Asset Management Plan

Township of North Glengarry | 2025

Contents

1 Executive Summary

Municipal infrastructure is key to supporting growth and quality of life through the delivery of essential services. The objective of asset management is to provide these services at defined levels in the most cost-effective and sustainable manner. Achieving this requires the development and implementation of sound asset management strategies and long-term financial planning.

1.1 Scope

This Asset Management Plan (AMP) evaluates three proposed LOS options and selects one by considering risks, costs, and achievability. It outlines the projected LOS over a ten-year period and the associated costs for delivery. The AMP also estimates the Township's sustainable funding, the average annual funding required to achieve the proposed LOS, and the funding shortfall. Strategies to address the identified funding shortfalls are provided.

As detailed in Appendices 10 to 18, the Township has compiled its asset inventory, including replacement costs, condition assessments, and lifecycle management strategies, based on year-end 2024 data. The analysis completed in this plan is predicated on this asset inventory information.

This AMP has been developed in accordance with the 2025 requirements for Asset Management Planning in Ontario. The AMP advances the Township's asset management program by assessing proposed LOS options and selecting one that balances risk, affordability, and achievability. This AMP includes the following asset categories:

Table 1: Core and Non-Core Asset Categories

Asset Category	Source of Funding	
Bridges and Culverts	Tax Levy	Reserves Grants Debt
Facilities		
Fleet		
Land Improvements		
Machinery & Equipment		
Road Network		
Stormwater Network		
Water Network	User Rates	
Wastewater Network		

1.2 Compliance

With the development of this AMP, the Township of North Glengarry has achieved compliance with July 1, 2025, requirements under O. Reg. 588/17. This includes requirements for proposed levels of service and inventory reporting for all asset categories.

1.3 Findings

The overall replacement cost of the asset categories included in this AMP totals $530 million. The majority (78%) of all assets analyzed in this AMP are in fair or better condition and assessed condition data was available for 60% of assets when weighted by replacement cost. The remaining 40% of assets are assessed based on asset age and estimated useful life (EUL).

To maintain existing infrastructure, avoid growing infrastructure backlogs, and support long-term sustainability, the Township's average annual capital requirement is estimated at $10,399,000. Based on a historical analysis of sustainable capital funding sources, the Township is currently committing approximately $3,870,000 annually toward capital projects or reserves, resulting in an estimated annual infrastructure funding gap of $6,529,000.

Based on the analysis of service level options, the Township identified the following three service level options:

- **Scenario 1: Maintain Current Funding Levels**
- **Scenario 2: Targeted Investment in Critical Assets**
- **Scenario 3: Full Lifecycle Funding**

Considering the above options and the costs, risks, and benefits associated, the Township selected Scenario 3: Full Lifecycle Funding, with a 20-year phase-in option.

A financial strategy was developed to address the annual capital funding gap based on the selected proposed LOS and phase in period. The following graphic shows annual tax/rate change required to eliminate the Township's infrastructure deficit for Scenario 3: Full Lifecycle Funding.

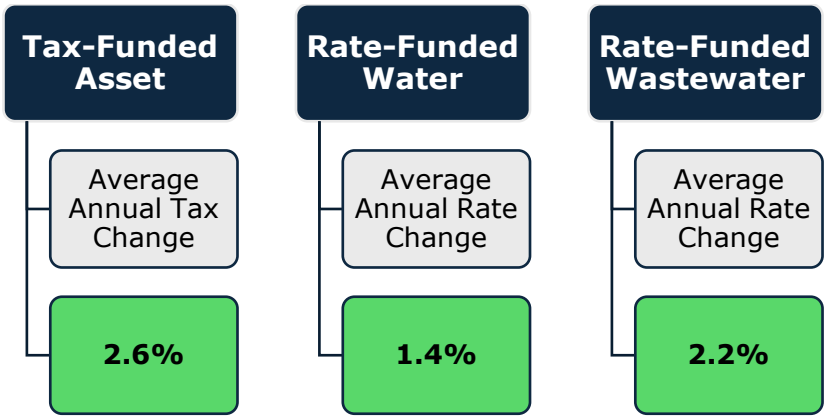


Figure 1 Proposed Tax/Rate Changes

1.4 Limitations and Constraints

The asset management program development required substantial effort by staff. It was developed based on best-available data, and is subject to the following broad limitations, constraints, and assumptions:

- The analysis is highly sensitive to several critical data fields, including an asset's estimated useful life, replacement cost, quantity, and in-service date. Inaccuracies or imprecisions in any of these fields can have substantial and cascading impacts on all reporting and analytics.
- User-defined and unit cost estimates, based typically on staff judgment, recent projects, or established through completion of technical studies, offer the most precise approximations of current replacement costs. When this isn't possible, historical costs incurred at the time of asset acquisition or construction can be inflated to present day values. This approach, while sometimes necessary, can produce less accurate estimates.
- In the absence of condition assessment data, age was used to estimate asset condition ratings. This approach can result in an over- or understatement of asset needs. As a result, financial requirements generated through this approach can differ from those produced by in-field assessments.
- The risk models are designed to support objective project prioritization and selection. However, in addition to the inherent limitations that all models face, they also require availability of important asset attribute data to ensure that asset risk ratings are valid, and assets are properly stratified within the risk matrix. Missing attribute data can misclassify assets.

These limitations have a direct impact on most of the analysis presented, including condition summaries, age profiles, long-term replacement and rehabilitation forecasts, and shorter term, 10-year forecasts that are generated from the municipality's primary asset management system.

These challenges are quite common and require long-term commitment and sustained effort by staff. As the municipality's asset management program evolves and advances, the quality of future AMPs and other core documents that support asset management will continue to increase.

2 About this Document

This 2025 Asset Management Plan (AMP) for the Township of North Glengarry was developed in accordance with Ontario Regulation 588/17 ("O. Reg 588/17"), marking the completion of the first full regulatory cycle introduced under the Infrastructure for Jobs and Prosperity Act, 2015. It provides a comprehensive analysis of the Township's infrastructure portfolio across nine service areas and incorporates all required components, including both current and proposed levels of service.

This AMP builds upon a broad base of asset studies, inventory records, and financial data to identify strategic renewal requirements across the Township's infrastructure systems. Rather than replacing individual asset-specific lifecycle plans, it enhances them by offering an integrated perspective on service delivery, cost, and risk.

As a living document, the AMP is expected to evolve through annual updates and five-year review cycles, as mandated under O. Reg 588/17. Continued refinement of asset and financial data will strengthen the Township's ability to manage infrastructure proactively, sustainably, and in alignment with long-term community goals.

2.1 Ontario Regulation 588/17

As part of the Infrastructure for Jobs and Prosperity Act, 2015, the Ontario government introduced Regulation 588/17 - Asset Management Planning for Municipal Infrastructure. Along with creating better performing organizations, more livable and sustainable communities, the regulation is a key, mandated driver of asset management planning and reporting. It places substantial emphasis on current and proposed levels of service and the lifecycle costs incurred in delivering them

Table 2: Ontario Regulation 588/17 Requirements and Reporting Deadlines

Requirement	2019	2022	2024	2025
Asset Management Policy	●		●	
Asset Management Plans		●	●	✓
State of infrastructure for core assets		●		
State of infrastructure for all assets			●	✓
Current levels of service for core assets		●		
Current levels of service for all assets			●	
Proposed levels of service for all assets				✓
Lifecycle costs associated with current levels of service		●	●	

Requirement	2019	2022	2024	2025
Lifecycle costs associated with proposed levels of service				✓
Growth impacts		●	●	✓
Financial strategy			●	✓

1.1. Strategic Planning and Asset Management

2.1.1 Foundational Documents

In the municipal sector, an 'asset management strategy' and 'asset management plan' are often used interchangeably. Other concepts such as 'asset management framework', 'asset management system', and 'strategic asset management plan' further add to the confusion; lack of consistency in the industry on the purpose and definition of these elements offers little clarity. To make a clear distinction between the policy, strategy, and the plan see the following sections for detailed descriptions of the document types.

2.1.2 Strategic Plan

The strategic plan has a direct, and cascading impact on asset management planning and reporting, making it a foundational element. At the beginning of each term, Council holds strategic planning exercises and discussions to identify major initiatives and administrative improvements it wishes to achieve during its tenure. Staff then identify the scope, resources, timing & other logistical matters associated with proposed initiatives. The current Strategic Plan covers the period of 2023-2027.

2.1.3 Asset Management Policy

An asset management policy represents a statement of the principles guiding the Township's approach to asset management activities. It aligns with the organizational strategic plan and provides clear direction to municipal staff on their roles and responsibilities as part of the asset management program.

The Township adopted their Asset Management Policy in accordance with Ontario Regulation 588/17 in September 2018. The Policy outlines the Township's commitment to asset management, associated goals and objectives, and roles and responsibilities. Details of relevance include:

- An objective to support logical and evidence-based decision making
- To identify service level targets and to link investment decisions to them
- An overall demonstration of the Township's commitment to asset stewardship that is supported and reinforced by data driven insights and transparent communications.

2.1.4 Asset Management Strategy

An asset management strategy outlines the translation of organizational objectives into asset management objectives and provides a strategic overview of the activities required to meet these objectives. It provides greater detail than the policy on how the Township plans to achieve asset management objectives through planned activities and decision-making criteria. The Township's Asset Management Policy contains many of the key components of an asset management strategy and may be expanded in future revisions or as part of a separate strategic document.

2.1.5 Asset Management Plan

The asset management plan is often identified as a key output within the strategy. The AMP has a sharp focus on the current state of the Township's asset portfolio, and its approach to managing and funding individual asset groups. It is tactical in nature and provides a snapshot in time.

3 Introduction and Context

3.1 Community Profile

The Township of North Glengarry is a rural municipality in Eastern Ontario within the United Counties of Stormont, Dundas and Glengarry. Formed in 1998 through the amalgamation of several former municipalities, the Township has a population of just over 10,000 residents and includes the communities of Alexandria, Maxville, Apple Hill, Dalkeith, Glen Robertson, and Dunvegan.

Strategically located between Ottawa, Montreal, and Cornwall, North Glengarry offers residents and businesses the benefits of a rural lifestyle with convenient access to major urban centres. Alexandria serves as the Township's administrative and commercial hub, supporting local businesses, retail services, and community amenities.

North Glengarry is known for its strong agricultural base, bilingual character, and rich Scottish and Franco-Ontarian heritage. Community amenities include arenas, parks, trails, recreation facilities, sports fields, and outdoor spaces such as Loch Garry and Island Park. The Township is also home to the annual Glengarry Highland Games, one of the largest Scottish cultural festivals in North America.

The Township manages a diverse portfolio of infrastructure assets including roads, bridges, water and wastewater systems, stormwater infrastructure, parks, recreation facilities, fleet, and municipal buildings. Long-term asset management planning supports sustainable service delivery, responsible infrastructure investment, and the continued growth and well-being of the community.

Table 3 The Township of North Glengarry Census Information

Census Characteristic	Township of North Glengarry	Ontario
Population 2021	10,144	14,223,942
Population Change 2016-2021	0.3%	5.8%
Total Private Dwellings	4,422	5,929,250
Population Density	15.8 km^2	15.9/km2
Land Area	643.40 km^2	892,411.76 km2

3.2 Asset Management Overview

Municipalities are responsible for managing and maintaining a broad portfolio of infrastructure assets to deliver services to the community. The goal of asset management is to minimize the lifecycle costs of delivering infrastructure services, manage the associated risks while maximizing the value and levels of service the community receives from the asset portfolio.

Lifecycle costs can span decades, requiring planning and foresight to ensure financial responsibility is spread equitably across generations. An asset management plan is critical to this planning, and an essential element of the broader asset management program. The industry-standard approach and sequence to developing a practical asset management program begins with a Strategic Plan, followed by an Asset Management Policy and an Asset Management Strategy, concluding with an Asset Management Plan (AMP).

This industry standard, defined by the Institute of Asset Management (IAM), emphasizes the alignment between the corporate strategic plan and various asset management documents.

The foundation of good asset management practice is accurate and reliable data on the current condition of infrastructure. Assessing the condition of an asset at a single point in time allows staff to have a better understanding of the probability of asset failure due to deteriorating conditions.

Key Technical Concepts

Effective asset management integrates several key components, including data management, lifecycle management, risk management, and levels of service.

3.2.1 Replacement Costs

There are a range of methods to determine the replacement cost of an asset, and some are more accurate and reliable than others. The two methodologies are:

User-Defined Cost and Cost/Unit: Based on costs provided by municipal staff which could include average costs from recent contracts; data from engineering reports and assessments; staff estimates based on knowledge and experience.

Cost Inflation/CPI Tables: Historical cost of the asset is inflated based on Consumer Price Index or Non-Residential Building Construction Price Index.

User-defined costs based on reliable sources are a reasonably accurate and reliable way to determine asset replacement costs. Cost inflation is typically used in the absence of reliable replacement cost data. It is a reliable method for recently purchased and/or constructed assets where the total cost is reflective of the actual costs that the Township incurred. As assets age, and new products and technologies become available, cost inflation becomes a less reliable method.

3.2.2 Estimated Useful Life and Service Life Remaining

The estimated useful life (EUL) of an asset is the period over which the Township expects the asset to be available for use and remain in service before requiring replacement or disposal. The EUL for each asset was assigned according to the knowledge and expertise of municipal staff and supplemented by existing industry standards when necessary.

By using an asset's in-service date and its EUL, the Township can determine the service life remaining (SLR) for each asset. Using condition data and the asset's SLR, the Township can more accurately forecast when it will require replacement. The SLR is calculated as follows:

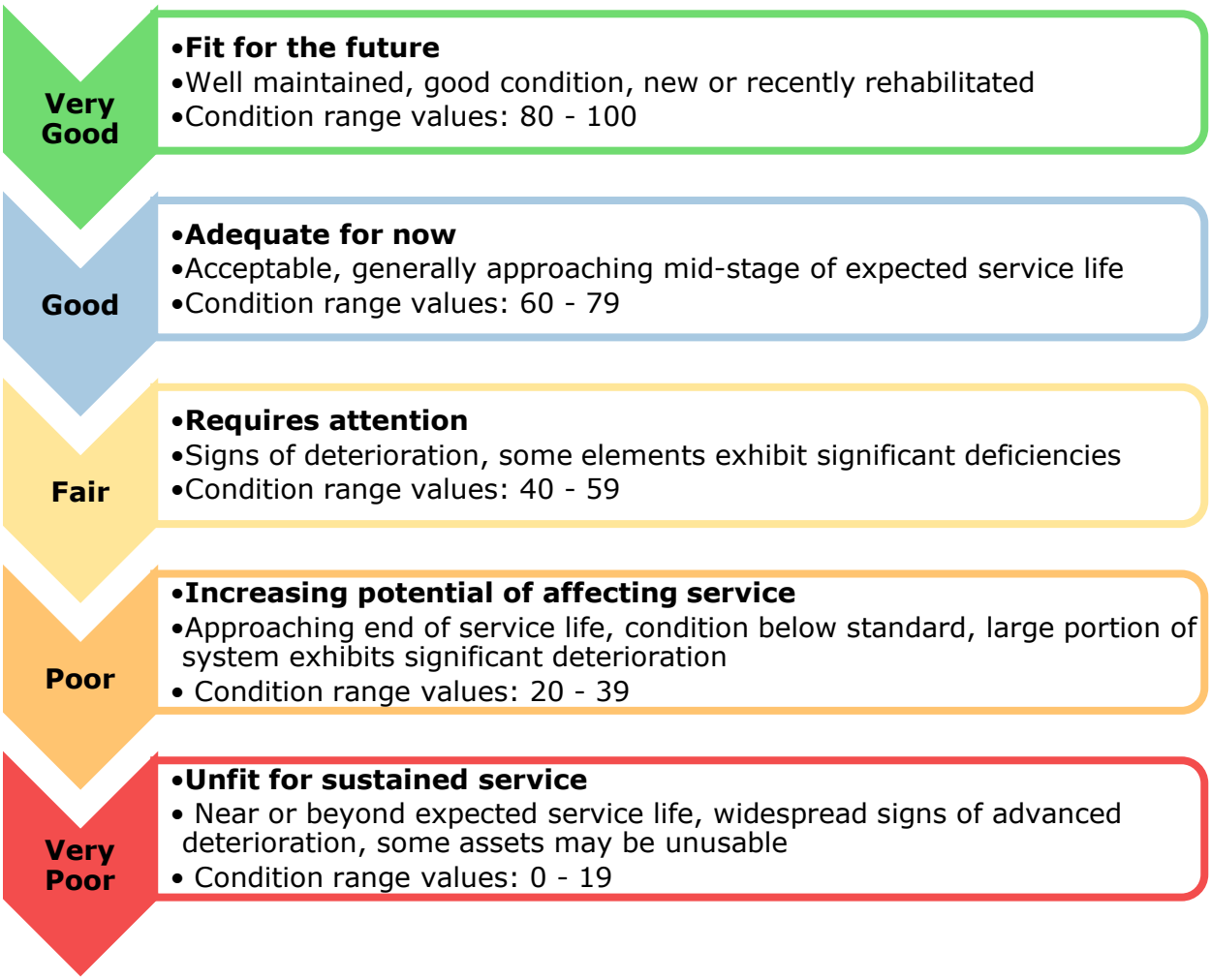
Figure 2: Service Life Remaining Calculation

3.2.3 Asset Condition

An incomplete or limited understanding of asset conditions can mislead long-term planning and decision-making. Accurate and reliable condition data helps to prevent premature and costly rehabilitation or replacement and ensures that lifecycle activities occur at the right time to maximize asset value and useful life.

A condition assessment rating system provides a standardized descriptive framework that allows comparative benchmarking across the Township's asset portfolio. The figure below outlines the condition rating system used to determine asset condition for all assets in North Glengarry.

Figure 3: Standard Condition Rating Scale



The analysis is based on assessed condition data (only as available). In the absence of assessed condition data, asset age is used as a proxy to determine asset condition.

3.2.4 Lifecycle Management Strategies

The condition or performance of assets will deteriorate over time. This process is affected by a range of factors including asset's characteristics, location, utilization, maintenance history and environment. Asset deterioration has a negative effect on the ability of an asset to fulfill its intended function, and may be characterized by increased cost, risk and even service disruption.

To ensure that municipal assets are performing as expected and meeting the needs of customers, it is important to establish a lifecycle management strategy to proactively manage asset deterioration.

There are several field intervention activities that are available to extend the life of an asset. These activities can be generally placed into one of three categories: maintenance, rehabilitation, and replacement. Table 3 provides a description of each type of activity.

Depending on initial lifecycle management strategies, asset performance can be sustained through a combination of maintenance and rehabilitation, but at some point, replacement is required. Understanding what effect these activities will have on the lifecycle of an asset, and their cost, will enable staff to make better recommendations.

The Township's approach to lifecycle management is described within each asset category. Developing and implementing a proactive lifecycle strategy will help staff to determine which activities to perform on an asset and when they should be performed to maximize useful life at the lowest total cost of ownership.

Table 4: Lifecyle Management Typical Interventions

Activity Type	Description
Non-Infrastructure Activities	Activities such as studies, condition inspections, planning, and monitoring that support decision-making but do not directly impact the asset's physical state.
Maintenance	Routine and preventive actions that preserve the asset's current condition and functionality, such as cleaning, minor repairs, and regular upkeep.
Renewal, Rehabilitation, and Replacement	Major interventions aimed at restoring, improving, or replacing infrastructure to extend its useful life, including significant repairs, overhauls, and complete asset replacement.
Growth	Activities related to the expansion of infrastructure capacity to meet increased demand, such as constructing new facilities or extending existing ones.
Disposal	The process of decommissioning, removing, or repurposing infrastructure that is no longer needed or has reached the end of its useful life.

3.2.5 Levels of Service

Levels of service (LOS) measure the quality and quantity of service provided and offer direction for infrastructure investments. They are necessary for performance tracking and reporting. Many agencies attempt to deliver levels of service that cannot be sustainably funded by the existing tax base. This can lead to an eventual drop in quality of service or increases to tax and utility rates to fund higher service levels.

LOS should be affordable and aligned with the community's long-term vision for itself, and the service attributes it most values for different infrastructure programs.

Community Levels of Service

Community LOS are a simple, plain language description or measure of the service that the community receives. For core asset categories, the Province, through O. Reg. 588/17, has provided qualitative descriptions that are required. For non-core asset

categories, the Township must determine the qualitative descriptions that will be used. The community LOS can be found in the Levels of Service subsection within each asset category section.

Technical Levels of Service

Technical LOS are a measure of key technical attributes of the service being provided to the community. These include mostly quantitative measures and tend to reflect the impact of the Township's asset management strategies on the physical condition of assets or the quality/capacity of the services they provide.

For core asset categories, the Province, through O. Reg. 588/17, has provided technical metrics that are required. For non-core asset categories, the Township determined the technical metrics that will be used. The metrics can be found in the LOS subsection within each asset category.

Current and Proposed Levels of Service

Current LOS are the past performance metrics of an asset category up until present day. In contrast, Proposed LOS looks toward the municipality's goal for asset performance by a defined future date.

It is important to note that O. Reg 588/17 does not dictate which proposed LOS metrics municipality's need to strive for. A proposed LOS will be very specific to each community's resident desires, political goals, and financial capacity. This can range from increasing service levels and costs, to maintaining or even reducing current performance to mitigate future cost increases. Regardless of the proposed LOS chosen, O. Reg 588/17 requires municipalities to demonstrate the achievability of their selected metrics.

3.2.6 Reinvestment Rate

As assets age and deteriorate, they require additional investment to maintain a state of good repair. The reinvestment of capital funds, through asset renewal or replacement, is necessary to sustain an adequate level of service. The reinvestment rate is a measurement of available or required funding relative to the total replacement cost.

By comparing the actual vs. target reinvestment rate the Township can determine the extent of any existing funding gap. The reinvestment rate is calculated as follows:

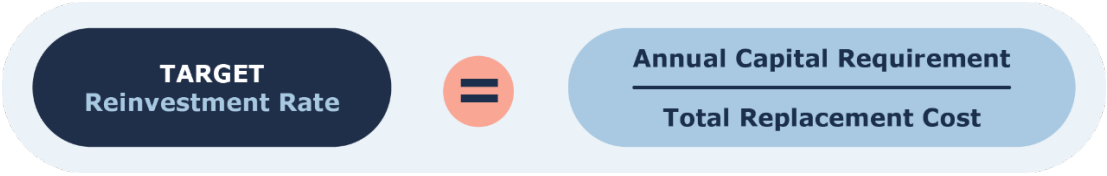


Figure 4: Target Reinvestment Rate

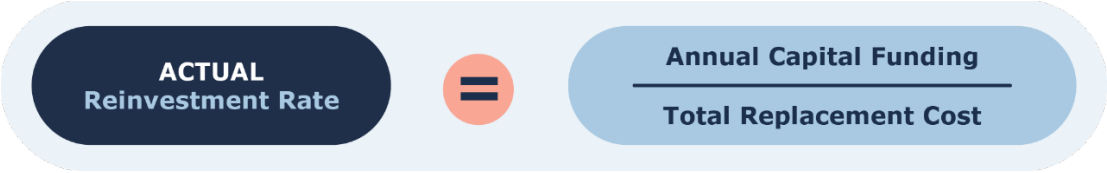


Figure 5: Actual Reinvestment Rate

4 Overview of Asset Portfolio

This section provides an overview of the Township's asset portfolio based on the 2024 year-end asset inventory and available supporting data. The portfolio includes nine core asset categories that support the delivery of municipal services to the community.

Unless otherwise noted, all replacement costs and financial information presented in this report are expressed in 2025 dollars. Asset data was compiled from the Township's asset inventory, supporting studies, condition assessments, and available lifecycle information at the time of analysis.

4.1 Total Replacement Cost

The total replacement cost of all asset categories analyzed in this asset management plan is estimated at $530.5 million. This total was determined based on a combination of inflated cost per unit and historical cost inflations. This estimate reflects replacement of historical assets with similar, not necessarily identical, assets available for procurement today. Replacement costs by category are summarized in Figure 6 below.

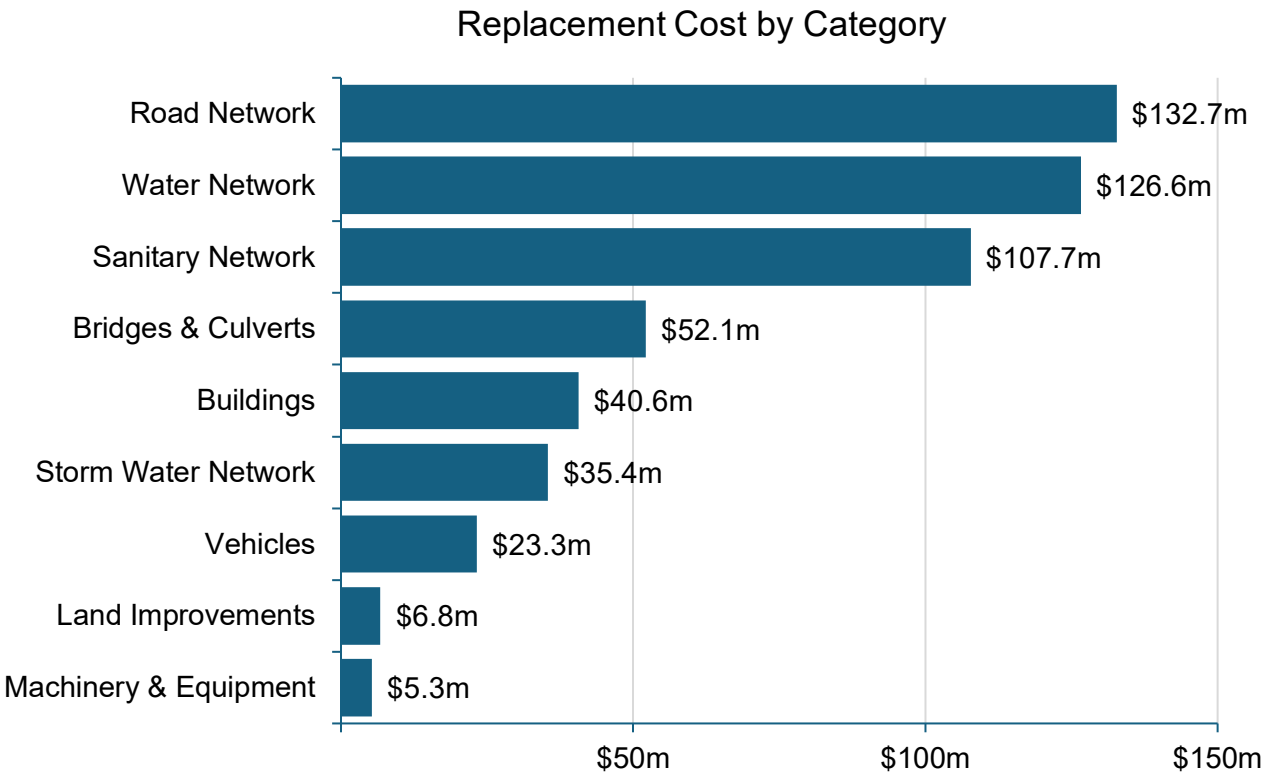


Figure 6: Replacement Valuation: Portfolio Overview

4.2 Asset Condition

Figure 7 below summarizes the asset condition distribution for each asset category. Average condition values (%) are calculated as replacement cost–weighted averages across each asset group. Additional details regarding condition assessments, methodologies, and data sources are provided in the report's Appendices.

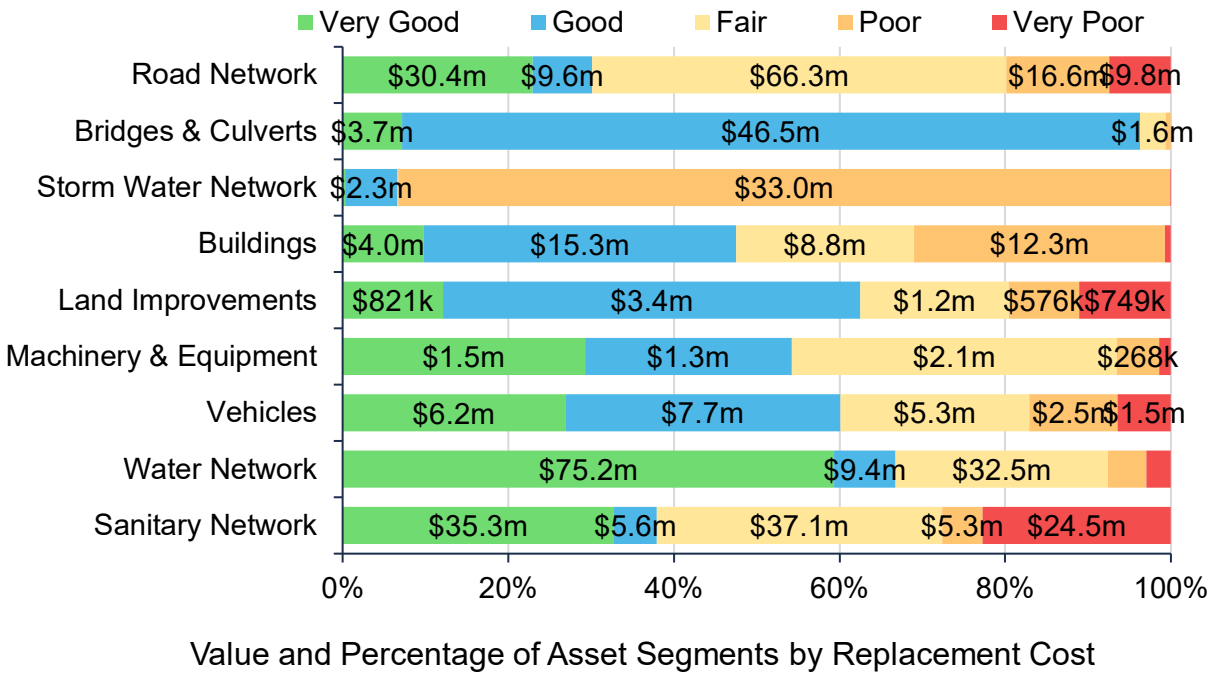


Figure 7: Portfolio Condition Breakdown

Table 7 below identifies the percentage of assets with assessed conditions and the source of available condition data for each asset category. Overall, 60% of assets have assessed conditions.

