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Staff Report

Corporate & Financial Services

Report To:	**COW- Admin, Corp and Finance, SI, Comm. Services**
Meeting Date:	October 27, 2025
Report Number:	CFS.25.022
Title:	Asset Management Plan Phase 1 – Proposed Levels of Service (LOS) for Water, Wastewater and Road Assets – O. Reg 588/17
Prepared by:	Vicky Bouwman, Asset Management Specialist and Stephanie McPhie, Senior GIS Specialist

A. Recommendations

THAT Council receive Staff Report CFS.25.022, entitled "Asset Management Plan Phase 1 – Proposed Levels of Service (LOS) for Water, Wastewater and Road Assets – O. Reg 588/17";

AND THAT Council approves the staff recommendation to set the "Current LOS" as the proposed LOSs for water, wastewater and road assets, recognizing it as the most sustainable, achievable and affordable choice.

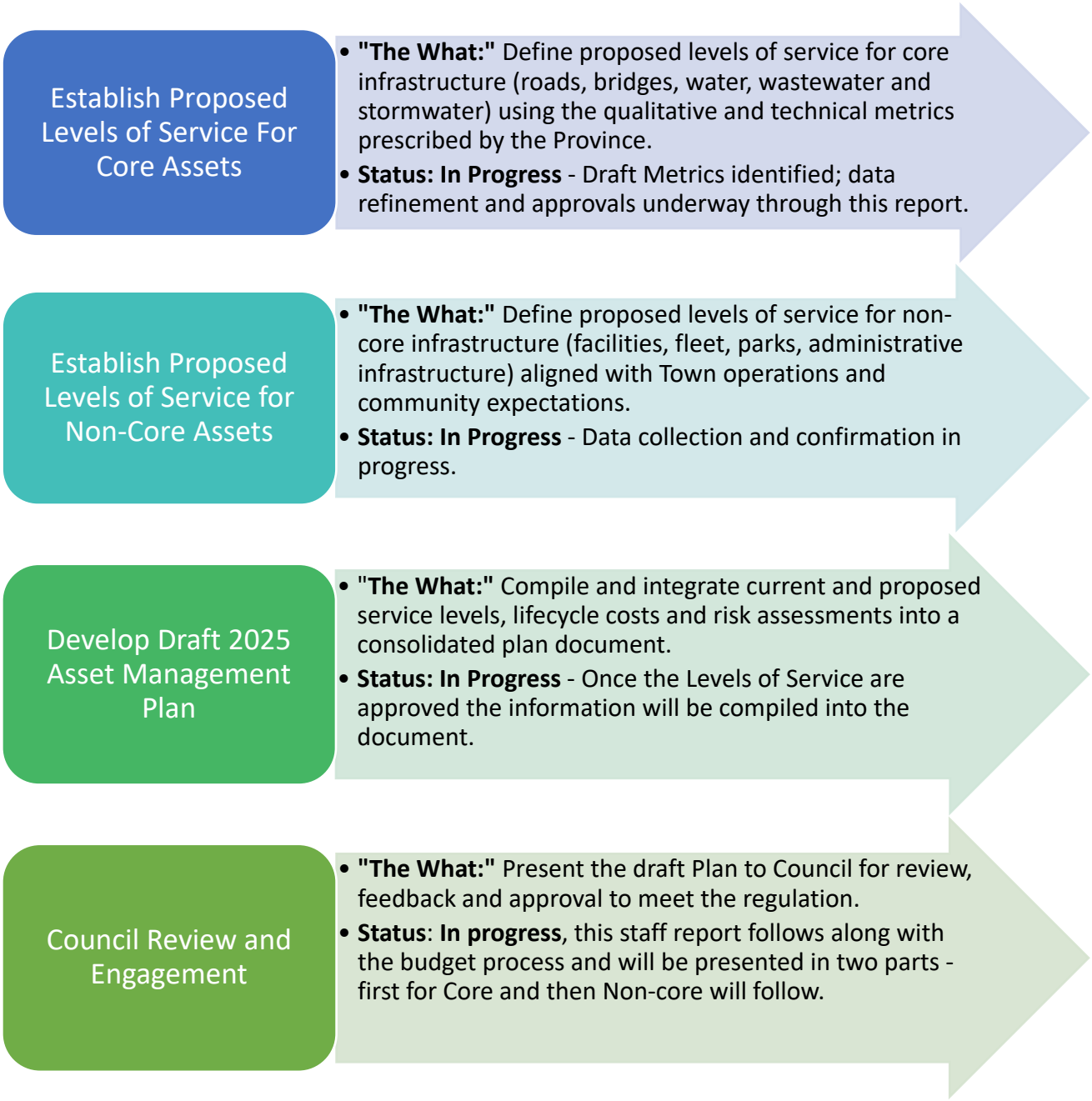
B. Overview

Ontario Regulation 588/17 (O. Reg 588/17), Asset Management Planning for Municipal Infrastructure requires that the Town identify proposed LOS for all assets by July 1, 2025. Town staff are diligently working to have an approved Asset Management Plan (AMP) in place by the end of 2025. The Asset Management Team has developed proposed LOS scenarios for the Town's assets with cost implications. Recommendations provided by staff are designed to be sustainable, achievable, and affordable for members of Council to consider while setting the Town's proposed LOS.

Process to complete the 2025 Asset Management Plan

To meet the **O. Reg. 588/17: Asset Management Planning for Municipal Infrastructure**, the Town is in progress completing the steps laid out below in Figure 1:

Figure 1



C. Background

The methodology used to establish the proposed LOS was to define the three proposed LOS scenarios, build a model for each scenario and compare the financial implications and impact on asset conditions. Each scenario was evaluated, and staff have recommended the preferred scenario for each asset class.

Low LOS - Represents a scenario in which asset lifecycle maintenance is limited to minimal or reactive actions, with no planned rehabilitation, replacement, or upgrades, depending on the asset.

Current LOS - Represents a choice to maintain the existing lifecycle maintenance activities and follows the current asset replacement plan as outlined in the proposed 2026 capital budget over the next ten years.

Enhanced LOS - Represents a strategic decision to increase the frequency of preventive maintenance, enhancing the existing capital plan by prioritizing the replacement of assets currently in very poor, poor, or fair condition to improve overall asset performance.

The Town follows the five-point condition rating scale established by the Canadian Infrastructure Report Card. Assets are assigned a condition score, which then is translated into one of the five condition indexes.

Table 1: Condition Rating Criteria

CONDITION	RANGE	DESCRIPTION
Very Good	80 – 100	The asset is in excellent condition, fully functional, and well maintained with no noticeable defects or damage.
Good	60 – 79	The asset meets service expectations and is fully operational, with only minor defects that do not affect functionality or performance.
Fair	40 – 59	The asset functions as intended but shows moderate deficiencies that may require minor repairs or maintenance.
Poor	21 – 39	The asset has significant deficiencies and is approaching the end of its service life. Its condition is below standard and requires major repairs or upgrades.
Very Poor	Less than 20	The asset has reached the end of its expected service life and is due for replacement. While still operational, it poses an increased risk of service interruptions.
Unknown	NA	The condition of the asset is currently unknown due to insufficient or missing data. Further inspection is required to accurately assess the asset's condition.

O. Reg 588/17 specifies mandatory metrics for the proposed LOS related to core assets, focusing on both community and technical LOSs. Key elements of the community LOS include capacity and use, functionality, quality, and affordability, including more on qualitative aspects. Meanwhile, technical LOS define the metrics for measuring the delivery of services to residents, emphasizing quantitative assessments.

Road Assets:

Table 2 presents the Paving Condition Index (PCI) scores aligned with the PCI standard scale and the corresponding Town's condition index. To ensure consistency in the asset conditions, road conditions have been simplified from the standard pavement condition index rating to the five-category rating system. This approach makes it easier to assess and present road conditions in a consistent way.

Table 2: Road PCI Condition Index

PCI SCORE	PCI STANDARD INDEX	TOWN'S CONDITION INDEX
86-100	Good	Very Good
71-85	Satisfactory	Good
56-70	Fair	Fair
41-55	Poor	Poor
26-40	Very Poor	Very Poor
11-25	Serious	
0-10	Failed	

D. Analysis

Water Assets

Water Linear Asset Metrics:

Table 3 summarizes the Community and Technical LOS for the water assets. This information is a mandatory requirement under O. Reg 588/17 and includes both the current and proposed ten-year performance levels. Staff propose maintaining the current performance levels.

