The Purpose of the Plan

As part of the approval process for the Solid Waste Management Plan (SWMP), the Regional Board passed the following motion on March 26, 2019:

> *It was moved and seconded that when approval is received from the Ministry of Environment of the Solid Waste Management Plan, that staff prepare a financial plan to coincide with the Plan to reduce solid waste.*

Subsequently, the Solid Waste Financial and Asset Management Plan, 2020-2042 ("the 2020 Plan") was developed. The 2020 Plan forecasted the financial standing of the RL and the CRTS, and considered the delivery of zero waste programs until the forecasted closure of the Regional Landfill, which at that time was projected to occur in 2042. The 2020 Plan calculated and forecasted all revenues and expenses over the life of the plan, allowing for the accurate budgeting of all Capital Projects, Capital Purchases, Operating Expenses and Reserve Fund contributions over this initial 22-year period. The 2020 Plan also contemplated the waste diversion percentage achieved relative to population growth, and how these factors impact the Landfill lifespan. The 2020 Plan ensured that the core infrastructure owned and operated by RDN Solid Waste Services be maintained and replaced in a fiscally responsible and operationally efficient manner, guaranteeing the level of service at or above current levels, over the life of the plan.

Recognizing the economic effects of the COVID-19 pandemic resulted in significantly increased regional growth, and consequently increased waste generations, as well as that the SWMP bylaws (Mandatory Waste Source Separation and the Waste Hauler Licensing Bylaw), have taken significantly longer to receive ministerial approval, staff believe it is prudent to update the 2020 Plan.

The Solid Waste Financial and Asset Management Plan, 2023-2047 ("the 2023 Plan") includes all of the historical metrics and systems that were seen in the 2020 Plan, while adding the ability to contemplate current and future staffing needs, inflationary factors above and below benchmarks, and the impact of waste volumes and landfill compaction rates, a direct metric of landfill lifespan projections, on landfill airspace consumption. The 2023 Plan again allows for the accurate fiscal planning needed to ensure accurate, efficient, and effective operation of solid waste facilities, while also balancing the costs to increase waste diversion in order to achieve zero waste.

The 2023 Plan is consistent with the Regional Board- and Ministry of Environment and Climate Change Strategy-approved SWMP. The 2023 Plan fully funds operational and capital costs while continuing to build the Post Closure Reserve Account. Costs are appropriated so that the beneficiaries of the services are paying for the Solid Waste services they utilize, aligning with the SWMP's user pay guiding principle. Program costs are consistent with those set out in the SWMP and serve to ensure that Capital Projects, Capital Purchases, Operating Expenses and that the Final Closure of the Landfill are balanced with population growth and the diversion rate achieved for the district.

The 2023 Plan accounts for 200 years of post-closure care of the existing landfill, consistent with provincial regulatory requirements. Additionally, the 2023 Plan contemplates funds for either siting of a new Landfill or the conversion/development of the existing asset to a Transfer Station model.

The Plan assumes that population growth over the long-term remains steady at ~2% per year. The Plan considers current inflation metrics while also forecasting inflation based on historical averages over the next ten years (2024-2034), and at 3% from 2035-2042.

The 2023 Plan was informed, in part, from Solid Waste asset condition assessments, which determined that most departmental assets are in good working condition and meet the immediate and near-future needs of the department.

The individual Solid Waste functions (Scale and Transfer Operations, Landfill Operations) maintain assets and capital services according to approved Financial Plans. The department currently owns a large inventory of light- and heavy-capital equipment, with an average useful life span of 10-years. Current replacement costs for all assets are estimated to be $31M, including buildings and core infrastructure. At present, Solid Waste Services maintains a variety of reserve accounts (Operating/Capital/Post-Closure) to ensure continuity of service, with a current balance of approximately $21M at the start of 2023. The 10-year Solid Waste budget accounts for average annual Capital Expenditures totaling approximately $2,000,000.

1.2. Asset Description

The RDN Solid Waste Services assets include:

- 1 Regional Landfill
- 1 Transfer Station
- 30 pieces of Heavy Equipment & 9 Vehicles
- 14 buildings or structures
- Landfill Gas Collection System
- Leachate Collection System
- Small equipment and electronic devices
- Non-Tangible assets

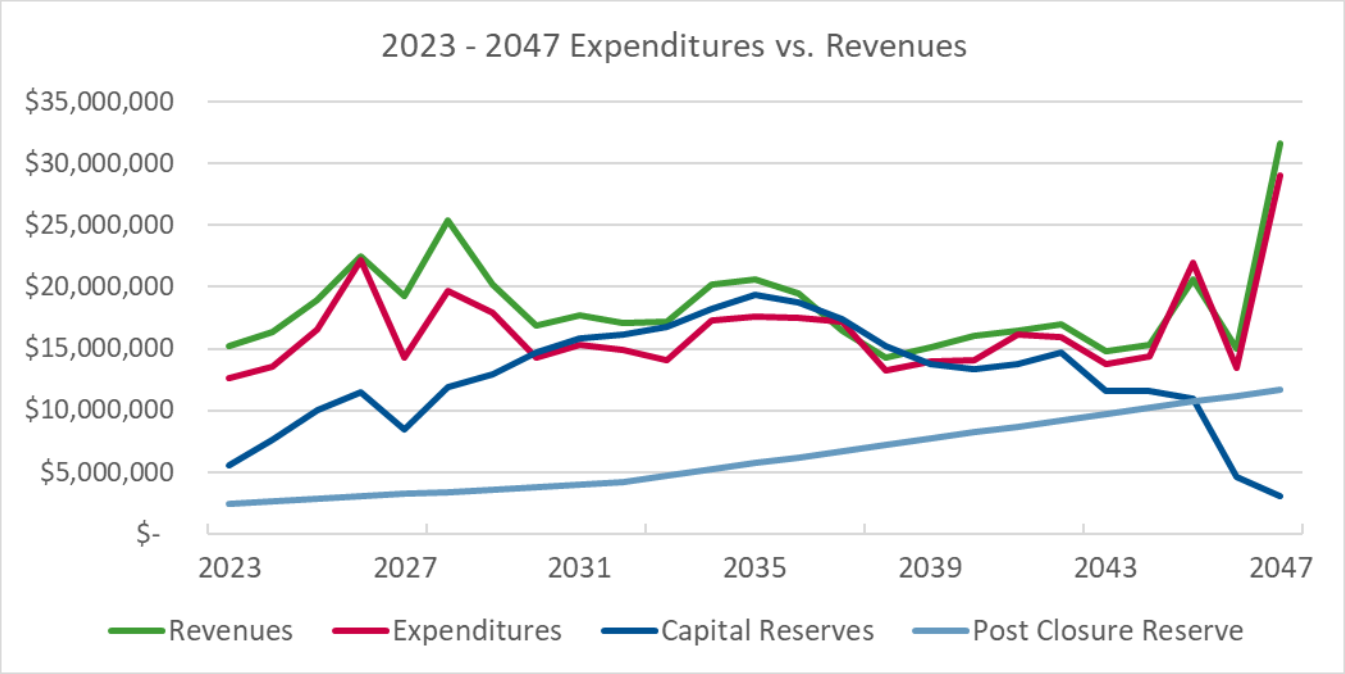
1.3. Levels of Service

The forecasted tipping fee revenue and tax requisition structure, extrapolated to 2047, allows existing assets within the RDN SWS to be operated and maintained at current service levels, while allowing for service levels to grow in response to regional growth. In addition, the purchase of new assets, such as heavy equipment, fleet vehicles, buildings, and future landfill phased construction and closures will be funded through this plan.

The RDN Solid Waste Asset Management Plan, 2023, highlights the financial system that provides for the funding of the Solid Waste Services Department. Staff, recognizing market volatility impacts solid waste service delivery, recommend that the Solid Waste Asset Management Plan, 2023, should be reviewed and updated yearly, in accordance with the annual budget development process.

Over the next two and a half decades the RL and CRTS operations will continue, and will include temporary and final landfill cell closures, phased development(s), capital purchases, upgrades to infrastructure, and the projected final closure of the landfill.

Figure 2 Expenditures vs. Revenues (2023-2047)



1.4. Future Service Level Demand

The factors influencing future service level demands include:

- Population growth
- Economic growth
- Economic factors such as inflation, interest rates, regional housing, etc.
- Board directed service level increases
- New regulation including increased regulatory frame works
- Provincial and Federal initiatives
- Supply chain disruptions, and
- Increased operational costs

- Facility Replacement – Regional Landfill (2047)

These factors will be managed through a combination of deliberate actions including managing existing assets accurately to maximize lifecycle efficiency, upgrading existing assets when financially beneficial to do so or operationally required, and providing new assets to meet service level demands. Assessing future service level demands include management practices that consider non-asset solutions, insuring against risks and mitigating failures such as:

- Adding assets to accommodate increased growth,
- Capacity upgrades to existing infrastructure due to growth,
- Planning and forecasting future areas to optimize RDN facilities.

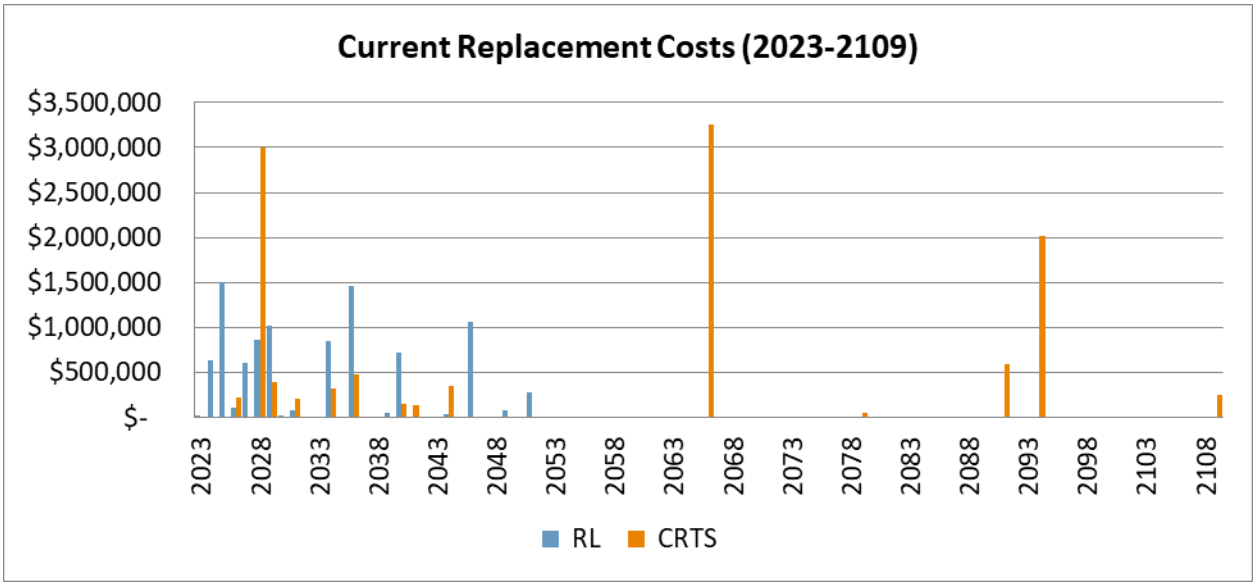
1.5. Lifecycle Management Plan

Asset Management (AM) assists in conscious and calculated decisions for all assets, in the stages from design, planning, acquisition, operation, maintenance, renewal or upgrade and disposal. During an asset's life, the replacement value is known along with an estimated date of replacement based on age, condition and/or subject matter experts (SMEs) opinion. The annual financial contributions required to maintain the program are calculated for each component in each service area to measure the funding gap between current and future levels of service and to align funding and service expectations. Formalized through Asset Management Plans (AMP), AM intends to achieve responsible and reliable lifecycle management practices.

RDN Solid Waste Services maintain assets and planning capital services according to approved Financial Plans. The Department currently owns a large inventory of infrastructure, with an average useful life span of 10 years, with some lifecycles exceeding 20-years. Current replacement costs are estimated to be approximately $31M, at present Solid Waste Services maintains operating and capital reserves totaling approximately $15.5M. For the purpose of the 2023 Plan, Solid Waste Services has estimated the total replacement costs based on the need to completely rebuild the RDN Solid Waste Service infrastructure, at the existing sites. The 10-year Solid Waste budget accounts for average annual Capital Expenditures totaling approximately $2,000,000.

Asset Replacement Costs	Regional Landfill	Church Road Transfer Station	Total Solid Waste Services
Total Replacement Costs	$ 20,000,000	$ 11,000,000	**$ 31,000,000**
Lifecycle Period	36	70	**70**
Average Useful Life	13	28	**20**
Average Annual Replacement Costs	$1,600,000	$400,000	**$2,000,000**
Capital Reserve and Operating Reserve Opening Balance	-	-	**$ 15,555,169**

Figure 3 Current Replacement Costs



1.6. Financial Summary

The Department collects revenues through Board approved tipping fees for materials accepted at the RL and CRTS. A tax requisition, prescribed by the Board approved SWMP, is collected annually, and is applied to the costs of Zero Waste programs.

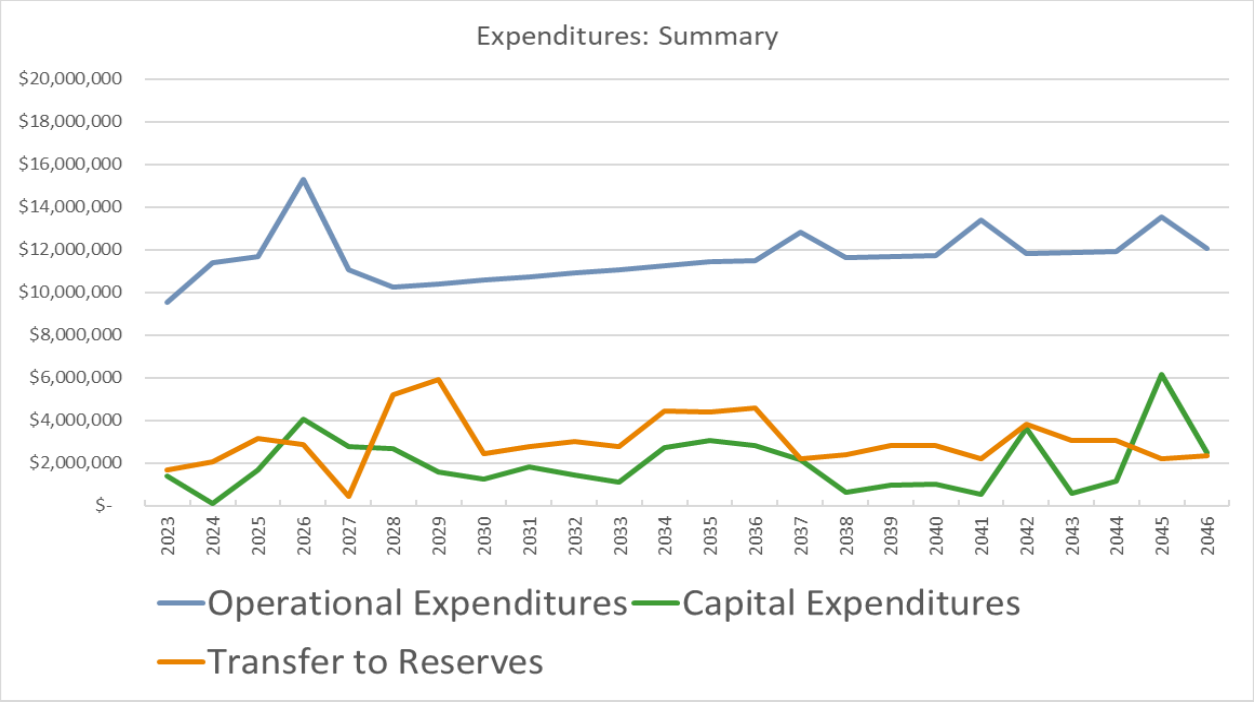
The curbside collection service is fully funded by user utility fees and contract funding from Recycle BC for residential recycling collection. The service is not augmented by taxation. The RDN solid waste program, other than curbside waste collection, is primarily funded by landfill tipping fees augmented by a tax requisition. In 2023 this spilt was approximately 90% tipping fee revenue and 10% taxation. These revenues are applied to solid waste program costs including operation of the Regional Landfill and CRTS, organics waste management, illegal dumping mitigation, education, policy, and regulatory work. Very minor revenues are received through grants, sale of asbestos bags, and licensing fees associated with the Waste Stream Management Licensing (WSML) program.

The 2023 base tipping fee for Municipal Solid Waste (MSW) is $145/tonne. Fees for other materials are varied and are based on the cost to handle and process the material and/or to motivate diversion. For example, the 2023 tip fee for asbestos waste is $505/tonne and is based on the landfill airspace consumption and the direct handling costs for management of the material. In the case of commercial/demolition material containing recyclables, the 2023 tipping fee is $145/tonne. All loads are subject to a surcharge of up to 20% if the load contains banned or prohibited materials. The intention of surcharges is to provide a financial incentive to waste haulers and generators to source separate and divert recyclables and unwanted materials from the landfill.

This report identifies the Department Budget with escalation factors from 2023 – 2047. All Major and Minor Capital Projects including temporary and final closure plans, as well as the replacement of all heavy and other equipment have been analyzed, budgeted, and planned. All assets – in excess of $1000 and that are expected to

require replacement – have been factored over the 26-year budget timeline. The 2023 PLAN is intended to be used to inform Solid Waste Services annual budgets and provide a looking glass to inform future initiatives.