Table 5 Assessed Condition Data Sources

Asset Category	Assets with Assessed Condition	Source of Condition Data
Road Network	99%	Public Works Roads Assessment (2025)
Bridges & Culverts	100%	2025 OSIM Report (HP Engineering Inc.)
Storm Water Network	6%[1]	HydroCam (2025)
Buildings	100%	Staff Estimate (Desktop Assessment)
Land Improvements	70%	

[1] At this time of this reports publication the Township was actively reviewing storm main inspection data. It is the Township's intention to update the asset registry with these assessments by Q4 of 2026. This is expected to significantly increase the percentage of stormwater assets with assessed conditions.

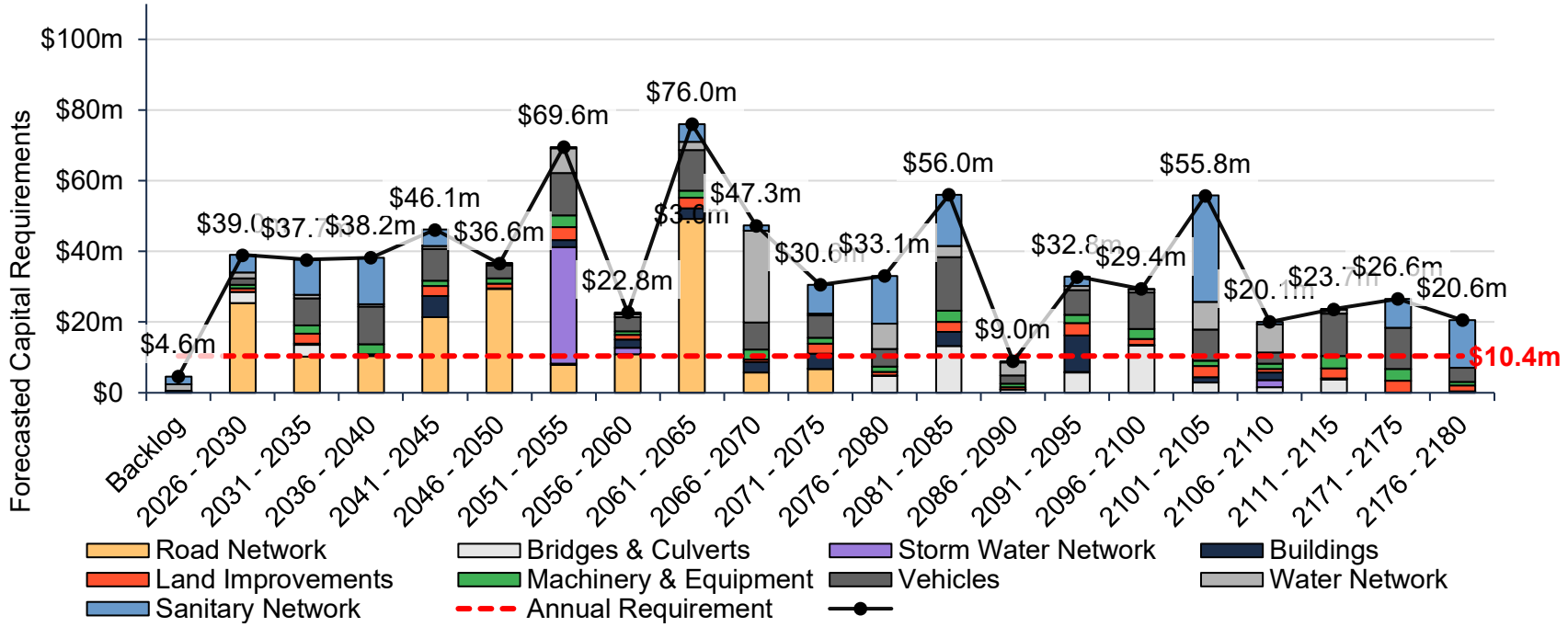
Asset Category	Assets with Assessed Condition	Source of Condition Data
Machinery & Equipment	100%	
Vehicles	100%	
Water Network	6%	
Sanitary Network	46%	HydroCam (2024)

4.3 Forecasted Capital Requirements

The figure below illustrates the cyclical short-, medium- and long-term replacement requirements for the nine asset categories, forecasted until 2180. In addition to replacements, the chart also illustrates the repair and rehabilitation lifecycle needs for the Township's road network. All values presented in the forecast are expressed in 2025 dollars and do not account for inflation.

On average, these service areas require $10.4 million annually to meet capital needs related to the assets held by the Township as of the end of 2024. Based on the current replacement cost of the portfolio, estimated at $530.5 million, this represents an annual target reinvestment rate of 1.96%. Although actual spending and replacement needs may fluctuate from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement and rehabilitation needs are met as they arise.

Figure 8 Forecasted Capital Requirements

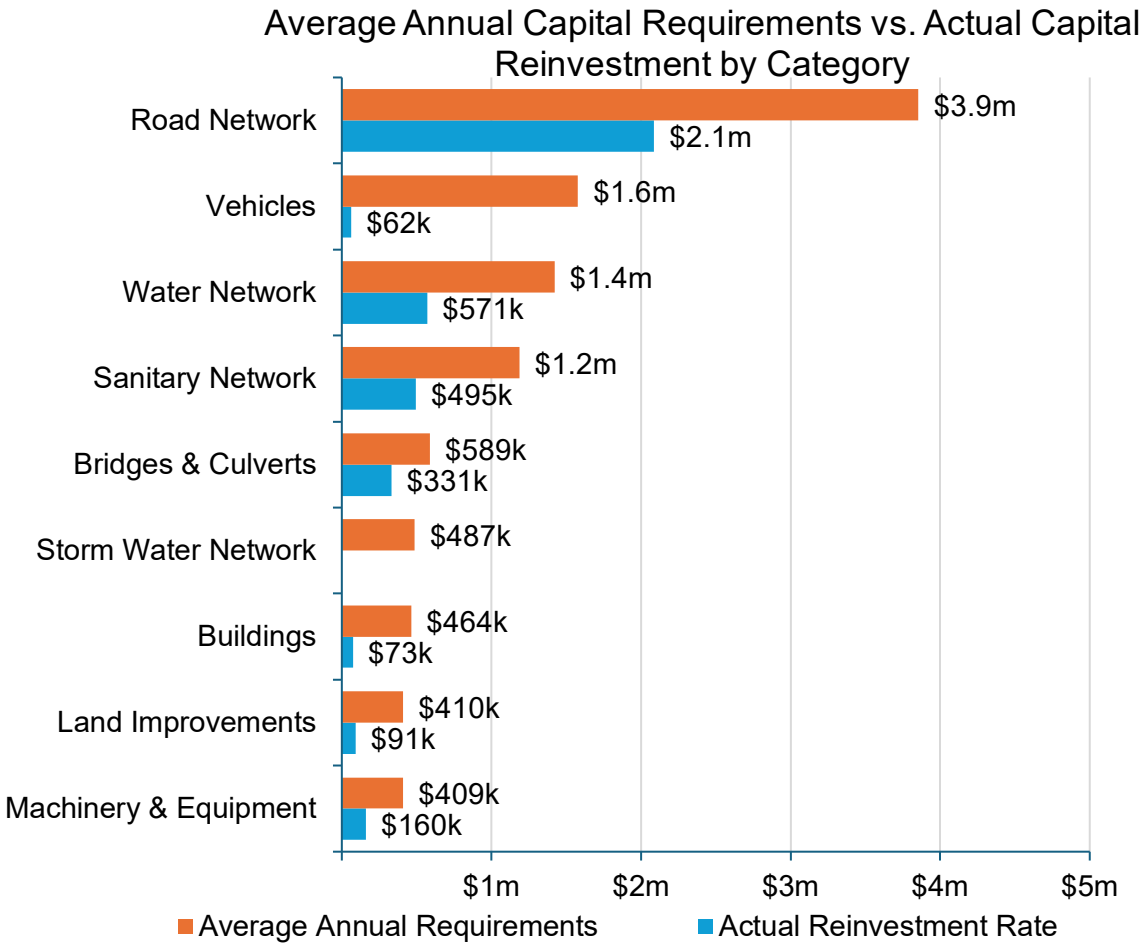


4.4 Target vs. Actual Reinvestment Rate

The graph below depicts funding gaps or surpluses by comparing target vs actual reinvestment rate. The target reinvestment is based on the optimal funding amounts. As further discussed in Section 6, this may not be the Townships selected investment level.

Under an optimal investment scenario, the recommended annual capital allocation is approximately $10.4 million, for a target reinvestment rate of 1.96%. Actual annual capital spending on infrastructure totals approximately $3.9 million, for an actual reinvestment rate of 0.73%. This gap indicates that existing funding levels are less than the long-term lifecycle requirements, and that continued reliance on lifecycle prioritization, reserve contributions, and external funding sources will be required to manage future renewal needs and maintain service levels over time.

Figure 9 Target vs Actual Reinvestment Rates



5 Growth

5.1 Growth Assumptions

The demand for infrastructure and municipal services will evolve over time in response to population growth, development patterns, and broader economic and environmental factors.

Understanding these drivers allows the Township to plan for new infrastructure while managing the upgrade, renewal, and eventual disposal of existing assets. Changes in demand directly influence the types of assets required and the level of service needed to meet community expectations in a financially sustainable manner.

5.2 Official Plan (2018)

The Township of North Glengarry is subject to the United Counties of Stormont, Dundas, and Glengarry (SDG) Official Plan (2018-2037), which provides the long-term framework for managing growth, land use, and infrastructure across SDG Counties. The Plan directs most growth to existing settlement areas and emphasizes efficient, cost-effective development that maximizes the use of existing infrastructure capacity.

While SDG Counties is expected to experience modest overall population growth over the planning horizon, forecasts indicate relatively stable to slightly declining population trends within North Glengarry. However, housing demand is expected to continue due to demographic changes, including smaller household sizes and an aging population.

The Official Plan highlights key infrastructure considerations including transportation networks, stormwater systems, and public service facilities. It also recognizes that some systems may require renewal or expansion to accommodate future needs. Growth planning is therefore closely linked to infrastructure capacity, with an emphasis on redevelopment, intensification, and coordinated investment in municipal services.

5.3 Impacts of Growth on Lifecycle Activities

In accordance with O. Reg. 588/17, growth assumptions are incorporated into lifecycle and financial planning for municipal infrastructure. Based on a 2015 study, North Glengarry is expected to have very modest population growth in the coming years. The table below summarizes actual (2016 and 2021) and future (2026 and beyond) projected population levels.

	2016	2021	2026	2031	2036
Total Population	10,109	10,144	10,391	10,366	10,292

Figure 10: Historic and Projected Populations

Growth and demographic change will continue to influence demand across all asset categories. Considering the population projections noted above, it is not anticipated that expanded infrastructure will be required to support development. Rather, the focus is

expected to be on maintaining, rehabilitating, and replacing the Township's existing asset inventory.

At the same time, demographic change may increase demand for certain services and housing types without corresponding increases in population. This creates pressure to maintain existing infrastructure in a state of good repair while also planning for targeted upgrades and renewals. This reality is supported by the SDG Official Plan which focuses on redevelopment, intensification, revitalization and contiguous development as the best use of existing or planned infrastructure. Further, it identifies planned development to primarily occur in settlement areas, including Alexandria and Maxville in North Glengarry. This growth strategy reduces the rate of net new infrastructure required to service growth (i.e. a new road to service new development).

Although growth can expand the assessment base and support increased revenues, it also introduces additional long-term lifecycle obligations. These impacts must be reflected in financial planning, reserve strategies, and lifecycle forecasts to ensure that service levels are maintained in a sustainable and cost-effective manner.

6 Risk Management

The level of risk an asset carries determines how closely it is monitored and maintained, including the frequency of various lifecycle activities, and the investments it requires on an ongoing basis.

Some assets are also more important to the community than others, based on their financial and economic significance, their role in delivering essential services, the impact of their failure on public health and safety, and the extent to which they support a high quality of life for community stakeholders.

A risk-based approach to infrastructure spending can help prioritize capital projects to channel funds where they are needed most. Rather than taking the worst-first approach, a risk-based approach ranks assets based on their condition/performance as well as their criticality, providing a more complete rationale for project selection.

6.1 Risk Management Strategies

Municipalities generally take a 'worst-first' approach to infrastructure spending. Rather than prioritizing assets based on their importance to service delivery, assets in the worst condition are fixed first, regardless of their criticality. However, not all assets are created equal. Some are more important than others, and their failure or disrepair poses more risk to the community. For example, a road with a high volume of traffic that provides access to critical services poses a higher risk than a low volume rural road. These high-value assets should receive funding before others.

By identifying the various impacts of asset failure and the likelihood that the asset will fail, risk management strategies can identify critical assets, and determine where maintenance efforts, and spending, should be focused.

A high-level evaluation of asset risk and criticality was performed. Each asset has been assigned a probability of failure score and consequence of failure score based on available asset data. These risk scores can be used to prioritize maintenance, rehabilitation, and replacement strategies for critical assets.

Risk is a product of two variables: the probability that an asset will fail, and the resulting consequences of that failure event. It can be a qualitative measurement, (low, medium, high) or quantitative measurement (1-5), that can be used to rank assets and projects, identify appropriate lifecycle strategies, optimize short- and long-term budgets, minimize service disruptions, and maintain public health and safety.

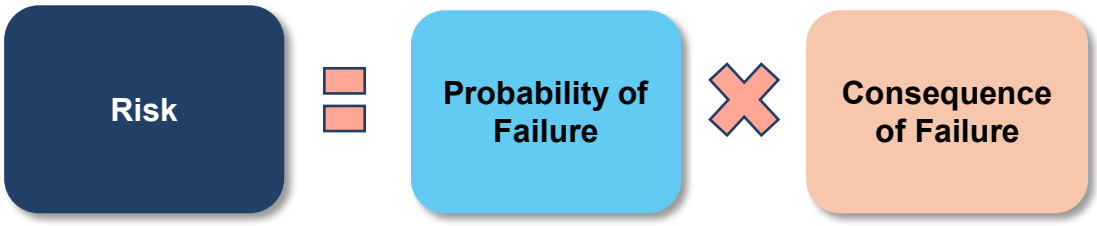


Figure 11: Risk Equation

6.1.1 Probability of Failure

Several factors can help decision-makers estimate the probability or likelihood of an asset's failure, including its condition, age, previous performance history, and exposure to extreme weather events, such as flooding and ice jams—both a growing concern for municipalities in Canada.

6.1.2 Consequence of Failure

Estimating criticality also requires identifying the types of consequences that the organization and community may face from an asset's failure, and the magnitude of those consequences. Consequences of asset failure will vary across the infrastructure portfolio; the failure of some assets may result primarily in high direct financial cost but may pose limited risk to the community. Other assets may have a relatively minor financial value, but any downtime may pose significant health and safety hazards to residents. See Appendix D: Risk Rating Criteria for definitions and the developed risk models.

6.1.3 Asset-level Risk

Asset-level risk ratings attempt to rank assets based on their criticality and likelihood of failure. This risk rating is a product of two variables: the probability that an asset will fail, and the variety of consequences of that failure event. It can be a qualitative or a quantitative measurement that can be used to rank assets and projects, identify appropriate lifecycle strategies, optimize short-and long-term budgets, minimize service disruptions, and maintain public health and safety.

6.2 Approach to Risk

The approach used in this asset management plan produces a quantitative measurement of risk associated with each asset. The probability and consequence of failure are each scored from 1 to 5, producing a minimum risk rating of 1 for the lowest risk assets, and a maximum risk index of 25 for the highest risk assets.

These calculations incorporate available asset attribute data to produce a risk matrix. For assets lacking detailed attribute information, a more general risk model has been created and applied to all such assets, drawing on common practices employed by municipalities to estimate the probability and consequences of failure.

Table 6: Risk Ratings

Risk Rating	Description
Very Low (1-4)	Assets are in excellent condition with minimal risk of failure; failure events may have negligible financial, economic, or social impact.
Low (5-7)	Assets in good condition with low risk of failure; failure events may result in minor financial, economic, or social impact.

Risk Rating	Description
Moderate (8-9)	Assets show moderate wear with moderate risk of failure; asset failure may result in noticeable, adverse financial, economic, or social consequences.
High (10-14)	Assets need significant repairs soon with high risk of failure; failure may result in substantial, critical financial, economic, or social consequences.
Very High (15-25)	Assets in poor condition with the highest risk of failure; failure consequences are severe or catastrophic, causing significant financial, economic, or social disruptions, requiring urgent action.

6.3 Risk Models

The models used in this AMP have been developed in Citywide Assets, the Township's asset register application and applied to the existing asset base. These models are provisional and intended as a foundational framework. They are expected to evolve over time as new information regarding asset attributes becomes available and is integrated into the analytical process.

For some assets, such as roads, contextual attributes such as AADT values were available. This data was used to further develop consequence of failure ratings and help distinguish one asset from another based on its criticality.

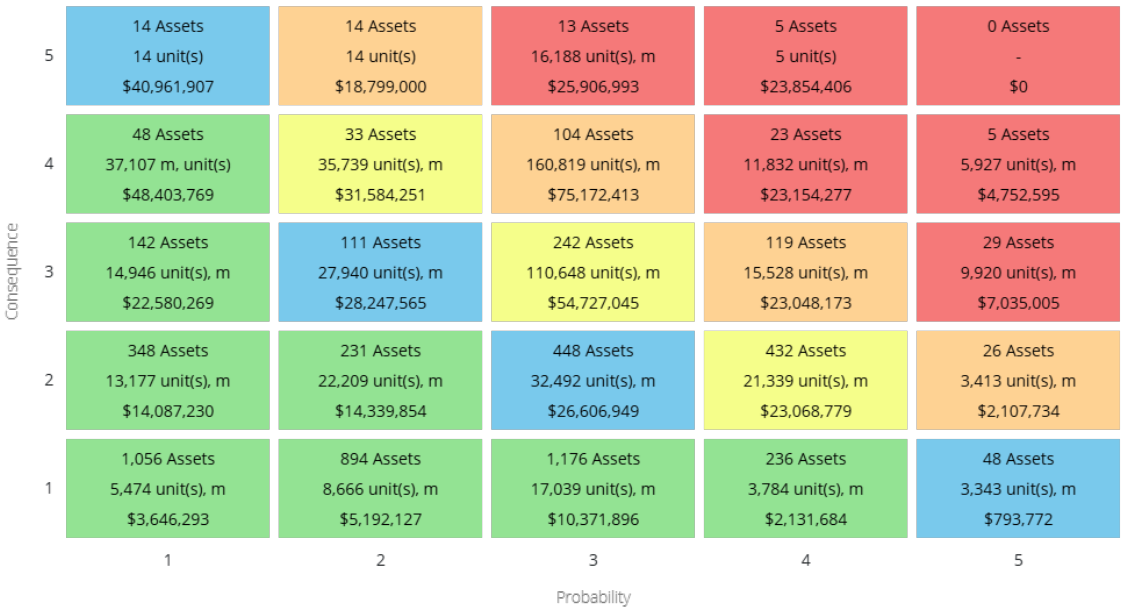
For assets without such additional contextual information, a more general risk model was developed and applied. For these assets, replacement cost, service area, and asset type were used as the only data fields to approximate the consequence of their failure.

It is important to note that these models are not designed to guide annual capital expenditures at this time. Rather, they serve as an initial step in understanding and managing asset-level risk, providing a basis upon which further refinements and enhancements can be made.

6.3.1 Risk Matrix

The risk matrix below classifies the Township's assets based on their respective risk ratings, as determined by the risk models. The analysis shows that 60 assets, with a combined replacement cost of approximately $74.8 million, carried a very high-risk rating, based on both their probability and consequence of failure.

Figure 12: Risk Matrix



Assets in the bottom left boxes, with the lowest risk rating ranging from 1-4, require minimal immediate attention, allowing for routine maintenance and monitoring. Those assets with the highest risk rating ranging from 15-25, should be prioritized for intervention, including preventive measures, repairs, or replacements to mitigate potential impacts.

By systematically addressing assets according to their risk ratings, infrastructure and asset management activities can be effectively prioritized, ensuring resources are allocated to maintain safety, reliability, and performance.

7 Levels of Service

Levels of service (LOS) measure the quality and quantity of service provided and offer direction for infrastructure investments. They are necessary for performance tracking and reporting. Many agencies attempt to deliver levels of service that cannot be sustainably funded by the existing tax base. This can lead to an eventual drop in quality of service or increases in tax and utility rates to fund higher service levels.

LOS should be affordable and aligned with the community's long-term vision for itself, and the service attributes it most values for different infrastructure programs.

This section provides a summary of current and anticipated levels of service for each major service area within the Township, developed through departmental workshops and documentation review as part of the Township's 2025 asset management plan. In addition to the metrics required under O. Reg. 588/17, the Township has developed its own performance measures to better reflect local service expectations and operational realities.

The Township of North Glengarry's LOS metrics have the following three service attributes: scope, quality/reliability and performance. These attributes are defined as follows:

Scope – Describes the services being provided and the assets that are utilized to provide the services.

Quality/Reliability – Describes how condition is measured as well as the current average condition of the assets utilized to provide the services. Also, for each asset category there are additional reliability measures included.

Sustainability – Describes the extent to which current service levels can be maintained over the long term based on the Township's existing capital reinvestment rate, including the ability of current funding levels to support ongoing asset renewal and manage long-term risk exposure.

7.1 Proposed Levels of Service

Three scenarios have been considered for establishing target levels of service for all asset categories included in this Asset Management Plan. The proposed methodology is guided by principles of stakeholder engagement, data-driven decision-making, flexibility, and continuous improvement to ensure that the proposed LOS remain achievable, relevant, and aligned with evolving community needs

7.1.1 Stakeholder Engagement

The proposed Levels of Service are informed by stakeholder feedback, staff input, and analysis of asset performance, funding pressures, and operational risk across all asset classes. Overall, services generally meet community expectations; however, this is largely being achieved through reactive maintenance practices and constrained capital funding.

While operating budgets are generally sufficient, there is a consistent view that capital investment is not keeping pace with lifecycle requirements. As a result, aging infrastructure and environmental pressures are increasingly impacting long-term reliability, particularly for roads, bridges, and buildings.

The proposed scenarios provide a structured framework to evaluate trade-offs between cost, risk, and service levels and to support selection of a preferred approach aligned with affordability, sustainability, and risk tolerance

7.1.2 Scenarios

Scenario 1: Maintain Current Funding Levels

This scenario assumes no tax or rate increases, with efforts focused on optimizing maintenance practices and operational efficiencies to sustain existing service levels within current capital funding constraints.

- No Annual Tax Increase (Maintain capital investment)

Scenario 2: Targeted Investment in Critical Assets

This scenario reflects a focused investment approach that prioritizes high risk and critical assets. Investment is directed toward assets with high-risk ratings to reduce overall system risk and improve service reliability in priority areas. It requires the following tax changes:

- Annual Tax Increase ~2.7% annually over 20 years
- No Annual Rate Increases (Maintain)

Scenario 3: Full Lifecycle Funding

This scenario responds to identified funding gaps in lifecycle requirements and fully funds asset renewal needs. It supports a proactive asset management approach, reducing reliance on reactive maintenance and improving long-term system reliability and performance across all asset classes. It requires the following tax and rate changes to support it:

- Annual Tax Increase ~2.6% annually over 20 years
- Annual Water Rate Increase ~1.4% annually over 20 years
- Annual Sanitary Rate Increase ~2.2% annually over 20 years

Table 37 summarizes the estimated annual funding requirements associated with each proposed Level of Service scenario across all asset categories. Values are based on the Township's current asset inventory and lifecycle costing assumptions, with scenarios reflecting differing approaches to capital reinvestment, as noted in scenarios 1 to 3 above.

These estimates are intended to illustrate the relative funding implications of each scenario and support comparison of long-term financial sustainability, risk exposure, and service level impacts.

Table 7 Scenario Projected Funding

Asset Category	Annual Funding Required		
	Scenario 1 (Current Funding)	Scenario 2 (Critical Assets)	Scenario 3 (Optimal Funding)
Road Network	$2,086,150	$5,433,332	$3,853,997
Bridges & Culverts	$331,399	$331,399	$588,953
Storm Water Network	$0	$376,195	$487,043
Buildings	$73,333	$403,413	$463,682
Land Improvements	$91,333	$223,117	$409,867
Machinery & Equipment	$159,633	$159,633	$409,203
Vehicles	$62,000	$1,046,140	$1,579,357
Water Network	$571,333	$571,333	$1,421,116
Sanitary Network	$495,218	$495,218	$1,185,870
Overall	**$3,870,400**	**$9,039,779**	**$10,399,087**

7.1.3 Trade-offs and Implications of Funding Scenarios

In accordance with O. Reg. 588/17, the Table 11 outlines the key implications and risks associated with different levels of service and funding. These include impacts on asset condition, service reliability, financial sustainability, and long-term renewal needs, and are intended to support informed decision-making regarding future investment strategies.

Table 8 Scenario Analysis – Key Implications

Scenario	Key Implications
Maintain Current Funding	• No immediate change to taxation or user rates • Maintains existing service levels in the short term • Asset conditions are expected to decline over time as renewal does not keep pace with deterioration • Infrastructure backlog continues to grow, increasing future capital pressure • Service delivery becomes increasingly reactive, with greater reliance on repairs and one-time funding sources • Long-term risk exposure increases
Targeted Investment in Critical Assets	• Moderate, focused investment directed toward high-risk assets • Improves reliability and reduces likelihood of failure in key service areas • Maintains relatively balanced affordability compared to full lifecycle funding

Scenario	Key Implications
	• Does not fully address all lifecycle renewal needs, resulting in continued deterioration of lower-priority assets • Infrastructure backlog continues to grow, but at a slower rate • Service levels become more consistent in priority areas, but uneven across the system
Full Lifecycle Funding	• Aligns investment with full asset lifecycle requirements • Results in improved overall asset condition and lowest long-term risk exposure • Supports proactive asset management and reduces reliance on reactive maintenance • Requires sustained long-term increases in taxation and user rates • Places higher demand on internal capacity, contractor availability, and capital delivery resources • Provides the most stable and consistent service levels across all asset classes

Additionally, all scenarios have varying levels of risk based on the phase-in period over which capital funding is increased to the target amount. While longer phase in periods offer important affordability benefits, they carries risks including:

- **Accelerated Asset Deterioration:** Deferred investments lead to faster decline in conditions.
- **Service Disruptions & Reliability Issues:** Aging assets are more likely to fail, resulting in increased potential for service disruptions.
- **Increased Public Safety Risks:** Deteriorating assets elevate the risk of accidents, injuries, and damage, exposing the municipality to liability.
- **Rising Infrastructure Backlog:** Underfunding widens the existing reinvestment gap, creating a growing backlog that becomes more challenging to resolve.

7.1.4 Preferred Approach and Rationale

The Township selected **Scenario 3: Optimal Funding** as their proposed level of service. Capital funding allocations are increased each year over **20 years** when the optimal funding amounts are achieved. Thereafter, capital funding amounts are maintained.

7.2 Proposed Levels of Service

The following tables reflect current LOS performance for the year 2025 and proposed LOS for a 10-year period thereafter. Comparing these LOS values over time will enable the Township to assess whether service performance and asset conditions are improving, stabilizing, or declining year-over-year.

7.2.1 Community Levels of Service

The following table outlines the qualitative descriptions that determine the community levels of service provided by each asset category.

The Township anticipates that qualitative community LOS will change in this period in parallel with technical LOS. For example, if the average condition of assets declines the community LOS, which describes condition, will reflect a lower average condition. All asset categories will see adjustments to their technical LOS over time, with most changes due to natural degradation of assets and the level of investment they receive.

Table 9 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS
Road Network		
Scope	Description, which may include maps, of the road network in the municipality and its level of connectivity.	See Figure 13.
Quality	Description or images that illustrate the different levels of road class pavement condition.	The Township assesses the condition of its road network on an annual basis using a 1-10 condition rating scale. This scale evaluates pavement condition based on observed surface distresses and ride quality, with higher scores indicating better overall condition. • Roads rated 9-10 are in very good condition, exhibiting minimal surface distress, low severity defects, and providing a smooth ride quality.