Table 3: Proposed Community and Technical LOS for Water Linear Asset

Community LOS	Technical LOS		
	Description	Current Performance (2024/2025)	Proposed Performance (2035)
Service connections and available fire flow	Percentage of properties connected to the Municipal Water System.	75%	⟷

Community LOS	Technical LOS		
	Description	Current Performance (2024/2025)	Proposed Performance (2035)
A total of 7,114 properties are connected to the water system. **A total of 9,223 properties have fire flow.**			No Change 6 % (595 units) of existing units and vacant lots can connect to the system without exceeding capacity levels.
	Percentage of properties where the fire flow is available.	82%	⟷ No Change
Boil water advisories and service interruptions	The number of connection-per days per year where a boil water advisory notice is in place compared to the total number of properties connected to the municipal water system.	0 connection-days per 7,114 properties	⟷ No Change Maintain a zero water advisory notices for the next ten years.
	The number of connection-days per year due to water main breaks compared to the total number of properties connected to the municipal water system.	0 connection-days per 7,114 properties	⟷ No Change Maintain no unconnected days due to watermain breaks.

Water Assets LOS Scenarios:

The water service is subject to strict provincial regulations to ensure the Town delivers safe and reliable drinking water to its residents. All operations managing the water system must remain fully compliant with these regulatory requirements. Staff are not recommending any reduction in service levels for water assets.

The condition of water linear assets naturally deteriorates over time and different materials have varying lifespans. Typically, this deterioration follows a downward linear trend, with the risk of failure increasing as the infrastructure ages. As shown in the charts below, the current

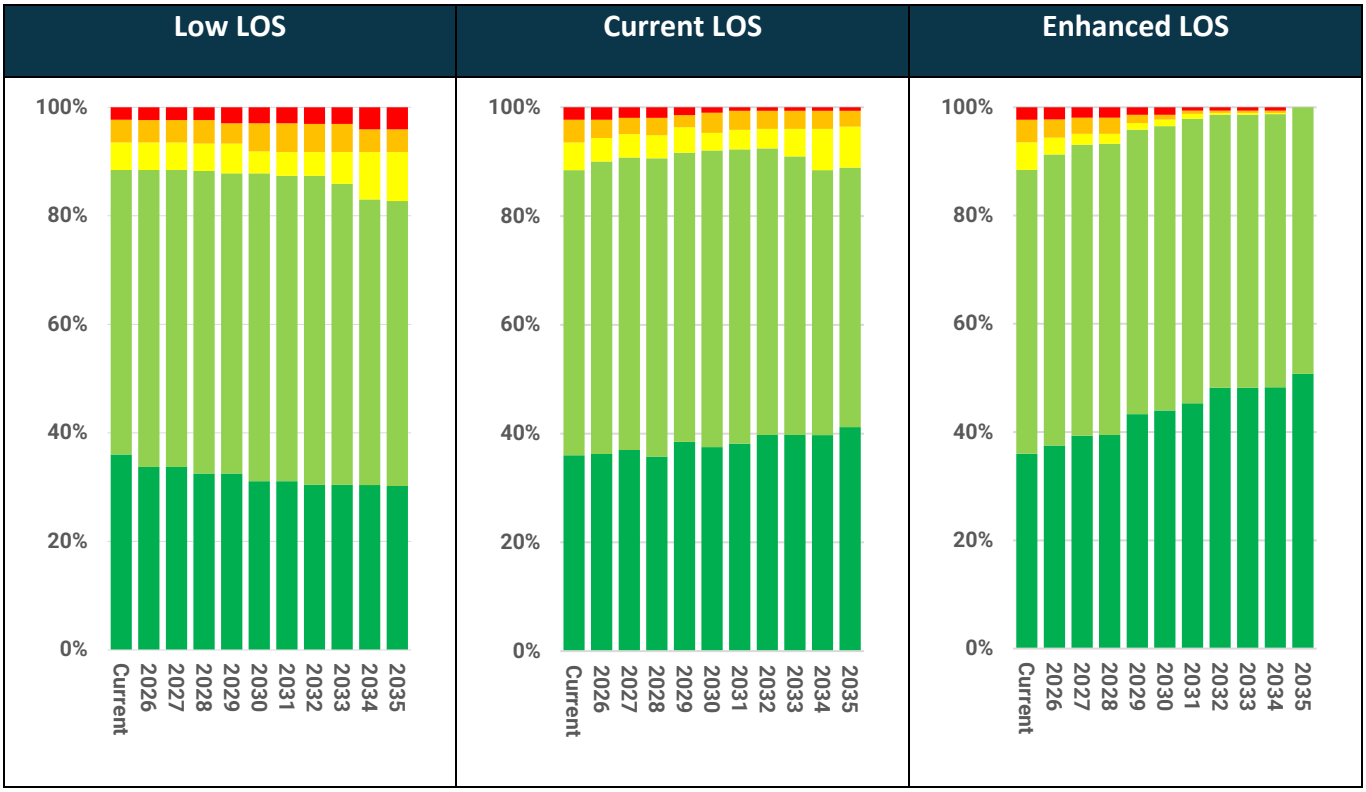
condition of the water linear assets is generally good. However, under the "Low LOS" scenario, conditions are projected to continue declining. In contrast, other scenarios show improvements in service quality.

Staff recommend **maintaining the current LOS for water assets** as it represents the most sustainable, achievable, and affordable option while continuing to meet all provincial regulatory requirements.

The Town's current water system performance is strong, with zero boil water advisories, no service interruptions due to watermain breaks and 82% of properties with available fire flow.

From a financial and lifecycle management perspective, maintaining current service levels provides the best balance between cost, risk, and performance. The Current LOS scenario projects a 2035 condition score of **75 (Good)** at a ten-year cost of $59.9 million, compared to the Enhanced LOS at $73.2 million for a marginal condition improvement to **82 (Very Good)**. The Low LOS scenario, at $38.4 million, results in greater deterioration (condition score 66) and increased risk of service failures. Maintaining current levels avoids unnecessary rate pressures while sustaining good infrastructure condition.

Table 4: Ten-Year Scenario Condition Comparison – Water Linear Assets



Low LOS	Current LOS	Enhanced LOS
Ten-Year Operating Cost **$38M (Not reducing resources)** Ten-Year Replacement Cost **$0** 2035 Forecast Condition Score **66 (Good)** Operational Risk The Town's current **water loss rate**, calculated by comparing the total volume of treated water produced to the volume of water billed to customers, is **37.8% (YTD 2025)**. This figure represents the difference between water entering the distribution system and water that is accounted for through metered consumption and billing. Maintaining low LOS could mean an increase in this loss rate.	Ten-Year Operating Cost **$38M** Ten-Year Replacement Cost **$21 M** 2035 Forecast Condition Score **75 (Good)** Operational Risk The Town's current **water loss rate**, calculated by comparing the total volume of treated water produced to the volume of water billed to customers, is **37.8% (YTD 2025)**. This figure represents the difference between water entering the distribution system and water that is accounted for through metered consumption and billing.	Ten-Year Operating Cost **$41M** Ten-Year Replacement Cost **$32 M** 2035 Forecast Condition Score **82 (Very Good)** Operational Risk Affordability of the increased water user rates for minimal improvement in asset condition.

Operations and Maintenance – Water Assets

Operation of water linear assets involves the day-to-day activities required to ensure the water system functions effectively and delivers safe, clean water to users. These lifecycle activities include monitoring water pressure and flow rates and leak detection investigations.

Maintenance of water linear assets refers to the actions taken to preserve condition of the system and maintain its useful life.

- **Preventive maintenance** - activities include flushing cul-de-sacs and dead ends, exercise water valves and flushing hydrants.
- **Corrective maintenance** includes unplanned reactive repairs in response to pipe failures or damage.