Figure 4 Expenditures Summary



1.7. Risk Management

This service area's budget is sufficient to manage the unknown risks in the short, medium, and long term.

Working with external consultants resulted in the identification of various risks, such as environmental disaster, economic uncertainty, infrastructure failure, etc., that could pose a risk to SWS.

The main risk consequences are:

- Reactive maintenance spending will increase.
- Degradation of condition of assets.
- Reduced current level of service to customers.
- Rapid consumption of air space, resulting in early closure of the Regional Landfill.

The RDN will endeavor to manage these risks within available funding by:

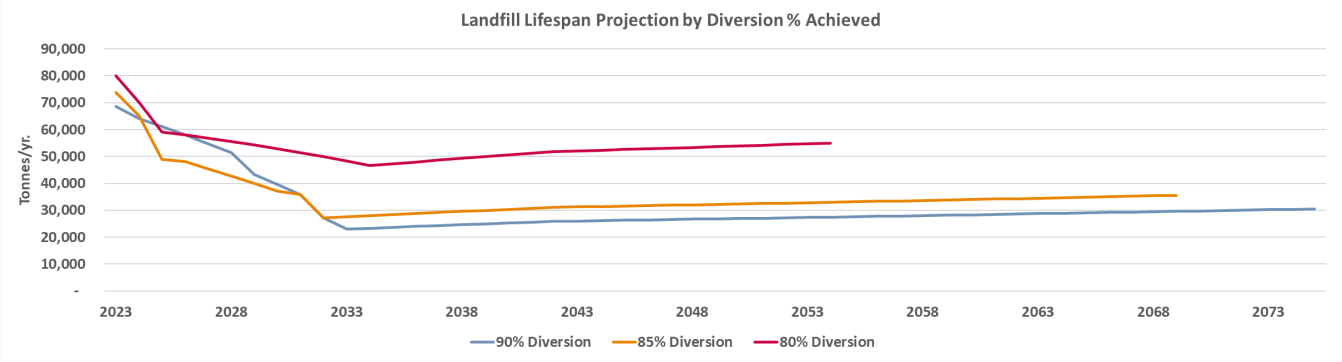
- increasing tipping fees appropriately and aligning tax requisitions as outlined in the SWMP.
- Utilizing maintenance software for hard assets.
- Ensuring compliance of our SWMP and 2023 PLAN

The one unavoidable risk for the RDN SWS department is the consumption of air space at the RL. Airspace is calculated based on m^3, and on how much tonnage can be compacted into each cubic meter. Once all viable air space has been consumed the Regional Landfill must be closed in accordance with provincial and federal

regulations. Prior to that event alternative disposal options must be explored to fully inform the management of solid waste in the RDN. The options currently available to be considered, as identified in the approved SWMP include, landfill expansion, siting a new landfill, or a waste transfer operation where material is shipped out of district to another area.

The RDN operates the Regional Landfill in accordance with Ministry of Environment and Climate Change Strategy (MOECCS) guidelines. As of January 1, 2023, the RDN's RL had 1,330,438 m^3 of usable airspace remaining. Based on the last 5-years, the facility receives an average 65,000 tonnes of material annually, which is compacted to an average density of 0.89 tonnes/m^3. Based on these factors the RL has approximately 20-years of useful life left, with closure projected in 2042.

The introduction of a shredding operation and telematics (GPS) on compaction equipment could increase the average density of compacted waste to 1.30 tonnes/m^3. A 6-month shredder trial, planned to commence in the fall-2023, will help determine if shredding is a viable option to maximize the available airspace at the Regional Landfill. Initial estimates, based on compacting waste to 1.3 tonnes/m^3, suggest the landfill lifespan could be extended significantly, when paired with increasing waste diversion. Estimates based on achieving 85% waste diversion suggest the RL could remain operational until 2061, if the waste diversion rate is maintained relative to regional growth, over the same time.



1.8. Asset Management Practices

Assets are managed and tracked using a combination of Fleetio and Microsoft office applications. Asset inventories and details and AMPs will be reviewed and updated on an annual basis prior to the release of the subsequent version(s).

Fiscal management of the RDN SWS assets is done through annual budgeting that is managed in partnership with RDN Finance. The RDN SWS currently employs an accurate asset registry system, maintained as assets are retired or annually, which ever happens first. Presently, the history and value of RDN SWS assets are accurately captured.

1.9. Plan Improvement and Monitoring

Asset Management practices within RDN SWS are updated annually, consistent monitoring is essential for our AMP and the Asset Management Program as a whole. Generally included in improvement plans are suggested changes or additions to documented inspections and condition assessments, monitoring of asset-specific operational and maintenance procedures and giving present risks a numerical rating to measure mitigation success.

Some high-level improvement opportunities to improve asset management practices and capability include the following:

- Working with dedicated RDN Asset Management Manager to help develop a standard data model that would allow history, value, and condition of all assets to be captured in one location/system/protocol, preferably firmly linked to GIS.
- incorporate Asset Life-Cycle Maintenance and Renewal considerations into acquisition decisions.
- Implement condition assessments and develop condition rating scales; and
- Find a forum to discuss AMPs with relevant elected officials, away from the time- crunched budget review sessions.

2. ASSET MANAGEMENT PLAN INTRODUCTION

2.1. Background

The RDN SWS provides programs and services as regulated under the Ministry of Environment and Climate Change Strategy (MOECCS) approved RDN SWMP designed to manage waste and increase waste diversion. The Department provides operation of two Solid Waste Facilities, advocacy for Provincial/Federal waste diversion programs while ensuring residential and commercial waste is managed in an approved, environmentally safe manner.

The 2023 Plan ensures that the requirements of a functioning, balanced, fiscally planned Asset Management Plan has been achieved for the department. It provides clear direction in the funding of Solid Waste Operations over the next two and a half decades. As the life span of the landfill begins to enter its final phase and nears closure, actions will be developed to ensure the residents of the RDN continue to receive the services they rely on. in this regard, the Plan contemplates funds to be applied to a replacement service following landfill closure.

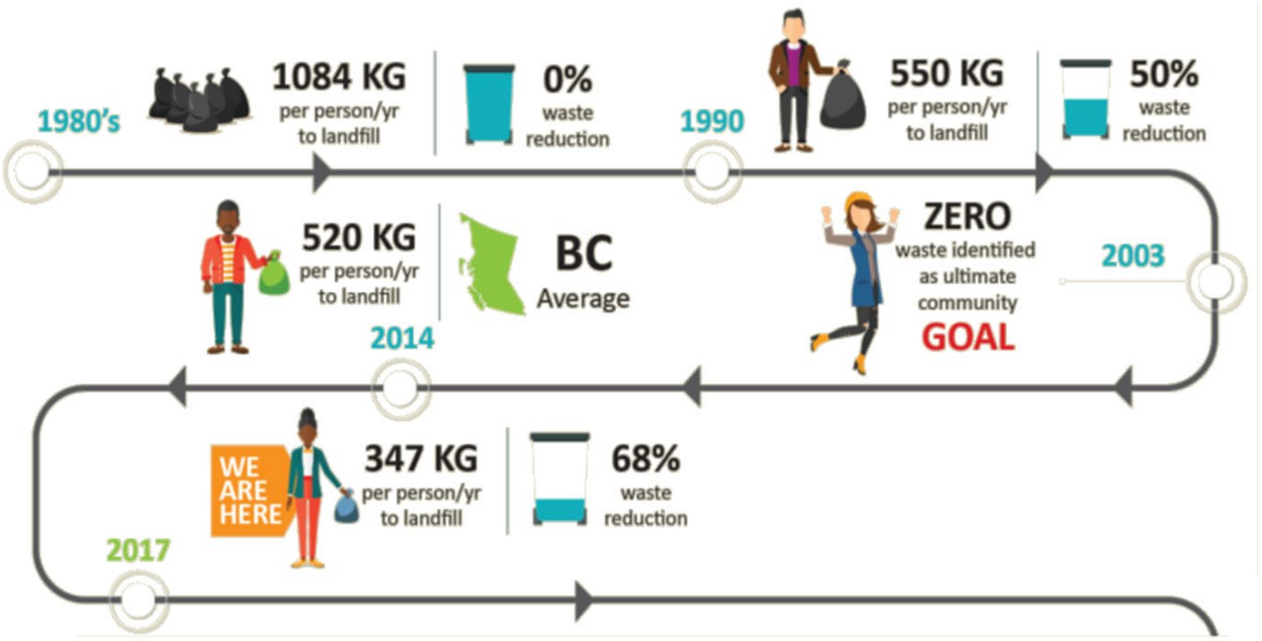
The 2023 PLAN utilizes the 10-year budget forecast set out in the SWMP which includes Tax Requisition implications. Beyond the first 10 years, costs have been projected until the closure of the RL and include Capital Projects, Final Closure, Operations and considers influences that affect Solid Waste Services.

Based on the Solid Waste Management Plan the Department identified assets in RDN Solid Waste Services in:

- Solid Waste Facilities
- Curbside Collection Services
- Zero Waste Programs

In the RDN, waste is sourced from the residential, institutional, and commercial sectors. The total amount of waste disposed (i.e., excluding that which is reused or recycled), divided by the population yields the regional per capita disposal rate.

The 1980s baseline for waste disposal in the RDN was 1,084 kg/capita/year. Over the past 36 years, the RDN waste disposal rate has been reduced by approximately 50% to 550 kg/capita/year in 1990 and, by 68% to 347 kg/capita/year in 2014. The target for the amended Solid Waste Management Plan is to further drive diversion to 90% and/or a per capita disposal rate of 109 kg/year by the end of the plan.



Stakeholder	Roles and Responsibilities – High Level
Board	Represent needs of community
	Allocate resources to meet planning objectives in providing services while managing risks
	Support asset management initiatives necessary to improve knowledge and inform choices
	Agree to and fund the level of service desired over the whole-life
CAO and Executive Leadership Team	Provide strategic advice and leadership in the management of infrastructure and natural assets
	Ensure that adequate resources are available to develop staff knowledge and skills to aid the implementation and continuous improvement of asset management practices.
	Set high level priorities for asset management development and raise awareness of this function with staff and outside contractors
	Support the actions required in the Asset Management Plan to better manage assets and deliver service
	Support the Asset Management Driven budget and Long-Term Financial Plan (10-year horizon)
Asset Management Champion	Lead the development of AMPs in collaboration with respective service areas
	Collaborate with service areas to develop short and long-range infrastructure capital plans
	Administer AM system needs and change
	Assist service areas prepare and maintain lifecycle management strategies for key asset classes
	Create and manage investment planning process
AM Network Steering Committee/ Departmental Heads	Provide departmental sponsorship and support for asset management practices and concepts at the departmental level
	Provide leadership and support to Departmental Asset Management Managers/Coordinators/Technologists
	Provide leadership and support to Departmental Asset Management Managers/Coordinators/Technologists
	Track, analyze and report on CAM program benefits to the CAM Network and other stakeholders.
Infrastructure Engineering/ Delivery/Asset Owners	Collect and maintain asset data to ensure accuracy and integrity– including condition-based assessments
	Coordinate the development of the department's capital program
	Establish levels of service for assets and measure infrastructure performance
	Adapt to changing regulations and emerging issues as required
	Manage delivery of capital projects
Field/ Operational Staff	Verify location and condition of assets
	Provide operational and maintenance services to assets
	Report to senior management any progress, deficiencies and effectiveness of operations and maintenance activities
Province of British Columbia	Legislative framework for the management of disasters and emergencies in British Columbia outlining mandatory standards and practices.

The RL has capacity until 2043 based on the current landfilling rates. The long-term goal of the RDN is Zero Waste. Depending on the implementation schedule and success of further diversion initiatives, the life of the landfill could be extended for an additional 10 to 15 years. Nevertheless, the RDN recognizes that there will be some necessary landfilling capacity for the near future.

The RDN is responsible for operating and maintaining the environmental control infrastructure at the RL site for a minimum post-closure period of 200 years. A closure fund has been established to address the long-term operation and maintenance of the leachate and landfill gas collection systems. The closure fund will also provide for the on-going monitoring of groundwater, surface water, landfill gas, erosion, slope stability and settlement to ensure environmental stewardship.

The RDN Solid Waste Management System is influenced by six main policies:

1. The user-pay system.
2. Variable tipping fees.
3. Disposal and collection bans.
4. Private sector waste management.
5. Open burning restrictions; and
6. Provincial product stewardship programs.

The first four policies fall within the scope of the 2023 Plan. Burning restrictions are applied through provincial regulations (e.g. Open Burning Smoke Control Regulation) and augmented by RDN and municipal bylaws. Provincial product stewardship programs are regulated by MOECCS and significantly influence the management of specific waste materials generated in the RDN.

2.2. Goals and Objectives of Asset Ownership

The RDN's goal in managing infrastructure assets is to deliver safe, efficient, and effective solid waste services while meeting all applicable legislations and regulations.

Delivering the defined level of service (as amended from time to time) in the most cost-effective manner for present and future residents, businesses and visitors is a major consideration. The key elements of infrastructure asset management are:

- Providing a defined level of service and monitoring performance.
- Managing the impact of growth through demand management and infrastructure investment.
- Taking a lifecycle approach to developing cost-effective management strategies for the long- term that meet the defined level of service.
- Identifying, assessing, and appropriately controlling risks.
- Linking to a long-term financial plan which identifies required forecast future costs and how it will be funded; and
- Ensuring legislative compliance.

2.3. The Solid Waste Financial and Asset Management Plan, 2023-2047

The 2023 Plan has been designed for several reasons:

- To guide Solid Waste Services, management, staff and the Board in planning and decision-making.
- To aid the creation of short-term and long-term financial plans – capital and operational.
- To inform community and residents of service requirements and future planning for solid waste needs.
- Future planning for closure, post closure and alternative disposal options.

As the RDN moves through the AM program, knowledge and understanding of the AM program increases and it is expected that this plan will evolve further, solidifying assumptions made and filling in any present information gaps where further research or information is required.

The 2023 Plan was developed in alignment with the RDN's Board Strategic Plan, informed by community requirements and service level needs, to encapsulate the RDN's vision, mission and values and it encompasses all SWS assets. The 2023 Plan is guided by the RDN Asset Management Policy and the strategic objectives of RDN SWS. Lifecycle activities implement the 2023 Plan through various policies and strategies, and how the RDN SWS assets are managed and operated plays a key role in achieving the strategic goals and objectives. Many of these goals and objectives are reliant on the long-term sustainability of the SWMP; therefore, putting in place a clear line of sight between those high-level objectives and the day-to-day service delivery activities carried out utilizing the asset, is important.

In the graphs below the assets of both the RL and CRTS are viewed in terms of useful life span. The End-of-Life sections are primarily comprised of Heavy Equipment slated for replacement in the next few years. For example, in 2026 the RL Packer and in 2027 the CRTS loader are scheduled for rebuild and replacement.

AM will take organizational objectives and translate them into technical and/or financial objectives, decisions, plans, and asset management related activities. Asset management will ensure that organizational objectives can be achieved sustainably over a reasonable, realistic, or appropriate amount of time.

This report presents the accumulation of best available data at the time of writing. Although this service has valuable information on its asset inventory, this report uses estimates and assumptions where necessary particularly regarding condition information and should move to a risk-based approach over time to improve data confidence.

3. LEVELS OF SERVICE

Service levels are best described as the link between providing the outcomes the community desires, and the way that the RDN SWS provide those services. Service levels are defined in three ways, customer values, customer levels of service and technical levels of service (LOS) which are outlined further in this section.

They provide a direct link between RDN's strategic objectives, the public's service expectations and the measured performance of the delivered service and enable a greater understanding of the cost-benefit implications of adjusting the services provided. Several factors may affect the level of service delivery for a particular asset type or service area. Community expectations, the RDN's strategic and corporate goals, RDN SWS goals and objectives, RDN SWMP, legislative requirements, and resource constraints are some of the factors that influence the level of service.

3.1. Customer Research and Expectations

To be effective, LOS must be documented in ways that are meaningful to both the customers using the service and to the RDN SWS staff that are delivering the services and managing the infrastructure that underlies the service.

The residents and businesses of the RDN expect to be able to dispose of their solid waste in a manner that is environmentally, socially, and economically beneficial, while supporting waste diversion efforts that support the circular economy.

Through continued public outreach and engagement SWS remains committed to meeting the needs of the region's population, while focusing on a future where there is zero waste.

3.2. Strategic and Corporate Goals

The 2023 Plan is prepared under the direction of the RDN's Asset Management Policy, and fits into the Board's current Vision, Mission, and Values statements. Specifically, the 2023 Plan addresses the goal of Strategic Priority - **3.0 Planning and Managing for Growth**: "Evolving Asset Management (AM) practices by developing and implementing an AM program and strategy to ensure that assets across the RDN – physical and natural - are optimally managed, balancing service level expectations with cost efficiency, and risk. This program and strategy are intended to support continuous improvement and effective and efficient management of the RDN's assets."