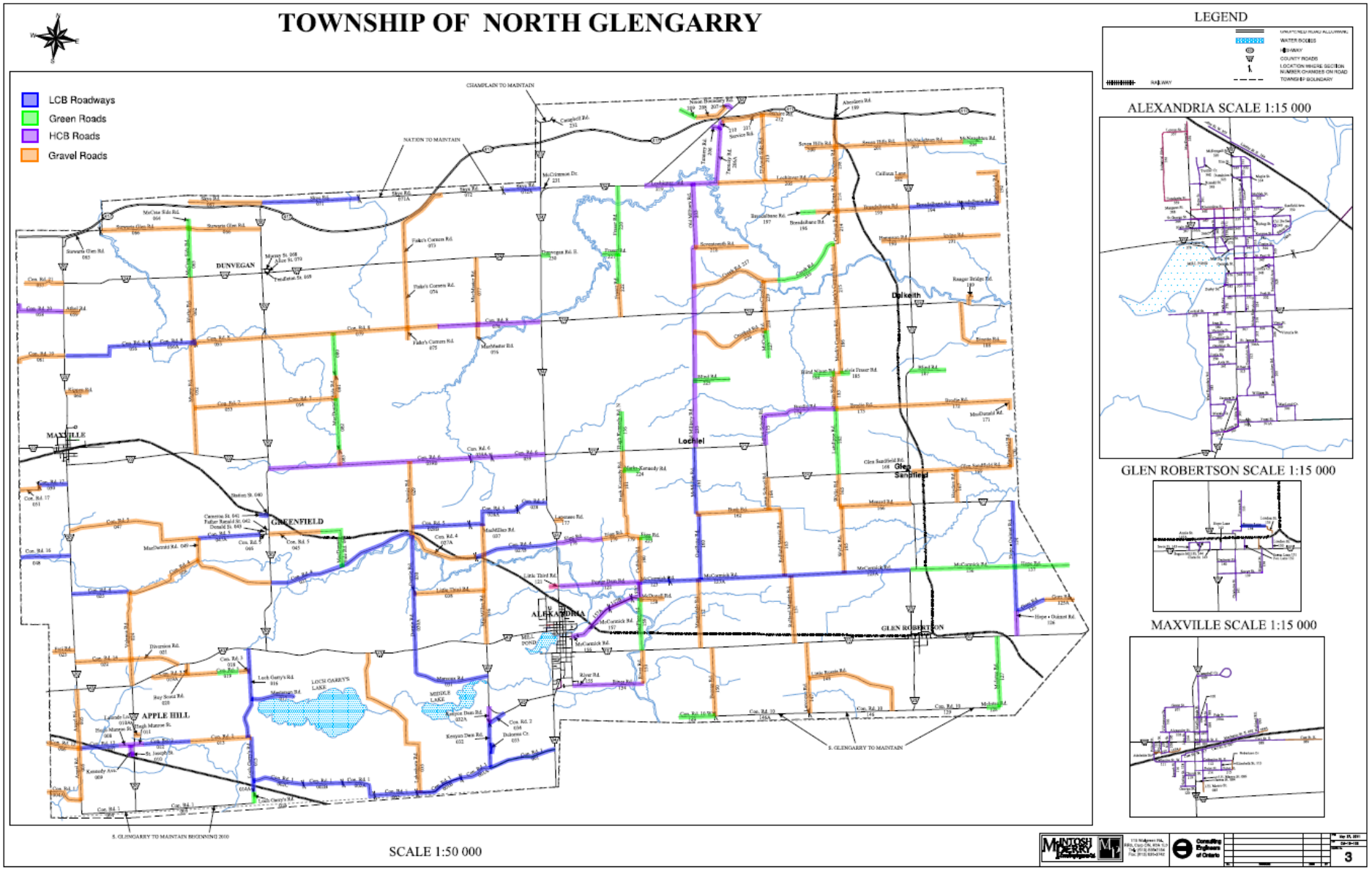
Service Attribute	Qualitative Description	Current LOS
		• Roads rated 4-5 are in poor condition, showing increasing levels of distress, higher severity defects, and a rougher ride experience for users. • Roads rated 1-2 are in very poor condition, exhibiting severe pavement deterioration, extensive structural failure, and potentially requiring full reconstruction.
Bridges & Culverts		
Scope	Description of the traffic that is supported by municipal bridges (e.g., heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists).	All structures can accommodate most vehicle types, allowing unimpeded access for emergency vehicles and cyclists with minimal restrictions. Any limitations in place are appropriate to the function, condition, and location of each bridge.
Quality	Description or images of the condition of bridges and culverts and how this would affect use of the bridges.	See Table 11.
Water Network		
Scope	Description, which may include maps of the user groups or areas of the municipality that are connected to the municipal water system.	The Glen Robertson drinking water system services a section of the hamlet of Glen Robertson. Glen Robertson is supported by two fire wells which are not connected to the potable drinking water system but are located within the town limits. See Figure 15
		The Alexandria drinking water system services residences and commercial properties within the town of Alexandria and village of Maxville. Connections on the transmission main that runs between Alexandria and Maxville are currently prohibited.

Service Attribute	Qualitative Description	Current LOS
		The Alexandria drinking water system supports fire flows along all portions of the water mains and transmission mains. See Figure 14
Reliability	Description of boil water advisories and service interruptions.	During the reporting period, service interruptions due to watermain breaks result in approximately 0.028 connection-days of disruption per property per year, based on 71 total connection-days across 2,047 properties. Boil water advisories account for approximately 0 connection-days per property per year, based on 649 total connection-days across 2,047 properties.
Sanitary Network		
Scope	Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal wastewater system.	The areas connected to the municipal wastewater system include the town of Alexandria and the village of Maxville. See Figure 16and Figure 17.
Reliability	Description of how combined sewers in the municipal wastewater system are designed with overflow structures in place which allow overflow during storm events to prevent backups into homes.	The Township does not own any combined sewers.
	Description of the frequency and volume of overflows in combined sewers in the municipal wastewater system that occur in habitable areas or beaches.	
Stormwater Network		

Service Attribute	Qualitative Description	Current LOS
Scope	Description, which may include maps, of the user groups or areas of the municipality that are protected from flooding, including the extent of the protection provided by the municipal stormwater management system.	The Township owns and maintains stormwater infrastructure in the urban areas of Alexandria and Maxville, with limited service in Glen Robertson. Current levels of service indicate that approximately 6% of properties are resilient to a 100-year storm event, while the extent of the system's capacity to manage a 5-year storm is not fully quantified. As a result, flood protection is partial and varies across serviced areas.
Buildings		
Scope	Description of inspection processes and service request management, including how service requests are received, prioritized, and addressed, and how routine inspections are conducted to support service delivery.	Staff conduct regular walkthrough inspections of facilities to identify emerging issues and ensure they remain safe and functional. Inspections requiring specialized expertise are completed by third-party contractors. Service requests are prioritized based on risk to users and staff. Incident reports are maintained for all occurrences involving staff or user accidents or injuries.
Machinery & Equipment		
Scope	Description of inspection processes and service request management, including how service requests are received, prioritized, and addressed, and how routine inspections are conducted to support service delivery.	Staff conduct regular walkthrough inspections of facilities to identify emerging issues and ensure they remain safe and functional. Inspections requiring specialized expertise are completed by third-party contractors. Service requests are prioritized based on risk to users and staff. Incident reports are maintained for all occurrences involving staff or user accidents or injuries.

Vehicles		
Scope	Description of the lifecycle activities (maintenance, rehabilitation and replacement) performed on vehicles.	Vehicles are managed through a lifecycle approach that includes condition assessment, inspection, maintenance, rehabilitation, and replacement. Condition is assessed using age, mileage, fuel use, and repair history to determine overall asset health and remaining useful life. Routine inspections and preventive maintenance are completed on time- and mileage-based schedules to support safe and reliable operation. Rehabilitation is undertaken where cost-effective to extend useful life, while replacement decisions are based on age, mileage, rising costs, declining efficiency, and reduced reliability or safety performance.
Land Improvements		
Scope	Description of the parks inspection process and timelines for inspections.	Parks staff conduct annual inspections of playground equipment each spring to assess condition, safety, and functionality following the winter season. These inspections identify aging, damaged, or non-compliant equipment, and inform recommendations for repair, replacement, or upgrades to maintain safe and accessible recreational spaces.

Figure 13 Township of North Glengarry - Road Map



7.2.2 Technical Levels of Service

The following table outlines the quantitative metrics that determine the current technical level of service provided by the Township's assets. Proposed LOS are reported based on Scenario 3: Full Lifecycle Funding

Please Note: Some level of variation is expected between actual and the below noted projected values due to potential differences in projected deterioration rates compared to actuals, unexpected natural events, and/or other factors (e.g. updated condition assessments). Further, the projections assume that the funding increases are successfully implemented throughout the period of analysis. If this does not occur, projected values are not expected to be realized.

Table 10 Road Network Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)	Projected LOS (2025-2034)
Road Network			
Scope	Lane-km of arterial roads (MMS classes 1 and 2) per land area in the municipality (km/km2)	0 km/km^2	Current +/- 5%
	Lane-km of collector roads (MMS classes 3 and 4) per land area in the municipality (km/km2)	1.12 km/km^2	
	Lane-km of local roads (MMS classes 5 and 6) per land area in the municipality (km/km2)	0.29 km/km^2	
Quality	For paved roads in the municipality, the average pavement condition index value.	Good: 63%	Good: 76% (2025) to Good: 79% (2034)
	For unpaved roads in the municipality, the average surface condition (e.g. excellent, good, fair or poor).	Fair: 59%	Fair 59% (2025) to Good: 36% (2034)
Reliability	Average Risk Rating	11.5	12.62 (2025) to 13.23 (2034)
Sustainability	Annual Capital Reinvestment Rate	2.4%	2.9%
Bridges & Culverts			

Service Attribute	Technical Metric	Current LOS (2024)	Projected LOS (2025-2034)
Scope	% of bridges in the municipality with loading or dimensional restrictions.	1.5%	Current +/- 5%
Quality	For bridges in the municipality, the average bridge condition index value.	71	70% (2025) to 69% (2034)
	For structural culverts in the municipality, the average bridge condition index value.	73	73% (2025) to 32% (2034)
Reliability	Average Risk Rating	10.2	10.2 (2025) to 10.3 (2034)
Sustainability	Annual Capital Reinvestment Rate	0.6%	0.99%
	Water Network		
Scope	Percentage of properties connected to the municipal water system	44%	Current +/- 5%
	Percentage of properties where fire flow is available	36%	Current up to + 5%
Reliability	Number of connection-days per year due to water main breaks compared to the total number of properties connected to the municipal water system	58 vs. 2047	Current +/- 5%
	Number of connection-days per year where a boil water advisory notice is in place compared to the total number of properties connected to the municipal water system	0 vs. 2047	Current +/- 5%
	Average Risk Rating	9.3	7.8 (2025) to 8.4 (2034)
Quality	Average condition of municipal water assets	72%	72% (2025) to 65% (2034)
Sustainability	Annual Capital Reinvestment Rate	0.45%	0.80%

Service Attribute	Technical Metric	Current LOS (2024)	Projected LOS (2025-2034)
	Sanitary Network		
Scope	% of properties connected to the municipal wastewater system	45%	Current up to + 5%
Reliability	# of events per year where combined sewer flow in the municipal wastewater system exceeds system capacity compared to the total number of properties connected to the municipal wastewater system	The Township does not own combined sewers.	N/A
	# of connection-days per year having wastewater backups compared to the total number of properties connected to the municipal wastewater system	1 vs. 2114	Current +/- 5%
	# of effluent violations per year due to wastewater discharge compared to the total number of properties connected to the municipal wastewater system	9 vs. 2114	Current +/- 5%
Quality	Average condition of municipal sanitary assets	58%	60% (2025) to 50% (2034)
Reliability	Average Risk Rating	11.8	10.3 (2025) to 10.8 (2034)
Sustainability	Annual Capital Reinvestment Rate	0.46%	0.81%
	Stormwater Network		
Scope	% of properties in municipality resilient to a 100-year storm	12.6%	Current up to + 5%
	% of the municipal stormwater management system resilient to a 5-year storm	Not Available At this Time	TBD

Service Attribute	Technical Metric	Current LOS (2024)	Projected LOS (2025-2034)
	Buildings		
Reliability	# of unplanned facility closures	1	Current +/- 5%
	Average Risk Rating	15.9	15.9 (2025) to 17.2 (2034)
Sustainability	Annual Capital Reinvestment Rate	0.18%	0.54%
Quality	Average condition of municipal buildings	56%	56% (2025) to 46% (2034)
	Machinery & Equipment		
Quality	Average condition of machinery & equipment	63%	62% (2025) to 45% (2034)
Reliability	Average Risk Rating	7.8	7.87 (2025) to 9.57 (2034)
Sustainability	Annual Capital Reinvestment Rate	3.0%	5.47%
	Vehicles		
Quality	Average condition of vehicles	61%	62% (2025) to 41% (2034)
Reliability	Average Risk Rating	11.8	11.77 (2025) to 14.4 (2034)
Sustainability	Annual Capital Reinvestment Rate	0.27%	2.4%
	Land Improvements		

Service Attribute	Technical Metric	Current LOS (2024)	Projected LOS (2025-2034)
Quality	Average condition of land improvement assets	57%	56% (2025) to 60 % (2034)
Reliability	# of service requests about unsafe conditions in parks	1	Current +/- 5%
	# identified defects	6	Current +/- 5%
	Average Risk Rating	8.8	8.82 (2025) to 8.6 (2034)
Accessibility	% of playgrounds meeting AODA standards	10%	Current up to + 5%
Sustainability	Annual Capital Reinvestment Rate	1.35%	3.26%

Level of Service Reference Information

Table 11 Visual Examples of Bridges and Culverts Condition

Bridge Condition Index Score (BCI)	Bridges	Culverts
Very Good BCI Range: **90 – 100**	Site 59: Dominion Street South 	Site 10: Kenyon Concession Road 

Good BCI Range: 65 – 89	**Site 44: McPhee Road** 	**Site 51: Glen Sandfield Road** 
Fair BCI Range: **50 – 64** **Note:** Blind Road Bridge is on an unopened road allowance, therefore limited traffic is expected.	Site 32: Blind Road 	Site 56: Power Dam Road 
Poor BCI Range: **40 – 49** Note: Both bridges are on unopened road allowance; therefore, limited traffic is expected.	Site 23: Seventeenth Bridge 	Site 41: McIntee Road 
Very Poor BCI Range: <40	None reported in most recent OSIM Report.	

Figure 14 Alexandria Drinking Water System Layout

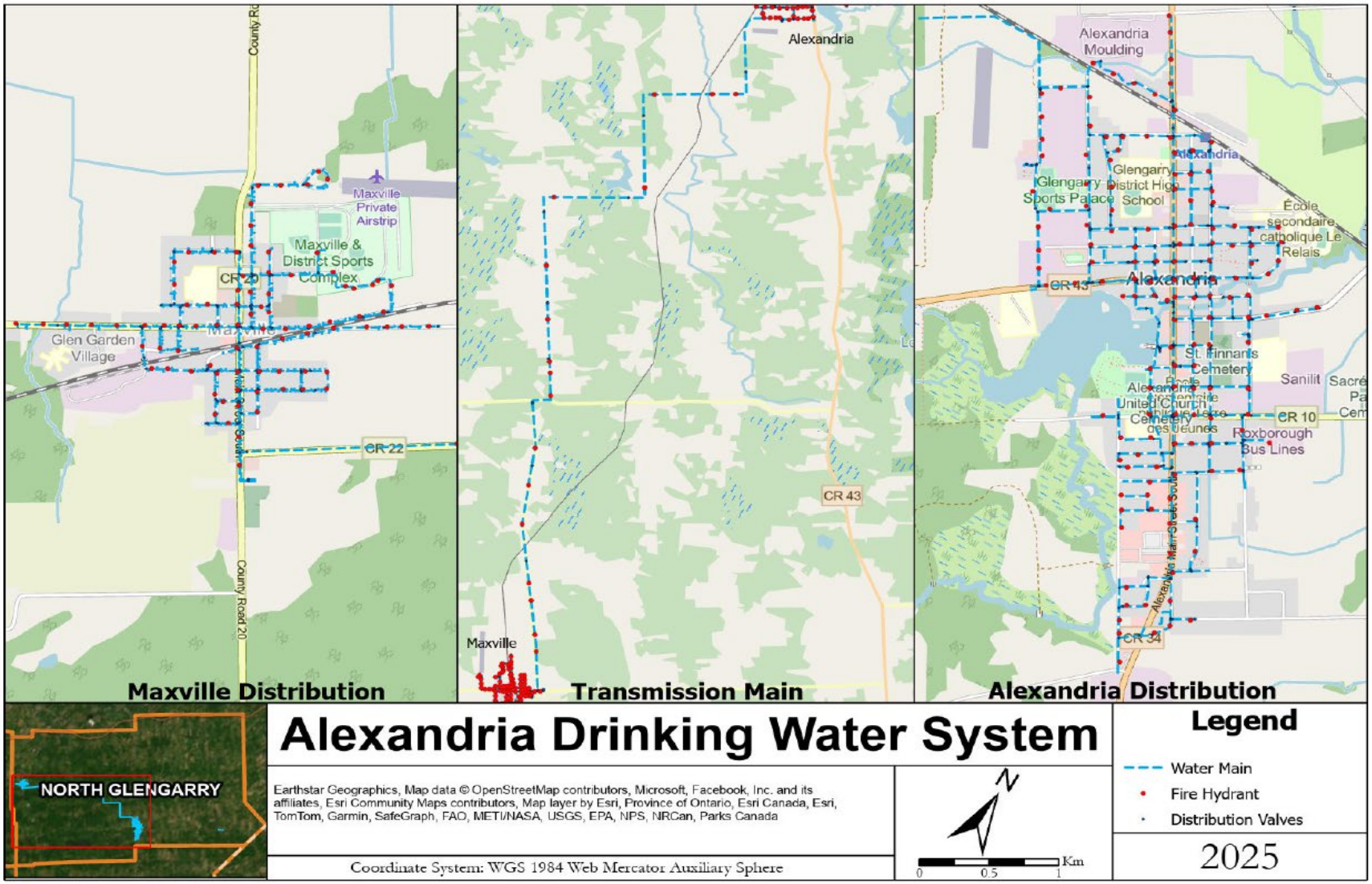


Figure 15 Glen Robertson Drinking Water System Layout

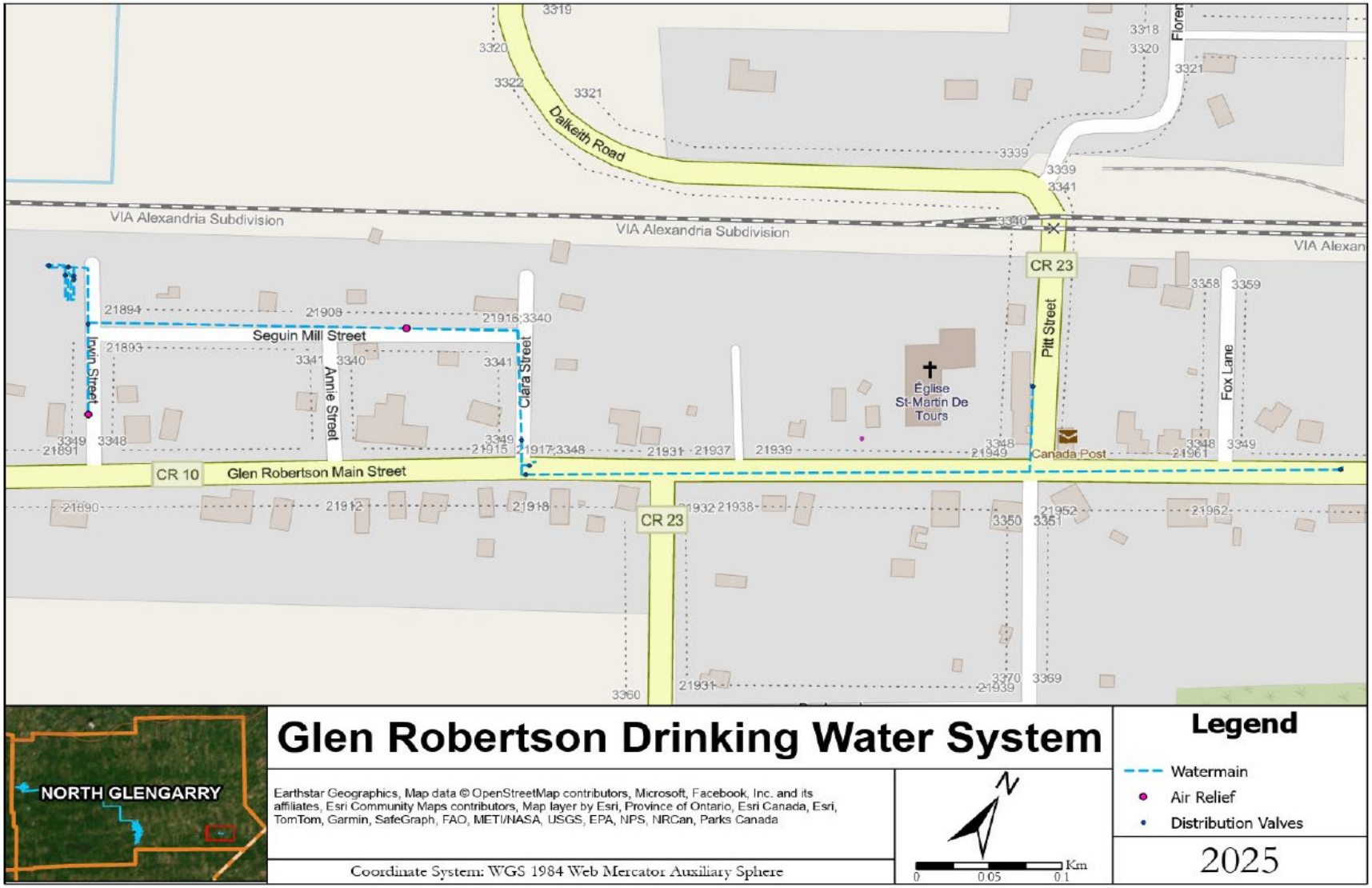


Figure 16 Alexandria Wastewater Collection System Layout

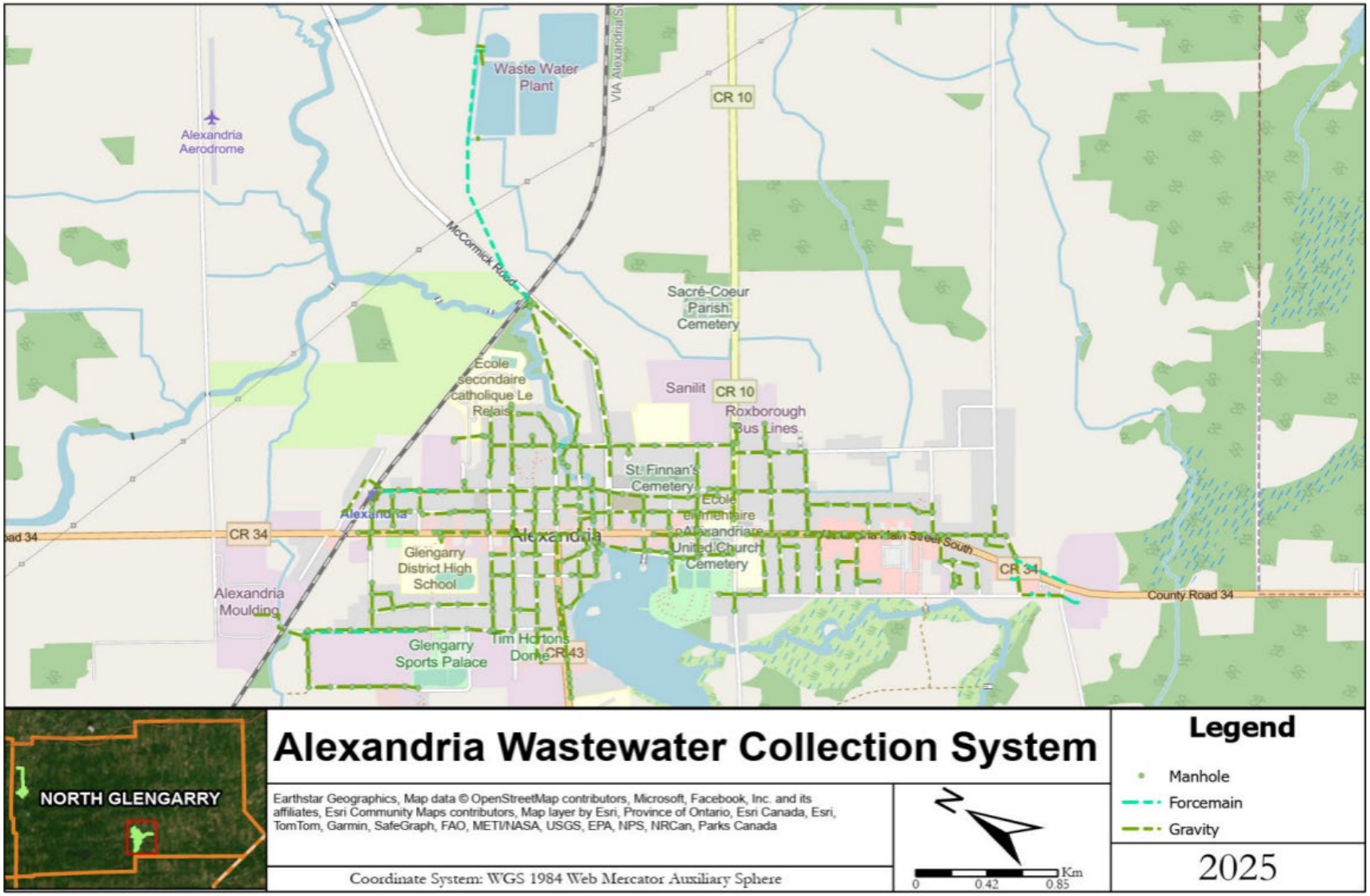


Figure 17 Maxville Wastewater Collection System Layout

8 Financial Strategy

For an AMP to be effective and meaningful, it must be integrated with financial planning and long-term budgeting. The development of a comprehensive financial plan will allow the Township of North Glengarry to identify the financial resources required for sustainable asset management based on existing asset inventories, proposed LOS, and projected population growth requirements.

This plan identifies the financial requirements to meet the identified proposed LOS. It is based on the financial requirements for existing assets and meeting the proposed LOS. The financial plan considers and accounts for traditional and non-traditional sources of municipal funding, which are:

1. The financial requirements for:
    a. Existing assets
    b. Existing service levels
    c. Requirements of meeting the proposed LOS
    d. Requirements of anticipated growth (not incorporated as outlined in Section 5.3)
2. Use of traditional sources of municipal funds:
    a. Tax levies
    b. User fees
    c. Debt
3. Use of non-traditional sources of municipal funds:
    a. Reallocated budgets
    b. Partnerships
    c. Procurement methods
4. Use of Senior Government Funds:
    a. Canada Community-Building Fund (CCBF)
    b. Ontario Community Infrastructure Fund (OCIF)

If the financial plan component results in a funding shortfall, the Province requires the inclusion of a specific plan for managing the shortfall. In determining the legitimacy of a funding shortfall, the Province may evaluate a Municipality's approach to the following:

1. To reduce financial requirements, consideration has been given to revising service levels downward.
2. All asset management and financial strategies have been considered. For example:
    a. If a zero-debt policy is in place, is it warranted? If not the use of debt should be considered.
    b. If user fees reflect the cost of the applicable service.

8.1 Proposed LOS: Annual Requirements & Capital Funding

8.1.1 Annual Requirements

The annual requirements represent the annual allocation required to meet the proposed LOS. For the Township 7,792,000 for tax funded assets and $2,607,000 for rate funded assets.

For most non-core asset categories, the annual requirement has been calculated based on a “replacement only” scenario, in which capital costs are only incurred at the construction and replacement of each asset. However, for the Road Network lifecycle management strategies have been developed to identify capital costs that are realized through strategic rehabilitation and renewal of assets.

8.1.2 Annual Funding Available

Based on a historical analysis of sustainable capital funding sources, the Township is committing approximately $3,870,000 towards capital projects per year. Given the annual capital requirement of $10,399,000, there is currently a funding gap of $6,529,000 annually. Figure 18 below summarizes the current annual capital investment from sustainable funding sources and compares it to the capital investment required to fund the proposed LOS. Increased investment is required for all asset categories; for some asset categories (e.g. stormwater network), the increase is more substantial.

