

Town of Goderich

2024 Asset Management Plan



CORPORATION OF THE TOWN OF GODERICH

2024 COMPREHENSIVE ASSET MANAGEMENT PLAN

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1.0 EXECUTIVE SUMMARY

Located on the eastern shore of Lake Huron at the mouth of the Maitland River, the Town of Goderich was incorporated in 1850 and is home to approximately 8,000 residents. Often referred to as “Canada’s Prettiest Town”, the municipality attracts numerous tourists each year, especially to the Town’s harbour and beach waterfront properties. The Town of Goderich prides itself on maximizing opportunities for social and economic development, while maintaining its values to have an attractive, sustainable, and secure environment for the enjoyment of its residents and visitors. The performance of a community’s infrastructure provides the foundation for its economic development, competitiveness, prosperity, and overall quality of life for its residents. Reliable and well-maintained infrastructure assets are essential for the delivery of critical core services for the citizens and visitors of the Town of Goderich, not only today but well into the future.

This document summarizes the Town of Goderich asset inventory (as of December 31, 2023) and has been developed to be in compliance with the requirements of *Ontario Regulation 588/17: Asset Management Planning for Municipal Infrastructure* (O. Reg 588/17), with consideration to the Town of Goderich Asset Management Policy. Since 2016, the municipality has incorporated performance condition of most of its core asset networks, in order to gain a more accurate picture of its critical infrastructure. Additionally, the Town has developed risk models to further develop an asset management strategy. Furthermore, this Asset Management Plan outlines investments needed to address capital asset backlog and future capital needs to ensure delivery of sustainable infrastructure services to current and future residents of the Town. The development of a financially rigorous ten-year plan will further assist in capital project prioritization, while ensuring the municipality maintains its current service levels. External factors such as planning and development, will also be a determining factor with capital infrastructure prioritization.

The 2024 Town of Goderich Asset Management Plan incorporates all assets that the municipality is responsible for, in order to provide a comprehensive overview. The replacement value of all asset classes within the Town of Goderich asset inventory is approximately \$614,278,808 (Figure 1). All figures are in 2024 dollars and should be adjusted annually to account for the effects of inflation. It should be noted that these values represent current data. Amortization, condition assessments, and consistent updates to replacement costs continue to evolve the data and alter the state of the infrastructure. Therefore, it is important to note that the asset inventory, along with the required analysis, is always changing and evolving, which is why it is important for the Town to continue providing updated asset management plans at a minimum of every five years, as per *Ontario Regulation 588/17*.

2024 REPLACEMENT COST BY ASSET CLASS

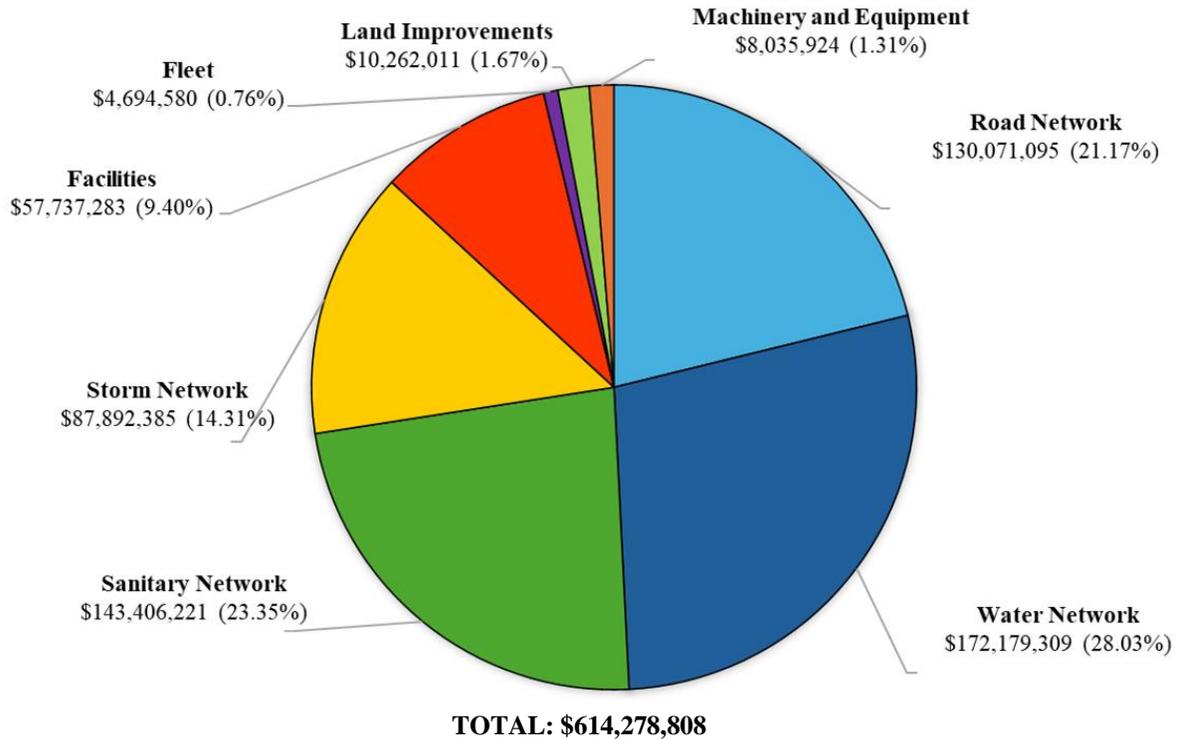


Figure 1. 2024 replacement cost (cost per unit or CPI Tables) by asset category. Total replacement value of all Town of Goderich assets is \$614,278,808.

Of the \$614 million assets within the Town of Goderich inventory, approximately 63% (\$384 million) are in good to very good condition, approximately 22% (\$138 million) are in fair condition, and approximately 15% (\$92 million) are in poor to very poor condition. Although about 15% of the municipality’s assets are in poor condition, there are approximately \$15 million in replacement backlog, of which the core asset networks (i.e., road, water, sanitary and storm networks) represent the majority of assets contributing to this infrastructure gap. The water network represents approximately 48% of the replacement backlog, which consists of cast iron watermains that are over 100 years old. The sanitary network represents approximately 21% of the replacement backlog which consists of vitrified clay sanitary mains that are over 100 years old.

Through risk analysis outlined in the asset management strategy, repair and replacement of assets can be prioritized based on criticality. Additionally, capital assets with a fair condition rating should be targeted for maintenance to ensure these assets continue to perform at current levels of service. Regularly scheduled lifecycle events and preventative maintenance strategies for core and non-core assets will assist in extending service life of infrastructure and further reduce replacement needs, resulting in cost efficiencies. Furthermore, the financial strategy addresses the infrastructure gap through consideration of a 1% capital tax levy to increase annual capital contributions, as well as financing using reserve/reserve funds. These additional funding strategies would help alleviate the current asset investment backlog, while maintaining current service levels and planning for future infrastructure requirements.

2.0 INTRODUCTION

2.1 What is Asset Management?

Asset management is an ongoing and long-term process that allows municipalities to make the best possible investment decisions for their infrastructure assets. This integrated business approach minimizes the lifecycle costs of owning, operating, maintaining, and replacing assets, with an acceptable level of risk, while continuously delivering expected levels of service for present and future residents.

Asset management includes the planning, construction, operation, maintenance, renewal, replacement, and disposal of infrastructure used to provide municipal services. Infrastructure needs can be prioritized over time by utilizing asset management planning, while also ensuring timely investments to minimize repair and rehabilitation costs in order to maintain current municipal assets.

The foundation of asset management planning involves seven key questions, as outlined within the Federation of Canadian Municipalities' National Guide for Sustainable Municipal Infrastructure:

1. What assets do you own? (Inventory)
2. What are the assets worth? (Valuation/Replacement Cost)
3. What is the asset's condition and expected service life? (Function/Performance)
4. What needs to be done to the assets to meet the level of service expectation? (Maintain/Rehabilitate/Replace)
5. What is the time frame for preventative maintenance, rehabilitation and/or replacement of the asset? (Useful Life Analysis)
6. How much will the remedial works cost and what is the acceptable level of risk? (Investment Requirements)
7. What are the long-term financing needs? (Long-Term Financial Plan)

2.2 Importance of Infrastructure and Asset Management Planning

Ontario municipalities own more of the province's core infrastructure assets than both the provincial and federal government combined. These assets provide services that are essential to economic prosperity, health, and quality of life.

The Town of Goderich is responsible for a diverse array of capital assets essential to the delivery of services to residents, businesses, and visitors. The operation, maintenance, renewal, rehabilitation, and replacement of such infrastructure has always been a very significant responsibility for the Town of Goderich. It is clear that asset management is vital to address current infrastructure and funding challenges. As an example, a large portion of the Town's underground infrastructure network was installed prior to the 1930's, 1940's and 1950's, and are

now approaching the end of useful life. As a result, the Town of Goderich is faced with ever increasing infrastructure needs and limited financial resources.

2.3 Asset Management Plan Overview

The 2024 Town of Goderich Comprehensive Asset Management Plan is the third comprehensive plan undertaken which has incorporated all Town of Goderich assets. The plan addresses all municipal assets used in the delivery of services with associated inventory information, risk assessment, level of service, asset management strategies and funding strategies required for a sustainable long-term plan. The Town's Asset Management Plan is a living document, with asset information being stored on Citywide software; the Town's asset management database. Evaluation of the Town's Asset Management Plan is required at least every (5) years, with updates to Council annually, as mandated under Ontario Regulation 588/17 *Asset Management Planning for Municipal Infrastructure*.

2.4 Purpose of the Asset Management Plan

The purpose of the Town of Goderich Comprehensive Asset Management Plan is to provide a detailed scope of the Town's current infrastructure (including replacement needs and annual funding requirements), how the Town manages its assets to satisfy desired service levels and how the Town plans to invest in its assets for future needs. The Town of Goderich is constantly updating its asset data to be more comprehensive, improving risk analysis capabilities, which result in better decision making, financial planning and long-term sustainability.

2.5 Development of the Asset Management Plan

The 2024 Asset Management Plan was developed following the requirements outlined in Ontario Regulation 588/17 *Asset Management Planning for Municipal Infrastructure*. Information regarding the current infrastructure was compiled from current asset inventory information maintained in Citywide software. This software aids in calculating replacement costs, amortization, tracking condition and lifecycle events, analyzing risk, and calculating funding scenarios. The 2024 Comprehensive Asset Management Plan has been developed by the Director of Corporate Service/Treasurer and Asset Management/Environmental Services Manager. However, since this plan involves an overview of all municipal services, support for this plan was provided across all departments, with particular emphasis on Operations and Environmental Services.

2.6 Supporting the Asset Management Policy

The Town of Goderich Asset Management Policy was passed by Council in December of 2018, as required under Ontario Regulation 588/17 *Asset Management Planning for Municipal Infrastructure*. The Town's 2024 Comprehensive Asset Management Plan supports the policy statements, goals and principles outlined within the Asset Management Policy. The Town of Goderich follows an asset capitalization threshold outlined within the asset management policy to determine which assets are to be included within its asset management plans. Additionally,

financial forecasting, climate change resiliency and community planning are all considered as part of the asset management planning process. As outlined in the policy, Goderich Town Council and staff are committed to utilizing asset management tools for decision-making to improve the Town’s infrastructure assets.

2.7 Linkages to Strategic Documents

The Town of Goderich strives to maintain a safe community and healthy environment with sustainable growth, which requires alignment of many initiatives underway within the municipality at any given time. This alignment is necessary to properly consider whether the service level provided by the municipality’s existing and planned assets correspond with the Town’s asset management goals, which are outlined within the Asset Management Policy.

Asset management planning cannot occur in isolation from other municipal plans and policies. Rather, an integrated approach must be followed to successfully develop practical asset management plans that align with the overarching accountabilities and aspirations of the community.

- **Town of Goderich Strategic Plan** - the Strategic Plan provides overall direction for the activities of the municipality, which are supported by municipal assets
- **Town of Goderich Official Plan** - the Official Plan outlines regulatory criteria and can provide parameters surrounding asset decision making practices, specifically allocation of land use and provision of municipal services and facilities.
- **Town of Goderich Emergency Management Plan** - the Emergency Management Plan involves the usage of assets specifically designed for use in times of emergency. It is vital for these assets to meet regulatory compliance and meet all maintenance requirements.
- **Town of Goderich Energy Conservation and Demand Management Plan** - the Energy Conservation and Demand Management Plan is a strategy for the Town to implement energy efficiency measures within its facilities and infrastructure, as well as improve energy conservation through green procurement and other awareness measures.
- **Town of Goderich Operational and Capital Budgets** - the Town’s capital budget focuses on infrastructure needs and financing of future projects, whereas the Town’s operating budget aligns municipal priorities with service delivery and operations, both are crucial to asset management outcomes.
- **Town of Goderich By-Laws, Policies and Department Plans** – there are numerous by-laws, policies and departmental plans that directly and indirectly effect Town infrastructure. Specifically, the Town’s Tangible Capital Asset Policy states the cost threshold for assets that are included within the Asset Management Policy and reflected in the asset management database.

2.8 Supporting the Town of Goderich’s Vision, Mission, and Priorities

The development of the 2024 Asset Management Plan follows the vision, mission, and approach outlined in the Town of Goderich Strategic Plan 2023-2027¹.

¹ Information obtained from the Town of Goderich 2023-2027 Strategic Plan prepared by Linton Consulting Services Inc.

Vision: *Live, work and play in a progressive, welcoming, and vibrant community.*

Mission: *To provide sustainable services, be environmental leaders and to promote and maintain an exceptional quality of life.*

Approach: *Recognize past experiences, progressively face current challenges, and prepare for future opportunities and growth.*

Within the Town of Goderich Strategic Plan, priorities and activities of the municipality are categorized under five goals, found below:

- 8. Goal 1: Safe & Reliable Infrastructure-** Build, maintain, and continuously improve our municipally owned infrastructure.
- 9. Goal 2: Welcoming & Caring Community-** Strengthen a sense of belonging among everyone who makes Goderich home.
- 10. Goal 3: Strong Local Economy-** Build a strong and resilient local economy by retaining and attracting economic investment and jobs.
- 11. Goal 4: Good Government-** Provide citizen-focused services in an effective, transparent, and responsible manner, and provide an exceptional working environment for all our employees.
- 12. Goal 5: Environmental Stewardship-** Take care of our natural resources demonstrating environmental leadership and providing opportunities for healthy living.

These goals are both directly and indirectly linked to asset management planning, which further supports the linkage between asset management and corporate strategic planning for the municipality.

2.9 Growth and Demand

Growth is a critical driver for most municipal services. Knowing this, the Town of Goderich must not only account for the lifecycle cost of its existing asset collection, but also any assets needed for forecasted growth-related capital projects, usually addressed within Development Charge Study updates. The Town of Goderich has experienced slow growth since the mid 1980's², and the municipality's infrastructure investments and expansion of services over time reflect this trend.

² Growth information obtained from the 2021 Development Charges Background Study prepared by B. M. Ross & Associates.

3.0 STATE OF THE LOCAL INFRASTRUCTURE

The Town of Goderich is located in southwestern Ontario, along the coast of Lake Huron, with a population of approximately 8,000 people. A portion of the Town's infrastructure assets, specifically its underground infrastructure, were installed prior to the 1970's and are now approaching the end of useful life. As a result, the Town of Goderich is faced with ever increasing infrastructure needs and limited financial resources.

This section provides a summary of the key elements within the Town of Goderich's eight asset categories. This includes a detailed outline of the asset inventory, historical cost, estimated useful life, replacement cost, condition of the assets and risk assessment. Where assessed condition data (i.e., by an engineer or third-party contractor) was unavailable, age-based condition was used to estimate the condition of the asset.

3.1 Approach

3.1.1 Objective and Scope

Objective: to identify the current state of the Town of Goderich's infrastructure and the projected state in the future if the current funding levels and management practices remain status quo.

Scope: within the state of the local infrastructure section, a high-level review will be undertaken of the below asset classes below:

- **Road Network:** roads, sidewalks, streetlights, and traffic signals
- **Water Network:** watermains, fire hydrants, water treatment plant, booster pumping station and water tower
- **Sanitary Network:** sanitary sewer mains, pollution control plant and sewage pumping stations
- **Storm Network:** storm water mains and stormwater management
- **Facilities:** all Town-owned buildings
- **Land Improvements:** runways, driveways, walkways, parking lots, park lights, fencing, guiderails, recreation amenities, archways, pillars, walls and concrete structures, entrance features and signs
- **Fleet:** all Town-owned motor vehicles
- **Machinery and Equipment:** furniture, appliances, fire equipment, medical equipment, recreation equipment, playground equipment, operating equipment, computer equipment, off-road vehicles and generators

Although the asset classes above reflect the current asset inventory and known condition for this Asset Management Plan, the Town is constantly updating its asset information. Therefore, the

Town of Goderich will update infrastructure data on an annual basis, as more detailed condition assessments and attribute data become available.

3.1.2 Asset Hierarchy

The Town of Goderich’s asset inventory consists of eight major classes: road network, water network, sanitary network, storm network, facilities, land improvements, fleet, as well as machinery and equipment. The asset hierarchy below (Figure 2) illustrates the relationship between each of the asset categories or groups that make up an asset class. Asset categories can be further broken down to the individual asset level. Figure 2 shows the expansive network of assets the Town of Goderich manages and maintains to provide necessary services for its residents.

TOWN OF GODERICH ASSET HIERARCHY

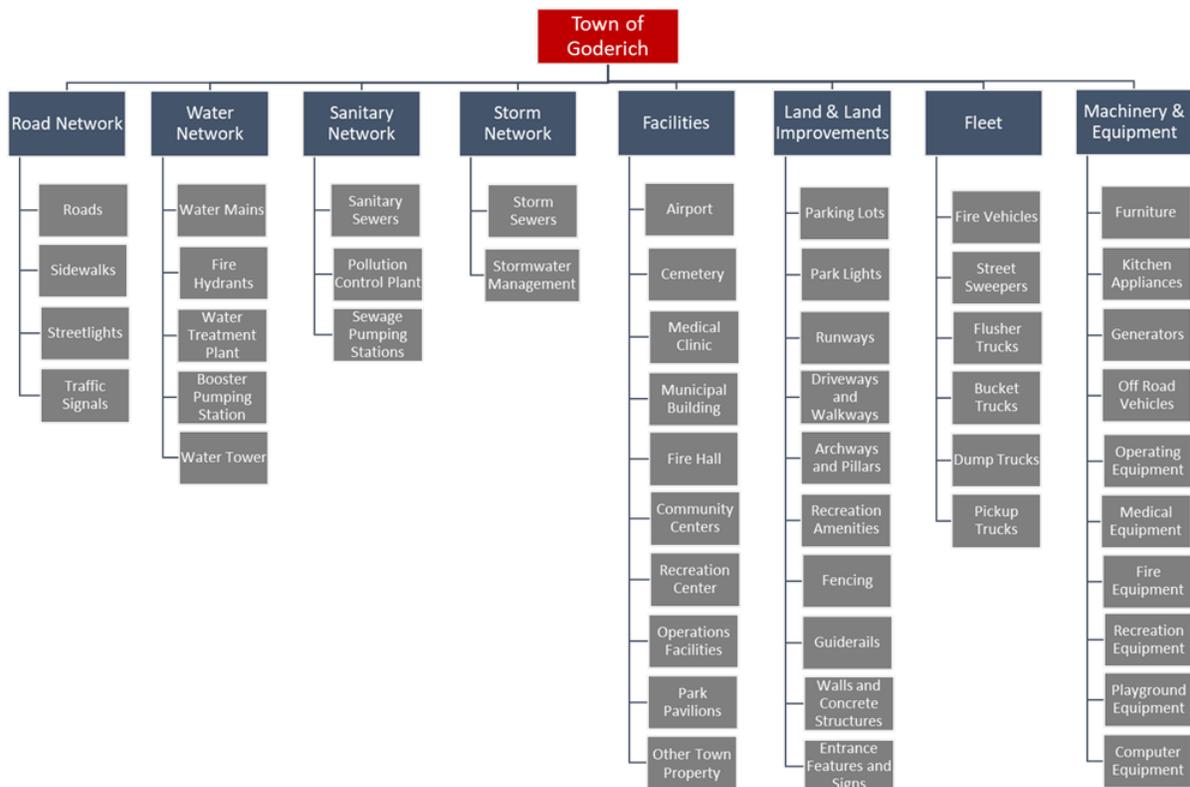


Figure 2. Town of Goderich asset hierarchy of the eight asset classes and their respective asset categories (or groups) within each class.

3.1.3 Useful Life and Condition

The estimated useful life of an asset is the projected lifespan of which an asset is likely to remain in service. Using the age of an asset is usually the starting point to estimate an asset’s remaining years of service and performance. In many cases, asset age does not accurately reflect how an

asset is actually performing, which is why assessed condition is a more accurate indicator of asset performance and remaining service life. Particularly, infrastructure assets undergo a continual process of repair, rehabilitation and refurbishment in order to maintain their intended use. Therefore, assessing the condition of the asset will be a more suitable indicator of how the asset is performing and future asset management planning. Currently, the Town of Goderich has hired engineers to assess the condition of its infrastructure assets. Condition assessments have been completed as follows: facilities completed in 2017, water treatment plant and booster pumping stations completed in 2019, pollution control plant and sewage pumping stations completed in 2020, all roads and sidewalks completed in 2020, and approximately two-thirds of the sanitary sewer mains throughout Town have been assessed by 2023.

3.1.4 Risk Analysis

Municipalities generally take a ‘worst-first’ approach to infrastructure replacement and spending. Rather than prioritizing assets based on their importance to service delivery, assets in the worst condition (i.e., poor to very poor age-based on performance-based condition rating) are replaced first, regardless of their criticality. However, not all assets are equally important to the community, and some assets pose a greater risk to service delivery if they fail. For example, a road with a high volume of traffic that provides access to critical services poses a higher risk compared to a low volume residential street servicing a handful of properties. Asset risk and criticality is a key component of both short and long-term planning.

$$\textit{Risk Rating} = \textit{Probability of Failure} \times \textit{Consequence of Failure}$$

Risk within the asset management industry is often defined as the probability (likelihood) of failure multiplied by the consequence of that failure. The likelihood of failure relates to the current performance of each asset, whether they are in excellent, good, fair, poor or critical condition, as this is a good indicator regarding their future risk of failure. The consequence of failure relates to the magnitude, or overall effect, that an asset’s failure will cause. Consequence of failure is assessed based on the impact that failure would have on the following metrics:

- Economic development
- Environment
- Finance
- Operational
- Health and safety

Each asset is assigned a probability of failure score and consequence of failure score, based on available asset attribute data. Analysis of this data, as well as adding weights to each probability of failure and consequence of failure score allows each asset to be given a risk value that can assist the Town of Goderich in decision-making and project prioritization. These risk scores can be used to prioritize maintenance, rehabilitation, and replacement strategies for critical assets.

Risk matrices are useful tools to not only visualize risk across a group of assets, but also explore various strategies to extend the useful life of assets at reasonable costs and ensure service delivery is being optimized (Figure 3). Risk matrices for each asset network within the Town of Goderich asset inventory can be found in Section 5.0: Asset Management Strategy.

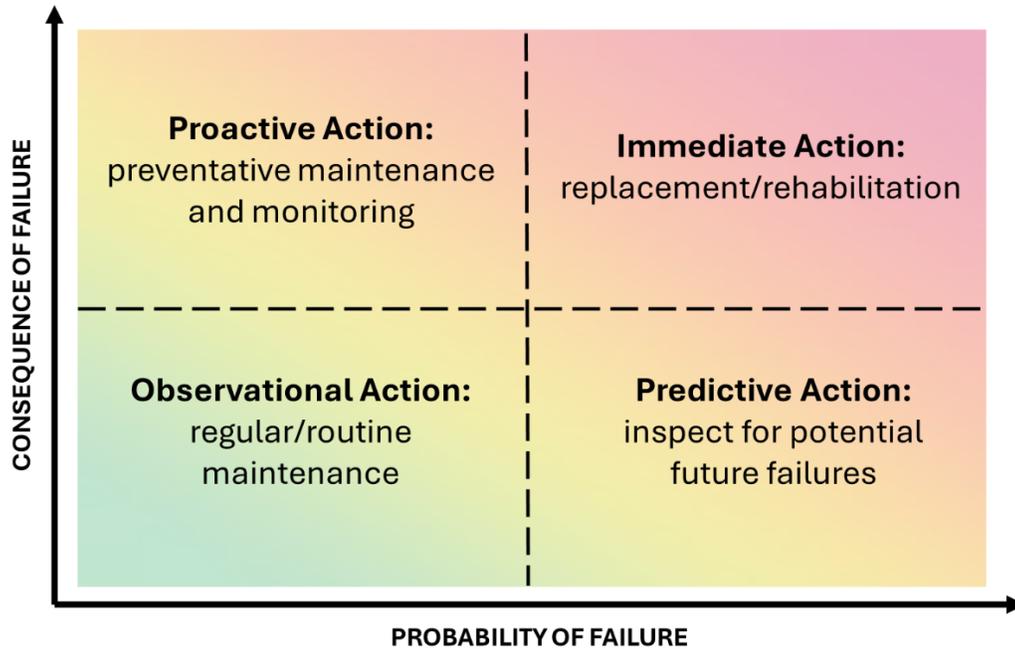


Figure 3. An example of a risk heat map for a group of assets based on probability of failure and consequence of failure scores. Each asset is given a risk rating that can be used to prioritize the maintenance, rehabilitation, and replacement strategies based on criticality. Figure adapted from Public Sector Digest Inc.

3.1.5 Life Cycle Optimization

Lifecycle Management refers to how assets are managed over their useful lives from construction to disposal. Determining and implementing the optimal type and timing of proactive maintenance, repair, renewal and rehabilitation treatments maximizes the value of the asset at its lowest possible cost over its life span. Eventually, the asset will require replacement and disposal once it reaches the end of its useful service life. Table 1 summarizes these lifecycle activities.

Activity Type	Description
Maintenance	Regular scheduled inspections and preventative maintenance, or repair activities associated with unexpected events
Renewal and Rehabilitation	Major repairs designed to extend asset life, restore level of service and/or defer the need for replacement
Replacement	Replacement is expected to occur when the asset has reached the end of its useful life and renewal and/or rehabilitation activities are no longer considered an option
Disposal	Includes activities associated with disposing of an asset

Expansion	Includes planned activities that are required to extend or expand services to enhance service levels or meet growth demands
Non-Infrastructure	Includes reports and/or inspections that inform operating budgets, communications to relevant departments when work is completed, as well as potential adjustments to service levels

Table 1. Life cycle activities to maximize the value of an asset at the lowest cost over its life span.

Asset lifecycle optimization is important to determine operational and cost impacts related to the implementation of these maintenance, renewal, rehabilitation, replacement, disposal and expansion activities. Proper life cycle assessment improves the ability to predict, plan and include the necessary activities into the municipal budget for short- and long-term financial planning. Further information regarding asset lifecycle management can be found in Section 5.2.

Ontario Regulation 588/17 *Asset Management Planning for Municipal Infrastructure* requires that life cycle management be considered in asset management planning, as well as life cycle activities, options and estimated costs to maintain current and future service levels at lowest possible costs. The Town of Goderich will continue to consider life cycle options including, expanding preventative maintenance and repair treatments, replacement when assets come due, re-examining useful life assumptions, and technical assessments as compared to using age to determine condition ratings.

3.2 Road Network

3.2.1 Inventory

The Town of Goderich’s Road Network consists of four categories: roads, sidewalks, streetlights, and traffic signals. A detailed breakdown of each category can be found in Table 2. The Town of Goderich owns and maintains approximately 78 center lane kilometers of roadway (excluding rural legally open assets), of which approximately 94% is considered urban roadways (i.e., connecting link, urban collector, semi-urban, urban local high class and low class) and 6% is considered rural roadways (i.e., low class bituminous and rural gravel). Figure 4 shows the percentage breakdown of all road and sidewalk categories found within the Town of Goderich.

ROAD NETWORK INVENTORY

Asset Class	Asset Category	Quantity
Road Network	Roads: Connecting Link	4.86 centre lane km
	Roads: Urban Collector	3.66 centre lane km
	Roads: Semi-Urban	2.07 centre lane km
	Roads: Urban Local H.C.	59.14 centre lane km
	Roads: Urban Local L.C.	3.43 centre lane km
	Roads: L.C. Bituminous	4.00 centre lane km
	Roads: Rural Gravel	0.48 centre lane km
	Roads: Rural Legally Open	2.63 centre lane km
	Sidewalks: Concrete	64.39 km
	Sidewalks: Asphalt	1.03 km
	Sidewalks: Paving Stone	1.51 km

Road Network	Sidewalks: Wood Streetlights Traffic Signals	1.75 km 1,466 units 33 units
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Table 2. Fourteen asset categories that encompass the Road Network inventory with quantity displayed in center lane kilometers or units.

ROAD AND SIDEWALK PERCENT DISTRIBUTION

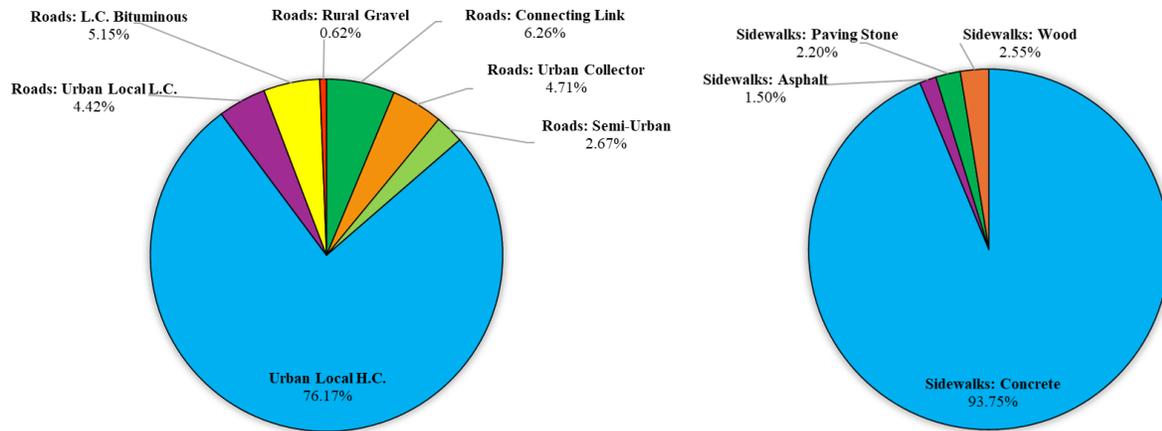


Figure 4. The road distribution within the Town of Goderich consists of connecting link (6.26%), urban collector (4.71%), semi-urban (2.67%), urban local high-class (76.17%), urban local low-class (4.42%), low-class bituminous (5.15%) and rural gravel (0.62%) roads. Rural legally open roads have been excluded as these green spaces are land assets with potential planning for roadways in the future. The Town of Goderich sidewalk distribution consists of concrete (93.75%), asphalt (1.50%), paving stone (2.20%), and wood (2.55%) sidewalks.

3.2.2 Valuation and Replacement Cost

The road network consists of segments of road divided into land, subgrade, and topcoat assets, with replacement values given for subgrade and topcoat only (land assets are not planned for replacement and non-amortized). Similarly, sidewalks are divided into segments consisting of land assets and concrete, asphalt, paving stone, or wood assets. Table 3 displays the estimated useful life (EUL), average age and approximate replacement cost of all categories within the road network. The Town uses replacement cost projections from B.M. Ross & Associates for road and concrete sidewalk assets, while consumer price inflation (CPI) tables are used as the replacement cost method for the remaining sidewalks assets, traffic signals and streetlighting. Total replacement cost of the road network is approximately \$130,071,095 (Figure 5).

ROAD NETWORK ESTIMATED USEFUL LIFE AND REPLACEMENT COST

Asset Category	EUL (Yrs.)	Avg Age (Yrs.)	Replacement Cost Method	Replacement Cost	Percent Distribution
Roads: Connecting Link	30	20	Cost/Unit	\$8,262,000	6.35%
Roads: Urban Collector	30	33	Cost/Unit	\$6,339,750	4.87%
Roads: Semi-Urban	30	40	Cost/Unit	\$3,510,500	2.70%
Roads: Urban Local H.C.	30	30	Cost/Unit	\$94,613,549	72.74%
Roads: Urban Local L.C.	15	28	Cost/Unit	\$6,652,500	5.12%
Roads: L.C. Bituminous	15	25	Cost/Unit	\$600,000	0.46%
Roads: Rural Gravel	100	132	Cost/Unit	\$744,000	0.57%
Sidewalks: Concrete	50	46	Cost/Unit	\$3,794,988	2.92%
Sidewalks: Asphalt	30	13	CPI Tables	\$168,797	0.13%
Sidewalks: Paving Stone	50	32	CPI Tables	\$512,774	0.39%
Sidewalks: Wood	25	10	CPI Tables	\$1,877,938	1.44%
Streetlights	30	12	CPI Tables	\$2,216,746	1.71%
Traffic Signals	25	15	CPI Tables	\$777,553	0.60%
TOTAL				\$130,071,095	100%

Table 3. Complete road network inventory with estimated useful life (EUL) in years, average age in years, estimated replacement cost, percent distribution and method used to obtain replacement cost.

ROAD NETWORK REPLACEMENT COST

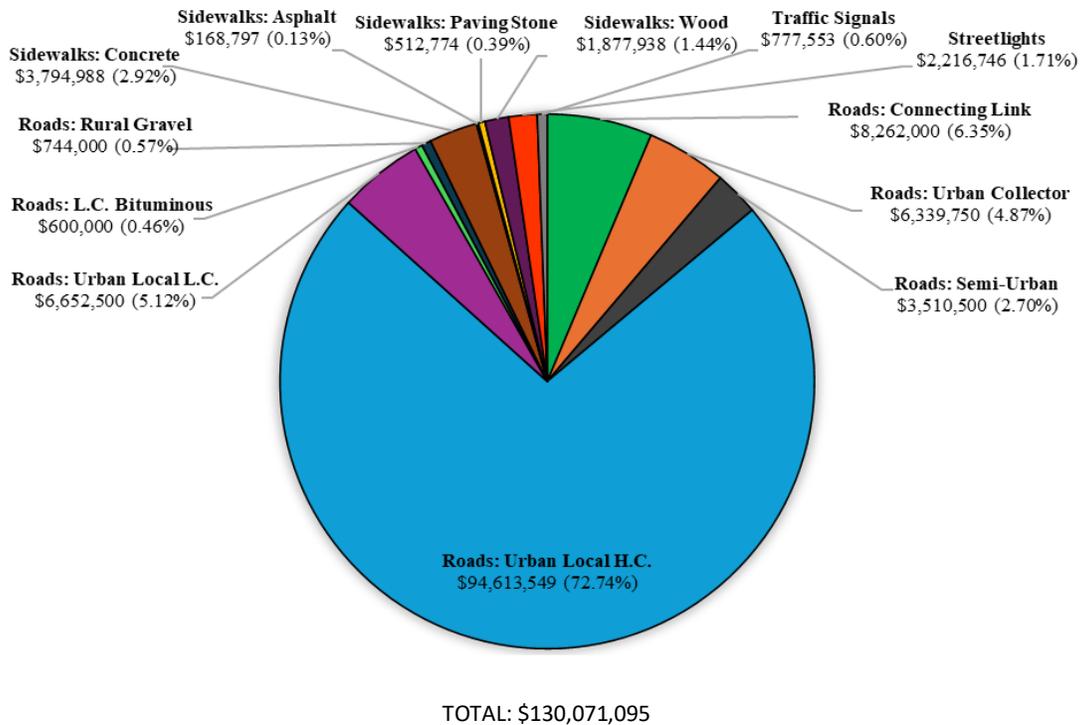


Figure 5. Estimated replacement cost broken down by asset category within the road network. Total replacement value of all road network assets is valued at approximately \$130,071,095.

3.2.3 Condition

The Town of Goderich has completed two road network condition assessments, with the first study completed in 2014 and the more recent study completed in 2020 (Figure 6). The Town also completed a sidewalk condition assessment for its sidewalk network in 2020 (Figure 6). To keep the Town’s assessed condition data accurate, the Town of Goderich aims to complete condition studies for its road and sidewalk networks on an ongoing basis, with public works completing road patrols every week for Class 3 roads, and biweekly for Class 4, 5 and 6 roads, as per minimum maintenance standards. Furthermore, annual sidewalk inspections and streetlight inspections are completed once every year by public works staff, as per minimum

maintenance standards. Table 4 shows the condition index used for both assessed and age-based condition. Table 5 shows each asset category within the road network, how condition has been determined and the average condition pertaining to each category.

	Range	Description
	80+	VERY GOOD
	60 - 79	GOOD
	40 - 59	FAIR
	20 - 39	POOR
	0 - 19	VERY POOR

Table 4. Condition description, numerical range and colour indicator for both assessed and age-based condition in the road network asset class.

ROAD NETWORK AVERAGE CONDITION

Asset Class	Asset Category	Condition Type	Average Condition
Road Network	Roads: Connecting Link	Assessed	70.57 – Good
	Roads: Urban Collector	Assessed	51.59 – Fair
	Roads: Semi-Urban	Assessed	33.41 – Poor
	Roads: Urban Local H.C.	Assessed	54.86 – Fair
	Roads: Urban Local L.C.	Assessed	21.03 – Poor
	Roads: L.C. Bituminous	Assessed	49.15 – Fair
	Roads: Rural Gravel	Assessed	31.68 – Poor
	Sidewalks: Concrete	Assessed	76.03 – Good
	Sidewalks: Asphalt	Assessed	62.07 – Good
	Sidewalks: Paving Stone	Assessed	70.20 – Good
	Sidewalks: Wood	Age-Based	66.24 – Good
	Streetlights	Age-Based	69.53 – Good
	Traffic Signals	Age-Based	35.83 – Poor

Table 5. Average condition of each road asset category within the road network. The condition of the Town’s roads and sidewalk were assessed in 2020, while the condition of the Town’s wood staircases, streetlights and traffic signals use an age-based condition metric.

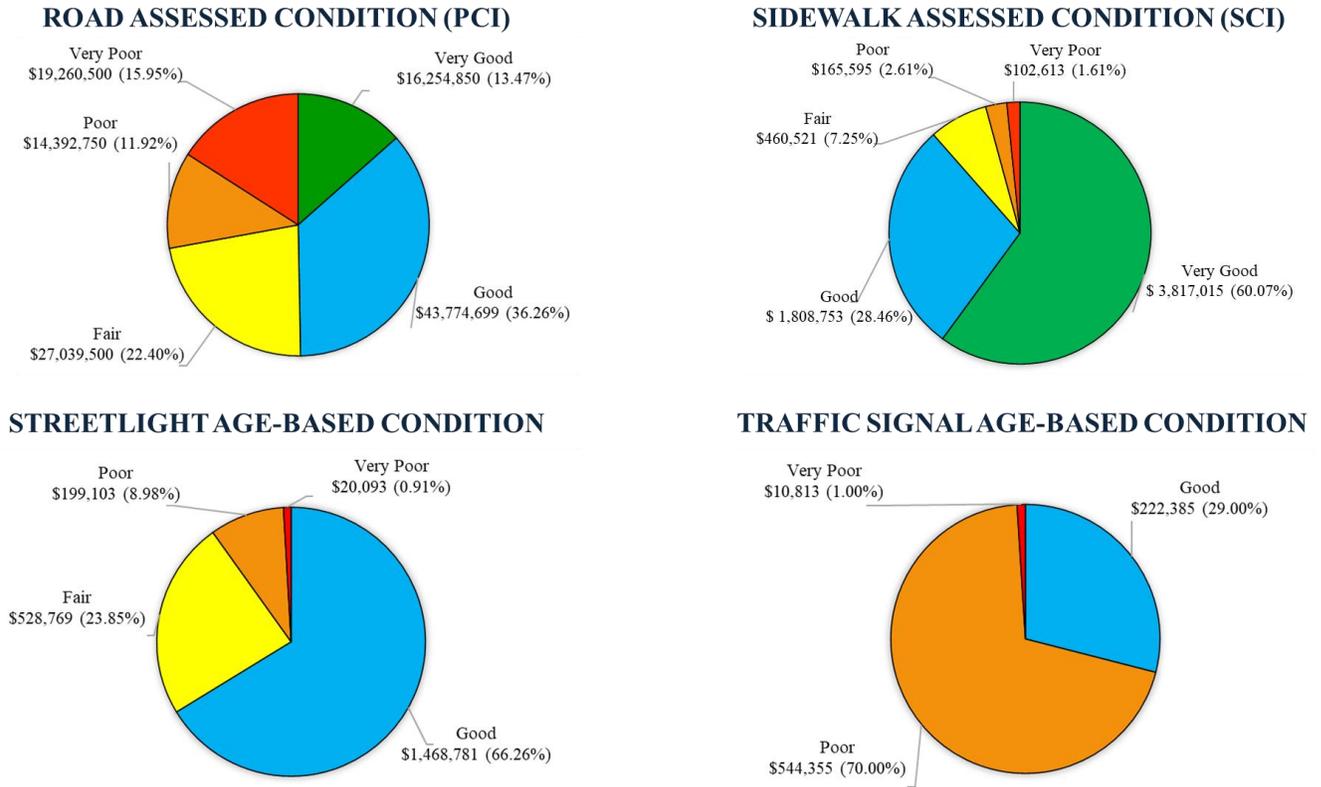


Figure 6. Road condition is measured by the pavement condition index (PCI). Slightly below 50% of municipally owned roads have a PCI of 60 or greater (good to very good condition). Approximately 27.87% of roads have a PCI of 39 or below (poor to very poor condition). Sidewalk condition is measured by the sidewalk condition index (SCI). Approximately 88.53% of sidewalks have a SCI of 60 or greater (good to very good condition). The majority of the Town’s streetlights have a condition rating between 60 and 79 (good condition), while approximately 70.00% of the traffic signals have a condition rating between 20 and 39 (poor condition). It should be noted that the condition data obtained for the streetlight and traffic signal asset categories is based on asset age.