However, other strategic focus areas can be related and addressed in this 2023 Plan and are summarized in the table below:

Strategic Focus Area	Objective	How Goal and Objectives are addressed in this AMP	Customer Values
PROTECTING OUR VITAL LANDS	To ensure compliance with all respective ministries. Adhere to the bylaws, SWMP, OC and DOCP Continuous maintenance and renewal of equipment and infrastructure	• Ensure that RDN SWS facilities and equipment are adequately maintained and renewed to prevent breakdowns which could compromise our natural areas. • Inform staff and residents of legislation to comply with disposal and diversion requirements	Safety
MANAGING IMPACTS OF CLIMATE CHANGE	To understand the impacts and risks to our communities from a changing climate and develop effective, science-based adaptation and mitigation strategies.	• Ensure equipment and facilities are adequately designed, maintained, operated, and renewed as identified in the AMP and accepted engineering and maintenance principles to minimize risks of climate change.	Environmental Stewardship
PLANNING AND MANAGING FOR GROWTH	To effectively plan for and manage growth in our region so that we are able and meet the needs of our residents within the means of the environment and preserve our quality of life.	• Ensure capacity is available to support industrial, commercial, institutional, residential and agricultural needs. • Lifecycle cost will be considered with the goal of reducing whole life costs	Scope
WATER SECURITY	To manage our region's watersheds and water resources in a sustainable manner, ensuring adequate testing and quality of water for our domestic and agricultural needs.	• Ensure all wastewater is treated before returning to natural watercourse • Quarterly water monitoring program • Reviewed my QP	Environmental Sustainability
ADVOCACY	To effectively communicate our region's challenges, needs and objectives to the provincial and federal governments and ensure there is appropriate responsibility and accountability for addressing the critical issues impacting our communities.	• Engage regularly with residents to identify the desired level of service. • Perform annual level of service survey with customers and report back to the customers	Efficiency

3.3. Legislative Requirements

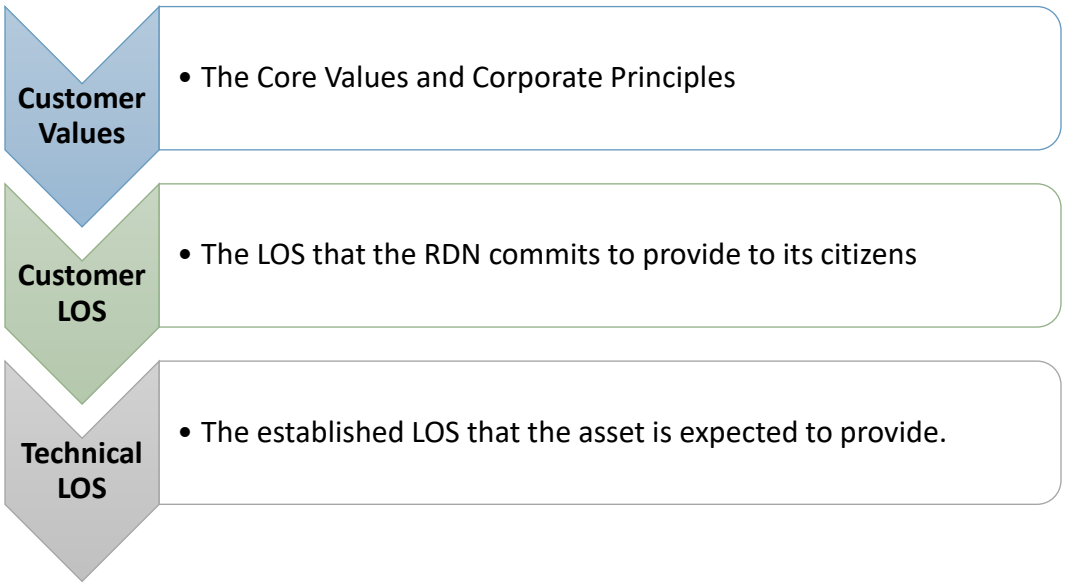
Legislated standards and regulations affect the way assets are managed. These requirements stipulate the minimum levels of service, as outlined below:

- Landfill Criteria for Municipal Solid Waste – B.C. Ministry of Environment's minimum requirements for all landfills located in BC. The main compliance criteria are as follows:
    - Operational Criteria
    - Closure and Post-Closure Criteria
    - Monitoring Criteria
    - Financial Security
    - Plans and Reports
- Occupational Health and Safety Regulation – BC Provincial regulation that sets out requirements to ensure psychological and physical health and safety for all employees in the workplace, enforced by WorkSafe BC.
- Safety Standards Act – BC provincial standard of safety for all workers.
- Local Government act - This Province of BC regulation sets standards for financial accounting, budgeting, taxation, and the acquisition and disposal of assets.
- Occupational Certificate (OC) – A document issued from the Ministry of Environment (MOE), approving a landfill to operate in BC.
- Development, Operating, Closure Plan (DOCP) – A document created in conjunction with qualified professionals and the RDN SWS team which must receive approval from MOE.

3.4. Resource Availability and Financial Constraints

Resources and finances play a significant role in the RDN SWS ability to provide sustainable levels of service and are the prime factors, after legislated and regulatory requirements are met, in determining affordable levels of service.

3.5. Level of Service Framework



3.6. Customer Values

Customer values are what the customers can expect from their tax dollar in "customer speak." These values are used to develop level of service statements that describe the attributes of the services the RDN SWS intends to deliver, and how it will align with core values, customer expectations, operation efficiencies and organizational goals and objectives.

Customer values indicate the following:

- What aspects of the service is important to the customer?
- Do customers see value in services currently provided?
- What is the likely trend over time based on the current financial plan?

The Customer Values set forth in this plan for RDN SWS are:

Customer Value	Customer Satisfaction Measure	Expected Trend based on Planned Budget
Safety	Ensure all areas of service (Regional Landfill (RL), Church RD Transfer Station (CRTS) and Zero Waste program staff are meeting or exceeding with WorkSafe BC and Canadian Occupational Health and Safety regulations	Maintain current LOS
Availability/ Capacity/ Reliability	Services of sufficient capacity are convenient and accessible to the entire community. Services levels are maintained to current regulations and bylaws	
Customer Service	Staffing levels are consistent, information is available to residents in multiple forms (mailout, onsite, internet, apps)	Maintain current LOS

Compliance	Ensure SWS assets meet all legislative requirements. All service areas comply with corresponding ministries	
Cost Efficiency	Services are provided in the most cost-efficient manor for both current and future residents, for a required level of service, and are affordable	
Sustainability	Services preserve and protect the natural and heritage environment	

3.7. Customer Levels of Service

Customer Levels of Service describe how a service is expected to be received by the customer and sets non-technical service targets.

Customer performance measures are the measures that the SWS department and the RDN will use to assess whether it is delivering the level of service the customer's desire. Customer level of service measurements relate to how the customer feels about SWS services in terms of the customer values.

The Customer Levels of Service for RDN SWS are considered in terms of

- Condition – How good is the service? What is the condition or quality of the service?
- Function – Is it suitable for its intended purpose? Is it the right service? and
- Capacity/Use – Is the service over or under used? Do we need more or less of these services?

In the table below, under each of the customer value category, there is a summary of the performance measure being used, the current performance, the expected performance based on the current funding level, and an indication of the manager's level of confidence in these assertions.

CUSTOMER VALUE	CORPORATE LOS OBJECTIVE	CUSTOMER LOS MEASURE	CUSTOMER LOS PERFORMANCE	CUSTOMER LOS TARGET
Cost Efficiency	Delivering effective and efficient solid waste services and public education services	Annual operating cost to provide service ($/household)		
Safety	Providing effective solid waste services to the community	Number of incidents	0	
Quality	Providing effective solid waste services to the community	Providing effective solid waste services to the community		
Capacity/ Reliability	Providing the appropriate amount of solid waste services and ensuring operations are well prepared	% of Assets in fair or better condition	75%	80%
Environmental Stewardship	Provide solid services that protect the environment	Diversion %	68%	90%

The RDN SWS will continue to measure these customer levels of service to ensure a clear understanding on how the customers feel about the services and the value for their rate dollars.

3.8. Technical Levels of Service

To deliver the customer values, and impact the achieved Customer Levels of Service, Technical Levels of Service are operational or technical measures of performance. These technical measures relate to the activities and allocation of resources to best achieve the desired customer outcomes and demonstrate effective performance.

Technical service measures are linked to the activities and annual budgets covering:

1. **Acquisition** – the activities to provide a higher level of service (i.e. adding more airspace to meet growing demands) or a new service that did not exist previously,
2. **Operation** – the regular activities to provide services,
3. **Maintenance** – the activities necessary to retain an asset as near as practicable to an appropriate service condition. Maintenance activities enable an asset to provide service for its planned useful life,
4. **Renewal** – the activities that return the service capability of an asset up to that which it had originally provided (i.e. building roof replacement).

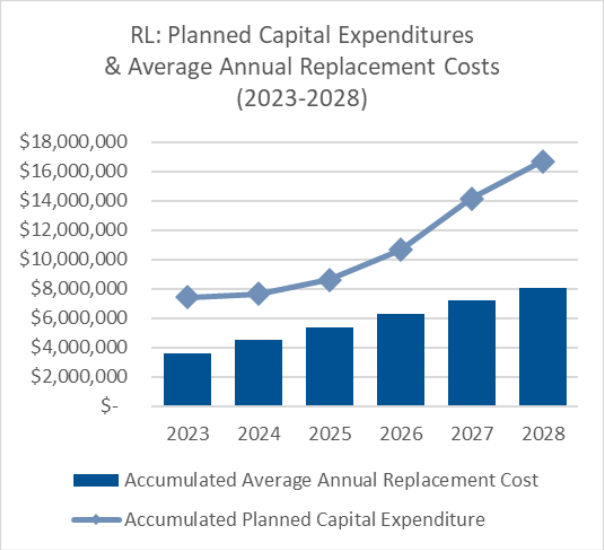
It is important to monitor the service levels regularly as circumstances change. Current performance is based on existing resource provision and work efficiencies. It is acknowledged that changing circumstances such as technology and customer priorities, will evolve over time.

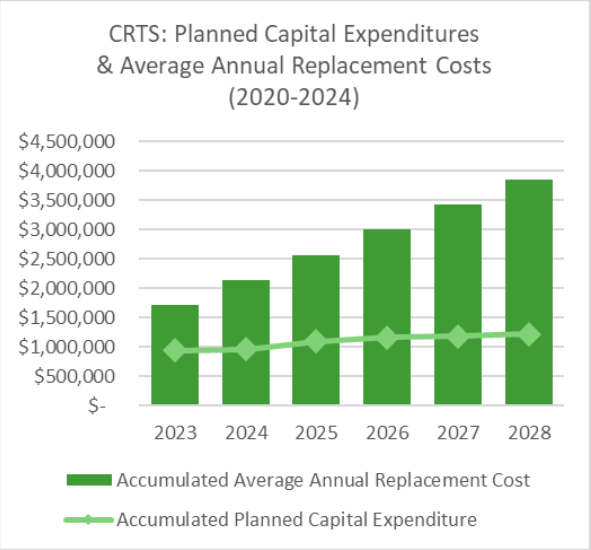
4. FUTURE DEMAND

4.1. Demand Drivers

Drivers affecting demand include things such as changes in population, regulations, demographics, seasonal factors, consumer preferences and expectations, technology, economics, and environmental awareness.

The following two graphs represent the Planned Capital Expenditures at both the Regional Landfill and the CRTS over the next five years. The RL's costs are higher due to temporary and final closure of landfill cells. In addition to being a regulatory requirement, progressive closure of the landfill ensures effective use of airspace, cost effective operations, and helps to minimize negative effects on environment. These projects are related to the amount of material being landfilled, as diversion efforts increase the proposed closure can be extended to later years. The capital expenses are funded from Capital and Operating Reserves.





4.2. Demand Forecasts

Demand for new services will be managed through a combination of managing existing assets and monitoring population growth in the region. A combined balance of setting tipping fees appropriately and air space consumption will forecast future demands.

Demand is also met by upgrading of existing assets and providing new assets like heavy equipment, improved site designs to meet demand for solid waste Services. Demand management practices can include non-asset solutions, reviewing and updating the SWMP for the region and service delivery targets, managing risks and failures.

4.3. Climate Change and Adaption

The impacts of climate change can have a significant impact on assets and the services they provide. In the context of the AMP process, climate change can be considered as both a future demand and a risk.

How climate change impacts assets will vary depending on the location and type of services provided, as will the way in which impacts are managed and responded to.

At a minimum, an AMP should consider both how to manage our existing assets given the potential climate change impacts, and then also how to create resilience to climate change in any new works or acquisitions. Opportunities and challenges presented by climate change are recognized to be.

Additionally, asset management should recognize that when acquisition or renewal activities are required, there will be an opportunity to include or build-in resilience to climate change impacts:

- Assets will better withstand the impacts of climate change.
- Services can be sustained; and
- Resilient assets may potentially lower the lifecycle cost and reduce their carbon footprint.

The impact of climate change on assets is a new and complex discussion and further opportunities will be developed in future revisions of RDN SWS asset management plans.

5. LIFECYCLE MANAGEMENT PLAN

The lifecycle management plan details how RDN SWS AMP plans to manage and operate the assets at the agreed levels of service while managing life cycle costs.

5.1. Background Data

5.1.1. Asset Registry

The RDN SWS does have a formal and complete asset registry, a database was developed and is currently being reviewed and updated on an annual basis (Appendix A).

The database is considered accurate in terms of major pieces of assets. Regular updates to this database are required to ensure information on assets being replaced and/or added are being appropriately captured. This is common in organizations starting out on asset management. The RDN SWS asset registry accounts for all assets and the useful lifespan, current replacement cost, purchase price and location of assets. The registry uses multiple factors to determine lifespan considerations, condition assessments, and the knowledge and experience of the RDN SWS staff.

5.1.2. Asset Inventory

The range of tangible physical assets required to provide SWS includes facility assets such as offices, operation buildings, service buildings, storage buildings, weighting, and underground infrastructure. RDN SWS assets also include various fleet assets including heavy vehicles such as heavy trucks, heavy equipment, pumps, compressors, and light vehicles. The remaining equipment assets include Landfill Gas detection equipment, electronic equipment, and other equipment. Please see appendix A - RDN SWS asset registry.

Assets that are part of operations and expensed at the time of purchase are not included in Appendix A. Small equipment such as desktop computers, phones, gas monitors, hand-held tools, small equipment, and minor electronic equipment not included in the asset listing as they did not meet the RDN's capitalization threshold ($1,000).

5.1.3. Asset Valuation

Current Replacement Values (CRV's) are used as the basis to estimate the cost of replacing an asset when it reaches the end of its engineered design life. The total replacement cost of all assets covered within this 2023 Plan is estimated at $60m.

The RDN uses various methods to estimate replacement costs needed for infrastructure renewal planning:

• Local price indices – This is the most accurate method. The RDN has collected recent acquisition data demonstrating similar replacement activities.

• Published price indices – Where local indices are not available, the RDN uses published standardized indices.

• Purchasing estimates – When assets cannot be estimated against either index, the RDN uses historic cost, asset age and inflationary effects to determine the CRV.

• Third party information – insurance valuations and third parties condition report.

The estimated CRV's used in this 2023 Plan are based on an RDN SWS asset registry. A coordinated effort with the SWS department's staff was undertaken to review and compile existing asset information. Appendix A summarizes this information in 2023 dollars. Replacement costs have been inflated to 2023 dollars in this 2023 Plan to reflect the costs of goods and services.

5.1.4. Asset Installation Profile

The asset inventory for buildings and construction dates for both facilities is included in the RDN SWS Asset Registry (Appendix A). Most of the significant high-value capital assets were installed in the 2010's, with an estimated combined replacement value for the Regional Landfill and Church Rd Transfer Station is $40 million. Also refer to Figure 3 Current Replacement Costs.

5.1.5. Asset Condition

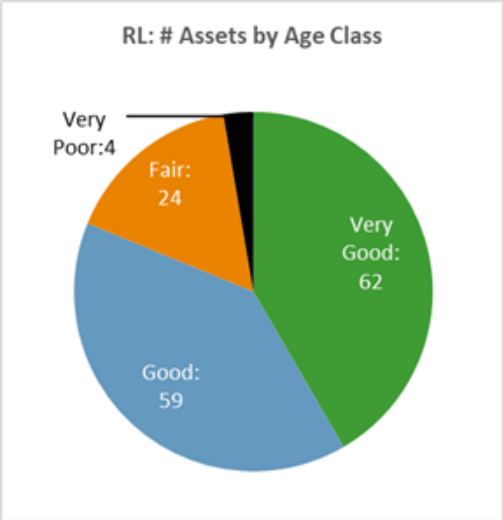
The condition of each asset type was evaluated to represent the current 'health' of the RDN SWS infrastructure. A percentage rating scale (Appendix A) was used to align to widely used and accepted condition rankings. In addition to providing a sound basis for assessment, this will allow us to benchmark the results against the values presented in this document.

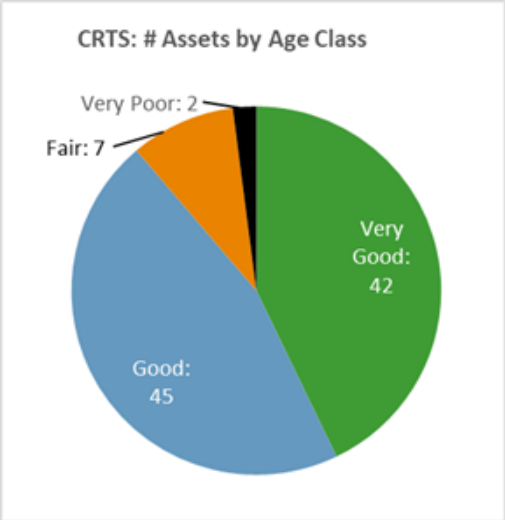
This report uses a combination of methods to determine the asset conditions presented. Some assets have undergone routine formal condition assessments. However, for a large part of the asset base, condition information is based on the age and expected useful life of the asset.