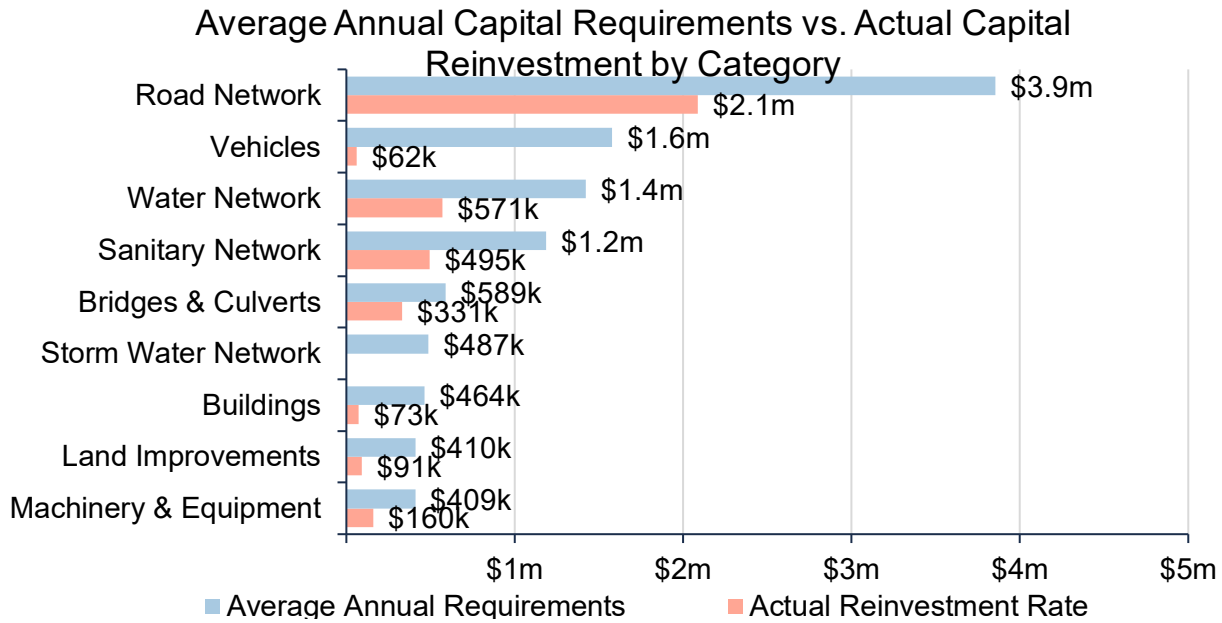


Figure 18: Current Investment Vs. Required Investment (PLOS)

8.2 Funding Objective

We have developed a scenario that would enable the Township to achieve full funding required to meet the selected proposed LOS within 1 to 20 years for all asset categories.

Note: For the purposes of this AMP, we have excluded gravel and earth roads since they are a perpetual maintenance asset and end of life replacement calculations do not normally apply.

For each scenario developed we have included strategies, where applicable, regarding the use of cost containment and funding opportunities.

8.3 Financial Profile: Tax Funded Assets

8.3.1 Current Funding Position

The following tables show, by asset category, the Township's average annual capital investment requirements to meet the proposed LOS, their current funding positions, and funding increases required to achieve funding levels required for the selected proposed LOS. Please note: CCBF and OCIF amounts vary year to year, reported values reflect estimates.

Asset Category	Avg. Annual Requirement	Annual Funding Available ($)				Annual Deficit
		Taxes	CCBF	OCIF	Total Available	
Road Network	3,854,000	1,417,000		669,000	2,086,000	1,916,000
Bridges & Culverts	589,000		331,000		331,000	258,000
Storm Water Network	487,000				0	487,000
Buildings	464,000	73,000			73,000	465,000
Land Improvements	410,000	91,000			91,000	319,00
Machinery & Equipment	409,000	160,000			160,000	250,000
Vehicles	1,579,000	62,000			62,000	1,479,000
Total	**7,792,000**	**1,803,000**	**331,000**	**669,000**	**2,804,000**	**5,172,000**

Table 12 Annual Available Funding for Tax Funded Assets

The average annual investment requirement for the above categories is $7,792,000. Annual revenue currently allocated to these assets for capital purposes is $2,804,000 leaving an annual deficit of $5,712,000. Put differently, the current level of investment is 35% of the investment needed to achieve the proposed LOS.

8.3.2 Full Funding Requirements

In 2026, the Township of North Glengarry had budgeted annual tax revenues of approximately $7,536,593. As illustrated in the following table, without consideration of any other sources of revenue or cost containment strategies, full funding would require the following tax change over time:

Asset Category	Tax Change Required for Full Funding
Road Network	25.4%
Bridges & Culverts	3.4%
Storm Water Network	6.5%
Buildings	6.2%
Land Improvements	4.2%
Machinery & Equipment	3.3%
Vehicles	19.6%
Total	68.6%

Table 13 Tax Increase Requirements for Full Funding

The following changes in costs and/or revenues over the next number of years should also be considered in the financial strategy:

a) Considering current debt obligations only, North Glengarry's debt payments for these asset categories will be decreasing from 2025 baseline levels over the next 20 years as follows:
    a. $96,000 by 2030 (5 years).
    b. $212,000 by2035(10 years)
    c. $349,000 by2040(15 years)
    d. $394,000 by 2045 (20 years)

Our scenario modeling includes capturing the above changes and allocating them to the infrastructure deficit outlined above. The table below outlines this concept and presents several options:

	5 Years	10 Years	15 Years	20 Years
Infrastructure Deficit	5,171,816	5,171,816	5,171,816	5,171,816
Change in Debt Costs	-95,926	-211,908	-349,092	-393,507
Resulting Infrastructure Deficit:	5,075,890	4,959,908	4,822,724	4,778,309
Tax Increase Required	67.3%	65.8%	64.0%	63.4%
Annually (debt-reallocated):	10.9%	5.2%	3.4%	2.5%
Annually (No debt reallocation)	11.1%	5.4%	3.6%	2.7%

Table 14 Tax Increase Options 5-20 Years

8.3.3 Financial Strategy Recommendations

Considering all the above information, we recommend that the Township select the 20-year phase in option. Where the Township can adopt larger tax rate increases in any given year, it is suggested to do so. This is expected to reduce risks associated with longer phase-in periods, which may include:

- **Accelerated Asset Deterioration:** Deferred investments lead to faster decline in condition, increasing the volume of assets falling into poor or very poor condition.
- **Service Disruptions & Reliability Issues:** Aging assets are more likely to fail, increasing the potential for service delivery challenges such as road closures, drainage issues, facility downtime, and other service interruptions.
- **Increased Public Safety Risks:** Deteriorating assets elevate the risk of accidents, injuries, and damage, exposing the municipality to liability.
- **Rising Infrastructure Backlog:** Underfunding widens the existing reinvestment gap, creating a growing backlog that becomes more difficult and expensive to resolve.

Based on the 20-year option, the following changes are recommended to support:

a) Increasing tax revenues by 2.7% each year for the next 20 years solely for the purpose of phasing in the funding required to meet the proposed LOS for the asset categories covered in this section of the AMP.
b) Allocating the current CCBF and OCIF revenue as outlined previously.
c) Increasing existing and future infrastructure budgets by the applicable inflation index on an annual basis in addition to the deficit phase-in.

Notes:

1. As in the past, periodic senior government infrastructure funding will most likely be available during the phase-in period. By Provincial AMP rules, this periodic

funding cannot be incorporated into an AMP unless there are firm commitments in place. We have included OCIF and CCBF formula-based funding, if applicable, since this funding is a multi-year commitment[2].

2. We realize that raising tax revenues by the amounts recommended above for infrastructure purposes will be very difficult to do. However, considering a longer phase-in window may have even greater consequences in terms of infrastructure failure. These risks are noted above.

[2] The Town should take advantage of all available grant funding programs and transfers from other levels of government. While OCIF has historically been considered a sustainable source of funding, OCIF may be subject to periodic review, policy updates, or funding adjustments. Accordingly, the Town should continue to monitor program developments and ensure that core asset management and financing strategies remain resilient to potential changes in external funding levels as there may be changes that impact its availability.

8.4 Financial Profile: Rate Funded Assets

8.4.1 Current Funding Position

The following tables show, by asset category, North Glengarry's average annual asset capital investment requirements needed to meet the proposed LOS, their current funding positions, and funding increases required.

Asset Category	Avg. Annual Requirement	Annual Funding Available				Annual Deficit
		Rates	CCBF	OCIF	Total Available	
Water Network	1,423,000	571,000			571,000	852,000
Wastewater Network	1,186,000	495,000			495,000	691,000
Total	2,609,000	1,067,000			1,067,000	1,542,000

Table 15 Annual Available Funding for Rate Funded Assets

The average annual investment requirement for the above categories is $2,609,000. Annual revenue currently allocated to these assets for capital purposes is $1,067,000 leaving an annual deficit of $1,542,000. Put differently, currently 41% of the capital investment required to meet the selected proposed LOS is available.

8.4.2 Full Funding Requirements

Based on 2025 budgeted amounts, North Glengarry had annual water network revenues of $2,260,000 and Wastewater revenues of $1,202,000. As illustrated in the table below, without consideration of any other sources of revenue, full funding would require the following changes over time:

Asset Category	Rate Change Required for Full Funding
Water Network	37.7%
Wastewater Network	57.5%

Table 16 Rate Increase Requirements for Full Funding

In the following tables, we have expanded the above scenario to present multiple phase-in period options of 5,10, 15 and 20 years.

Water Network				
	5 Years	10 Years	15 Years	20 Years
Infrastructure Deficit	851,819	851,819	851,819	851,819
Change in Debt Cost	-35,500	-70,728	-106,500	-142,000
Total Rate Increase Required	36.1%	34.6%	33.0%	31.4%
Annually (debt reallocated):	6.4%	3.1%	2.0%	1.4%
Annually (No debt reallocation)	6.7%	3.3%	2.2%	1.7%

Table 17 Water Rate Increase Options 5-20 Years

Wastewater Network				
	5 Years	10 Years	15 Years	20 Years
Infrastructure Deficit	690,652	690,652	690,652	690,652
Change in Debt Cost	-38,084	-38,084	-38,084	-38,084
Total Rate Increase Required	54.3%	54.3%	54.3%	54.3%
Annually (Debt reallocated):	9.1%	4.5%	3.0%	2.2%
Annually (No debt reallocation)	9.6%	4.7%	3.1%	2.3%

Table 18 Wastewater Rate Increase Options 5-20 Years

8.4.3 Financial Strategy Recommendations

Considering all the above information, we recommend the 20-year option for the water network, and the 20-year option for the wastewater network. This involves reaching the full funding requirements of the selected proposed LOS option by:

a) Increasing rate revenues by 1.7% for the water network each year for the next 20 years. This will enable the funding required to meet the selected proposed LOS for the current asset inventory to be achieved by year 20.
b) Increasing wastewater revenues by 2.3% each year for the next 20 years. This will enable the funding required to meet the selected proposed LOS for the current asset inventory to be achieved by year 10.
c) Increasing existing and future infrastructure budgets by the applicable inflation index on an annual basis in addition to the deficit phase-in.

Notes:

1. As in the past, periodic senior government infrastructure funding will most likely be available during the phase-in period. This periodic funding should not be incorporated into an AMP unless there are firm commitments in place.
2. We realize that raising rate revenues for infrastructure purposes may be very difficult to do. However, considering a longer phase-in window may have even greater consequences in terms of infrastructure failure and associated liabilities.
3. Any increase in rates required for operations and inflationary based capital costs adjustments would be in addition to the above recommendations.

8.5 Use of Debt

Debt can be strategically utilized as a funding source within the long-term financial plan. The benefits of leveraging debt for infrastructure planning include:

a) the ability to stabilize tax & user rates when dealing with variable and sometimes uncontrollable factors
b) equitable distribution of the cost/benefits of infrastructure over its useful life
c) a secure source of funding
d) flexibility in cash flow management

Debt management policies and procedures with limitations and monitoring practices should be considered when reviewing debt as a funding option. To mitigate increasing commodity prices and inflation, interest rates have been rising. Sustainable funding models that include debt need to incorporate the now current realized risk of rising interest rates. The following graph shows the historical changes to the lending rates:

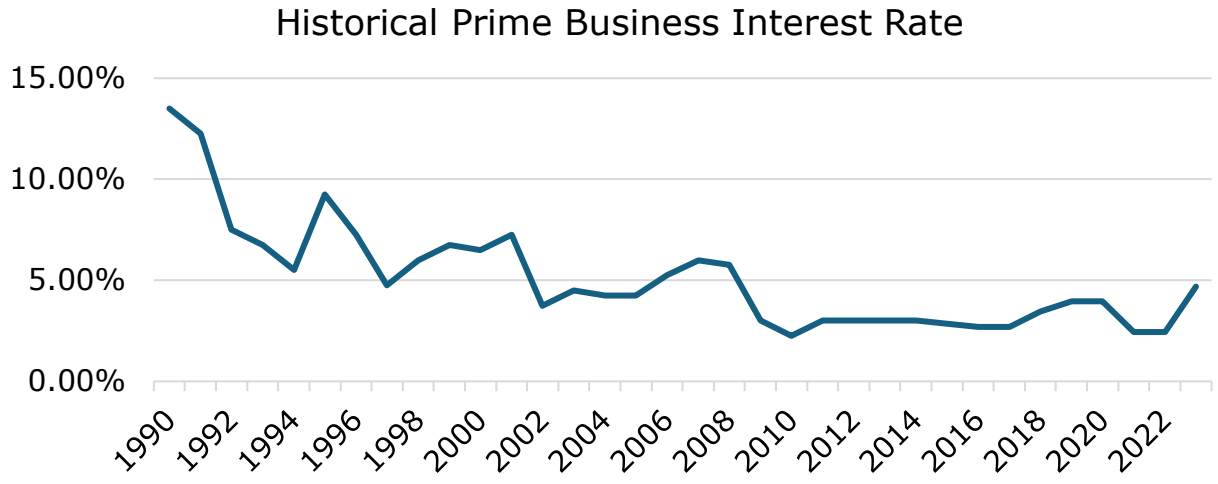


Figure 19 Historical Prime Rate

A change in 15-year rates from 5% to 7% would change the premium from 45% to 65%. Such a change would have a significant impact on a financial plan.

For reference purposes, the following table outlines the premium paid on a project if financed by debt. For example, a $1 million project financed at 3.0%[3] over 15 years would result in a 26% premium or $260,000 of increased costs due to interest payments. For simplicity, the table does not consider the time value of money or the effect of inflation on delayed projects.

Interest Rate	Number of Years Financed					
	5	10	15	20	25	30
7.0%	22%	42%	65%	89%	115%	142%
6.5%	20%	39%	60%	82%	105%	130%
6.0%	19%	36%	54%	74%	96%	118%
5.5%	17%	33%	49%	67%	86%	106%
5.0%	15%	30%	45%	60%	77%	95%
4.5%	14%	26%	40%	54%	69%	84%
4.0%	12%	23%	35%	47%	60%	73%
3.5%	11%	20%	30%	41%	52%	63%
3.0%	9%	17%	26%	34%	44%	53%
2.5%	8%	14%	21%	28%	36%	43%
2.0%	6%	11%	17%	22%	28%	34%
1.5%	5%	8%	12%	16%	21%	25%
1.0%	3%	6%	8%	11%	14%	16%
0.5%	2%	3%	4%	5%	7%	8%
0.0%	0%	0%	0%	0%	0%	0%

Table 19 Interest Premiums Paid

The following tables outline how North Glengarry has historically used debt for investing in the asset categories as listed.

[3] Current municipal Infrastructure Ontario rates for 15-year money is 4.03%.

Asset Category with Associated Debt	Use of Debt in the Last Five Years				
Year/Category	**2021**	**2022**	**2023**	**2024**	**2025**
Vehicles	1,229,758	1,611,664	2,084,498	2,645,249	3,157,798
Total Tax Funded	**1,229,758**	**1,611,664**	**2,084,498**	**2,645,249**	**3,157,798**
Water Network	7,000,000	6,750,000	6,500,000	6,250,000	6,000,000
Wastewater Network	175,101	142,384	108,554	73,573	37,402
Total Rate Funded	**7,175,101**	**6,892,384**	**6,608,554**	**6,323,573**	**6,037,402**
Total	**8,404,860**	**8,504,048**	**8,693,052**	**8,968,821**	**9,195,200**

Table 20 North Glengarry's Use of Debt 2021-2025

Asset Category with Associated Debt	Principal & Interest Payments in the Next Ten Years						
	2026	2027	2028	2029	2030	2031	2036
Vehicles	393,507	390,244	343,609	298,880	298,230	297,580	181,599
Total Tax Funded	393,507	390,244	343,609	298,880	298,230	297,580	181,599
Water Network	418,610	411,510	404,838	397,310	390,210	383,110	347,883
Wastewater Network	38,084	0	0	0	0	0	0
Total Rate Funded	456,694	411,510	404,838	397,310	390,210	383,110	347,883
Total	850,201	801,754	748,448	696,191	688,441	680,691	529,481

Table 21 North Glengarry Principal and Interest Payments

The revenue options outlined in this plan allow the Township of North Glengarry to fully fund its long-term infrastructure requirements without further use of debt.

8.6 Use of Reserves

8.6.1 Available Reserves

Reserves play a critical role in long-term financial planning. The benefits of having reserves available for infrastructure planning include:

a) the ability to stabilize tax rates when dealing with variable and sometimes uncontrollable factors
b) financing one-time or short-term investments
c) accumulating the funding for significant future infrastructure investments
d) managing the use of debt
e) normalizing infrastructure funding requirement

By asset category, the table below outlines the details of the reserves currently available to the Township of North Glengarry.

Asset Category	Balance ($) on December 31, 2024
Road Network	2,597,739
Bridges & Culverts	382,325
Storm Water Network	316,169
Buildings	763,759
Land Improvements	292,150
Machinery & Equipment	265,638
Vehicles	1,058,769
Total Tax Funded:	**5,676,550**
Water Network	759,718
Wastewater Network	1,331,773
Total Rate Funded:	**2,091,491**

Table 22 North Glengarry's Reserve Balances

There is considerable debate in the municipal sector as to the appropriate level of reserves that a Township should have on hand. There is no clear guideline that has gained wide acceptance. Factors that municipalities should consider when determining their capital reserve requirements include:

a) breadth of services provided
b) age and condition of infrastructure
c) use and level of debt
d) economic conditions and outlook
e) internal reserve and debt policies.

These reserves are available for use in applicable asset categories during the phase-in period to full funding. This coupled with the Township's judicious use of debt in the past, allows the scenarios to assume that, if required, available reserves and debt capacity can be used for high priority and emergency infrastructure investments in the short- to medium-term.

9 Recommendations

9.1 Financial Strategy

Considering all the above information, we recommend that tax funded and rate funded assets capital investments are increased by the following amounts and that they are applied entirely to capital investment:

a) Increasing tax revenues by 2.7% each year for the next 20 years.
b) Increasing rate revenues by 1.7% for the water network each year for the next 20 years.
c) Increasing wastewater revenues by 2.3% each year for the next 20 years.
d) Increasing existing and future infrastructure budgets by the applicable inflation index on an annual basis in addition to the deficit phase-in.

These increases will enable the funding required to meet the selected proposed LOS for the current asset inventory to be achieved.

9.2 Data & Asset Management Governance

a) To support consistent risk matrix calculations, the Municipality should undertake a structured data gap analysis for the road, water, sanitary, and storm networks. This review should identify all attributes required for risk scoring and assess the completeness of each field by asset class. Missing or incomplete data should be documented and prioritized based on their influence on health and safety, service disruption, and overall consequence scoring.
b) Following the gap analysis, a phased data improvement plan should be implemented. This may include desktop record reviews, field verification during routine inspections, and updates to GIS and work order systems to capture required attributes moving forward. Responsibility for maintaining these fields should be clearly assigned, and periodic data quality reviews should be incorporated into ongoing asset management practices to ensure continued support of the risk framework.
c) An age analysis of the road network could not be completed as in-service dates were not available for a significant portion of road assets in the dataset. In-service dates are required to determine asset age and remaining useful life, which are key inputs for lifecycle planning and long-term capital forecasting. As a result, the analysis of asset age distribution and renewal timing for the road network could not be undertaken in this AMP. It is recommended that the Township prioritize completing these data fields as part of ongoing asset data improvement initiatives to support more robust lifecycle modelling in future updates of the Asset Management Plan.
d) The Township has additional condition assessments for their stormwater network that were recently completed and are not reflected in the data within this plan. It is recommended that the Township update this information in their software to improve the quality and value of analysis outputs.

Appendices

10 Road Network

The Township of North Glengarry maintains a vital transportation network consisting of municipally owned roads, sidewalks, and supporting infrastructure. The road network includes approximately 227 km of gravel roads and 148 km of asphalt and surface-treated roads. The Township also maintains approximately 27 km of sidewalks, primarily located in Alexandria, Maxville, Glen Robertson, and surrounding hamlets, supporting pedestrian safety and community connectivity.

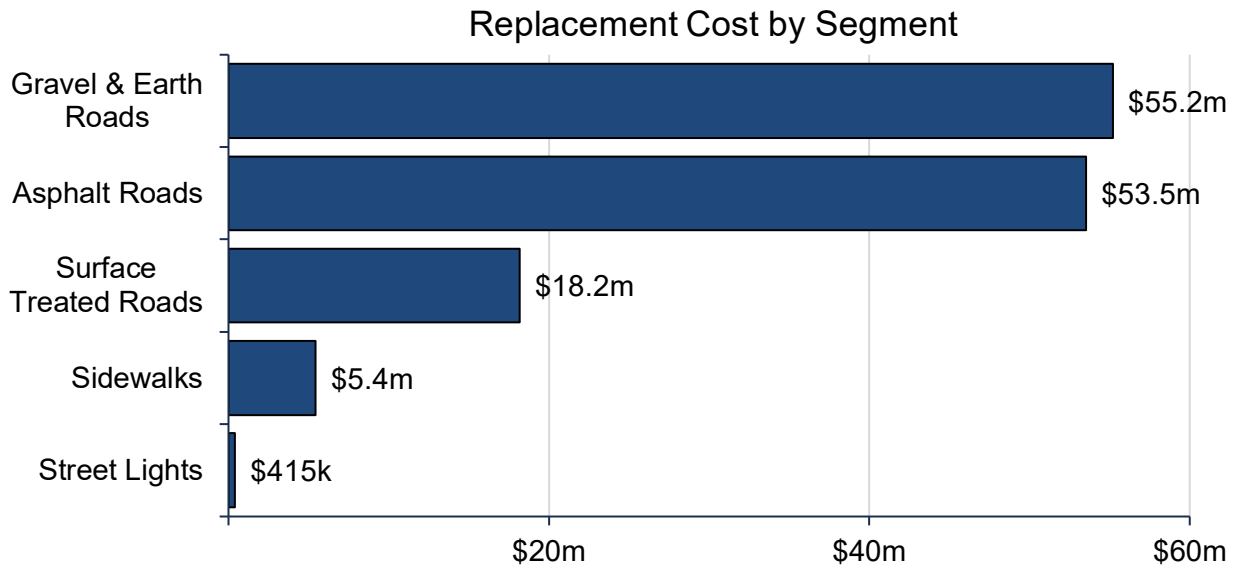
10.1 Asset Inventory and Valuation

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the Township's Road Network inventory.

Table 23: Road Network Inventory and Replacement Cost

Segment	Quantity	Unit of Measure	Primary Replacement Cost Method	Replacement Cost
Asphalt Roads	111,046	Length (m)	Cost per Unit	$53,524,422
Gravel & Earth Roads	227,623	Length (m)	Cost per Unit	$55,195,577
Sidewalks	27,165	Length (m)	Cost per Unit	$5,433,000
Streetlights	830	Quantity	User-Defined	$415,000
Surface Treated Roads	37,708	Length (m)	Cost per Unit	$18,175,468
Total			**Cost per Unit**	**$132,743,467**

Figure 20 Road Network Replacement Valuation



10.2 Asset Age Distribution

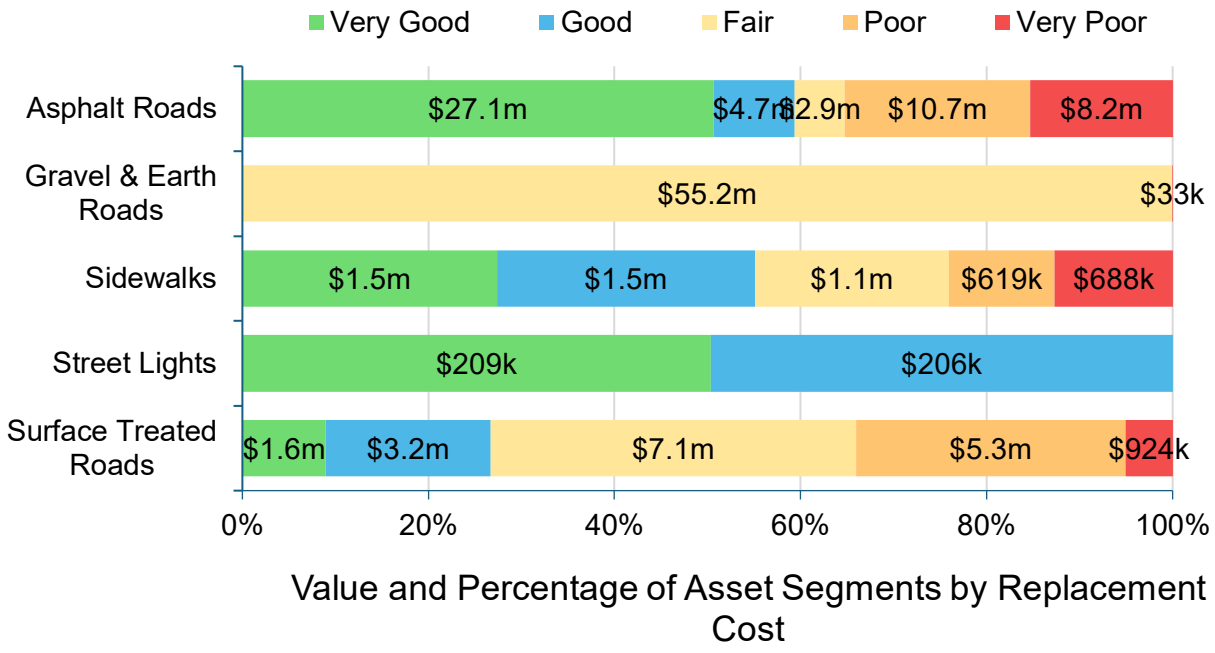
An age-based analysis of the road network could not be completed due to missing in-service dates for a significant portion of assets. In-service dates are required to accurately determine asset age and develop a reliable age profile of the network. While condition data is available and has been used to inform capital forecasts and lifecycle planning, the absence of age information limits the Township's ability to compare expected versus actual asset performance and refine useful life assumptions.

It is recommended that these data gaps be addressed in future AMP updates by improving the tracking and recording of in-service dates and, where possible, backfilling missing information using available records. Strengthening this data will support more robust asset analytics and long-term planning.

10.3 Asset Condition

The table below presents the average condition of road network assets on a scale ranging from very good to very poor. Road condition is based on the Pavement Condition Index (PCI), while all other assets are assessed through a desktop evaluation. Streetlight condition is determined using an age-based approach.

Figure 21: Road Network Asset Condition



10.3.1 Current Approach to Condition Assessment

North Glengarry conducts annual road condition assessments to support compliance with Ontario Regulation 588/17 and monitor roadway performance against established service levels. Assessments evaluate roadway segments using standardized condition rating methodologies to identify maintenance, rehabilitation, and replacement priorities and support capital planning and budgeting.

Each road segment is assessed based on factors such as surface condition, surface type, and drainage conditions. Condition data is used to project roadway performance over a ten-year period and forecast future rehabilitation and replacement needs.

In addition to formal assessments, municipal staff conduct regular road patrols to identify deficiencies and operational concerns requiring maintenance.

The road network is assessed using segment-level inventory data, visual condition surveys, and, where applicable, objective measures such as the Pavement Condition Index (PCI). Condition information is maintained within the Township's asset inventory to support lifecycle analysis, remaining service life estimation, and long-term infrastructure planning.

10.4 Lifecycle Management Strategy

The table below outlines North Glengarry's current lifecycle management strategy for the Road Network.

Table 24 Lifecycle Management Strategy - Road Network

Activity Type	Description
Inspections	Inspections are conducted on a scheduled rotation by trained staff or consultants to document surface and structural defects, including cracking, rutting, gravelling, potholes, edge breaks, and drainage issues. Higher-class or high-traffic roads may receive more frequent or detailed inspections. Critical safety defects discovered during patrols are logged immediately for prompt repair and follow-up inspection.
Maintenance	Maintenance preserves pavement conditions and safety by addressing minor defects early. Activities include crack sealing, pothole patching, localized base repairs, shoulder and ditch maintenance, and surface treatments on gravel roads. Work is guided by inspections and seasonal needs to slow deterioration, improve ride quality, and defer more costly rehabilitation.
Rehabilitation	Rehabilitation is applied when roads have deteriorated beyond routine maintenance but retain structural value. Treatments include surface treatments, thin or thick asphalt overlays, mill-and-pave, full-depth reclamation, and structural strengthening. Projects are prioritized based on road class, traffic, subgrade conditions, condition, risk, lifecycle cost, and coordination with underground utilities.
Replacement	Replacement occurs when pavements or supporting structures reach the end of their useful life or cannot meet geometric, drainage, or loading requirements through rehabilitation. Full reconstruction may include adjustments to width, alignment, drainage, and active transportation facilities. Replacement projects are sequenced in the capital plan based on condition, risk, and network criticality to optimize long-term performance and funding.