3.3 Water Network

3.3.1 Inventory

The Town of Goderich water network consists of four main categories: watermains, fire hydrants, booster pumping station (BPS) and water treatment plant (WTP). A detailed breakdown of each category can be found in Table 6. The Town of Goderich owns approximately 69.73 km of watermains, of which approximately 42% are PVC, 35% are ductile iron, 22% are cast iron and less than 1% are steel material. The Town of Goderich contracts water treatment and distribution to Veolia Canada, who maintain the Town’s water treatment plant, booster pumping station, water tower, watermains and fire hydrant assets.

WATER NETWORK INVENTORY

Asset Class	Asset Category	Quantity
Water Network	Watermains: PVC	29.51 km
	Watermains: Steel	0.17 km
	Watermains: Ductile Iron	24.70 km
	Watermains: Cast Iron	15.35 km
	Fire Hydrants	281 units
	Water Treatment Plant: Building Components	15 units
	Water Treatment Plant: Concrete Tankage	8 units
	Water Treatment Plant: Mechanical Equipment	23 units
	Water Treatment Plant: Pumps and Motors	20 units
	Water Treatment Plant: Electrical Power	9 units
	Water Treatment Plant: Electrical Controls	12 units
	Water Treatment Plant: Sitework	3 units
	Booster Pumping Station: Structure	1 unit
	Booster Pumping Station: Concrete Tankage	7 units
	Booster Pumping Station: Mechanical Equipment	2 units
	Booster Pumping Station: Pumps and Motors	7 units
	Booster Pumping Station: Electrical Power	2 units
	Booster Pumping Station: Electrical Controls	2 units
	Booster Pumping Station: Sitework	2 units

Table 6. Nineteen asset categories that comprise the Water Network inventory with quantity displayed in kilometers or units.

3.3.2 Valuation and Replacement Cost

The Town of Goderich Water Network consists of the water treatment plant (WTP) and its components, the booster pumping station (BPS) and its components, as well as segments of watermains that form the drinking water distribution system. The Town obtains replacement cost data from B.M. Ross & Associates for watermain assets (based on pipe diameter), while CPI tables are used as the replacement cost method for the water treatment plant and booster pumping station components, as well as the fire hydrants. Table 7 displays the estimated useful life (EUL), average age and approximate replacement cost of all categories within the water network. Total replacement cost of the Town of Goderich Water Network is approximately \$172,179,309 (Figure 7).

**WATER NETWORK ESTIMATED USEFUL LIFE
AND REPLACEMENT COST**

Asset Category	EUL (Yrs)	Avg Age (Years)	Replacement Cost Method	Replacement Cost	Percent Distribution
Watermains: PVC	100	19	Cost/Unit	\$60,109,720	34.91%
Watermains: Steel	100	44	Cost/Unit	\$559,938	0.33%
Watermains: Ductile Iron	100	40	Cost/Unit	\$53,949,104	31.33%
Watermains: Cast Iron	100	72	Cost/Unit	\$34,004,069	19.75%
Fire Hydrants	50	29	CPI Tables	\$2,702,441	1.57%
WTP: Building	100	51	CPI Tables	\$4,094,196	2.38%
WTP: Concrete Tankage	100	50	CPI Tables	\$3,816,961	2.22%
WTP: Mechanical Equip	100	36	CPI Tables	\$2,985,234	1.73%
WTP: Pumps and Motors	25	42	CPI Tables	\$620,827	0.36%
WTP: Electrical Power	60	51	CPI Tables	\$1,001,143	0.58%
WTP: Electrical Controls	25	42	CPI Tables	\$1,589,258	0.92%
WTP: Sitework	100	40	CPI Tables	\$4,279,861	2.49%
BPS: Structure	100	38	CPI Tables	\$627,169	0.36%
BPS: Concrete Tankage	100	17	CPI Tables	\$738,696	0.43%
BPS: Mechanical Equip	100	26	CPI Tables	\$216,568	0.13%
BPS: Pumps and Motors	25	28	CPI Tables	\$215,017	0.12%
BPS: Electrical Power	60	26	CPI Tables	\$202,317	0.12%
BPS: Electrical Controls	25	26	CPI Tables	\$114,542	0.07%
BPS: Sitework	100	26	CPI Tables	\$352,248	0.20%
TOTAL				\$172,179,309	100%

Table 7. Complete water network inventory with estimated useful life (EUL) in years, average age in years, estimated replacement cost, percent distribution and method used to obtain replacement cost.

WATER NETWORK REPLACEMENT COST

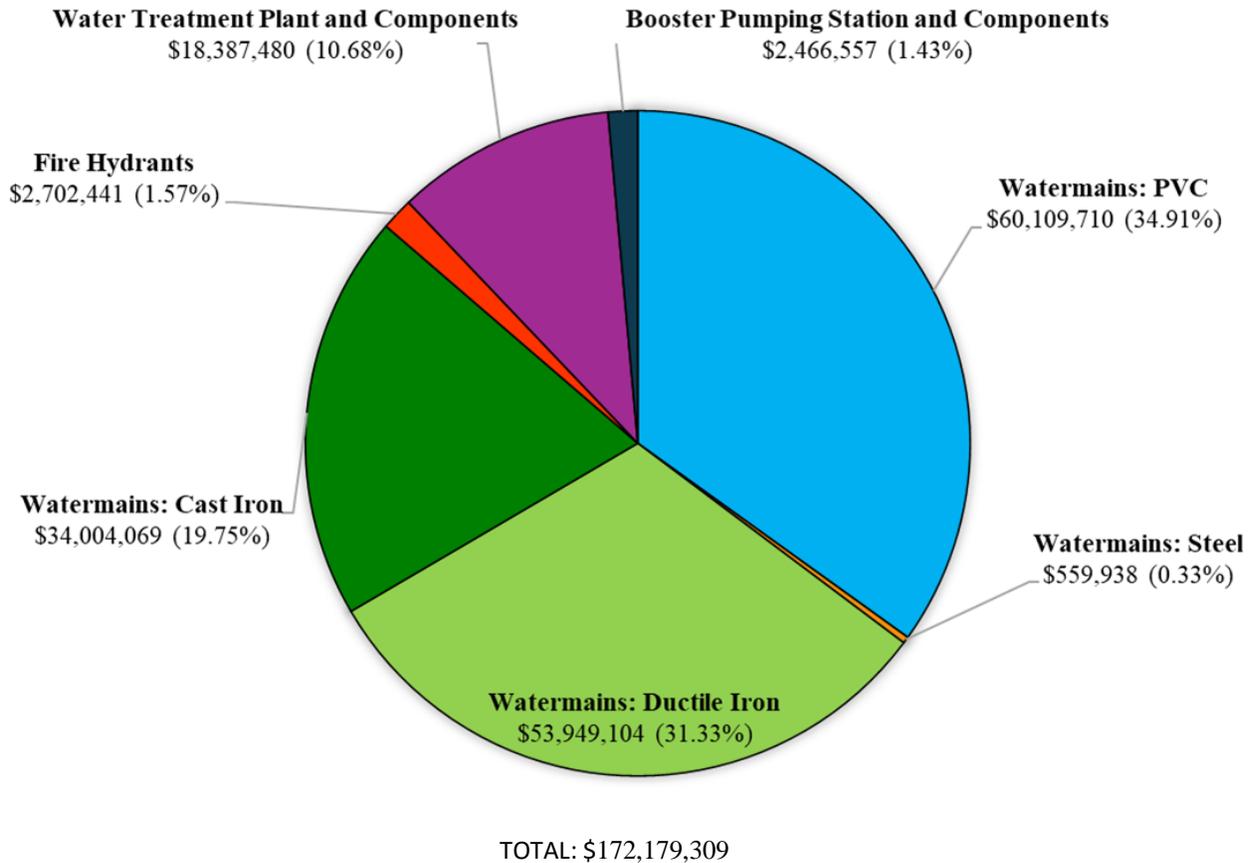


Figure 7. Estimated replacement cost broken down by asset category within the water network. Components of the water treatment plant and booster pumping station have been combined for easier visualization. Total replacement value of all Town of Goderich Water Network is valued at approximately \$172,179,309.

3.3.3 Condition

The water treatment plant and booster pumping station were assessed for performance in 2019 by B.M. Ross & Associates (Figure 8). To keep the Town’s assessed condition data accurate, the Town of Goderich aims to complete condition studies for its water treatment plant and booster pumping station on an ongoing basis. All watermain assets follow an age-based condition rating (Figure 8). The condition index for both assessed and age-based condition can be found in Table 4 above. Table 8 shows each asset category within the water network, the condition assessment method, and the average performance rating pertaining to each category.

WATER NETWORK AVERAGE CONDITION

Asset Class	Asset Category	Condition Type	Average Condition
Water Network	Watermains: PVC	Age-Based	80.69 – V. Good
	Watermains: Steel	Age-Based	43.63– Fair
	Watermains: Ductile Iron	Age-Based	59.45 – Fair
	Watermains: Cast Iron	Age-Based	31.81 – Poor
	Fire Hydrants	Age-Based	41.70 – Fair

Water Network	WTP: Building/Structure	Assessed	62.92 – Good
	WTP: Concrete Tankage	Assessed	67.55 – Good
	WTP: Mechanical Equipment	Assessed	43.66 – Fair
	WTP: Pumps and Motors	Assessed	46.46 – Fair
	WTP: Electrical Power	Assessed	45.35 – Fair
	WTP: Electrical Controls	Assessed	34.84 – Poor
	WTP: Sitework	Assessed	48.92 – Fair
	BPS: Structure	Assessed	74.92 – Good
	BPS: Concrete Tankage	Assessed	66.35 – Good
	BPS: Mechanical Equipment	Assessed	64.92 – Good
	BPS: Pumps and Motors	Assessed	30.27 – Poor
	BPS: Electrical Power	Assessed	51.53 – Fair
	BPS: Electrical Controls	Assessed	39.67 – Poor
	BPS: Sitework	Assessed	64.92 – Fair

Table 8. Average condition of each water asset category within the water network. The condition of the Town’s water treatment plant and booster pumping station were assessed in 2019, while the condition of the Town’s watermains and fire hydrants use an age-based condition metric.

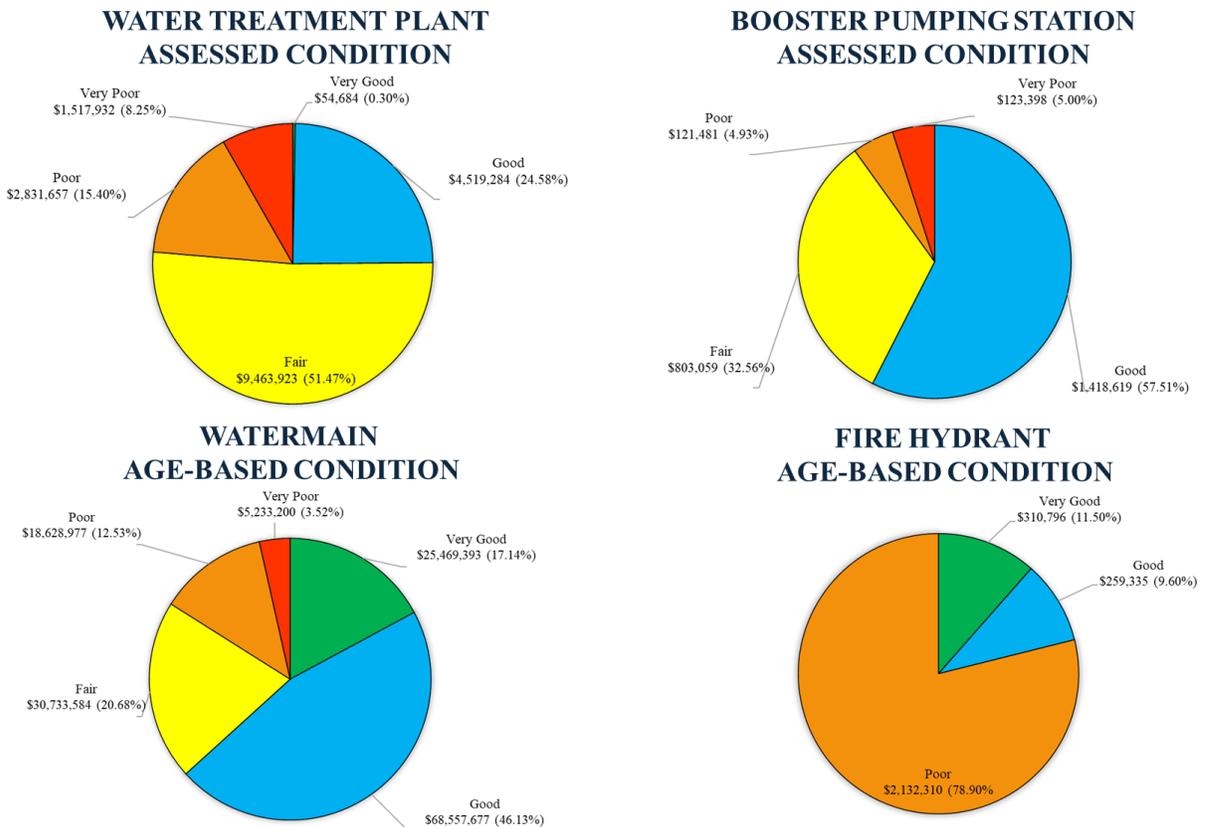


Figure 8. The condition of the booster pumping station indicates 57.51% of its components are in good condition, while just under 50% of the water treatment plant components have a performance rating of 60 or greater (good to very good condition). Approximately 63.27% of watermain assets have a condition rating of 60 or greater (good to very good condition), while over 75% of the fire hydrants assets have a condition rating between 20 and 39 (poor condition). It should be noted that both the watermain and fire hydrant condition rating is based on asset age.

3.4 Sanitary Network

3.4.1 Inventory

The Town of Goderich sanitary network consists of three main categories: sanitary sewer mains, six sewage pumping stations and a pollution control plant. A detailed breakdown of each category can be found in Table 9. The Town of Goderich owns approximately 59.32 km of sanitary sewer mains, of which approximately 43% are vitrified clay, 32% are PVC, 15% are asbestos cement, 9% are concrete and less than 1% are ductile iron sewer mains. The Town of Goderich contracts wastewater collection and treatment to Veolia Canada, who maintain the Town’s wastewater treatment plant and sewage pumping stations, while the Town’s operations staff maintain all sanitary sewer mains.

SANITARY NETWORK INVENTORY

Asset Class	Asset Category	Quantity
Sanitary Network	Sanitary Sewer: PVC	19.05 km
	Sanitary Sewer: Concrete	5.62 km
	Sanitary Sewer: Vitrified Clay	25.57 km
	Sanitary Sewer: Ductile Iron	0.21 km
	Sanitary Sewer: Asbestos Cement	8.87 km
	Wastewater Treatment Plant: Structure Components	12 units
	Wastewater Treatment Plant: Concrete Tankage	16 units
	Wastewater Treatment Plant: Mechanical Equipment	27 units
	Wastewater Treatment Plant: Pumps and Motors	33 units
	Wastewater Treatment Plant: Electrical Power	23 units
	Wastewater Treatment Plant: Electrical Controls	25 units
	Wastewater Treatment Plant: Sitework	25 units
	Sewage Pumping Station: Concrete Tankage	6 units
	Sewage Pumping Station: Mechanical Equipment	6 units
	Sewage Pumping Station: Pumps and Motors	6 units
	Sewage Pumping Station: Electrical Power	6 units
	Sewage Pumping Station: Electrical Controls	6 units
	Sewage Pumping Station: Sitework	6 units

Table 9: Eighteen asset categories that comprise the Sanitary Network inventory with quantity displayed in kilometers or units.

3.4.2 Valuation and Replacement Cost

The Town of Goderich Sanitary Network consists of the wastewater treatment plant (WWTP) and its components, six sewage pumping stations (SPS) and their components, as well as segments of sanitary sewer mains that form the wastewater collection system. An additional sewage pumping station will be added to the sanitary network during 2024 year-end. The Town obtains replacement cost data from B.M. Ross & Associates for sanitary sewer assets (based on pipe diameter), while CPI tables are used as the replacement cost method for the wastewater treatment plant and sewage pumping station components. Table 10 displays the estimated useful life (EUL), average age and approximate replacement cost of all categories within the sanitary

network. Total replacement cost of the Town of Goderich Sanitary Network is approximately \$142,989,862 (Figure 9).

**SANITARY NETWORK ESTIMATED USEFUL LIFE
AND REPLACEMENT COST**

Asset Category	EUL (Yrs)	Avg Age (Yrs)	Replacement Cost Method	Replacement Cost	Percent Distribution
Sanitary Sewer: PVC	100	16	Cost/Unit	\$39,084,900	27.25%
Sanitary Sewer: Concrete	100	68	Cost/Unit	\$13,338,269	9.30%
Sanitary Sewer: Vitrified Clay	100	114	Cost/Unit	\$56,192,101	39.18%
Sanitary Sewer: Ductile Iron	100	46	Cost/Unit	\$425,952	0.30%
Sanitary Sewer: Asbestos Cement	100	48	Cost/Unit	\$18,067,614	12.60%
WWTP: Structure	100	38	CPI Tables	\$1,661,407	1.16%
WWTP: Concrete Tankage	100	39	CPI Tables	\$4,194,115	2.92%
WWTP: Mechanical Equipment	100	36	CPI Tables	\$3,434,604	2.40%
WWTP: Pumps and Motors	25	31	CPI Tables	\$505,907	0.35%
WWTP: Electrical Power	60	41	CPI Tables	\$1,289,563	0.90%
WWTP: Electrical Controls	25	38	CPI Tables	\$573,445	0.40%
WWTP: Sitework	100	38	CPI Tables	\$2,984,651	2.08%
SPS: Concrete Tankage	100	26	CPI Tables	\$357,319	0.25%
SPS: Mechanical Equipment	100	21	CPI Tables	\$94,070	0.07%
SPS: Pumps and Motors	25	27	CPI Tables	\$357,716	0.25%
SPS: Electrical Power	60	27	CPI Tables	\$344,589	0.24%
SPS: Electrical Controls	25	21	CPI Tables	\$79,185	0.06%
SPS: Sitework	100	27	CPI Tables	\$420,814	0.29%
TOTAL				\$142,989,862	100%

Table 10: Complete sanitary network inventory with estimated useful life (EUL) in years, average age, estimated replacement cost, percent distribution and method used to calculate replacement cost.

SANITARY NETWORK REPLACEMENT COST

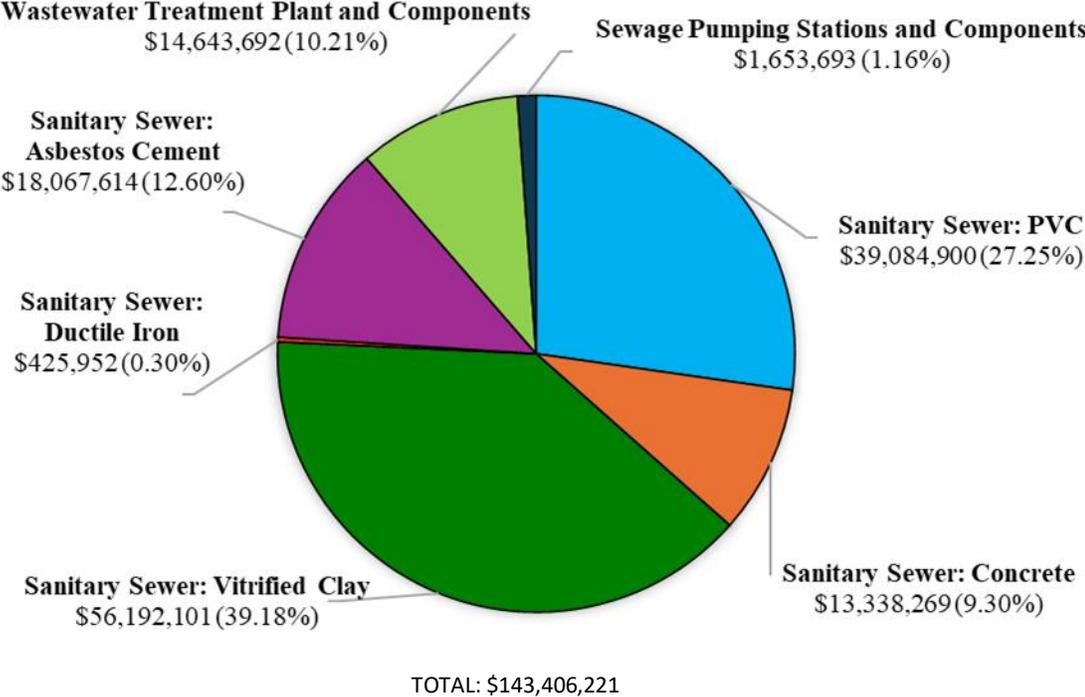


Figure 9. Estimated replacement cost broken down by asset category within the sanitary network. Components of the wastewater treatment plant and sewage pumping stations have been combined for easier visualization. Total replacement value of all Town of Goderich Sanitary Network is valued at approximately \$143,406,221.

3.4.3 Condition

The wastewater treatment plant and sewage pumping stations were assessed for performance in 2020 by B.M. Ross & Associates (Figure 10). The index for these condition assessment results can be found in Table 4 above. To keep the Town’s performance data accurate, the Town of Goderich aims to complete assessed condition studies for its wastewater treatment plant and sewage pumping stations on an ongoing basis.

The municipality has been budgeting for a portion of its sanitary sewer mains to be assessed over the past seven years. To date, assessed condition (NASSCO rating) has been obtained for approximately 63% of the Town’s sanitary sewer mains (Figure 10). The municipality will continue budgeting for sanitary sewer condition assessments on

an annual basis to complete the entire network. The NASSCO condition index follows a 0-5 scale and can be found below in Table 11. Table 12 shows each asset category within the sanitary network, the condition assessment method, and the average performance rating pertaining to each category.

	Range	Description
	0 - 1.9	VERY GOOD
	2 – 2.9	GOOD
	3 – 3.9	FAIR
	4 – 4.9	POOR
	5+	VERY POOR

Table 11. Condition description, numerical range and colour indicator for sanitary sewers assessed using NASSCO ratings.

SANITARY NETWORK AVERAGE CONDITION

Asset Class	Asset Category	Condition Type	Average Condition
Sanitary Network	Sanitary Sewers: PVC	Assessed (NASSCO)	0.43 – V. Good
	Sanitary Sewers: Concrete	Assessed (NASSCO)	1.09 – V. Good
	Sanitary Sewers: Vitrified Clay	Assessed (NASSCO)	1.74 – V. Good
	Sanitary Sewers: Ductile Iron	Assessed (NASSCO)	0.47 – V. Good
	Sanitary Sewers: Asbestos Cement	Assessed (NASSCO)	0.90 – V. Good
	WWTP: Building	Assessed	56.00 – Fair
	WWTP: Concrete Tankage	Assessed	74.02 – Good
	WWTP: Mechanical Equipment	Assessed	63.41 – Good
	WWTP: Pumps and Motors	Assessed	44.95 – Fair
	WWTP: Electrical Power	Assessed	61.92 – Good
	WWTP: Electrical Controls	Assessed	45.60 – Fair
	WWTP: Sitework	Assessed	70.78 – Good
	SPS: Concrete Tankage	Assessed	65.75 – Good
	SPS: Mechanical Equipment	Assessed	63.63 – Good
	SPS: Pumps and Motors	Assessed	53.00 – Fair

Sanitary Network	SPS: Electrical Power	Assessed	67.93 – Good
	SPS: Electrical Controls	Assessed	49.67 – Fair
	SPS: Sitework	Assessed	65.75 – Good

Table 12. Average condition of each sanitary asset category within the sanitary network. The condition of the Town’s wastewater treatment plant and sewage pumping stations were assessed in 2020, while the condition of the Town’s sanitary sewers have been assessed on an on-going basis over the last six years.

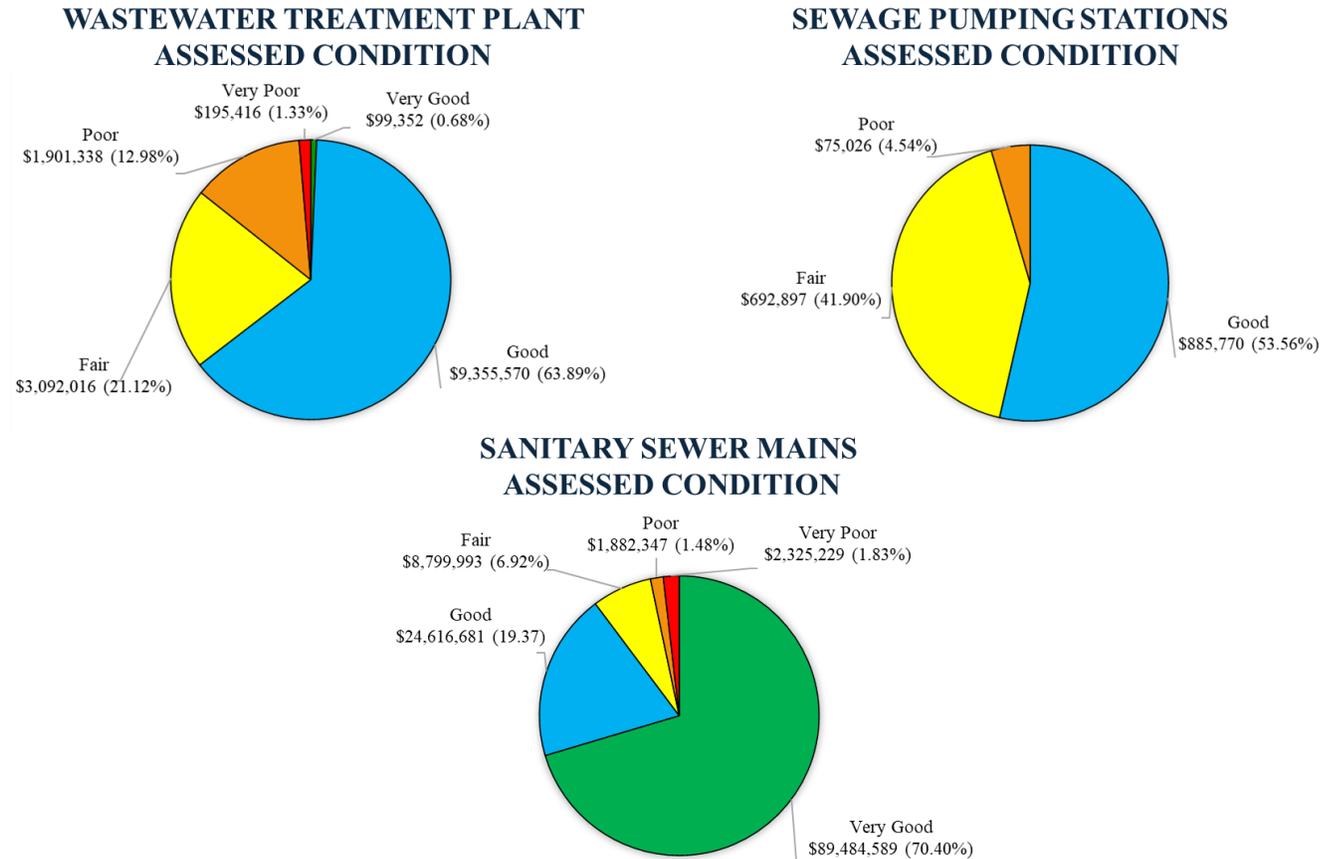


Figure 10. The results of the condition assessment for the wastewater treatment plant indicate 64.57% of its components have a condition rating of 60 or greater (good to very good condition). Approximately 95.46% of the sewage pumping station components have a performance rating between 40 and 79 (fair to good condition), with no sewage pumping station components falling in the very good or very poor condition rating. Approximately 89.77% of the sanitary sewer assets have a NASSCO condition rating of 2.9 or less (good to very good condition), with less than 4% of the sanitary sewer mains falling within the poor to very poor category.

3.5 Storm Network

3.5.1 Inventory

The Town of Goderich storm network consists of six types of storm sewers: PVC, concrete, clay, steel, asbestos cement, and open ditch. A detailed breakdown of each category can be found in Table 13. The Town of Goderich owns approximately 52.23 km of storm sewers, of which approximately 78% are concrete, 17% are PVC, 4% are steel, and the combination of clay, asbestos cement and open ditch make up the remaining 1%. Town operations staff maintain all storm sewer assets.

STORM NETWORK INVENTORY

Asset Class	Asset Category	Quantity
Storm Sewer Network	Storm Sewer: PVC	8.93 km
	Storm Sewer: Concrete	40.84 km
	Storm Sewer: Clay	0.023 km
	Storm Sewer: Steel	2.23 km
	Storm Sewer: Asbestos Cement	0.006 km
	Storm Sewer: Open Ditch	0.20 km

Table 13: Six types of storm sewers that encompass the Storm Sewer Network with quantity displayed in kilometers.

3.5.2 Valuation and Replacement Cost

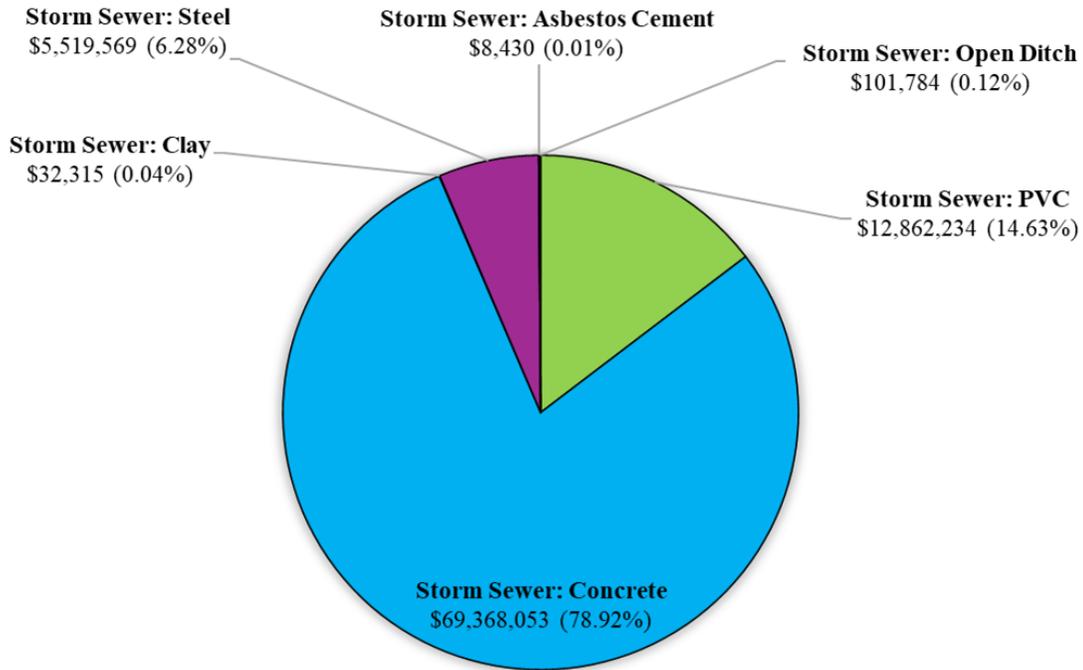
The Town of Goderich Storm Sewer Network consists of six types of storm sewer mains, where replacement cost data is obtained from B.M. Ross & Associates based on pipe diameter. Table 14 displays the estimated useful life (EUL), average age and approximate replacement cost of all categories within the storm sewer network. Total replacement cost of the Town of Goderich Storm Sewer Network is approximately \$87,892,385 (Figure 11).

STORM SEWER NETWORK ESTIMATED USEFUL LIFE AND REPLACEMENT COST

Asset Category	EUL (Yrs)	Avg Age (Yrs)	Replacement Cost Method	Replacement Cost	Percent Distribution
Storm Sewer: PVC	100	12	Cost/Unit	\$12,862,234	14.63%
Storm Sewer: Concrete	100	42	Cost/Unit	\$69,368,053	78.92%
Storm Sewer: Clay	100	41	Cost/Unit	\$32,315	0.04%
Storm Sewer: Steel	100	47	Cost/Unit	\$5,519,569	6.28%
Storm Sewer: Asbestos Cement	100	56	Cost/Unit	\$8,430	0.01%
Storm Sewer: Open Ditch	100	45	Cost/Unit	\$101,784	0.12%
TOTAL				\$87,892,385	100%

Table 14: Complete storm sewer network inventory with estimated useful life (EUL) in years, average age, estimated replacement cost, percent distribution and method used to obtain replacement cost.

STORM NETWORK REPLACEMENT COST



TOTAL: \$87, 892,385

Figure 11. Estimated replacement cost broken down by asset category within the storm sewer network. Total replacement value is approximately \$87,892,385.

3.5.3 Condition

The municipality's condition data for its storm sewer assets is based on asset age (Figure 12). However, the Town plans to begin scheduling condition assessments for the storm sewer network in conjunction with sanitary sewer condition assessments on an annual basis. The condition index for age-based condition can be found in Table 4 above. Table 15 shows each asset category within the storm network, the condition assessment method, and the average performance rating pertaining to each category.

STORM NETWORK AVERAGE CONDITION

Asset Class	Asset Category	Condition Type	Average Condition
Storm Sewer Network	Storm Sewers: PVC	Age-Based	86.72 – V. Good
	Storm Sewers: Concrete	Age-Based	57.69 – Fair
	Storm Sewers: Clay	Age-Based	59.42 – Fair
	Storm Sewers: Steel	Age-Based	48.74 – Fair
	Storm Sewers: Asbestos Cement	Age-Based	44.42 – Fair
	Storm Sewers: Open Ditch	Age-Based	55.42 – Fair

Table 15. Average condition of each storm sewer main category within the storm sewer network.

STORM NETWORK AGE-BASED CONDITION DISTRIBUTION

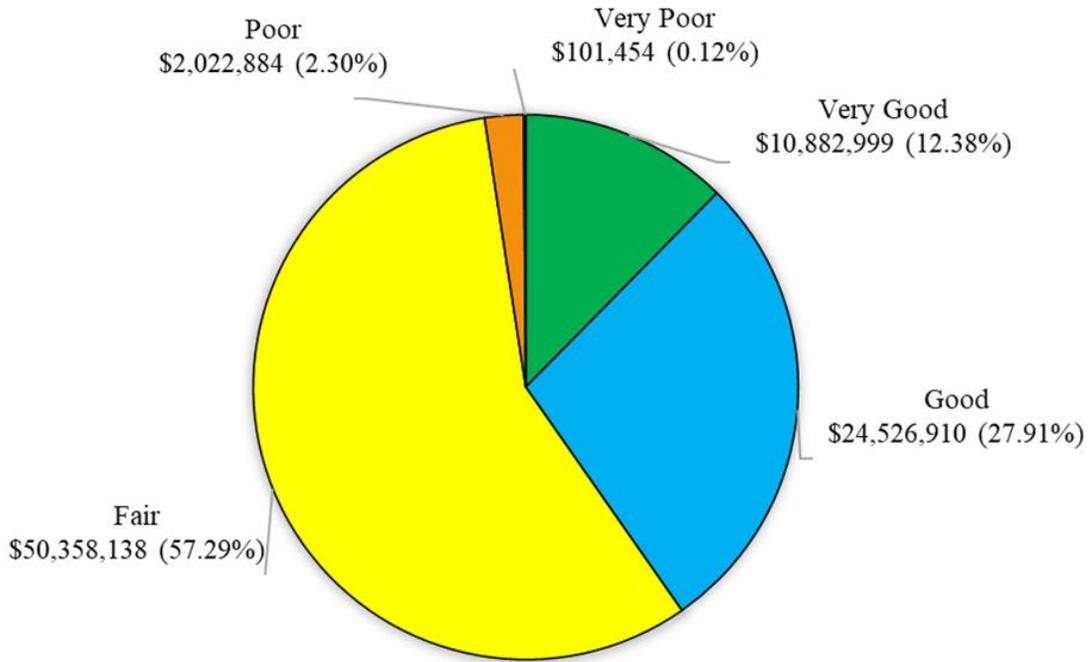


Figure 12. Approximately 57.29% of the storm sewer assets have a performance rating between 40 and 59 (fair condition), indicating most of these storm assets will require attention in the short-term.

3.6 Facilities

3.6.1 Inventory

The Town of Goderich owns and maintains fifty-six facilities, including seven buildings associated with the municipal airport, seven buildings/structures associated with the cemetery (three being columbariums), nine pavilions/outdoor washroom facilities, municipal childcare center, fire hall, library, medical center, town hall, two operations buildings, seniors community center, two recreation centers, six commercial properties, nine storage sheds, five gazebos, two performance stages and a lighthouse. It should be noted that the fifty-six facilities found within this section excludes all facility data pertaining to the water treatment plant and wastewater treatment plant, as this data analysis has been captured in section 3.3 and section 3.4, respectively. Each facility is further broken down into four categories: structure, roof, mechanical and elevators. Table 16 provides an outline of the Town’s facility inventory components.

FACILITY COMPONENT INVENTORY

Asset Class	Asset Category	Quantity
Facilities Network	Facility: Structure	56 units
	Facility: Roof	56 units
	Facility: Mechanical Equipment	95 units
	Facility: Elevators	5 units

Table 16. Four components that encompass the facility inventory, with quantity displayed in units.

3.6.2 Valuation and Replacement Cost

Estimated replacement cost for all town-owned facilities and their components is obtained using CPI tables. Table 17 displays the estimated useful life (EUL), average age and approximate replacement cost of all facility components. Figure 13 shows the percent distribution of estimated replacement cost for all facility components, totaling \$57,737,283.

FACILITY COMPONENTS ESTIMATED USEFUL LIFE AND REPLACEMENT COST

Asset Category	EUL (Yrs)	Avg Age (Yrs)	Replacement Cost Method	Replacement Cost	Percent Distribution
Facility: Structure	50 - 100	31	CPI Tables	\$45,804,790	79.33%
Facility: Roof	25	26	CPI Tables	\$3,189,579	5.52%
Facility: Mechanical Equip.	15 - 30	17	CPI Tables	\$8,272,566	14.33%
Facility: Elevators	25	19	CPI Tables	\$470,348	0.82%
TOTAL				\$57,737,283	100%

Table 17: Components of the facility inventory with estimated useful life (EUL) in years, average age, estimated replacement cost, percent distribution and method used to obtain replacement cost.

FACILITY COMPONENT REPLACEMENT COST

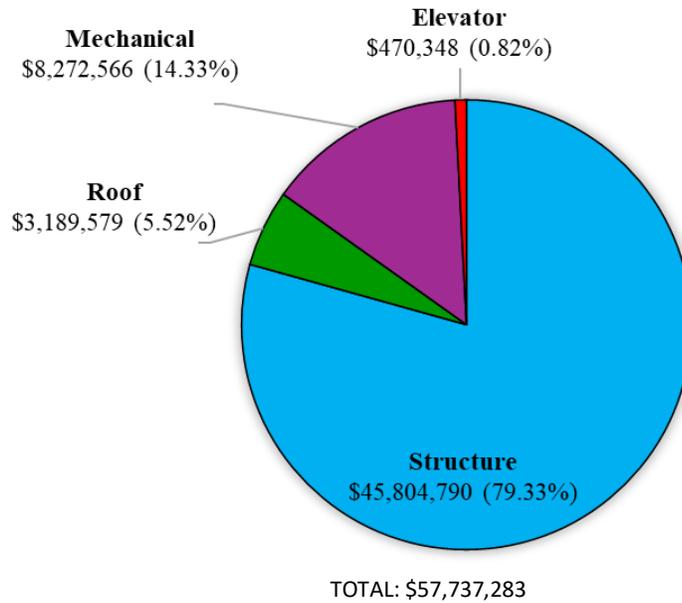


Figure 13. Estimated replacement cost of all Town-owned facilities and their associated components. Total estimated replacement cost is approximately \$57,737,283.

3.6.3 Condition

All Town-owned facility structure and roof components were assessed for performance in 2017 by B.M. Ross & Associates. The mechanical and elevator components follow an age-based asset condition. Results of the facility condition data is outlined in Figure 14. To keep the municipality’s condition data current, the Town of Goderich aims to complete condition studies for its facilities, including collecting data for all facility components, on an ongoing basis. The condition index for assessed condition can be found in Table 4 above. Table 18 shows facility components, the condition assessment method, and the average performance rating for each building component.

FACILITY COMPONENTS AVERAGE CONDITION

Asset Class	Asset Category	Condition Type	Average Condition
Facility Network	Facility: Structure	Assessed	74.20 – Good
	Facility: Roof	Assessed	54.32 – Fair
	Facility: Mechanical Equipment	Age-Based	30.08 – Poor
	Facility: Elevators	Age-Based	40.54 – Fair

Table 18. Average condition of each facility component within the facility network.

FACILITIES AGE-BASED AND ASSESSED CONDITION DISTRIBUTION

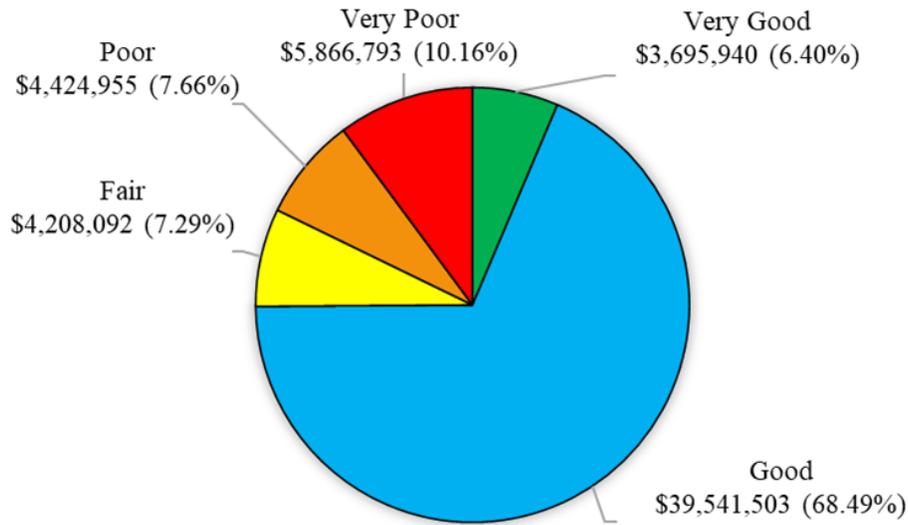


Figure 14. Approximately 74% of Town-owned facilities and their components have a condition rating of 60 or above (good to very good). It should be noted that condition for the facilities network is comprised of both age-based and assessed condition data.