Table 5: Lifecycle Activities Comparison - Water Linear Assets

LIFECYCLE ACTIVITIES	LOW LOS	CURRENT LOS	ENHANCED LOS
Flush cul-de-sacs and dead-ends (Maintenance)	Monthly - Legislative	Monthly-Legislative	Weekly
Exercise Valves (Maintenance)	Wait for Failure	As needed	Every 5 years
Hydrant Maintenance (Maintenance)	Annually - Legislative	Annually - Legislation	Every 6 Months
Leak Detection (Operating)	Every 5 years	Every 3 Years	Annually

Table 6: Lifecycle Activities Comparison - Water Equipment

LIFECYCLE ACTIVITIES	LOW LOS	CURRENT LOS	ENHANCED LOS
Intake Pipe Inspection (Operating)	Every 5 years	Annually	Annually
Major Equipment Testing & Inspections (Operating)	Wait for Failure	Monthly/Annually	Monthly/Semi-Annually
Pre-chlorine System (Maintenance)	Wait for Failure	Annually	Monthly/Semi-Annually
Major Equipment Testing and Inspection- Valves & Pumps (Operating & Maintenance)	Wait for Failure	Monthly/Annually	Bi-Weekly/ Semi-Annually
Chemical Application	Wait for Failure	Monthly/Annually	Monthly/Semi-Annually
Major Equipment Membrane (Maintenance)	Monthly/Quarterly	Monthly/Quarterly	Monthly- Using more chemicals and higher cost
Instrumentation- Flow Meters and Turbidity (Maintenance)	Legislative- Calibrations in accordance with manufacturer's instructions - Annually	Monthly/Annually	Weekly/ Semi-Annually
UV Disinfection (Maintenance)	Legislative-In accordance with manufacturer's	Monthly/Annually	Monthly

LIFECYCLE ACTIVITIES	LOW LOS	CURRENT LOS	ENHANCED LOS
	instructions or minimum of Every 3 years		

Wastewater Assets

Wastewater Linear Assets Metrics:

Table 7 summarizes the Community and Technical LOSs for the wastewater assets. This information is a mandatory requirement under O. Reg 588/17 and includes both the current and proposed ten-year performance levels. Staff recommend maintaining the **current LOS for wastewater assets** as it represents the most balanced and financially sustainable option while continuing to ensure environmental protection, regulatory compliance, and public health.

The Town's wastewater system is performing very well, with no effluent violations, no combined sewers, and only 0.03% of connections affected by backups in the past year. These indicators demonstrate strong system performance and compliance with the *Ministry of the Environment, Conservation and Parks (MECP)* regulations, the *Wastewater Systems Effluent Regulations*, and the *Fisheries Act*. The system's design and operation — including strict sewer use bylaws, CCTV inspection programs, and ongoing infiltration and inflow (I&I) studies — have proven effective in maintaining resilience and reliability.

From a financial and asset management perspective, maintaining the current service level preserves good system condition while avoiding the affordability challenges of more aggressive reinvestment. Under the *Current LOS* scenario, a 2035 forecast condition score of 81 (Very Good) is achievable at a ten-year cost of $36 million (operating + replacement). By contrast, the *Enhanced LOS* would require nearly $54 million, a 50% cost increase, for only a marginal improvement to a condition score of 86. The *Low LOS* alternative would defer critical renewal, leading to a condition decline to **76 (Good)** and higher long-term risk.

Operationally, the Town's preventive maintenance schedule — including CCTV inspections every 10 years, bi-annual vibration testing, and annual wet well inspections — reflects a proactive and risk-based approach. These frequencies exceed the minimum required standards while keeping user rates affordable.

Maintaining the current LOS ensures that the Town's wastewater system remains safe, reliable, and environmentally compliant, protecting local watercourses and minimizing service disruptions. It aligns with *O. Reg. 588/17* requirements and supports long-term asset sustainability and financial prudence.

Table 7: Proposed Community and Technical LOS for Wastewater Linear Assets

Community LOS	Technical LOS		
	Description	Current Performance (2024/2025)	Proposed Performance (2035)
Service Connections: **A total of 6,208 properties are connected to the Municipal Wastewater System.**	Percentage of properties connected to the Municipal Wastewater System.	66%	⟷ No Change 6 % (523 units) of existing units and vacant lots can connect to the system without exceeding capacity levels.
Description of how combined sewers in the municipal wastewater system are designed with overflow structures in place which allow overflow during storm events to prevent backups into homes**: The Town does not have any combined sewers.** Description of the frequency and volume of overflows in combined sewers in the municipal wastewater system that occur in habitable areas or beaches**: The Town does not have any combined sewers.** Description of how stormwater can get into sanitary sewers in the municipal wastewater system, causing sewage to overflow into streets or backup into homes: **Stormwater can enter municipal wastewater system though inflows or infiltration causing sewage to overflow into street or backup into homes. Infiltration can occur at poor joints, at leaky or faulty pipes. Inflow**	The number of events per year where combined sewer flow in the municipal wastewater system exceeds system capacity compared to the total number of properties connected to the municipal wastewater system.	*N/A*	
	The number of connection-days per year due to wastewater backups compared to the total number of properties connected to the municipal wastewater system.	2 Days affect by Wastewater Backup to 6,208 properties. (.03%)	Maintain a low number of days affect by wastewater backups.

Community LOS	Technical LOS		
	Description	Current Performance (2024/2025)	Proposed Performance (2035)
is a direct connection to the sanitary sewer that should not be connected from homes or businesses roof drains or sump pumps. Description of how sanitary sewers in the municipal wastewater system are designed to be resilient to avoid events described in paragraph 3: **Wastewater sewers systems are designed to reduce infiltration and inflow by having strict sewer use bylaws that prevents homeowners or businesses to have illegal connections and enforced by the Building Department. The Town has implemented a CCTV Inspection program which is used to detect any structural issues including leaky pipes. The Town does a Sanitary Infiltration and Inflow (I&I) Study program to investigate leakage and illegal hookups.** Description of the effluent that is discharged from sewage treatment plants in the municipal wastewater system: **Wastewater effluent is best described as treated wastewater that must meet strict Ministry of the Environment, Conservation and Parks (MECP) regulations. Quality of effluent leaving wastewater plant is historically better quality than receiving water.**	The number of effluent violations per year due to wastewater discharge compared to the total number of properties connected to the municipal wastewater system.	0-Number of effluent Violations (Effluent Violation= Exceedances to Compliance Limits in Environmental Compliance Approval's (ECA))	Maintain no effluent violations for the next 10 years.

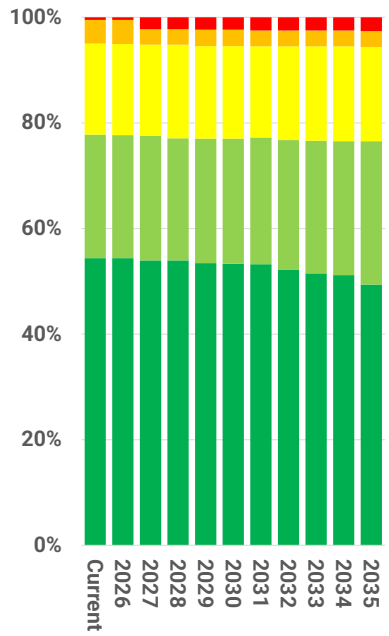
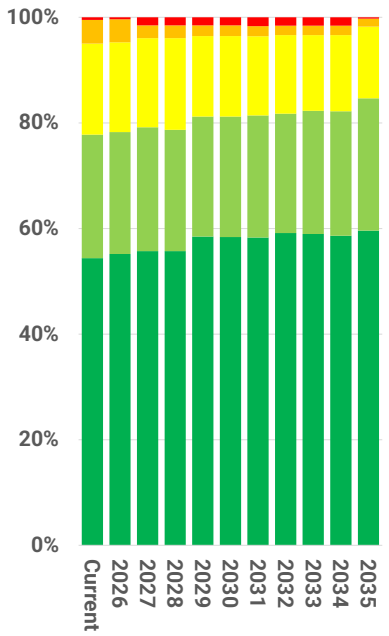
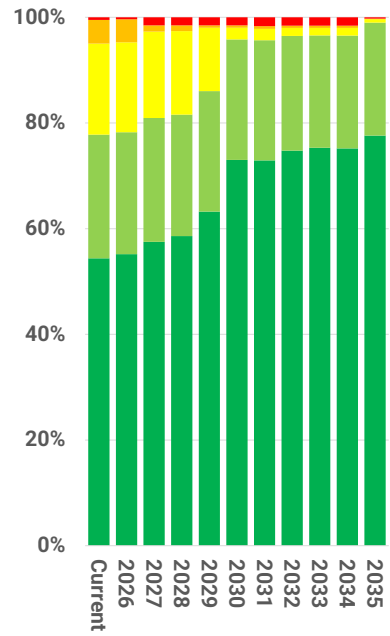
Wastewater Linear Assets LOS Scenarios:

The wastewater service is subject to strict regulations requiring treated effluent to comply with standards set by the Ministry of Environment, Conservation and Parks (MECP), the Wastewater Systems Effluent Regulations and the Fisheries Act. Staff are not recommending any reduction in the LOS for wastewater.