Appendix A also details the methods commonly used to determine asset condition.

Major pieces of equipment receive annual inspections, trucks and equipment are inspected after every use, small pieces of equipment are tested semi-annually, and minor equipment are tested annually. Currently, these condition assessments are logged manually, hopes for a more automated system being implemented in the future.

Nn the graphs below, the assets of both the RL and CCRTS are viewed in terms of useful life span. The End-of-Life sections are primarily comprised of Heavy Equipment slated for replacement in the next few years. For example, in 2026 the Regional Landfill Packer and in 2027 the CRTS Loader are scheduled for rebuild and replacement.





5.2. Operations and Maintenance Plan

A key function of Asset Management is to track operations (maintenance costs) and capital to identify areas that are requiring more repairs as an indication of failing infrastructure. Operations and maintenance costs are tracked through budgeting software (FMW) and maintenance software (Fleetio). The 2023 Plan is for capital assets past, present, and future or in SWS until post closure.

5.2.1. Operations Plans

Operations costs are associated with day-to-day expenses aimed at achieving levels of service goals. Typical Operations costs include labor costs, regular equipment checks, personnel training etc. and costs related to facilities, equipment, and administration.

5.2.2. Maintenance Plans

Maintenance includes all actions necessary for keeping an asset in good working order. Maintenance costs include equipment and infrastructure maintenance, building maintenance and equipment repairs, etc.

Reactive maintenance is unplanned repair work carried out in response to service requests and management/supervisory directions. Assessment and prioritization of reactive maintenance is undertaken by RDN SWS staff using experience, maintenance staff, and qualified professionals.

Planned maintenance is repair work that is identified and currently managed through a combination of manually generated service requests and maintenance software (Fleetio). Activities include inspection, assessing the condition based on the number of failures/breakdowns, prioritizing, scheduling, actioning the work and reporting what was done to develop a maintenance history and improve maintenance and service delivery performance.

Maintenance costs are more difficult to characterize or relate to inflation, as the planned maintenance budget includes significant items that do not have dollar values high enough to meet the capital threshold and therefore are included in the yearly maintenance budget.

5.2.3. Operations and Maintenance Strategies

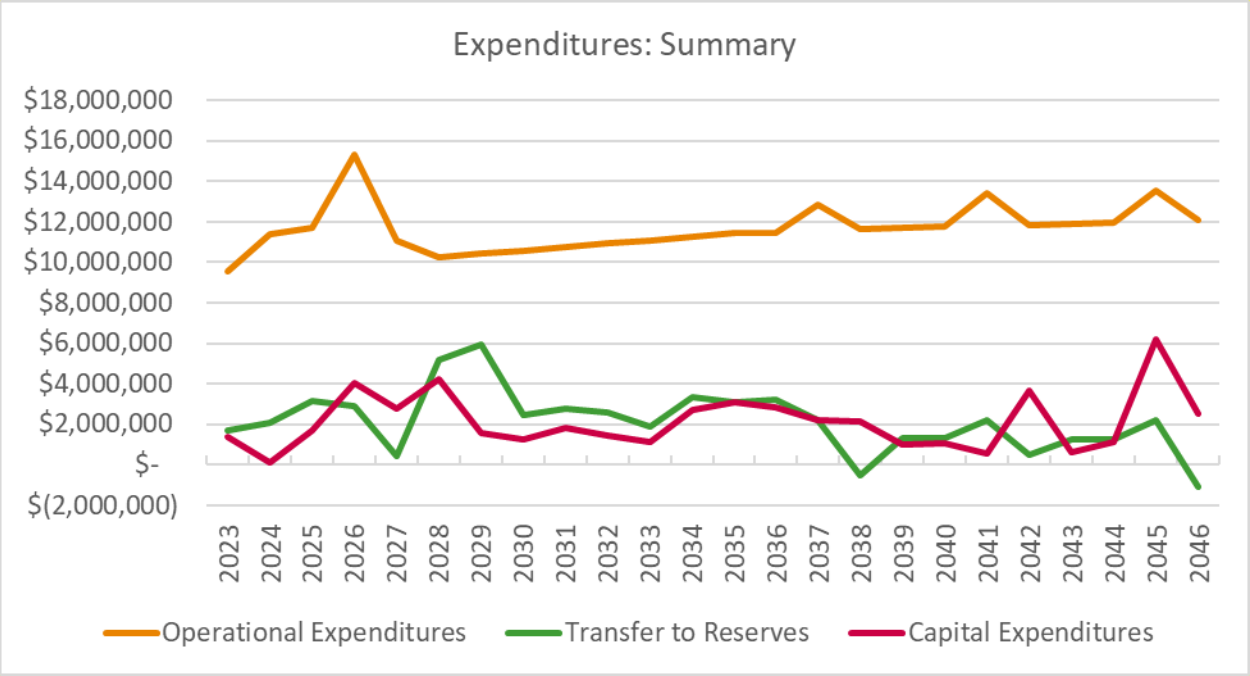
The RDN SWS will operate and maintain assets to provide the defined level of service to approved budgets in the most cost-efficient manner. The operations and maintenance activities include:

- Scheduling operations activities to deliver the defined level of service in the most efficient manner.
- Utilizing Fleetio to reduce maintenance costs and improve maintenance outcomes.
- Maintain a current infrastructure risk register for assets and present service risks associated with providing services from infrastructure assets and reporting Very High and High risks and residual risks after treatment to management and the Board.
- Review current and required skills base and implement workforce training and development to meet required operations and maintenance needs.
- Review asset utilization to identify underutilized assets and appropriate remedies, and over utilized assets and customer demand management options.
- Maintain a current hierarchy of critical assets and required operations and maintenance activities.
- Develop and regularly review appropriate emergency response capability.
- Review management of operations and maintenance activities to ensure best value is obtained for resources used.

5.2.4. Summary of Forecasts Operations and Maintenance Costs

Forecast operations and maintenance costs are expected to vary in relation to the total value of the asset inventory. If additional assets are acquired, the future operations and maintenance costs are forecast to increase. If assets are disposed of, the forecast operation and maintenance costs are expected to decrease.

Figure 5 Expenditures: Summary



5.3. Renewal Plan

Renewal is major capital work which does not significantly alter the original service provided by the asset, but restores, rehabilitates, replaces, or renews an existing asset to its original service potential. Work over and above restoring an asset to original service potential is considered to be an acquisition resulting in additional future operations and maintenance costs.

The Asset Registry Appendix 1 - accounts for useful life and scheduled replacement costs and timelines.

5.3.1. Renewal and Replacement Strategies

The RDN SWS plans capital renewal and replacement projects to meet level of services objectives and minimize infrastructure service risks by:

- Planning and scheduling renewal projects to deliver the defined level of service in the most efficient manner.
- Undertaking project scoping for all capital renewal and replacement projects to identify:
- The service delivery 'deficiency,' present risk, and optimum time for renewal/replacement.
- The project objectives to rectify the deficiency.
- The range of options estimated capital and life cycle costs for each option that could address the service deficiency.
- Evaluate the options against evaluation criteria adopted by the Board.
- Select the best option to be included in capital renewal programs.
- Using 'low cost' renewal methods (cost of renewal is less than replacement) wherever possible.

- Review current and required skills base and implement workforce training and development to meet required construction and renewal needs.
- Maintain a current hierarchy of critical assets and capital renewal treatments and timings required.
- Review management of capital renewal and replacement activities to ensure Council is obtaining best value for resources used.

5.3.2. Summary of Future Renewal Costs

Asset renewal is typically undertaken to either:

- Ensure the reliability of existing infrastructure to deliver the service level it was constructed to facilitate or
- Ensure the infrastructure is of sufficient quality to meet the service requirements.

The RDN SWS prioritizes renewals and other projects by having them undergo a structured investigation and prioritization process which establishes criteria points by which decisions can be judged, qualified, and quantified. Whole life cycle costing and multi-weighted criteria approaches are used. Numerous factors, such as financial performance, risk, social and environmental impact, regulatory compliance etc. are considered and weighed in this multi-criteria approach.

The 10-year renewal plan guides the need for reserve fund contributions and spending over the next 10 years and identifies high-cost renewals required that cannot realistically be addressed through reserve fund contributions and will be funded through new debt. The following major renewal and upgrade activities are identified in the next ten years, 2024 to 2033.

> *Notes: When budgeting for future projects, it is recommended that a 25% general contingency and a 30% allowance for construction, engineering, financial, legal and admin costs be added to total project costs.*

5.4. Acquisition Plan

Acquisitions (or expansion and upgrade investment) are defined as the addition of assets that did not previously exist or works which will upgrade or improve an existing asset beyond its existing capacity. Acquisitions may result from growth, demand, social or environmental needs.

Proposed acquisition of new assets, and upgrade of existing assets, are identified from various sources such as community requests, proposals identified by strategic plans or partnerships with others. Potential upgrade and new works should be reviewed to verify that they are essential. Proposed upgrade and new work analysis should also include the development of a preliminary renewal estimate to ensure that the services are sustainable over the longer term. Verified proposals can then be ranked by priority and available funds and scheduled in future works programs. The same priority ranking criteria as for assets renewal will be used.

RDN SWS will continue to assess the efficacy of landfill operations to ensure that the remaining landfill airspace is utilized efficiently and effectively, maximizing service delivery over the long-term.

5.4.1. Capital Investment Strategies

RDN SWS will plan any future capital upgrade and new projects to meet level of service objectives by:

- Planning and scheduling capital upgrades and new projects to deliver the defined level of service in the most efficient manner.
- Undertake project scoping for all capital upgrade/new projects to identify:
- The service delivery 'deficiency' presents risk and required timeline for delivery of the upgrade/new asset.
- The project objectives to rectify the deficiency including value management for major projects.
- The range of options estimated capital and life cycle costs for each option that could address the service deficiency.
- Management of risks associated with alternative options.
- Evaluate the options against evaluation criteria adopted by Council.
- Select the best option to be included in capital upgrade/innovative programs.
- Review current and required skills base and implement training and development to meet required construction and project management needs.
- Review management of capital project management activities to ensure best value is obtained for resources used.

Standards and specifications for new assets and for upgrade/expansion of existing assets are the same as those for renewal shown in section 5.3.

5.5. Disposal Plan

Disposal includes any activity associated with the disposal of a decommissioned asset including sale, demolition, or relocation. Assets identified for decommissioning and disposal are updated in the asset registry. SWS has committed to updating and completing the required RDN forms when disposing of any asset, no major disposal of assets are scheduled in the new future of this 2023 Plan.

6. RISK MANAGEMENT PLANNING

Infrastructure needs exceed local governments capacity. As such, local governments must carefully select infrastructure investment projects based on the state of infrastructure, economic development goals, and the needs of an evolving and growing community. These factors, along with social and environmental considerations will form the basis of a robust risk management framework.

The purpose of infrastructure risk management is to document the findings and recommendations resulting from the periodic identification, assessment and treatment of risks associated with providing services from infrastructure. The overlying guide to risk management is ISO 31000:2018 Risk Management – Principles and Guidelines.

Risk management is a key objective set out in our Asset Management Policy. An assessment of risks associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a 'financial shock', reputational impacts, or other consequences. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, and the consequences should the

event occur. The risk assessment should also include the development of a risk rating, evaluation of the risks and development of a risk treatment plan for those risks that are deemed to be non-acceptable.

A limited review of risk management is included here. However, it does address mitigation of some identified risks within RDN SWS.

6.1. Critical Assets

Critical assets are defined as those which have a high consequence of failure causing significant loss or reduction of service. Critical assets have been identified and along with their typical failure mode, and the impact on service delivery, are summarized in the following table.

Critical Assets	Typical Failure Mode	Impact
Communication equipment – radios, computers, phones, mobiles etc..	Physical failure	Service delivery and essential service interruption
Equipment – heavy machinery, scale decks, vehicles	Poor condition or break down	Nonconformance to standards; Safety of employees; record keeping
Buildings – scale house, shop, administrative	Power failure, no internet or phone	Service delivery and essential service interruption

By identifying critical assets and failure modes RDN SWS can ensure that investigative activities, condition inspection programs, maintenance and capital expenditure plans are targeted at critical assets.

6.2. Risk Assessment

The risk management process used is shown in the figure below. It is an analysis and problem-solving technique designed to provide a logical process for the selection of treatment plans and management actions to protect the community against unacceptable risks.

Figure 6 Risk Assessment Process

The risk assessment process identifies credible risks, the likelihood of the risk event occurring, the consequences should the event occur, development of a risk rating, evaluation of the risk and development of a risk treatment plan for non-acceptable risks.

From an asset management perspective, risk is a function of:

- the consequences of failure (e.g., the negative economic, financial, and social consequences of an asset in the event of a failure); and
- the probability of failure (e.g., how likely is the asset to fail in the short- or long term).

An assessment of risks associated with service delivery identifies risks for RDN SWS.

Critical risks are those assessed with 'Very High' (requiring immediate corrective action), and 'High' (requiring corrective action) risk ratings identified in the infrastructure Risk Management Plan. The residual risk and treatment costs of implementing the selected treatment plan is shown below.

The table below details the identified risks within RDN SWS, their risk scores and potential mitigation strategies.

Risk	Consequence of Failure	Probability of Failure	Risk Score/ Rating	Mitigation Strategy
Landfilling Process	5	4	20	Contingency plans with other RD's, stock piling locations, land acquisition,
Power/ Internet	5	5	25	Regular inspections, scheduled maintenance plan, backup power source/ data (cellular)
Heavy Machinery	5	5	25	Regular inspections and adopt a proactive approach to replacement
Solid Waste Structural and Equipment Integrity	5	3	15	Conduct regular facility condition assessments
Lack Of Staff	4	3	12	Casual staff pool, training depth
Communication Equipment Breakdown	5	4	20	Proactive condition assessment; replacement cycle
Cyber Attack	4	4	16	Anti-virus, multi factor authentication

6.3. Infrastructure Resilience Approach

The resilience of critical infrastructure is vital to the ongoing provision of services to customers. To adapt to changing conditions we need to understand our capacity to withstand a given level of stress or demand and to respond to disruptions to ensure continuity of service.

Resilience is built on aspects such as response and recovery planning, financial capacity, climate change and crisis leadership. Our current indication of resilience is shown in the table below.

Threat/Hazard	Current Resilience Approach
Loss of power	Emergency generator in place
Earthquake/ Seismic event	Retrofit facilities. Use alternate interim sites for transfer or storage operations.
Lack of workforce	Casual pools, qualified contractors, exempt staff

6.4. Service and Risk Trade-Offs

The decisions made in adopting this 2023 Plan are based on the objective to achieve the optimum benefits from the available resources.

The RD SWS currently replaces assets by both condition and age and prioritizes asset management across all SWS assets. The proper care and maintenance of equipment is a responsibility borne both by the maintenance staff and the department. The RDN SWS evaluates asset priorities based on age and historic practices of asset investment and budgets to service critical initiatives.

The RDN has maintained a goal of zero waste since the development of its first Solid Waste Management Plan. In the 2020 SWMP the RDN recommitted to achieving zero waste by seeking a waste diversion goal of 90% by 2030. In the context of asset management and financial planning, achieving 90% waste diversion will result in a significant loss of revenue for the department, which in turn will impact service delivery in the future. This service and risk trade off can be mitigated by proactively addressing future revenue shortfalls in the present, and by actively seeking alternative solutions.

6.4.1. Service Trade-Off

If there is forecast work (operations, maintenance, renewal, acquisition, or disposal) that cannot be undertaken due to available resources, then this will result in service consequences for users. These service consequences include:

- Service disruptions
- Compliance issues with respective ministries/regulations
- Environmental impacts
- Social impacts
- Economic impacts
- increased GHG emissions (waste export)

6.5. Risk Trade-Off

The operations and maintenance activities and capital projects that cannot be undertaken may sustain or create risk consequences. These risk consequences include:

- Safety to residents, and firefighters/first responders Impact on service delivery
- Potential liabilities and rising insurance claims from residents.
- 90% waste diversion may decrease revenues beyond a point where the department can remain financially sustainable.
- Greater susceptibility to external and internal risks associated with waste export.