3.7 Land Improvements

3.7.1 Inventory

The assets found within the land improvements network are (1) found on Town-owned property and/or within municipal facilities, (2) utilized by Town staff and/or contractors of the Corporation, (3) require maintenance and replacement over time, and (4) assist in providing services to the public. The complete list of categories found within the land improvement network is outlined in Table 19.

LAND IMPROVEMENT NETWORK INVENTORY

Asset Class	Asset Category	Quantity
Land Improvements Network	Archways and Pillars	3 units
	Recreational Courts, Splash Pad and Skate Park	5 units
	Driveways and Walkways	12 units
	Electrical	4 units
	Entrance Features and Signs	4 units
	Fencing and Gates	19 units
	Guard Rails	1 unit
	Park Lights	4 units
	Parking Lots	5 units
	Runways	5 units
	Sports Field Amenities	7 units
	Walls and Concrete Structures	5 units

Table 19. Twelve asset categories that encompass the land improvements network, with quantity displayed in units.

3.7.2 Valuation and Replacement Cost

Estimated replacement cost for land improvement assets is obtained using CPI tables. Table 20 displays the estimated useful life (EUL) for each land improvement asset category and approximate replacement cost. Figure 15 shows the percent distribution of estimated replacement cost for the land improvement network, totaling \$10,262,011.

LAND IMPROVEMENTS ESTIMATED USEFUL LIFE AND REPLACEMENT COST

Asset Category	EUL (Yrs)	Avg Age (Yrs)	Replacement Cost Method	Replacement Cost	Percent Distribution
Archways and Pillars	50 – 100	33	CPI Tables	\$189,908	1.85%
Recreational Courts, Splash Pad & Skate Park	30 – 50	13	CPI Tables	\$754,091	7.35%
Driveways and Walkways	30 – 75	18	CPI Tables	\$706,859	6.89%
Electrical	50	6	CPI Tables	\$761,770	7.42%
Entrance Features and Signs	20	5	CPI Tables	\$139,747	1.36%
Fencing and Gates	50	18	CPI Tables	\$815,982	7.95%
Guard Rails	30	35	CPI Tables	\$90,941	0.89%
Park Lights	30	6	CPI Tables	\$1,067,216	10.40%
Parking Lots	30	22	CPI Tables	\$407,835	3.98%
Runways	25 - 40	20	CPI Tables	\$4,790,324	46.68%
Sports Field Amenities	15 - 25	4	CPI Tables	\$231,149	2.25%
Walls and Concrete Structure	50 - 100	19	CPI Tables	\$306,189	2.98%
TOTAL				\$10,262,011	100%

Table 20: Estimated useful life (EUL) in years, estimated replacement cost, percent distribution and method used to calculate replacement cost for the land improvements network.

LAND IMPROVEMENTS REPLACEMENT COST

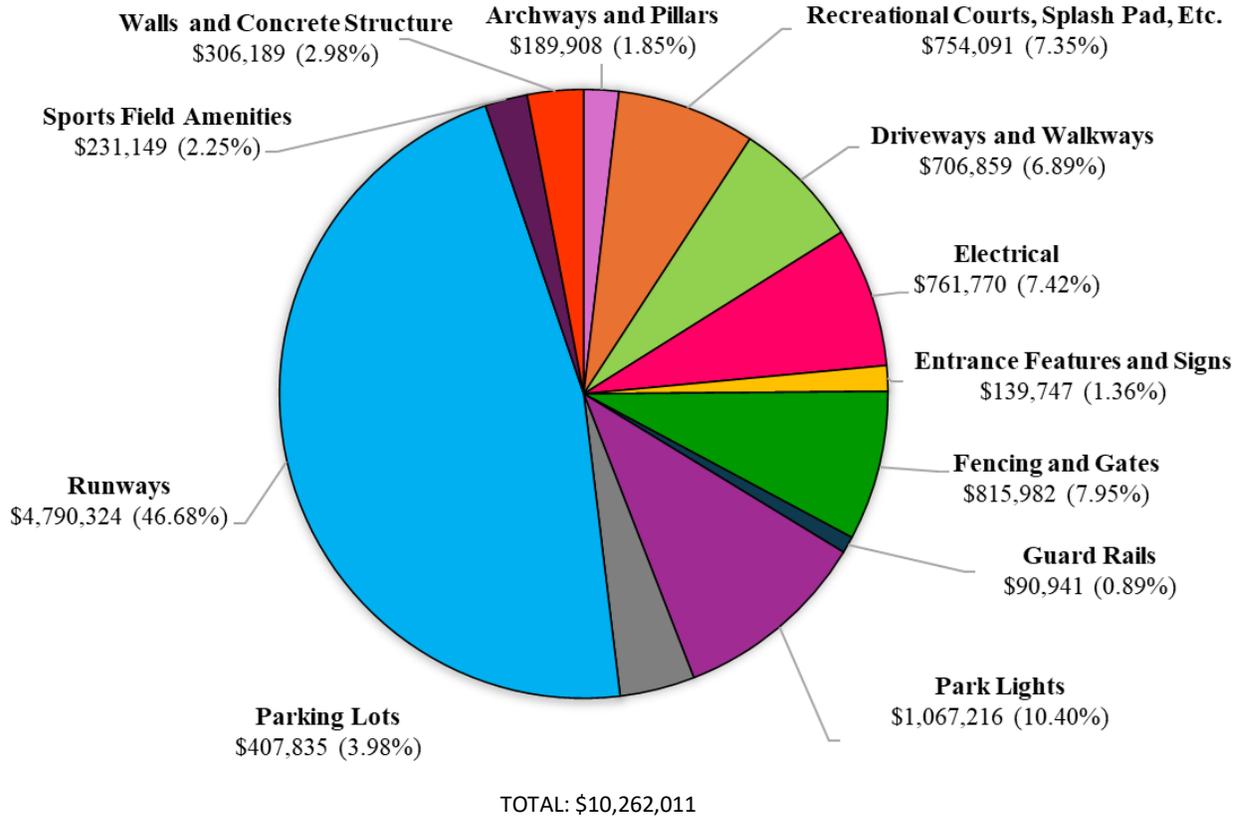


Figure 15. Estimated replacement cost broken down by asset category within the land improvements network. Total replacement value is approximately \$10,262,011.

3.7.3 Condition

The condition data for the majority of the Town’s land improvements network is based on the age of each asset, except for the runway asset category, which was assessed in 2023 (Figure 16). The condition index for age-based and assessed condition can be found in Table 4 above. Table 21 indicates the average performance rating for each asset category within the land improvements network.

LAND IMPROVEMENTS AVERAGE CONDITION

Asset Class	Asset Category	Condition Type	Average Condition
Land Improv. Network	Archways and Pillars	Age-Based	52.16 – Fair
	Recreational Courts, Splash Pad & Skate Park	Age-Based	67.39 – Good
	Driveways and Walkways	Age-Based	45.74 – Fair
	Electrical	Age-Based	88.33 – V Good
	Entrance Features and Signs	Age-Based	74.58 – Good

Land Improv. Network	Fencing and Gates	Age-Based	65.04 – Good
	Guard Rails	Age-Based	0 – V Poor
	Park Lights	Age-Based	79.72 – Good
	Parking Lots	Age-Based	39.78 – Poor
	Runways	Assessed	70.00 - Good
	Sports Field Amenities	Age-Based	82.49 – V Good
	Walls and Concrete Structure	Age-Based	68.75 – Good

Table 21. Average condition of each asset category within the land improvements network.

LAND IMPROVEMENTS AGE-BASED CONDITION DISTRIBUTION

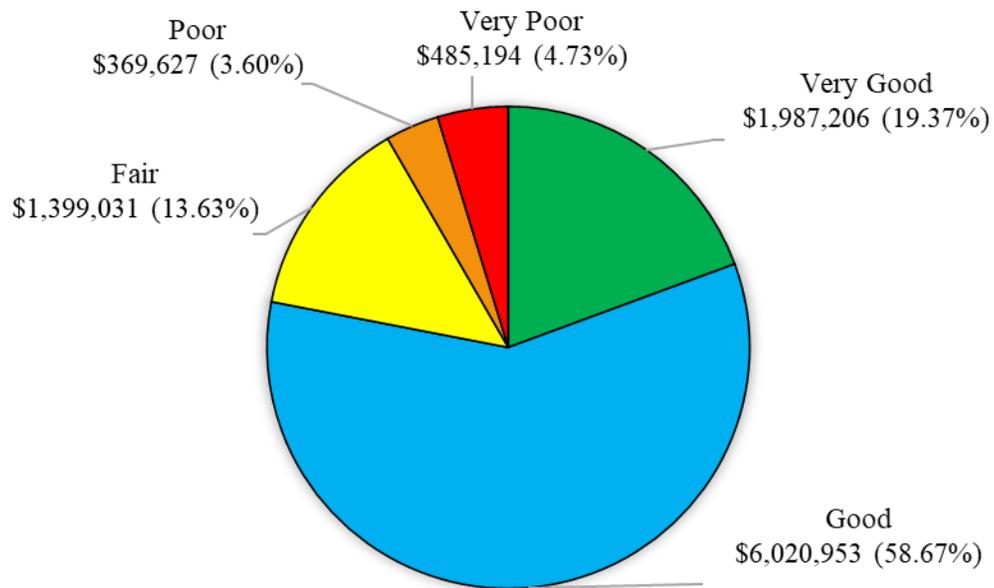


Figure 16. Approximately 78% of assets within the land improvements network have a condition rating of 60 or above (good to very good condition). It should be noted that condition for the land improvements network is comprised of both age-based and assessed condition data.

3.8 Fleet

3.8.1 Inventory

The Town of Goderich’s fleet inventory includes a total of 33 vehicles. The vehicles used by the operations department (public works, parks, airport, recreation and facilities) include one bucket truck, one flusher truck, one street sweeper, five dump trucks and eighteen pick-up trucks. All operations fleet is maintained by Town operations staff. The fleet inventory also includes three electric vehicles, utilized by the building and by-law departments. Fleet at the fire hall consists of one ladder truck, one rescue truck, one tanker truck and one pumper truck. A detailed breakdown of each vehicle category can be found in Table 22.

FLEET INVENTORY

Asset Class	Asset Category	Quantity
Fleet Network	Bucket Truck	1 vehicle
	Flusher Truck	1 vehicle
	Street Sweeper	1 vehicle
	Dump Trucks	5 vehicles
	Pick-Up Trucks	18 vehicles
	Ladder Truck	1 vehicle
	Rescue Truck	1 vehicle
	Pumper Truck	1 vehicle
	Tanker Truck	1 vehicle
	Cars (Electric Vehicles)	3 vehicles

Table 22. Ten types of vehicles that encompass the fleet inventory, with quantity displayed in number of vehicles.

3.8.2 Valuation and Replacement Cost

The Town of Goderich fleet inventory consists of ten types of vehicles, where the municipality uses CPI Tables to estimate replacement cost. Table 23 displays the estimated useful life (EUL), average age and approximate replacement cost of all vehicles within the fleet network. Figure 17 displays the total replacement cost of the Town of Goderich, which is approximately \$4,694,580.

FLEET INVENTORY ESTIMATED USEFUL LIFE AND REPLACEMENT COST

Asset Category	EUL (Yrs)	Avg Age (Yrs)	Replacement Cost Method	Replacement Cost	Percent Distribution
Bucket Truck	15	0.5	CPI Tables	\$246,337	5.25%
Flusher Truck	10	21	CPI Tables	\$25,175	0.53%
Street Sweeper	10	12	CPI Tables	\$253,824	5.41%
Dump Trucks	7 - 10	10	CPI Tables	\$834,375	17.77%
Pick-Up Trucks	7	7	CPI Tables	\$696,250	14.83%
Ladder Truck	25	4	CPI Tables	\$1,380,375	29.40%
Rescue Truck	20	21	CPI Tables	\$257,184	5.48%
Pumper Truck	20	13	CPI Tables	\$475,029	10.12%
Tanker Truck	25	0.5	CPI Tables	\$414,408	8.83%
Cars (Electric Vehicles)	7	3	CPI Tables	\$111,623	2.38%
TOTAL				\$4,694,580	100%

Table 23: Components of the fleet inventory with estimated useful life (EUL) in years, estimated replacement cost, average age, percent distribution and method used to calculate replacement cost for the fleet network.

FLEET INVENTORY REPLACEMENT COST

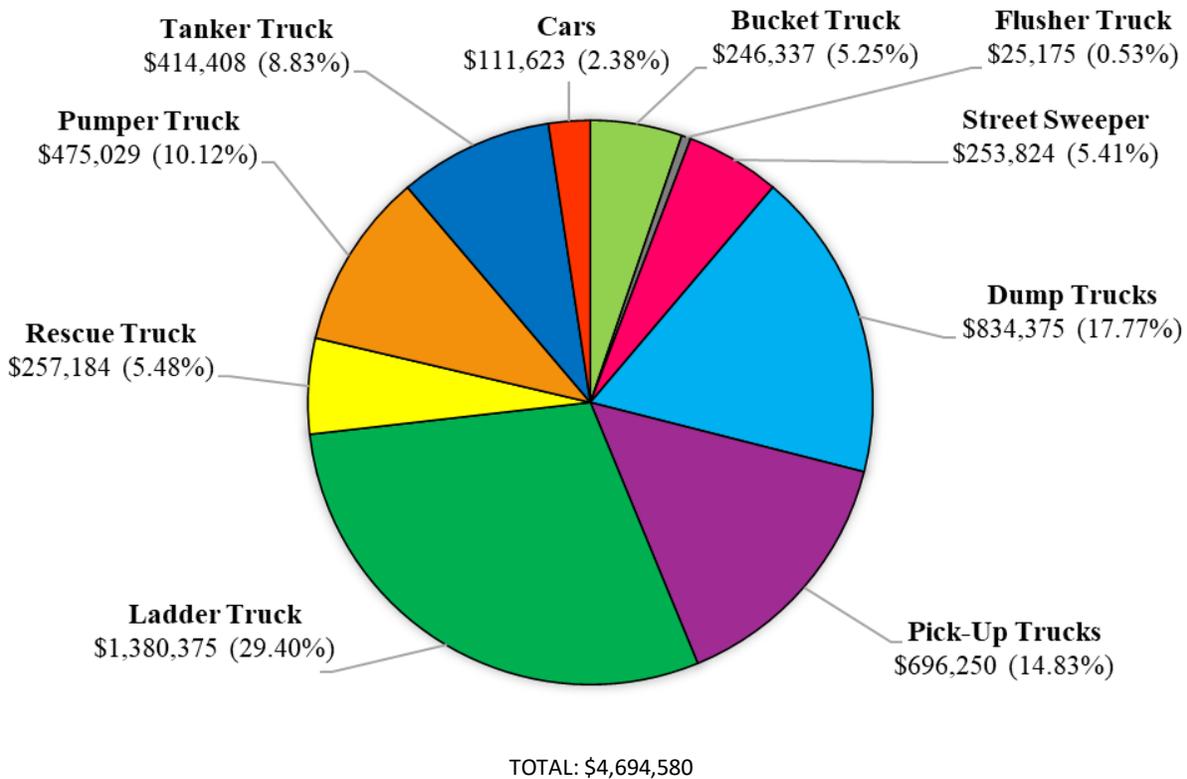


Figure 17. Estimated replacement cost of fleet inventory using CPI Tables. Total estimated replacement cost of all vehicles in the fleet inventory is approximately \$4,694,580.

3.8.3 Condition

Currently, the condition data for the Town’s fleet inventory is based on the age of each asset (Figure 18). The condition index for assessed condition can be found in Table 4 above.

Operations vehicles are subject to regular and comprehensive annual inspections by the fleet technician to remain in compliance with MTO Safety Standards. Table 24 indicates the average performance rating based on asset age for each type of vehicle within the fleet inventory.

FLEET INVENTORY AVERAGE CONDITION

Asset Class	Asset Category	Condition Type	Average Condition
Fleet Network	Bucket Truck	Age-Based	100 – Very Good
	Flusher Truck	Age-Based	0 – V. Poor (End of Life)
	Street Sweeper	Age-Based	0 – V. Poor (End of Life)
	Dump Trucks	Age-Based	22.38 - Poor
	Pick-Up Trucks	Age-Based	32.67 - Poor
	Ladder Truck	Age-Based	83.67 – Very Good
	Rescue Truck	Age-Based	0 – V. Poor (End of Life)
	Pumper Truck	Age-Based	37.08 - Poor
	Tanker Truck	Age-Based	100 – Very Good
	Cars (Electric Vehicles)	Age-Based	60.72 - Good

Table 24. Average condition of each vehicle type within the fleet network.

FLEET INVENTORY AGE-BASED CONDITION DISTRIBUTION

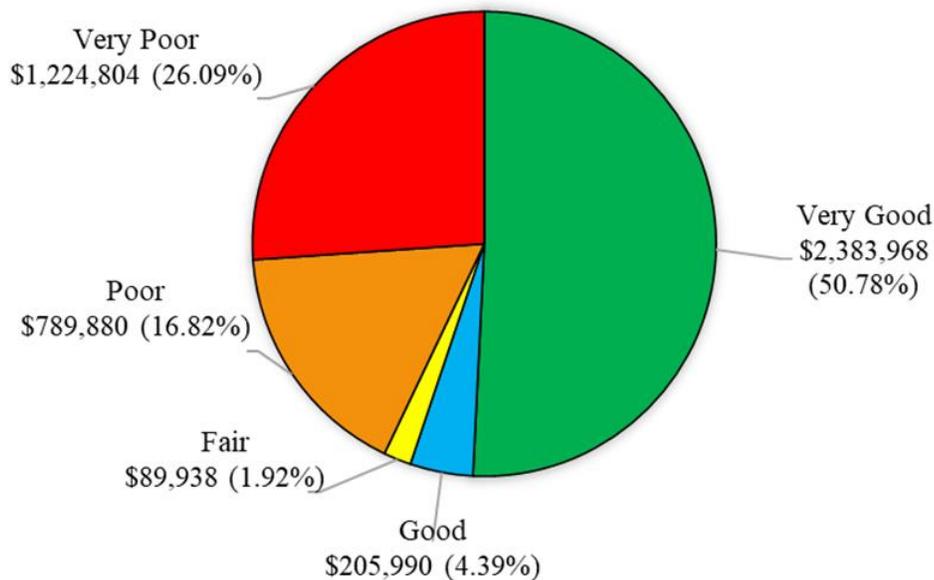


Figure 18. Approximately 55.17% of the fleet inventory have an age-based performance rating of 60 and above (good to very good condition). Saying this, 26.09% of the fleet inventory has passed its estimated useful life (condition rating of 0), indicating that these assets will require full replacement in the short-term.

3.9 Machinery and Equipment

3.9.1 Inventory

Similar to the land improvements network, the assets found within the machinery and equipment network are (1) found on Town-owned property and/or within municipal facilities, (2) utilized by Town staff and/or contractors of the Corporation, (3) require maintenance and replacement over time, and (4) assist in providing services to the public. Table 25 includes a complete list of categories within the machinery and equipment network. It should be noted that only assets that meet the tangible capital asset threshold outlined in the Town’s Asset Management Policy are included in PSAB reporting and the 2024 Asset Management Plan.

MACHINERY AND EQUIPMENT NETWORK INVENTORY

Asset Class	Asset Category	Quantity
Machinery and Equipment Network	Building Furniture	10 units
	Chairs and Tables	4 units
	Children’s Furniture	1 unit
	Computer Equipment and Software	3 units
	Computer Server	3 units
	Facilities Equipment	1 unit
	Fire Fighting Equipment (Misc.)	20 units
	Fire Fighting Equipment (Personal)	16 units
	Generator	8 units
	Grounds	8 units
	Ice Resurfacer	2 units
	Kitchen and Canteen Equipment	7 units
	Medical Equipment	8 units
	Off Road Vehicles	30 units
	Office Furniture	8 units
	Operating Equipment	53 units
	Playground Equipment	22 units
	Recreation Equipment	22 units
	Rink Boards and Glass	1 unit
	Rink Flooring	3 units
	Snowblower	1 unit
	Technical Equipment	11 units
	Trailers	1 unit

Table 25. Twenty-three asset categories within the machinery and equipment network, with quantity displayed in units.

3.9.2 Valuation and Replacement Cost

Estimated replacement cost for the machinery and equipment network is obtained using CPI tables. Table 26 displays the estimated useful life (EUL) and average age for each asset category, as well as the approximate replacement cost. Figure 19 shows the percent distribution of estimated replacement cost for the machinery and equipment network, totaling approximately \$8,035,924.

**MACHINERY AND EQUIPMENT ESTIMATED USEFUL LIFE
AND REPLACEMENT COST**

Asset Category	EUL (Yrs)	Avg Age (Yrs)	Replacement Cost Method	Replacement Cost	Percent Distribution
Building Furniture	15 - 50	22	CPI Tables	\$103,524	1.28%
Chairs and Tables	15 - 30	30	CPI Tables	\$60,237	0.75%
Children's Furniture	25	17	CPI Tables	\$557	0.01%
Computer Equipment/Software	10	13	CPI Tables	\$98,275	1.22%
Computer Server	8 - 10	11	CPI Tables	\$73,834	0.92%
Facilities Equipment	10	4	CPI Tables	\$5,837	0.07%
Fire Fighting Equipment (Misc.)	10 - 50	16	CPI Tables	\$336,703	4.19%
Fire Fighting Equipment (Pers.)	20	5	CPI Tables	\$115,088	1.43%
Generator	50	22	CPI Tables	\$857,837	10.68%
Grounds	15 - 50	16	CPI Tables	\$653,537	8.13%
Ice Resurfacer	25	15	CPI Tables	\$210,430	2.62%
Kitchen and Canteen Equipment	15 - 35	13	CPI Tables	\$309,592	3.85%
Medical Equipment	10 - 15	10	CPI Tables	\$109,011	1.36%
Off Road Vehicles	5 - 30	9	CPI Tables	\$1,799,034	22.39%
Office Furniture	15 - 50	15	CPI Tables	\$271,392	3.38%
Operating Equipment	5 - 30	12	CPI Tables	\$1,395,604	17.37%
Playground Equipment	20 - 25	23	CPI Tables	\$785,813	9.78%
Recreation Equipment	10 - 20	4	CPI Tables	\$359,225	4.47%
Rink Boards and Glass	25	25	CPI Tables	\$60,025	0.75%
Rink Flooring	10 - 25	9	CPI Tables	\$64,193	0.80%
Snowblower	10	6	CPI Tables	\$120,518	1.50%
Technical Equipment	10 - 25	15	CPI Tables	\$241,685	3.00%
Trailers	10	17	CPI Tables	\$3,973	0.05%
TOTAL				\$8,035,924	100%

Table 26. Estimated useful life (EUL) in years, estimated replacement cost, percent distribution, average age and method used to calculate replacement cost for the machinery and equipment network.

MACHINERY AND EQUIPMENT REPLACEMENT COST

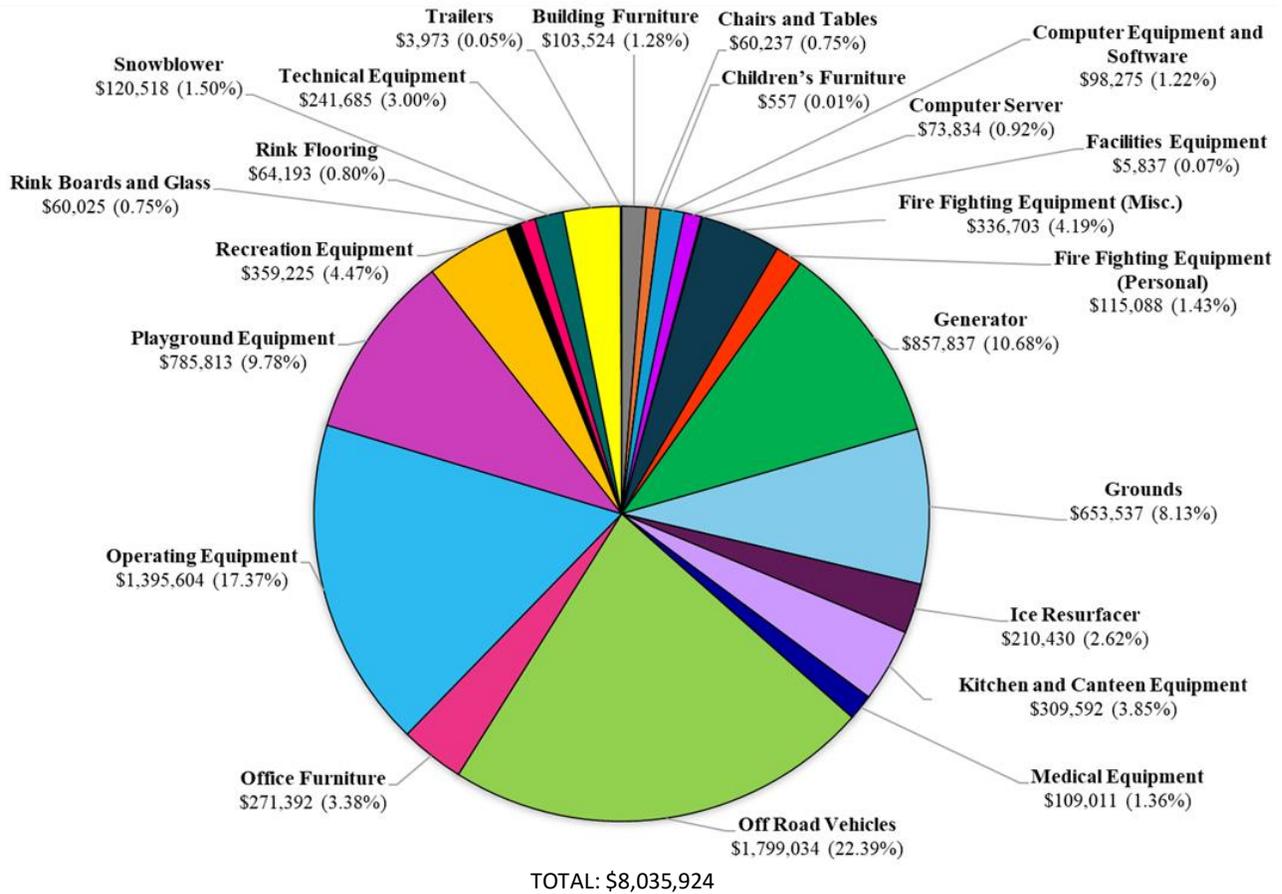


Figure 19. Estimated replacement cost of the machinery and equipment inventory using CPI Tables. Total estimated replacement cost of all machinery and equipment is approximately \$8,035,924.

3.9.3 Condition

Currently, the condition data for the Town’s machinery and equipment network is based on the age of each asset (Figure 20). Playground equipment is inspected by the Park’s Department Supervisor on a monthly basis and a condition is recorded in the Park’s Department MESH software. The condition index for assessed condition can be found in Table 4 above. Table 27 indicates the average performance rating based on asset age for each type of asset within the machinery and equipment network.

MACHINERY AND EQUIPMENT AVERAGE CONDITION

Asset Class	Asset Category	Condition Type	Average Condition
Machinery and Equipment Network	Building Furniture	Age-Based	16.39 – V. Poor
	Chairs and Tables	Age-Based	3.42 – V. Poor
	Children’s Furniture	Age-Based	33.00 – Poor

Machinery and Equipment Network	Computer Equipment and Software	Age-Based	16.39 – V. Poor
	Computer Server	Age-Based	12.15 – V. Poor
	Facilities Equipment	Age-Based	59.17 - Fair
	Fire Fighting Equipment (Misc.)	Age-Based	38.43 – Poor
	Fire Fighting Equipment (Personal)	Age-Based	74.58 – Good
	Generator	Age-Based	57.16 – Fair
	Grounds	Age-Based	34.16 – Poor
	Ice Resurfacers	Age-Based	31.00 – Poor
	Kitchen and Canteen Equipment	Age-Based	33.72 – Poor
	Medical Equipment	Age-Based	32.47 – Poor
	Off Road Vehicles	Age-Based	29.63 – Poor
	Office Furniture	Age-Based	20.88 – Poor
	Operating Equipment	Age-Based	39.46 – Poor
	Playground Equipment	Age-Based	27.27 – Poor
	Recreation Equipment	Age-Based	64.38 – Good
	Rink Boards and Glass	Age-Based	1.67 – V. Poor
	Rink Flooring	Age-Based	46.56 – Fair
	Snowblower	Age-Based	39.17 – Poor
Technical Equipment	Age-Based	23.94 – Poor	
Trailers	Age-Based	0 – V. Poor (End of Life)	

Table 27. Average condition of each asset category within the machinery and equipment network.

MACHINERY AND EQUIPMENT NETWORK AGE-BASED CONDITION DISTRIBUTION

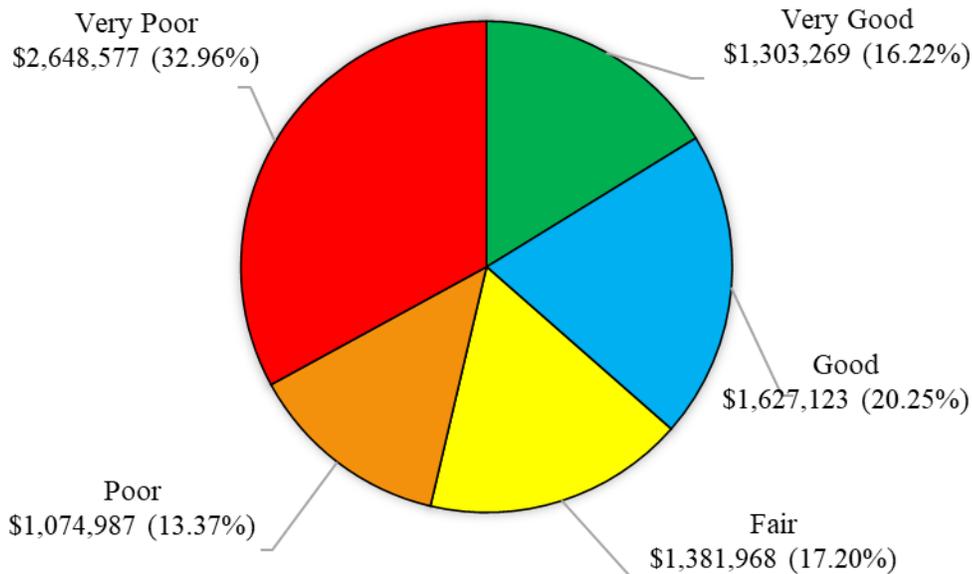


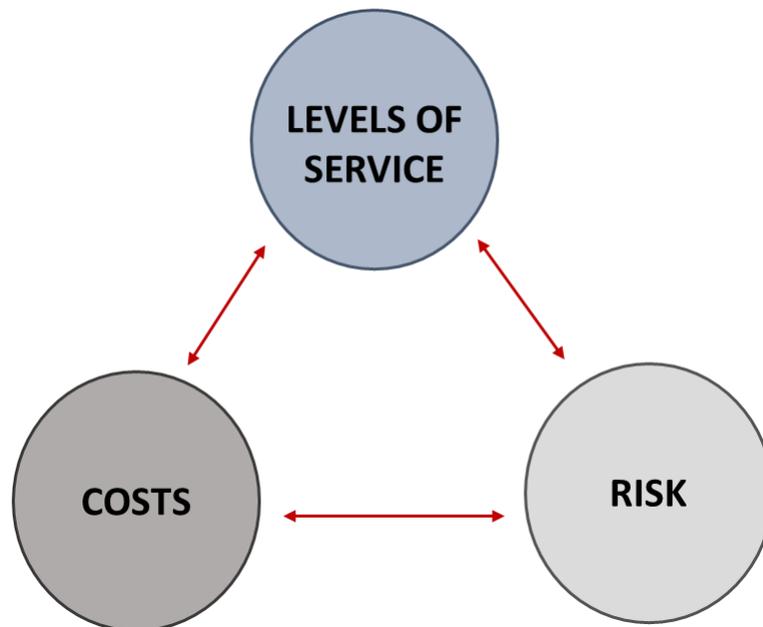
Figure 20. Approximately 46.33% of the machinery and equipment network have an age-based performance rating of 39 or below (poor to very poor), indicating most of these assets will require replacement in the short-term.

4.0 LEVELS OF SERVICE

Beyond meeting regulatory requirements through compliance measures, established levels of service (LOS) should support the intended purpose of the asset and its anticipated impact on the community and the municipality. Established LOS support the municipality’s strategic goals and are based on customer expectations, regulatory requirement compliance, Ministry standards, and financial capacity of the municipality to deliver such service levels. As per O. Reg 588/17, LOS are a necessary component of the 2024 Town of Goderich Asset Management Plan and will continue to evolve over time.

Levels of service can be used as a measurement of the state of the infrastructure within a municipality. On a corporate level, determining the benefits for having a service along with the associated costs will assist Council and staff to determine the feasibility of providing or making changes to the current LOS. Levels of service are directly affected by cost and risk, which means both the associated costs and risk factors should be evaluated before potential changes in service levels. However, determining what is a sustainable service level for the community in the long term can be a delicate balance of the associated costs to the taxpayer and risks to the municipality. Figure 21 shows the relationship between LOS, cost and risk, and the potential outcomes with changes in LOS.

RELATIONSHIP BETWEEN LEVELS OF SERVICE, COST AND RISK



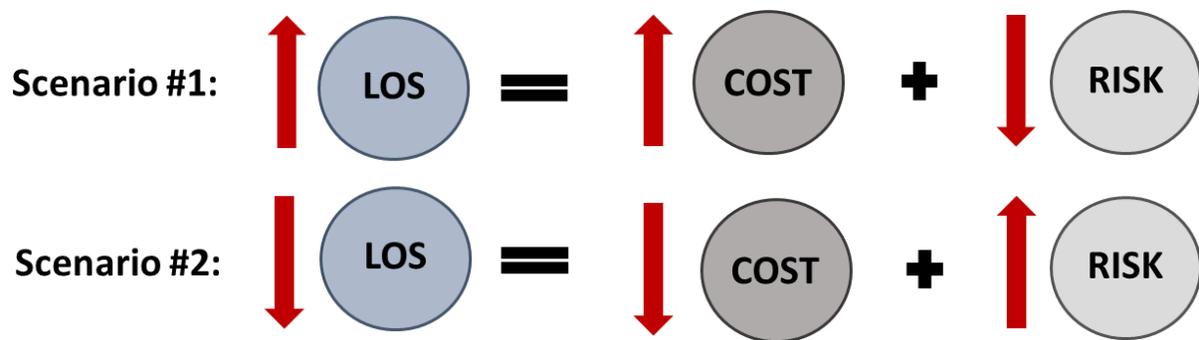


Figure 21. Relationship between levels of service, cost and risk. With a proposed increase in service level, associated costs will also increase but potential for risk decreases. Conversely, a decrease in service level is associated with lower cost to the taxpayer but the municipality could be exposed to higher risks.

4.1 Key Factors Impacting Levels of Service

When determining LOS, various factors must be considered, and any combination of these factors will be used as they best apply to each asset network. This will provide a framework from which the Town of Goderich can define LOS for each asset class/category for future versions of the Asset Management Plan. Appendix A outlines the current levels of service for the Town of Goderich, a requirement of Asset Management Plans, as per Ontario Regulation 588/17.

Key factors affecting LOS include:

- Strategic Levels of Service and Community Expectations
- Technical Levels of Service and Performance Measures
- Legislative Requirements
- Funding Requirements

4.1.1 Strategic Levels of Service and Community Expectations

Levels of Service are directly related to expectations of the community. The public is able to provide an opinion in determining how tax dollars are utilized, directly effecting municipal infrastructure, assets and service levels. The annual budget process is a public process whereby service information is provided to Council and capital priorities are discussed.

The following guiding principles have been established for the qualitative descriptions of the Town’s strategic LOS outlining what the municipality should strive to provide internally to the Corporation of the Town of Goderich and externally to residents and visitors (Appendix A).

- **Accessible:** Services are provided to all individuals of the community, regardless of abilities.
- **Available:** Services of sufficient capacity are convenient and accessible to the entire community.
- **Capacity:** maximum level of service production.

- **Cost Effective:** Services are provided at the lowest possible cost for both current and future taxpayers, for required level of service, and are affordable.
- **Functional:** Services are suitable for the intended function (fit for purpose)
- **Efficient:** Services are performed at a consistent rate and quality
- **Reliable:** Services are predictable and continuous.
- **Responsive:** Users are treated fairly and consistently, within acceptable time frames.
- **Safe:** Services are delivered such that they minimize health, safety, and security risks.
- **Sustainable:** Services respect the natural and heritage environment.

4.1.2 Technical Levels of Service and Performance Measures

In addition to the community levels of service using a qualitative description, service levels are measured by quantitative metrics as well. The 2024 Town of Goderich Asset Management Plan utilizes average condition as the performance measure to determine levels of service.

Performance measures track current levels of service and should be specific, measurable, achievable, relevant and time restricted. Other performance measures included for environmental services include the following: water main breaks, boil water advisories, bypass incidents and effluent violations. The information gathered by analyzing these performance measures are necessary to assess whether assets within the service function are performing at the current level of service. The performance of an asset takes into consideration the current condition of the asset and its ability to meet its legislative requirements, as well as ensuring that an asset provides the service in a safe manner within capacity obligations. The entire life cycle costs associated with an asset (i.e., design, maintenance, repair, rehabilitation and/or replacement) are all critical factors that affect the level of service that the municipality can provide to its community. Determining the benefits of having a service along with the associated costs to fund that service will help Council and municipal staff determine if providing the current level of service is practical or if the service level needs to be changed. Maps of the essential core services provided to residents of the Town of Goderich (i.e., road and sidewalk network for transportation services, water, sanitary and storm networks for environmental services) can be found in Appendix B³.

4.1.3 Legislative Requirements

Infrastructure levels of service are directly influenced by many legislative and regulatory requirements. Within the road network, roads and sidewalks must adhere to Minimum Maintenance Standards outlined in *O. Reg 239/02*. The Operating Authority managing the drinking water distribution system and sanitary collection system within the water and sanitary networks ensure compliance with the *Safe Drinking Water Act, 2002* and *Wastewater Systems Effluent Regulations (SOR 2012-139)*. All vehicles within the municipal fleet follow MTO Safety Standards, while playground inspections are performed in accordance with *CSA Group Regulation Z614/14*. All municipal facilities have numerous inspections for various components to ensure compliance with building health and safety standards.

³ Service maps prepared by B. M. Ross and Associates.

4.1.4 Funding Requirements

The availability of financing will directly impact levels of service, as previously discussed in Figure 21. Ideally, funds would be available to meet all legislative requirements, finance all required asset life cycle needs, as well as satisfy community expectations. Levels of service is dictated by availability of funds, the ability to increase funds if there is public demand to increase service levels, and the community's willingness to pay.

5.0 ASSET MANAGEMENT STRATEGY

5.1 Asset Management Strategy Objective

The objective of the asset management strategy within the Town of Goderich 2024 Comprehensive Asset Management Plan is to outline and establish a set of planned actions, based on best practices, that will enable Town-owned assets to provide a sustainable level of service to the taxpayers of the Town of Goderich, while managing risk at a reasonably low life cycle cost.

The Town of Goderich's asset management strategy is constantly evolving. However, the underlying goal of the asset management strategy is to consider the Town's entire asset inventory, as well as non-infrastructure solutions, to develop an implementation process that can be applied to the identification of asset needs including renewal, levels of service, potential growth, legislative and efficiency related projects, along with the prioritization of lifecycle cost intervention options to extend useful life, whether funded from operational or capital funds. This will assist in the production of robust and defensible long-term plans, including growth projections, to ensure the best overall performance of municipal infrastructure.

The asset management strategy includes an overview of the Town's approach to managing the asset inventory, including scheduled condition assessments and the identification of lifecycle interventions. Furthermore, prioritization factors, including risk, help to determine which projects should be given priority above others and included in the annual budget.

5.2 Asset Lifecycle Management

A comprehensive approach to managing Town-owned assets does not end after an asset has been purchased. Conversely, certain types of assets (i.e., core assets) require planning and design before construction or installation (Figure 22). From there, an asset may undergo periods of maintenance and/or modifications before its end-of-life or disposal (Figure 22). Life cycle management involves maximizing the performance of an asset while minimizing costs throughout its service life, enabling the municipality to make better investment decisions. This cost-benefit balance takes into consideration a range of parameters, including asset age, condition, historic performance, and current capacity.

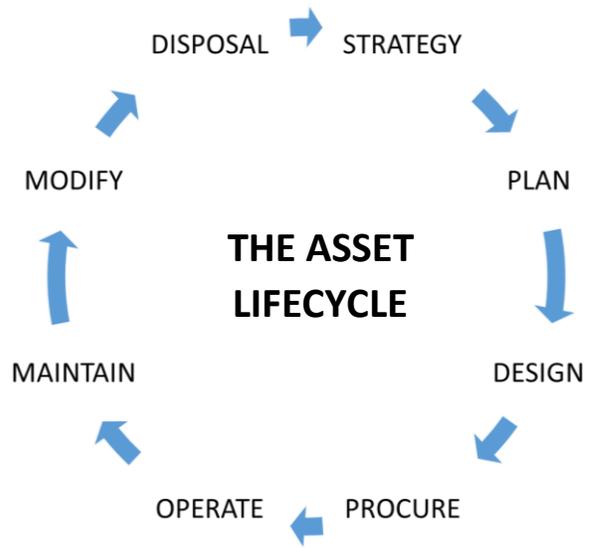


Figure 22. Various stages of the lifecycle of an asset, from planning to purchase, potential modifications to end-of-life.