Figure 22 Paved Roads Lifecycle Management Strategy

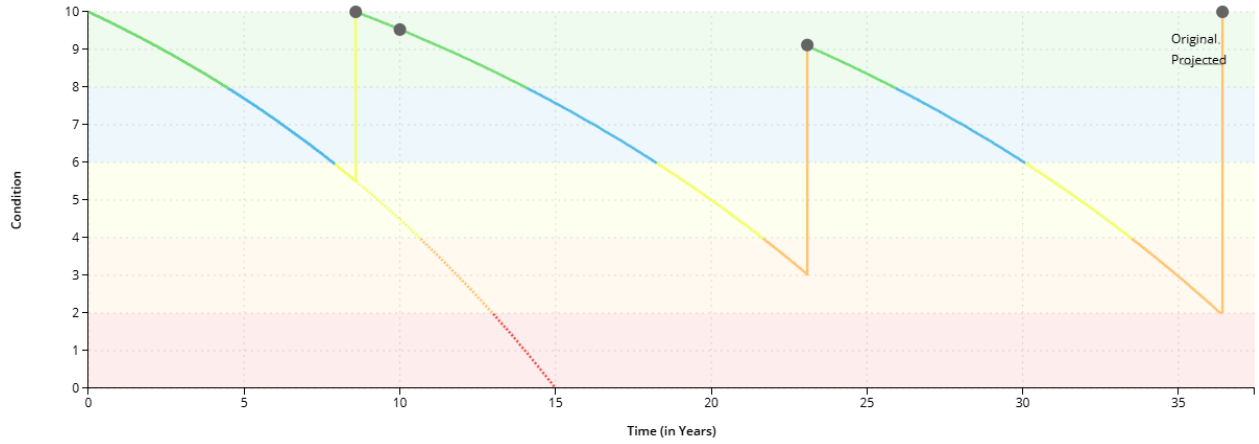


Table 25 Paved Road Lifecycle Treatment Strategy and Intervention Triggers

Event Name	Event Class	Event Trigger
Crack Sealing	Maintenance	7 to 7 condition
Pothole and patch repairs	Maintenance	2 to 10 years
Mill & Pave	Rehabilitation	3 to 3 condition
Thin Asphalt Overlay	Rehabilitation	5.5 to 5.5 condition
Road Reconstruction	Replacement	2 to 2 condition

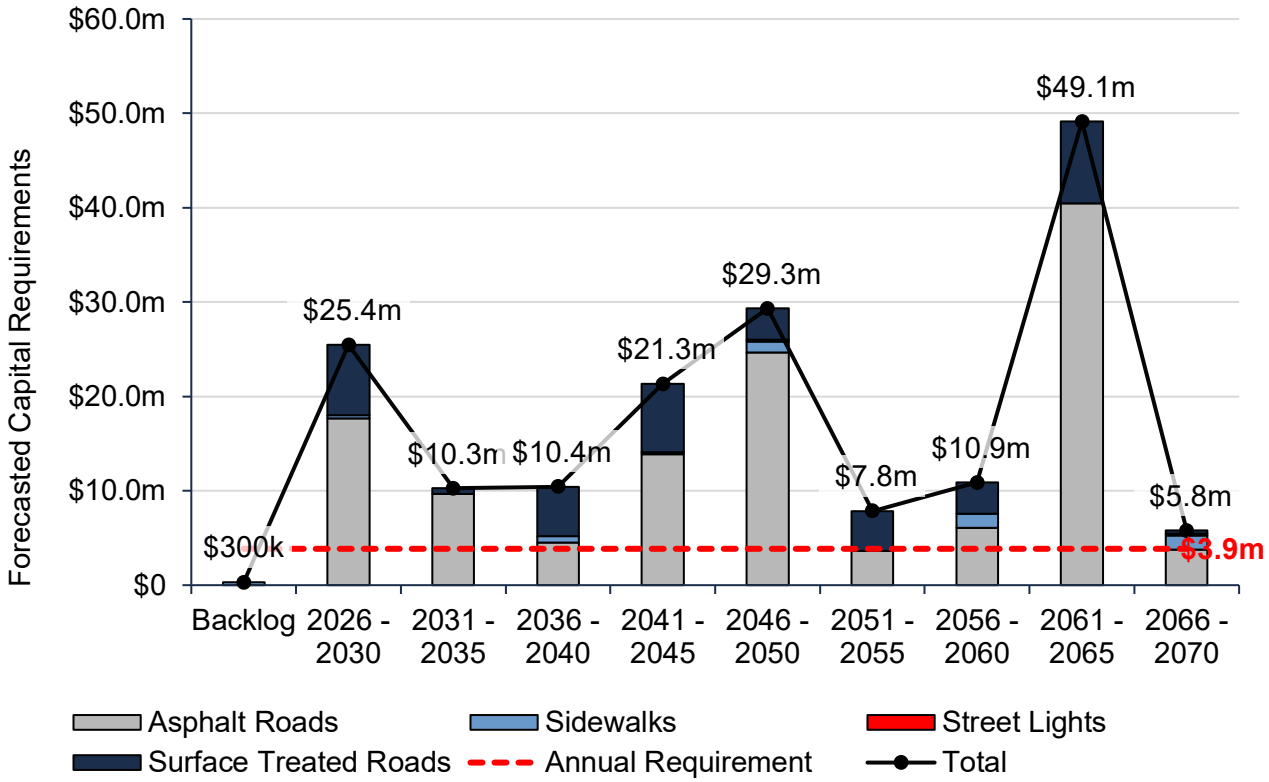
The lifecycle management strategies for HCB and LCB roads are represented using the same rehabilitation and replacement activities, reflecting the Township's current approach of upgrading LCB roads to HCB standards over time; accordingly, forecasted capital requirements incorporate these upgrades rather than applying replacement-only assumptions for paved roads.

10.5 Forecasted Capital Requirements

The figure below illustrates the cyclical short-, medium- and long-term infrastructure rehabilitation and replacement requirements for the Township's road network. This analysis was run until 2070 to capture at least one iteration of replacement for the longest-lived asset in the asset register.

The Township's average annual requirements (red dotted line) total $3.9 million for all assets in the road network. These requirements are based on asset replacement costs, age analysis, and condition data when available, as well as lifecycle modeling.

Figure 23 Road Network System-Generated Forecasted Replacement Requirements



11 Bridges & Culverts

Bridges & Culverts are a critical component of the Township's transportation network. They facilitate the movement of passenger vehicles, trucks, pedestrians and cyclists. The Township's Bridges & Culverts are maintained by the Roads Department.

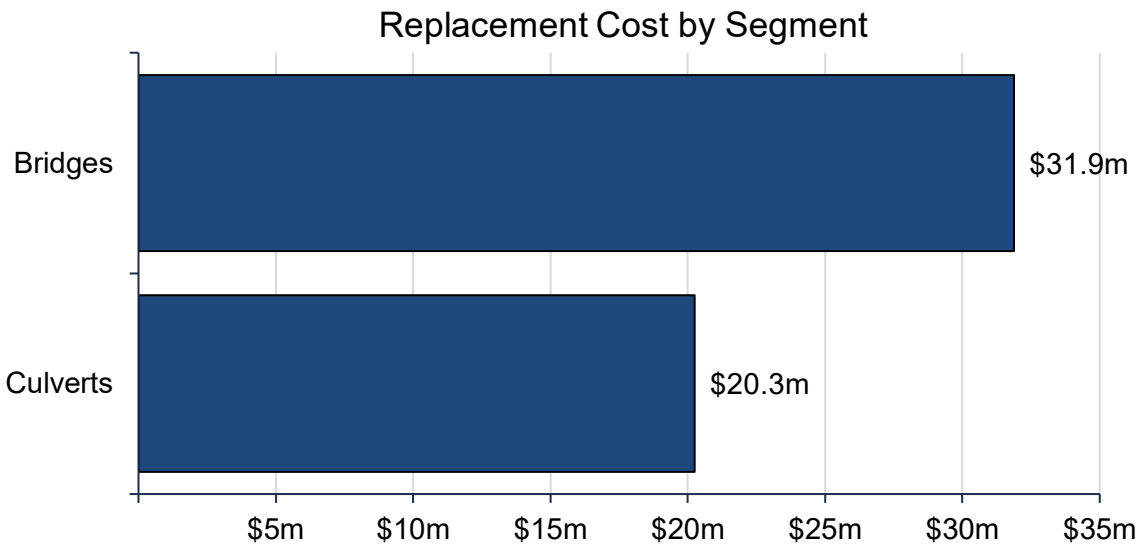
11.1 Asset Inventory and Valuation

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the Township's Bridges & Culverts inventory.

Table 26 Bridges & Culverts Inventory and Replacement Cost

Segment	Quantity	Unit of Measure	Primary Replacement Cost Method	Replacement Cost
Bridges	33	Assets	User-Defined	$31,882,000
Culverts	25	Assets	User-Defined	$20,260,000
Total	**58**	**Assets**	**User-Defined**	**$52,142,000**

Figure 24 Bridges & Culverts Replacement Valuation



11.2 Asset Age Distribution

The table below identifies the average age and the estimated useful life for each asset segment, weighted by their replacement value.

Table 27 Bridges & Culverts Average EUL vs. Average Age

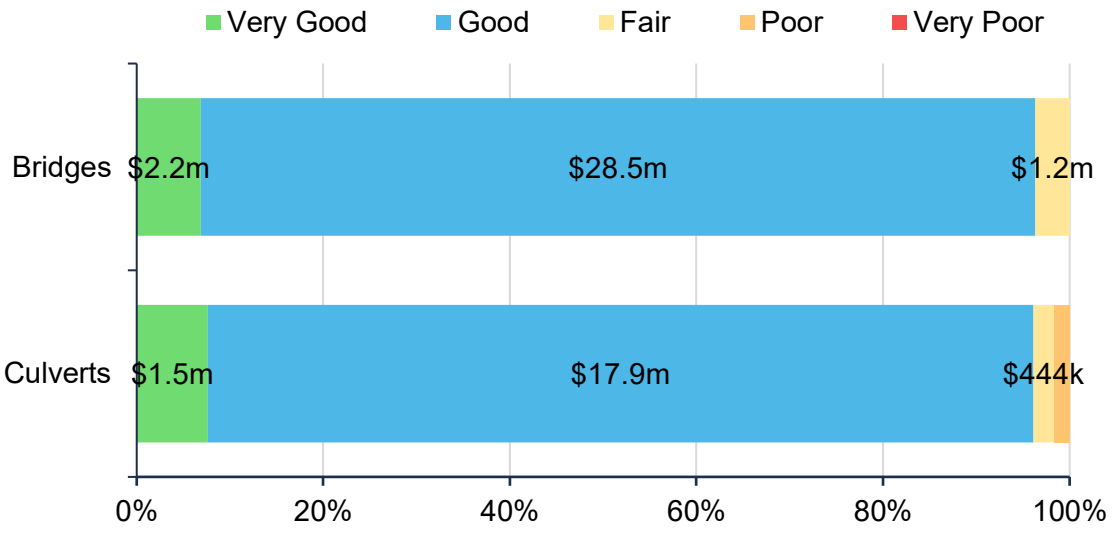
Segment	Average EUL	Average Age	Avg Remaining Life
Bridges	100.0	55.0	45.0
Culverts	75.0	18.2	56.8
All	**175**	**73.2**	**101.8**

Each asset's estimated useful life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

11.3 Asset Condition

The table below identifies the current average condition and source of available condition data for each asset segment. The Average Condition (%) is a weighted value based on replacement cost. Bridge and culvert condition ratings are based on the Bridge Condition Index (BCI) obtained through inspections completed in accordance with the Ontario Structure Inspection Manual (OSIM). The most recent inspections were completed in 2025.

Figure 25 Bridges & Culverts Asset Condition



Value and Percentage of Asset Segments by Replacement Cost

11.3.1 Current Approach to Condition Assessment

The Township assesses bridge and culvert condition through biennial inspections completed in accordance with the Ontario Structure Inspection Manual (OSIM). These inspections include engineer-led visual assessments and standardized condition ratings to evaluate structural condition, hydraulic performance, and safety. Inspection results are recorded in the asset inventory and used to monitor asset conditions over time and inform future maintenance, rehabilitation, and replacement planning.

11.4 Lifecycle Management Strategy

The table below outlines North Glengarry's current lifecycle management strategy for Bridges & Culverts.

Table 28 Lifecycle Management Strategy - Bridges & Culverts

Activity Type	Description

Maintenance	• Maintenance activities are guided by OSIM inspection recommendations and include:
	  ○ Annual sweeping and drainage system cleaning
	  ○ Regular guardrail maintenance and replacement

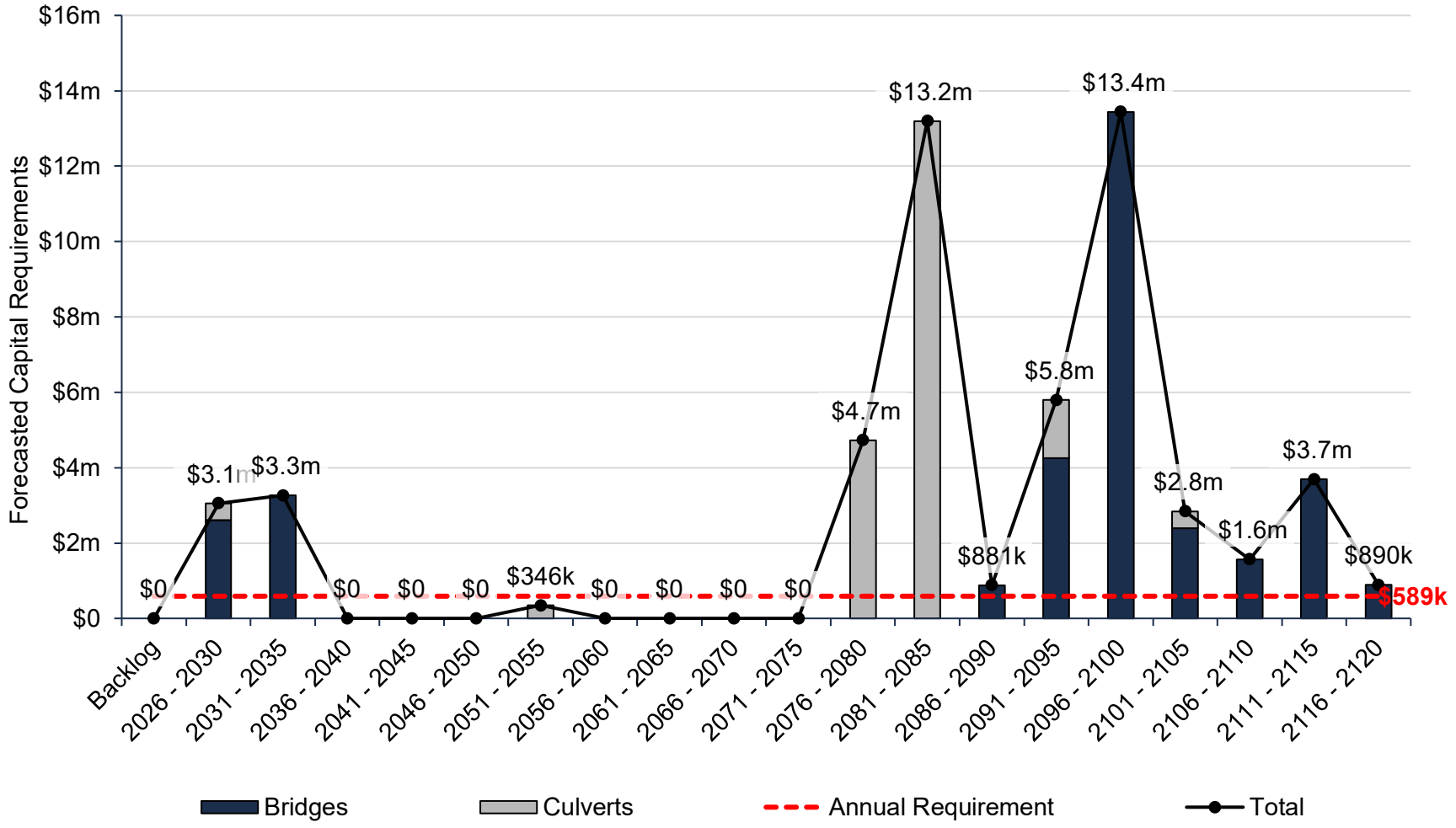
Rehabilitation & Replacement	• Rehabilitation and replacement activities are primarily based on the rehabilitation and replacement needs identified in OSIM inspection reports completed on a two-year inspection cycle.

11.5 Forecasted Capital Requirements

The figure below illustrates the cyclical short-, medium- and long-term infrastructure rehabilitation and replacement requirements for the Township's bridges and culverts. This analysis was run until 2120 to capture at least one iteration of replacement for the longest-lived asset in the asset register.

The Township's average annual requirements (red dotted line) total $589 thousand for all bridges and culverts. Forecasted requirements are based on replacement costs, asset age, available condition information, and lifecycle modeling informed by the recommended rehabilitation and replacement activities identified through biennial OSIM inspections and reports.

Figure 26 Bridges & Culverts System-Generated Forecasted Capital Requirements



12 Water Network

The Township of North Glengarry owns and operates two municipal drinking water systems: the Alexandria system, serving Alexandria, Maxville, and the connecting transmission main, and the Glen Robertson system. While operated independently, both systems share common management and resources.

These systems provide potable water to residential, commercial, institutional, and industrial users, as well as supporting municipal operations and fire protection. The network includes treatment facilities, distribution systems, storage infrastructure, transmission mains, and approximately 243 fire hydrants.

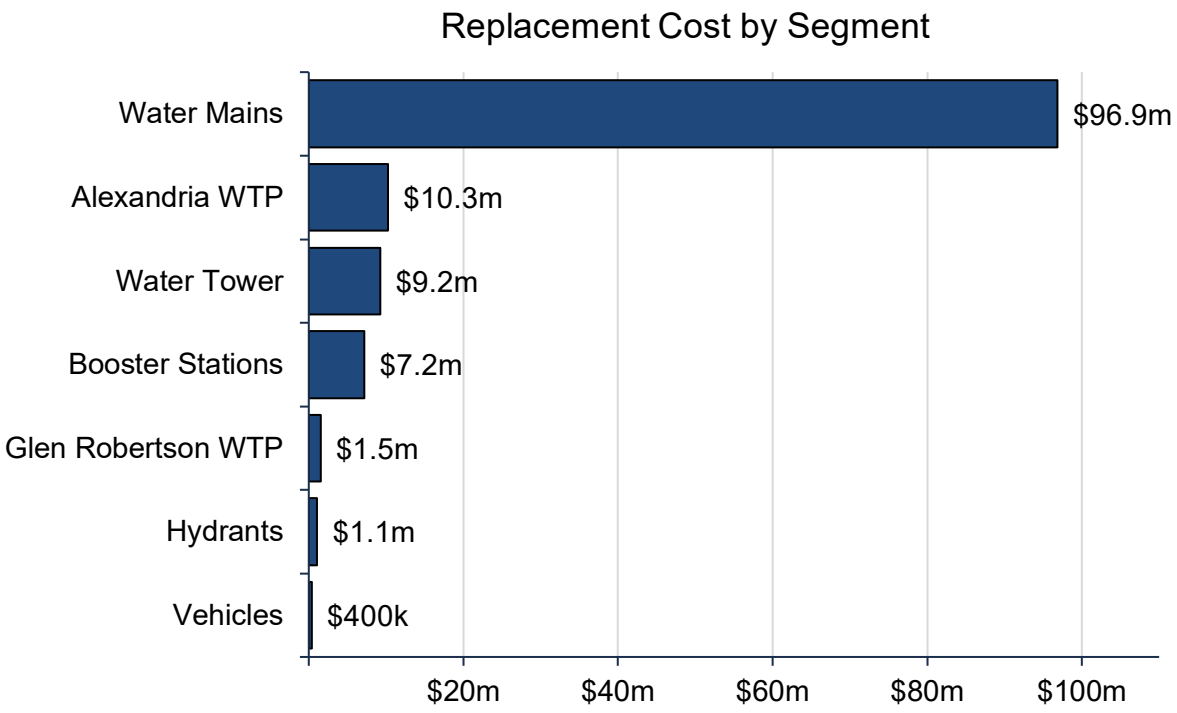
12.1 Asset Inventory and Valuation

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the Township's water network inventory.

Table 29 Water Network Inventory and Replacement Cost

Segment	Quantity	Unit of Measure	Primary Replacement Cost Method	Replacement Cost
Alexandria WTP	58	Assets	User-Defined	$10,281,444
Booster Stations	1	Assets	User-Defined	$7,200,000
Glen Robertson WTP	19	Assets	User-Defined	$1,518,050
Hydrants	243	Assets	Cost per Unit	$1,099,140
Vehicles	9	Assets	User-Defined	$400,000
Water Mains	93,056	Meters	Cost per Unit	$96,873,116
Water Tower	4	Assets	User-Defined	$9,235,559
Total			**Cost per Unit**	**$126,607,309**

Table 30 Water Network Replacement Valuation



12.2 Asset Age Distribution

The table below identifies the average age and the estimated useful life for each asset segment, weighted by their replacement value.

Table 31 Water Network Average EUL vs. Average Age

Segment	Average EUL	Average Age	Avg Remaining Life
Alexandria WTP	69.9	53.7	16.3
Booster Stations	100.0	7.0	93.0
Glen Robertson WTP	95.7	65.3	30.4
Hydrants	48.5	19.4	29.0
Vehicles	12.4	11.1	1.3
Water Mains	100.0	23.5	76.5
Water Tower	99.2	28.7	70.5
All	**525.7**	**208.7**	**317.0**

Each asset's estimated useful life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

12.3 Asset Condition

The table below identifies the current average condition and source of available condition data for each asset segment. The Average Condition (%) is a weighted value based on replacement cost.

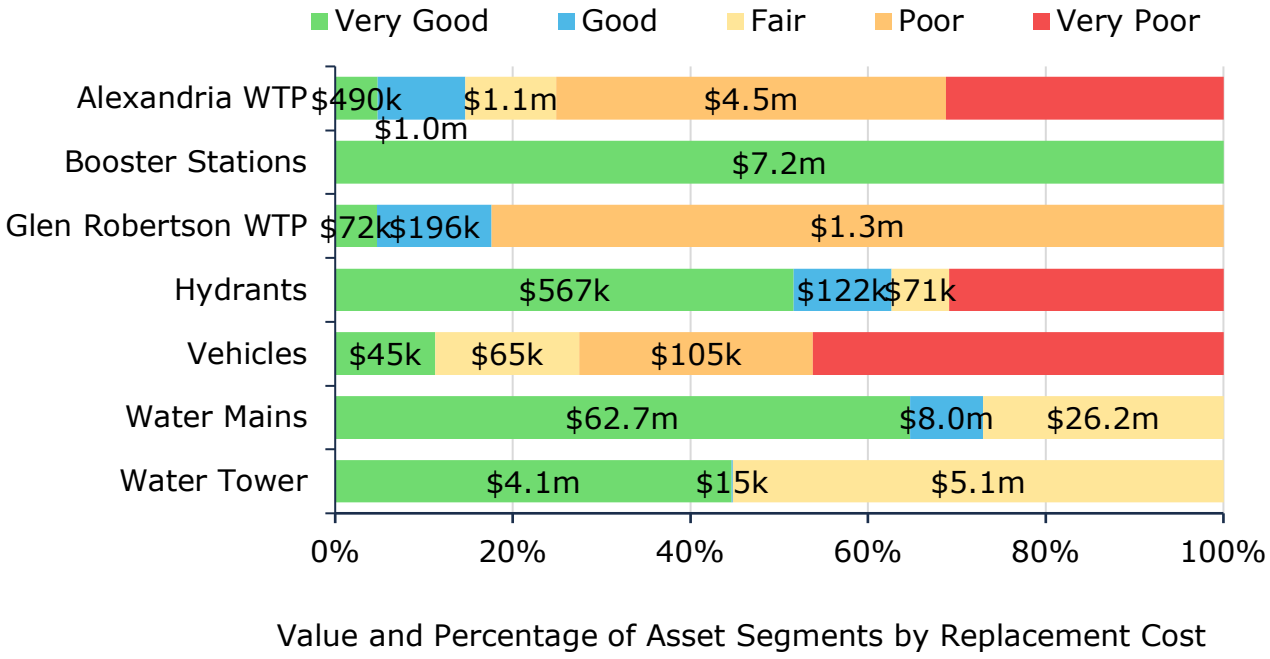


Figure 27: Water Network Condition Summary

12.3.1 Current Approach to Condition Assessment

The water network is evaluated using pipe age, material, break history, soil and pressure conditions, and targeted investigations such as acoustic leak detection, CCTV, and non-destructive testing on critical mains. Data is translated into standardized condition ratings at pipe and facility levels to estimate remaining useful life and identify high-risk assets requiring closer monitoring, rehabilitation, or replacement.

12.4 Lifecycle Management Strategy

The table below outlines North Glengarry's current lifecycle management strategy for the water network.

Table 32 Lifecycle Management Strategy - Water Network

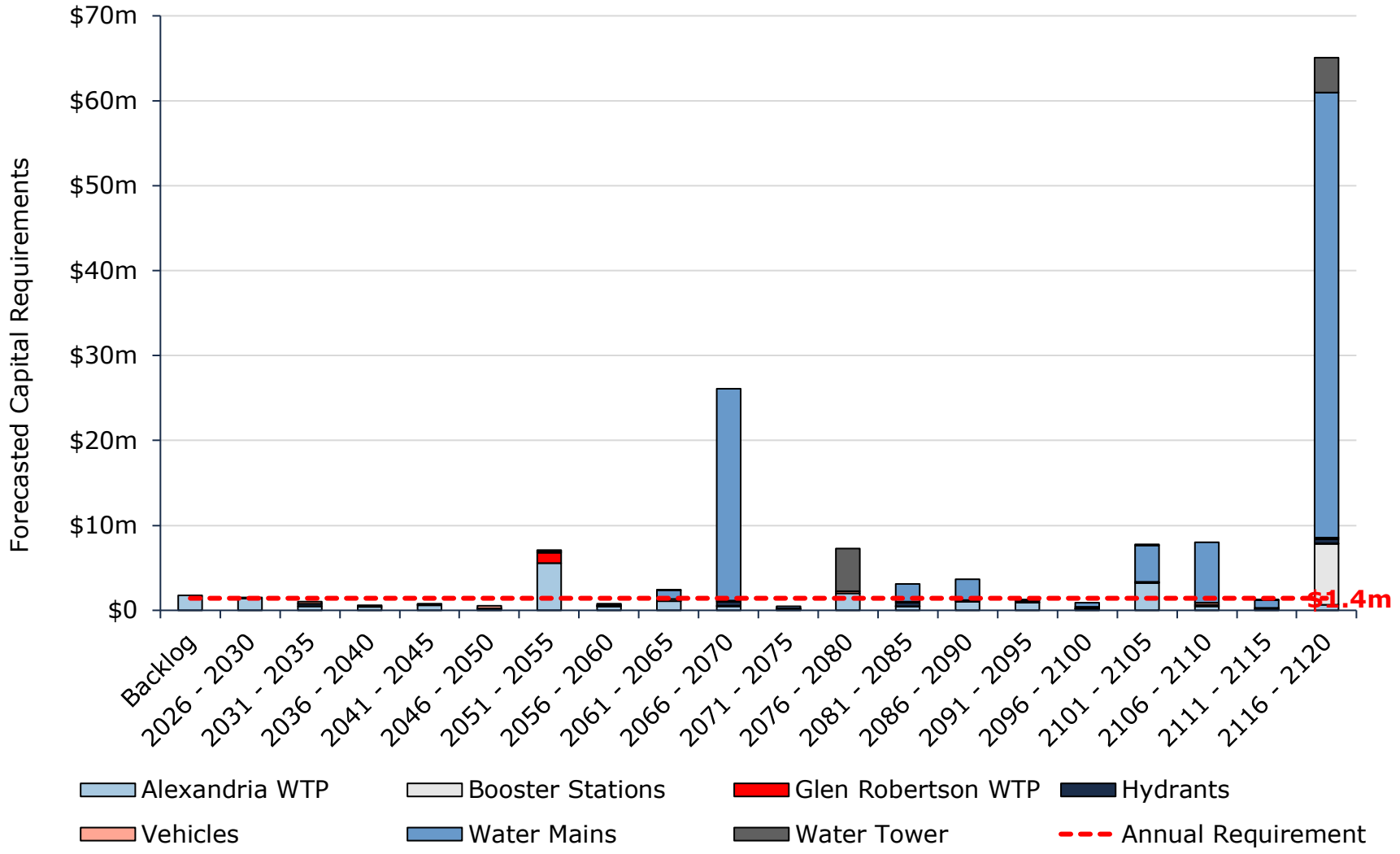
Activity Type	Description
Inspections	Inspections occur at defined intervals and assess asset health through valve operability, hydrant performance, pressure readings, leaks, and evidence of corrosion or ground movement. Detailed inspections, including chamber entry and reservoir or tower checks, are triggered by risk factors such as past failures or abnormal operating data. All findings are documented for trend analysis and condition tracking.
Maintenance	Maintenance preserves reliability, water quality, and hydraulic performance through proactive tasks including valve exercising, hydrant flushing, leak repair, pressure management, and corrosion protection (coatings or cathodic protection where applicable). Activities are scheduled based on inspection results and operational data to reduce failures, extend service life, and defer more costly rehabilitation or replacement.
Rehabilitation	Rehabilitation restores sections of the network where conditions have declined but full replacement is not yet required. Techniques include cured-in-place pipe or spray-on linings, pipe bursting with upsizing, localized structural repairs, and targeted renewals at known weak points such as corrosion hotspots or high-consequence segments. Projects are prioritized using risk, condition, and lifecycle cost analysis to extend service life cost-effectively.
Replacement	Replacement occurs when pipes or facilities reach the end of their economic or physical life, experience repeated failures, or cannot meet capacity, pressure, fire flow, or water quality requirements. Renewal strategies consider right-sizing, material selection, coordination with road and sewer works, and resilience to future demand and climate conditions. Projects are sequenced in the long-term capital plan to manage risk, funding, and construction impacts on customers.