The condition of wastewater linear assets naturally deteriorate over time, and different materials have varying lifespans. Typically, this deterioration follows a downward trend, with the risk of failure increasing as the infrastructure ages. Currently, the overall condition of the wastewater linear assets is very good. The Current LOS graph indicates with the planned capital projects over the next ten years this good condition can be maintained with a budget of approximately $13 million. In comparison the enhanced scenario addressing linear assets in very poor, poor, and fair condition would require an estimated $34 million.

Staff recommend maintaining the **Current LOS** to ensure the wastewater linear asset infrastructure remains in good condition, safeguarding public safety, protecting the environment, and keeping rates affordable.

Table 8: Ten-Year Scenario Condition Comparison – Wastewater Linear Assets

Low LOS	Current LOS	Enhanced LOS
		
Ten-Year Operating Cost **$33M** Ten-Year Replacement Cost **$0** 2035 Forecast Condition Score **76 (Good)** Operational Risk Operating the wastewater system at a **low LOS** would significantly increase the	Ten-Year Operating Cost **$33M** Ten-Year Replacement Cost **$2.6M** 2035 Forecast Condition Score **81 (Very Good)** Operational Risk The **current LOS** maintains a balanced approach between regulatory compliance, system	Ten-Year Operating Cost **$36M** Ten-Year Replacement Cost **$18M** 2035 Forecast Condition Score **86 (Very Good)** Operational Risk Operating at an **enhanced LOS** would further reduce the likelihood of failures,

Low LOS	Current LOS	Enhanced LOS
likelihood of asset deterioration, infiltration and inflow (I&I) intrusion, blockages, and system failures. Reduced inspection and maintenance frequencies would accelerate structural decline, increasing the probability of sewage backups, environmental overflows, and non-compliance with MECP discharge regulations. This approach would also elevate reactive maintenance costs, expose the Town to potential fines or public health risks, and compromise long-term sustainability through deferred capital investment.	reliability, and affordability. Preventive maintenance activities—such as CCTV inspections every ten years, bi-annual vibration testing, and annual wet well inspections—help to proactively identify and correct deficiencies before failures occur. While minor service interruptions may still arise due to aging infrastructure, these are manageable within existing budgets. The primary operational risk at this level is ensuring continued reinvestment at planned intervals to avoid future backlog or asset degradation.	environmental incidents, and regulatory exceedances by increasing inspection and maintenance frequencies and accelerating capital replacements. However, this approach introduces financial and affordability risks, as the higher operating and capital costs would require significant user rate increases or additional funding sources. Over-maintenance could also result in diminishing returns, where increased effort yields limited improvement in service outcomes.

Operating and Maintenance – Wastewater Assets

Operation of wastewater system involves the day-to-day activities required to ensure the wastewater system functions effectively and safely conveys sewage away from users. These lifecycle activities include Closed-Circuit Television (CCTV) program, inspections, vibration testing and major equipment testing.

Maintenance of wastewater linear assets refers to the actions taken to preserve the condition of the system and extend its useful life.

- **Preventive maintenance** activities include inspecting and exercising manholes, inspecting and preforming maintenance on major equipment.
- **Corrective maintenance** includes unplanned reactive repairs carried out in response to pipe failures, blockages, or damage.

Table 9: Lifecycle Activities Comparison - Wastewater Linear Assets

LIFECYCLE ACTIVITIES		LOW LOS	CURRENT LOS	ENHANCED LOS
Sewer System	CCTV Program (Operating)	Every 25 years	Every 10 years	Every 5 years

LIFECYCLE ACTIVITIES		LOW LOS	CURRENT LOS	ENHANCED LOS
	Sanitary Maintenance Hole Inspections (Operating)	200 inspections per year	800 inspections per year	1200 inspections per year
Pumping Stations	Vibration Testing (Operating)	Once per year	Every 6 months	Every 3 months
	Major Equipment Inspection (Operating and Maintenance)	Every year	Every 2 years	Once every 5 years
	Wet Well Inspections (Operating)	Every 3 years	Annually	Every 6 months
	Standby Generator Testing (Maintenance)	Monthly – Legislation	Monthly – Legislation	Bi-weekly
LPFM (Low Pressure Forcemain)	Inspection (Operating)	None – Wait for Failure	Inspection program currently not available	N/A

Table 10: Lifecycle Activities Comparison – Wastewater Treatment Plants

LIFECYCLE ACTIVITIES		LOW LOS	CURRENT LOS	ENHANCED LOS
Headworks/Inlet	Major Equipment Inspection (OP&MTCE)	Wait for Failure	Every 2 years	Every Year
	Vibration Testing (Operating)	Once per year	Every 6 months	Every 3 months
	Standby Generator Testing - single Gen-set for plant (Maintenance)	Every month – Legislation	Every month – Legislation	Every 2 weeks
Clarification/Aeration	Major Equipment Inspection (OP&MTCE)	Wait for Failure	Every 2 years	Every Year
	Vibration Testing (Operating)	Once per year	Every 6 months	Every 3 months

LIFECYCLE ACTIVITIES		LOW LOS	CURRENT LOS	ENHANCED LOS
	Standby Generator Testing (Maintenance)	Every month – Legislation	Every month – Legislation	Every 2 weeks
Filtration/Disinfection	UV System (Maintenance)	Wait for Failure	Annual	Semi-annually
	Major Equipment Inspection (OP&MTCE)	Wait for Failure	Every 2 years	Every Year
	Vibration Testing (Operating)	Once per year	Every 6 months	Every 3 months
	Standby Generator Testing (Maintenance)	Every month – Legislation	Every month – Legislation	Every 2 weeks
	Outfall inspection/maintenance (OP&MTCE)	Wait for Failure	Annually	Annually

Roads and Drainage Assets

Road Network:

Table 11 summarizes the Community and Technical LOSs for the road assets. This information is a mandatory requirement under O. Reg 588/17 and includes both the current and proposed ten-year performance levels. The staff forecasts also show that the road networks will increase significantly over the next several years.

Staff recommend maintaining the **current LOS for road assets**, as this approach ensures safe, reliable transportation infrastructure, cost-effective maintenance and alignment with the Town's capital renewal strategies.

The Town's road network, comprising approximately 545 lane-kilometres (275 centerline-km), is currently in **good condition** overall, with average Pavement Condition Index (PCI) values of **73 for paved roads** and **80.5 for unpaved roads**. These scores indicate a well-performing network that meets community expectations for mobility, connectivity, and safety.

The **Current LOS** scenario provides the most sustainable balance between infrastructure condition and cost. For paved roads, maintaining the current level achieves a **2035 forecast PCI of 51 (Fair)** at a total cost of **$92.2 million**, whereas the **Enhanced Level** would raise the PCI to 84 (Good) but more than double the cost to **$194.7 million**. Conversely, the **Low LOS** would reduce spending but result in severe network deterioration (PCI 17 – Very Poor) and unacceptable service impacts.

For gravel roads, the **Current Level** also remains optimal, with conditions projected to stay **Very Good** (PCI 80–100) at half the cost of the enhanced scenario.

Operationally, the Town's road program includes **preventive maintenance** such as crack sealing on high-traffic roads, annual ditching programs, biannual roadside mowing, and a pothole repair program responsive to inspections and resident reports. These activities ensure road safety and extend pavement life without overextending resources.

The planned **Asphalt Replacement Program** (beginning in 2026) targeting approximately three kilometres per year — will further enhance PCI ratings and extend the useful life of the road network. Maintaining the current LOS supports this initiative while ensuring financial sustainability and predictability in future budgets.

In summary, continuing with the **Current LOS** for roads balances safety, service quality, and affordability, ensuring the Town's transportation infrastructure remains functional, well-maintained, and fiscally responsible, consistent with *O. Reg. 588/17* requirements.