5.2.1 Key Components of Asset Lifecycle Management

Maintenance strategies: activities designed to enable existing assets to operate to their service potential over their useful life. There are three types of maintenance:

- a) **Unplanned Maintenance:** work carried out in response to reported problems (e.g., an asset failure).
- b) **Planned Maintenance:** work carried out in a pre-determined schedule or program because of needs identified during inspections.
- c) **Preventative Maintenance:** programs such as ditching, crack-sealing, regularly scheduled vehicle maintenance and roof patching.

A key element of asset management planning is determining the most cost-effective blend of planned and unplanned maintenance, including regularly scheduled inspection and maintenance, or more significant repair and activities associated with unexpected failures. Overall, maintenance strategies are intended to maintain current levels of service and mitigate risk while minimizing cost. Maintenance strategies may be adjusted with changing service levels.

- **Operational strategies:** activities designed to ensure sufficient utilization of an asset. These are the regular tasks that are undertaken to ensure the asset achieves its service potential. By using operational strategies (e.g., undergoing inspections and system monitoring, condition assessments, considerations of asset utilization and demand, and/or

emergency response planning), the need for upgrades/renewals could be deferred. Like maintenance strategies, operational strategies are intended to maintain current levels of service and mitigate risk while minimizing cost.

- Funding strategies: valuation approaches, short- and long-term funding plans, long-term financial forecasts, funding opportunities (e.g., grants).
- Investment planning: identification and scoping of capital projects and capital maintenance needs, growth and/or efficiency demands, legislative requirements, improving levels of service.
- Decision making techniques: multi-criteria analysis which involves risk management, lifecycle costs, climate change concerns, level of service requirements and optimizing investment across service areas.

ASSET CATEGORY	OPERATIONS	UNPLANNED MAINTENANCE	PLANNED MAINTENANCE
Road Network	Roads must meet <i>Ontario Regulation 239/02</i> , which provides minimum maintenance standards for municipal road and highway maintenance, as well as standards for ice and snow removal. Operations staff perform road patrols every week for Class 3 roads and bi-weekly for Class 4, 5 and 6 roads, as per minimum maintenance standards. During road patrols, Operations staff check that all signage and traffic control signal systems are in proper working order. If deficiencies are found, resources are deployed as soon as practical to rectify the issue. Additionally, all luminaires are inspected annually to ensure proper function as well. If at any time a	Potholes are identified and repaired by Operations staff on a regular basis. When a pothole is identified and the depth is greater than 8cm, Operations staff will repair the pothole within 7 days. The frequency of potholes in need of repair is influenced by the weather, traffic, age of the asphalt and fluctuates throughout the year.	The Town of Goderich completed a road network condition study in 2020. The Town aims to schedule road needs studies on an ongoing basis to provide an accurate long-term forecast for the rehabilitation of roads based on condition levels, return on investment for recommended repairs, as well as long-term budget values. Although a preventative maintenance program has not been developed, crack-sealing has been an option to extend the useful life of roads before full

	luminaire is not functioning properly, the utility company is notified and will take the appropriate action to resolve the issue. Any deficiencies found during a road patrol are recorded in the municipality's MESH software to be rectified. To ensure road condition data is accurate, the municipality aims to complete road needs studies on an ongoing basis.		reconstruction is required.
Water Network	The Town of Goderich Water Network must follow all regulatory requirements set out in the <i>Safe Drinking Water Act, 2002</i> . It should be noted that the Town of Goderich uses an Operating Authority to manage its water treatment plant, booster pumping station and water tower.	Any unplanned water repairs and/or deficiencies (e.g., water main breaks, lead service replacement) are assessed by the Operating Authority on site and brought to the attention of Town Staff. Determination of proper handling of repairs or replacement is decided at the supervisory level. Urgent unplanned repairs are assessed to determine root cause and completed subject to annual budget funds. If the repair and/or replacement is not urgent, it is scheduled for the following year and funds are included in the next annual budget.	The Operating Authority is responsible for scheduling regular inspections at the water treatment plant and booster pumping station, as well as following regulatory sampling requirements required by the Ministry. The Town of Goderich has a five-year capital plan for its water network, prepared by B.M. Ross and Associates. The Town aims to schedule condition assessments for its water treatment plant and booster pumping station on an ongoing basis.
Sanitary Network	The Town of Goderich Sanitary Network must follow all regulatory requirements set out in the <i>Wastewater Systems Effluent Regulations (SOR 2012-139)</i> . To ensure the condition data of the Town's sanitary sewer mains is accurate, the municipality aims to	Any unplanned sanitary sewer repairs and/or deficiencies associated with the sanitary sewer network are assessed by Operations staff on site. Unplanned maintenance regarding the wastewater treatment plant and/or sewage pumping stations	The Operating Authority is responsible for scheduling regular inspections at the wastewater treatment plant and sewage pumping stations, as well as following regulatory sampling

	<p>continually schedule CCTV scoping of its sanitary sewers on an annual basis. Condition of the wastewater treatment plant and sewage pumping stations will be scheduled on an ongoing basis. It should be noted that the Town of Goderich uses an Operating Authority to manage its Wastewater Treatment Plant. Operations staff flush all sanitary sewer mains within the Town of Goderich on an annual basis. If an issue is identified, it is documented and added to the sanitary sewer list in need of CCTV inspection.</p>	<p>are assessed by the Operating Authority on site and brought to the attention of Town staff. Determination of proper handling of repairs or replacement is decided at the supervisory level. Urgent unplanned repairs are assessed to determine root cause and completed subject to annual budget funds. If the repair and/or replacement is not urgent, it is scheduled for the following year and funds are included in the next annual budget.</p>	<p>requirements required by the Ministry. The Town of Goderich has a five-year capital plan for its sanitary network, prepared by B.M. Ross and Associates. The Town aims to schedule condition assessments for its wastewater treatment plant and sewage pumping stations on an ongoing basis, with sanitary sewer scoping occurring on an annual basis.</p>
Storm Sewer Network	<p>Currently, Ontario does not have a regulation specific to stormwater management. However, the municipality ensures that its stormwater infrastructure follows legislation that provides guidance for adaptation to climate change, such as the <i>Ontario Water Resources Act (OWRA)</i> and the <i>Environmental Protection Act (EPA)</i>. To ensure the condition data of the Town’s storm sewer mains is accurate, the municipality aims to begin scheduling CCTV scoping on an ongoing basis. Catch basins are cleaned annually by Operations staff.</p>	<p>Any unplanned storm water repairs and/or deficiencies associated with the storm sewer network are assessed by Operations staff on site. Urgent unplanned repairs are assessed to determine root cause and completed subject to annual budget funds. If the repair and/or replacement is not urgent, it is scheduled for the following year and funds are included in the next annual budget.</p>	<p>Currently, there is no short- or long-term forecast regarding planned replacement of the storm sewer network, as these assets are generally replaced as necessary with annual capital road construction projects.</p>
Sidewalk Network	<p>Sidewalks must meet <i>Ontario Regulation 239/02</i>, which provides minimum maintenance standards for municipal sidewalk maintenance, as well as standards for ice and snow</p>	<p>Sidewalk deficiencies are repaired by Operations staff on a regular basis based on sidewalk patrols. Occasionally, sidewalks may need replacement due to other contributing</p>	<p>The Town completed a sidewalk condition assessment for its sidewalk network in 2020. The Town aims to schedule a sidewalk condition study on an</p>

	removal. Operations staff perform sidewalk patrols annually, as per minimum maintenance standards. Any deficiencies found during a sidewalk patrol are recorded in the operations MESH software to be rectified. To ensure sidewalk condition data is accurate, the municipality aims to complete sidewalk condition studies on an ongoing basis.	factors, such as construction projects, tree root damage, water/sanitary sewer replacement, etc.	ongoing basis to provide an accurate long-term forecast for required maintenance and replacement.
Facilities	All buildings owned by the Town of Goderich must meet regulatory safety standards and are inspected on an ongoing basis for deficiencies and regular maintenance. Certain buildings undergo inspections more often based on facility components (e.g., water treatment plant, pollution control plant). The Town aims to complete condition studies for its facilities on an ongoing basis.	Any unplanned building deficiencies are assessed by Town staff on site. Determination of proper handling of repairs or replacement is decided at the supervisory level. Urgent unplanned repairs are assessed to determine root cause and completed subject to annual budget funds.	Regular inspections are scheduled for facility components, such as elevator maintenance, as well as other required inspections and audits (e.g., health and safety).
Fleet	All Town vehicles must remain in compliance with MTO Safety Standards and are inspected at each regular maintenance interval. Operations vehicles are subject to regular and comprehensive annual inspections by the fleet technician. Servicing and maintenance of specialized emergency vehicles are outsourced when specialized services are required.	Items that fail are assessed to determine if repair or replacement is the most cost-effective approach. Age, kilometers travelled, past maintenance required, and general state of the vehicle are also considered in the cost-benefit analysis.	Currently, there is no short- or long-term forecast regarding planned replacement of operations and emergency services fleet. Vehicles that are in good working order at the end of their projected useful life are often kept in the fleet inventory to utilize the asset for a longer period of time.
Playgrounds	Playgrounds must remain in compliance with <i>CSA Group Regulation Z614/14</i> . Play structures are visually inspected daily between the	Items that require repairs are to be completed at the time the defect is found and reported. If time is required for the repair, all access to	Currently, there is no short- or long-term forecast regarding planned playground replacement or

	months of April and November by the Town’s Parks Supervisor, with an inspection report generated in the operations MESH software. If a deficiency is found, it is either rectified immediately or the play structure/area is closed until the repair is complete.	the area under repair is restricted until the repairs are completed.	enhancement.
Land Improvement and Machinery & Equipment Assets	Assets falling into the Land Improvements Network and Machinery & Equipment Network are inspected on a case-by-case basis to determine if refurbishment or replacement is needed.	Assets that fail or begin to fail are assessed to determine if repair or full replacement is the most cost-effective approach.	Equipment is maintained at regular intervals as each asset requires unique maintenance.

Table 28. Planned and unplanned maintenance based on asset category to maintain current service levels.

5.2.2 Planned Strategies for Lifecycle Optimization

Various strategies that aim to optimize an assets total lifecycle include planned maintenance, renewal/rehabilitation, replacement, expansion, disposal and other non-infrastructure related solutions. A summary of these strategies can be found within Table 1 of Section 3.1.5.

Summary tables are provided below that outline the planned strategies associated with each asset category within the Town’s Asset Management Plan. These strategies are implemented to ensure that assets are maintained to perform at their current level of service. Strategies may be adjusted with changing service levels.

Generally, planned maintenance associated with the road, storm, land improvements, facilities, fleet, and machinery/equipment networks are funded through the tax base. The estimated total cost of maintenance performed on tax-funded core assets (road and storm networks) was \$637,592, while the estimated total maintenance cost for tax-funded non-core assets (facilities, fleet, land improvements, machinery and equipment networks) was \$984,247.

Maintenance costs for the water and sanitary networks are funded through user fees. The estimated total maintenance costs for the water and sanitary networks were \$229,542 and \$236,771, respectively.

ROAD NETWORK LIFECYCLE STRATEGIES

Type of Strategy	Implementation Plan
Maintenance	<ul style="list-style-type: none"> Regular maintenance including road sweeping and dust control, leaf collection, roadside ditch cleanout and clearing, as well as snow removal Continued maintenance of roads in compliance with <i>Ontario Regulation 239/02</i> Minimum Maintenance Standards for Municipal Highways Maintain winter roads based on standards for ice and snow removal
Renewal/Rehabilitation	<ul style="list-style-type: none"> Resurfacing of fair to poor conditioned paved roads Regular repairs based on inspections
Replacement	<ul style="list-style-type: none"> Annual road reconstruction based on condition assessments and other capital

	needs
Disposal	<ul style="list-style-type: none"> • Convert surface treated roads to high class bituminous, where necessary
Expansion	<ul style="list-style-type: none"> • Short and long-term capital planning to identify needs • Service improvements made, where possible (i.e., environmental impacts) • Identify needs through regular capital planning and scheduled condition assessments
Non-Infrastructure Related Solutions	<ul style="list-style-type: none"> • Operating budgets should be informed by condition assessments and inspections as needed • Regularly scheduling road repair work • Continue to conduct road inspections and maintain road inventory database • Annually provide the necessary departments with required information when work is completed and/or additional equipment is required for maintenance activities • Adjust service levels if necessary

Table 29. Lifecycle strategies and associated implementation plans for the Road Network.

SIDEWALK NETWORK LIFECYCLE STRATEGIES

Type of Strategy	Implementation Plan
Maintenance	<ul style="list-style-type: none"> • Regular seasonal maintenance to fix deficiencies to ensure safety of pedestrians • Maintain winter sidewalks based on standards for ice and snow removal. Winter maintenance generally occurs from mid-November to end of March every year
Renewal/Rehabilitation	<ul style="list-style-type: none"> • Sidewalk repairs as needed
Replacement	<ul style="list-style-type: none"> • Components replaced based on needs
Disposal	<ul style="list-style-type: none"> • Conversion of more accessible sidewalks, where necessary
Expansion	<ul style="list-style-type: none"> • Continue to track needs based on growth identified in Development Charges Studies • Service improvements made, where possible (i.e., environmental impacts) • Identify needs through regular capital planning and scheduled condition assessments
Non-Infrastructure Related Solutions	<ul style="list-style-type: none"> • Operating budgets should be informed by condition assessments and inspections as needed • Regularly scheduling sidewalk repair work • Continue to conduct sidewalk inspections and maintain sidewalk inventory database • Annually provide the necessary departments with required information when work is completed and/or additional equipment is required for maintenance activities • Adjust service levels if necessary

Table 30. Lifecycle strategies and associated implementation plans for the Sidewalk Network.

WATER NETWORK LIFECYCLE STRATEGIES

Type of Strategy	Implementation Plan
Maintenance	<ul style="list-style-type: none"> • Regular safety inspections • Inspections performed as identified and needed
Renewal/Rehabilitation	<ul style="list-style-type: none"> • Regular repairs to components of the water system based on need
Replacement	<ul style="list-style-type: none"> • Replacement of components of the water system based on needs

Disposal	<ul style="list-style-type: none"> • Dispose or sell assets that are no longer in use
Expansion	<ul style="list-style-type: none"> • Short and long-term capital planning to identify needs • Ensure capital costs due to expansion are identified in Development Charges • Service improvements to be explored where possible (performance indicators, environmental impacts, new technologies, etc.)
Non-Infrastructure Related Solutions	<ul style="list-style-type: none"> • Operating budgets should be informed by condition assessments and inspections as needed • Continue investing capital and operational funds to provide upgrades and rehabilitations to treatment and distribution systems • Annually provide the necessary departments with required information when work is completed and/or additional equipment is required for maintenance activities • Continue to provide Water Treatment Plant Annual Reports, as per regulatory requirements • Liase with the Town’s Operating Authority to ensure continued maintenance of water treatment facilities and drinking water distribution system • Annual review of practices and policies • Adjust service levels if necessary

Table 31. Lifecycle strategies and associated implementation plans for the Water Network.

SANITARY NETWORK LIFECYCLE STRATEGIES

Type of Strategy	Implementation Plan
Maintenance	<ul style="list-style-type: none"> • Regular maintenance, including sewer flushing • CCTV inspections performed as identified and needed
Renewal/Rehabilitation	<ul style="list-style-type: none"> • Regular repairs to components of the sanitary system based on need
Replacement	<ul style="list-style-type: none"> • Replacement of components of the sanitary system based on needs
Disposal	<ul style="list-style-type: none"> • Dispose or sell assets that are no longer in use
Expansion	<ul style="list-style-type: none"> • Short and long-term capital planning to identify needs • Ensure capital costs due to expansion are identified in Development Charges • Service improvements to be explored where possible (performance indicators, environmental impacts, new technologies, etc.)
Non-Infrastructure Related Solutions	<ul style="list-style-type: none"> • Operating budgets should be informed by condition assessments and inspections as needed • Continue investing capital and operational funds to provide upgrades and rehabilitations to treatment and collection systems • Annually provide the necessary departments with required information when work is completed and/or additional equipment is required for maintenance activities • Continue to provide Wastewater Treatment Plant Annual Reports, as per regulatory requirements • Liase with the Town’s Operating Authority to ensure continued maintenance of water treatment facilities and drinking water distribution system • Annual review of practices and policies • Adjust service levels if necessary

Table 32. Lifecycle strategies and associated implementation plans for the Sanitary Network.

STORM NETWORK LIFECYCLE STRATEGIES

Type of Strategy	Implementation Plan
Maintenance	<ul style="list-style-type: none"> • Regular maintenance, including clean out of catch basins • CCTV inspections performed as identified and needed
Renewal/Rehabilitation	<ul style="list-style-type: none"> • Regular repairs to components of the storm system based on need
Replacement	<ul style="list-style-type: none"> • Replacement of components of the storm system based on needs
Disposal	<ul style="list-style-type: none"> • Dispose or sell assets that are no longer in use
Expansion	<ul style="list-style-type: none"> • Short and long-term capital planning to identify needs • Ensure capital costs due to expansion are identified in Development Charges • Service improvements to be explored where possible (performance indicators, environmental impacts, new technologies, etc.)
Non-Infrastructure Related Solutions	<ul style="list-style-type: none"> • Operating budgets should be informed by condition assessments and inspections as needed • Continue investing capital and operational funds to provide upgrades and rehabilitations to management ponds and collection systems • Annually provide the necessary departments with required information when work is completed and/or additional equipment is required for maintenance activities • Adjust service levels if necessary

Table 33. Lifecycle strategies and associated implementation plans for the Storm Network.

FACILITIES NETWORK LIFECYCLE STRATEGIES

Type of Strategy	Implementation Plan
Maintenance	<ul style="list-style-type: none"> • Recurring inspections in accordance with Occupational Health and Safety regulations • Regularly inspect HVAC, heating systems and plumbing • Maintain electrical systems to Electrical Safety Authority Standards • Regularly inspect fire alarms, fire extinguishers and emergency lighting
Renewal/Rehabilitation	<ul style="list-style-type: none"> • Regular repairs to components based on inspections
Replacement	<ul style="list-style-type: none"> • Replacement of components based on inspections
Disposal	<ul style="list-style-type: none"> • Selling or demolishing facilities that are no longer in use or underutilized • Re-use or sell land not in use
Expansion	<ul style="list-style-type: none"> • Short and long-term capital planning to identify needs • Assumptions on required facility space through development agreements if necessary
Non-Infrastructure Related Solutions	<ul style="list-style-type: none"> • Operating budgets should be informed by condition assessments and inspections as needed • Continue investing capital and operational funds to provide upgrades and rehabilitations • Perform business studies and consult with stakeholders when constructing a new facility or making modifications to an existing facility • Annually provide the necessary departments with required information when work is completed and/or additional equipment is required for maintenance activities • Adjust service levels if necessary

Table 34. Lifecycle strategies and associated implementation plans for the Facilities Network.

LAND IMPROVEMENTS NETWORK LIFECYCLE STRATEGIES

Type of Strategy	Implementation Plan
Maintenance	<ul style="list-style-type: none"> • Inspection of assets on a regular basis to comply with safety standards
Renewal/Rehabilitation	<ul style="list-style-type: none"> • Regular repairs to components based on inspections
Replacement	<ul style="list-style-type: none"> • Replacement of components based on inspections
Disposal	<ul style="list-style-type: none"> • Dispose or sell assets that are no longer in use
Expansion	<ul style="list-style-type: none"> • Short and long-term capital planning to identify needs • Service improvements to be explored where possible (performance indicators, environmental impacts, new technologies, etc.) • Continue to track future needs based on demands placed on infrastructure by the public
Non-Infrastructure Related Solutions	<ul style="list-style-type: none"> • Operating budgets should be informed by condition assessments and inspections as needed • Continue investing capital and operational funds to provide upgrades and rehabilitations • Annually provide the necessary departments with required information when work is completed and/or additional equipment is required for maintenance activities • Review policies and procedures regarding the accounting and reporting of the Town’s tangible capital assets • Adjust service levels if necessary

Table 35. Lifecycle strategies and associated implementation plans for the Land Improvements Network.

FLEET NETWORK LIFECYCLE STRATEGIES

Type of Strategy	Implementation Plan
Maintenance	<ul style="list-style-type: none"> • Regular inspections of all municipal vehicles. Emergency vehicles should be inspected in accordance with industry and regulatory guidelines • Annual inspection, service and certification performed on all applicable vehicles in accordance with Ontario Ministry of Transportation requirements • Regular safety inspections of all vehicles before and after use to ensure safety standards are maintained • Preventative maintenance program for all municipal vehicles
Renewal/Rehabilitation	<ul style="list-style-type: none"> • Regular repairs to components based on inspections • Mid-life component replacements are usually common for larger vehicles and can be scheduled accordingly (e.g., engine rebuilds)
Replacement	<ul style="list-style-type: none"> • Vehicle replacement based on inspections
Disposal	<ul style="list-style-type: none"> • Dispose or sell assets that are no longer in use
Expansion	<ul style="list-style-type: none"> • Short and long-term capital planning to identify needs • Service improvements to be explored where possible (performance indicators, environmental impacts, new technologies, etc.)
Non-Infrastructure Related Solutions	<ul style="list-style-type: none"> • Operating budgets should be informed by regular inspections as needed • Vehicle replacement forecast reviewed with annual budget discussions • Training for staff to ensure safe and efficient operation of vehicles • Continue investing capital and operational funds to provide upgrades and rehabilitations

	<ul style="list-style-type: none"> • Annually provide the necessary departments with required information when work is completed and/or additional equipment is required • Adjust service levels if necessary
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Table 36. Lifecycle strategies and associated implementation plans for the Fleet Network.

MACHINERY AND EQUIPMENT NETWORK LIFECYCLE STRATEGIES

Type of Strategy	Implementation Plan
Maintenance	<ul style="list-style-type: none"> • Regular inspections of all applicable municipal machinery and equipment • Annual inspection, service and certification performed on all applicable vehicles in accordance with Ontario Ministry of Transportation requirements • Regular safety inspections of all vehicles before and after use to ensure safety standards are maintained
Renewal/Rehabilitation	<ul style="list-style-type: none"> • Regular repairs to components based on inspections
Replacement	<ul style="list-style-type: none"> • Equipment replacement based on inspections
Disposal	<ul style="list-style-type: none"> • Dispose or sell assets that are no longer in use
Expansion	<ul style="list-style-type: none"> • Short and long-term capital planning to identify needs • Service improvements to be explored where possible (performance indicators, environmental impacts, new technologies, etc.)
Non-Infrastructure Related Solutions	<ul style="list-style-type: none"> • Operating budgets should be informed by inspections as needed • Machinery and equipment replacement forecast reviewed with annual budget discussions • Training for staff to ensure safe and efficient operation of equipment • Continue investing capital and operational funds to provide upgrades and rehabilitations • Annually provide the necessary departments with required information when work is completed and/or additional equipment is required for maintenance activities • Adjust service levels if necessary

Table 37. Lifecycle strategies and associated implementation plans for the Fleet Network.

5.3 Risk Management Strategies

Certain asset attributes are categorized as either a probability of failure or consequence of failure and given a weighted score. The asset management software analyzes these weighted scores to develop a risk rating (low risk of 1, non-critical (green), to high risk of 5, critical (red)) for each asset. For example, using condition as a risk measure, if an asset’s condition is very poor, the software calculates the probability of failure as very high. Metrics included in the risk analysis for each asset network are described in the applicable subsections below. The Town of Goderich utilizes various network attributes as risk metrics for its core infrastructure, while replacement cost and condition are used as risk metrics for non-core assets.

The risk heat map in Figure 23 incorporates all assets within the Town of Goderich inventory based on consequence of failure (vertical axis) and probability of failure (horizontal axis). The colour coding indicates the risk level and ranges from red (critical) to green (non-critical).

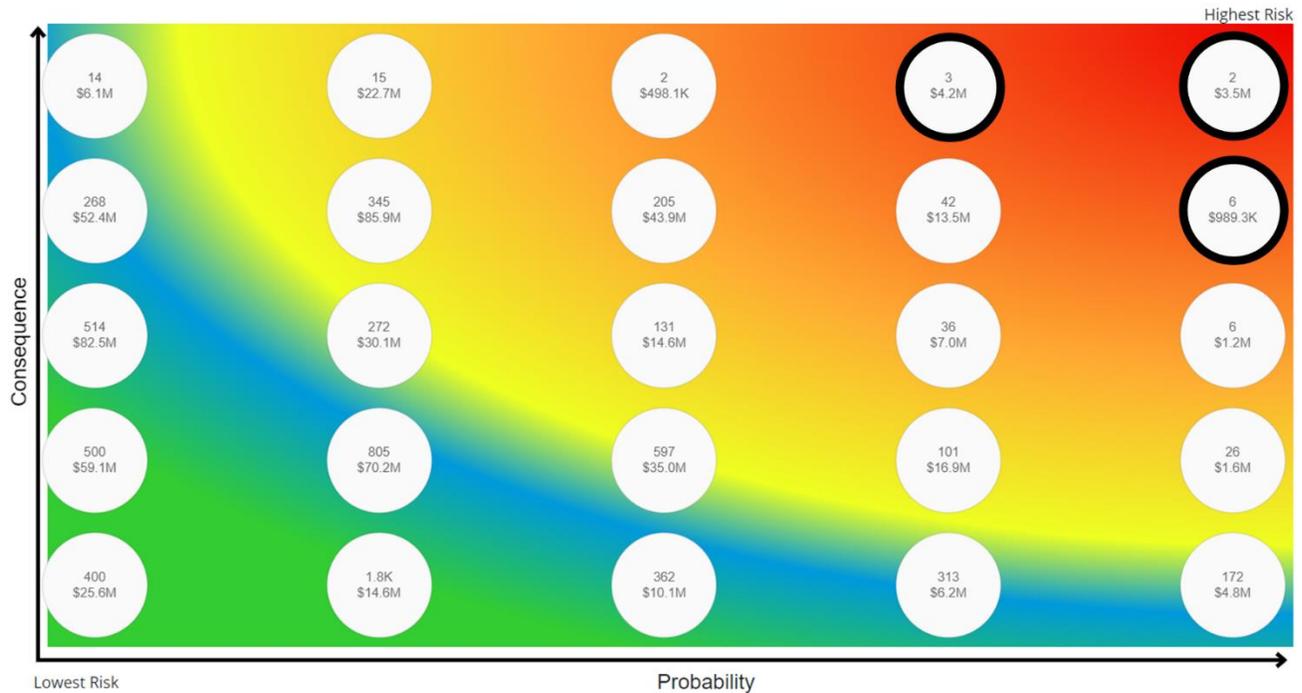


Figure 23. Risk heat map for all Town of Goderich assets.

The eleven highest risk assets highlighted in the risk heat map in Figure 23 are as follows:

Asset Description	In-Service Year	EUL (Yrs.)	Asset Age (Yrs.)	Historical Cost	Replacement Cost	Replacement Cost Method
Asset # 28: Airport John Deere Wheel Loader	2011	15	13	\$146,944	\$194,185	CPI Tables
Asset # 47: Cemetery 2003 Kubota Loader & Backhoe	2003	15	21	\$41,634	\$65,076	CPI Tables
Asset # 151: Fire Hall 2011 Spartan Metro Star Pumper Truck	2012	20	12	\$361,248	\$475,029	CPI Tables
Asset #152: Fire Hall 2004 International 4300 Rescue Truck	2004	20	20	\$167,435	\$257,184	CPI Tables
Asset # 1529: Public Works 2014 Trackless	2010	15	14	\$121,520	\$167,944	CPI Tables
Asset # 1544: Public Works 2012 Street Sweeper	2012	10	12	\$193,344	\$253,824	CPI Tables

Asset # 4762: Water Treatment Plant Generator	1988	50	36	\$130,590	\$294,103	CPI Tables
Asset # 5458: Parks Dept 2011 New Holland Tractor	2011	15	13	\$43,248	\$57,676	CPI Tables
Asset # 5595: Memorial Arena/Community Centre Building	1949	100	75	\$259,008	\$3,388,507	CPI Tables
Asset # 5659: Maitland Recreation Centre Mechanical Components	2003	25	21	\$2,133,367	\$3,334,559	CPI Tables
Asset # 5726: Maitland Recreation Centre Kitchen Appliances	2004	15	21	\$121,320	\$187,612	CPI Tables

Table 38. List of critical assets (highest probability of failure and consequence of failure metrics) within the entire Town of Goderich asset inventory.

5.3.1 Road Network Risk Heat Map

The probability of failure metrics for the risk analysis of the road network includes condition, road class, and surface material. The consequence of failure metrics for the risk analysis of the road network includes replacement cost, number of lanes, road speed, as well as the external environment. Figure 24 displays the fields and associated weighted scores that populate the road network heat map shown in Figure 25.

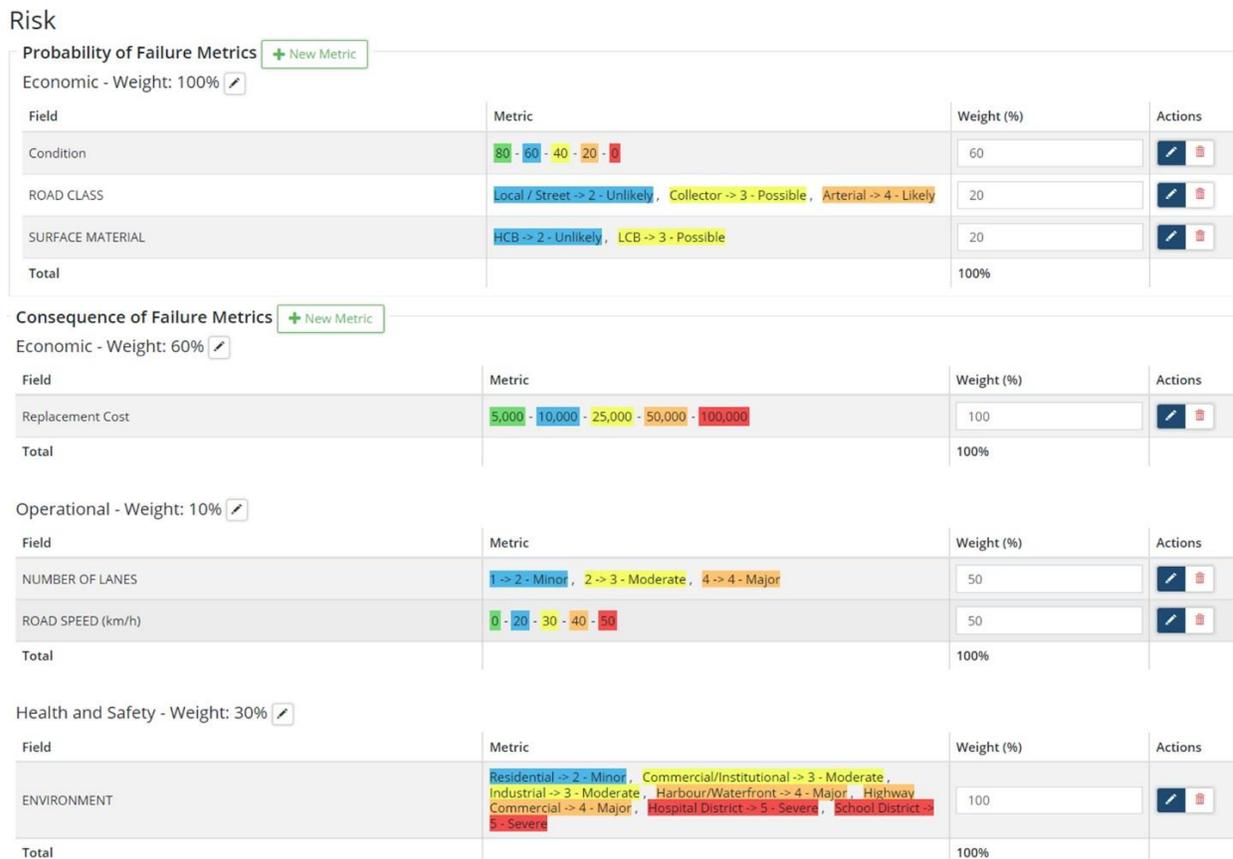


Figure 24. Risk metrics for the Town of Goderich road network.

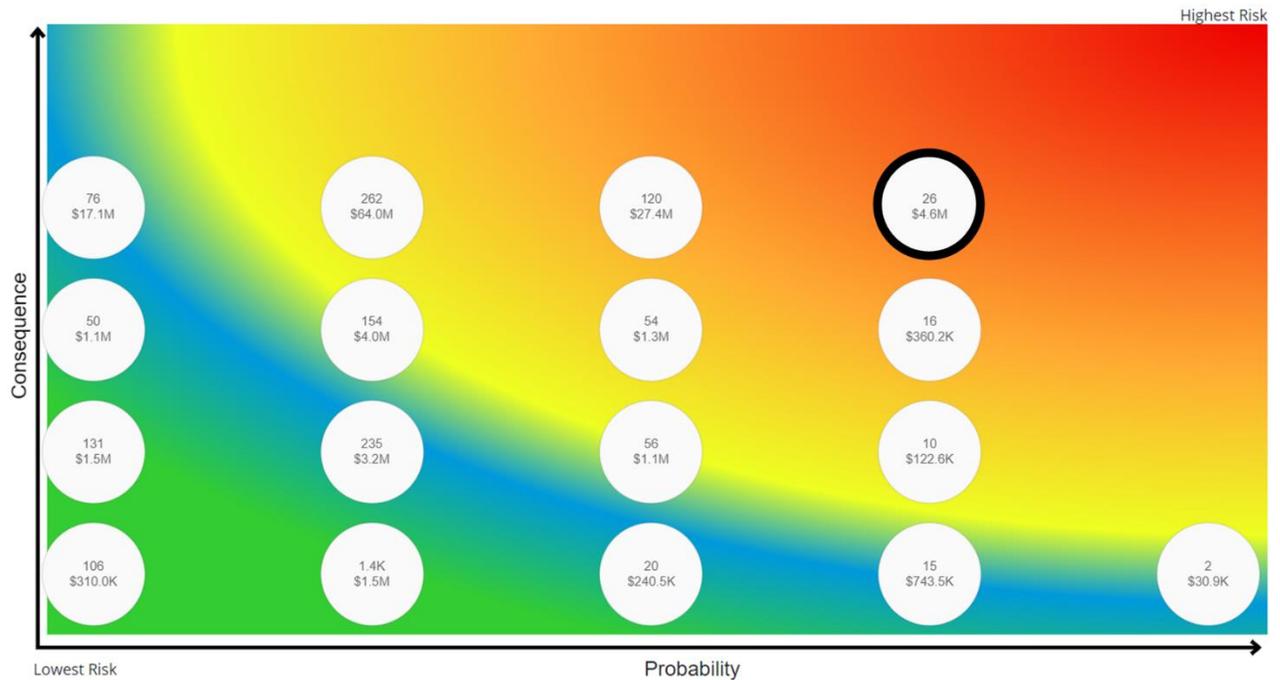


Figure 25. Risk heat map for the Town of Goderich road network.

The twenty-six assets found in the risk heat map in Figure 25 are as follows:

Asset Description	In-Service Year	EUL (Yrs.)	Asset Age (Yrs.)	Historical Cost	Replacement Cost	Replacement Cost Method
Asset # 392: Maple Street (Cypress - Regent)	1990	30	34	\$43,871	\$170,000	Cost / Unit
Asset # 393: Maple Street (Maitland - Cypress)	1990	30	34	\$43,871	\$170,000	Cost / Unit
Asset # 395: Regent Street (Maple - Dead End)	1990	30	34	\$78,967	\$306,000	Cost / Unit
Asset # 398: Maitland Road (Maple - Walnut)	1990	30	34	\$112,633	\$391,000	Cost / Unit
Asset # 399: Maitland Road (Walnut - 80M Northwest of Walnut)	1995	30	29	\$39,177	\$136,000	Cost / Unit
Asset # 400: Maitland Road (Oxford - 60M Southeast of Oxford)	1995	30	29	\$29,382	\$102,000	Cost / Unit
Asset # 401: Maitland Road (Britannia - Horton)	1995	30	29	\$63,662	\$221,000	Cost / Unit
Asset # 409: Nelson Street (Maitland - Albert)	2000	30	24	\$53,378	\$170,000	Cost / Unit
Asset # 410: Albert Street (Nelson - Bruce)	2000	30	24	\$48,040	\$153,000	Cost / Unit
Asset # 412: Albert Street (Trafalgar - Anglesea)	2000	30	24	\$48,040	\$153,000	Cost / Unit

Asset # 413: Albert Street (Anglesea - Wolfe)	1990	30	34	\$39,484	\$153,000	Cost / Unit
Asset # 416: Wolfe Street (Albert - Cambria)	1990	30	34	\$78,968	\$ 306,000	Cost / Unit
Asset # 419: St. David Street (Horton - Albert)	1995	30	29	\$48,971	\$170,000	Cost / Unit
Asset # 420: East Street (Albert - Maitland)	1995	30	29	\$48,971	\$170,000	Cost / Unit
Asset # 607: Wellington Street (Elgin - Quebec)	1985	30	39	\$48,920	\$153,000	Cost / Unit
Asset # 608: Wellington Street (Lighthouse - Quebec)	1985	30	39	\$43,484	\$136,000	Cost / Unit
Asset # 609: Wellington Street (Lighthouse - West)	1985	30	39	\$54,355	\$170,000	Cost / Unit
Asset # 623: Suncoast Drive (Bayfield - Gibbons)	1977	30	47	\$63,788	\$374,000	Cost / Unit
Asset # 624: Suncoast Drive (Gibbons - Krohmer)	1977	30	47	\$27,545	\$161,500	Cost / Unit
Asset # 626: Suncoast Drive (South - Comox)	1977	30	47	\$89,883	\$527,000	Cost / Unit
Asset # 627: Suncoast Drive (Comox - Oak)	1977	30	47	\$23,196	\$136,000	Cost / Unit
Asset # 628: Suncoast Drive (Oak - Eldon)	1977	30	47	\$26,095	\$153,000	Cost / Unit
Asset # 726: Cambria Road (Napier - Gloucester)	1981	30	43	\$46,888	\$204,000	Cost / Unit
Asset # 1978: North Harbour Road (Lions Lookout Asphalt Sidewalk)	1995	30	29	\$8,670	\$15,935	CPI Tables
Asset # 2484: Caledonia Terrace Wood Staircase	2000	25	24	\$40,249	\$67,532	CPI Tables
Asset # 2485: Harbour Park Wood Staircase	2006	25	18	\$24,915	\$36,449	CPI Tables

Table 39. List of somewhat critical assets (highest probability of failure and consequence of failure metrics) within the Town of Goderich road network inventory.

5.3.2 Water Network Risk Heat Map

The probability of failure metrics for the risk analysis of watermains includes condition and pipe material, while the consequence of failure metrics includes replacement cost, pipe size (diameter), pipe distribution, as well as the external environment. For the remaining assets within the water network (e.g., fire hydrants, water treatment plant (including the water tower) and booster pumping station), condition is the only metric determining the probability of failure, while replacement cost is the singular metric driving the consequence of failure. Figures 26 and 28 display the fields and associated weighted scores for the watermain assets and other water network assets (e.g., fire hydrants, water treatment plant (including the water tower) and booster pumping station) which have developed the associated heat maps shown in Figures 27 and 29.

Risk

Probability of Failure Metrics + New Metric			
Economic - Weight: 100%			
Field	Metric	Weight (%)	Actions
Condition	80 - 60 - 40 - 20 - 0	70	
PIPE MATERIAL	PVC -> 1 - Rare, Check Valves -> 2 - Unlikely, Ductile Iron -> 3 - Possible, Steel -> 3 - Possible, Cast Iron -> 4 - Likely	30	
Total		100%	

Consequence of Failure Metrics + New Metric			
Economic - Weight: 60%			
Field	Metric	Weight (%)	Actions
Replacement Cost	5,000 - 10,000 - 25,000 - 50,000 - 100,000	100	
Total		100%	

Operational - Weight: 10%			
Field	Metric	Weight (%)	Actions
DIAMETER (mm)	400 - 800 - 200 - 100 - 0	50	
PIPE DISTRIBUTION	Continuous -> 2 - Minor, Non-Continuous -> 4 - Major	50	
Total		100%	

Health and Safety - Weight: 30%			
Field	Metric	Weight (%)	Actions
ENVIRONMENT	Residential -> 2 - Minor, Commercial/Institutional -> 3 - Moderate, Industrial -> 3 - Moderate, Harbour/Waterfront -> 4 - Major, Highway Commercial -> 4 - Major, Hospital District -> 5 - Severe, School District -> 5 - Severe	100	
Total		100%	

Figure 26. Risk metrics for watermains within the water network.