12.5 Forecasted Capital Requirements

The figure below illustrates the cyclical short-, medium- and long-term infrastructure rehabilitation and replacement requirements for the Township's water network. This analysis was run until 2120 to capture at least one iteration of replacement for the longest-lived asset in the asset register.

The Township's average annual requirements (red dotted line) total $1.4 million for all water network assets. Forecasted requirements are based on replacement costs, asset age and available condition information.

Figure 28 Water Network System-Generated Forecasted Capital Requirements



13 Sanitary Network

The Township of North Glengarry owns and maintains two separate municipal wastewater systems located within the town of Alexandria and the village of Maxville. While these systems function independently, they share common management and operational resources.

These systems provide sanitary sewage collection, conveyance, and treatment for residential, commercial, institutional, and industrial users. The network includes collection piping, lift stations, pumping stations, and lagoon treatment facilities.

The wastewater systems are currently undergoing significant upgrades and expansions supported by provincial Housing Enabling Water Systems Funding (HEWSF), including lagoon expansion projects in both Alexandria and Maxville.

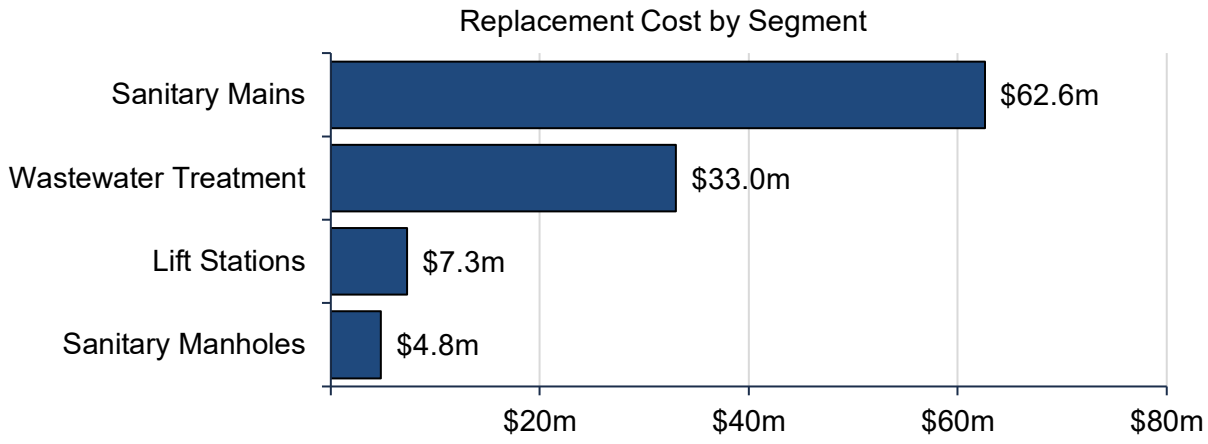
13.1 Asset Inventory and Valuation

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the Township's sanitary network inventory.

Table 33 Sanitary Network Inventory and Replacement Cost

Segment	Quantity	Unit of Measure	Primary Replacement Cost Method	Replacement Cost
Lift Stations	25	Quantity	User-Defined	$7,298,000
Sanitary Mains	60,504	Length (m)	Cost per Unit	$62,578,920
Sanitary Manholes	448	Quantity	Cost per Unit	$4,816,103
Wastewater Treatment	4	Quantity	User-Defined	$33,040,000
Total			**Cost per Unit**	**$107,733,023**

Figure 29 Sanitary Network Replacement Valuation



13.2 Asset Age Distribution

The table below identifies the average age and the estimated useful life for each asset segment, weighted by their replacement value.

Table 34 Sanitary Network Average EUL vs. Average Age

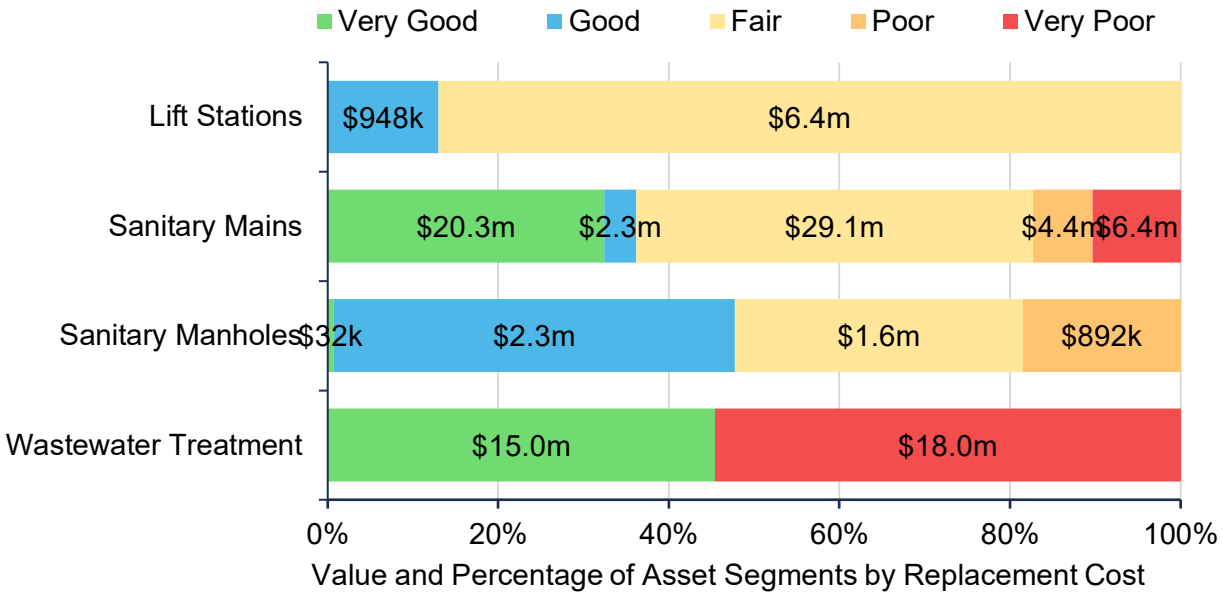
Segment	Average EUL	Average Age	Avg Remaining Life
Lift Stations	90.0	45.5	44.5
Sanitary Mains	100.0	46.1	53.9
Sanitary Manholes	100.0	53.5	46.5
Wastewater Treatment	79.9	41.7	38.2
All	**369.9**	**186.7**	**183.2**

Each asset's estimated useful life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

13.3 Asset Condition

Figure 30 below identifies the current average condition and source of available condition data for each asset segment. The Average Condition (%) is a weighted value based on replacement cost.

Figure 30 Sanitary Network Asset Condition



13.3.1 Current Approach to Condition Assessment

The sanitary network is evaluated using pipe age, material, diameter, depth, break and backup history, and hydraulic performance, supplemented by targeted CCTV inspections and manhole assessments on higher-risk segments. These inputs are translated into standardized condition ratings at the pipe and manhole level to estimate remaining useful life and identify sections that require rehabilitation or replacement.

13.4 Lifecycle Management Strategy

The table below outlines North Glengarry's current lifecycle management strategy for the sanitary network.

Table 35 Lifecycle Management Strategy - Sanitary Network

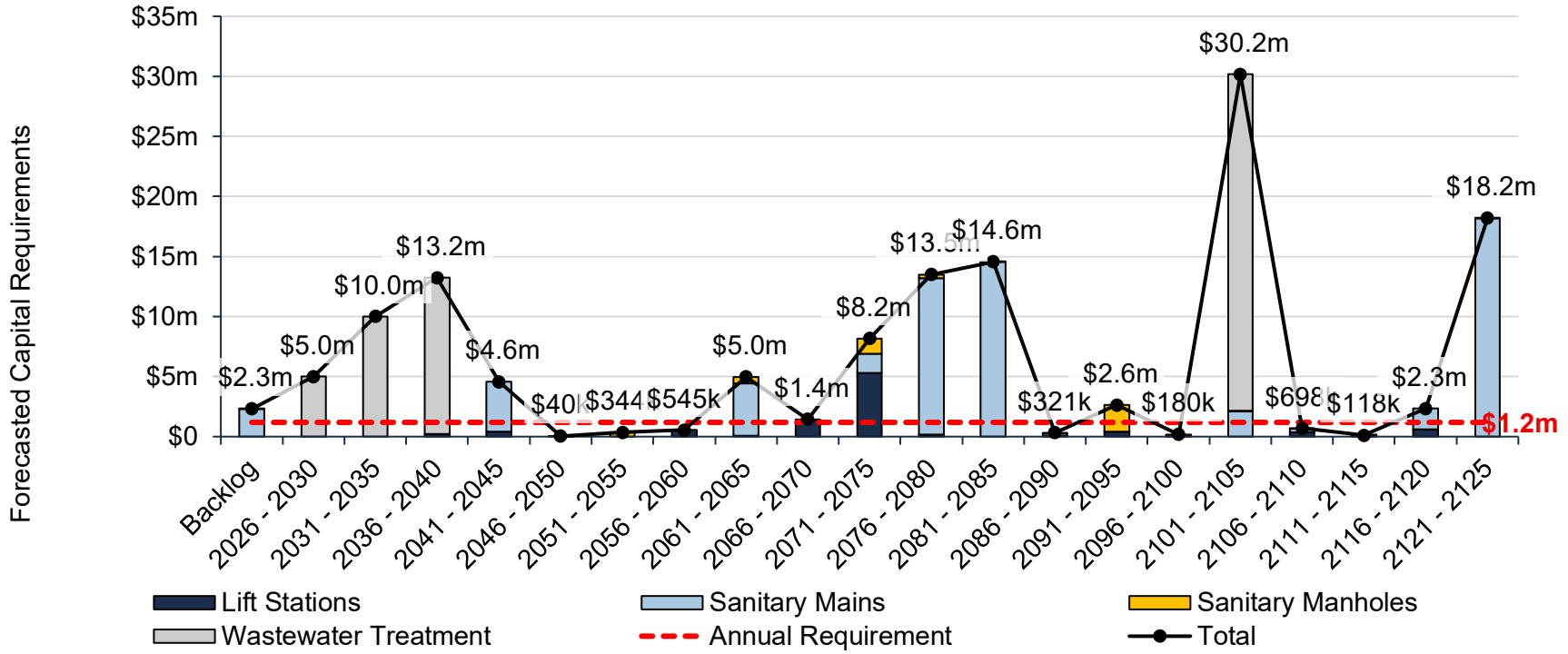
Activity Type	Description
Inspections	Recurring inspections combine manhole checks, CCTV of selected segments, and targeted investigations in areas with blockages, backups, or infiltration/inflow. Critical trunks, forcemains, and known problem areas are inspected more frequently. All findings are documented using recognized defect standards to monitor trends and prioritize maintenance and rehabilitation.
Maintenance	Maintenance preserves hydraulic capacity and minimizes backups and overflows through flushing, root cutting, grease removal, and repair of manholes, frames, and covers. Frequencies are adjusted based on inspection results and historical issues, with critical or problem areas maintained more frequently to reduce service disruptions and environmental risk.
Rehabilitation	Rehabilitation restores structural or hydraulic performance where assets show deterioration but do not yet require full replacement. Techniques include cured-in-place pipe lining, spot repairs, grouting of joints and laterals, manhole lining, and, where necessary, pipe bursting with upsizing. Projects are prioritized by condition, risk, lifecycle cost, and coordinated with road or water works to reduce disruption and optimize investment.
Replacement	Replacement occurs when assets reach end-of-life, experience repeated failures, or are undersized for current or projected flows and cannot be economically rehabilitated. Full open-cut or trenchless replacement is planned with consideration for rightsizing, material selection, infiltration/inflow reduction, and coordination with adjacent infrastructure. Projects are scheduled through the long-term capital plan based on condition, risk, regulatory requirements, and growth needs.

13.5 Forecasted Capital Requirements

The figure below illustrates the cyclical short-, medium- and long-term infrastructure rehabilitation and replacement requirements for the Township's sanitary network. This analysis was run until 2125 to capture at least one iteration of replacement for the longest-lived asset in the asset register. The Township's average annual requirements (red dotted line) total $1.2 million for all water network assets. Forecasted requirements are based on replacement costs, asset age and available condition information.

The Township has also secured approximately $28.5 million in provincial funding through the Housing Enabling Water systems Fund (HEWSF) program to support upgrades to wastewater treatment infrastructure, including lagoon expansion projects in Alexandria and Maxville. Construction of the Alexandria lagoon expansion is scheduled to begin in April 2026 and be completed in 2028. The Maxville project is currently in the engineering study phase, with construction planned to commence in Summer 2027. Routine maintenance of the sanitary system includes periodic cleanouts on a 10-year cycle.

Figure 31 Sanitary Network System-Generated Forecasted Capital Requirements



14 Storm Water Network

The Township owns and maintains approximately 17.9 kilometers of stormwater mains, primarily located within the urban areas of Alexandria and Maxville, with limited infrastructure in Glen Robertson. This system provides localized stormwater conveyance and drainage to support urban development and reduce surface flooding during rainfall events.

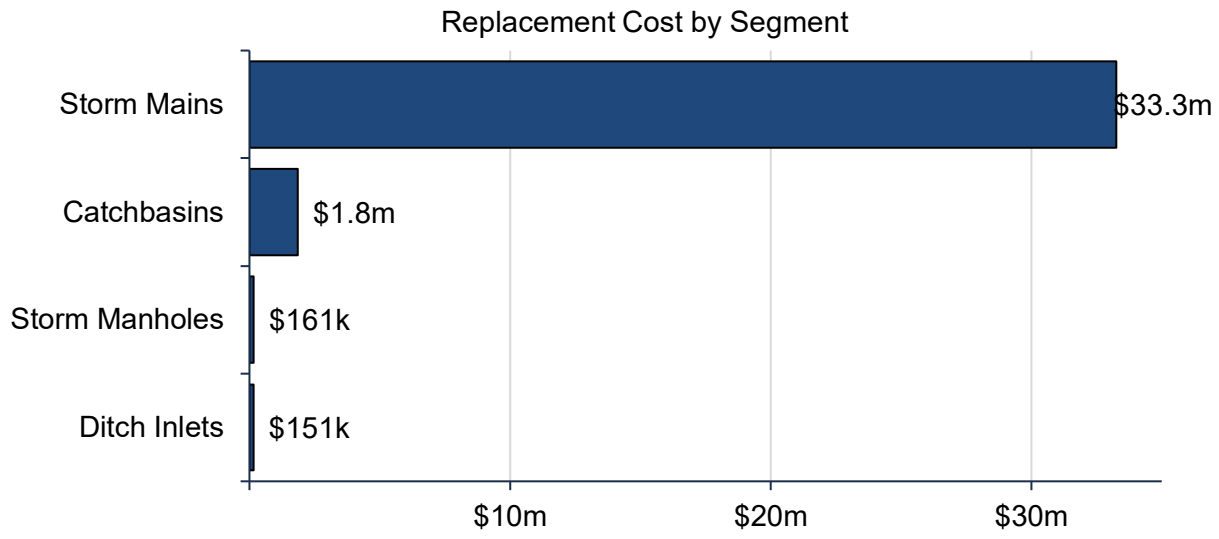
14.1 Asset Inventory and Valuation

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the Township's storm water network inventory.

Table 36 Storm Water Network Inventory and Replacement Cost

Segment	Quantity	Unit of Measure	Primary Replacement Cost Method	Replacement Cost
Catch Basins	418	Quantity	Cost per Unit	$1,847,581
Ditch Inlets	14	Quantity	User-Defined	$150,503
Storm Mains	17,984	Length (m)	Cost per Unit	$33,259,633
Storm Manholes	15	Quantity	Cost per Unit	$161,253
Total			**Cost per Unit**	**$35,418,970**

Figure 32 Storm Water Network Replacement Valuation



14.2 Asset Age Distribution

The table below identifies the average age and the estimated useful life for each asset segment, weighted by their replacement value.

Table 37 Storm Water Network Average EUL vs. Average Age

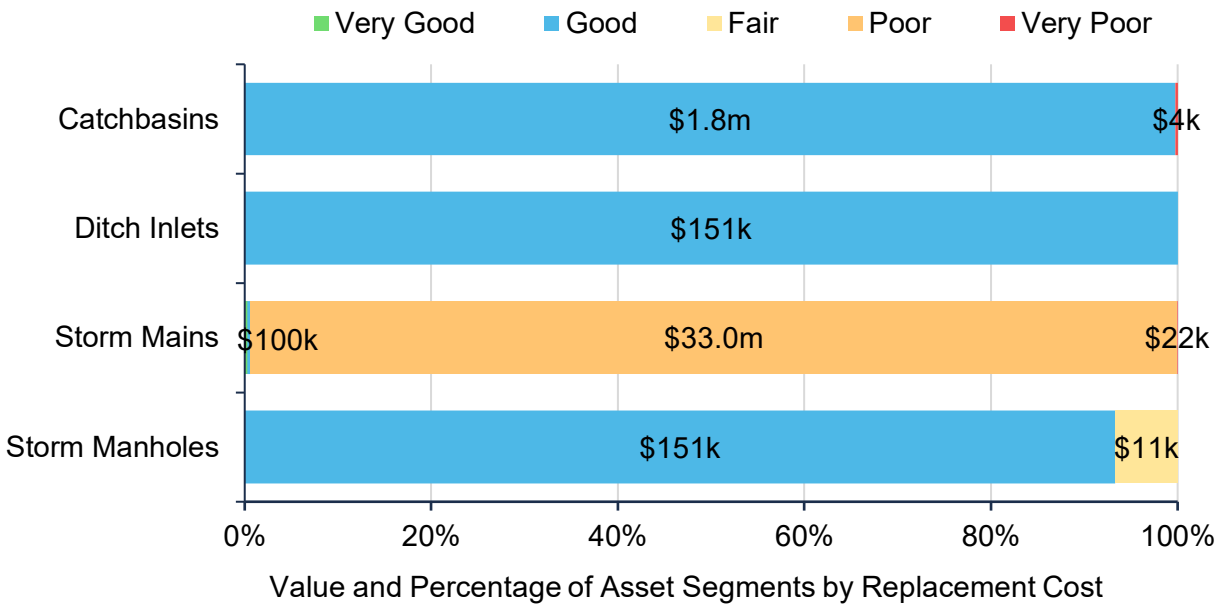
Segment	Average EUL	Average Age	Avg Remaining Life
Catch Basins	50.0	45.3	4.7
Ditch Inlets	30.0	46.0	-16.0
Storm Mains	75.0	45.8	29.2
Storm Manholes	100.0	46.0	54.0
All	**255.0**	**183.1**	**71.9**

Each asset's estimated useful life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

14.3 Asset Condition

The table below identifies the current average condition and source of available condition data for each asset segment. The Average Condition (%) is a weighted value based on replacement cost.

Figure 33 Storm Water Network Asset Condition



14.3.1 Current Approach to Condition Assessment

The storm water network is evaluated using pipe age, material, diameter, depth, known flooding or capacity issues, and targeted CCTV inspections of higher-risk mains, culverts, and outfalls. Data are translated into standardized condition ratings reflecting structural integrity and hydraulic performance, estimating remaining useful life and identifying assets that require rehabilitation or replacement

14.4 Lifecycle Management Strategy

The table below outlines North Glengarry's current lifecycle management strategy for the storm water network.

Table 38 Lifecycle Management Strategy - Storm Water Network

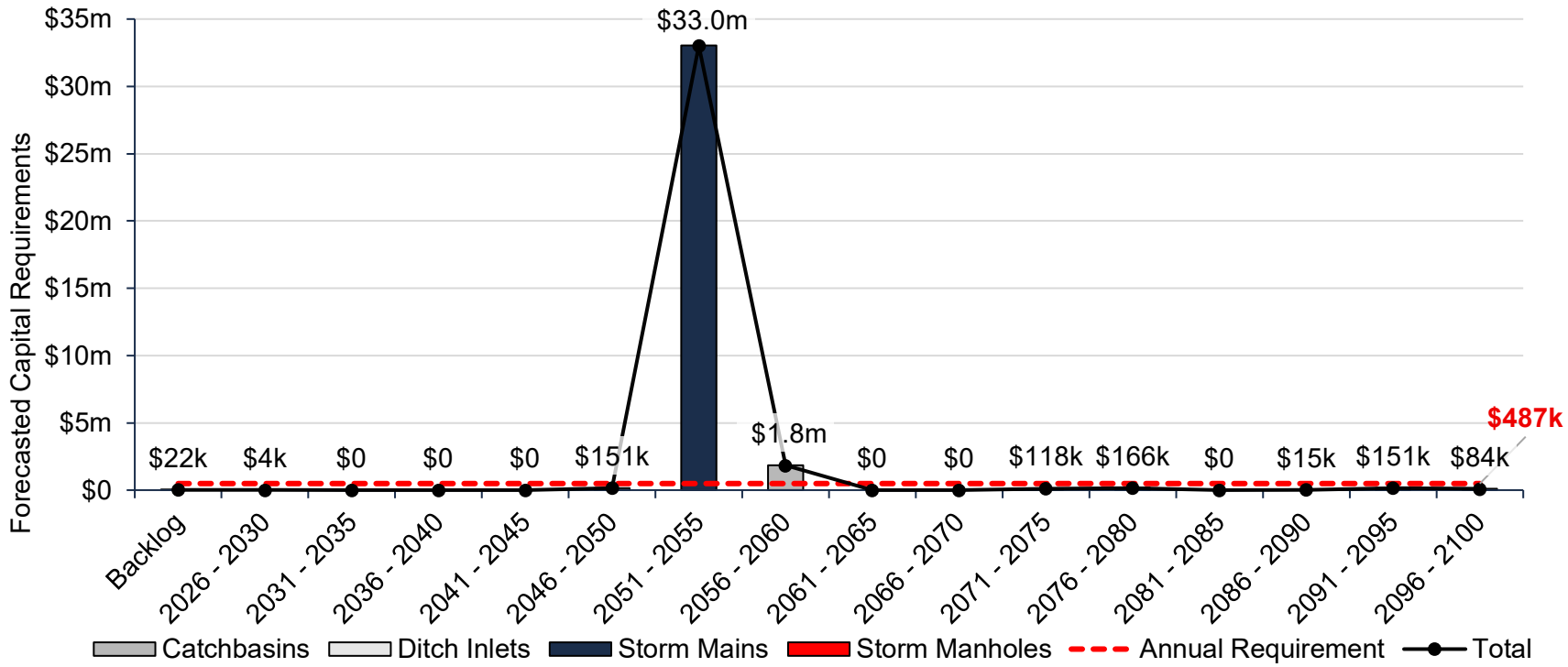
Activity Type	Description
Inspections	Recurring inspections focus on inlets, catch basins, manholes, mains, culverts, and outfalls, checking for cracks, joint separation, deformation, blockages, sediment buildup, surcharging, or erosion. Detailed CCTV or specialized inspections are performed in problem areas, with findings documented to track trends and prioritize high-risk locations.
Maintenance	Maintenance preserves conveyance capacity and protects downstream environments through cleaning catch basins, flushing sewers, removing sediment and debris, and repairing damaged lids, grates, and frames. Frequency is risk-based, with higher priority on critical trunk sewers, flood-prone areas, and historically problematic locations to minimize flooding and infrastructure damage.
Rehabilitation	Rehabilitation restores structural performance where deterioration, joint issues, or infiltration occur, but full replacement is not yet required. Techniques include cured-in-place pipe (CIPP) lining, slip lining, grouting, spot repairs, and lining of manholes or catch basins. Projects are prioritized using condition, risk, and potential impacts, often coordinated with road or other underground works to reduce disruption and optimize lifecycle costs.
Replacement	Replacement occurs when assets reach the end of their useful life, show advanced structural failure, or are undersized for current and projected runoff and cannot be economically rehabilitated. Replacement may involve open-cut or trenchless methods, upsizing, or realignment, following updated design standards and climate-informed capacity. Projects are sequenced in the capital plan based on condition, flood risk, criticality, and opportunities to bundle with other infrastructure works.

14.5 Forecasted Capital Requirements

The figure below illustrates the cyclical short-, medium- and long-term infrastructure rehabilitation and replacement requirements for the Township's storm water network. This analysis was run until 2100 to capture at least one iteration of replacement for the longest-lived asset in the asset register.

The Township's average annual requirements (red dotted line) total $487 thousand for all storm water network assets. Forecasted requirements are based on replacement costs, asset age and available condition information. Please Note: The Township's asset registry currently records almost all stormwater assets with the same in-service date. This is causing a clustered and significant forecasted investment in 2051-2055. The Township recently acquired storm water condition assessments for a proportion of their network and will be updating their database with these details. Once complete, it is anticipated that the capital forecasts will be more evenly distributed over time.

Figure 34 Storm Water Network System-Generated Forecasted Capital Requirements



15 Buildings

The Township owns and maintains a range of municipal buildings that support service delivery and daily operations. These include three fire stations located in Alexandria, Apple Hill, and Maxville, as well as various recreation and community facilities.

Key facilities include the Glengarry Sports Palace, Maxville & District Sports Complex, Dunvegan Recreation Centre, Glen Robertson Community Centre, Dalkeith Community Centre, Apple Hill Community Centre, and the Island Park Community Building.

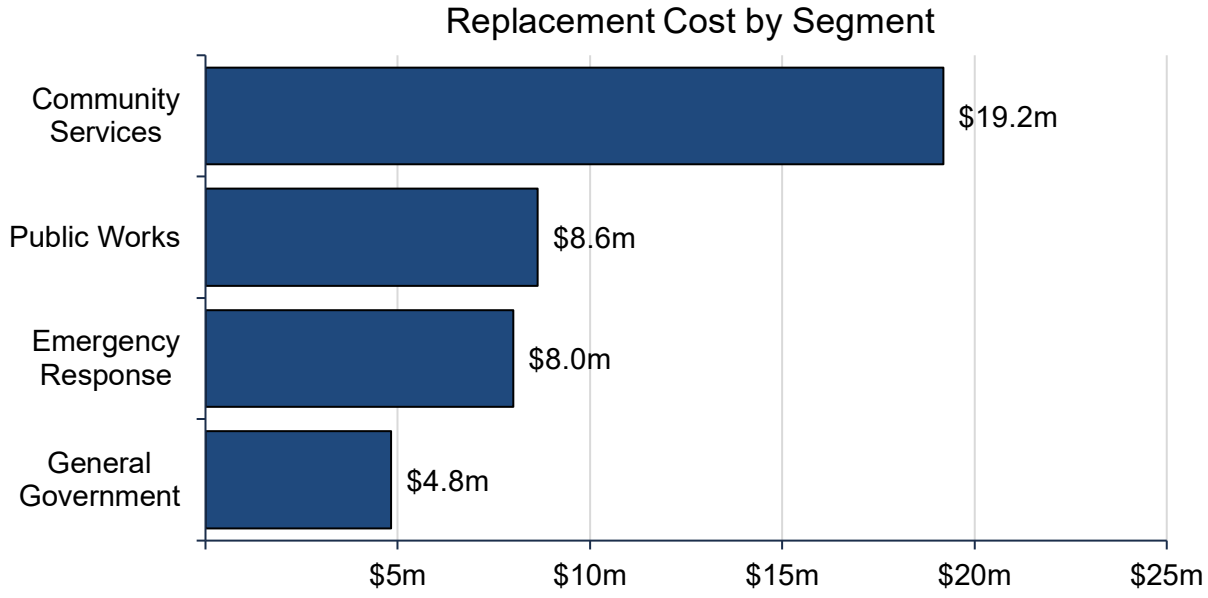
15.1 Asset Inventory and Valuation

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the Township's buildings inventory.

Table 39 Buildings Inventory and Replacement Cost

Segment	Quantity	Unit of Measure	Primary Replacement Cost Method	Replacement Cost
Community Services	10	Quantity	User-Defined	$19,185,751
Emergency Response	3	Quantity	User-Defined	$8,000,000
General Government	3	Quantity	User-Defined	$4,824,458
Public Works	7	Quantity	User-Defined	$8,639,002
Total	**23**	**Quantity**	**User-Defined**	**$40,649,211**

Figure 35 Buildings Replacement Valuation



15.2 Asset Age Distribution

The table below identifies the average age and the estimated useful life for each asset segment, weighted by their replacement value.