Table 11: Proposed Community and Technical LOS for Roads

Community LOS	Technical LOS		
	Description	Current Performance (2024/2025)	Proposed Performance (2035)
Description, which may include maps, of the road network in the municipality and its level of connectivity: **The Town of The Blue Mountains owns and maintains 545 lane-km roads, which consist of arterial, collector, local and seasonal roads.**	Number of lane-kilometres of each of arterial roads, collector roads and local roads as a proportion of square kilometres of land area of the municipality.	Arterial: 5.4 lane-km (0.019 Lane-km per km²) Collector: 27.4 lane-km (0.096 Lane-km per km²) Local: 498 lane-km (1.74 Lane-km per km²) Seasonal: 14 lane-km (0.049 Lane-km per km²)	↑ Arterial: 5.4 lane-km Collector: 39.5 lane-km Local: 514 lane-km Seasonal: 14 lane-km

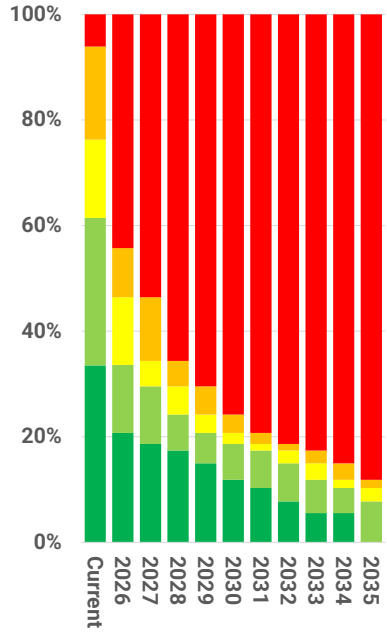
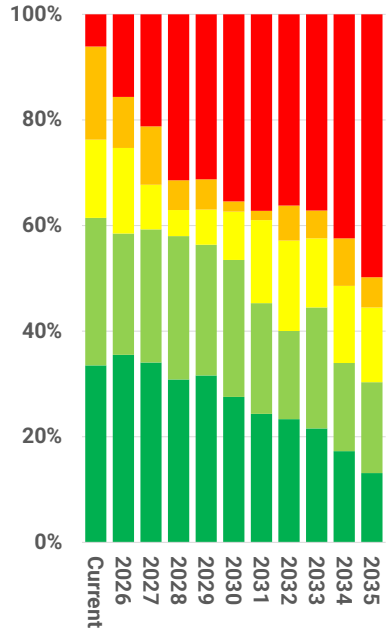
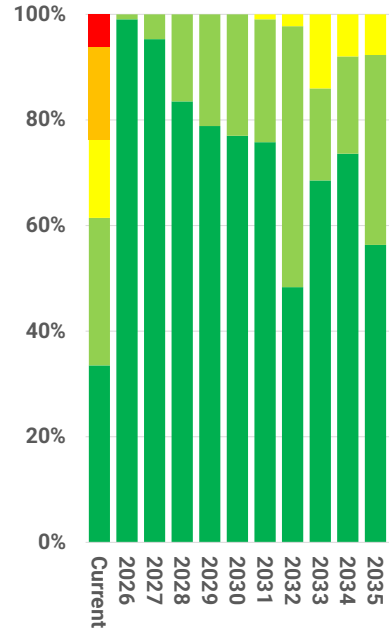
Community LOS	Technical LOS		
	Description	Current Performance (2024/2025)	Proposed Performance (2035)
Description or images that illustrate the different levels of road class pavement condition.: **The average Pavement Condition Index per road class is:** **Arterial Roads- 82 (Good)** **Collector Roads- 75 (Good)** **Local Roads - 75 (Good)** **Seasonal Roads - 77 (Good)**	For paved roads in the municipality, the average pavement condition index value.	Paved roads have an average PCI of 73 (Good)	⟷ Maintained LOS
	For unpaved roads in the municipality, the average surface condition (e.g. excellent, good, fair or poor).	Unpaved roads have an average PCI of 80.5 (Good)	⟷ Maintained LOS

Paved Roads LOS Scenarios:

Table 12 illustrates the condition ratings for three scenarios, based on the lifecycle activities and frequencies described in Table 14. The enhanced LOS involves a higher frequency of activities and incurs greater costs compared to the other scenarios; however, it is not considered financially sustainable.

Staff recommend maintaining the **Current LOS**, noting that the graph below reflects only capital reconstruction projects. The actual Pavement Condition Index (PCI) is expected to be higher with the introduction of the Asphalt Replacement Program, which is scheduled to begin in 2026 and will target approximately three kilometres per year. The replacement schedule will be included in the 2025 Asset Management Plan.

Table 12: Ten-Year Scenario Condition Comparison – Paved Roads

Low LOS	Current LOS	Enhanced LOS
		
Ten-Year Operating Cost **$46M** Ten-Year Preventative Maintenance **$0** Ten-Year Minor Rehabilitation - **$0** Ten Year Major Rehabilitation - **$96.6M** Ten-Year Replacement Cost **$0** 2035 Forecast Condition Score- **17 (Very Poor)**	Ten-Year Operating Cost **$46M** Ten-Year Preventative Maintenance **$910K** Ten- Year Minor Rehabilitation- **$5M** Ten Year Major Rehabilitation - **$2.5M** Ten-Year Replacement Cost-$ **37M** 2035 Forecast Condition Score- **51 (Poor) (Reflects only Reconstruction)**	Ten- Year Operating Cost **$48M** Ten-Year Preventative Maintenance **$1.3M** Ten-Year Minor Rehabilitation- **$0** Ten- Year Major Rehabilitation - **$47M** Ten-Year Replacement Cost- **$99M** 2035 Forecast Condition Score- **84 (Good)**

Gravel Roads LOS Scenarios:

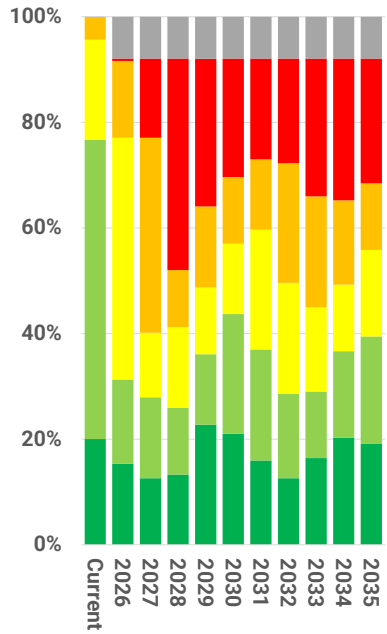
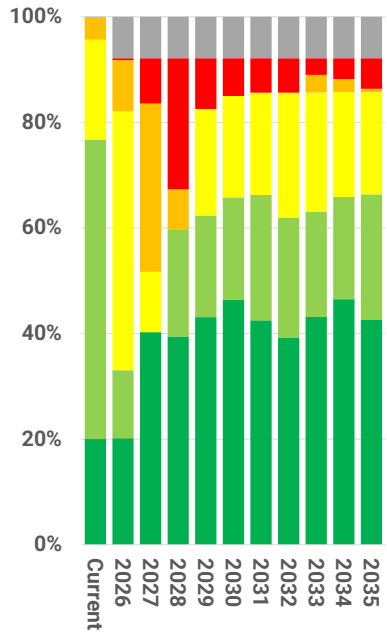
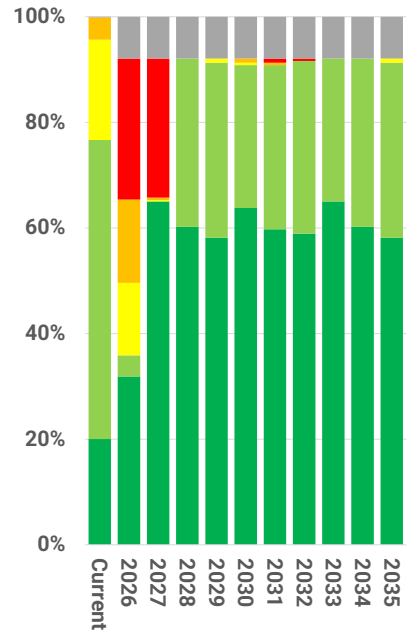
The gravel resurfacing program divides the Town's gravel roads into four service areas, with each area scheduled for resurfacing on a four-year cycle. In addition, the Town has ten

kilometres of boundary gravel roads that are maintained by neighbouring municipalities and are represented as Unknown (grey) in the graph below.