7. FINANCIAL STRATEGY

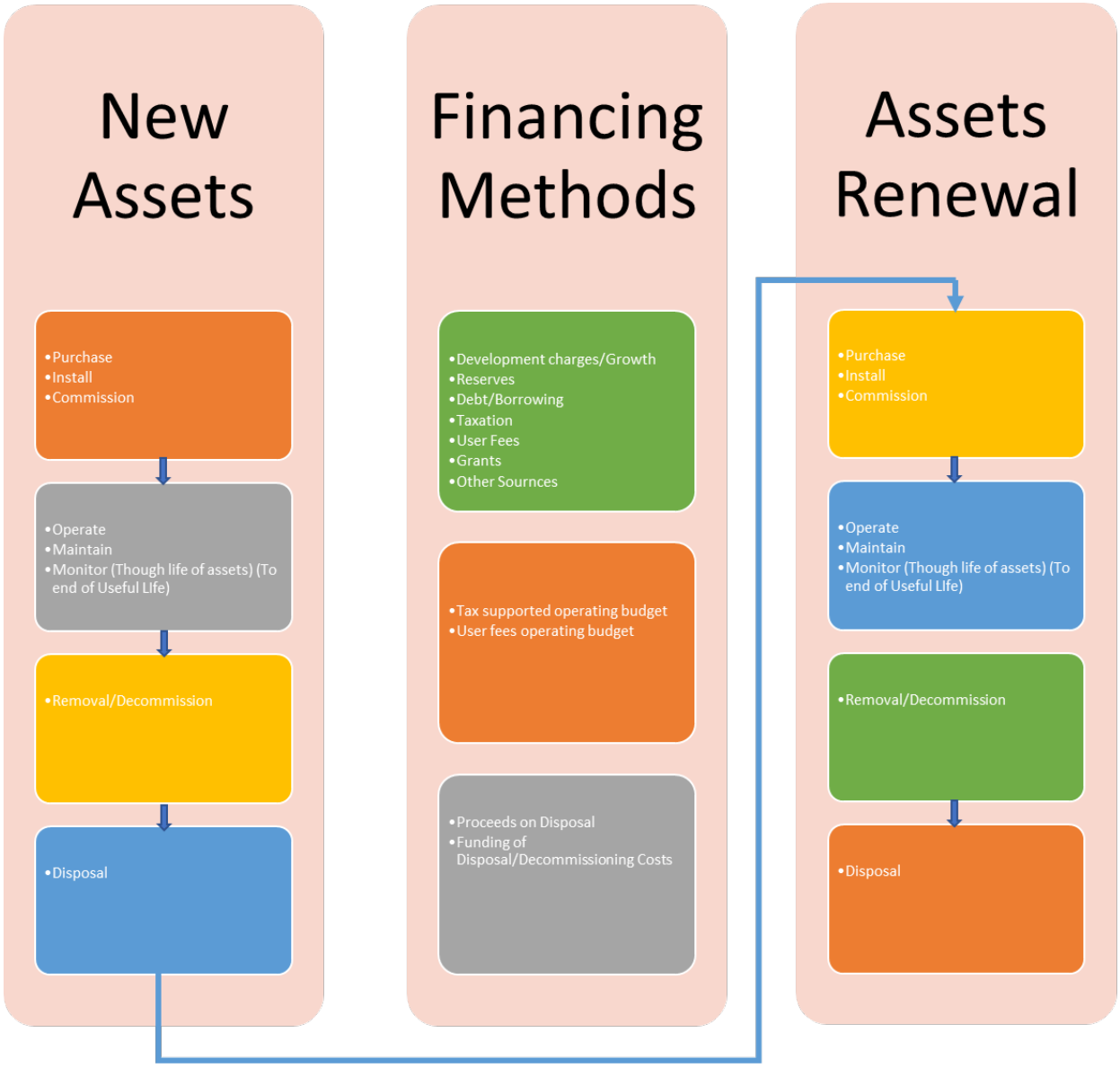
The financing strategy outlines the suggested financial approach to funding the recommended lifecycle strategies and activities outlined in previous sections, while utilizing the RDN SWS existing budget structure. The long-term financing strategy forecast (including both expenditure and revenue sources) was prepared, consistent with the RDN's budget structure, so that it can be used in conjunction with the annual budget process.

This provides the RDN SWS with the necessary understanding required to make sustainable financial investment decisions.

Figure 7 Financial Strategy provides a visual representation of how various financing methods can be used for both initial asset purchases, as well as asset replacements.

The financial projections will be improved as the discussion on desired levels of service and asset performance matures.

Figure 7 Financial Strategy

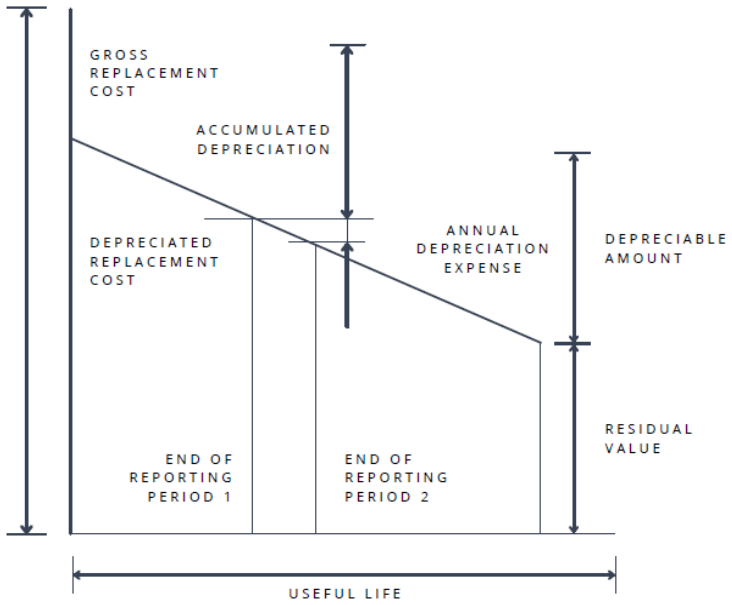


7.1. Financial Sustainability and Projections

7.1.1. Asset Valuations

The best available estimate of the value of assets that are included in the 2023 Plan are shown in Appendix 1. The assets are valued at estimated costs to replace equipment, buildings, and infrastructure.

Figure 8 Asset Valuation



7.1.2. Sustainability of Service Delivery

There are two key indicators of sustainable service delivery. These are:

- Asset renewal funding ratio (proposed renewal budget for the next 10 years / forecast renewal costs for next 10 years).
- Medium term forecast costs/proposed budget (over 10 years of the planning period).

The RDN has opted for medium term financial planning period for capturing sustainability over a 10-year planning period.

7.1.3. Forecast Costs for the 10-Yr Planning Period

Providing sustainable services from infrastructure requires the management of service levels, risks, forecast outlays and financing to deliver the agreed service levels with the planned budget allocations in the operational and capital budgets.

The 2023 Plan identifies the forecast operations, maintenance, renewal and disposal activities and costs required to provide an agreed level of service to the community over the 10-year period (2024-2033). This provides input into 10 year financial and funding plans aimed at providing the required services in a sustainable manner. This forecast of expenditure requirements is compared to the proposed/ planned budgets over these 10 years of the planning period to identify any funding shortfall/infrastructure deficit.

Appendix 3 gives a detailed breakdown on the 10-yr investments for RDN SWS.

> *Note: a 3% inflation factor is factored in the operation and maintenance costs each year to account for the rise in operational costs, inflation, supply chain shortages and subsequent increases in cost to long term capital projects.*

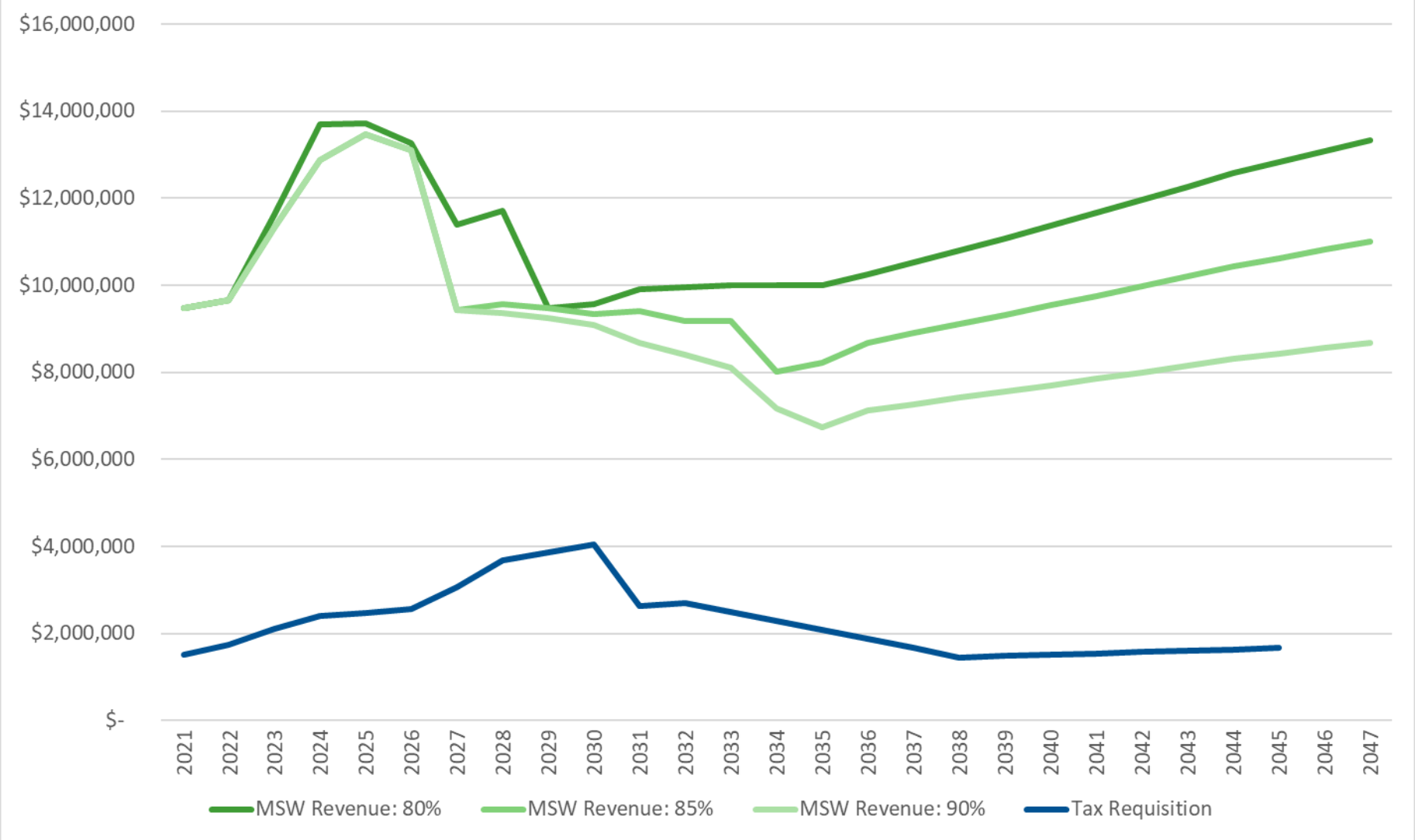
7.1.4. Capital Forecast 10-Yr Period

Revenues are generated via the Tipping Fees generated from materials brought to the Regional Landfill and Church Road Transfer Station. The Board approved Solid Waste Management Plan seeks a diversion goal of 90%. This will dramatically reduce Tipping Fee Revenues over the next decade. The Solid Waste Management contemplates this reduced revenue and provides projections if offset solely by tax requisition.

The 2023 Plan bases revenues on achieving 85% reduction. Revenue projections for 80% and 90% are also presented to provide a confidence interval.

Through sound financial planning and the saving of projected surpluses in the early years of the plan, the impact of the reduced Tipping Fees can be mitigated.

Figure 9 Tipping Fee Revenue Projections (2021-2047)



Major projects are funded from the Capital Reserve accounts. After the construction of the RL's Phase 6 Section, and final closure of the North Cell 2, the Capital Reserve and Operating Reserve balances will be significantly drawn down. However, the 2023 Plan considers this, allowing for both reserves to grow over time to provide for future closure projects, capital purchases, upgrades, and maintenance, and for the replacement service (e.g. siting landfill or transfer station) once the landfill is closed.

The effectiveness of current and future Solid Waste Management Plans could affect SWS timelines. The higher the efficacy of waste diversion programs, the lower the resulting tipping fee revenues. Balancing this dichotomy, between seeking higher waste diversion while recognizing that doing so reduces revenue generation, is a critical component of the 2023 Plan. It is advisable to conduct an annual review of the AM key performance metrics to monitor factors such as market shifts, local, federal, and global economic drivers, actual wastes being landfilled, and long-term projections.

7.1.5. Infrastructure Gap/Shortfall/Deficit Management

The RDN SWS will manage the 'gap' by continuing to develop this 2023 Plan to provide guidance on future service levels and resources required to provide these services in consultation with the community.

The gap will require vetting, planning and resources to begin to incorporate gap management into the future budgets. This gap will need to be managed over time to reduce it in a sustainable manner and limit financial shock to customers. Options for managing the gap include.

- Increase tax requisition.
- Additional contribution to reserves.
- Financing strategies – increased funding, annual tipping fee increases and adhering to the SWMP.
- Adjustments to lifecycle activities – increase/decrease maintenance or operations, increase/decrease frequency of renewals, limit acquisitions or dispose of underutilized assets.
- Influence level of service expectations or demand drivers.

These options and others will allow the RDN SWS to ensure the gap is managed appropriately and ensure the level of service outcomes the region requires.

7.2. Funding Strategy

The funding strategy to support the levels of service described for RDN SWS is portrayed in the financial plan (operational and 10-yr capital budgets). RDN SWS budgets determine how and where funds will be allocated, whereas this 2023 Plan communicates how and when the funds will be generated, along with the service and risk consequences of various service alternatives.

The SWMP was developed to work in unison with the SWMP and provide departmental direction over the next twenty-three years. Operational considerations such as population increase, inflation and the goals of the Solid Waste Management Plan heavily influenced this Plan.

The Plan is cost effective, does not utilize borrowing to fund operations and relies on a User Pay System. In later years, the Plan provides financial options for siting of a new landfill, expansion of the current site or conversion to a transfer station model.

The Plan relies on a tax requisition consistent with the approved SWMP for the first ten years (2020-2030) to offset costs and ensure project and operational viability. In the second half of the Plan (2031-2042) the tax requisition is variable and initially decreases by 22% in 2033 before increasing by an average of 2% over the remaining life of the Plan. These figures are based on the success of the SWMP, Capital Reserve Balances, changes in Solid Waste Operations and the overall market.

7.3. Valuation Forecasts

Asset values are forecast to increase as projections improve and can be validated through market pricing. The net valuations will increase significantly despite some assets being programmed for disposal that will be removed from the register over the 10-yr planning horizon.

7.4. Key Assumptions Made in Financial Forecasts

In compiling this 2023 Plan, it was necessary to make some assumptions. This section details the key assumptions made in the development of this 2023 Plan and should provide readers with an understanding of the level of confidence in the data behind the financial forecasts. Key assumptions made are:

- Unit Costs are subject to vary. The fleet and equipment suppliers are seeing price increases of up to 30% from the manufacturer. These price increases will need to be accounted for during the budget and planning process.
- Growth in the region may fluctuate due to the global economy. Population and economic growth can change the service delivery requirements like increased needs for air space and corresponding equipment gear and communication equipment.
- Supply chain issues are affecting equipment and fleet delivery. Sourcing of commercial equipment and industrial machinery in 2023 is resulting in delivery dates in 2025.
- Waste generation will fluctuate based on economic drivers at both the residential and commercial level(s).
- Provincial and Federal regulations will continue to be developed, revised, and implemented that may have significant impacts on both operations and waste generation overall.

7.5. Forecast Reliability and Confidence

The forecast costs, proposed budgets, and valuation projections in this 2023 Plan are based on the best available data. For effective asset and fiscal management, it is critical that the information is current and accurate. Data confidence is classified on an A - E level scale as per Appendix 4:

Data	Confidence Assessment	Comment
Demand Drivers	Medium	Continued her investigation is required to understand demand drivers
Growth Projections	Medium	Current growth projections will need to be continuously vetted. Continuous improvements are required in order to retain the ability to pivot to meet service level demand increases.
Acquisition Forecast	High	Asset acquisition and replacement forecasts are accurate.
Operation Forecast	High	Operational forecasts are accurate with capacity to adapt to unforeseen operational upset(s).
Maintenance Forecast	High	Maintenance forecasts are accurate with capacity to adapt to unforeseen maintenance upset(s).
Renewal Forecast - Asset Values	High	Currently budget based focusing on future improvement to ensure accuracy
Asset Useful Lives	Medium	Continuous assessment(s) and improvement required to ensure data is vetted and aligns with RDN practices and policies
Asset Condition Assessment	Medium	Mixture of assessments methods. Requires standardization with RDN directives along with predictable timelines for assessments
Disposal Forecast	Low	Current disposal information is rolled into renewal. Continuous improvements are required to ensure accurate data is available

8. PLAN IMPROVEMENT AND MONITORING

8.1. Status of Asset Management Practices

8.1.1. Accounting and Financial Data Sources

This 2023 Plan utilizes centralized RDN accounting and financial data in the form of the 2023 to 2028 Financial Plan. The sources of data are:

- 2024 Capital and Operating Budgets.
- RDN SWMP and 2020 Plan.
- RDN SWS Asset Registry.
- Tangible Capital Asset (TCA) Reporting.
- Financial exports from internal financial systems – FMW.
- Historical cost and estimates of budget allocation based on SME experience.

8.1.2. Asset Management Data Sources

The RDN SWS asset registry (Appendix A) accounts for the management of all assets. The registry is updated during purchase or disposal and annually.

8.2. Improvement Plan

It is important to recognize that the 2023 Plan continues the departmental practice of creating a credible database and accurate asset management. The intention is to continue to develop AM as the organization matures. In particular, the following steps are seen as important milestones for the program in general and for SWS in particular:

1. Find forums to discuss the AMP with peers and relevant elected officials, away from the time- crunched budget review sessions.
2. Conduct/Improve annual engagement survey process to optimize engagement and respondents.
3. Enhance engagement among SMEs to enhance effective communication and data transparency.
4. Update inventory, through field verifications, for additions, disposals, and changes in useful life.
5. Ensure large assets, such as buildings, are broken into smaller components where value is provided to better determine replacement timelines and capital costs.
6. Adopt a standard data model for an RDN-wide asset registry, and a straightforward way to access the data to improve data confidence level.
7. integrate the data with GIS such that there is only one data set that can be visualized in map format or easily analyzed in spreadsheet form.
8. incorporate Asset Life-Cycle Maintenance and Renewal considerations into acquisition decisions.
9. Apply a refined and more robust decision-making process that improves the connection between the RDN's goals and needs as well as pushes projects through a structured investigation and prioritization

process will be designed and implemented. Appendix 5 shows one such process currently being assessed.