Table 40 Buildings Average EUL vs. Average Age

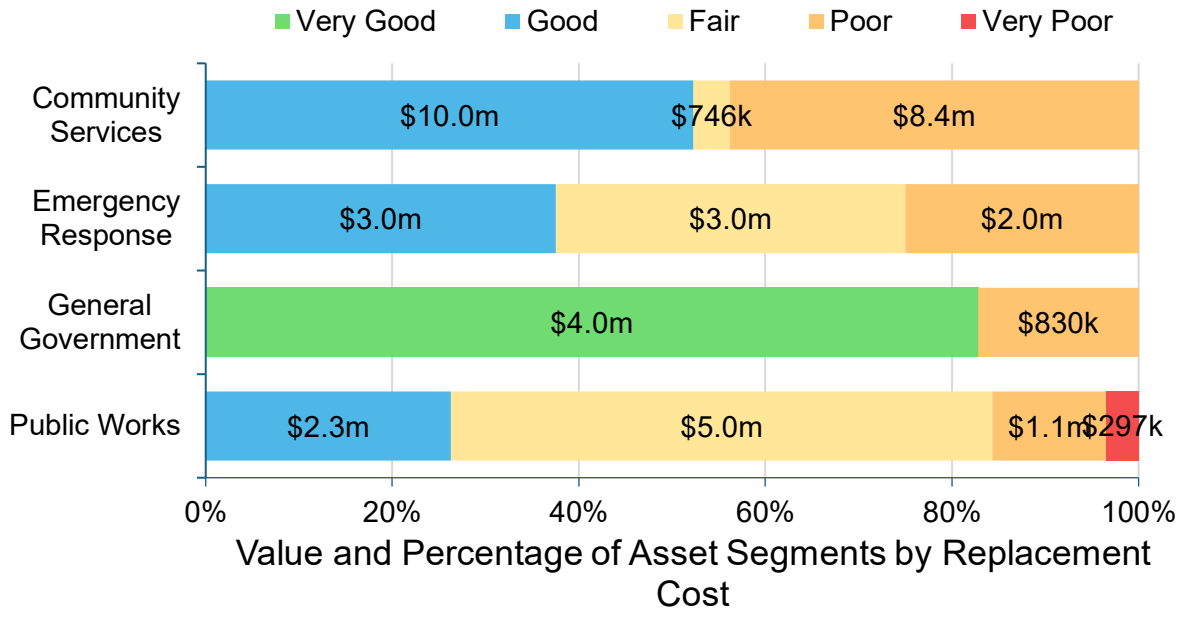
Segment	Average EUL	Average Age	Avg Remaining Life
Community Services	90.4	41.1	49.3
Emergency Response	75.0	42.5	32.5
General Government	99.0	10.0	89.0
Public Works	96.0	43.5	52.5
All	**360.4**	**137.1**	**223.3**

Each asset's estimated useful life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

15.3 Asset Condition

The table below identifies the current average condition and source of available condition data for each asset segment. The Average Condition (%) is a weighted value based on replacement cost. For this report, building condition was assessed through a desktop-based estimation exercise using available asset data and staff input, as detailed condition assessment information was not available at the time of analysis

Figure 36 Buildings Asset Condition



15.3.1 Current Approach to Condition Assessment

Building Condition Assessments (BCAs) are completed on a defined cycle (generally every ten years for major facilities) and supplemented by scheduled visual reviews. BCAs are conducted by qualified third-party consultants in consultation with staff.

Assessments review structural, architectural, mechanical, electrical, envelopes, interior, site, life safety, accessibility, and code compliance elements. Maintenance history and recurring issues are considered. Each facility receives a standardized condition rating to identify deficiencies, estimate remaining useful life, and support maintenance planning, rehabilitation priorities, and long-term capital forecasting

15.4 Lifecycle Management Strategy

The table below outlines North Glengarry's current lifecycle management strategy for municipal buildings.

Table 41 Lifecycle Management Strategy - Buildings

Activity Type	Description
Inspections	• Regular staff walkthroughs are completed to identify safety hazards, emerging issues, water ingress, system performance concerns, and code or accessibility non-compliance. • Specialized inspections (e.g., elevators, fire protection systems, boilers) are completed by qualified third parties where required. Findings are documented in the asset register or maintenance management system to track trends and inform planning.
Maintenance	• Maintenance includes routine, preventative, and corrective activities to preserve functionality, ensure safety, and extend asset life. • Activities include servicing HVAC, plumbing, electrical, and life safety systems, roof and envelope repairs, seasonal system start-ups/shutdowns, and timely repair of minor deficiencies. Work is scheduled based on manufacturer recommendations, regulatory requirements, and inspection results, and is documented to support lifecycle management and cost control.
Rehabilitation & Replacement	• Rehabilitation involves renewal or upgrade of major components when deterioration exceeds routine maintenance, but full replacement is not warranted. • Typical projects include roof replacements, HVAC modernization, major mechanical/electrical upgrades, structural repairs, interior refurbishments, and accessibility or code improvements. • Projects are prioritized using condition data, lifecycle cost analysis, risk, service demand, and operational impacts, and may be grouped to reduce disruption and optimize costs.

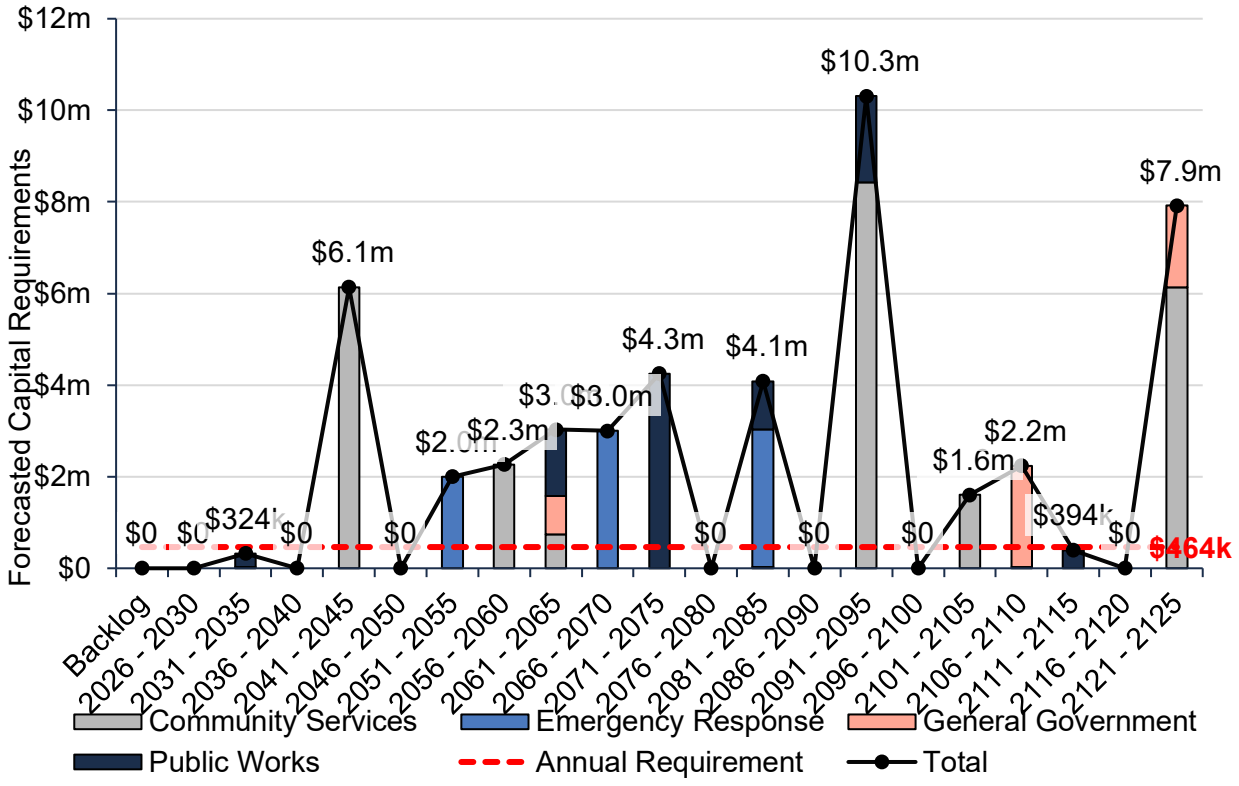
Activity Type	Description
	• Replacement is considered when a facility reaches the end of its useful life, is functionally obsolete, or when rehabilitation is no longer cost-effective. • Decisions are based on condition assessments, maintenance history, lifecycle cost analysis, service needs, regulatory requirements, and strategic priorities. Approved projects are incorporated into the long-term capital plan and establish a new service life aligned with current standards.

15.5 Forecasted Capital Requirements

The figure below illustrates the cyclical short-, medium- and long-term infrastructure rehabilitation and replacement requirements for the Township's municipal buildings. This analysis was run until 2125 to capture at least one iteration of replacement for the longest-lived asset in the asset register.

The Township's average annual requirements (red dotted line) total $538 thousand for all building assets. Forecasted requirements are based on replacement costs, asset age and available condition information

Figure 37 Buildings System-Generated Forecasted Capital Requirements



16 Land Improvements

The Township owns and maintains a diverse range of land improvements that support recreation, municipal operations, and community services across its facilities and public spaces. These include outdoor structures such as gazebos; park amenities including soccer fields, tennis courts, basketball courts, skateboard park, splash pad, playground, and paved pathways; as well as play structures and playground equipment located throughout various community sites.

Additional site features include parking lots, signage, fencing, lighting, benches, and decorative installations, along with operational assets such as fire wells, monitoring wells, and drainage systems. Together, these improvements enhance accessibility, safety, functionality, and the overall use and enjoyment of the Township.

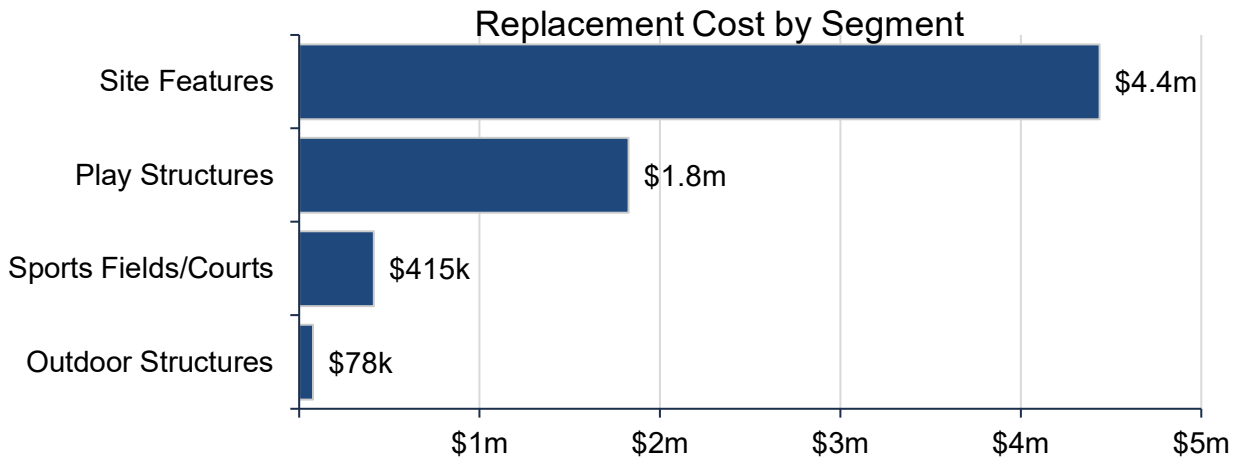
16.1 Asset Inventory and Valuation

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the Township's land improvements inventory.

Table 42 Land Improvements Inventory and Replacement Cost

Segment	Quantity	Unit of Measure	Primary Replacement Cost Method	Replacement Cost
Outdoor Structures	3	Quantity	User-Defined	$77,994
Play Structures	11	Quantity	User-Defined	$1,826,503
Site Features	47	Quantity	User-Defined	$4,436,659
Sports Fields/Courts	3	Quantity	User-Defined	$415,087
Total	**64**	**Quantity**	**User-Defined**	**$6,756,243**

Figure 38 Land Improvements Replacement Valuation



16.2 Asset Age Distribution

The table below identifies the average age and the estimated useful life for each asset segment, weighted by their replacement value.

Table 43 Land Improvements Average EUL vs. Average Age

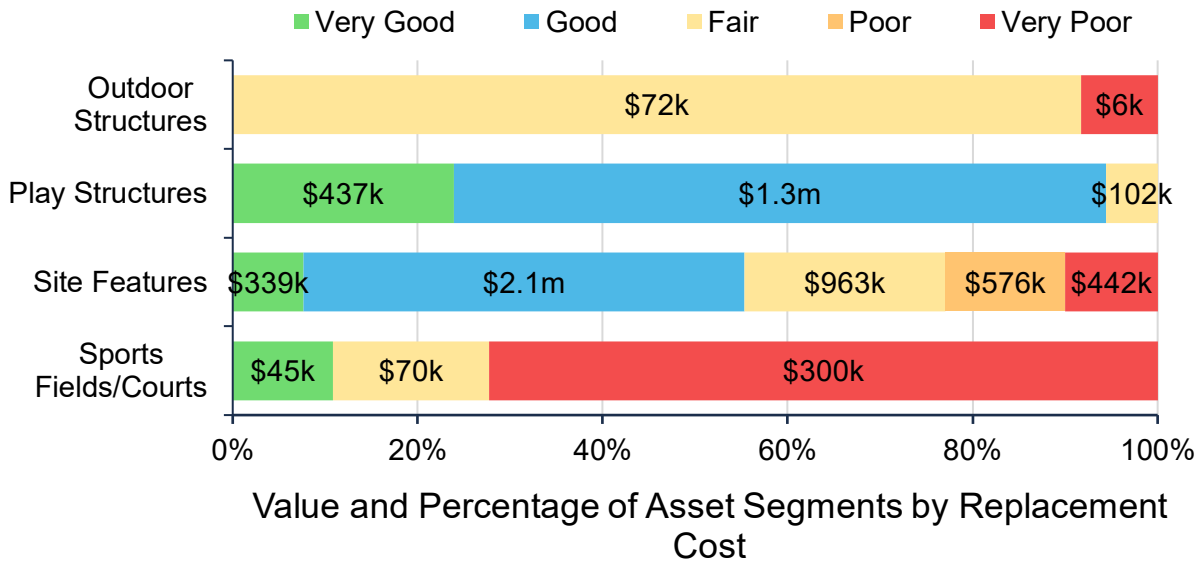
Segment	Average EUL	Average Age	Avg Remaining Life
Outdoor Structures	15.1	26.7	-11.6
Play Structures	15.0	17.5	-2.5
Site Features	30.9	18.1	12.8
Sports Fields/Courts	20.8	34.9	-14.1
All	**81.8**	**97.2**	**-15.4**

Each asset's estimated useful life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

16.3 Asset Condition

The table below identifies the current average condition and source of available condition data for each asset segment. The Average Condition (%) is a weighted value based on replacement cost. For this report, land improvement conditions were assessed through a desktop-based estimation exercise using available asset data and staff input, as detailed condition assessment information was not available at the time of analysis

Figure 39 Land Improvements Asset Condition



16.3.1 Current Approach to Condition Assessment

Land improvement assets are reviewed internally by trained staff, with third-party experts engaged as needed. Assessments evaluate physical condition, safety, functionality, and regulatory compliance for assets such as playgrounds, splash pads, sports fields and courts, pathways, and site amenities. Findings inform maintenance priorities, rehabilitation planning, risk management, and long-term capital forecasting

16.4 Lifecycle Management Strategy

The table below outlines North Glengarry's current lifecycle management strategy for land improvement assets.

Table 44 Land Improvements Lifecycle Management Strategy

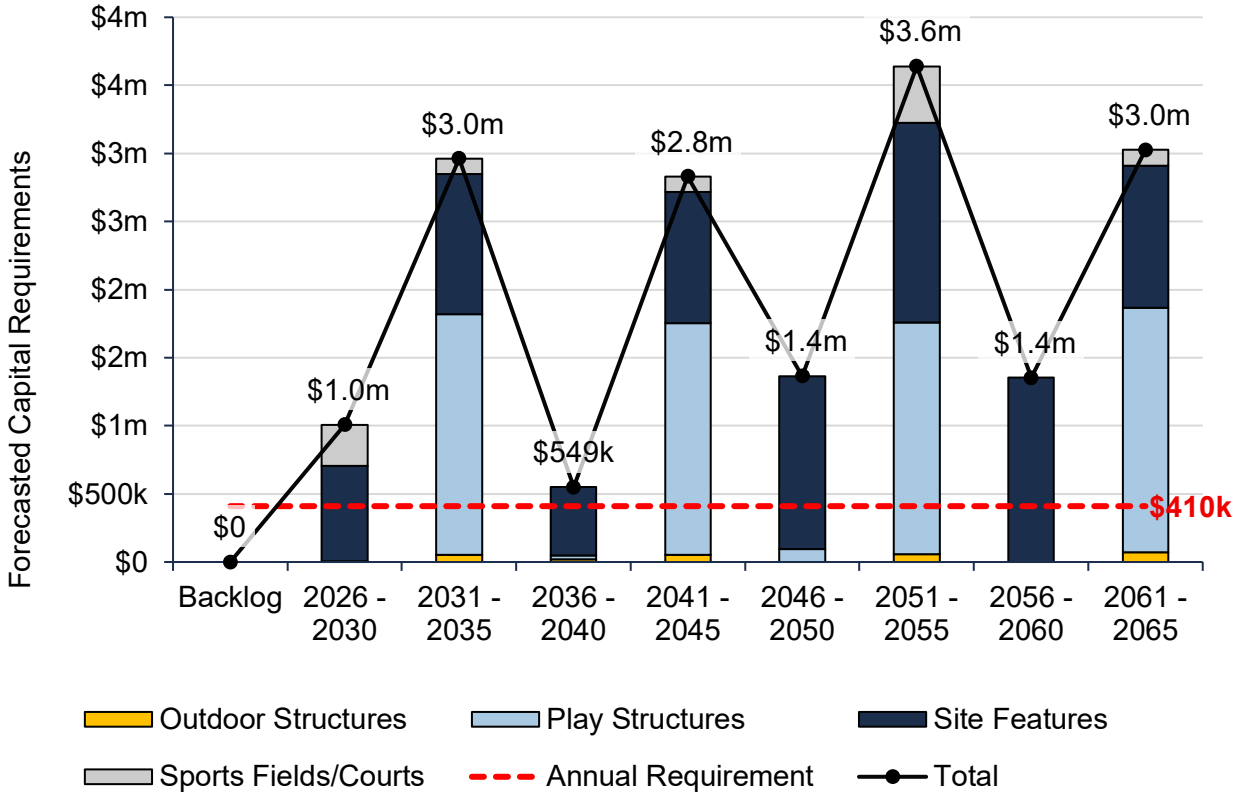
Activity Type	Description
Inspections	Routine inspections are conducted to identify hazards, wear, vandalism, and performance issues. Frequency varies by asset type, usage intensity, season, and risk profile. Playgrounds and splash pads are inspected throughout the operating season, while sports fields and courts are checked for surface condition, drainage, line markings, and ancillary equipment. Inspection results are documented and deficiencies prioritized for timely corrective action.
Maintenance	Preventative, routine, and corrective maintenance preserves safety, usability, and appearance. Activities include turf management, surface grooming, seasonal preparation, and repair of hazards or damage identified during inspections or through public reporting. Priorities are based on public safety, asset condition, usage, and service impact.
Rehabilitation & Replacement	Rehabilitation restores or upgrades assets when maintenance alone is insufficient. Typical projects include playground replacements, splash pad mechanical upgrades, field re-grading, resurfacing, drainage improvements, and accessibility enhancements. Decisions are guided by condition assessments, cost, safety, service demand, and opportunities for sustainability, climate resilience, and inclusive design.
	Replacement occurs when assets reach end-of-life or no longer meet community needs. Decisions consider condition, lifecycle cost, usage, and strategic priorities. Opportunities to redesign, modernize, or consolidate amenities are evaluated. New or replacement assets are designed to meet current standards, enhance user experience, and support long-term operational sustainability, coordinated with growth forecasts and funding strategies.

16.5 Forecasted Capital Requirements

The figure below illustrates the cyclical short-, medium- and long-term infrastructure rehabilitation and replacement requirements for the Township's land improvements. This analysis was run until 2065 to capture at least one iteration of replacement for the longest-lived asset in the asset register.

The Township's average annual requirements (red dotted line) total $410 thousand for all land improvements. Forecasted requirements are based on replacement costs, asset age and available condition information

Figure 40 Land Improvements System-Generated Forecasted Capital Requirements



17 Machinery & Equipment

The Township owns and maintains a broad range of machinery and equipment that supports municipal operations, recreation facilities, emergency response, and public works activities. These assets include HVAC systems, compressors, chillers, generators, refrigeration and ice-making equipment, maintenance tools, playground and park equipment, communications systems, and specialized operational equipment used across Township facilities.

In addition, the portfolio includes emergency response equipment such as SCBA systems, defibrillators, thermal imaging cameras, extrication tools, radios, and fire training assets. Together, these assets support safe, efficient, and reliable delivery of Township services.

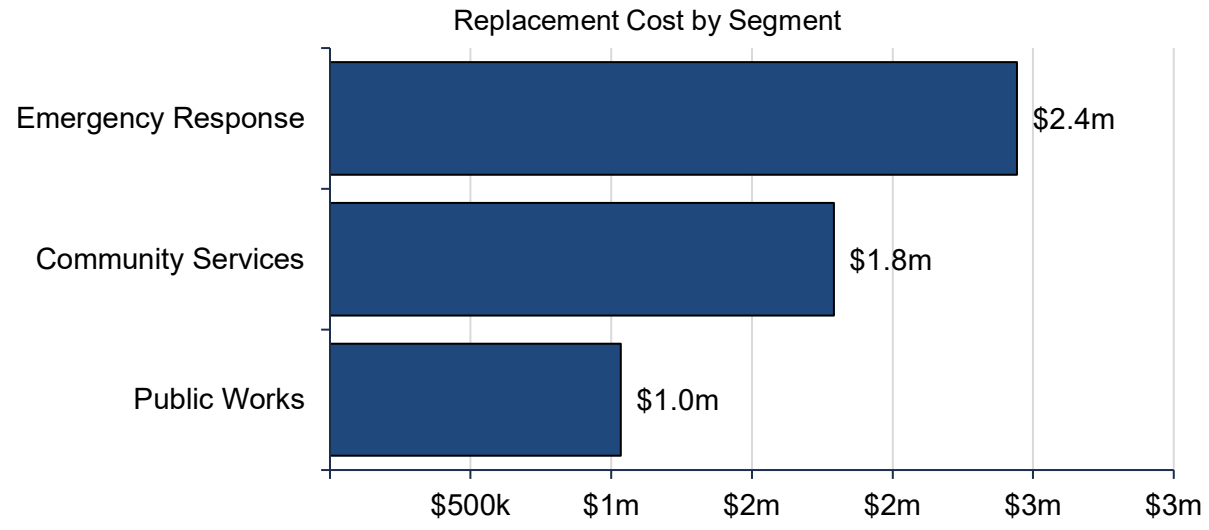
17.1 Asset Inventory and Valuation

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the Township's machinery & equipment inventory.

Table 45 Machinery & Equipment Inventory and Replacement Cost

Segment	Quantity	Unit of Measure	Primary Replacement Cost Method	Replacement Cost
Community Services	34	Quantity	User-Defined	$1,791,924
Emergency Response	28	Quantity	User-Defined	$2,443,600
Public Works	39	Quantity	User-Defined	$1,034,974
Total	**101**	**Quantity**	**User-Defined**	**$5,270,498**

Figure 41 Machinery & Equipment Replacement Valuation



17.2 Asset Age Distribution

The table below identifies the average age and the estimated useful life for each asset segment, weighted by their replacement value.

Table 46 Machinery & Equipment Average EUL vs. Average Age

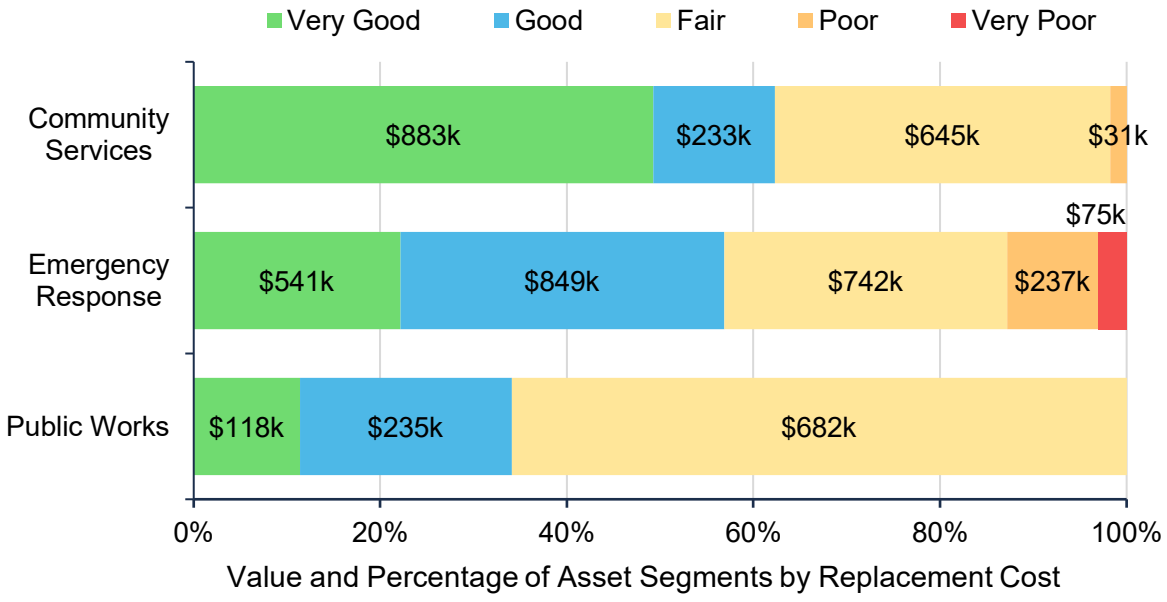
Segment	Average EUL	Average Age	Avg Remaining Life
Community Services	14.7	8.3	6.4
Emergency Response	12.3	11.4	0.9
Public Works	15.7	13.0	2.7
All	**42.7**	**32.6**	**10.1**

Each asset's estimated useful life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

17.3 Asset Condition

The table below identifies the current average condition and source of available condition data for each asset segment. The Average Condition (%) is a weighted value based on replacement cost. For this report, machinery condition was assessed through a desktop-based estimation exercise using available asset data and staff input, as detailed condition assessment information was not available at the time of analysis

Figure 42 Machinery & Equipment Asset Condition



17.3.1 Current Approach to Condition Assessment

Condition assessments evaluate the physical condition, operational reliability, safety, and remaining useful life of machinery and equipment. Assessments are based on age, accumulated operating hours, maintenance and repair history, downtime trends, and average repair cost per operating hour. Assets are assigned standardized condition ratings (e.g., Good, Fair, Poor) by comparing age and usage against expected service lives and reviewing cost and performance trends. This information supports lifecycle planning, risk management, and long-term capital forecasting

17.4 Lifecycle Management Strategy

The table below outlines North Glengarry's current lifecycle management strategy for machinery and equipment assets.

Table 47 Machinery & Equipment Lifecycle Management Strategy

Activity Type	Description
Inspection	Inspections ensure equipment remains safe, reliable, and fit for service. Operator pre- and post-use checks are supported by scheduled, hours-based detailed inspections by maintenance staff and seasonal readiness reviews where applicable. Functional testing, calibration, and inspection of attachments and safety components are completed in accordance with manufacturer guidelines, with qualified third-party inspections undertaken where required. Findings are documented in the asset or fleet management system and used to guide maintenance planning and replacement forecasting.
Maintenance	Maintenance includes routine, preventative, and corrective activities to preserve performance and extend asset life. Programs are primarily hours-based and follow manufacturer recommendations, adjusted for operating conditions such as dust, moisture, and winter use. Typical activities include lubrication, fluid and filter changes, calibration and alignment, safety checks, corrosion control, and replacement of wear components. Work orders, costs, and downtime are tracked for each unit, with increasing unplanned repairs or rising cost per operating hour prompting review of maintenance intervals and end-of-life planning.
Rehabilitation & Replacement	Rehabilitation is undertaken when restoring performance and extending service life is more cost-effective than replacement. This may include engine, hydraulic, drivetrain, or motor rebuilds, electrical system repairs, replacement of major components, and structural or corrosion repairs. Rehabilitation decisions are based on condition, utilization, service risk, performance history, and lifecycle cost analysis.
	Replacement occurs when machinery and equipment reach the end of their useful life due to age, accumulated operating hours, escalating repair costs, declining reliability, parts obsolescence, or inability to meet

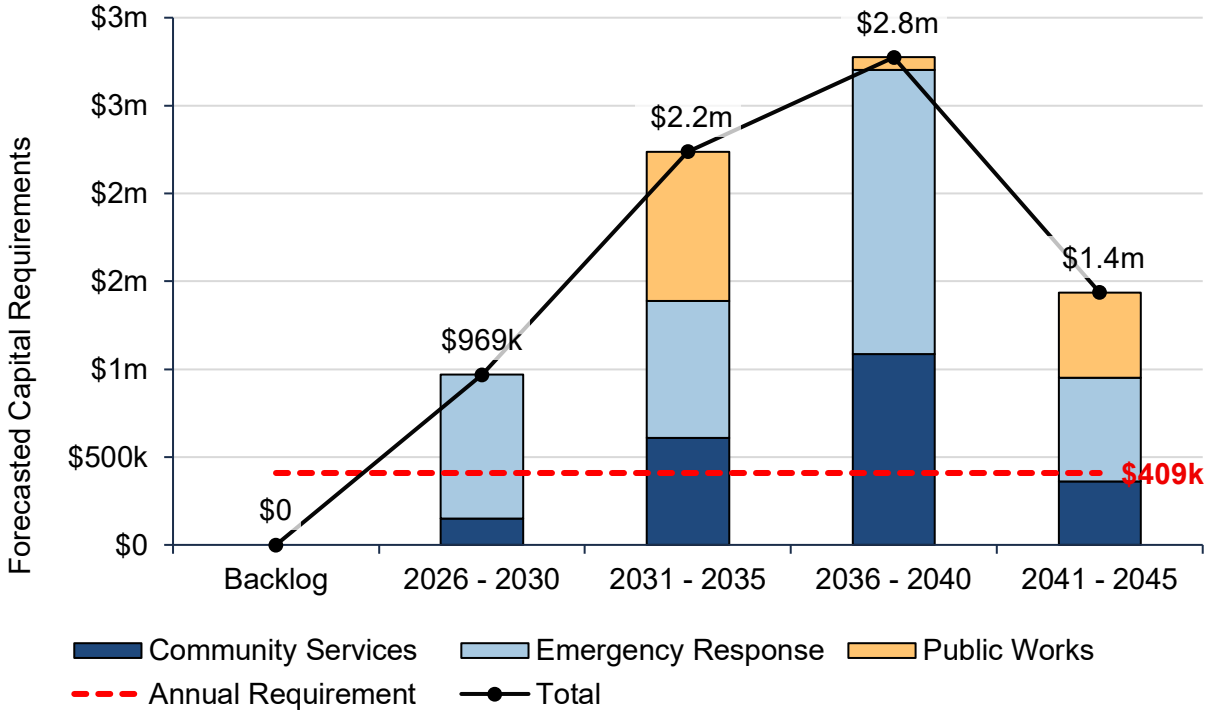
Activity Type	Description
	operational or safety requirements. When total cost per operating hour becomes unfavourable compared to new equipment, assets are scheduled for retirement and replacement within the capital plan. Replacement decisions are guided by lifecycle costing, utilization, service risk, and operational impacts to maintain safe and reliable service delivery.