When comparing the three scenarios for the gravel roads, the current LOS is the most favorable, with future conditions expected to be very good while keeping costs lower than the enhanced LOS scenario.

Staff recommends maintaining the Current LOS for the gravel resurfacing program, as it has proven to be both efficient and effective.

Table 13: Ten-Year Scenario Condition Comparison – Gravel Roads

Low LOS	Current LOS	Enhanced LOS
		
Ten-Year Operating Cost **$ 7M** 2035 Forecast Condition Score **PCI Range of 71-85 (Good)**	Ten-Year Operating Cost **$15M** 2035 Forecast Condition Score **PCI Range of 80-100 (Very Good)**	Ten-Year Operating Cost **$22M** 2035 Forecast Condition Score **PCI Range of 80-100 (Very Good)**

Operation and Maintenance-Roadwork

Operation Maintenance for paved roads involves routine and preventative activities that preserve road conditions, extend service life and ensure safe driving conditions. Table 14 outlines the different lifecycle frequency scenarios for surface-treated and asphalt road surfaces.

Operating Maintenance for gravel roads consists of regular lifecycle activities required to maintain a safe, passable surface and proper drainage. Table 14 also details the lifecycle associated with each LOS scenario for the gravel roads.

Table 14: Lifecycle Activities Comparison – Road Network

LIFECYCLE ACTIVITIES		LOW LOS	CURRENT LOS	ENHANCED LOS
Paved Roads - High Class Bituminous (HCB)	Surface Treatment (Maintenance)	Every 10 years	Every 7 years	Every 3 – 5 years
	Crack-sealing (Maintenance)	Never	PCI 80 on roads with high traffic counts	15-year cycle (PCI 70-80)
	Grinding/Shouldering (Maintenance)	PCI 25	Add 1 level of micro seal at PCI 75. Resurfacing at PCI 40	20-year cycle (3 cycles before resurfacing)
	Micro-sealing (Maintenance)	Never	PCI 65	Never
	Pothole (Maintenance)	As needed	As needed	As needed
	Ditching (Maintenance)	Wait for Failure (Triggered by flooding)	Correct known drainage issues	Annual ditching program
	Roadside Mowing (Operating)	Never	Twice per year (June and August)	6 times per year- (Monthly during growing season)
	Street sweeping (Maintenance)	Never	Once per year (Spring)	3 times per year (Spring, Summer, Fall)
	Pavement Marking (Operating)	Never	Once per year	Twice per year (Summer and Fall)
	Reconstruction	Wait for Failure	80 years (PCI-<=25)	After 3 cycles of Resurfacing
	Resurfacing (Maintenance)	10-year cycle PCI Condition Rating-25	7-to-8-year cycle (PCI 65)	5-year cycle (PCI 80)

LIFECYCLE ACTIVITIES		LOW LOS	CURRENT LOS	ENHANCED LOS
Paved Roads - Low Class Bituminous (LCB) – Rural Area	Cold Patching/Pothole filling (Maintenance)	As per class of road (MMS)	As needed	Triggered from Road Patrol observations and/or Residential reports – 2-week cycle
	Pulverizing and full replacement (Maintenance)	Never	40 years cycle (After 5 rounds of lifts)	35 years cycle (After 7 roads of lifts)
	Ditching (Maintenance)	Wait for Failure	As needed - Known drainage issues	Annual ditching program
	Grading Shoulder of Roads (Maintenance)	Never	Before resurfacing	As required to remove winter sand
	Road Base (Construction)	Never	100-year useful life	80-year useful life
	Roadside Mowing (Operating)	Never	Twice per year (June and August)	6 times per year- Once a month within growing season
Unpaved Roads	Re-Gravel (Maintenance)	5-years cycle (50mm)	4-5 years cycle (75 mm)	3-year cycle (75mm)
	Ditching (Maintenance)	Wait for Failure	As needed - Known drainage issues	Annual ditching program
	Roadside Mowing (Operating)	Never	Twice per year (June and August)	6 times per year- Once a month within growing season
	Dust Control (Operating)	Never	Once per year (June)	Once per year and as needed from resident reporting
All Roads	Sign Inspection (warning signs)	Annually - Legislative	Annually - Legislative	Annually - Legislative

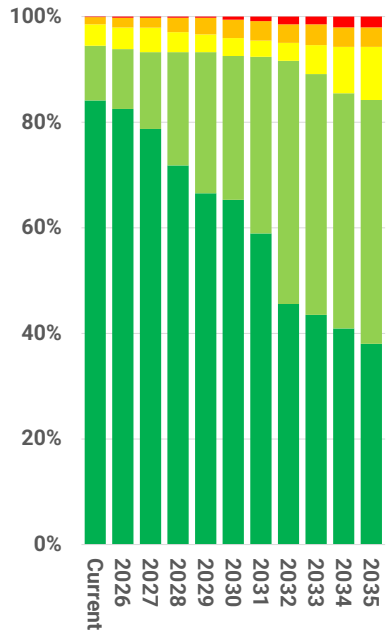
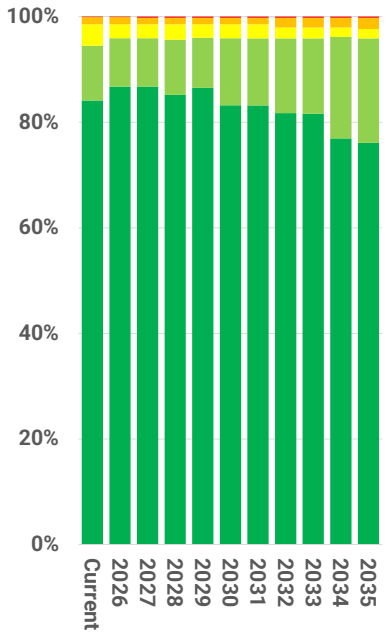
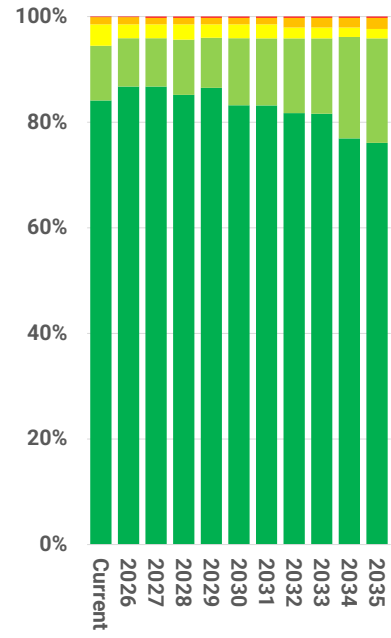
Note: The order of activities shown in the table does not indicate chronology or priority.

Sidewalks

The sidewalk replacement program typically follows a three-year cycle, except in years when major road reconstruction projects include sidewalk replacement as part of the overall work. The conditions outlined in the enhanced LOS are the same as the current LOS because existing conditions are already in very good shape. However, the enhanced LOS focuses on increasing winter maintenance, with an estimated $5.5 million for the ten-year period. This includes additional staff, purchase of new machines, and facilities.

Staff recommend maintaining the **Current LOS** to keep sidewalks in very good condition, ensuring public safety, accessibility and encouraging active lifestyles. The current sidewalk maintenance activities include removal of trip hazards (grinding or lifting), clearing debris, inspection, condition monitoring and vegetation control.

Table 15: Ten-Year Scenario Condition Comparison - Sidewalks

Low LOS	Current LOS	Enhanced LOS
		
Ten-Year Operating Cost **(Included in Roads)** Ten-Year Replacement Cost **$0** 2035 Forecast Condition Score **70 (Good)**	Ten-Year Operating Cost **(Included in Roads)** Ten-Year Replacement Cost **$1.6M** 2035 Forecast Condition Score- **85 (Very Good)**	The replacement schedule would remain consistent with the current LOS. However, the enhanced LOS would result in increased winter maintenance, a significant rise in operating cost, and the need for additional equipment and storage facilities.