10. Develop procedures and tools to articulate and guide the selection of preferred methods and materials to be used for RDN asset renewal and maintenance projects.
11. Develop an RDN-wide standard Service Delivery Approach to managing infrastructure assets. This approach involves identifying levels of service and linking them to specific costs required to maintain them.
12. Develop robust condition assessment programs for all asset categories on a pre-determined schedule to keep data current and accurate and increase frequency of equipment testing and inspections by Duty Crew, aiming to assess all equipment aside from hoses on a weekly basis.
13. Improve asset replacement costs by vetting with current market prices instead of historical costs/estimates or internal models.
14. Distinguish between operations and maintenance activities and costs to help identify future needs and recommended actions.
15. Develop a Long-Term Financial Plan to connect the budgeting process to the AM planning process.

8.3. Monitoring and Review Procedures

This asset management plan will be reviewed during the annual budget planning process and revised to show any material changes in service levels, risks, forecast costs and proposed budgets as a result of budget decisions.

This 2023 Plan has a life of 4 years and is due for revision and updating in 2027. This will ensure that it represents current service levels, operations, maintenance, and renewals needs.

If significant changes or requirements are discovered through regular operation, unplanned events, or regulatory change, an immediate review of the 2023 Plan will be required. Changes in the RDN Board Strategic Plan or changes to the RDN's overall Asset Management Program may also motivate review and update of the 2023 Plan.

8.4. Performance Measures

The effectiveness of this 2023 Plan can be measured in the following ways:

- The degree to which the required forecast costs identified in this asset management plan are incorporated into the long-term financial plan,
- The degree to which asset management matures within the RDN and this service,
- The degree of success in implementing the renewal plan,
- The degree of acceptance and use (in reference) by RDN elected officials,
- The degree to which the existing and projected service levels and service consequences and risks are incorporated into the Strategic Plan and Fire Master Plans. (e.g., Understanding the risks and service consequences of prioritizing or not prioritizing an asset will help the CHVFD to know which of the following fire equipment is critical for replacement); and
- The degree to which the service life of the assets can be extended due to the utilization of good asset management strategies.

9. REFERENCES

- RDN Policy A2.5 Capital Asset Accounting and Budgeting Policy

10. APPENDICES

Appendix 1 - Asset Registry

Budget Group: CRTS

Class	Asset Name	Year Acquired/ Constructed	2023 Assumed CRC	2023 Useful Life	Calculated Replacement Year	% of Life Used
Building	Fan # 1	2022	$10,000	16	2039	6%
Building	Fan # 2	2022	$10,000	16	2039	6%
Building	Floor Cover	2022	$200,000	10	2033	9%
Building	Reclaim Wet Well Pump	2019	$5,200	8	2031	33%
Building	Membrane for reactor x2	2015	$1,350	8	2031	50%
Building	Doors x 4	2014	$100,000	2	2025	82%
Building	Water pumps	2014	$15,000	8	2031	53%
Building	Well Sensor	2014	$3,250	8	2031	53%
Building	Roof Cover	2010	$200,000	1	2024	93%
Building	Air conditioning	2010	$12,000	0	2023	100%
Building	Heat pump	2010	$7,250	2	2025	87%
Building	Approach lights	2010	$1,500	5	2028	72%
Building	Furniture and Fixtures	2010	$26,000	7	2030	65%
Building	Roof Cover	2010	$28,600	7	2030	65%
Building	Furniture and Fixtures	2010	$6,000	7	2030	65%
Building	Approach lights	2010	$1,950	7	2030	65%
Building	Tools & Misc equipment	2010	$6,500	7	2030	65%
Building	CO2 protector	2010	$600	10	2033	57%
Building	Ceiling Finish	2010	$50,000	12	2035	52%
Building	Irrigation components	2010	$5,000	12	2035	52%
Building	H.V.A.C.	2010	$120,000	12	2035	52%
Building	Mechanical Components	2010	$8,500	8	2031	62%
Building	Plumbing	2010	$15,000	8	2031	62%
Building	Biological reactor system	2010	$22,000	8	2031	62%
Building	UV water sterilisation system 1	2010	$2,600	8	2031	62%
Building	UV water sterilisation system 2	2010	$2,600	8	2031	62%
Building	Cement base/foundation	2010	$10,400	30	2053	30%
Building	4 Cistern tanks	2010	$13,000	15	2038	46%
Building	Electrical	2010	$19,500	15	2038	46%
Building	Programable Logic Controller (PLC)	2010	$50,000	15	2038	46%
Building	Waste Water treatment plant	2010	$400,000	8	2031	62%
Building	Air Blower Pumps	2010	$12,000	8	2031	62%
Building	H.V.A.C.	2010	$100,000	1	2024	93%
Building	Scale - Inbound 80 ft deck	2010	$75,000	17	2040	43%

Class	Asset Name	Year Acquired/ Constructed	2023 Assumed CRC	2023 Useful Life	Calculated Replacement Year	% of Life Used
Building	Digital reader displays	2010	$4,000	17	2040	43%
Building	Scale hardware, software & controls	2010	$15,000	17	2040	43%
Building	Load cells	2010	$25,000	4	2027	76%
Building	Load cells	2010	$25,000	4	2027	76%
Building	Scale - Outbound 80 ft deck	2010	$75,000	17	2040	43%
Building	Floor cover	2010	$6,500	27	2050	33%
Building	Structural Frame	2010	$42,000	47	2070	22%
Building	Fire Protection	2010	$44,200	47	2070	22%
Building	Electrical and Lighting	2010	$74,000	10	2033	57%
Building	Roof Structure	2010	$60,800	25	2048	34%
Building	Exterior Wall	2010	$147,800	25	2048	34%
Building	Floor Structure	2010	$38,000	47	2070	22%
Building	Interior Construction & Partitioning	2010	$164,100	47	2070	22%
Building	Plumbing	2010	$132,500	47	2070	22%
Building	Fire Protection	2010	$6,000	47	2070	22%
Building	Plumbing (washroom)	2010	$14,400	47	2070	22%
Building	Electrical and Lighting	2010	$26,000	47	2070	22%
Building	Scale House Building	2010	$250,000	47	2070	22%
Building	Tools and Misc	2010	$6,500	47	2070	22%
Building	Admin Building - Concrete Foundation	2010	$50,000	60	2083	18%
Building	Plumbing	2010	$101,316	75	2098	15%
Building	Floor Structure	2010	$133,680	75	2098	15%
Building	Interior Construction & Partitioning	2010	$253,300	75	2098	15%
Building	Structural Frame	2010	$274,400	75	2098	15%
Building	Fire Protection	2010	$125,000	75	2098	15%
Building	Electrical and Lighting	2010	$267,360	75	2098	15%
Building	Controls	2009	$2,500	7	2030	67%
Building	Fan # 4 Wall mounted exhaust fan	2009	$10,000	16	2039	47%
Building	Fan # 3 Wall mounted exhaust fan	2009	$10,000	16	2039	47%
Building	Fan # 1 $10k for ducting	2009	$30,000	7	2030	67%
Building	Fan # 2 $10k for ducting	2009	$30,000	7	2030	67%
Building	Floor Cover	2009	$400,000	6	2029	70%
Building	Lower Door # 1 Entrance to tunnel #5 Automated steel	2009	$20,000	10	2033	58%
Building	Lower Door # 2Exit Tunnel # 5 Automated steel	2009	$20,000	10	2033	58%
Building	Lower Door # 3Exit Tunnel # 6 Automated steel	2009	$20,000	10	2033	58%
Building	Fire Protection	2009	$150,000	12	2035	54%
Building	Door related misc	2009	$26,000	17	2040	45%
Building	Roof Cover	2009	$60,616	17	2040	45%

Class	Asset Name	Year Acquired/ Constructed	2023 Assumed CRC	2023 Useful Life	Calculated Replacement Year	% of Life Used
Building	Upper Door # 1Rubber Roll-up (new springs in 2 yrs @ $20,000)	2009	$180,000	10	2033	58%
Building	Upper Door # 2Rubber Roll-up (new springs in 2 yrs @ $20,000)	2009	$180,000	10	2033	58%
Building	Plumbing	2009	$89,600	47	2070	23%
Building	Interior Construction & Partitioning	2009	$247,700	47	2070	23%
Building	Concrete Foundation	2009	$95,700	47	2070	23%
Building	Floor Structure	2009	$114,800	47	2070	23%
Building	Electrical/Lighting; incl HVAC	2009	$140,000	47	2070	23%
Building	Roof Structure	2009	$165,900	47	2070	23%
Building	Transfer Bldg 2: Architectural Fees, site preparation	2009	$281,400	47	2070	23%
Building	Structural Frame	2009	$320,816	47	2070	23%
Building	Exterior Wall	2009	$565,700	72	2095	16%
Building	Doors x 4	2006	$120,000	2	2025	89%
Building	Concrete Foundation	1991	$99,900	75	2098	30%
Building	Transfer Bldg 1: Architectural Fees, site preparation	1991	$281,400	75	2098	30%
Building	Roof Structure	1991	$191,380	2	2025	94%
Building	Exterior Wall	1991	$267,360	75	2098	30%
Building	Hot Water tank-First aid eye wash		$6,500	2	2025	100%
Land Improvements	Flammable & Hazardous storage	2012	$10,000	12	2035	48%
Land Improvements	Generator (emergency power)	2010	$75,000	17	2040	43%
Land Improvements	Plumbing	2010	$4,800	22	2045	37%
Land Improvements	Electrical shed	2010	$9,850	22	2045	37%
Land Improvements	Tanks	2010	$11,700	22	2045	37%
Land Improvements	Rain water collection	2010	$26,000	22	2045	37%
Land Improvements	Retaining walls/Blocks/Barriers	2010	$33,711	72	2095	15%
Land Improvements	Fencing & Gates	2010	$250,000	90	2113	13%
Land Improvements	Attendant shed	2009	$16,000	5	2028	74%

Class	Asset Name	Year Acquired/ Constructed	2023 Assumed CRC	2023 Useful Life	Calculated Replacement Year	% of Life Used
Land Improvements	Guard rails	2009	$20,000	10	2033	58%
Land Improvements	External lighting	2009	$61,900	22	2045	39%
Land Improvements	Concrete sidewalk/pads	2009	$24,050	22	2045	39%
Land Improvements	Paved roadways	2009	$563,300	47	2070	23%
Land Improvements	Outback (Recycle area)	2009	$230,000	47	2070	23%
Land Improvements	Fuel tank	1995	$25,300	15	2038	65%
Land Improvements	Paved roadways	1991	$159,100	21	2044	60%
Land Improvements	Signage	Ongoing	$10,000	10	2033	
Machinery & Equipment - General	Radio Basestation	2018	$1,200	15	2038	25%
Machinery & Equipment - General	Radios x12	Ongoing	$15,000	12	2035	20%
Vehicles	ClubCar CarryAll 500	2022	$30,000	10	2033	9%
Vehicles	John Deere310SJ loader/backhoe	2019	$300,000	6	2029	40%
Vehicles	Dodge Ram 2019	2019	$70,000	2	2025	67%
Vehicles	John Deere Loader	2019	$440,000	4	2027	50%
Vehicles	Bobcat 5600 Toolcat	2014	$150,000	0	2023	100%

Budget Class: RL Back

Class	Asset Name	Year Acquired/ Constructed	2023 Assumed CRC	2023 Useful Life	Calculated Replacement Year	% of Life Used
Building	Seacan	2018	$8,000	20	2043	5%
Building	Maintenance Shop Group	2016	$2,000,000	17	2040	15%
Building	Small Garden Shed	2015	$5,000	20	2043	17%
Building	Large Garden Shed - 2 by manifold station	2015	$20,000	20	2043	17%
Building	RL Back	Building	Seacan	2018	$8,000	20
Building	Gator Shed - including concrete floor, frame, lights, metal siding and roof, garage door	1995	$200,000	20	2043	55%
Infrastructure - Inground	Ground Probes LFG Monitoring	2016	$10,000	10	2033	23%
Infrastructure - Inground	GW Monitoring wells	2003	$198,000	20	2043	44%

Class	Asset Name	Year Acquired/ Constructed	2023 Assumed CRC	2023 Useful Life	Calculated Replacement Year	% of Life Used
Land Improvements	Manhole Lids (approx 30)	2018	$21,000	20	2043	5%
Land Improvements	SITEWORK - ELECTRICAL	2014	$10,000	27	2050	16%
Land Improvements	MANHOLES	2014	$4,000	32	2055	14%
Land Improvements	Lock Blocks (approx. 500)	2000	$100,000	20	2043	49%
Land Improvements	8460 ft of 8' high fence	Ongoing	$300,000	40	2063	20%
Machinery & Equipment - General	Leachate Compressor	2020	$5,000	2	2025	40%
Machinery & Equipment - General	TSI 9565 VelociCalc with 964 Straight Probe	2019	$3,478	5	2028	0%
Machinery & Equipment - General	BW Microdock II Calibration and charge station	2019	$1,880	3	2026	0%
Machinery & Equipment - General	BW GasAlertMicroClip X3 personal gas monitor (7 units)	2019	$12,000	3	2026	0%
Machinery & Equipment - General	Radio Repeater	2019	$5,000	25	2048	0%
Machinery & Equipment - General	4 weed wackers	2018	$2,400	2	2025	33%
Machinery & Equipment - General	rig mats (20)	2018	$11,000	3	2026	25%
Machinery & Equipment - General	DRONE - Ipad Mini 128GB with Wi-Fi and Cellular	2018	$1,200	4	2027	20%
Machinery & Equipment - General	Bobcat Forks Attachment	2018	$3,500	10	2033	9%
Machinery & Equipment - General	Bobcat Backhow attachement	2018	$25,000	10	2033	9%
Machinery & Equipment - General	Drager X-am 2/5000 x9	2018	$15,000	10	2033	9%
Machinery & Equipment - General	Portable Fuel Tank for back of flat deck	2018	$4,000	20	2043	5%
Machinery & Equipment - General	DRONE CAMERA - DJI Zenmuse X4S	2017	$15,000	4	2027	33%
Machinery & Equipment - General	water tank on trailer	2017	$10,000	5	2028	29%
Machinery & Equipment - General	REMOTE LED DISPLAYS	2017	$5,000	12	2035	14%
Machinery & Equipment - General	LFG SCADA Computer	2016	$10,000	4	2027	43%
Machinery & Equipment - General	LFG SCADA Software	2016	$10,000	4	2027	43%
Machinery & Equipment - General	WAN Comunications Hardware for SCADA Computer	2016	$2,000	7	2030	30%

Class	Asset Name	Year Acquired/ Constructed	2023 Assumed CRC	2023 Useful Life	Calculated Replacement Year	% of Life Used
Machinery & Equipment - General	Wire Feed Welder	2016	$5,000	5	2028	38%
Machinery & Equipment - General	Hot Water Pressure washer	2016	$15,000	8	2031	27%
Machinery & Equipment - General	Shop Compressor	2016	$8,000	10	2033	23%
Machinery & Equipment - General	YSI Pro DSS (water quality monitoring)	2016	$11,000	11	2034	
Machinery & Equipment - General	SONIC BIRD REPELLER	2015	$720	5	2028	44%
Machinery & Equipment - General	Mobile Pressure Washer	2015	$2,500	3	2026	57%
Machinery & Equipment - General	AIR BLADES (5)	2015	$5,000	7	2030	36%
Machinery & Equipment - General	Hand Compressor	2015	$1,500	10	2033	29%
Machinery & Equipment - General	GAS ANALYZER	2015	$50,000	2	2025	67%
Machinery & Equipment - General	Diesel Fired Heater	2015	$5,000	20	2043	17%
Machinery & Equipment - General	MAGNETIC SWEEPER	2014	$1,000	15	2038	25%
Machinery & Equipment - General	Blower 1	2013	$40,000	6	2029	50%
Machinery & Equipment - General	LAND GEM 5000 - MONITORS LANDFILL GAS COLLECTIONS	2013	$25,000	5	2028	55%
Machinery & Equipment - General	Landtec GEM 5000	2013	$12,000	7	2030	46%
Machinery & Equipment - General	FIRE PUMP	2013	$1,500	7	2030	46%
Machinery & Equipment - General	LEACHATE PUMPS - EXTRACTION WELLS	2013	$6,000	7	2030	46%
Machinery & Equipment - General	FLARE STN	2012	$580,000	1	2024	88%
Machinery & Equipment - General	LEACHATE PUMPS - VERTICAL EXTRACTION	2012	$60,000	5	2028	58%
Machinery & Equipment - General	VALVES UPGRADE (flare station actuator valves)	2012	$15,000	8	2031	47%
Machinery & Equipment - General	EXPL PROOF LIGHT	2011	$1,000	4	2027	67%
Machinery & Equipment - General	FIRE HOSE & FITTINGS	2011	$6,000	4	2027	67%
Machinery & Equipment - General	HOSE LEACHATE PUMP	2011	$6,000	4	2027	67%
Machinery & Equipment - General	WATER TANK	2011	$10,000	5	2028	62%
Machinery & Equipment - General	AIR COMP LEACHATE PUMPS	2011	$20,000	8	2031	50%
Machinery & Equipment - General	2 LEACHATE PUMPS	2011	$12,000	8	2031	50%