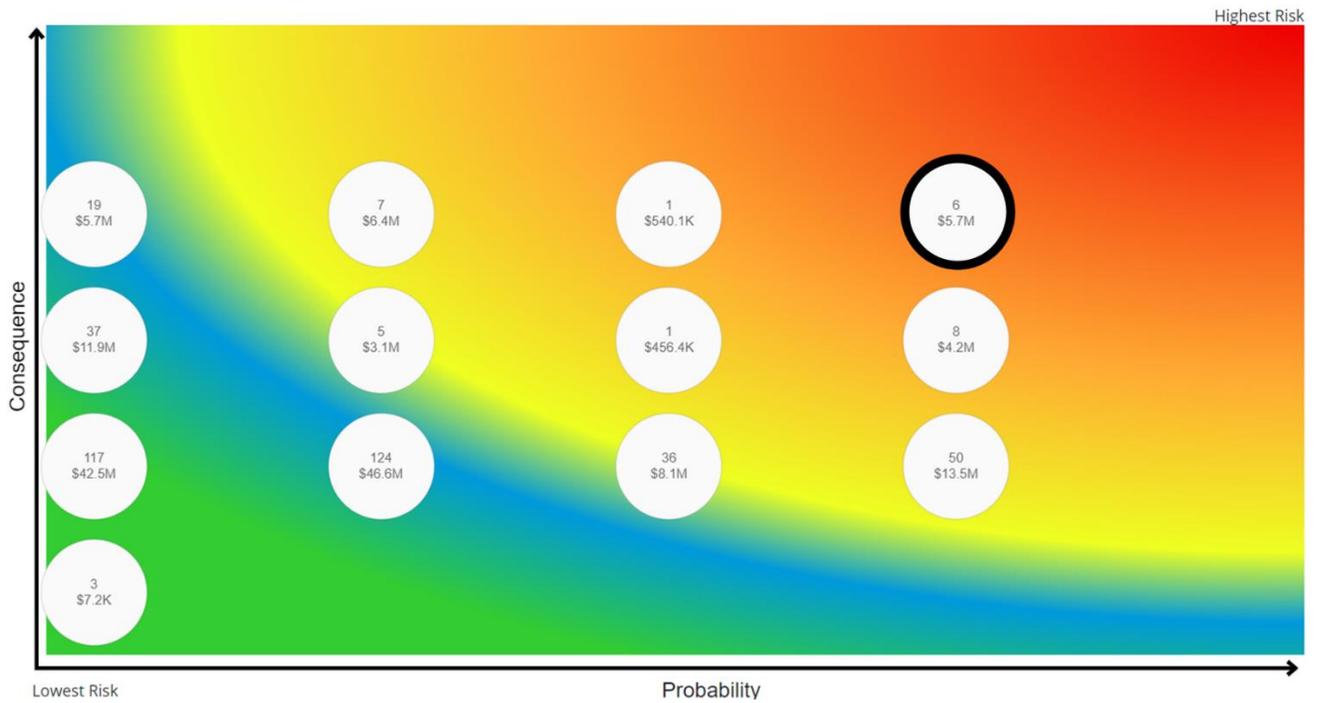


Figure 27. Risk heat map for watermains within the municipal water network.

The six watermain assets highlighted in the risk heat map in Figure 27 are as follows:

Asset Description	In-Service Year	EUL (Yrs.)	Asset Age (Yrs.)	Historical Cost	Replacement Cost	Replacement Cost Method
Asset # 5042: Picton Street (Toronto - Victoria)	1963	100	61	\$72,810	\$1,077,088	Cost / Unit
Asset # 5043: Picton Street (Victoria - South)	1963	100	61	\$63,589	\$940,512	Cost / Unit
Asset # 5044: Picton Street (South - Waterloo)	1963	100	61	\$63,589	\$940,512	Cost / Unit
Asset # 5045: Picton Street (Waterloo - Wellington)	1963	100	61	\$61,490	\$909,472	Cost / Unit
Asset # 5046: Picton Street (Wellington - Wellesley)	1963	100	61	\$60,440	\$893,952	Cost / Unit
Asset # 5047: Picton Street (Wellesley - Essex)	1963	100	61	\$60,219	\$890,848	Cost / Unit

Table 40. List of somewhat critical watermains within the Town of Goderich water network

Risk

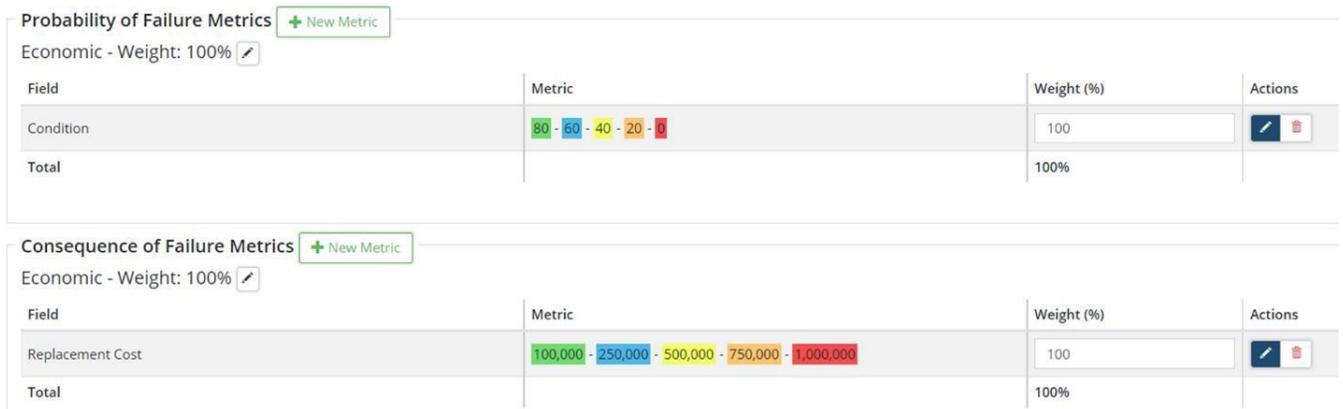


Figure 28. Risk metrics for the water treatment plant (including the water tower) and booster pumping station within the water network.

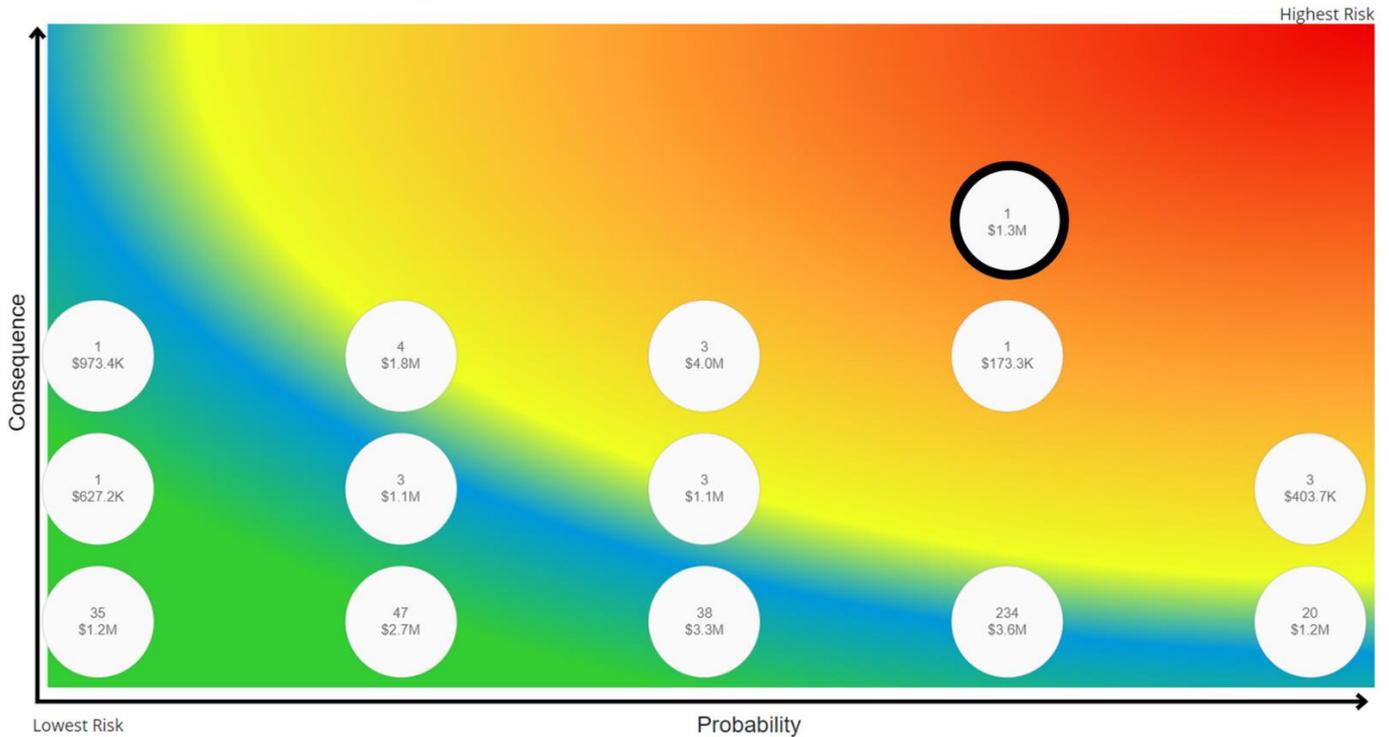


Figure 29. Risk heat map for the remaining assets within the water network, including fire hydrants, water treatment plant (and its components), water tower (and its components), as well as the booster pumping station (and its components).

The Water Treatment Plant building is the highest risk asset found in the risk heat map in Figure 29:

Asset Description	In-Service Year	EUL (Yrs.)	Asset Age (Yrs.)	Historical Cost	Replacement Cost	Replacement Cost Method
Asset # 4754: Water Treatment Plant Building	1961	100	63	\$129,051	\$1,301,196	CPI Tables

Table 41. The Water Treatment Plant building is the highest risk asset found within the Town of Goderich water network inventory, excluding watermains.

5.3.3 Sanitary Network Risk Heat Map

The probability of failure metrics for the risk analysis of sanitary sewer mains includes condition and pipe material, while the consequence of failure metrics includes replacement cost, pipe size (diameter), as well as the external environment. For the remaining assets within the sanitary network (i.e., wastewater treatment plant and sewage pumping stations, condition is the only metric determining the probability of failure, while replacement cost is the only factor assuming to be influencing the consequence of failure. Figures 30 and 32 display the fields and associated weighted scores for the sanitary sewer main assets and other sanitary network assets (i.e., wastewater treatment plant and sewage pumping stations, which have developed the associated heat maps shown in Figures 31 and 33.

Risk

Probability of Failure Metrics + New Metric			
Economic - Weight: 100%			
Field	Metric	Weight (%)	Actions
Condition	1.9 - 2.9 - 3.9 - 4.9 - 5	70	
PIPE MATERIAL	PVC -> 1 - Rare, Ductile Iron -> 3 - Possible, Vitrified Clay -> 3 - Possible, Concrete -> 4 - Likely, Asbestos Cement -> 4 - Likely	30	
Total		100%	

Consequence of Failure Metrics + New Metric			
Economic - Weight: 60%			
Field	Metric	Weight (%)	Actions
Replacement Cost	5,000 - 10,000 - 25,000 - 50,000 - 100,000	100	
Total		100%	

Operational - Weight: 20%			
Field	Metric	Weight (%)	Actions
DIAMETER (mm)	150 - 250 - 450 - 550 - 1,050	100	
Total		100%	

Health and Safety - Weight: 20%			
Field	Metric	Weight (%)	Actions
ENVIRONMENT	Residential -> 2 - Minor, Commercial/Institutional -> 3 - Moderate, Industrial -> 3 - Moderate, Harbour/Waterfront -> 4 - Major, Highway Commercial -> 4 - Major, Hospital District -> 5 - Severe, School District -> 5 - Severe	100	
Total		100%	

Figure 30. Risk metrics for sanitary sewer mains within the sanitary sewer network.

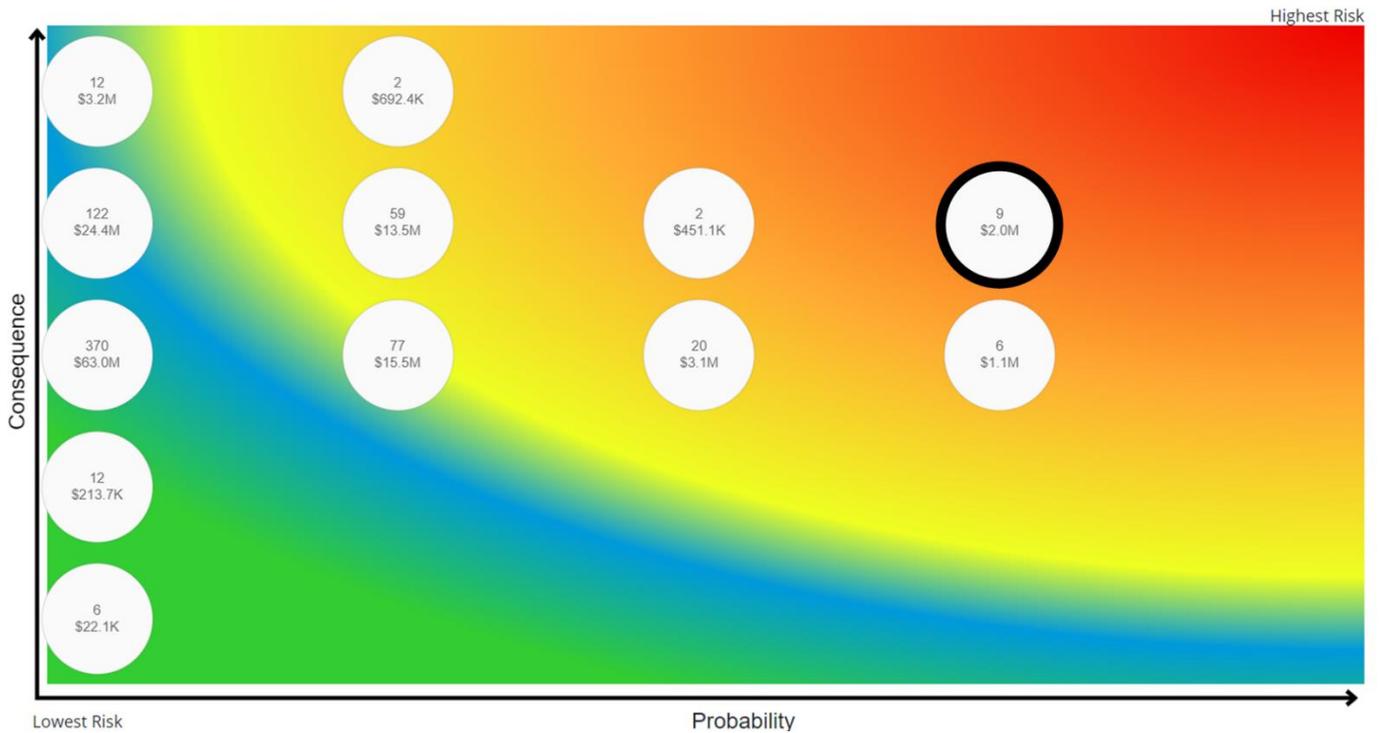


Figure 31. Risk heat map for sanitary sewer mains within the sanitary network.

The nine sanitary sewer main assets found in the risk heat map in Figure 31 are as follows:

Asset Description	In-Service Year	EUL (Yrs.)	Asset Age (Yrs.)	Historical Cost	Replacement Cost	Replacement Cost Method
Asset # 2509: Nelson Street (Church - Colborne)	1896	100	128	\$3,250	\$322,392	Cost / Unit
Asset # 2511: Huron Road (Suncoast - Bennett)	1922	100	102	\$2,293	\$141,306	Cost / Unit
Asset # 2572: Eldon Street (Britannia - Cayley)	1896	100	128	\$9,647	\$527,151	Cost / Unit
Asset # 2617: Huron Road (Maple - Walnut)	1922	100	102	\$3,960	\$244,074	Cost / Unit
Asset # 2633: Wellesley Street (Cobourg - Lighthouse)	1897	100	127	\$1,452	\$134,883	Cost / Unit
Asset # 2640: Huron Road (Bennett - Maple)	1922	100	102	\$2,084	\$128,460	Cost / Unit
Asset # 2649: McDonald Street (Raglan - Blake)	1920	100	104	\$1,638	\$86,961	Cost / Unit
Asset # 2717: The Square (Colborne - North)	1896	100	128	\$1,433	\$142,107	Cost / Unit
Asset # 2749: Huron Road (Maple - Walnut)	1922	100	102	\$3,960	\$244,074	Cost / Unit

Table 42. List of somewhat critical sanitary sewer mains within the Town of Goderich sanitary network inventory.

Risk

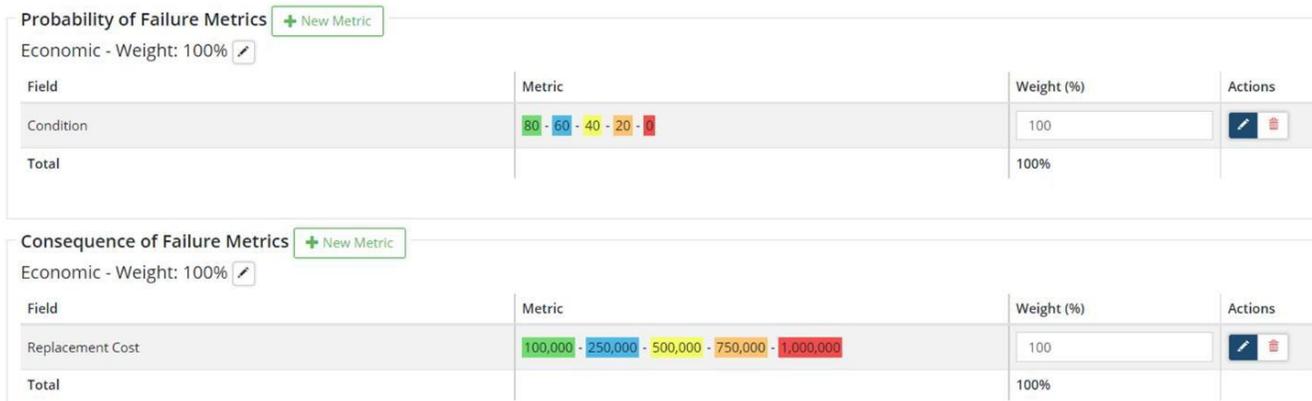


Figure 32. Risk metrics for the wastewater treatment plant and sewage pumping stations within the sanitary network.

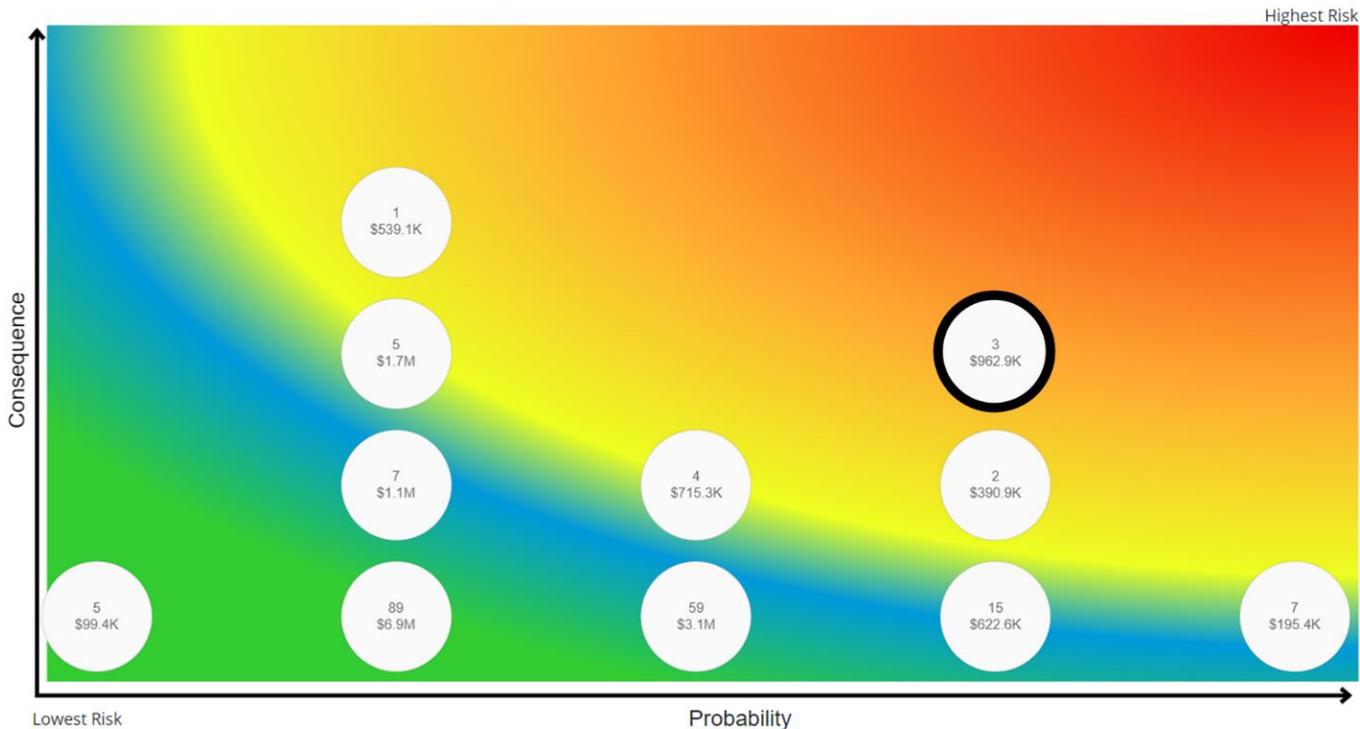


Figure 33. Risk heat map for the remaining assets within the sanitary network, including the wastewater treatment plant (and its components) and the sewage pumping stations (and its components).

Although there are no highly critical assets identified in Figure 33, the three assets that yield the highest risk rating for the remaining assets in the sanitary network are as follows:

Asset Description	In-Service Year	EUL (Yrs.)	Asset Age (Yrs.)	Historical Cost	Replacement Cost	Replacement Cost Method
Asset # 5231: Wastewater Treatment Plant Building	1967	100	57	\$79,691	\$696,964	CPI Tables
Asset # 5249: Wastewater Treatment Plant Mechanical Blower	1981	100	43	\$45,652	\$151,445	CPI Tables
Asset # 5250: Wastewater Treatment Plant Mechanical Equipment	1967	100	57	\$13,091	\$114,484	CPI Tables

Table 43. List of somewhat critical assets within the Town of Goderich sanitary network inventory, excluding sanitary sewer mains.

5.3.4 Storm Network Risk Heat Map

The probability of failure metrics for the risk analysis of the storm network includes condition and pipe material. The consequence of failure metrics for the risk analysis of the storm network includes replacement cost, pipe size (diameter), as well as the external environment. Figure 34 displays the fields and associated weighted scores that drives the storm network heat map shown in Figure 35.

Risk

Probability of Failure Metrics + New Metric			
Economic - Weight: 100%			
Field	Metric	Weight (%)	Actions
Condition	80 - 60 - 40 - 20 - 0	70	 
PIPE MATERIAL	PVC -> 1 - Rare, Open Ditch -> 1 - Rare, Steel -> 3 - Possible, Clay -> 3 - Possible, Concrete -> 4 - Likely, Asbestos Cement -> 4 - Likely	30	 
Total		100%	

Consequence of Failure Metrics + New Metric			
Economic - Weight: 60%			
Field	Metric	Weight (%)	Actions
Replacement Cost	5,000 - 10,000 - 25,000 - 50,000 - 100,000	100	 
Total		100%	

Operational - Weight: 20%			
Field	Metric	Weight (%)	Actions
DIAMETER (mm)	1,050 - 750 - 450 - 250 - 0	100	 
Total		100%	

Health and Safety - Weight: 20%			
Field	Metric	Weight (%)	Actions
ENVIRONMENT	Residential -> 2 - Minor, Commercial/Institutional -> 3 - Moderate, Industrial -> 3 - Moderate, Harbour/Waterfront -> 4 - Major, Highway Commercial -> 4 - Major, Hospital District -> 5 - Severe, School District -> 5 - Severe	100	 
Total		100%	

Figure 34. Risk metrics for storm sewer mains within the storm network.

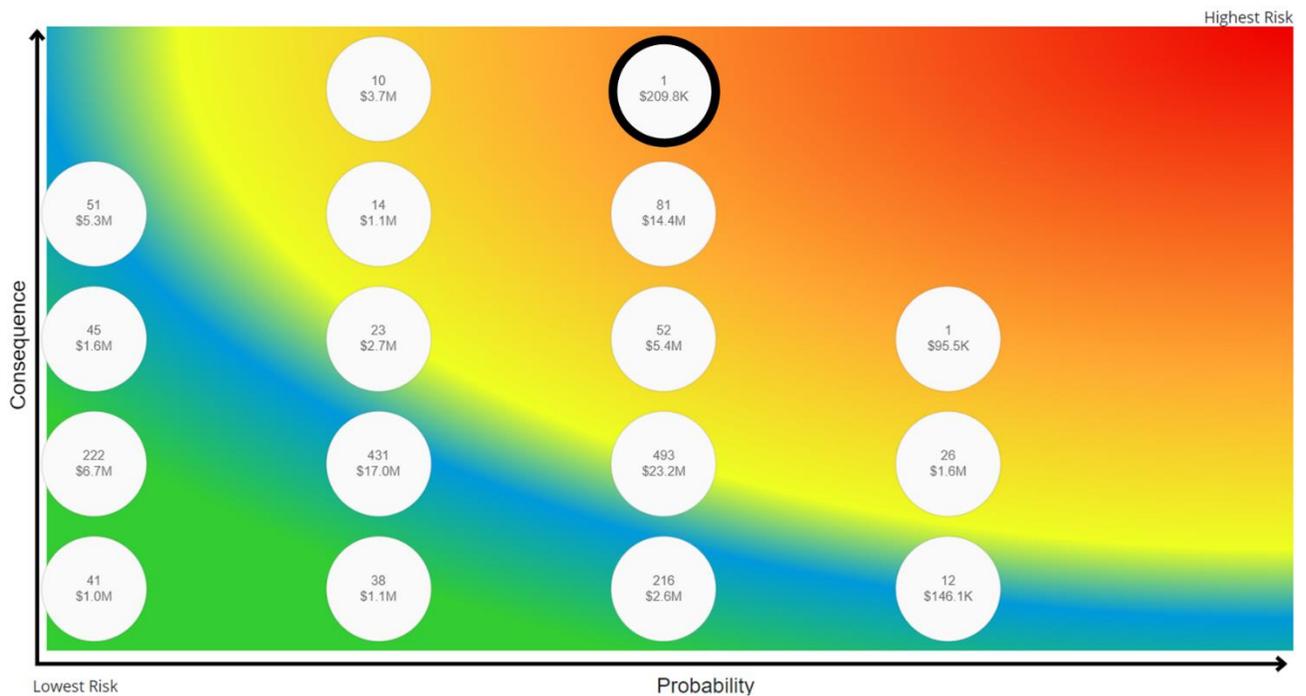


Figure 35. Risk heat map for storm sewer mains within the storm network.

The storm sewer main that yields the highest risk score in Figure 35 is as follows:

Asset Description	In-Service Year	EUL (Yrs.)	Asset Age (Yrs.)	Historical Cost	Replacement Cost	Replacement Cost Method
Asset # 3677: Suncoast Drive (Eldon - John)	1975	100	49	\$51,030	\$209,779	Cost / Unit

Table 44. The somewhat critical storm sewer segment within the storm network inventory.

5.3.5 Facilities Network Risk Heat Map

To date, condition is the only probability of failure metric and replacement cost is the only consequence of failure metric for the risk analysis of the facilities network. Figure 36 displays the fields and associated weighted scores that develop the facilities network risk heat map shown in Figure 37.



Figure 36. Risk metrics for the facilities network.

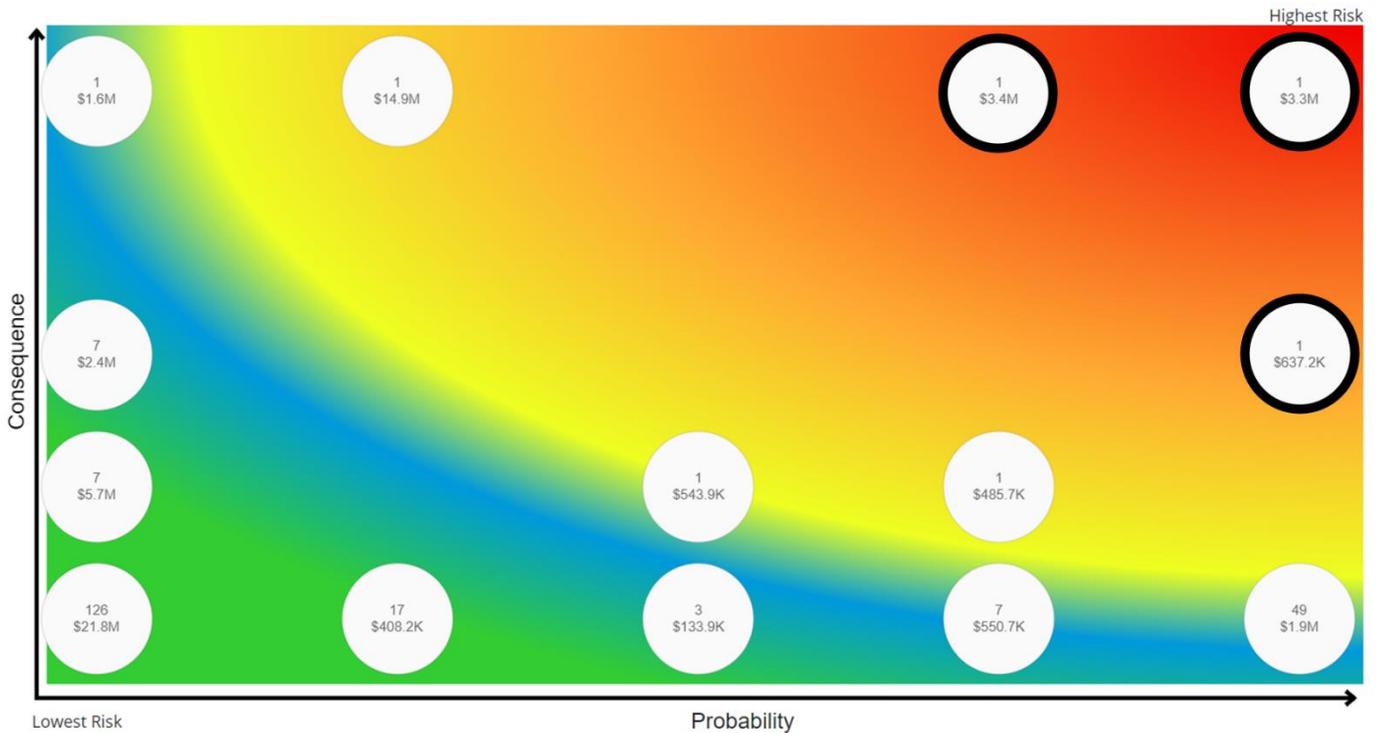


Figure 37. Risk heat map for the facilities network.

The three facility assets highlighted in the risk heat map in Figure 37 are as follows:

Asset Description	In-Service Year	EUL (Yrs.)	Asset Age (Yrs.)	Historical Cost	Replacement Cost	Replacement Cost Method
Asset # 5595: Memorial Arena/Community Centre Building	1949	100	75	\$259,008	\$3,388,507	CPI Tables
Asset # 5601: Maitland Recreation Centre Roof	2003	25	21	\$407,651	\$637,178	CPI Tables
Asset # 5659: Maitland Recreation Centre Mechanical Components	2003	25	21	\$2,133,368	\$3,334,559	CPI Tables

Table 45. List of critical assets within the Town of Goderich facility network inventory.

5.3.6 Land Improvements Risk Heat Map

For the land improvements network, condition is the only probability of failure metric and replacement cost is the only consequence of failure metric for the risk analysis of the assets found in this network. Figure 38 displays the fields and associated weighted scores that develop the facilities network heat map shown in Figure 39.

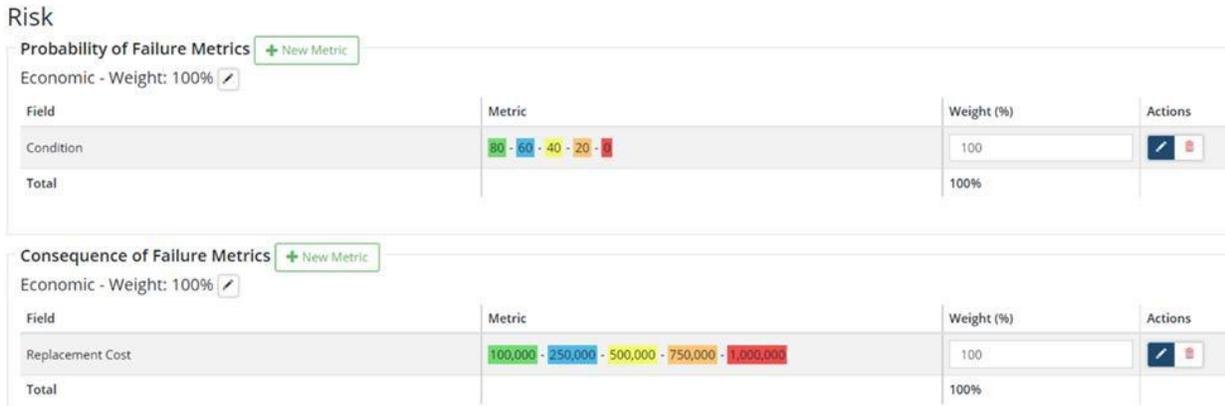


Figure 38. Risk metrics for the land improvements network.

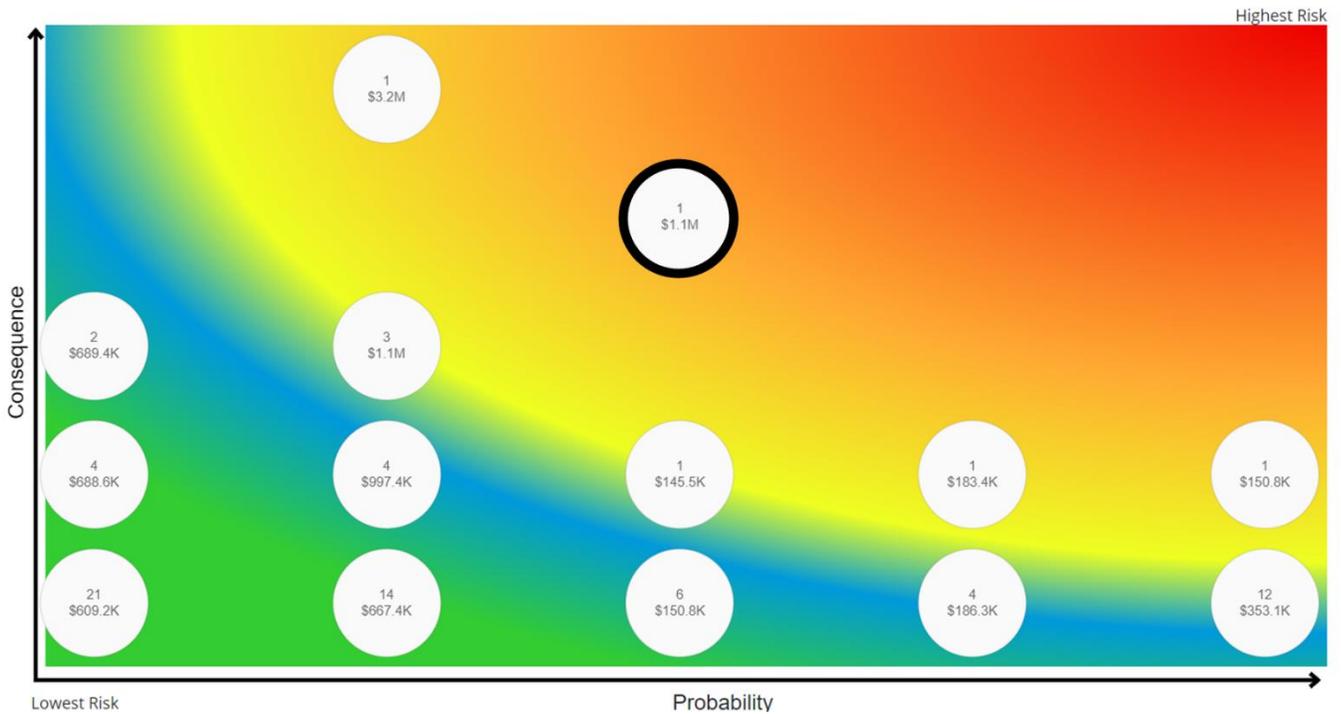


Figure 39. Risk heat map for the land improvements network.

The asset that yields the highest risk score within the land improvements network in Figure 39 is as follows:

Asset Description	In-Service Year	EUL (Yrs.)	Asset Age (Yrs.)	Historical Cost	Replacement Cost	Replacement Cost Method
Asset # 16: Airport Runway 10/28	1995	25	29	\$600,000	\$1,102,759	CPI Tables

Table 46. List of the somewhat critical land improvement asset within the land improvements inventory.

5.3.7 Fleet Risk Heat Map

Similarly, condition is the only probability of failure metric and replacement cost is the only consequence of failure metric for the risk analysis of the fleet network. Figure 40 displays the fields and associated weighted scores that develop the facilities network risk heat map shown in Figure 41.

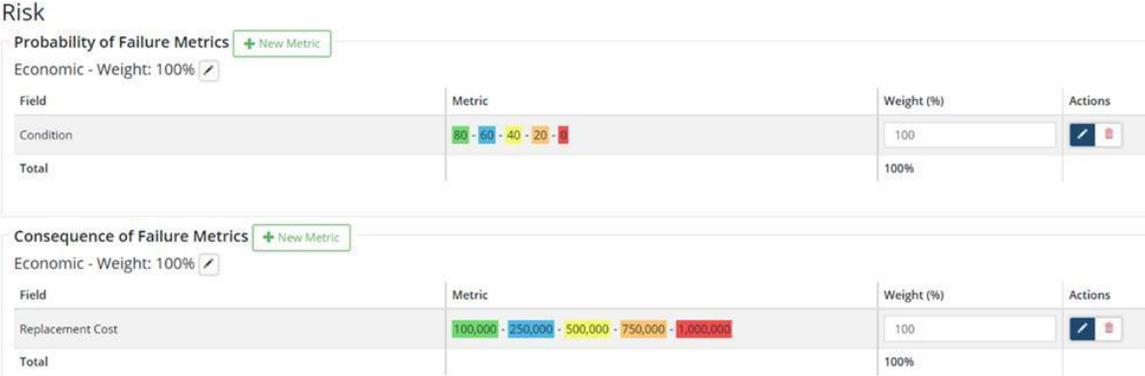


Figure 40. Risk metrics for the fleet network.

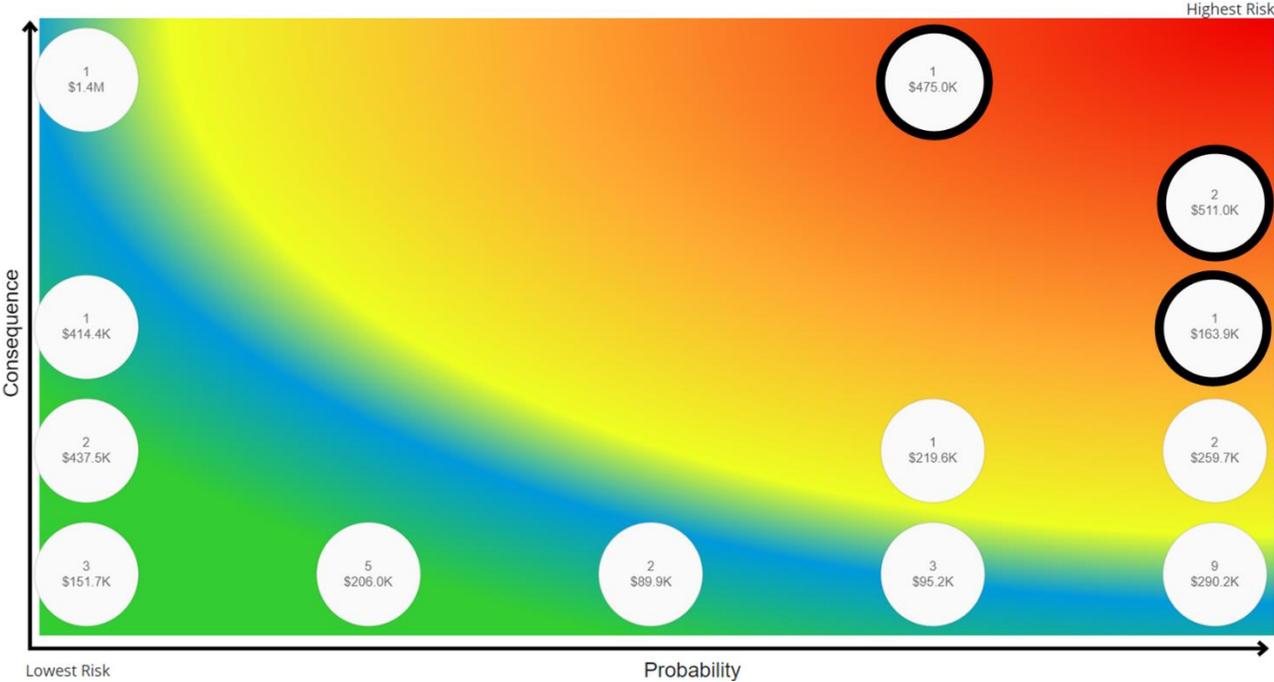


Figure 41. Risk heat map for the fleet network.

The four assets highlighted in the risk heat map in in Figure 41 are as follows:

Asset Description	In-Service Year	EUL (Yrs.)	Asset Age (Yrs.)	Historical Cost	Replacement Cost	Replacement Cost Method
Asset # 151: Fire Hall Spartan Metro Star Pumper Truck	2012	20	12	\$361,248	\$475,029	CPI Tables
Asset # 152: Fire Hall 2004 International Rescue Truck	2004	20	20	\$167,435	\$257,184	CPI Tables
Asset # 1540: Public Works 2007 Sterling L8000 Series Cab/Dump Truck	2006	10	18	\$111,816	\$163,881	CPI Tables
Asset # 1544: Public Works 2012 Johnston VT650 Street Sweeper	2012	10	12	\$193,344	\$253,824	CPI Tables

Table 47. List of critical and somewhat critical assets within the Town of Goderich fleet inventory.