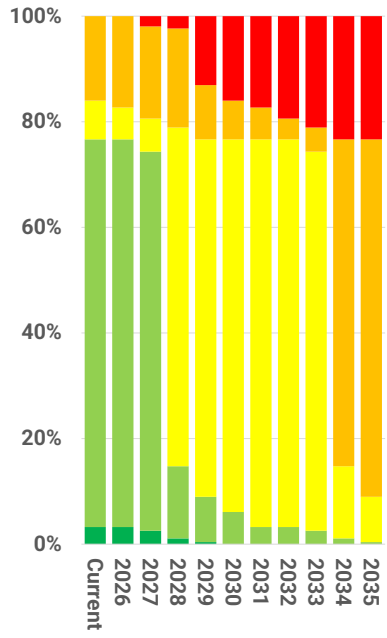
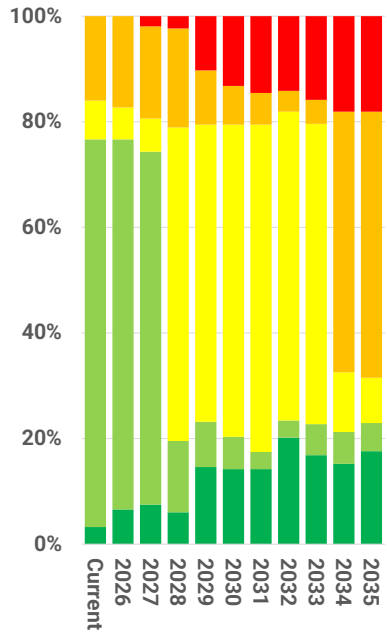
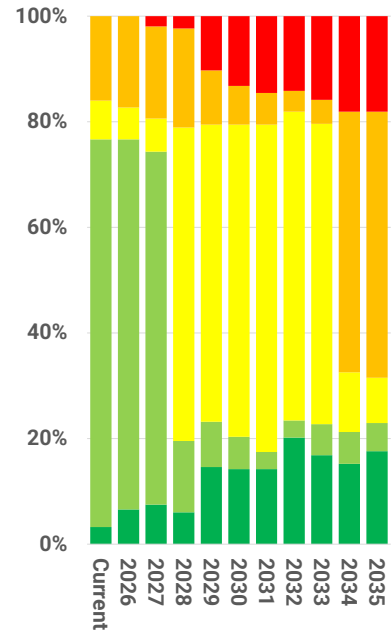
Low LOS	Current LOS	Enhanced LOS
		Additional Winter Maintenance **$5.5M**-

Streetlights

Currently, there is no formal streetlight replacement plan. Streetlights are replaced only when damaged or as part of a road reconstruction project. The enhanced LOS includes increased streetlight maintenance; however, this will not extend their useful life as shown in the graph below.

Staff recommend maintaining the Current LOS for streetlights to ensure public safety, cost-effectiveness, and energy efficiency.

Table 16: Ten-Year Scenario Condition Comparison - Streetlights

Low LOS	Current LOS	Enhanced LOS
		

Low LOS	Current LOS	Enhanced LOS
Ten-Year Replacement Cost **$0** 2035 Forecast Condition Score **27 (Poor)**	Ten-Year Replacement Cost **$1.4M** 2035 Forecast Condition Score **40 (Fair)**	The replacement schedule would remain consistent with the current LOS. The enhanced LOS includes the development and implementation of a maintenance program for streetlights. Ten-Year Replacement Cost- **$1.4M** 2035 Forecast Condition Score **40 (Fair)**

Bridges and Culverts:

Table 17 summarizes the Community and Technical LOSs for the bridges and culverts, as required under O. Reg 588/17. It includes both current and proposed ten-year performance levels. The Town currently has two structures (6%) with load or dimensional restrictions, an average **Bridge Condition Index (BCI) of 67.3 (Fair)** for bridges, and **75.7 (Good)** for culverts. These metrics indicate that the Town's bridge and culvert network is generally in good structural condition and capable of supporting the required transportation and emergency service functions.

Staff recommend maintaining the **Current Level of Service** for bridges and culverts. Under this scenario, the average BCI is forecast to **increase to 64–70 (Good)** by 2035 due to continued investment through the **Bridge, Culvert, and Guiderail Program**, which prioritizes inspection, rehabilitation, and replacement of aging structures. This program aligns with the requirements of the **Ontario Structure Inspection Manual (OSIM)** and ensures regulatory compliance, public safety, and long-term asset integrity.

The **Low Level of Service** scenario would result in deferred rehabilitation and limited inspection, increasing the likelihood of structural deterioration, load restrictions, and potential closures—posing safety, liability, and accessibility risks. Conversely, the **Enhanced Level of Service** scenario, while improving condition to approximately **82 (Very Good)**, would require more than **$37 million** in replacement costs over ten years, an approach not financially sustainable given the Town's available funding capacity.

By maintaining the current level of service, the Town can ensure that its bridges and culverts remain safe, reliable, and well-maintained, while balancing fiscal responsibility and operational capacity. Continued annual inspections and targeted capital repairs will be essential to managing these critical assets over the long term.

Table 17: Proposed Community and Technical LOS for Bridges and Culverts

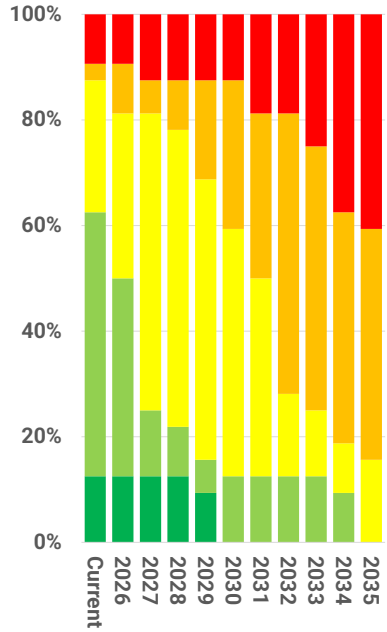
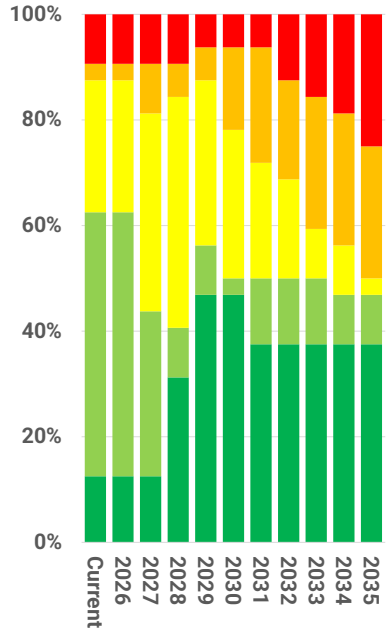
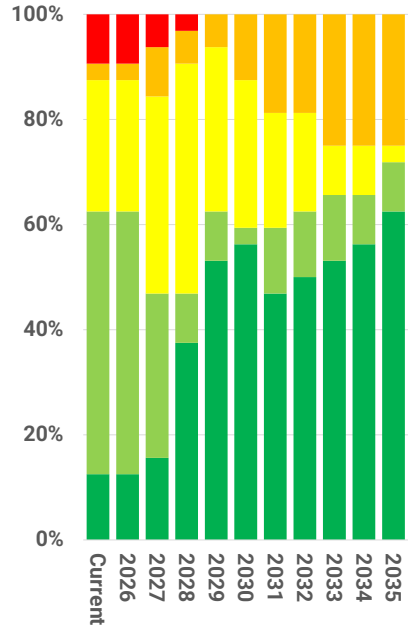
Community LOS	Technical LOS		
	Description	Current Performance (2024/2025)	Proposed Performance (2035)
Description of the traffic that is supported by municipal bridges (e.g., heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists).	Percentage of bridges in the municipality with loading or dimensional restrictions.	Two structures with loading or dimensional restrictions (6%)	⟷ Maintained LOS
Description or images of the condition of bridges and how this would affect use of the bridges.	For bridges in the municipality, the average bridge condition index value.	Bridges have an average bridge condition index of 67.3 (Fair)	↑ The Bridge condition index is expected to increase due to proposed "Bridge, Culvert & Guiderail Repair Program"
Description or images of the condition of culverts and how this would affect use of the culverts.	For structural culverts in the municipality, the average bridge condition index value.	Culverts have an average bridge condition index of 75.7 (Good)	

Bridges and Culverts LOS Scenarios:

The enhanced LOS scenario includes the replacement of bridges and culverts rated in very poor condition, which involves significantly higher costs. Currently, the Town contracts external vendors to perform major repairs and maintenance, as the Town does not have staff certified to carry out this specialized work. When comparing the three scenarios, the current LOS was found to be the most cost-effective option.