Class	Asset Name	Year Acquired/ Constructed	2023 Assumed CRC	2023 Useful Life	Calculated Replacement Year	% of Life Used
Machinery & Equipment - General	Flow Meter for Flare Station (Spare) Thermal Instrument Co. Model 62-9/9500	2011	$4,000	10	2033	44%
Machinery & Equipment - General	EXP BLOWER & DUCT	2011	$3,000	12	2035	40%
Machinery & Equipment - General	FUEL PUMP FOR DIESEL TANK	2010	$1,500	4	2027	69%
Machinery & Equipment - General	1 LEACHATE FLOWMETER	2010	$200,000	6	2029	60%
Machinery & Equipment - General	loader boom attachment	2010	$10,000	9	2032	50%
Machinery & Equipment - General	Loader forks attachment	2010	$4,000	9	2032	50%
Machinery & Equipment - General	Grapple Bucket for L60	2010	$25,000	9	2032	50%
Machinery & Equipment - General	Grapple Bucket for L70	2010	$25,000	9	2032	50%
Machinery & Equipment - General	2 LEACHATE FLOWMETERS	2010	$75,000	10	2033	47%
Machinery & Equipment - General	Solinst Model 101 P2 Water Level Meter	2010	$1,150	3	2026	75%
Machinery & Equipment - General	Solinst Model 101 P7 Water Level Meter	2010	$1,150	3	2026	75%
Machinery & Equipment - General	LFG WARNING INSTRUMENT	2010	$2,000	7	2030	56%
Machinery & Equipment - General	LEACHATE PUMP GAS WELLS	2010	$6,000	8	2031	53%
Machinery & Equipment - General	LEACHATE PUMP - GAS WELLS (3 pumps)	2010	$18,000	8	2031	53%
Machinery & Equipment - General	Leachate Lines (not buried) 09 2019	2010	$7,500	10	2033	47%
Machinery & Equipment - General	2 water pumps	2010	$2,000	10	2033	47%
Machinery & Equipment - General	Blower 2	2009	$40,000	2	2025	83%
Machinery & Equipment - General	HI9033 Conductivity Meter	2009	$1,200	3	2026	77%
Machinery & Equipment - General	Snow plow attachment for flat deck	2009	$8,000	10	2033	50%
Machinery & Equipment - General	SUBMERSIBLE PUMP	2009	$12,000	17	2040	37%
Machinery & Equipment - General	50 Yard Rolloff Bins - x2	2009	$50,000	15	2038	40%
Machinery & Equipment - General	Drager Calibration Station for 4 & 5 gas monitors	2008	$5,000	3	2026	79%
Machinery & Equipment - General	Drager bump station for 4 & 5 gas monitors	2008	$500	10	2033	52%
Machinery & Equipment - General	Manifold Stations	2008	$550,000	15	2038	42%

Class	Asset Name	Year Acquired/ Constructed	2023 Assumed CRC	2023 Useful Life	Calculated Replacement Year	% of Life Used
Machinery & Equipment - General	MACPHERSON FUEL TANK	2008	$70,000	20	2043	35%
Machinery & Equipment - General	20 Yard Rolloff Bins - x2	2008	$30,000	20	2043	35%
Machinery & Equipment - General	2 WEIGHING TERMINALS	2006	$5,000	12	2035	52%
Machinery & Equipment - General	portable 6500 watt generator (shop)	2004	$12,000	5	2028	75%
Machinery & Equipment - General	Sweeper attachment for John Deere 1435	2004	$8,000	10	2033	60%
Machinery & Equipment - General	honda 5500	2000	$10,000	5	2028	79%
Machinery & Equipment - General	Lift Station (repl cost incl in Generator data)	2000	$250,000	30	2053	39%
Machinery & Equipment - General	Lift Station Generator (25 kva)	2000	$50,000	30	2053	39%
Machinery & Equipment - General	Diesel Fuel Tank	1999	$8,000	20	2043	50%
Machinery & Equipment - General	WASTE DISPOSAL BUCKET	1995	$20,000	12	2035	67%
Machinery & Equipment - General	Stick Welder/generator	1995	$5,000	20	2043	55%
Machinery & Equipment - General	LFG well head with valve, flanges, flex hose, and sample port	Ongoing	$500,000	10	2033	20%
Machinery & Equipment - General	Radios x16	Ongoing	$16,000	16	2039	20%
Machinery & Equipment - General	40 Yard Rolloff Bins - x10	Ongoing	$200,000	30	2053	20%
Vehicles	Volvo LoaderL70FWheel Loader	2022	$350,000	10	2033	9%
Vehicles	Dodge Ram 1500	2022	$80,000	8	2031	11%
Vehicles	Volvo LoaderL90 Wheel Loader	2022	$350,000	10	2033	9%
Vehicles	Toyota Rav4	2021	$60,000	8	2031	20%
Vehicles	ChevSilverado 4whdr-mechanic truck	2020	$150,000	10	2033	23%
Vehicles	Frieghtliner Dump Truck	2020	$250,000	8	2031	27%
Vehicles	Mitsubishi Outlander	2020	$60,000	8	2031	27%
Vehicles	Crawler Komatzu Dozer track machine	2019	$800,000	8	2031	33%
Vehicles	John Deere Utility Vehicle	2019	$30,000	5	2028	44%
Vehicles	Volvo Excavator (2020)	2019	$400,000	10	2033	29%
Vehicles	Bobcat track loader	2018	$150,000	10	2033	33%
Vehicles	KubotaRTV-1100Utility Vehicle	2015	$30,000	6	2029	57%
Vehicles	VolvoVHD64B200	2013	$180,000	0	2023	100%
Vehicles	KubotaRTV-1100Utility Vehicle	2013	$30,000	12	2035	45%

Class	Asset Name	Year Acquired/ Constructed	2023 Assumed CRC	2023 Useful Life	Calculated Replacement Year	% of Life Used
Vehicles	KubotaRTV900XTW-AUtility Vehicle	2012	$30,000	2	2025	85%
Vehicles	John Deere1435ATV Mower	2012	$40,000	0	2023	100%
Vehicles	Cat 826 Compactor	2011	$1,100,000	8	2031	60%
Vehicles	Cat 826 Compactor	2010	$1,100,000	3	2026	81%
Vehicles	InternationalRoll-Off vehicle	2008	$180,000	5	2028	75%
Vehicles	Kenworth goat	2008	$300,000	0	2023	100%
Vehicles	Utility Trailer	2008	$50,000	5	2028	75%
Vehicles	Capacity Yard SpotterShunt truck	2007	$50,000	0	2023	100%
Vehicles	Dodge4whdrFldck	1993	$120,000	1	2024	97%
Vehicles	Bobcat 3400 Utility Vehicle		$26,000	10	2030	11%

Budget Class: RL Front

Class	Asset Name	Year Acquired/ Constructed	2023 Assumed CRC	2023 Useful Life	Calculated Replacement Year	% of Life Used
Building	Electrical Shed 6X6	2019	$4,700	25	2048	0%
Building	Britco 10x32' Mobile Office	2019	$21,000	25	2048	0%
Building	Inbound-Outbound Scales - Complete Unit	2017	$350,000	30	2053	6%
Building	Scalehouse Complete Unit	2017	$350,000	30	2053	6%
Building	Administration Building Group	2016	$1,500,000	25	2048	11%
Building	Gazebo	2016	$5,000	30	2053	9%
Building	Propane Enclosure for Generator	2015	$1,000	25	2048	14%
Building	Gator Shelter	2008	$3,000	25	2048	31%
Building	BATTERY SHED	1997	$10,000	17	2040	56%
Building	PROPANE TANK STORAGE	1997	$8,000	17	2040	56%
Computers & IT Equipment	RECEIPT PRINTER	2014	$1,200	2	2025	71%
Electrical	Electrical Pole with Light	2014	$20,000	15	2038	25%
Electrical	Light pole 6	2010	$5,000	22	2045	29%
Electrical	Light pole 7	2010	$5,000	22	2045	29%
Electrical	Light pole 8	2010	$5,000	22	2045	29%
Electrical	Light pole 9	2010	$5,000	22	2045	29%
Electrical	Light pole 1	1995	$5,000	22	2045	52%
Electrical	Light pole 2	1995	$5,000	22	2045	52%
Electrical	Light pole 3	1995	$5,000	22	2045	52%
Electrical	Light pole 4	1995	$5,000	22	2045	52%
Electrical	Light pole 5	1995	$5,000	22	2045	52%

Class	Asset Name	Year Acquired/ Constructed	2023 Assumed CRC	2023 Useful Life	Calculated Replacement Year	% of Life Used
Infrastructure - Inground	Water Line	2010	$1,000,000	70	2093	11%
Infrastructure - Inground	Fire Hydrants	2005	$5,000	25	2048	36%
Land Improvements	Curbs	2018	$10,000	15	2038	6%
Land Improvements	SITEWORK - LANDSCAPING	2014	$75,000	27	2050	16%
Land Improvements	PAVING	2006	$500,000	10	2033	57%
Land Improvements	SAFETY RAILS	1998	$100,000	10	2033	68%
Land Improvements	PAVING ENTRANCE	1991	$350,000	3	2026	90%
Land Improvements	Roads	1991	$200,000	20	2043	58%
Land Improvements	Bullnoses X60	Ongoing	$30,000	7	2030	20%
Land Improvements	Signage	Ongoing	$10,000	10	2033	20%
Land Improvements	Lock Blocks X125	Ongoing	$15,000	20	2043	20%
Machinery & Equipment - General	INSPECTION CAMERA	2012	$1,000	4	2027	64%
Machinery & Equipment - General	Radio Basestation	2012	$1,200	15	2038	32%
Machinery & Equipment - General	2 MONITORS/CAMERAS FOR SCALEHOUSE	2010	$5,000	10	2033	47%
Machinery & Equipment - General	Radios x11	Ongoing	$15,000	11	2034	20%
Vehicles	ChevSilverado 4whdr	2018	$100,000	7	2030	42%
Vehicles	KubotaRTV-1100Utility Vehicle	2017	$35,000	8	2031	43%

Appendix 2 - Condition Rating System

The condition of each asset category, group type and individual asset (where applicable) was evaluated to determine the current health of RDN SWS infrastructure assets.

The five-point rating scale was used to align to the scales employed by the Canadian National infrastructure Report Card produced by the Federation of Canadian Municipalities (FCM), the Canadian Society for Civil Engineering (CSCE), and the Canadian Construction Association (CCA).

Rank	Condition	Definition
1	Very Good	The infrastructure in the system is in generally good condition, typically new or recently rehabilitated. Minimal elements show signs of deterioration that require attention.
2	Good	The infrastructure in the system is in good condition; some elements show signs of deterioration that require attention. A few elements show sign of significant deficiencies.
3	Fair	The infrastructure in the system or network is in fair condition; it shows general signs of deterioration and requires attention. Some elements exhibit significant deficiencies.
4	Poor	The infrastructure in the system or network is in poor condition and mostly below standard, with many elements approaching the end of their service life. A substantial portion of the system exhibits significant deterioration.
5	Very Poor	The infrastructure in the system or network is in unacceptable condition with widespread signs of advanced deterioration. Many components in the system exhibit signs of imminent failure, which is affecting service.

Three methods were used to determine the condition of the RDN SWS assets based on availability and accuracy of existing data:

- • Existing condition rating systems, if any, (e.g. Maintenance records, asset registry)
- • Estimated based on age and the remaining estimated useful life of the asset. A general and widely used deterioration classification presented in Table below been used to derive condition.

Rank	Condition	Age as a % of Expected Useful Life
1	Very Good	≥80%
2	Good	80% >Age≥60%
3	Fair	60%>Age≥40%
4	Poor	40%>Age≥20%
5	Very Poor	Age<20%

• Estimated based on Subject Matter Expert (SME) opinion, in the absence of 1) or 2) above or where there was low confidence that age and useful life appropriately represented the asset. For example: Some equipment has a condition of Good to Fair despite they have only 20% of the EUL life remaining due to proper maintenance and upkeep based on the expert opinion. The opinion of the expert would override age and useful life in this circumstance.

Appendix 3 - Risk Assessment

Risk Matrix

		Consequence				
		Negligible - 1	Low - 2	Moderate - 3	High- 4	Catastrophic - 5
Likelihood/ Probability	Rare - 1	1	2	3	4	5
	Unlikely - 2	2	4	6	8	10
	Possible - 3	3	6	9	12	15
	Likely - 4	4	8	12	16	20
	Almost Certain - 5	5	10	15	20	25

Risk is Extreme for anything rated 15 and above
Risk is High for anything rated above 8 but below 15
Risk is Moderate for anything rated 4 and above but 8 and below
Risk is Low for anything below 4

Consequence Table

Consequence Table								
Category	**Negligible - 1**	**Low - 2**	**Moderate - 3**	**High - 4**	**Catastrophic - 5**	**Weight**	**Score**	**Consequence Rating**
Strategic	No effect on Community well-being and Organization's Strategic Goals. No media exposure	Negligible impact on Community well-being and Organization's Strategic Goals. Minor local media exposure	Moderate impact on Community well-being and Organization's Strategic Goals. Moderate local media exposure lasting for several days	Significant impact on Community well-being and Organization's Strategic Goals. Intense local and /or provincial media exposure lasting several weeks	Major impact on Community well-being and Organization's Strategic Goals. Significant national exposure lasting several days or weeks.	0.1	5	0.5
Environmental	Very negligible impact. Reversible within 1 week	Material damage of local importance. Minor, short-term (within 6 months) very isolated damage to the environment	Significant short term (less than 1 year) local damage to the environment	Significant long - term (greater than 1 year) widespread damage to the environment.	Major long - term (greater than 5 years) or permanent widespread damage to the environment. Some provincial importance	0.05	5	0.25
Health and Safety	No obvious potential for injury or affects to health	Minor medical attention may be required	Potential for minor injury or affects to health of an individual. Full recovery is expected.	Hospitalization of some individuals may be required for a brief period of time	Emergency and / or long-term hospitalization required for one or more individuals	0.2	5	1
Compliance	Breach of local standard operating procedures but not any mandatory policies or procedures	Ad hoc as opposed to systematic breaches of policies and procedures but not of laws or regulation	Breach of laws/ licenses, including a notifiable breach resulting in recommendations and active monitoring by regulator/ instances of breach of operational policies	Prosecution: Fines=< 1M Show cause notice from regulator, enforceable undertaking; Significant and systematic breach of policy	Prosecution with potential for executives to be jailed. Fines> 1M , Loss of critical license/accreditation. Significant and systematic breach of governance policies	0.2	5	1
Operational	Small number of customers experiencing service disruption. No impact or reduced quality of service or service loss for few residents	Service disruption at a localized level. Reduced quality of service or service loss for critical users for less than an hour an increase in complaints from the community (<10%)	Significant localized service disruption. Service loss or major quality of service concern for critical users. An increase in complaints from the community (10%- 25%)	Major service loss (less than a day and not able to maintain fire supply). A marked increase in complaints from the community (25%-50%)	Very major, widespread service disruption. Disastrous service loss (for more than a day) Significant increase in complaints from the community (increase of 50% or more))	0.25	5	1.25
Financial Impact	Less than $5,000	$5,000 - $100,000	$100,000 - $250,000	$250,000 - $1M	Restoration is impossible or greater than $1M	0.2	5	1

Asset Class	Consequence of Failure	Description
PPE	5	Assets are high use, and their failure may result in injury to the public and the RDN may be held liable; direct impact on public safety; high value assets
Equipment	5	

Probability Table

Probability/ Likelihood Table				
Improbable - 1	Unlikely - 2	Possible - 3	Likely - 4	Almost Certain -5
< 0.02	0.02 - 0.1	0.1 - 0.5	0.5 - 0.8	Over 0.8
Never happens under unusual circumstances	The failure of the asset might occur at rare time as there are few histories of this event occurring. Probably never will except under exceptional circumstances	The failure of the asset might occur at some time as there is a history of this event occurring	There is strong possibility of the failure of the asset occurring as there is a frequent history of occurrence	Very likely. Asset failure expected to occur in most circumstances.