17.5 Forecasted Capital Requirements

The figure below illustrates the cyclical short-, medium- and long-term infrastructure rehabilitation and replacement requirements for the Township's machinery & equipment assets. This analysis was run until 2045 to capture at least one iteration of replacement for the longest-lived asset in the asset register.

The Township's average annual requirements (red dotted line) total $409 thousand for all water network assets. Forecasted requirements are based on replacement costs, asset age and available condition information

Figure 43 Machinery & Equipment System-Generated Forecasted Capital Requirements



18 Vehicles

The Township maintains a diverse fleet of vehicles that support administrative services, community operations, emergency response, and public works activities. The fleet includes light-duty pickup trucks, vans, utility vehicles, trailers, and specialized equipment such as loaders, graders, backhoes, tandem trucks, and other heavy equipment used for infrastructure maintenance and operations.

The emergency response fleet includes fire apparatus, rescue units, tanker trucks, support vehicles, and specialized rescue equipment, while public works vehicles support road maintenance, snow clearing, waste management, and construction activities.

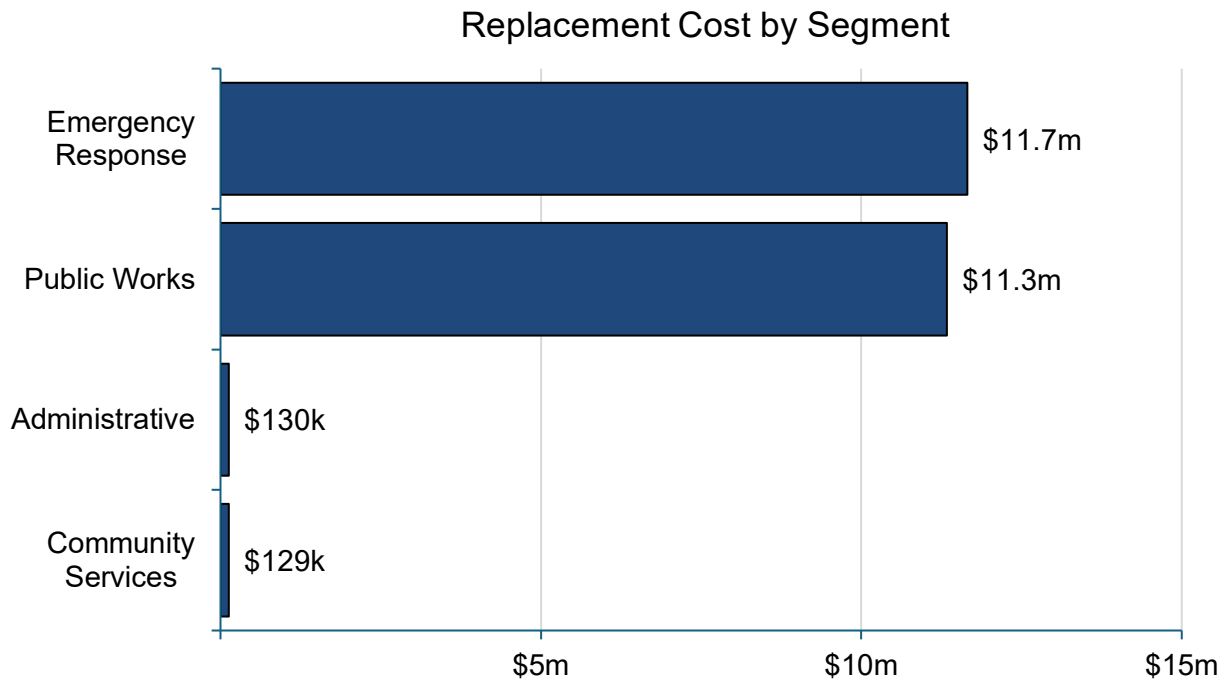
18.1 Asset Inventory and Valuation

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the Township's fleet inventory.

Table 48 Vehicles Inventory and Replacement Cost

Segment	Quantity	Unit of Measure	Primary Replacement Cost Method	Replacement Cost
Administrative	2	Quantity	User-Defined	$130,000
Community Services	4	Quantity	User-Defined	$129,450
Emergency Response	18	Quantity	User-Defined	$11,655,000
Public Works	43	Quantity	User-Defined	$11,338,814
Total	**67**	**Quantity**	**User-Defined**	**$23,253,264**

Figure 44 Vehicles Replacement Valuation



18.2 Asset Age Distribution

The table below identifies the average age and the estimated useful life for each asset segment, weighted by their replacement value.

Table 49 Vehicles Average EUL vs. Average Age

Segment	Average EUL	Average Age	Avg Remaining Life
Administrative	15.0	7.0	8.0
Community Services	10.8	10.3	0.4
Emergency Response	16.0	10.2	5.8
Public Works	16.0	11.2	4.8
All	**57.8**	**38.8**	**19.0**

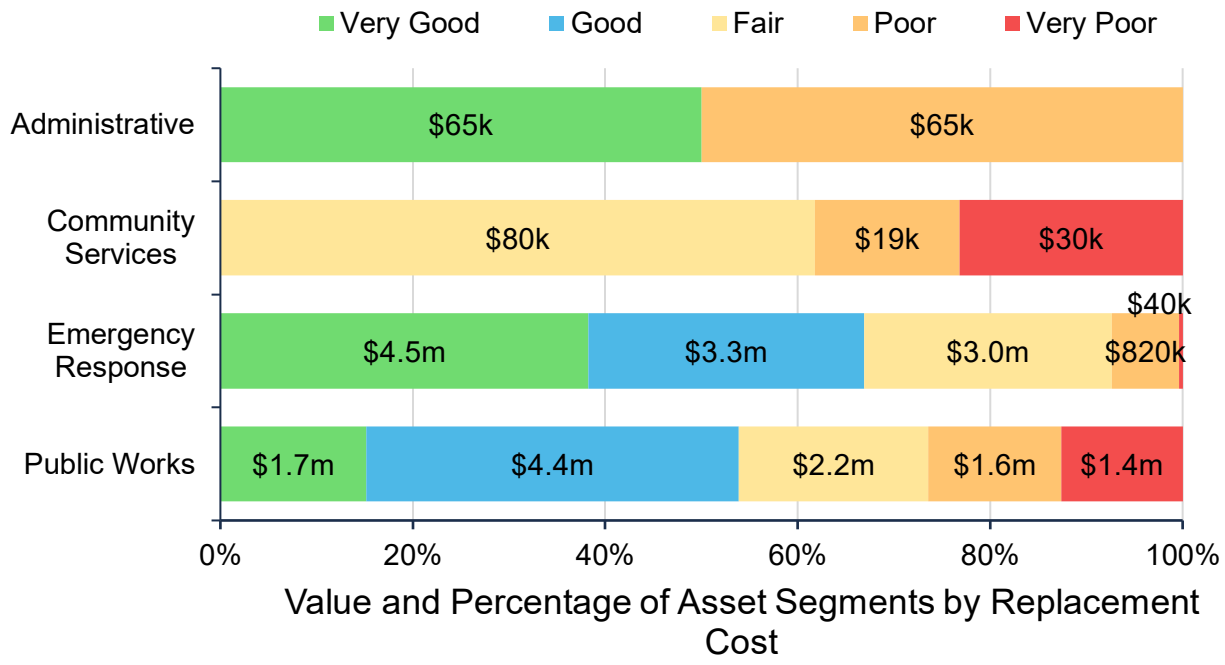
Each asset's estimated useful life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

18.3 Asset Condition

The table below identifies the current average condition and source of available condition data for each asset segment. The Average Condition (%) is a weighted value

based on replacement cost. For this report, vehicle condition was assessed through a desktop-based estimation exercise using available asset data and staff input, as detailed condition assessment information was not available at the time of analysis.

Figure 45 Vehicles Asset Condition



18.3.1 Current Approach to Condition Assessment

Vehicle condition is evaluated using age, cumulative mileage or hours, fuel consumption trends, maintenance and repair history, inspections, and operational performance. Units are assigned standardized condition categories based on whether age, usage, fuel efficiency, and repair costs are within expected ranges. Assessments support risk management, prioritize rehabilitation or replacement, reduce downtime, and guide long-term capital planning. Fire apparatus also follow NFPA and regulatory inspection requirements and the Fire Underwriters Survey service schedule.

18.4 Lifecycle Management Strategy

The table below outlines North Glengarry's current lifecycle management strategy for municipal vehicles.

Table 50 Vehicles Lifecycle Management Strategy

Activity Type	Description
Inspection	Vehicles undergo routine operator pre- and post-trip checks supported by periodic mechanic inspections. Visual, mechanical, safety, and performance evaluations identify defects, wear, corrosion, leaks, or other issues. Inspection findings are recorded against each unit's age, mileage,

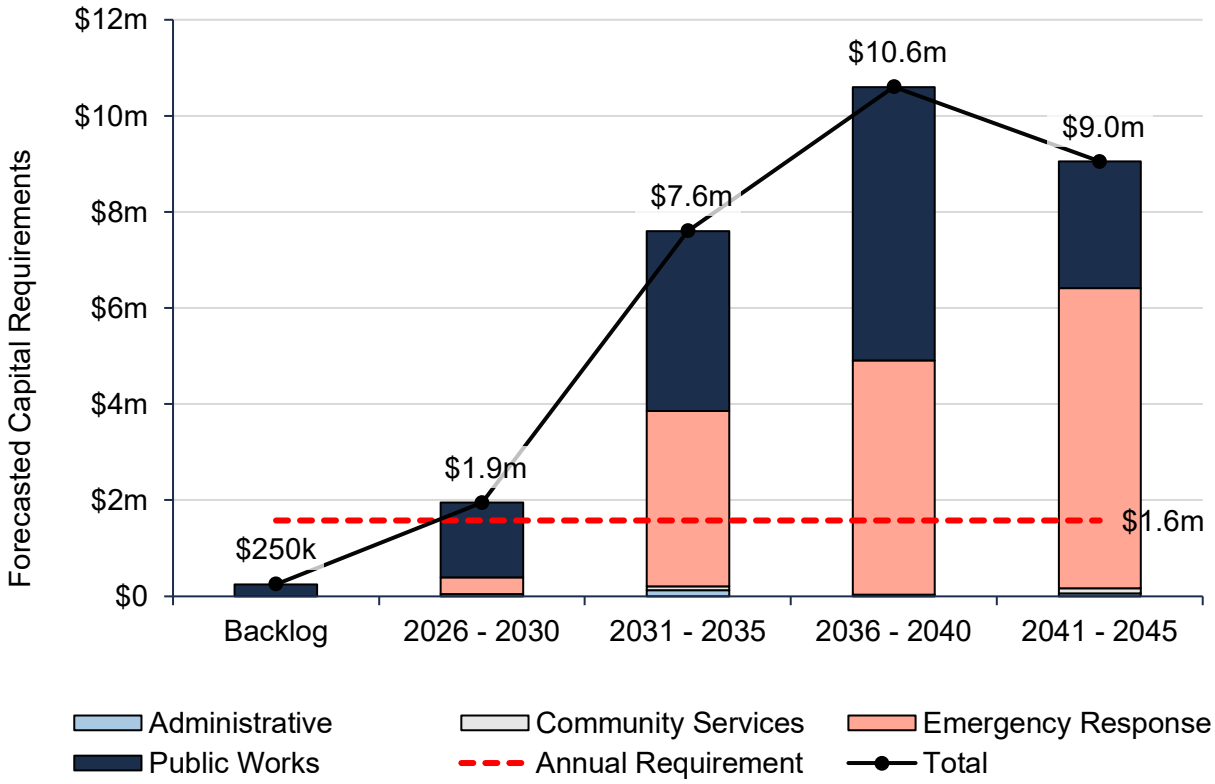
Activity Type	Description
	hours, and repair history to inform maintenance scheduling, rehabilitation decisions, and replacement planning.
Maintenance	Routine and preventative maintenance is performed following manufacturer guidelines and operating conditions. Services include oil and fluid changes, filter replacements, lubrication, brake servicing, tire rotations, calibration, safety system checks, and repairs identified during inspections. Fuel use and repair-cost trends are monitored to detect emerging condition issues and adjust maintenance schedules as needed.
Rehabilitation	Rehabilitation is applied selectively when routine maintenance cannot fully restore performance, but full replacement is not yet warranted. Activities may include engine, transmission, hydraulic, or major mechanical overhauls, structural or body repairs, and system upgrades. Decisions are based on condition assessments, service criticality, repair history, and lifecycle cost analysis, aiming to extend useful life cost-effectively.
Replacement	Vehicles are replaced when age, mileage, operating costs, or declining reliability indicate end-of-life, or when maintenance is no longer cost-effective. Replacement decisions consider fuel efficiency, repair costs, operational risk, and regulatory requirements. Fire apparatus are replaced according to service schedules to maintain safety, reliability, and fleet capability, with timing incorporated into multi-year capital forecasts to minimize disruption and lifecycle cost volatility.

18.4.1 Forecasted Capital Requirements

The figure below illustrates the cyclical short-, medium- and long-term infrastructure rehabilitation and replacement requirements for the Township's vehicles. This analysis was run until 2045 to capture at least one iteration of replacement for the longest-lived asset in the asset register.

The Township's average annual requirements (red dotted line) total $1.6 million for all municipal vehicles. Forecasted requirements are based on replacement costs, asset age and available condition information

Figure 46 Vehicles System-Generated Forecasted Capital Requirements



19 Risk Rating Criteria

Probability of Failure

Asset Category	Risk Classification	Risk Criteria	Value/Range	Probability of Failure Score
Asphalt & Surface Treated Roads	Economic (60%)	Condition	≥ 20%	5 – Very Likely
			21-40%	4 - Likely
			41-60%	3 - Possible
			61-79%	2 - Unlikely
			≤ 80%	1- Rare
	Functional (40%)	Service Life Remaining (%)	≥ 20%	5 – Very Likely
			21-40%	4 - Likely
			41-60%	3 - Possible
			61-79%	2 - Unlikely
			≤ 80%	1- Rare
All other Road Assets	Economic (60%)	Condition	> 20%	5 – Very Likely
			21-40%	4 - Likely
			41-60%	3 - Possible

Asset Category	Risk Classification	Risk Criteria	Value/Range	Probability of Failure Score
All other Road Assets	Economic (60%)		61-79%	2 - Unlikely
		Condition	≤ 80%	1- Rare
	Functional (40%)	Service Life Remaining	> 20%	5 – Very Likely
			21-40%	4 - Likely
			41-60%	3 - Possible
			61-79%	2 - Unlikely
			≤ 80%	1- Rare
Bridges & Culverts	Performance (60%)	Condition	< 20%	5 – Very Likely
			21-40%	4 - Likely
			41-60%	3 - Possible
			61-79%	2 - Unlikely
			> 80%	1- Rare
	Operational (40%)	Service Life Remaining	< 20%	5 – Very Likely
			21-40%	4 - Likely
			41-60%	3 - Possible

Asset Category	Risk Classification	Risk Criteria	Value/Range	Probability of Failure Score
Bridges & Culverts	Operational (40%)	Service Life Remaining	61-79%	2 - Unlikely
			> 80%	1- Rare
Water Mains	Performance (60%)	Condition	< 20%	5 – Very Likely
			21-40%	4 - Likely
			41-60%	3 - Possible
			61-79%	2 - Unlikely
			> 80%	1- Rare
	Functional (20%)	Service Life Remaining	< 20%	5 – Very Likely
			21-40%	4 - Likely
			41-60%	3 - Possible
			61-79%	2 - Unlikely
			> 80%	1- Rare
	Operational (20%)	Pipe Material	Asbestos Cement	5 – Very Likely
			Clay, Steel	4 - Likely
			Ductile Iron, Copper,	3 - Possible

Asset Category	Risk Classification	Risk Criteria	Value/Range	Probability of Failure Score
Water Mains	Operational (20%)	Pipe Material	PES	2 - Unlikely
			PVC, PVD, PX, HDPE	1- Rare
Sanitary Mains	Performance (60%)	Asset Condition	≥ 20%	5 - Almost Certain
			21-40%	4 - Likely
			41-60%	3 - Possible
			61-79%	2 - Unlikely
			≤ 80%	1 - Rare
	Functional (20%)	Service Life Remaining (%)	≥ 20%	5 - Almost Certain
			21-40%	4 - Likely
			41-60%	3 - Possible
			61-79%	2 - Unlikely
			≤ 80%	1 - Rare
	Operational (20%)	Pipe Material	Asbestos Cement, Clay	5 - Almost Certain
			Steel, Cast Iron, Cement	4 - Likely
			Concrete	3 - Possible

Asset Category	Risk Classification	Risk Criteria	Value/Range	Probability of Failure Score
Sanitary Mains			Asbestos Cement/Liner, Concrete/Liner, Plastic	2 - Unlikely
			PVC	1 - Rare
All other Sanitary Assets	Performance (60%)	Asset Condition	> 20%	5 - Almost Certain
			21-40%	4 - Likely
			41-60%	3 - Possible
			61-79%	2 - Unlikely
			≤ 80%	1 - Rare
	Functional (20%)	Service Life Remaining (%)	> 20%	5 - Almost Certain
			21-40%	4 - Likely
			41-60%	3 - Possible
			61-79%	2 - Unlikely
			≤ 80%	1 - Rare
Storm Mains	Performance (60%)	Asset Condition	≤ 20%	5 - Almost Certain
			21-40%	4 - Likely
			41-60%	3 - Possible

Asset Category	Risk Classification	Risk Criteria	Value/Range	Probability of Failure Score
Storm Mains	Performance (60%)	Asset Condition	61-79%	2 - Unlikely
			≥ 80%	1 - Rare
	Functional (20%)	Service Life Remaining (%)	≤ 20%	5 - Almost Certain
			21-40%	4 - Likely
			41-60%	3 - Possible
			61-79%	2 - Unlikely
			≥ 80%	1 - Rare
	Operational (20%)	Pipe Material	Concrete	3 - Possible
			PVC	2 - Unlikely
			SDR	2 - Unlikely
All other Storm Network Assets	Performance (60%)	Asset Condition	≤ 20%	5 - Almost Certain
			21-40%	4 - Likely
			41-60%	3 - Possible
			61-79%	2 - Unlikely
			≥ 80%	1 - Rare

Asset Category	Risk Classification	Risk Criteria	Value/Range	Probability of Failure Score
All other Storm Network Assets	Functional (20%)	Service Life Remaining (%)	≤ 20%	5 - Almost Certain
			21-40%	4 - Likely
			41-60%	3 - Possible
			61-79%	2 - Unlikely
			≥ 80%	1 - Rare
Buildings, Machinery and Equipment, Vehicles, Land Improvements	Performance (60%)	Asset Condition	≥ 20%	5 - Almost Certain
			21-40%	4 - Likely
			41-60%	3 - Possible
			61-79%	2 - Unlikely
			≤ 80%	1 - Rare
	Functional (40%)	Service Life Remaining (%)	≥ 20%	5 - Almost Certain
			21-40%	4 - Likely
			41-60%	3 - Possible
			61-79%	2 - Unlikely
			≤ 80%	1 - Rare

Consequence of Failure

Asset Category	Risk Classification	Risk Criteria	Value/Range	Consequence of Failure Score
Asphalt & Surface Treated Roads	Economic (70%)	Replacement Cost ($)	<5,000,000	5 – Severe
			<1,000,000	4 – Major
			<500,000	3 - Moderate
			<50,000	2 – Minor
			<25,001	1- Insignificant
	Operational (10%)	Service Class	3	5 – Severe
			4	4 – Major
			5	3 - Moderate
			6	2 – Minor
	Social (10%)	AADT - 50%	≥1000	5 – Severe
			600	4 – Major
			400	3 - Moderate
			200	2 – Minor
			<50	1- Insignificant

Asset Category	Risk Classification	Risk Criteria	Value/Range	Consequence of Failure Score
Asphalt & Surface Treated Roads		Design Class (50%)	LCI	5 – Severe
			C/R	4 – Major
			500	4 – Major
			L/R	3 - Moderate
			400	2 – Minor
			300	2 – Minor
			200	1- Insignificant
	Health & Saftey (10%)	Speed Limit	≥80	5 – Severe
			70-79	4 – Major
			60-69	3 - Moderate
			41-59	2 – Minor
			≤40	1- Insignificant
All other Road Assets	Financial (100%)	Replacement Cost	<5,000,000	5 – Severe
			<1,000,000	4 – Major

Asset Category	Risk Classification	Risk Criteria	Value/Range	Consequence of Failure Score
All other Road Assets	Financial (100%)	Replacement Cost ($)	<500,000	3 - Moderate
			<50,000	2 – Minor
			<15,001	1- Insignificant
Bridges & Culverts	Financial (100%)	Replacement Cost ($)	<5,000,000	5 – Severe
			<1,000,000	4 – Major
			<500,000	3 - Moderate
			<50,000	2 – Minor
			<15,001	1- Insignificant
Water Mains	Financial (80%)	Replacement Cost ($)	<5,000,000	5 – Severe
			<1,000,000	4 – Major
			<500,000	3 - Moderate
			<150,000	2 – Minor
			<5,001	1- Insignificant
	Health & Saftey (10%)	Pipe Diameter	≥ 300 mm	5 – Severe

Asset Category	Risk Classification	Risk Criteria	Value/Range	Consequence of Failure Score
Water Mains	Health & Saftey (10%)	Pipe Diameter	151 – 300 mm	4 – Major
			76 – 150 mm	3 - Moderate
			26 – 75 mm	2 – Minor
			≤ 25 mm	1- Insignificant
	Environmental (10%)	Feature Type	Distribution Main	5 – Severe
			Hydrant Lead	5 – Severe
			Water Service	3 - Moderate
			WTP Intake	3 - Moderate
All other Water Network Assets	Financial (80%)	Replacement Cost ($)	<5,000,000	5 – Severe
			<1,000,000	4 – Major
			<500,000	3 - Moderate
			<150,000	2 – Minor
			<5,001	1- Insignificant
Sanitary Mains	Financial (80%)	Replacement Cost ($)	<5,000,000	5 – Severe

Asset Category	Risk Classification	Risk Criteria	Value/Range	Consequence of Failure Score
Sanitary Mains	Financial (80%)	Replacement Cost ($)	<1,000,000	4 – Major
			<500,000	3 - Moderate
			<10,000	2 – Minor
			<25,001	1- Insignificant
	Health & Saftey (10%)	Pipe Diameter	≥ 450 mm	5 – Severe
			301 – 450 mm	4 – Major
			201 – 300 mm	3 - Moderate
			101 – 200 mm	2 – Minor
			≤ 100 mm	1- Insignificant
	Environmental (10%)	Feature Type	Distribution Main	5 – Severe
			Hydrant Lead	5 – Severe
			Water Service	3 - Moderate
			WTP Intake	3 - Moderate
All Other Sanitary Network Assets	Financial	Replacement Cost ($)	<5,000,000	5 - Severe

Asset Category	Risk Classification	Risk Criteria	Value/Range	Consequence of Failure Score
All Other Sanitary Network Assets	Financial	Replacement Cost ($)	<1,000,000	4 - Major
			<500,000	3 - Moderate
			<50,000	2 - Minor
			<25,001	1- Insignificant
Storm Mains	Financial 80%	Replacement Cost ($)	<5,000,000	5 - Severe
			<1,000,000	4 - Major
			<500,000	3 - Moderate
			<150,000	2 - Minor
			<5,001	1 - Insignificant
	Health & Safety (10%)	Stormwater Line Type	Storm Water Main	3 - Moderate
			Storm Water Branch	3 - Moderate
			Storm Water Service	2 - Minor
			Catch Basin Lead	2 - Minor
	Environmental (10%)	Diameter	≥ 600 mm	5 - Severe

Asset Category	Risk Classification	Risk Criteria	Value/Range	Consequence of Failure Score
Storm Mains	Environmental (10%)	Diameter	451 - 600 mm	4 - Major
			351 - 450 mm	3 - Moderate
			251 - 350 mm	2 - Minor
			≤ 250 mm	1 - Insignificant
All Other Storm Network Assets	Financial (100%)	Replacement Cost ($)	<5,000,000	5 - Severe
			<1,000,000	4 - Major
			<500,000	3 - Moderate
			<150,000	2 - Minor
			<25,001	1 - Insignificant
Buildings	Financial (80%)	Replacement Cost ($)	<5,000,000	5 - Severe
			<1,000,000	4 - Major
			<500,000	3 - Moderate
			<50,000	2 - Minor
			<25,001	1 - Insignificant

Asset Category	Risk Classification	Risk Criteria	Value/Range	Consequence of Failure Score
Buildings	Operational (20%)	Segment	Emergency Response	5 - Severe
			Public Works & Operations	4 - Major
			Community Services	3 - Moderate
			Administrative	2 - Minor
Machinery & Equipment	Financial (80%)	Replacement Cost ($)	<5,000,000	5 - Severe
			<1,000,000	4 - Major
			<500,000	3 - Moderate
			<50,000	2 - Minor
			<25,001	1 - Insignificant
	Operational (20%)	Segment	Emergency Response	5 - Severe
			Public Works & Operations	3 - Moderate
			Community Services	2 - Minor
Vehicles	Financial (80%)	Replacement Cost ($)	<5,000,000	5 - Severe
			<600,000	4 - Major

Asset Category	Risk Classification	Risk Criteria	Value/Range	Consequence of Failure Score
Vehicles	Financial (80%)	Replacement Cost ($)	<100,000	3 - Moderate
			<50,000	2 - Minor
			<15,001	1 - Insignificant
	Operational (20%)	Segment	Emergency Response	5 - Severe
			Public Works & Operations	3 - Moderate
			Community Services	2 - Minor
			Administrative	2 - Minor
Land Improvements	Financial (80%)	Replacement Cost ($)	<5,000,000	5 - Severe
			<1,000,000	4 - Major
			<500,000	3 - Moderate
			<50,000	2 - Minor
			<25,001	1 - Insignificant
	Operational (20%)	Segment	Play Structures	4 - Major
			Outdoor Structures	2 - Minor

Asset Category	Risk Classification	Risk Criteria	Value/Range	Consequence of Failure Score
Land Improvements	Operational (20%)	Segment	Sports Fields/Courts	2 - Minor
			Site Features	2 - Minor

20 Forecasted Capital Investment Requirements

The following table summarizes the total capital investment requirement forecasted between 2027 to 2036. It is noted that in some years there may be more requirements than funding available, even if the recommended capital increases are applied. In these incidences it is recommended that the Township apply a risk-based prioritization model for investment and consider alternative lifecycle strategies such as rehabilitation instead of replacement. Rehabilitations often provide more economical solutions than replacement while still providing enhancements. Additionally, the Township may have opportunity to reallocate funding allocations from categories with lower requirements in a particular year to categories with higher requirements in the same particular year.

Table 51: Forecasted Capital Investment 10 Year Requirements

	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Road Network										
Capital Investments Forecasted ($)	22,640K	4,004K	3,157K	2,545K	22K	1,608K	2,409K	2,693K	3,748K	1,240K
Bridges and Culverts										
Capital Investments Forecasted ($)	1,051K	399K	444K	256K	699K	599K	1,161K	534K	268K	1,051K
Stormwater Network										
Capital Investments Forecasted ($)	0K	0K	0K	4K	0K	0K	0K	0K	0K	0K
Buildings										

Capital Investments Forecasted ($)	0K	0K	0K	0K	27K	0K	0K	0K	297K	0K
Land Improvements										
Capital Investments Forecasted ($)	606K	25K	299K	45K	167K	1,443K	560K	782K	10K	0K
Machinery & Equipment										
Capital Investments Forecasted ($)	1K	18K	45K	830K	546K	153K	624K	454K	461K	84K
Vehicles										
Capital Investments Forecasted ($)	190K	245K	1,144K	250K	5,235K	1,495K	325K	350K	200K	100K
Water Network										
Capital Investments Forecasted ($)	1,250K	0K	65K	155K	105K	115K	65K	35K	694K	0K
Wastewater Network										
Capital Investments Forecasted ($)	0K	0K	0K	20K	0K	0K	0K	0K	0K	0K