5.3.8 Machinery and Equipment Risk Heat Map

For the machinery and equipment network, condition is the only probability of failure metric and replacement cost is the only consequence of failure metric for the risk analysis of the assets found in this network. Figure 42 displays the fields and associated weighted scores that develop the facilities network risk heat map shown in Figure 43.



Figure 42. Risk metrics for the machinery and equipment network.

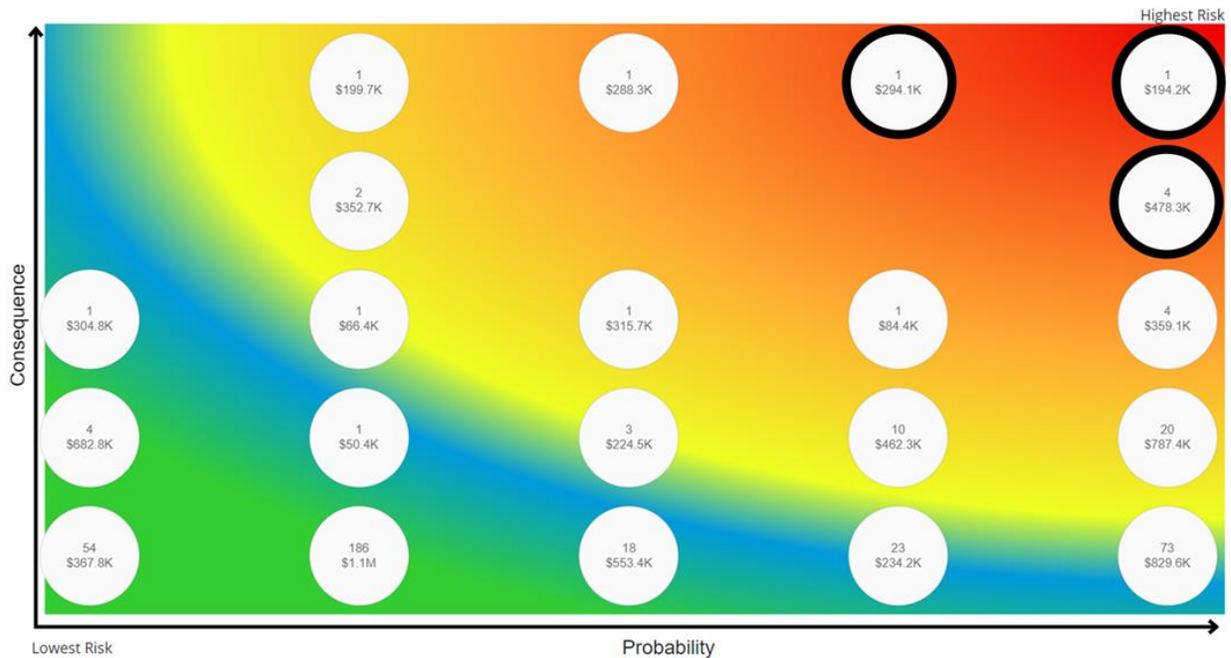


Figure 43. Risk heat map for the machinery and equipment network.

The six critical assets highlighted in the risk heat map for the machinery and equipment network in Figure 43 are as follows:

Asset Description	In-Service Year	EUL (Yrs.)	Asset Age (Yrs.)	Historical Cost	Replacement Cost	Replacement Cost Method
Asset # 28: Airport John Deere Wheel Loader	2011	15	13	\$146,944	\$194,185	CPI Tables
Asset # 47: Cemetery 2003 Kubota Loader & Backhoe	2003	15	21	\$41,634	\$65,076	CPI Tables
Asset # 1529: Public Works 2014 Trackless	2010	15	14	\$121,520	\$167,944	CPI Tables
Asset # 4762: Water Treatment Plant Generator	1988	50	36	\$130,590	\$294,103	CPI Tables
Asset # 5458: Parks Dept 2011 New Holland Tractor	2011	15	13	\$43,248	\$57,676	CPI Tables
Asset # 5726: Maitland Recreation Centre Kitchen Appliances	2004	15	21	\$121,320	\$187,612	CPI Tables

Table 48. List of critical assets within the machinery and equipment network.

6.0 FINANCIAL STRATEGY

6.1 Financial Strategy Objective

The objective of a financial strategy in the 2024 Comprehensive Asset Management Plan for the Town of Goderich is to become an informing document for the municipality’s current financial planning and budgeting process and enhance financial decision making through improved data analysis, which is critical to putting an asset management plan into action. The financial strategy will outline the current funding resources utilized for sustainable asset management planning based on required funding to sustain current capital asset inventories, while continuing to achieve desired level of service and growth projections.

Figure 44 depicts the various cost elements and resulting funding levels that should be incorporated into asset management plans that are based on best practices.

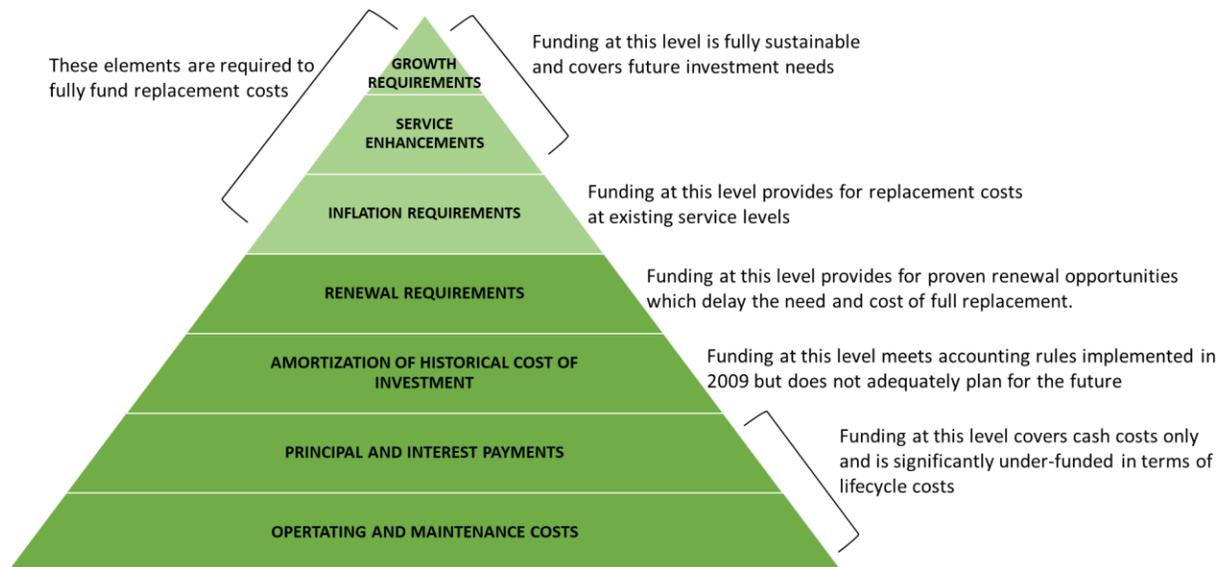


Figure 44. Various cost elements and resulting levels of funding⁴.

6.2 Financial Obligations and Funding Tools

The development of a comprehensive financial plan will allow the Town of Goderich to identify the financial resources required for sustainable asset management based on the existing asset inventories, desired levels of service and projected growth requirements.

The report is a starting point to determine the financial obligations for existing assets at existing service levels.

⁴ Adapted from the 2016 Asset Management Plan for the Town of Goderich prepared by Public Sector Digest Inc.

Obligations:

- Existing assets
- Existing level of service
- Requirement for potential growth
- Impact of any change in service level being considered

There have not been any additional requirements for contemplated changes in service level nor any additional requirements for anticipated growth identified for inclusion in the financial strategy in this plan.

Overall strategy for responsible financial management of infrastructure obligations includes the following guiding principles:

- Make strategic investment based on reliable data
- Adopt proven asset management techniques (e.g., maintenance, life cycle events)
- Contain costs
- Ensure reserves are adequate
- Manage the infrastructure gap for all asset categories using a long-term planned approach

Available Funding Tools:

- Property taxes
- User rates (Water and Sanitary Sewer)
- Development Charges
- Reserves and Reserve Funds
- Debt

6.3 Annual Funding Requirement for Capital Replacement and Rehabilitation

The annual requirement is the amount that the Town should allocate on an annual basis to meet replacement needs, prevent backlogs, and achieve long-term sustainability.

This metric represents the annual funding that may be needed to perform any lifecycle events including the replacement of the asset over an asset’s estimated useful life. The annual funding requirement is the average over the entire life of the asset. This calculation does not account for any backlogs that are currently outstanding.

$$\frac{\textit{Total Replacement Cost + All Lifecycle Events}}{\textit{Estimated Useful Life of the Asset}}$$

In total, this calculation results in the following annual requirement (Table 49) that may be required by the municipality:

AVERAGE ANNUAL FUNDING REQUIREMENT

Asset Class	Annual Requirement
Road Network	4,520,360
Water Network	1,833,030
Sanitary Network	1,490,444
Storm Network	878,924
Facilities	1,124,797
Land Improvements	288,625
Fleet	366,297
Machinery and Equipment	390,368
TOTAL	\$10,892,845

Table 49. Average annual funding requirement for each asset class within the Town of Goderich asset inventory.

The calculation used in Table 49 is based on a replacement cost only scenario as the Town is currently identifying and developing lifecycle management strategies to add to its asset management plan. Implementation of a proactive lifecycle strategy for roads rather than continuing the full reconstruction strategy currently in place, for example, may lead to a potential annual cost avoidance. This assumes that lifecycle activities are performed at strategic times in order to extend the service life of assets until replacement is required.

Expanded details regarding the average annual requirement for each asset category are provided in Appendix C.

6.4 Funding Objective and Options

Strategies to address the annual funding requirement are separated into two categories:

- **Tax Funded Assets:** Road Network, Storm Sewers, Facilities, Land Improvements Fleet and Machinery & Equipment
- **Rate Funded Assets:** Water Network and Sanitary Sewer Network

6.4.1 Current Funding Model and Strategies for Tax Funded Assets

CURRENT FUNDING MODEL FOR TAX FUNDED ASSETS

Asset Category	Annual Funding Requirement	Taxes	Other Revenue	Canada Community Building Fund (CCBF)	Ontario Community Infrastructure Fund (OCIF)	Total Available	Deficiency
Road	\$4,520,360	\$130,000	\$150,000	\$247,780	\$1,478,266	\$2,006,046	\$2,514,314
Storm	\$878,924						\$878,924
Core Assets	\$5,399,284	\$130,000	\$150,000	\$247,780	\$1,478,266	\$2,006,046	\$3,393,238
Facilities	\$1,124,797	\$250,000	\$484,786			\$734,786	\$390,011
Land Improv.	\$288,625		\$245,000			\$245,000	\$43,625
Fleet	\$366,297	\$225,000				\$225,000	\$141,297
Machinery/Equip.	\$390,368	\$105,000				\$105,000	\$285,368
Non-Core Assets	\$2,170,087	\$580,000	\$729,786			\$1,309,786	\$860,301
Total	\$7,569,371	\$710,000	\$879,786	\$247,780	\$1,478,266	\$3,315,832	\$4,253,539

Table 50. The current funding model for tax funded assets within the road, storm, facilities, land improvements, fleet and machinery & equipment asset classes.

Note: The Town's OCIF allocation shown in Table 50 has been increased to the level reflected above beginning in 2024. There is a risk associated with including this funding at this level for the long-term as it is not confirmed to continue indefinitely.

Tax Funded Core Assets:

The Town primarily uses contributions from reserve/reserve funds, grants and tax levy to support road and stormwater capital projects. Historically the contribution from taxation for road reconstruction has been approximately \$130,000 annually which represents 1.3% of total taxation revenue collected (2024). Funding from Canada Community Building Fund (Gas tax) and/or OCIF has been used to fulfil the remainder of annual road construction project funding requirements. Annual investment in roads (excluding water and sewer components) has been on average \$605,000. Additionally, the Town has implemented a funding strategy whereby \$150,000 of lease revenue is allocated to the Road Reconstruction Reserve Fund annually.

Tax Funded Non-Core Assets:

An annual investment in fleet and machinery and equipment purchases of \$230,000 is made in Parks and Public Works departments to support ongoing replacement needs as part of the annual budget.

The Town also makes a \$100,000 annual contribution to the Public Works Reserve Fund to provide funds for future vehicles and equipment needs using tax dollars. In addition, an annual contribution to the Recreation Reserve is made for future facility and equipment needs. This transfer is also supported by taxation.

The Town has also implemented specific contribution strategies within its operational budget for its Medical Centre, Airport, Recreation, Waterfront and Fire departments for future capital asset

needs. These strategies involve redirecting non-tax and other revenues to reserve to provide for future needs.

Recommendations for Full Funding:

The average annual funding requirement for tax funded assets is \$7,569,371, as shown in Table 50. Annual revenue currently allocated for capital purposes is \$3,315,832 leaving an annual deficiency of \$4,253,539. Therefore, currently the annual revenue requirement is funded at 44%.

The core asset category is the main contributor to the Town’s infrastructure gap.

Overall, it would be unrealistic for the municipality to address the above \$4.2 million annual deficit in the short-term in the current fiscal climate. A long-term strategy that identifies current and future asset needs should be developed.

Infrastructure Backlog of Tax Funded Assets:

The average annual funding requirement shown in Table 49 does not consider capital investment backlog. Current data reflects pent up demand for capital work in the following categories found in Table 51:

CURRENT INFRASTRUCTURE BACKLOG (TAX FUNDED ASSETS)

Asset Class	Backlog
Road Network	26,748
Storm Network	10,282
Facilities	928,267
Land Improvements	250,560
Fleet	928,297
Machinery and Equipment	1,411,506
CUMULATIVE TOTAL	\$3,555,660

Table 51. Current backlog of capital asset inventory for each tax-funded asset class.

Further condition data will be required to prioritize future capital investment to deal with the backlog. The Town does have reserves available to assist with the capital investment backlog.

Recommendations to Address the Infrastructure Gap:

The Town currently has approximately 57% of its tax supported assets in very good to good condition, approximately 26% in fair condition and approximately 17% in poor to very poor condition.

The following strategies will assist the Town in managing its infrastructure gap and making sure the Town's finances are well planned to result in infrastructure that is well maintained and supports service delivery as well as prevents burdening future rate payers:

General Strategies:

- The Town's current annual capital budgeting has been addressing critical needs and assets in need of replacement or repair. Increases to the annual budgeted capital allocation in step with inflation are recommended
- Individual projects should continue to be analyzed based on actual condition and risk as part of the prioritization process at the time of budget submission to determine how best to utilize available funding
- The Town should continue to seek out available grants to assist with offsetting capital project costs
- Implementation of lifecycle management strategies to maximize asset useful life and reduce its annual funding requirement overall while maintaining expected service levels should be considered for incorporation into forecasted expenditures
- For any proposed service improvements or enhancement resulting in capital asset investment, a business case should be required that fully demonstrates the benefit and/or need as well as the full financial consequences of the upgrade from future replacement, annual maintenance, lifecycle costs and any other resources needed

Specific Strategies: #1- Use of Reserves:

The use of reserves is a critical funding strategy used by the Town of Goderich. Use of reserves helps to stabilize funding requirements preventing tax rate spikes when large capital investment is needed for infrastructure renewal.

- The Town does have reserves in place to support capital expenditures and some strategies to contribute funds to these reserves annually are in place for machinery/equipment, building, fleet, and land improvement categories. These allocations should continue and could initially be utilized to resolve project backlogs
- Increase reserve contributions for asset management by redirecting some or all of the decrease in reserve fund debt payments as borrowing is repaid to capital reserves. This would result in the following contributions (Table 52) based on contributing 100% of the debt payment reduction on current borrowings to an infrastructure reserve fund

CONTRIBUTION TO RESERVE

2028	\$57,698
2029	\$180,056
2030	\$186,029
2031	\$233,378
2032	\$227,866
2033	\$222,187
2034	\$216,339
2035	\$306,066
Onward	\$412,000

Table 52. Potential increase in reserve contributions over the next ten years.

- Create a Surplus/Deficit policy to provide guidance for allocation of any tax supported annual surplus. A standard of at least a 25% allocation to Capital reserves is proposed

The combination of current reserve allocations plus reallocation of debt payment amounts as obligations are repaid as well as additional allocations from annual tax supported surpluses will significantly reduce the infrastructure gap if considered in relation to the non-core asset category over the next 10 years.

Currently the reserve contributions are made to capital reserves specific to services areas. The allocation of debt payment obligations and the allocation of a portion of the annual surplus strategies are more general in nature. These additional reserve contributions could be allocated among current service area specific capital reserves based on annual requirement deficiency and known priorities in the near term or, as an alternative and simpler approach, a Non-Core Asset Infrastructure Rehabilitation Reserve Fund could be created for these one-time contributions.

Specific Strategies: #2 Use of Capital Levy:

A 1 % annual capital levy is proposed and would position the municipality to reach fully funded status in approximately 30 years.

Implementation of a capital levy may be challenging, however, long-term planning to address tax supported core infrastructure is necessary to avoid possible greater future consequences such as asset failure. A levy specifically identified for core infrastructure renewal provides transparency to stakeholders and demonstrates how the new revenue is going to be used. The revenue generated by this levy would be allocated directly to a Core Infrastructure Reserve Fund and used to support projects within the road network and storm sewer categories. Both are areas with significant infrastructure gaps.

Table 53 shows the annual revenue available for tax supported core assets with the 1% annual capital levy implemented starting in 2025.

APPLICATION OF CAPITAL LEVY FOR CORE ASSETS

Year	Capital Levy	Tax	Other Revenue	CCBF	OCIF	Funding Total with Capital Levy
2025	101,046	130,000	150,000	247,780	1,478,266	2,107,092
2026	203,102	130,000	150,000	247,780	1,478,266	2,209,148
2027	306,179	130,000	150,000	247,780	1,478,266	2,312,225
2028	410,286	130,000	150,000	247,780	1,478,266	2,416,332
2029	515,435	130,000	150,000	247,780	1,478,266	2,521,481
2030	621,635	130,000	150,000	247,780	1,478,266	2,627,681
2031	728,897	130,000	150,000	247,780	1,478,266	2,734,943
2032	837,231	130,000	150,000	247,780	1,478,266	2,843,277
2033	946,649	130,000	150,000	247,780	1,478,266	2,952,695
2034	1,057,162	130,000	150,000	247,780	1,478,266	3,063,208
2035	1,168,779	130,000	150,000	247,780	1,478,266	3,174,825
2036	1,281,513	130,000	150,000	247,780	1,478,266	3,287,559
2037	1,395,373	130,000	150,000	247,780	1,478,266	3,401,419
2038	1,510,373	130,000	150,000	247,780	1,478,266	3,516,419
2039	1,626,522	130,000	150,000	247,780	1,478,266	3,632,568
2040	1,743,833	130,000	150,000	247,780	1,478,266	3,749,879
2041	1,862,317	130,000	150,000	247,780	1,478,266	3,868,363
2042	1,981,986	130,000	150,000	247,780	1,478,266	3,988,032
2043	2,102,852	130,000	150,000	247,780	1,478,266	4,108,898
2044	2,224,926	130,000	150,000	247,780	1,478,266	4,230,972
2045	2,348,221	130,000	150,000	247,780	1,478,266	4,354,267
2046	2,472,749	130,000	150,000	247,780	1,478,266	4,478,795
2047	2,598,522	130,000	150,000	247,780	1,478,266	4,604,568
2048	2,725,553	130,000	150,000	247,780	1,478,266	4,731,599
2049	2,853,854	130,000	150,000	247,780	1,478,266	4,859,900
2050	2,983,438	130,000	150,000	247,780	1,478,266	4,989,484
2051	3,114,318	130,000	150,000	247,780	1,478,266	5,120,364
2052	3,246,507	130,000	150,000	247,780	1,478,266	5,252,553
2053	3,380,018	130,000	150,000	247,780	1,478,266	5,386,064
2054	3,514,864	130,000	150,000	247,780	1,478,266	5,520,910
	\$51,864,140	\$3,900,000	\$4,500,000	\$7,433,400	\$44,347,980	\$112,045,520

Table 53. Applying a 1% annual capital levy to a base taxation revenue of \$10,104,571 over the next 30 years.

Specific Strategies: #3 Allocation of Tax Revenue for Assessment Growth:

- Implementation of a policy that would allocate a proportion of taxation revenue generated through assessment growth to this Core Infrastructure Reserve Fund could also be considered as an option.

6.4.2 Current Funding Model and Strategies for User Rate Funded Assets

CURRENT FUNDING MODEL FOR RATE FUNDED ASSETS

Asset Category	Avg. Annual Funding Requirement	Funding from Rates	Used in Operations	Total Available	Annual Deficiency
Water Network	\$1,833,030	\$3,091,176	\$1,261,692	\$1,829,484	\$3,546
Sanitary Network	\$1,490,444	\$2,117,340	\$1,160,785	\$956,555	\$533,889
	\$3,323,474	\$5,208,516	\$2,422,477	\$2,786,039	\$537,435

Table 54. The current funding model for rate funded assets within the water and sanitary asset classes.

Recommendations for Full Funding:

The Town currently has approximately 72% of its rate supported assets in very good to good condition, approximately 17% in fair condition and approximately 11% in poor to very poor condition.

The average annual funding requirement for rate funded assets is \$3,323,474, as shown in Table 54. Annual revenue currently allocated to the assets for capital purposes is \$2,786,039 which leaves an annual deficiency of \$537,435. This represents a funding to revenue requirement proportion of 83.8%.

Water revenues of \$3,091,176 and sanitary revenues of \$2,117,340 are raised annually. The rate change for full funding without considering any further revenues is presented in Table 55.

The Town currently processes leachate from a nearby landfill and earns approximately \$80,000 annually. This would reduce the annual sanitary network shortfall to \$453,889. This value will be used as the sanitary network infrastructure deficit in Table 56.

OVERALL RATE CHANGE FOR FULL FUNDING

Asset Class	Rate Change
Water Network	0%
Sanitary Network	21%

Table 55. Rate change needed for full funding of the water and sanitary networks.

This rate change is proposed to be implemented in Table 56 below:

FIVE- AND TEN-YEAR IMPLEMENTATION OF RATE CHANGE

	Infrastructure Deficit	Increase for Full Funding	Five-Year	Ten-Year
Water Network	\$3,546	0%	-	-
Sanitary Network	\$453,889	21.0%	4.2%	2.1%

Table 56. Implementation of the proposed rate change for the sanitary network over a five and ten year period.

Further refinement of replacement values will increase the accuracy of water and sanitary network data. This will have a direct impact on the annual funding requirement and corresponding rate change.

Infrastructure Backlog of Rate Funded Assets

The average annual funding requirement shown in Table 44 does not consider capital investment backlog for the water and sanitary network. Current data reflects accumulated demand for capital work in the water and sanitary networks found in Table 57:

CURRENT INFRASTRUCTURE BACKLOG (RATE FUNDED ASSETS)

Asset Class	Backlog
Water Network	5,488,550
Sanitary Network	2,343,558
CUMULATIVE TOTAL	\$7,832,108

Table 57. Current backlog of capital asset inventory for each rate-funded asset class.

The Town has implemented a sanitary sewer condition assessment process in 2018 and continues to invest annually.

Further condition data will be required to prioritize future capital investment to deal with the backlog. The Town does have reserves available to assist with the capital investment backlog.

6.5 Use of Reserves

In general, reserves are an important part of long-term financial planning for a municipality. For Asset Management purposes, they are utilized to accumulate funding for significant future infrastructure projects. Reserves are also used to cope with high capital investment years by saving during low investment years.

There is no clear guideline or prescribed level of reserves for municipalities. Consideration of the services provided by the municipality, the age and condition of its infrastructure and economic conditions form part of the decision making for reserve planning.

Table 58 below summarizes the Reserve/Reserve funds currently available to the Town Goderich for capital purposes.

CAPITAL RESERVES FOR TAX AND RATE FUNDED ASSETS

	Balance as of December 31, 2023
Capital Reserves	
Infrastructure	1,790,214
Recreation	1,609,055
Medical Clinic	1,225,929
Airport	771,405
Public Works Equipment	655,833
Road Reconstruction	572,066
Waterfront	329,829
Fire	47,358
Bannister Park	209,252
Waterfront and Boardwalk	365,014
Arena	100,000
Child Care Centre	462,945
Playground Equipment	59,000
Total Capital Reserves	\$8,197,900
Rate Funded	
Water	8,206,659
Water Tower	1,034,632
Sanitary Sewer	3,740,852
Total Rate Funded	\$12,982,143
Obligatory Reserve Funds	
Canada Community Building Fund (CCBF)	1,019,570
Ontario Community Infrastructure Fund (OCIF)	2,377,230
Total Obligatory	\$3,396,800

Table 58. Summary of reserve and reserve funds as of December 31, 2023 for tax-funded assets, rate funded assets and obligatory reserve funds, such as the Canada Community Building Fund (CCBF) and Ontario Community Infrastructure Fund (OCIF).

6.6 Use of Debt

Debt financing is a viable funding source for capital projects. Using debt in a planned way spreads the costs of a project over the life of an asset to ensure that the taxpayers that enjoy and benefit from the asset share in the cost. Debt burden is distributed between current taxpayers and future ones.

The maximum amount of debt that a Municipality can carry is set by Provincial legislation. The Ministry of Municipal Affairs sets a Municipality's annual debt repayment limit which is 25% of own source revenues. The Town does not currently have any external debt. In practice the Town has borrowed from its own reserve funds to fund larger capital projects. Currently the Town has borrowed \$2.8 million from its reserve funds with annual debt principal payments of \$444,543.

Use of debt does increase the total cost of a project as interest is incurred. For example, a project that requires \$1 million in debt with a 15-year repayment timeframe at 3% interest would cost \$1,243,047.

6.7 Ten Year Capital Plan

Some larger value assets have been identified over the next ten-year period for replacement.

Roads Network:

Currently, annual road reconstruction projects are prioritized based on upgrading surface treated roadways with urban high class bituminous (HCB) surface material. This strategy allows the municipality to target specific sections of the following roads for future reconstruction projects: Wolfe Street, Maitland Road, St. David Street, Horton Street, Britannia Road, Regent Street, Walnut Street, Maple Street, Nelson Street, Elgin Avenue, Gibbon Street, East Street and Montcalm Street. Other roads targeted for replacement include Suncoast Drive, North Harbour Road, and The Square, as it is vital for capital road projects to be coordinated with underground infrastructure needs to achieve cost efficiencies.

Water Network:

Another factor that is incorporated into prioritizing annual infrastructure reconstruction projects includes targeting areas of the municipality that currently has a 100 mm cast iron water service, including sections of Hamilton Street, Kingston Street, St. Patrick Street, Keays Street, St. David Street, Wellesley Street, Horton Street, Montcalm Street, Bruce Street, Britannia Road, Walnut Street, Church Street and Caledonia Terrace. Additionally, as is shown in Appendix C in the water network ten-year plan, the cast iron water mains on The Square are 123 years old and in very poor condition (have reached end of life). Therefore, replacement of the underground infrastructure on The Square is also a priority.

Sanitary Network:

The majority of asset backlog within the Sanitary Network are vitrified clay sewer mains. These assets have an average age of 114 years, with an installation period falling between 1896 to 1957. Saying this, most sewer mains within this asset category have been assessed for condition and have an average performance NASSCO rating of 1.75 (very good). As shown in Appendix C of the ten-year plan for the sanitary network, the sections of vitrified clay sewer mains in need of replacement include Nelson Street, Huron Road, Eldon Street, Wellesley Street, McDonald Street and The Square.

Storm Network:

Most of the storm sewer assets were installed beginning in the 1950's and given a service life of 100 years. Currently, most storm assets have an age-based condition rating, as the municipality began incorporating a small amount of storm assets into the annual CCTV condition study in 2021. The Town will continue to include storm assets into annual CCTV inspections to gather more accurate performance data of its storm network assets.

Facilities:

Approximately \$6,980,336 in replacement needs (including backlog) have been identified over the next ten years for Town-owned facilities and their components (e.g., roof, mechanical equipment, and elevators), of which the majority of these replacement needs are for mechanical equipment at the Maitland Recreation Centre.

Land Improvements:

Over the next 10 years, approximately \$814,079 in replacements have been identified in this category, including backlog. In particular, significant investment in airport runway 10/28 is highlighted due to its risk criticality score.

Fleet:

Various vehicles within the fleet network will likely reach their end of service life over the next decade, at a cost of approximately \$4,060,684. As shown in Figure 18, 42.91% of the fleet inventory has a poor to very poor performance rating, due to the age of these assets, with some assets already at the end of their service life (i.e., flusher truck, and street sweeper).

Machinery and Equipment:

Approximately \$5,059,429 in replacement needs have been identified in the machinery and equipment asset class, including assets in backlog. Most notably, off-road vehicles for the airport, cemetery, and public works department are in need of replacement, as they have been identified as critical assets (high risk rating) due to their condition (age-based) and consequence of failure.

7.0 Conclusion and Recommendations

The objective of the 2024 Town of Goderich Asset Management Plan is to provide the municipality with the information needed to make decisions on managing its capital assets in a sustainable way over the next decade. It should be noted that this data reflects the status of the Town's assets in 2024 and will evolve with maintenance needs, condition assessments, as well as external factors (e.g., development priorities, climate change).

7.1 Summary of Key Findings:

- The total replacement cost of all assets within the Town of Goderich inventory is approximately \$614,278,808.
- The condition distribution of all assets within the asset inventory includes the following: 63% (approximately \$384 million) are in good to very good condition, 22% (approximately \$138 million) are in fair condition, and 15% (approximately \$92 million) are in poor to very poor condition.
- The assets in poor to very poor condition occur across all asset classes and will be considered as priorities for the 2025 capital budget and forecast.
- The following activities have assisted in addressing the information gap regarding the Town's assets:
 - The following asset networks have undergone condition studies to reflect actual performance of assets: roads, sidewalks, buildings (including water treatment plant, wastewater treatment plant, booster pumping station, and sewage pumping stations), as well as some sanitary and storm sewer mains. Most of these condition studies have been made available through successful grant applications.
 - Developed and implemented risk metrics for all core asset networks to highlight the priority capital needs. Examples of risk metrics used in the probability of failure and consequence of failure calculation can be found in Section 5.3.
 - Continued contributions to the capital replacement reserves and reserve funds have been made on an annual basis by the municipality.
 - Critical issues and assets in need of repair and/or replacement have been assessed and prioritized through the annual capital budget process by the municipality.
- Cost efficiencies are achieved when construction of new infrastructure is scheduled to include infrastructure repairs and replacement for cost efficiencies.
- Maintaining existing infrastructure at the expected level of service of the public can be a financial challenge and has resulted in a considerable and challenging infrastructure funding gap.

- Continue to seek funding from other sources (e.g., Federal and Provincial Governments) when available to assist in capital related projects.

7.2 Next Steps for the Asset Management and Capital Programs:

- Continue to update and refine asset data within the asset inventory database. The asset management coordinator should regularly update the inventory to account for asset replacements, upgrades and disposals, as well as asset condition after each assessment is complete.
- Develop lifecycle events (preventative maintenance) schedules for core assets to extend service life of infrastructure and reduce replacement costs.
- Repair and replacement of capital assets should be prioritized based on a risk assessment. For example, assets identified as critical (i.e., upper right quadrant of the risk heat maps, high probability of failure and consequence of failure) should be prioritized first. Additionally, capital assets with a fair condition rating should be targeted for maintenance to ensure they continue to perform at current levels of service.
- Continue to schedule condition assessments for the following asset networks: roads, sidewalks, sanitary, storm and buildings. Ideally, these assessments would occur every 2-3 years, but no longer than 5 years. A plan should be developed to gather more accurate data on the watermain infrastructure. Assessed condition should begin to be gathered for other asset networks (e.g., fleet, machinery and equipment) before the next version of the Asset Management Plan.
- A public engagement survey should be developed and analyzed to better understand community needs and future priorities for municipal services. This requirement will need to be in place by July 1, 2025 as per O. Reg 588/17.
- Provide education to staff and Council in order to implement the asset management and financial strategy, prioritize projects and support current service levels.

7.3 Summary of Recommendations:

- Therefore, in addition to current capital funding levels, it is recommended that the 2025 budget include consideration of a 1% capital tax levy in order to increase annual capital contributions to address the asset investment backlog, as well as future infrastructure requirements.
- The Town of Goderich should update the Asset Management Plan at a minimum of every five years, as per O. Reg 588/17, and ensure it follows the standards and principles outlined in the Asset Management Policy.

8.0 APPENDICES

8.1 APPENDIX A: Levels of Service Criteria

Function	Service Expectations	Strategic Level of Service (Qualitative Descriptions)	Technical/Expected Level of Service (Quantitative Descriptions) as set in 2022 AMP	Action Plan	Performance Measures	Current Levels of Service Using Average Condition (Jan 1 2023 to DEC 31 2023)	Percentage Below Expected Level of Service	Financial Requirement to Achieve Current Levels of Service and Above
"Reasonably smooth roads that transport all types of vehicles without congestion"		Safe, <u>reliable</u> roads with adequate <u>capacity</u>	All areas of the Town of Goderich are connected to the municipal road network. This includes residential, commercial, institutional and industrial customers. The Town of Goderich owns all road network assets with the exception of streetlight poles which are owned by ERTH Power (formally Goderich Hydro)			TOTAL CENTRE LANE KILOMETRES: Connecting Link: 4.86 km Urban Collector: 3.66 km Semi-Urban: 2.07 km Urban Local HC: 59.14 km Urban Local LC: 3.43 km LC Bituminous: 4.00 km Rural Gravel: 0.48 km		
			Connecting Link: 50+ Urban Collector: 40+ Semi-Urban: 40+ Urban Local HC: 30+ Urban Local LC: 30+ LC Bituminous: 30+ Rural Gravel: 20+ Land Improvements: 40+	1. Schedule road pavement condition assessments on an ongoing basis	Average Condition Rating (Pavement Condition Index (PCI))	Connecting Link: 70.57 (Good) Urban Collector: 51.59 (Fair) Semi-Urban: 33.41 (Poor) Urban Local HC: 54.86 (Fair) Urban Local LC: 21.03 (Poor) LC Bituminous: 49.15 (Fair) Rural Gravel: 31.68 (Poor) Land Improvements: 69.68 (Good)	Connecting Link Roads PCI <50: 0% Urban Collector Roads PCI <40: 33% Semi-Urban Roads PCI <40: 61% Urban Local H.C. Roads PCI <30: 21% Urban Local L.C. Roads PCI <30: 61% LC Bituminous Roads PCI <30: 0% Rural Gravel Roads PCI <20: 0% Land Improvements Condition <40: 37%	Urban Collector: \$2,081,250 Semi-Urban: \$2,125,000 Urban Local H.C.: \$20,188,000 Urban Local L.C.: \$4,063,000 TOTAL: \$28,548,191
			Compliance with Provincial Minimum Maintenance Standards	1. Continue weekly/biweekly road patrols 2. Continue with surface treated (Urban Local L.C.) road replacement program, incorporated in annual road reconstruction capital planning 3. Budget for annual road reconstruction capital projects and annual preventative maintenance program	Number of minimum maintenance standard non-compliance events	Compliant with provincial minimum maintenance standards		
			Minimize complaints		Service requests	Response to service requests		
"Sidewalks that allow access to key areas of the community"		Safe, <u>accessible</u> sidewalks, with <u>access</u> from residential, commercial/institutional areas to downtown and waterfront	The majority of the Town of Goderich is connected via sidewalks, with very little gaps in services. This includes residential, commercial and institutional customers			TOTAL KILOMETRES: Concrete: 64.39 km Asphalt: 1.03 km Paving Stone: 1.51 km Wood: 1.75 km		
			Concrete Sidewalk: 40+ Asphalt Sidewalk: 40+ Wood Sidewalk: 40+ Paving Stone Sidewalk: 40+	1. Schedule sidewalk condition assessments on an ongoing basis	Average Condition Rating (Sidewalk Condition Index (SCI))	Concrete Sidewalk: 76.03 (Good) Asphalt Sidewalk: 62.07 (Good) Wood Sidewalk: 62.03 (Good) Paving Stone Sidewalk: 70.20 (Good)	Concrete Sidewalk <40: 3% Asphalt Sidewalk <40: 23% Wood Sidewalk <40: 8% Paving Stone Sidewalk <40: 0%	Concrete Sidewalk: \$125,400 Asphalt Sidewalk: \$38,827 Wood Sidewalk: \$103,981 TOTAL: \$268,208
			Compliance with Provincial Minimum Maintenance Standards	1. Continue sidewalk inspections once every year (as per Minimum Maintenance Standards) 2. Continue annual repair and replacement of sidewalk segments (accessibility requirements where necessary) 3. Budget for sidewalk replacement where necessary during annual road reconstruction capital projects	Number of minimum maintenance standard non-compliance events	Compliant with provincial minimum maintenance standards		
			Minimize complaints		Service requests	Response to service requests		
"Streetlights that keep the roadway (and sidewalk, if applicable) illuminated"		Reliable, <u>energy efficient</u> LED streetlights	All areas of Town contain LED streetlights that provide the required illumination for road and sidewalk safety			Number of streetlights associated with roadway transportation services: 1,296 units		

Transportation Services

		Streetlighting: 40+		Average Condition Rating	Streetlighting: 69.67 (Good)	Streetlighting <40: 0%	
		Compliance with Provincial Minimum Maintenance Standards	1. Continue streetlight inspections once every year, as per minimum maintenance standards	Number of minimum maintenance standard non-compliance events	Compliant with provincial minimum maintenance standards		
		Minimize complaints		Service requests	Response to service requests		
"Traffic signals are placed where needed to ensure smooth and safe traffic flow and safe pedestrian crossing"	Reliable, <u>energy efficient</u> LED traffic signals	The Town of Goderich contains traffic signals along connecting link roads, where warranted			Number of traffic signals: 33 units (7 sets of 4 signals, 1 set of 5 signals)		
		Traffic Signals: 40+		Average Condition Rating	Traffic Signals: 35.83 (Poor)	Traffic Signals <40: 71%	Traffic Signals: \$555,168
		Minimize complaints	1. Continue traffic signal inspections (performed by ERT Power)	Service requests	Response to service requests		TOTAL: \$555,168
"Ability to drive on roads and access sidewalks throughout the year, despite seasonal conditions"	<u>Clean and safe</u> roads and sidewalks during the winter, spring, summer and fall seasons	All roads maintained by the Town of Goderich are plowed and salted as per Provincial Winter Road Maintenance Standards. Additionally, the Town of Goderich Operations Department provides curbside leaf collection, sewer flushing and street sweeping services to residents of the municipality			Buildings: 2 structures (with associated roof and mechanical assets) Land Improvements: fencing, automatic gate, parking lot Vehicles: 1 street sweeper, 1 flusher truck, 1 forestry bucket truck, 4 dump trucks, 7 pick-up trucks Machinery & Equipment: generator, off road vehicles, operating equipment, office furniture		
		Buildings: 40+ Land Improvements: 40+ Vehicles: 40+ Machinery & Equipment: 40+		Average Condition Rating	Buildings: 67.67 (Good) Land Improvements: 32.61 (Poor) Vehicles: 27.63 (Poor) Machinery & Equipment: 33.64 (Poor)	Buildings <40: 0% Land Improvements <40: 77% Vehicles <40: 66% Machinery & Equipment: 27%	Land Improvements: \$143,113 Vehicles: \$1,028,085 Machinery & Equipment: \$336,198
		Compliance with Provincial Minimum Maintenance Standards	1. Continue preventative maintenance program on winter maintenance vehicles and machinery	Number of minimum maintenance standard non-compliance events	Compliant with provincial minimum maintenance standards		
		Minimize complaints		Service requests	Response to service requests		TOTAL: \$1,507,396
"Waterfront property on the shoreline of Lake Huron for all residents and visitors to enjoy"	<u>Accessible, clean and safe</u> waterfront for residents and visitors to enjoy the environmental and social benefits	The Goderich waterfront, located on the shoreline of Lake Huron, is a significant feature of the Town of Goderich. Consisting of three beaches and approximately 1.6 km of boardwalk, the waterfront is a valuable place, economically, socially and environmentally, for the Goderich community as well as visiting tourists. The waterfront plays a key role in economic development and tourism while serving as a valuable recreational and cultural amenity to local residents. Additionally, the Goderich Water Treatment Plant, as well as private commercial and industrial businesses are located along the waterfront.			Buildings: Snug Harbour DRFP Building and Rotary Cove Gazebo Land Improvements: Dock 8 Electrical Service, North Harbour Road Transformer, Pedestrian Bridge, Flag Pole Machinery & Equipment: 14 parking meters and 2 Wi-Fi routers		
		Buildings: 40+ Land Improvements: 40+ Machinery & Equipment: 40+		Average Condition Rating	Buildings: 85.75 (V Good) Land Improvements: 89.45 (V Good) Machinery & Equipment: 78.80 (Good)	Buildings <40: 0% Land Improvements <40: 0% Machinery & Equipment <40: 0%	
		Minimize complaints		Service requests	Response to service requests		