Appendix 4 - 10 Year Investment

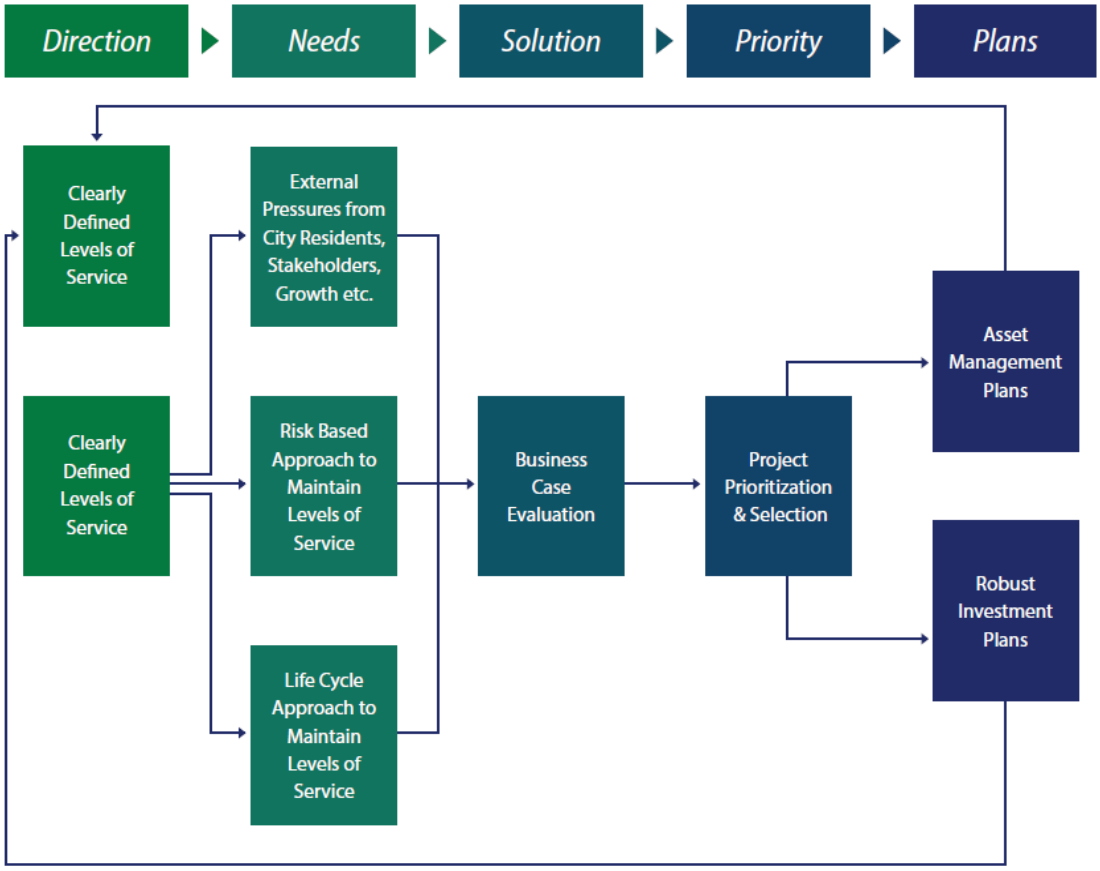
CAPITAL	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
1-2-1200-9509 MINOR CAPITAL - OTHER EQUIPMENT	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
1-2-1200-9513 MINOR CAPITAL - COMPUTERS	$ 2,500	$ 18,500	$ 14,500	$ 16,000	$ 12,500	$ 5,000	$ 10,753	$ 15,879	$ 11,159	$ 18,034	$ 2,500
1-2-1200-9613 CAPITAL - COMPUTER EQUIPMENT (includes	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
1200	**$ 2,500**	**$ 18,500**	**$ 14,500**	**$ 16,000**	**$ 12,500**	**$ 5,000**	**$ 10,753**	**$ 15,879**	**$ 11,159**	**$ 18,034**	**$ 2,500**
1-2-1202-9509 MINOR CAPITAL - OTHER EQUIPMENT	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
1-2-1202-9609 CAPITAL - OTHER EQUIPMENT	$ 76,000	$ 6,000	$ 6,000	$ 31,000	$ 14,500	$ 31,000	$ 6,000	$ 24,082	$ 88,669	$ 25,000	$ 76,000
1-2-1202-9612 CAPITAL - BUILDINGS	$ -	$ -	$ 120,000	$ 30,000	$ -	$ 200,000	$ -	$ -	$ 159,406	$ 459,406	$ -
1202	**$ 76,000**	**$ 6,000**	**$ 126,000**	**$ 61,000**	**$ 14,500**	**$ 231,000**	**$ 6,000**	**$ 24,082**	**$ 248,075**	**$ 484,406**	**$ 76,000**
1-2-1203-9410 CAPITAL RES/DCC/BORROW - ENG STRUCT	$ 2,500,000	$ 2,500,000	$ 500,000	$ -	$ 850,000	$ -	$ -	$ 1,900,000	$ 1,900,000	$ 425,000	$ 1,700,000
1-2-1203-9411 RES/DCC/BORROW CAPITAL - VEHICLES (Add	$ -	$ 1,500,000	$ 744,000	$ 860,000	$ 360,000	$ -	$ 400,000	$ -	$ 820,000	$ 1,738,313	$ -
1-2-1203-9509 MINOR CAPITAL - OTHER EQUIPMENT	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
1-2-1203-9609 CAPITAL - OTHER EQUIPMENT	$ 35,000	$ 37,500	$ 73,000	$ 37,500	$ 20,000	$ 133,500	$ 52,500	$ 50,000	$ 50,000	$ 50,000	$ 50,000
1-2-1203-9610 CAPITAL - ENGINEERING STRUCTURES	$ 42,500	$ 42,500	$ 42,500	$ 42,500	$ 42,500	$ 42,500	$ 42,500	$ 42,500	$ 42,500	$ 42,500	$ 42,500
1-2-1203-9611 CAPITAL - VEHICLES (Added from Capital Imp	$ 30,000	$ 90,000	$ 75,000	$ 100,000	$ 45,000	$ 855,000	$ 300,000	$ -	$ -	$ -	$ -
1-2-1203-9620 CAPITAL - PROFESSIONAL FEES	$ 82,500	$ 7,500	$ 7,500	$ 157,500	$ 457,500	$ 157,500	$ 307,500	$ 700,000	$ 7,500	$ 82,500	$ 307,500
1203	**$ 2,690,000**	**$ 4,177,500**	**$ 1,442,000**	**$ 1,197,500**	**$ 1,775,000**	**$ 1,188,500**	**$ 1,102,500**	**$ 2,692,500**	**$ 2,820,000**	**$ 2,338,313**	**$ 2,100,000**
TOTALS	**$ 2,768,500**	**$ 4,202,000**	**$ 1,582,500**	**$ 1,274,500**	**$ 1,802,000**	**$ 1,424,500**	**$ 1,119,253**	**$ 2,732,461**	**$ 3,079,234**	**$ 2,840,753**	**$ 2,178,500**

OPERATING	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
1200	$ 2,440,079	$ 1,706,588	$ 1,723,290	$ 1,740,186	$ 1,757,280	$ 1,764,983	$ 1,772,793	$ 1,780,711	$ 1,795,209	$ 1,809,294	$ 3,117,781
1201	$ 2,451,443	$ 2,505,139	$ 2,560,839	$ 2,601,081	$ 2,651,867	$ 2,704,007	$ 2,757,572	$ 2,812,636	$ 2,864,064	$ 2,893,128	$ 2,922,769
1202	$ 2,646,330	$ 2,688,650	$ 2,732,307	$ 2,782,509	$ 2,831,949	$ 2,882,077	$ 2,925,405	$ 2,970,665	$ 3,016,665	$ 3,016,665	$ 3,016,665
1203	$ 2,842,873	$ 2,890,568	$ 2,939,528	$ 2,989,795	$ 3,041,413	$ 3,094,429	$ 3,148,888	$ 3,204,841	$ 3,262,340	$ 3,268,999	$ 3,299,740
1206	$ 686,581	$ 450,763	$ 455,029	$ 459,380	$ 463,819	$ 468,346	$ 472,963	$ 477,673	$ 482,477	$ 483,190	$ 483,918
TOTALS	**$ 11,067,306**	**$ 10,241,708**	**$ 10,410,993**	**$ 10,572,951**	**$ 10,746,328**	**$ 10,913,841**	**$ 11,077,621**	**$ 11,246,526**	**$ 11,420,756**	**$ 11,471,276**	**$ 12,840,872**
Total Capital and Operating Budget	**$ 13,835,806**	**$ 14,443,708**	**$ 11,993,493**	**$ 11,847,451**	**$ 12,548,328**	**$ 12,338,341**	**$ 12,196,874**	**$ 13,978,987**	**$ 14,499,990**	**$ 14,312,029**	**$ 15,019,372**

Appendix 5 - Refined Decision-Making Process

Appendix 4 –Refined Decision-Making Process

The Corporate Asset Management Office in collaboration with the Finance department and other internal stakeholders is elaborating a refined version of the decision-making process (investment planning) to ensure projects undergo a structured investigation and prioritization process. The key component of this evolving decision-making process is to establish criteria – points by which decisions can be judged and quantified.



1. **Goals:**

- Clearly defined organizational goals and council priorities, as outlined in the Council Strategic Plan.
- Directly tied to the AM objectives and a Levels of Service (LOS) framework.

2. **Needs:**

Assess service needs against customer LOS to identify required improvements. 3 categories of service needs:

- External pressures on the City - either directly from municipal customers/residents/stakeholders or from the regulators that require a different LOS to be delivered.
- Maintaining the existing asset base in the short term with an appropriate level of risk while delivering the existing LOS; and
- Maintaining the existing asset base over the long term by planning for life cycle intervention and more significant capital maintenance/renewal/ rehabilitation projects on the assets.

3. **Solution:**

Business Case development for each project – can be informed by additional feasibility studies. Takes into account the whole lifecycle perspective of the asset.

4. **Priority:**

- Evaluation of business cases and identification of preferred options
- Prioritization process - Identification of relative priority of projects (based on a set of criteria) within budget constraints and in alignment with organizational priorities.

5. **Plan:**

Preparation of optimum capital plan along with other operational solutions to be integrated in the budget process and included in the Finance department's 5-yr plan with funding sources being identified and allocated.

Through this structured and robust process, investment decisions will be directly linked to council and organizational priorities and LOS.

In establishing decision-making criteria, the City will integrate consistency and quantitative analysis into the decision-making process which will be standardized across the organization.

As part of the Business Case and Project Prioritization Process effort in the AM Roadmap, the City will establish a set of decision-making criteria. These criteria will consider:

- **Council's Strategic Plan** – aligning with goals and principles set by the City's Council;
- **Levels of Service (LOS)** – including H&S, Regulatory requirements etc;
- **Organizational Objectives** - aligning with the future direction of the City;
- **Best Practice Infrastructure Asset Management** - aligning with other proven municipal efforts.

Appendix 6 - Data Confidence Grading System

Confidence Grade	Description
A. Very High	Data based on sound records, procedures, investigations, and analysis, documented properly, and agreed as the best method of assessment. Dataset is complete and estimated to be accurate ± 2%
B. High	Data based on sound records, procedures, investigations, and analysis, documented properly but has minor shortcomings, for example some of the data is old, some documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation. Dataset is complete and estimated to be accurate ± 10%
C. Medium	Data based on sound records, procedures, investigations, and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available. Dataset is complete but up to 50% is extrapolated data and accuracy estimated ± 25%
D. Low	Data is based on unconfirmed verbal reports and/or cursory inspections and analysis. Dataset may not be fully complete, and most data is estimated or extrapolated. Accuracy ± 40%
E. Very Low	None or very little data held.

Appendix 7 - Annual Budgeting Process

Annual budgeting for SWS and all other RDN service areas takes place in August and September each year. A few points to note on this process:

i. This process includes a review of all operating, maintenance, and renewal activities planned over a five-year period in detail and a ten-year period in less detail.
ii. The revenue gained from user rates tends to be quite constant, so the change in parcel taxes is the best indication of the increase in the cost of providing the service.
iii. Contributions to the capital reserve fund make up some of the revenue requirement. At the moment, the level of contributions to the reserve fund is set by the non-exceptional capital requirements over the next ten years, divided by ten.
iv. Zero balance budgeting on an annual basis is the goal. However, with any operating entity contingency funds need to be included in the budget to accommodate non-planned maintenance throughout the year. At the end of the year, any unspent "contingency" funds are either carried forward to similar specific purposes the following year.
v. Revenue and/or capital reserve funds cannot be shared between different WSAs. Each WSA is completely funded by the properties receiving the service.
vi. Each WSA pays a proportional share of the common costs incurred in operating and maintaining the RDN's water and sewer collection service areas. These costs include operator wages, lease of shop space, vehicles, equipment, and RDN administrative overhead. Costs are split based on the number of connections in each WSA.

Appendix 8 - 10 Year Financial Plan

	2022 Budget	2023 Proposed Budget	2024	2025	2026	2027	Subtotal	2028	2029	2030	2031	2032	Total
Operating Revenues		**10.0%**	15.0%	20.0%	15.0%	20.0%		20.0%	20.0%	20.0%	5.0%	5.0%	
Property taxes	(1,379,123)	**(1,517,035)**	(1,744,591)	(2,093,540)	(2,407,571)	(2,889,085)	(10,651,822)	(3,466,902)	(4,160,283)	(4,992,339)	(5,241,956)	(5,504,054)	(34,017,356)
	(1,379,123)	**(1,517,035)**	(1,744,591)	(2,093,540)	(2,407,571)	(2,889,085)	(10,651,822)	(3,466,902)	(4,160,283)	(4,992,339)	(5,241,956)	(5,504,054)	(34,017,356)
Operations	(1,301,906)	**(1,437,800)**	(1,446,816)	(1,455,912)	(1,465,091)	(1,474,352)	(7,279,971)	(1,483,699)	(1,493,133)	(1,502,656)	(1,512,269)	(1,521,975)	(14,793,703)
Landfill tipping fees	(9,900,000)	**(10,669,464)**	(10,558,531)	(10,776,176)	(10,154,571)	(9,614,995)	(51,773,737)	(9,755,437)	(10,151,025)	(9,190,205)	(10,812,444)	(10,788,415)	(102,471,263)
Utility user fees	(5,127,322)	**(5,476,779)**	(5,729,850)	(6,050,343)	(6,386,860)	(6,740,203)	(30,384,035)	(7,111,213)	(7,500,774)	(7,909,812)	(8,339,303)	(8,790,268)	(70,035,405)
Operating grants	(3,000,000)		(350,000)	(350,000)			(700,000)						(700,000)
Grants in lieu of taxes	(6,800)	**(6,800)**	(6,800)	(6,800)	(6,800)	(6,800)	(34,000)	(6,800)	(6,800)	(6,800)	(6,800)	(6,800)	(68,000)
Interdepartmental recoveries	(103,007)	**(103,007)**	(103,007)	(103,007)	(103,007)	(103,007)	(515,035)	(103,007)	(103,007)	(103,007)	(103,007)	(103,007)	(1,030,070)
Miscellaneous	(1,052,478)	**(1,252,478)**	(1,999,929)	(1,406,249)	(2,322,844)	(2,582,883)	(9,564,383)	(2,251,940)	(1,589,724)	(1,735,353)	(1,279,800)	(1,444,463)	(17,865,663)
Total Operating Revenue	(21,870,636)	**(20,463,363)**	(21,939,524)	(22,242,027)	(22,846,744)	(23,411,325)	(110,902,983)	(24,178,998)	(25,004,746)	(25,440,172)	(27,295,579)	(28,158,982)	(240,981,460)
Operating Expenditures													
Administration	1,495,328	**1,676,212**	1,726,499	1,778,293	1,831,642	1,886,592	8,899,238	1,943,190	2,001,484	2,061,530	2,123,375	2,145,909	19,174,726
Professional fees	610,454	**754,174**	776,799	800,104	824,107	908,829	4,064,013	876,094	902,377	929,448	957,332	1,046,052	8,775,316
Building ops	298,488	**356,971**	417,680	380,210	391,617	403,365	1,949,843	415,466	427,931	440,769	453,992	467,611	4,155,612
Veh & Equip ops	709,708	**942,326**	920,595	948,214	976,661	1,005,959	4,793,755	1,036,138	1,067,222	1,099,239	1,132,216	1,166,183	10,294,753
Operating costs	9,660,221	**10,708,001**	11,172,347	11,671,488	12,087,260	12,441,158	58,080,254	12,813,911	13,197,848	13,593,304	14,000,622	14,420,159	126,106,098
Wages & benefits	4,422,531	**4,851,569**	5,043,328	5,169,410	5,298,649	5,431,114	25,794,070	5,566,891	5,706,063	5,848,715	5,994,932	6,144,807	55,055,478
Transfer to other gov/org	3,000,000												
Contributions to reserve funds	4,201,474	**3,780,360**	1,064,276	1,059,308	1,059,308	1,059,308	8,022,560	1,059,308	1,098,821	1,251,667	2,063,110	2,242,096	15,737,562
Total Operating Expenditures	24,398,204	**23,069,613**	21,121,524	21,807,027	22,469,244	23,136,325	111,603,733	23,710,998	24,401,746	25,224,672	26,725,579	27,632,817	239,299,545
Operating (surplus)/deficit	2,527,568	**2,606,250**	(818,000)	(435,000)	(377,500)	(275,000)	700,750	(468,000)	(603,000)	(215,500)	(570,000)	(526,165)	(1,681,915)
Capital Asset Expenditure													
Capital expenditures	6,508,076	**4,786,621**	1,968,000	1,935,000	4,677,500	1,715,000	15,082,121	1,518,000	2,903,000	1,375,500	1,470,000	8,346,165	30,694,786
Transfer from reserves	(4,255,711)	**(1,854,000)**	(1,150,000)	(1,500,000)	(4,300,000)	(1,440,000)	(10,244,000)	(1,050,000)	(2,300,000)	(1,160,000)	(900,000)	(1,880,000)	(17,534,000)
New borrowing												(6,000,000)	(6,000,000)
Net Capital funded from Operations	2,252,365	**2,932,621**	818,000	435,000	377,500	275,000	4,838,121	468,000	603,000	215,500	570,000	466,165	7,160,786
Capital Financing Charges													
New debt (principal & interest)												60,000	60,000
Total Capital Financing Charges												60,000	60,000
Net (surplus)/deficit for the year	4,779,933	**5,538,871**					5,538,871						5,538,871
Add: Transfer from appropriated surplus	(1,436,484)	**(913,675)**					(913,675)						(913,675)
Add: Prior year (surplus) / decifit	(3,343,449)	**(4,625,196)**					(4,625,196)						(4,625,196)
(Surplus) applied to future years													