<p>"Ability to accept load factor of five aircrafts and satisfy round the clock pilot re-fueling needs"</p>	<p><u>Clean, safe and reliable</u> aircraft movement areas</p>	<p>The Goderich Regional Airport (CYGD) is a registered fair size general aviation (GA) facility with three runways, three hangars, a terminal and all supporting infrastructure (fuel farm, equipment garage, taxiways, apron and ramp). The airport is owned and managed by the Town of Goderich and is a recognized Airport of Entry for up to 15 passengers and crews (AOE-15) on board the same aircraft</p> <p>Buildings: 40+ Land Improvements: 40+ Vehicles: 40+ Machinery & Equipment: 40+</p> <p>Meet federal legislative requirements</p> <p>Minimize complaints</p>		<p>Average Condition Rating</p> <p>Number of non-compliance events</p> <p>Service requests</p>	<p>Buildings: 7 structures (with associated roof and mechanical assets)</p> <p>Land Improvements: 3 runways, 1 taxiway, 1 apron, fencing and gates</p> <p>Vehicles: 1 pick-up truck</p> <p>Machinery & Equipment: fuel system, off road vehicles and operating equipment</p> <p>Buildings: 65.46 (Good) Land Improvements: 56.86 (Fair) Vehicles: 95.67 (V Good) Machinery & Equipment: 26.82 (Poor)</p> <p>Compliant with federal regulation</p> <p>Response to service requests</p>	<p>Buildings <40: 0% Land Improvements <40: 3% Vehicles <40: 0% Machinery & Equipment: 52%</p>	<p>Land Improvements: \$150,802</p> <p>Machinery & Equipment: \$369,457</p> <p>TOTAL: \$520,259</p>
<p>"Clean, tasteful water at a normal pressure that is constantly available at a reasonable cost to all residential, commercial, institutional and industrial facilities"</p>	<p><u>Quality and efficient</u> municipal water supply system with adequate <u>capacity</u></p>	<p>The Goderich Drinking Water System is classified as a large municipal residential system. The system is owned by the Town of Goderich and operated by the municipal Operating Authority, Veolia Water Canada. The Town of Goderich owns a Class III conventional design Water Treatment Plant, as well as a Class III water distribution system consisting of a Booster Pumping Station and Water Tower. All areas of the Town of Goderich are connected to the municipal drinking water system. This includes residential, commercial, institutional and industrial customers</p> <p>Additionally, all areas of the Town of Goderich have access to a fire hydrant in case of an emergency. This includes urban areas, as well as commercial, institutional and industrial businesses. The Town of Goderich owns all fire hydrant assets</p> <p>PVC : 40+ Cast Iron: 40+ Ductile Iron: 40+ Steel: 40+</p> <p>Water Treatment Plant: 40+ Booster Pumping Station: 40+ Water Tower: 40+ Fire Hydrants: 40+</p> <p>Meet legislative requirements</p> <p>In general, there have been a low number of service disruptions within the Town of Goderich. During a water main break, Town staff are notified and Veolia Canada is sent to the site to fix the break immediately</p>	<p>1. Continue replacement of cast iron, ductile iron and steel pipe material with PVC material watermain</p> <p>1. Continue condition assessments for the Water Treatment Plant, Booster Pumping Station and Water Tower facilities (including all components)</p> <p>2. Water Treatment Plant Electrical Upgrades (MCC/HVAC replacement project)</p> <p>3. Water Treatment Plant Capacity Expansion</p> <p>1. Future consideration and possible implementation of residential water meters</p>	<p>Average Condition Rating</p> <p>Average Condition Rating</p> <p>Number of non-compliance events</p> <p>Number of water main breaks</p>	<p>Percent of properties that are connected to the municipal water system: 99.9%</p> <p>Percent of properties where fire flow is available: 99.9%</p> <p>TOTAL KILOMETRES OF WATERMAINS: Cast Iron: 15.35 km Ductile Iron: 24.70 km PVC: 29.51 km Steel: 0.17 km</p> <p>PVC: 80.73 (Very Good) Cast Iron: 31.81 (Poor) Ductile Iron: 59.45 (Fair) Steel: 36.42 (Poor)</p> <p>Water Treatment Plant: 48.02 (Fair) Booster Pumping Station: 54.19 (Fair) Water Tower: 58.36 (Fair) Fire Hydrants: 41.70 (Fair)</p> <p>Water main breaks: 5</p>	<p>PVC <40: 0% Cast Iron <40: 69% Ductile Iron <40: 0% Steel <40: 100%</p> <p>Water Treatment Plant < 40: 25% Booster Pumping Station <40: 8% Water Tower <40: 24% Fire Hydrants <40: 79%</p>	<p>Cast Iron: \$23,322,081</p> <p>Steel: \$540,096</p> <p>TOTAL: \$23,862,177</p> <p>Water Treatment Plant: \$ 3,830,053 Booster Pumping Station: \$244,879 Water Tower: \$824,360 Fire Hydrants: \$2,132,310</p> <p>TOTAL: \$7,031,602</p>

Environmental Services

		In general, there have been a low number of boil water advisories and precautionary boil water notices (PBWN) within the Town of Goderich. Veolia Canada notifies Town of Goderich staff if a PBWN and/or boil water advisory is in effect. Veolia Canada distributes notification letters to all customers who could be effected by the potential PBWN and/or boil water advisory		Number of days per year where a boil water advisory is in place	Boil water advisories: None			
		Unaccounted for water to remain under 20% based on the American Water Works Association's (AWWA) standard benchmark		Percentage of unaccounted for water	Unaccounted for water: 10%			
		Minimize complaints		Service requests	Response to service requests			
"Municipal wastewater systems that removes biological waste from residential, commercial, institutional and industrial facilities and treats waste with minimal harm to the environment"	Quality municipal wastewater collection system, with adequate capacity and little to no environmental impacts	All areas of the Town of Goderich are connected to the municipal wastewater system. This includes residential, commercial, institutional and industrial customers. The system is owned by the Town of Goderich and operated by the municipal Operating Authority, Veolia Water Canada. The Goderich Wastewater Treatment Plant has been classified as a Class III facility, while the wastewater collection system has been classified as a Class II collection system consisting of six sewage pumping stations	1. Continue replacement of asbestos cement, ductile iron and vitrified clay pipe material with PVC and/or concrete material sanitary sewer 2. Continue annual condition assessment of sanitary sewer network	Average Condition Rating	Percent of properties that are connected to the municipal wastewater system: 99.9% TOTAL KILOMETRES SANITARY MAIN: Asbestos Cement: 8.87 km Concrete: 5.62 km Ductile Iron: 0.21 km PVC: 19.05 km Vitrified Clay: 25.57 km			
				PVC: 3.99 or lower Asbestos Cement: 3.99 or lower Concrete: 3.99 or lower Ductile Iron: 3.99 or lower Vitrified Clay: 3.99 or lower	PVC: 0.43 (V Good) Asbestos Cement: 0.90 (V Good) Concrete: 1.09 (V Good) Ductile Iron: 0.47 (V Good) Vitrified Clay: 1.74 (V Good)	PVC >3.99: 1% Asbestos Cement >3.99: 3% Concrete >3.99: 3% Ductile Iron >3.99: 0% Vitrified Clay >3.99: 5%	PVC: \$404,243 Asbestos Cement: \$540,828 Concrete: \$335,240 Vitrified Clay: \$2,927,265	
				Wastewater Treatment Plant: 40+ Sewage Pumping Stations: 40+	Average Condition Rating	Wastewater Treatment Plant: 57.98 (Fair) Sewage Pumping Stations: 60.95 (Good)	Wastewater Treatment Plant <40: 14% Sewage Pumping Stations <40: 4%	Wastewater Treatment Plant: \$2,104,775 Sewage Pumping Stations: \$75,026
				In general, there have been a low number of service disruptions within the Town of Goderich. During a sewer main backup, Town staff are notified and repair the break immediately	Number of main incidents (i.e., sanitary sewer main backups)	Sewer main incidents (backups): 1		
				The Town of Goderich no longer contains any combined sanitary and stormwater sewers. The wastewater treatment plant contains two combined sewer overflow (CSO) tanks. Bypasses may occur at the wastewater treatment plant when there is a heavy rainfall event	Number of incidents of bypass	Bypass incidents: None		
				All monitoring and sampling for effluent quality assurance is completed quarterly as required by the Goderich Wastewater Treatment Plant Certificate of Approval. As of 2016, the Goderich Wastewater Treatment Plant has been found to be below the Ministry standards for effluent discharge, decreasing sampling to once a year		Effluent violations: None		
				Meet legislative requirements	Number of non-compliance events	Compliant with legislative requirements		
								TOTAL: \$4,207,576
								TOTAL: \$2,179,801

<p>"Minimal flooding on streets or properties"</p>	<p>Stormwater system with adequate <u>capacity</u></p>	<p>All areas of the Town of Goderich are connected to the municipal stormwater system. This includes residential, commercial, institutional and industrial customers. The Town of Goderich owns all stormwater assets, including municipal stormwater ponds</p>	<p>Condition study of storm sewer infrastructure</p>		<p>88% of municipal stormwater management system resilient to a 5-year storm</p> <p>91% of properties within the Town of Goderich that are resilient to a 100-year storm</p> <p>TOTAL KILOMETRES STORM MAIN: Asbestos Cement: 0.006 km Clay: 0.023 km Concrete: 40.84 km Open Ditch: 0.20 km PVC: 8.93 km Steel: 2.23 km</p>		
		<p>PVC: 40+ Asbestos Cement: 40+ Clay: 40+ Concrete: 40+ Open Ditch: 40+ Steel: 40+</p>	<p>1. Continue replacement of asbestos cement, clay and steel pipe material with PVC and/or concrete material storm sewer 2. Condition assessment of storm sewer infrastructure</p>	<p>Average Condition Rating</p>	<p>PVC: 87.73 (V Good) Asbestos Cement: 44.42 (Fair) Clay: 59.42 (Fair) Concrete: 57.69 (Fair) Open Ditch: 55.42 (Fair) Steel: 48.74 (Fair)</p>	<p>PVC <40: 0% Asbestos Cement <40: 0% Clay <40: 0% Concrete <40: 2% Open Ditch <40: 0% Steel <40: 7%</p>	<p>Concrete: \$1,715,802 Steel: \$408,536 TOTAL: \$2,124,338</p>
		<p>Minimize flooding incidents</p>	<p>Stormwater management ponds</p>	<p>Number of flooding incidents</p>	<p>Response to flooding incidents</p>		
		<p>Minimize complaints</p>		<p>Service requests</p>	<p>Response to service requests</p>		
<p>"Curbside waste collection to be divided into three waste streams (solid waste, organic waste and recyclable material), to be processed with minimal harm to the environment and support waste diversion. Organic waste to be collected on a weekly basis, while solid waste and recyclables are collected on a bi-weekly basis, on alternating weeks."</p>	<p><u>Responsive, cost effective and efficient</u> solid waste, organics and recycling collection and disposal system</p>	<p>Service provided by Waste Management Inc. and Bluewater Recycling</p>	<p>No municipal capital assets pertaining to this service</p>		<p>Current service provider: Waste Management Inc. and Bluewater Recycling</p>		
		<p>Meet legislative requirements</p>		<p>Number of non-compliance events</p>	<p>Compliant with legislative requirements</p>		
		<p>Minimize complaints</p>		<p>Service requests</p>	<p>Response to service requests</p>		
<p>"Collection site to sort non-curbside waste into individual bins (i.e., shingles, construction material, yard waste, white goods, bulk items, electronic waste, tires, batteries and other hazardous waste) in efforts to support waste diversion and provide minimal harm to the environment"</p>	<p><u>Efficient, cost effective</u> collection of non-curbside waste with adequate <u>capacity</u> and little to no <u>environmental</u> impacts</p>	<p>Service provided by the Mid-Huron Recycling Centre Board (the Municipality of Central Huron, the Municipality of Huron East and the Town of Goderich). Please note that the Municipal Hazardous and Special Waste (MHSW) collection at the Mid-Huron Recycling Centre is provided by the County of Huron</p>	<p>No municipal capital assets pertaining to this service</p>		<p>Service provided by the Mid-Huron Recycling Centre Board (the Municipality of Central Huron, the Municipality of Huron East and the Town of Goderich). Please note that the Municipal Hazardous and Special Waste (MHSW) collection at the Mid-Huron Recycling Centre is provided by the County of Huron</p>		
		<p>Meet legislative requirements</p>		<p>Number of non-compliance events</p>	<p>Compliant with legislative requirements</p>		
		<p>Minimize complaints</p>		<p>Service requests</p>	<p>Response to service requests</p>		
<p>"Collection site for yard waste (i.e., garden waste, grass, twigs, spring and fall yard cleanup) from April to November in efforts to support waste diversion and provide minimal harm to the environment"</p>	<p><u>Efficient, cost effective</u> collection of yard waste with adequate <u>capacity</u> and little to no <u>environmental</u> impacts</p>	<p>Minimize complaints</p>	<p>No municipal capital assets pertaining to this service</p>	<p>Service requests</p>	<p>Response to service requests</p>		
<p>"Arrival at emergencies as quick as possible with trained, competent firefighters"</p>	<p><u>Responsive, capable and equipped</u> fire services</p>	<p>The Goderich Fire Department, composed of dedicated volunteer Firefighters, respond to fire related emergencies, motor vehicles accidents, HAZMAT emergencies to an awareness level, shore-based water rescues, dangerous public hazards, and any other emergencies deemed necessary . The Goderich Fire Department covers an area of roughly 218 sq km through service agreements, and protects the lives of property owners as well as thousands of seasonal visitors</p>			<p>Buildings: 1 structure (with associated roof and mechanical assets)</p> <p>Land Improvements: parking lot</p> <p>Vehicles: ladder, tanker, pumper and rescue trucks</p> <p>Machinery & Equipment: building furniture, fire fighting equipment, medical equipment, and technical equipment</p>		

		Buildings: 40+ Land Improvements: 40+ Vehicles: 40+ Machinery & Equipment: 40+		Average Condition Rating	Buildings: 64.07 (Good) Land Improvements: 69.72 (Good) Vehicles: 54.11 (Fair) Machinery & Equipment: 50.49 (Fair)	Buildings <40: 0% Land Improvements <40: 0% Vehicles <40: 29% Machinery & Equipment <40: 58%	Vehicles: \$732,213 Machinery & Equipment: \$513,592	TOTAL: \$1,245,805
		Minimize response times		Response times	Response times within requirements			
		Meet legislative requirements		Number of non-compliance events	Compliant with legislative requirements			
		Minimize complaints		Service requests	Response to service requests			
	"Police will respond to emergencies in a timely manner"	<u>Responsive, capable</u> and <u>equipped</u> police services	Service provided by the Ontario Provincial Police	No municipal capital assets pertaining to this service		Current service provided by the Ontario Provincial Police		
Protection Services	"Ability to ensure by-laws are being adhered to"	<u>Responsive, equipped</u> and <u>capable</u> by-law enforcement services	Municipal By-Law Enforcement Officers are responsible for enforcing matters such as parking enforcement, property standards, animal control services, and other regulations related to municipal by-laws			Vehicles: 2 electric vehicles		
					Average Condition Rating	Vehicles: 55.96 (Fair)	Vehicles <40: 0%	
				Meet legislative requirements	Number of non-compliance events	Compliant with legislative requirements		
				Minimize complaints	Service requests	Response to service requests		
	"Providing back-up power to key municipally-owned buildings in case of emergency"	<u>Responsive</u> and <u>capable</u> generators located at all water distribution facilities (water treatment plant, water tower, booster pumping station), pollution control plant, medical clinic, fire hall, town hall, MacKay hall and public works garage	Ontario Regulation 380/04 establishes the minimum standards for emergency management programs required by municipalities and provincial ministries and supports the requirement in the Emergency Management and Civil Protection Act for mandatory emergency management programs			Machinery & Equipment: generators		
		Machinery & Equipment: 40+		Average Condition Rating	Machinery & Equipment: 50.83 (Fair)	Machinery & Equipment <40: 0%		
		Meet legislative requirements		Number of non-compliance events	Compliant with legislative requirements			
		Follow basic generator maintenance program		Number of non-compliance events	Meeting generator maintenance requirements			
		Minimize complaints		Service requests	Response to service requests			
	"Ability to ensure the Ontario Building Code rules and regulations are being adhered to"	<u>Responsive, equipped</u> and <u>capable</u> building inspection services	The Building Department reviews all building plans to ensure compliance with the Ontario Building Code. Additionally, the Building Department processes and administers building and development applications for the Town of Goderich and inspects all ongoing construction for compliance with the Building Code			Vehicles: 1 electric vehicle Machinery & Equipment: building furniture		
		Vehicles: 40+ Machinery & Equipment: 40+		Average Condition Rating	Vehicles: 70.24 (Good) Machinery & Equipment: 33.67 (Poor)	Vehicles <40: 0% Machinery & Equipment <40: 100%	Machinery & Equipment: \$6,905	TOTAL: \$6,905
		Minimize complaints		Service requests	Response to service requests			

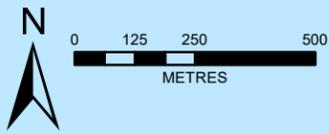
Recreation and Cultural Services	<p>"Recreation facilities to meet the demands of the community and are available and accessible for community functions"</p>	<p><u>Sustainable</u> quantity and quality of recreation facilities and community halls</p>	<p>The Maitland Recreation Centre, Memorial Arena & Community Centre and Bannister Park are owned and operated by the Town of Goderich, while recreational programming is provided by the Goderich Huron YMCA. The Maitland Recreation Centre contains a single ice pad arena, public pool, gymnasium, fitness centre and community space. Memorial Arena & Community Centre contains space that can be utilized by service groups or rented for large community events, equipped with a kitchen facility. Bannister Park contains one hard ball diamond, two soft ball diamonds, a soccer field, skate park, playground and pavilion with washroom facilities</p>			<p>Buildings: 3 structures (with associated roof and mechanical assets, including two elevators)</p> <p>Land Improvements: electrical, entrance features/signs, fencing and gates, park lights, parking lots, recreational skate park, sports field amenities</p> <p>Machinery & Equipment: building furniture, computer equipment/software, facilities equipment, grounds, ice resurfacers, kitchen/canteen equipment, off road vehicles, operating equipment, playground equipment, recreation equipment, rink boards/flooring/glass, technical equipment</p> <p>Linear Network: PVC Sanitary Main, PVC Storm Main, PVC Watermain</p>		
	<p><u>Maitland Recreation Centre</u> Buildings: 40+ Land Improvements: 40+ Machinery & Equipment: 40+ Sanitary Network: 40+ Storm Network: 40+ Water Network: 40+</p>	<p>Average Condition Rating</p>	<p><u>Maitland Recreation Centre</u> Buildings: 10.92 (V Poor) Land Improvements: 88.63 (V Good) Machinery & Equipment: 41.14 (Fair) Sanitary Network: 94.60 (V Good) Storm Network: 73.02 (Good) Water Network: 78.42 (Good)</p>	<p><u>Maitland Recreation Centre</u> Buildings <40: 28% Land Improvements <40: 0% Machinery & Equipment <40: 62% Sanitary Network: 0% Storm Network: 0% Water Network: 0%</p>	<p><u>Maitland Recreation Centre</u> Buildings: \$6,232,839 Machinery & Equipment: \$838,953</p>			
	<p><u>Memorial Arena & Community Centre</u> Buildings: 40+ Machinery & Equipment: 40+</p>	<p>Average Condition Rating</p>	<p><u>Memorial Arena & Community Centre</u> Buildings: 21.97 (Poor) Machinery & Equipment: 16.47 (V Poor)</p>	<p><u>Memorial Arena & Community Centre</u> Buildings <40: 99.7% Machinery & Equipment <40: 75%</p>	<p><u>Memorial Arena & Community Centre</u> Buildings: \$4,045,930 Machinery & Equipment: \$424,442</p>			
	<p><u>Bannister Park</u> Buildings: 40+ Land Improvements: 40+ Machinery & Equipment: 40+</p>	<p>Average Condition Rating</p>	<p><u>Bannister Park</u> Buildings: 84.80 (V Good) Land Improvements: 78.56 (Good) Machinery & Equipment: 69.58 (Good)</p>	<p><u>Bannister Park</u> Buildings <40: 0% Land Improvements <40: 0% Machinery & Equipment <40: 0%</p>	<p>TOTAL: \$7,071,792</p>			
	<p>Meet membership and enrollment requirements</p>	<p>Future consideration of an additional ice pad based on need</p>	<p>Facility capacity utilized</p>	<p>Facility capacity utilized; membership and enrollment of programs</p>				
	<p>Follow preventative maintenance policy and basic facility maintenance program</p>	<p>Number of non-compliance events</p>	<p>Meeting preventative maintenance policy and facility maintenance requirements</p>					
	<p>Minimize complaints</p>	<p>Service requests</p>	<p>Response to service requests</p>					
	<p>"Municipally-owned parks that are clean, safe and accessible, with playgrounds and green space"</p>	<p><u>Sustainable</u> quantity and quality of municipal parks</p>	<p>The Town of Goderich Parks Department maintains all pavilions, public washroom facilities, waterfront assets (i.e., boardwalk, wooden staircases), public parks and greenspaces (i.e., grass cutting, landscaping, tree pruning and garbage collection). Additionally, the Parks Department is responsible for planting and ongoing seasonal maintenance of all municipal flower beds, hanging baskets and planters. The Parks Supervisor is responsible for regulatory inspections of all municipally-owned playground equipment</p>			<p>Buildings: 17 structures (with associated roof and mechanical assets)</p> <p>Land Improvements: archways and pillars, driveways/walkways/pedestrian bridges, electrical, entrance features/signs, fencing and gates, parking lots, recreational courts, splash pad, sports field amenities, walls and concrete structures</p> <p>Vehicles: nine pickup trucks</p> <p>Machinery & Equipment: grounds, off road vehicles, operating equipment, playground equipment, recreation equipment, outdoor rink flooring</p>		

		<p>Bingham Park: 40+ Cannon Park: 40+ Columbus Park: 40+ Courthouse Park: 40+ Delbar Park: 40+ Dutch Park: 40+ Gaol Bank Lions Lookout: 40+ Gloucester Park: 40+ Harbour Park: 40+ Krohmer Park: 40+ Lakeside Park: 40+ Lighthouse Park: 40+ Main Beach Park: 40+ Rotary Cove Park: 40+ Sunset Park: 40+ Taylor Morrison Park: 40+ Victoria Park: 40+ Water Tower Park: 40+ Waterworks Park: 40+ Young Park: 40+</p> <p>Buildings: 40+ Land Improvements: 40+ Vehicles: 40+ Machinery & Equipment: 40+</p> <p>Provide 1 park per 1,000 residents</p> <p>Follow playground inspection program</p> <p>Minimize complaints</p>		<p>Average Condition Rating</p> <p>Average Condition Rating</p> <p>Number of parks per 1,000 residents</p> <p>Number of non-compliance events</p> <p>Number of service requests</p>	<p>Bingham Park: 0 (V Poor) Cannon Park: 0 (V Poor) Columbus Park: 60.84 (Good) Courthouse Park: 61.27 (Good) Delbar Park: 0 (Very Poor) Dutch Park: 61.67 (Good) Gaol Bank Lions Lookout: 61.67 (Good) Gloucester Park: 0 (V Poor) Harbour Park: 56.21 (Fair) Krohmer Park: 9.63 (V Poor) Lakeside Park: 6.02 (V Poor) Lighthouse Park: 51.52 (Fair) Main Beach Park: 59.17 (Fair) Rotary Cove Park: 60.66 (Good) Sunset Park: 0 (V Poor) Taylor Morrison Park: 0 (V Poor) Victoria Park: 59.87 (Fair) Water Tower Park: 3.54 (V Poor) Waterworks Park: 58.23 (Fair) Young Park: 27.22 (Poor)</p> <p>Buildings: 74.18 (Good) Land Improvements: 53.94 (Fair) Vehicles: 24.18 (Poor) Machinery & Equipment: 26.32 (Poor)</p> <p>Approximately 3 parks per 1,000 residents</p> <p>Compliant with playground inspection program and legislative</p> <p>Response to service requests</p>	<p>Bingham Park <40: 100% Cannon Park <40: 100% Columbus Park <40: 42% Courthouse Park <40: 2% Delbar Park <40: 100% Dutch Park <40: 0% Gaol Bank Lions Lookout <40: 0% Gloucester Park <40: 100% Harbour Park <40: 3% Krohmer Park <40: 100% Lakeside Park <40: 100% Lighthouse Park <40: 0.4% Main Beach Park <40: 2% Rotary Cove Park <40: 14% Sunset Park <40: 100% Taylor Morrison Park <40: 100% Victoria Park <40: 16% Water Tower Park <40: 100% Waterworks Park <40: 0% Young Park <40: 17%</p> <p>Buildings <40: 0% Land Improvements <40: 36% Vehicles <40: 67% Machinery & Equipment <40: 59%</p>	<p>Bingham Park: \$2,034 Cannon Park: \$2,034 Columbus Park: \$179,074 Courthouse Park: \$29,996 Delbar Park: \$8,221</p> <p>Gloucester Park: \$1,017 Harbour Park: \$37,688 Krohmer Park: \$20,041 Lakeside Park: \$25,901 Lighthouse Park: \$2,034 Main Beach Park: \$17,371 Rotary Cove Park: \$125,331 Sunset Park: \$2,034 Taylor Morrison Park: \$1,017 Victoria Park: \$140,163 Water Tower Park: \$6,263</p> <p>Young Park: \$5,514</p> <p>TOTAL: \$605,733</p> <p>Land Improvements: \$59,285 Vehicles: \$280,247 Machinery & Equipment: \$197,978</p> <p>TOTAL: \$537,510</p>
	"Library facility that is accessible to the community"	<p><u>Safe and functional</u> facility</p> <p>The Library facility is owned and maintained by the Town of Goderich, while Library services are provided by the County of Huron</p> <p>Buildings: 40+</p> <p>Follow facility maintenance program</p> <p>Minimize complaints</p>		<p>Average Condition Rating</p> <p>Number of non-compliance events</p> <p>Number of service requests</p>	<p>Buildings: 1 structure (with associated roof and mechanical assets, including an elevator)</p> <p>Buildings: 65.34 (Good)</p> <p>Meeting facility maintenance requirements</p> <p>Response to service requests</p>	<p>Buildings <40: 0%</p>	
Health Services	"Access to health services to enhance quality of life"	<p><u>Available, quality</u> health care</p> <p>The Maitland Valley Medical Clinic facility is owned and maintained by the Town of Goderich, while medical services are provided by the Maitland Valley Family Health Team</p> <p>Buildings: 40+ Land Improvements: 40+ Machinery & Equipment: 40+ Linear Network: 40+</p> <p>Meet legislative requirements</p> <p>Follow facility maintenance program</p> <p>Minimize complaints</p>		<p>Average Condition Rating</p> <p>Number of non-compliance events</p> <p>Number of non-compliance events</p> <p>Service requests</p>	<p>Buildings: 1 structure (with associated roof and mechanical assets)</p> <p>Land Improvements: parking lot</p> <p>Machinery & Equipment: building furniture, computer server, generator, medical equipment, operating equipment, and technical equipment</p> <p>Linear Network: PVC Sanitary Main, PVC Storm Main, Streetlights</p> <p>Buildings: 72.18 (Good) Land Improvements: 28.06 (Poor) Machinery & Equipment: 27.52 (Poor) Linear Network: 75.75 (Good)</p> <p>Meeting legislative requirements</p> <p>Meeting facility maintenance requirements</p> <p>Response to service requests</p>	<p>Buildings <40: 0% Land Improvements <40: 100% Machinery & Equipment <40: 74% Linear Network <40: 10%</p>	<p>Land Improvements: \$183,377 Machinery & Equipment: \$190,353 Linear Network: \$82,558</p> <p>TOTAL: \$456,288</p>

	"Availability of a well-maintained and private site for interment needs"	<u>Available, well-maintained</u> cemetery	The Maitland Cemetery is owned and operated by the Town of Goderich. The Parks Department is responsible for full burials and cremations at the site, maintaining the mausoleum and columbariums, as well as general ground maintenance (i.e., tree trimming and landscaping) while lawn maintenance is completed by an outside contractor. The Town of Goderich owns the cemetery house and fulfills landlord responsibilities for the rental property			Buildings: 7 structures (with associated roof and mechanical assets) Vehicles: pickup truck Machinery & Equipment: tractor loader and backhoe Linear Network: water lines and taps		
Social Services	"Availability of child care services so parents/caregivers can pursue careers"	<u>Available, safe</u> child care service location	The Goderich Municipal Child Care Centre is owned, operated and maintained by Town of Goderich staff. The Centre offers programs for infants (3 months to 18 months), toddlers (18 months to 2.5 years) and pre-schoolers (2.5 years to 5 years). The Centre is equipped with a full kitchen for meal preparation, and three outdoor playground areas		Average Condition Rating	Buildings: 62.67 (Good) Vehicles: 0 (V Poor) Machinery & Equipment: 0 (V Poor) Linear Network: 50.83 (Fair)	Buildings <40: 0% Vehicles <40: 100% Machinery & Equipment <40: 100% Linear Network <40: 0%	Vehicles: \$56,408 Machinery & Equipment: \$65,076 TOTAL: \$121,484
Social Services	"Accessible and well-maintained community hall for senior citizen activities and functions"	<u>Available, accessible</u> location for senior citizens	The MacKay Centre for Seniors is a non-profit organization offering social, recreational and volunteer opportunities for older adults in Goderich and the surrounding area. The Town of Goderich owns and maintains MacKay Hall, where programming is provided		Average Condition Rating	Buildings: 5 structures (with associated roof and mechanical assets) Land Improvements: fencing and gates Machinery & Equipment: building furniture, children's furniture, kitchen/canteen equipment, office furniture, playground equipment		
Planning and Development Services	"Land made ready for development, as needed"	<u>Available</u> serviced land for development	The Town of Goderich provides land use planning services in conjunction with the County of Huron Planning and Development Department. Assets within this service function relate to properties owned by the Town of Goderich and rented by a third party, as well as tourism-related equipment		Average Condition Rating	Buildings: 1 structure (with associated roof and mechanical assets, including an elevator) Buildings: 70.38 (Good) Meeting facility maintenance requirements	Buildings <40: 0%	Machinery & Equipment: \$121,097 TOTAL: \$121,097
Planning and Development Services					Average Condition Rating	Buildings: 6 structures (with associated roof and mechanical assets) Land Improvements: fencing and gates, leasehold improvements Machinery & Equipment: tourism trailer and 3 dual electric vehicle charging stations		Buildings: \$12,979 Land Improvements: \$33,201 Machinery & Equipment: \$3,973 TOTAL: \$50,153
					Service requests	Response to service requests		

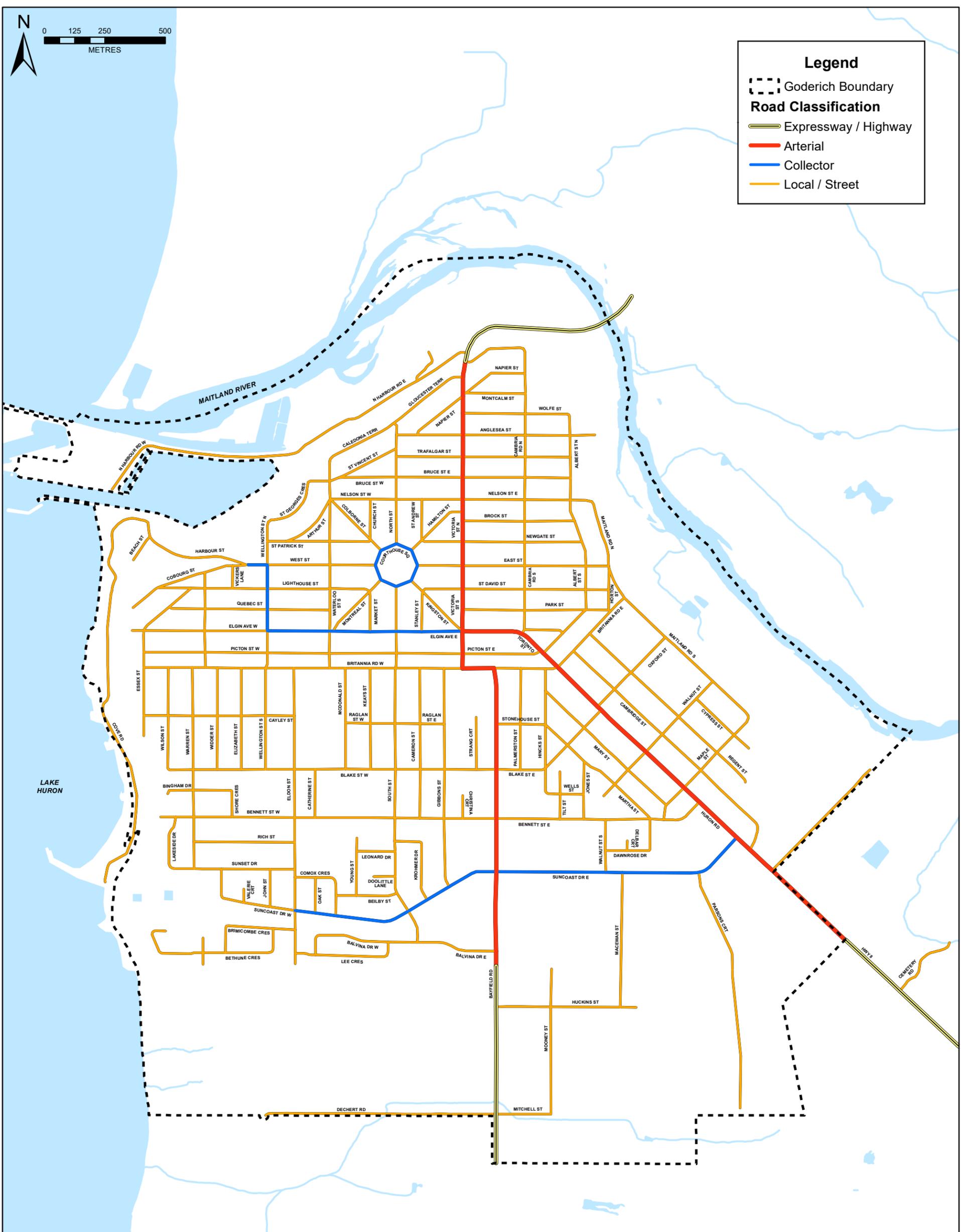
General Government Services	"A Town Hall that allows attendance at Council meetings, the payment of taxes, as well as a public space where questions about the municipality can be directed"	Safe and functional equipment and facilities	Many municipal services are provided at Town Hall, some of which include payment of taxes, lottery licensing, purchases of waterfront parking passes, issuing of marriage licenses, purchases of cemetery plots and renewal of dog tags. The general public are able to have inquiries addressed by municipal staff from the following departments: Clerk's office, Treasury, Operations and Environmental Services, Economic Development, Building and Planning, as well as Municipal By-Law Enforcement. Additionally, the Council Chambers are located within Town Hall. Goderich Town Council consists of one Mayor, one Deputy Mayor and five Councillors			Buildings: 4 structures (with associated roof and mechanical assets, including an elevator)		
						Vehicles: 1 pickup truck		
						Machinery & Equipment: building and office furniture, computer equipment/software, operating equipment, and technical equipment		
		Buildings: 40+ Vehicles: 40+ Machinery & Equipment: 40+		Average Condition Rating	Buildings: 64.93 (Good) Vehicles: 84.52 (V Good) Machinery & Equipment: 14.12 (V Poor)	Buildings <40: 0% Vehicles <40: 0% Machinery & Equipment <40: 50%	Machinery & Equipment: \$218,048	
		Follow facility maintenance program		Number of non-compliance events	Meeting facility maintenance requirements		TOTAL: \$218,048	
		Minimize complaints		Service requests	Response to service requests			

8.2 APPENDIX B: Level of Service Maps



Legend

- Goderich Boundary
- Road Classification**
- Expressway / Highway
- Arterial
- Collector
- Local / Street



Road Network	km	Lane-km	Lane-km per Town area (km/sq km)	Lane-km per household
Arterial (Connecting Link)	4.74	18.96	2.14	0.0057
Collector	3.65	7.19	0.81	0.0022
Local / Street	61.71	123.41	13.93	0.0371
	70.1	149.56	16.88	1.91

Average PCI	66
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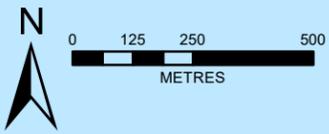
ASSET MANAGEMENT PLAN
 MUNICIPAL ROAD NETWORK
 TOWN OF GODERICH

DATE
AUG. 2022

PROJECT No.
22184

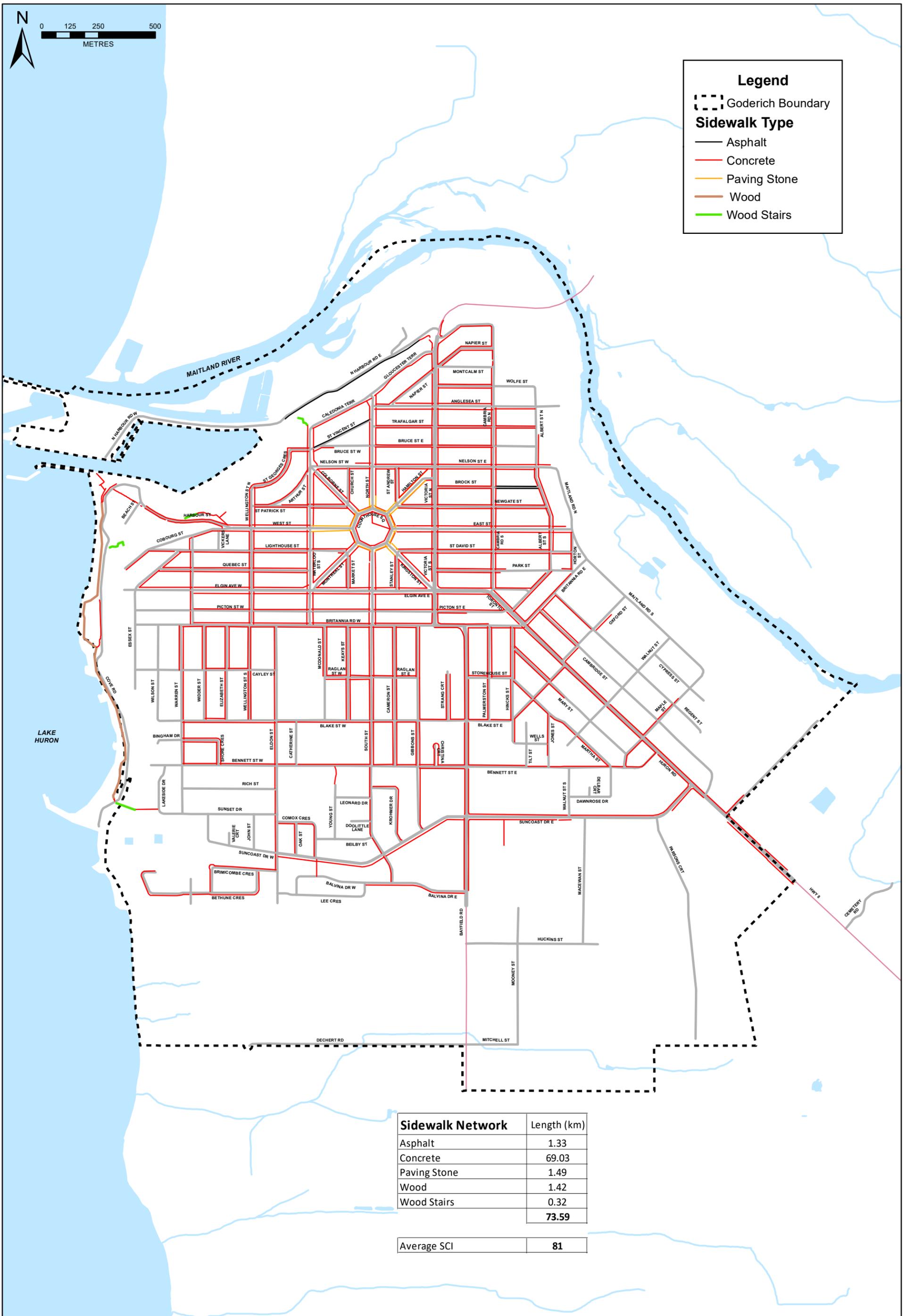
SCALE
1:15,000

FIGURE No.
B1



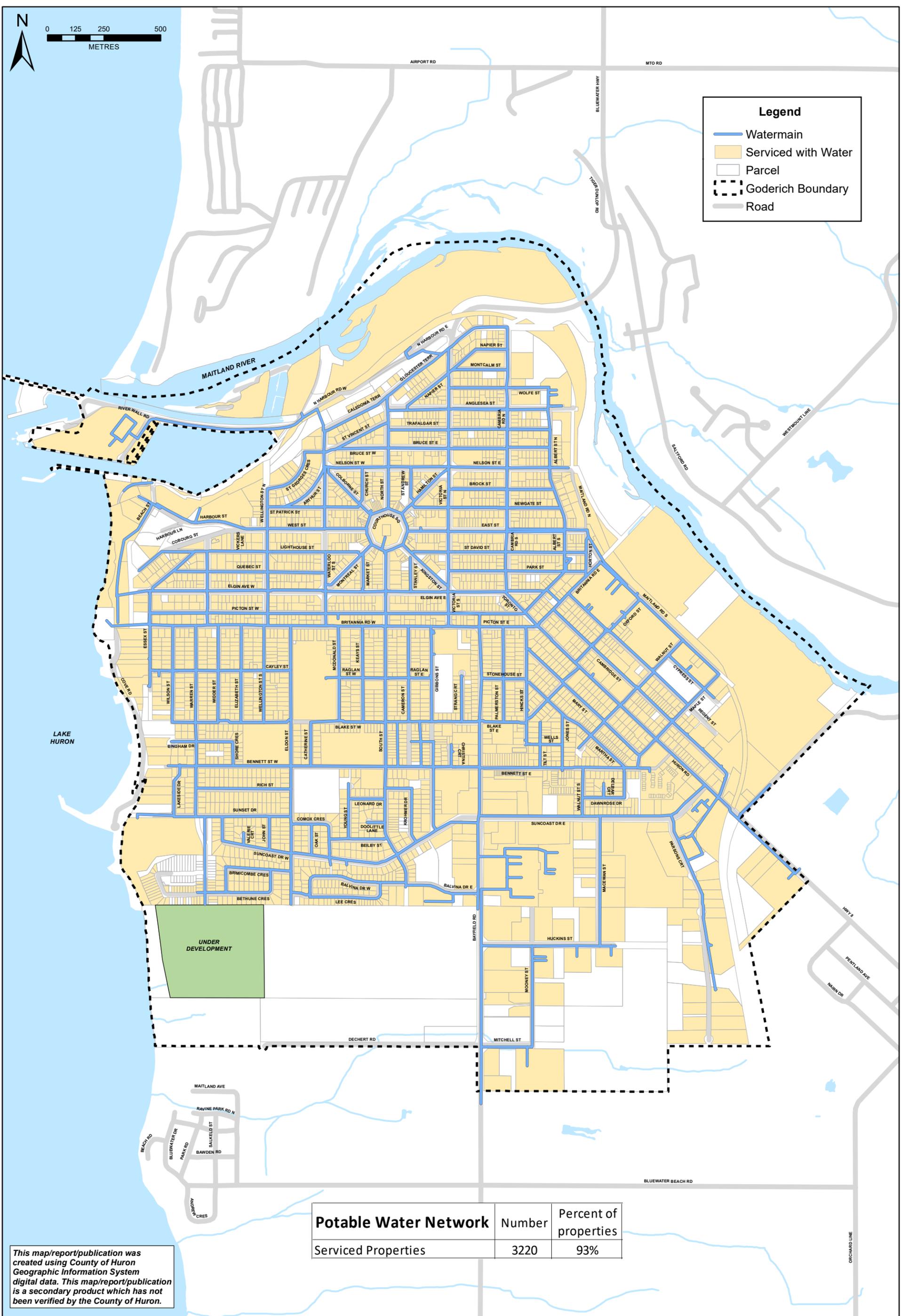
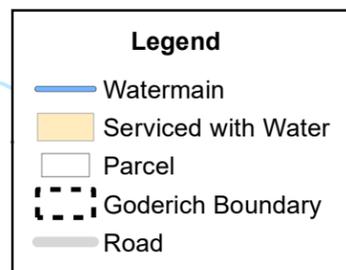
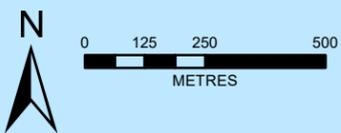
Legend

Goderich Boundary
Sidewalk Type
 Asphalt
 Concrete
 Paving Stone
 Wood
 Wood Stairs



Sidewalk Network	Length (km)
Asphalt	1.33
Concrete	69.03
Paving Stone	1.49
Wood	1.42
Wood Stairs	0.32
	73.59

Average SCI	81
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Potable Water Network	Number	Percent of properties
Serviced Properties	3220	93%

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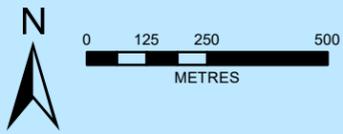
ASSET MANAGEMENT PLAN
 MUNICIPAL WATER DISTRIBUTION SYSTEM
 AND SERVICED PROPERTIES
TOWN OF GODERICH

DATE
AUG. 2022

PROJECT No.
22184

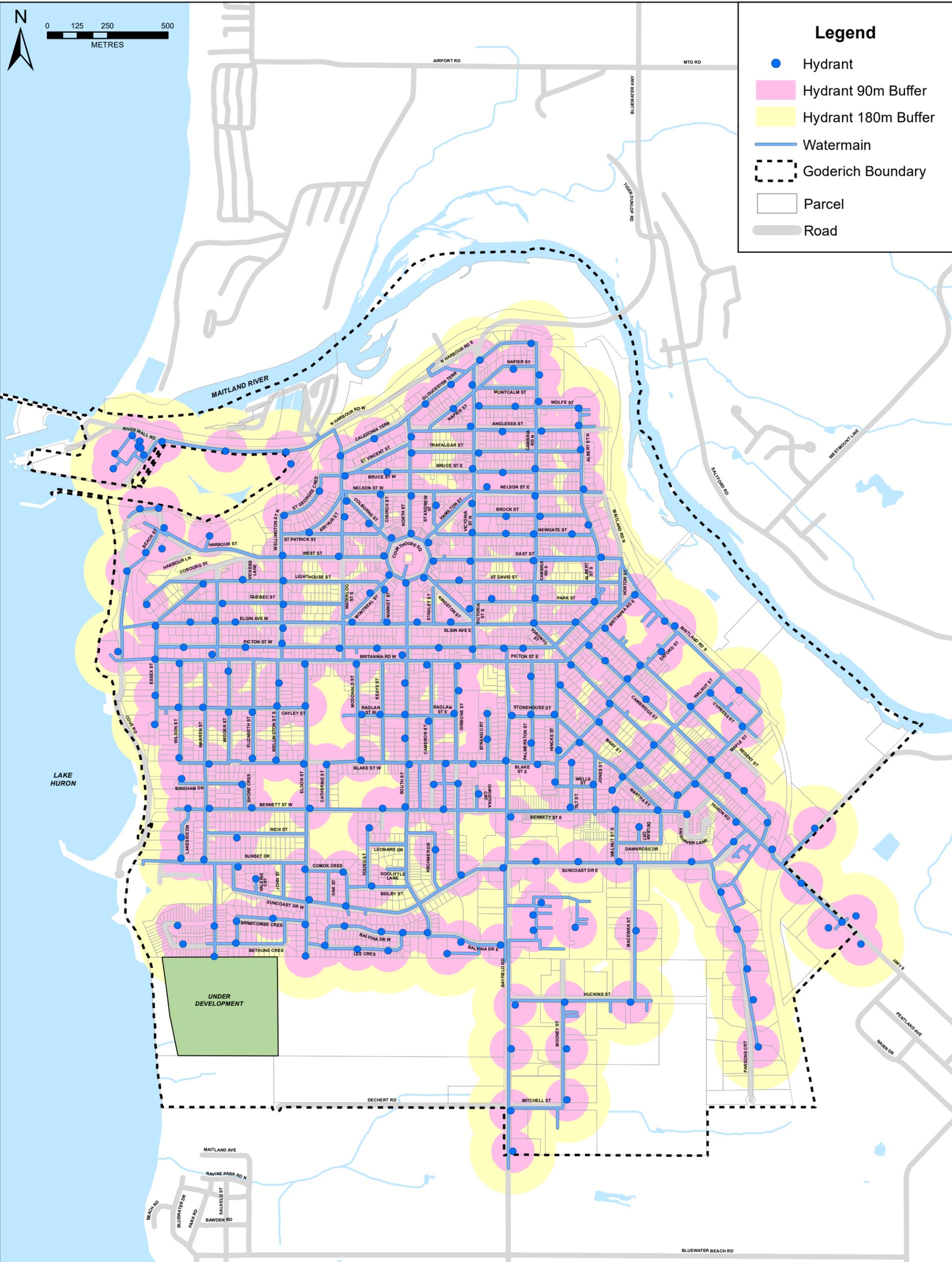
SCALE
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FIGURE No.
B3



Legend

- Hydrant
- Hydrant 90m Buffer
- Hydrant 180m Buffer
- Watermain
- Goderich Boundary
- Parcel
- Road



Fire Protection	Number	Percent of properties
Properties within 90m of a hydrant	2872	83%
Properties within >90m to 180m of a hydrant	565	16%
Properties within >180m from a hydrant	23	0.7%

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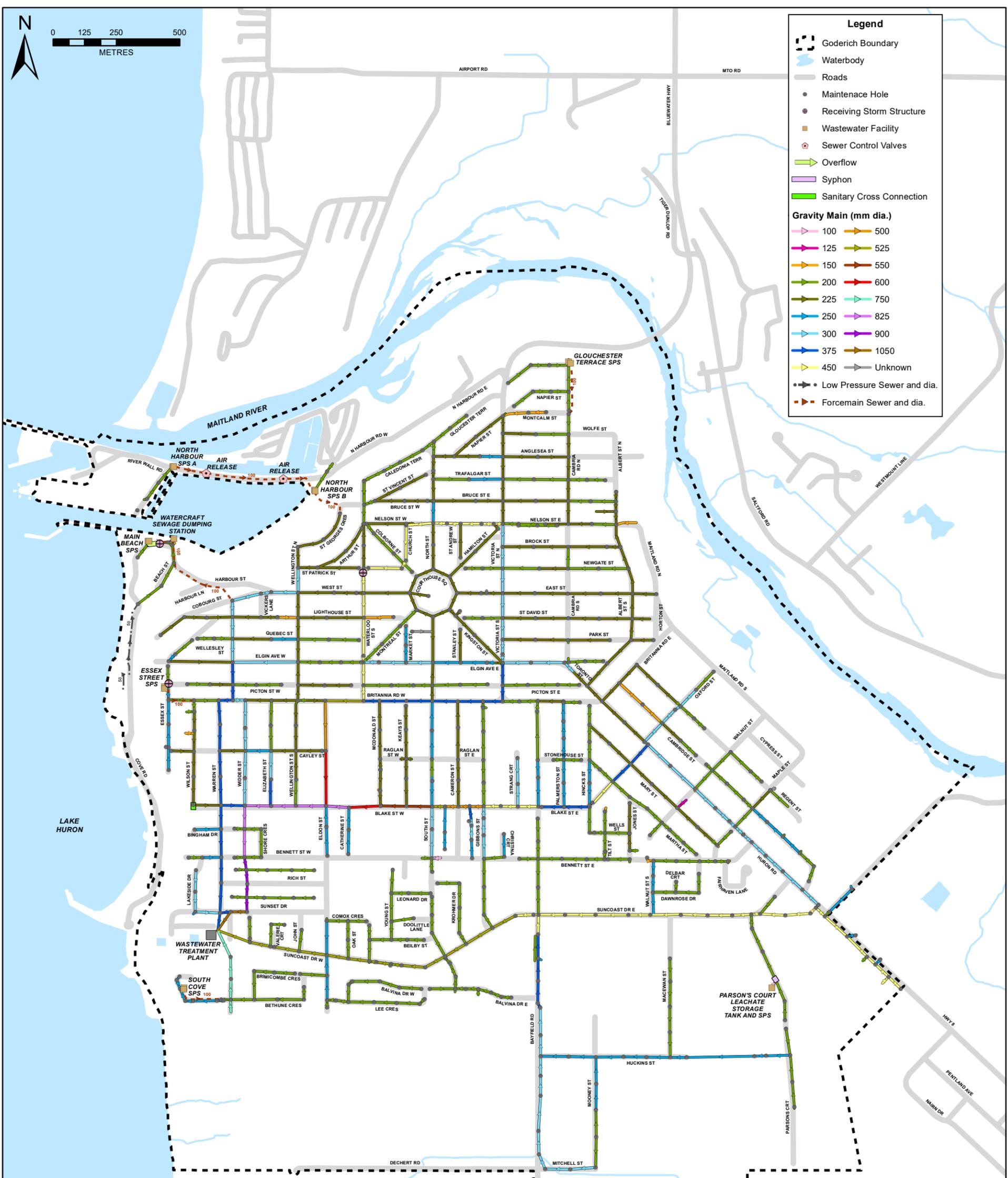
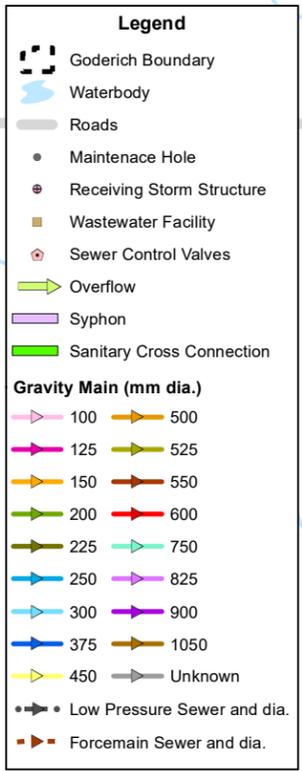
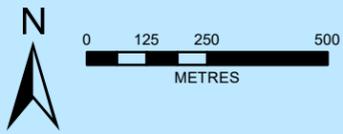
ASSET MANAGEMENT PLAN
 MUNICIPAL WATER DISTRIBUTION SYSTEM
 FIRE FLOW
 TOWN OF GODERICH

DATE
AUG. 2022

SCALE
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PROJECT No.
22184

FIGURE No.
B4



Sanitary Sewer Network			
Type	Diameter (mm)	Number of Segments	Length (m)
Gravity Main	Unknown	5	128
Gravity Main	100	4	113
Gravity Main	125	2	51
Gravity Main	150	26	868
Gravity Main	200	299	20247
Gravity Main	225	176	16675
Gravity Main	250	79	5839
Gravity Main	300	65	5597
Gravity Main	375	42	2819
Gravity Main	450	44	3344
Gravity Main	500	4	352
Gravity Main	525	17	1449
Gravity Main	550	2	204
Gravity Main	600	2	342
Gravity Main	750	4	334
Gravity Main	825	6	616
Gravity Main	900	4	216
Gravity Main	1050	2	154
		783	59.3 km
Low Pressure	100	1	29
Low Pressure	50	4	370
Forcemain	100	11	1785

Sanitary Sewer Cross Connections									
Connection Number	Location	Diameter (mm)	Number of Segments	Length (m)	Sanitary Source	Receiving Stormwater Structure			Receiving Waterbody
						Description	Easting	Northing	
4	Blake St W & Wilson	225	1	10	MH 51	380mm storm sewer west of 2-MH-87	441789	4842734	Lake Huron
12	St. Patrick & Waterloo	525	1	2	MH 171	5-MH-39	442459	4843664	Maitland River

Sanitary Sewer Overflow Locations								
Diameter (mm)	Number of Segments	Length (m)	Source	Receiving Stormwater Structure			Receiving Watercourse	
				Description	Easting	Northing		
200	1	55	Main Beach SPS	4-MH-3	441656	4843779	Lake Huron	
200	1	9	Gloucester Terrace SPS	Railside ditch	443270	4844507	Maitland River	
200	1	20	Essex Street SPS	3-MH-13	441692	4843224	Lake Huron	

Sanitary Sewage Facilities				
Name	Asset ID	ECA	Northing	Easting
Main Beach SPS		1705-SWV1HN	4843788	441609
North Harbour SPS A		3-1097-94-006	4844084	441707
North Harbour SPS B		3-1097-94-006	4843990	442267
Gloucester Terrace SPS		3-0767-79-006	4844498	443271
South Cove SPS		3-0063-98-006	4842020	441751
Essex Street SPS		5933-ABHQHQ	4843213	441675
Parson's Court Leachate Storage Tank and SPS		6867-AK8L9F	4842020	444074



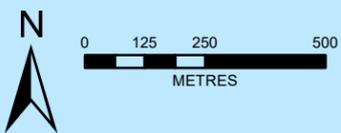
ASSET MANAGEMENT PLAN
MUNICIPAL WASTEWATER COLLECTION SYSTEM
TOWN OF GODERICH

DATE
AUG. 2022

PROJECT No.
22184

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FIGURE No.
B5



Legend

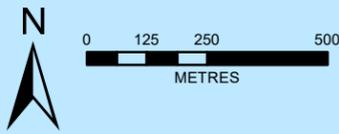
- Sanitary Gravity Main
- Low Pressure Sewer
- Forcemain Sewer
- Serviced by Sanitary Sewer
- Goderich Boundary
- Parcel
- Road



UNDER DEVELOPMENT

Sanitary Network	Number	Percent of properties
Serviced Properties	3191	92%

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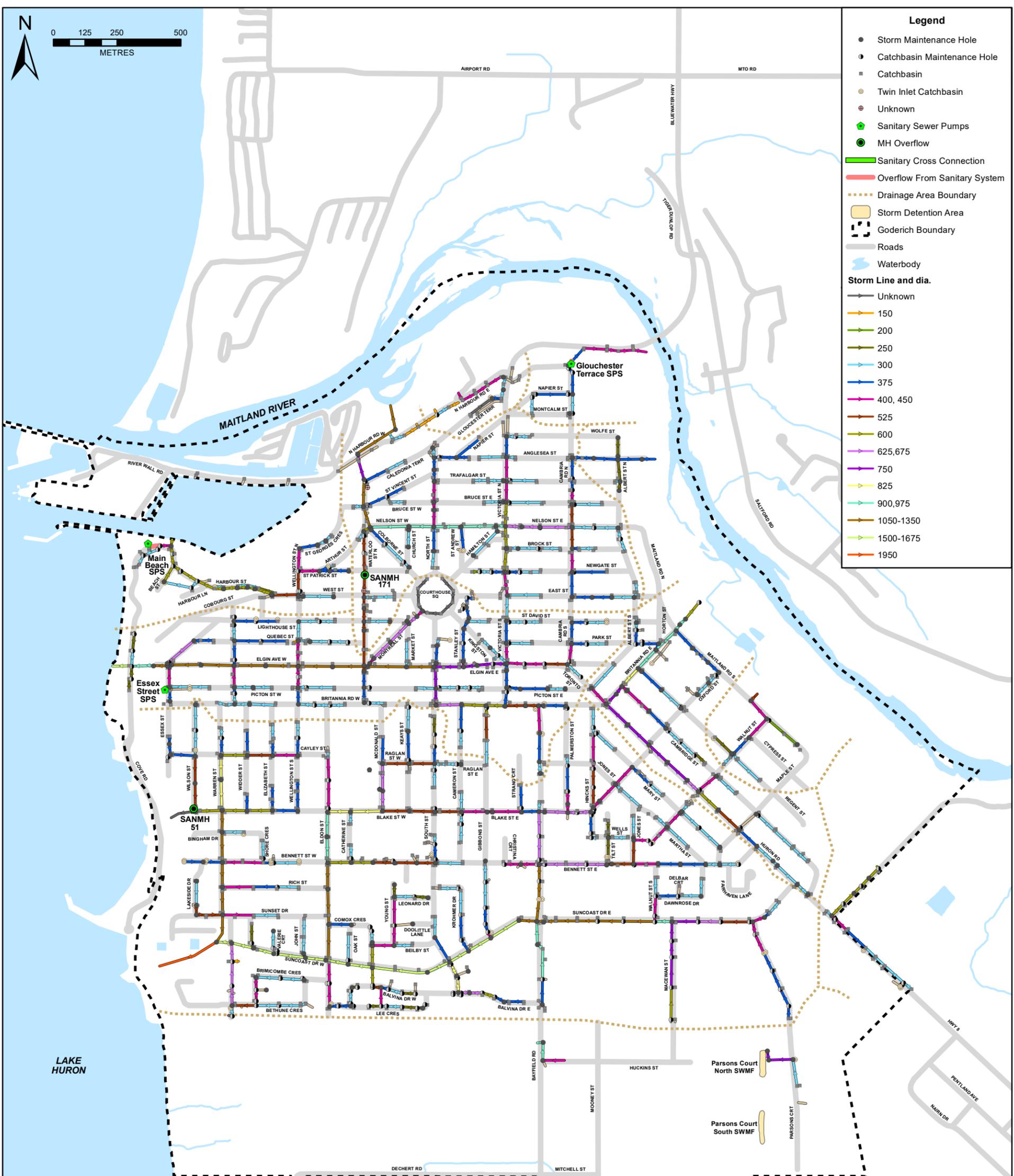


Legend

- Storm Maintenance Hole
- Catchbasin Maintenance Hole
- Catchbasin
- ⊙ Twin Inlet Catchbasin
- ⊕ Unknown
- 🏠 Sanitary Sewer Pumps
- 🟢 MH Overflow
- 🟢 Sanitary Cross Connection
- 🔴 Overflow From Sanitary System
- ⬢ Drainage Area Boundary
- 🟡 Storm Detention Area
- ⬢ Goderich Boundary
- 🛣️ Roads
- 🌊 Waterbody

Storm Line and dia.

- Unknown
- 150
- 200
- 250
- 300
- 375
- 400, 450
- 525
- 600
- 625,675
- 750
- 825
- 900,975
- 1050-1350
- 1500-1675
- 1950



Diameter (mm)	Number of Segments	Length (m)
150	15	550
200	30	731
250	27	1124
300	321	14399
350	1	74
375	145	8438
400	1	23
450	111	6005
500	1	5
525	49	3357
600	40	2561
675	32	1904
750	22	1572
825	8	652
900	15	945
975	9	540
1050	20	1801
1200	16	1310
1350	2	70
1500	12	874
1650	4	437
1950	1	245
882		47.6 km

Connection Number	Location	Diameter (mm)	Number of Segments	Length (m)	Sanitary Source	Receiving Stormwater Structure		Receiving Waterbody
						Description	Easting	
4	Blake St W & Wilson	225	1	10	MH 51	380mm storm sewer west of 2-MH-87	441789 4842734	Lake Huron
12	St. Patrick & Waterloo	525	1	2	MH 171	5-MH-39	442459 4843664	Maitland River

Diameter (mm)	Number of Segments	Length (m)	Source	Receiving Stormwater Structure		Receiving Watercourse
				Description	Easting	
200	1	55	Main Beach SPS	4-MH-3	441656 4843779	Lake Huron
200	1	9	Gloucester Terrace SPS	Railside ditch	443270 4844507	Maitland River
200	1	20	Essex Street SPS	3-MH-13	441692 4843224	Lake Huron

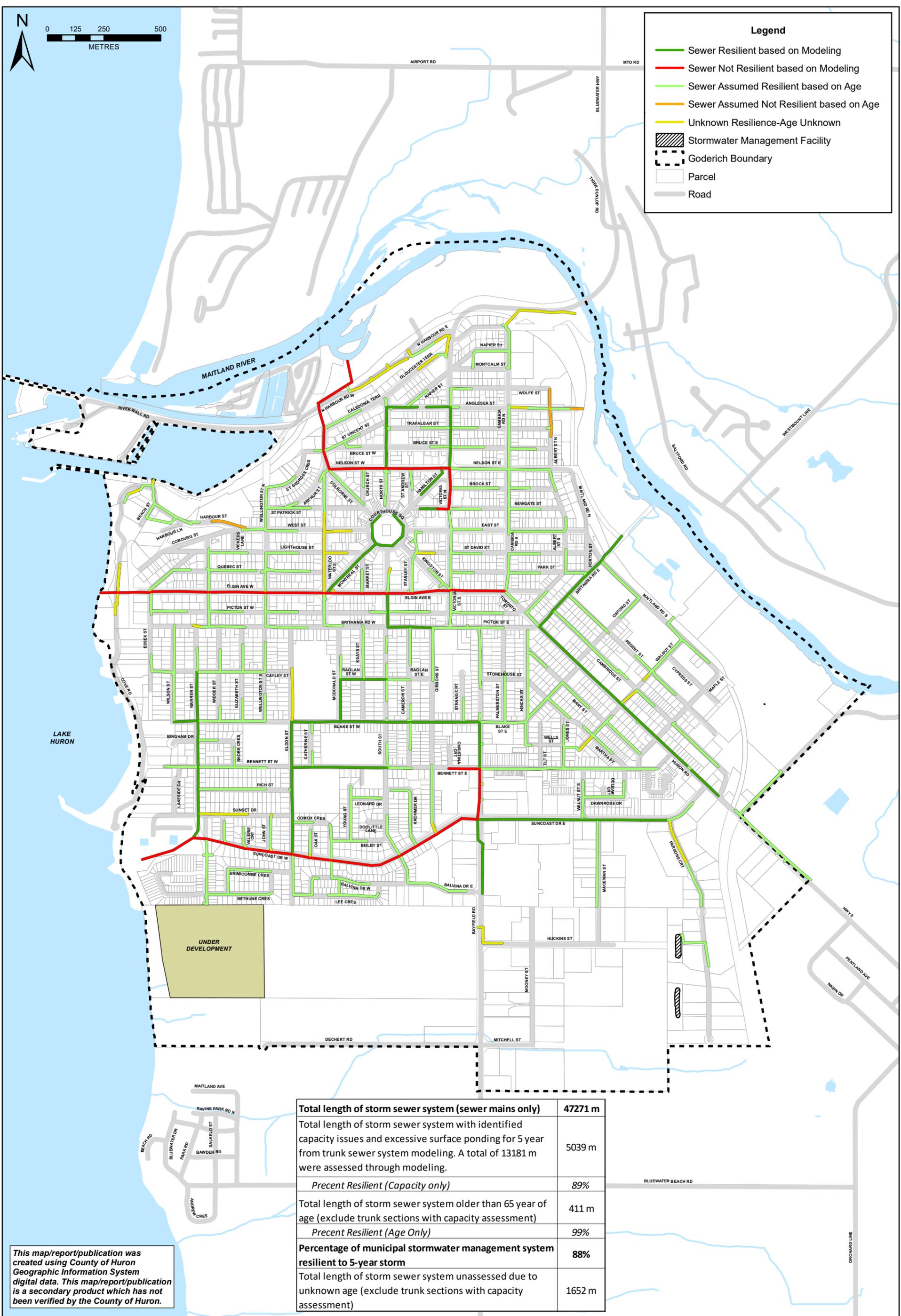
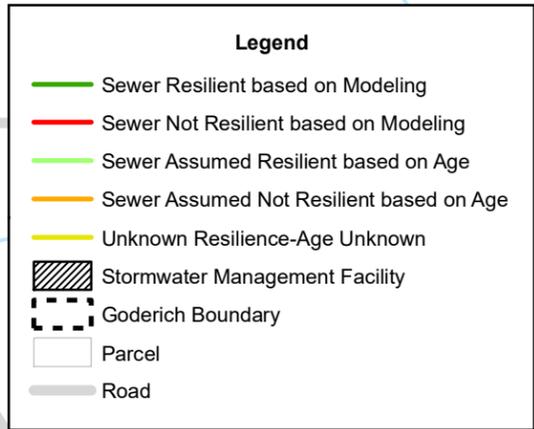
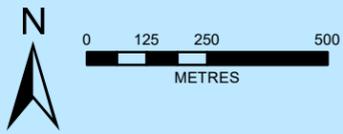
Name	Asset ID	ECA	Easting	Northing
Parsons Court North SWMF		9179-9SYSEB	444023	4841740
Parsons Court South SWMF		9179-9SYSEB	444018	4841490

UTM NAD83 Zone 17N



ASSET MANAGEMENT PLAN
 MUNICIPAL STORMWATER MANAGEMENT SYSTEM
 TOWN OF GODERICH

DATE AUG. 2022	PROJECT No. 22184
SCALE 1:15,000	FIGURE No. B7



Total length of storm sewer system (sewer mains only)	47271 m
Total length of storm sewer system with identified capacity issues and excessive surface ponding for 5 year from trunk sewer system modeling. A total of 13181 m were assessed through modeling.	5039 m
<i>Percent Resilient (Capacity only)</i>	89%
Total length of storm sewer system older than 65 year of age (exclude trunk sections with capacity assessment)	411 m
<i>Percent Resilient (Age Only)</i>	99%
Percentage of municipal stormwater management system resilient to 5-year storm	88%
Total length of storm sewer system unassessed due to unknown age (exclude trunk sections with capacity assessment)	1652 m

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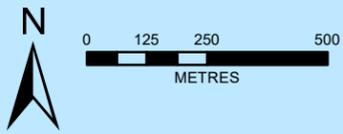
ASSET MANAGEMENT PLAN
MUNICIPAL STORMWATER MANAGEMENT SYSTEM
5-YEAR STORM RESILIENCE
TOWN OF GODERICH

DATE
AUG. 2022

SCALE
1:15,000

PROJECT No.
22184

FIGURE No.
B8



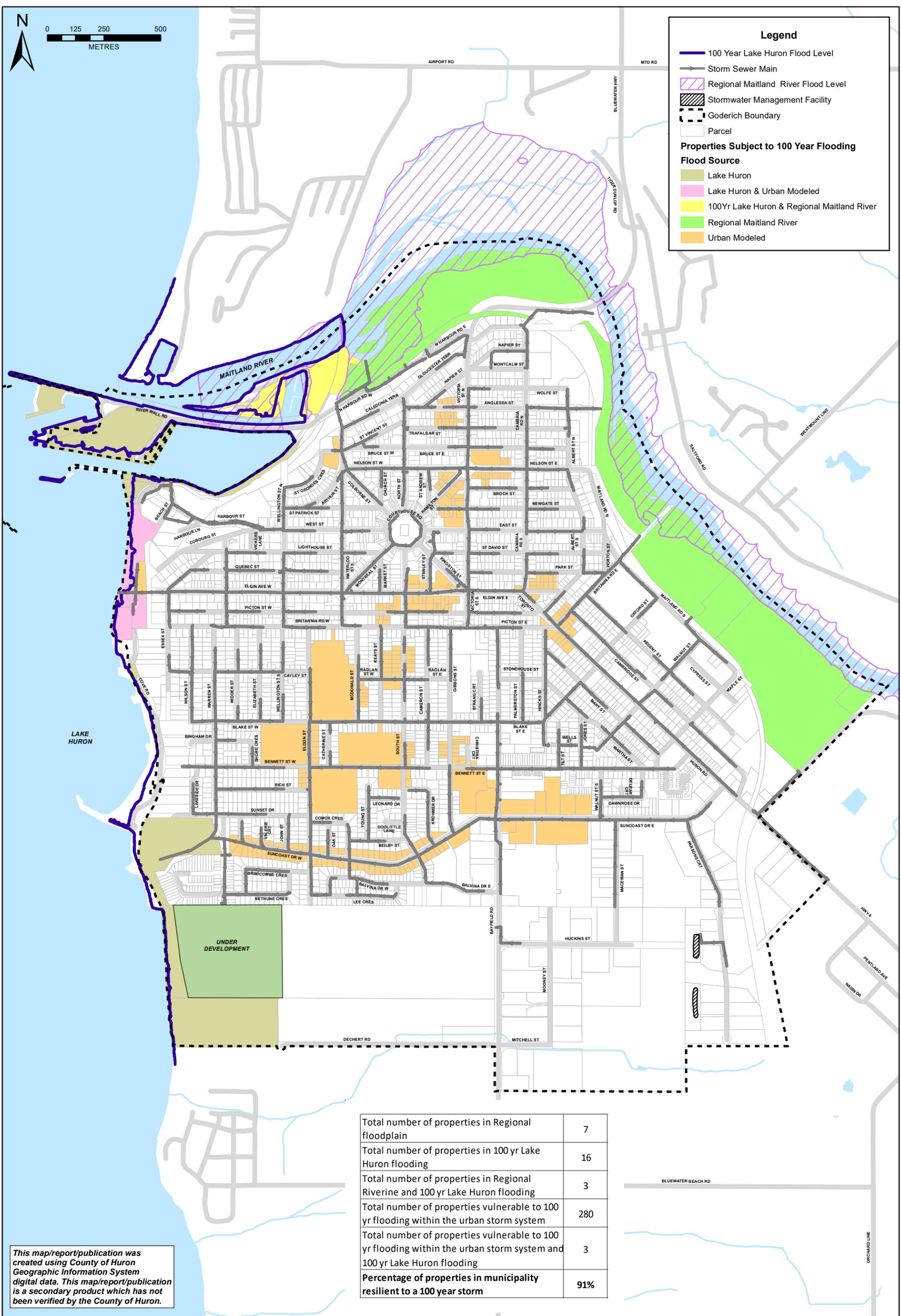
Legend

- 100 Year Lake Huron Flood Level
- Storm Sewer Main
- Regional Maitland River Flood Level
- Stormwater Management Facility
- Goderich Boundary
- Parcel

Properties Subject to 100 Year Flooding

Flood Source

- Lake Huron
- Lake Huron & Urban Modeled
- 100Yr Lake Huron & Regional Maitland River
- Regional Maitland River
- Urban Modeled



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Total number of properties in Regional floodplain	7
Total number of properties in 100 yr Lake Huron flooding	16
Total number of properties in Regional Riverine and 100 yr Lake Huron flooding	3
Total number of properties vulnerable to 100 yr flooding within the urban storm system	280
Total number of properties vulnerable to 100 yr flooding within the urban storm system and 100 yr Lake Huron flooding	3
Percentage of properties in municipality resilient to a 100 year storm	91%



ASSET MANAGEMENT PLAN
MUNICIPAL STORMWATER MANAGEMENT SYSTEM
100-YEAR STORM RESILIENCE
TOWN OF GODERICH

DATE
AUG. 2022

SCALE
1:15,000

PROJECT No.
22184

FIGURE No.
B9

8.3 APPENDIX C: Ten Year Capital Plan

TEN YEAR ASSET NETWORK FORECAST

	Backlog	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Road Network	26,748	884,000	1,821,625	4,320,313	7,140,000	5,734,259	5,899,000	3,316,513	1,824,949	2,767,234	2,680,522	5,366,190
Water Network	5,488,550	255,248	-	-	150,822	-	555,632	-	422,676	-	-	149,012
Sanitary Network	2,343,558	1,971,035	74,612	77,417	489,951	416,548	445,708	133,462	501,019	-	400,620.00	88,688.00
Storm Network	10,282	-	-	-	-	-	-	-	-	-	-	-
Facilities Network	928,267	-	30,754	-	-	4,898,247	22,504	-	-	485,726	594,237	20,601
Land Improv. Network	250,560	-	22,216	-	-	-	-	212,418	-	-	328,885	-
Fleet Network	928,297	296,507	-	314,851	89,938	-	240,805	342,848	489,925	475,029	314,851	567,633
Mach & Equip Network	1,411,506	259,649	303,283	359,218	103,699	456,503	432,665	237,460	204,791	513,659	205,504	571,492
Total	11,387,768	3,666,439	2,252,490	5,071,799	7,974,410	11,505,557	7,596,314	4,242,701	3,443,360	4,241,648	4,524,619	6,763,616

TEN YEAR ROAD NETWORK FORECAST

	Backlog	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Road Network												
Roads - Semi-Urban	-	-	-	-	969,000	1,156,000	-	-	-	-	-	493,000
Roads - Urban Collector	-	-	-	297,500	1,224,000	1,173,000	170,000	-	-	-	-	-
Roads - Urban Local H.C.	-	884,000	969,000	3,672,000	4,233,000	2,431,000	5,066,000	3,145,000	850,000	2,737,000	1,751,000	4,785,949
Roads - Urban Local L.C.	-	-	765,000	340,000	714,000	952,000	663,000	153,000	938,500	-	333,500	-
Roads - L.C. Bituminous	-	-	-	-	-	-	-	-	-	-	-	-
Sidewalks – Asphalt	15,935	-	-	-	-	11,446	-	-	-	11,446	-	-
Sidewalks – Concrete	-	-	-	-	-	-	-	7,700	-	7,975	-	11,550
Sidewalks - Paving Stone	-	-	-	-	-	-	-	-	-	-	-	-
Sidewalks – Wood	-	-	67,532	-	-	-	-	-	36,449	-	-	-
Streetlights	-	-	20,093	-	-	-	-	-	-	-	116,545	-
Traffic Signals	10,813	-	-	10,813	-	10,813	-	10,813	-	10,813	479,477	75,691
Total	26,748	884,000	1,821,625	4,320,313	7,140,000	5,734,259	5,899,000	3,316,513	1,824,949	2,767,234	2,680,522	5,366,190

TEN YEAR WATER NETWORK FORECAST

	Backlog	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Water Network												
Booster Pumping Station - Electrical Controls	-	-	-	-	-	-	-	-	-	-	-	114,542
Booster Pumping Station - Mechanical Pumps, etc.	-	-	-	-	6,939	-	123,398	-	-	-	-	-
Water Treatment Plant - Electrical Controls	163,997	239,291	-	-	127,489	-	174,818	-	-	-	-	-
Water Treatment Plant - Electrical Power	-	-	-	-	-	-	-	-	401,769	-	-	-
Water Treatment Plant - Mechanical Equipment	91,353	15,957	-	-	16,394	-	-	-	20,907	-	-	9,890
Water Treatment Plant - Mechanical Pumps, etc.	-	-	-	-	-	-	257,416	-	-	-	-	24,580
Watermain - Cast Iron	5,233,200	-	-	-	-	-	-	-	-	-	-	-
Total	5,488,550	255,248	-	-	150,822	-	555,632	-	422,676	-	-	149,012

TEN YEAR SANITARY NETWORK FORECAST

	Backlog	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Sanitary Network												
Sewage Pumping Station - Electrical Controls	-	-	-	-	-	-	-	10,737	-	-	-	-
Pollution Control Plant - Electrical Controls	-	70,950	-	-	-	25,694	70,950	52,420	-	-	25,694	70,950
Pollution Control Plant - Electrical Power	-	17,738	-	-	-	-	17,738	-	-	-	-	17,738
Pollution Control Plant - Mechanical Equipment	-	-	-	-	-	390,854	-	-	-	-	-	-
Pollution Control Plant - Mechanical Pumps, etc.	18,329	-	74,612	13,787	-	-	-	70,305	-	-	-	-
Sanitary Sewer - Asbestos Cement	173,536	367,292	-	-	-	-	357,020	-	-	-	90,712	-
Sanitary Sewer – Concrete	-	335,240	-	-	-	-	-	-	-	-	-	-
Sanitary Sewer – PVC	-	404,243	-	-	-	-	-	-	312,250	-	-	-
Sanitary Sewer - Vitrified Clay	2,151,693	775,572	-	63,630	489,951	-	-	-	188,769	-	284,214	-
Total	2,343,558	1,971,035	74,612	77,417	489,951	416,548	445,708	133,462	501,019	-	400,620	88,688

TEN YEAR STORM NETWORK FORECAST

	Backlog	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Storm Network												
Storm Sewers – Concrete	10,282.00	-	-	-	-	-	-	-	-	-	-	-
Total	10,282.00	-										

TEN YEAR FACILITIES NETWORK FORECAST

	Backlog	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Facilities Network												
Structure	-	-	-	-	-	-	9,525	-	-	-	15,163	-
Roof	-	-	-	-	-	637,178	-	-	-	485,726	9,360	-
Mechanical	876,355	-	30,754	-	-	4,159,117	12,979	-	-	-	569,714	20,601
Elevators	51,912	-	-	-	-	101,952	-	-	-	-	-	-
Total	928,267	-	30,754	-	-	4,898,247	22,504	-	-	485,726	594,237	20,601

TEN YEAR LAND IMPROVEMENTS NETWORK FORECAST

	Backlog	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Land improvements Network												
Driveways, Walkways, Sidewalks, Pedestrian Bridges	-	-	22,216	-	-	-	-	34,532	-	-	-	-
Fencing and Gates	47,225	-	-	-	-	-	-	162,558	-	-	-	-
Guard Rails	90,941	-	-	-	-	-	-	-	-	-	-	-
Parking Lots	112,394	-	-	-	-	-	-	15,328	-	-	183,377	-
Sports Field Amenities	-	-	-	-	-	-	-	-	-	-	145,508	-
Total	250,560	-	22,216	-	-	-	-	212,418	-	-	328,885	-

TEN YEAR FLEET NETWORK FORECAST

	Backlog	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Fleet Network												
Street Sweeper	253,824	-	-	-	-	-	-	-	-	-	-	253,824
Flusher Truck	25,175	-	-	-	-	-	-	-	-	-	-	25,175
Dump Trucks	423,569	-	-	219,614	-	-	-	191,192	259,688	-	219,614	163,881
Pickup Trucks	225,729	39,323	-	95,237	48,824	-	170,296	151,656	230,237	-	95,237	83,639
Cars	-	-	-	-	41,114	-	70,509	-	-	-	-	41,114
Pumper Truck	-	-	-	-	-	-	-	-	-	475,029	-	-
Rescue Truck	-	257,184	-	-	-	-	-	-	-	-	-	-
Total	928,297	296,507	-	314,851	89,938	-	240,805	342,848	489,925	475,029	314,851	567,633

TEN YEAR MACHINERY & EQUIPMENT NETWORK FORECAST

	Backlog	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Machinery & Equipment Network												
Building Furniture	61,375	-	16,451	-	-	-	-	-	-	-	11,197	-
Chairs/Tables	39,761	-	-	-	-	20,476	-	-	-	-	-	-
Children's Furniture	-	-	-	-	-	-	-	-	-	-	557	-
Computer Equipment	51,409	-	-	-	-	-	46,866	-	-	-	-	51,409
Computer Server	51,365	-	-	-	22,469	-	-	-	-	12,006	-	39,359
Facilities Equipment	-	-	-	-	-	-	-	5,837	-	-	-	-
Fire Fighting Equipment - Misc	171,933	-	16,106	-	-	-	31,281	38,392	-	-	-	102,188
Grounds	7,884	15,592	-	-	-	-	46,061	29,996	-	-	-	-
Ice Resurfacers	103,607	-	-	-	-	-	-	-	-	-	-	-
Kitchen/Canteen Equipment	34,067	188,371	-	-	-	8,966	-	64,022	-	-	-	-
Medical Equipment	67,215	3,302	-	-	22,530	-	-	-	-	-	-	39,881
Off Road Vehicles	145,521	42,881	194,132	341,713	-	51,328	231,495	26,188	166,388	384,748	51,328	105,070
Office Furniture	17,355	9,503	16,569	-	-	-	-	-	20,271	-	-	-
Operating Equipment	411,133	-	-	15,311	8,003	97,642	72,508	8,832	-	63,916	87,264	221,409
Playground Equipment	33,881	-	-	2,194	-	97,116	-	-	-	-	-	-
Recreation Equipment	12,176	-	-	-	32,635	60,457	-	-	17,597	34,927	55,158	12,176
Rink Boards/Rink Glass	-	-	60,025	-	-	-	-	-	-	-	-	-
Rink Flooring - Temporary	-	-	-	-	-	-	-	64,193	-	-	-	-
Snowblower	-	-	-	-	-	120,518	-	-	-	-	-	-
Technical Equipment	198,851	-	-	-	18,062	-	4,454	-	535	18,062	-	-
Trailers	3,973	-	-	-	-	-	-	-	-	-	-	-
Total	1,411,506	259,649	303,283	359,218	103,699	456,503	432,665	237,460	204,791	513,659	205,504	571,492