Staff recommend maintaining the **Current LOS** to keep bridges and culverts in good condition, which is essential for ensuring public safety, infrastructure reliability and environmental protection.

Table 18: Ten-Year Scenario Condition Comparison – Bridge and Culvert

Low LOS	Current LOS	Enhanced LOS
		
Ten-Year Operating Cost **$237K (Bridge Maintenance Program)** Ten-Year Replacement Cost **$0** 2035 Forecast Condition Score **40 (Fair)**	Ten-Year Operating Cost **$237K (Bridge Maintenance Program)** Ten-Year Replacement Cost- **$18M** 2035 Forecast Condition Score **64 (Good)**	Ten-Year Operating Cost $1M **(Bridge Maintenance Program)** Ten-Year Replacement Cost **$37M** 2035 Forecast Condition Score **82(Very Good)**

Stormwater Management System:

Table 19 summarizes the Community and Technical LOSs for stormwater, as required under O. Reg 588/17. It includes both current and proposed ten-year performance levels. Although comprehensive resilience data for 5-year and 100-year storm events is not yet available, the system is performing well under current operating conditions, with an average **condition score of 79 (Good)**.

Staff recommend maintaining the **Current Level of Service** for stormwater assets. This level provides adequate flood protection and environmental management while keeping costs sustainable. Under the current scenario, the Town will continue routine cleaning and flushing of storm pipes, catch basins, and drainage channels, as well as vegetation control in ponds. These activities help preserve flow capacity, prevent blockages, and minimize localized flooding. The

upcoming Drainage Master Plan, once completed, will provide more robust data and capital prioritization for stormwater resilience and future levels of service.

Operating at a **Low Level of Service** would heighten the risk of flooding, erosion, and environmental degradation due to sediment build-up and poor conveyance. It could also increase emergency repair costs and reduce system reliability during major rain events. Alternatively, an **Enhanced Level of Service** would improve system resilience and environmental outcomes but would require substantial increases in inspection, monitoring, and capital replacement expenditures—currently estimated at **$5.4 million over ten years**- which would put pressure on operating budgets.

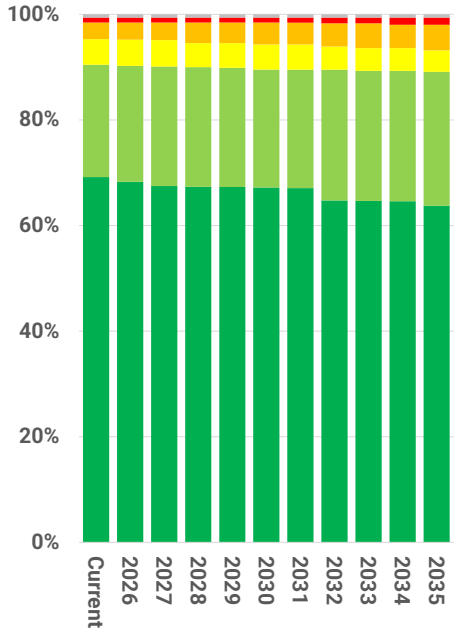
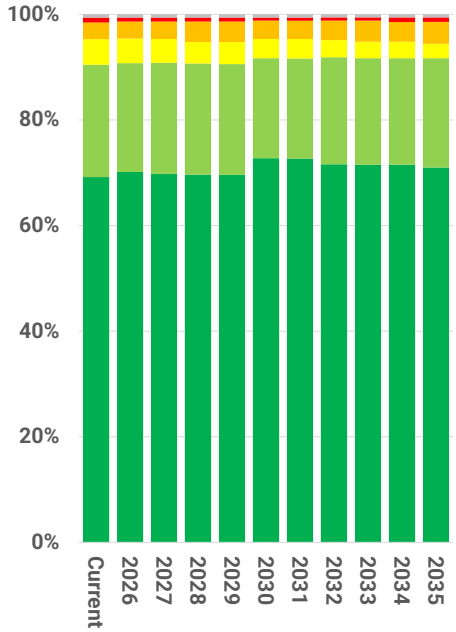
Table 19: Proposed Community and Technical LOS for Stormwater

Community LOS	Technical LOS		
	Description	Current Performance (2024/2025)	Proposed Performance (2035)
Description, which may include maps, of the user groups or areas of the municipality that are protected from flooding, including the extent of the protection provided by the municipal stormwater management system: **The Town does not have the necessary data to calculate the percentage of properties within the Town that are resilient to a 100-year storm or the percentage of the Town's stormwater management system that is resilient to a 5-year storm**. **The Town's Drainage Master Plan has not yet been finalized.**	Percentage of properties in municipality resilient to a 100-year storm.	Data is unavailable at this time	
	Percentage of the municipal stormwater management system resilient to a 5-year storm	Data is unavailable at this time	

Stormwater Linear Assets LOS Scenarios:

Staff recommend maintaining the current LOS, as it is effectively keeping the stormwater linear asset network in very good condition. An enhanced LOS scenario was not included, given the strong performance of the existing program. Routine stormwater management maintenance activities include cleaning and flushing storm pipes and catch basins, as well as controlling vegetation in drainage channels and stormwater ponds.

Table 20: Ten-Year Scenario Condition Comparison – Stormwater Linear Assets

Low LOS	Current LOS
	
Ten-Year Operating Cost **Included in Roads** Ten-Year Replacement Cost **$0** 2035 Forecast Condition Score **79 (Good)**	Ten-Year Operating Cost **Included in Roads** Ten-Year Replacement Cost **$5M** 2035 Forecast Condition Score **82 (Very Good)**

Facilities

An updated Facility Condition Assessment (FCA) has not yet been completed for the Town facilities. A replacement schedule will be created using the new FCA. The 2026 draft budget allocates $500,000 per year for facility improvements. The current Facility Condition Index (FCI) data is based on an assessment conducted in 2018 and is considered outdated, providing an inaccurate reflection of the facility's present state. As such, the 2018 FCI should not be used as a basis for current planning or decision-making. The Town intends to conduct a new, comprehensive Facility Condition Assessment as outlined in the schedule provided in the table below.

Water Facilities

Facility	Scheduled Facility Condition Assessment (FCA)
Thornbury Water Treatment Plant	2025
Happy Valley Road Booster Pump Station	2027
Camperdown Court Booster Pump Station	2027
Arrowhead Road Booster Pump Station	2027
Thornbury Reservoir & Booster Station	2027
10th Line Booster Pump Station	2027
Camperdown Road Booster Pump Station	2027
Water Operations Centre	2027
Wards Road Booster Pump Station	2027

Wastewater Facilities

Facility	Scheduled Facility Condition Assessment (FCA)
Craigleith Wastewater Treatment Plant	2025
Thornbury Wastewater Treatment Plant	2025
Craigleith Main Sewage Lift Station	2026
Elgin Sewage Lift Station	2026
Moore Sewage Lift Station	2026
Mill Street Sewage Lift Station	2026
Lake Shore Sewage Lift Station	2026
Delphi Sewage Lift Station	2026
Sunset Sewage Lift Station	2026

Road Facilities

Facility	Scheduled Facility Condition Assessment (FCA)
Road Department Works Old Shop	2026
Road Department Works New Shop	2027

E. Strategic Priorities

1. Communication and Engagement

We will enhance communications and engagement between Town Staff, Town residents and stakeholders

2. Organizational Excellence

We will continually seek out ways to improve the internal organization of Town Staff and the management of Town assets.

3. Community

We will protect and enhance the community feel and the character of the Town, while ensuring the responsible use of resources and restoration of nature.

4. Quality of Life

We will foster a high quality of life for full-time and part-time residents of all ages and stages, while welcoming visitors.

F. Environmental Impacts

None.

G. Financial Impacts

O. Reg. 588/17 requires municipalities to report costs over ten-year periods to encourage long-term planning, support financial sustainability, and ensure preparedness for future infrastructure needs, not just current demands. The 2025 Asset Management Plan will use these ten-year cost projections to develop a strategy that outlines the funding sources required to meet future infrastructure needs. The chart below illustrates the cost of the different LOS per asset class; the recommended approach is to maintain the **Current LOS**.

The total ten-year cost to maintain the **Current Levels of Service** across all asset categories is **approximately $222 million**, compared to **$122 million** under a **Low Level of Service** scenario and **$377 million** under an **Enhanced Level of Service** scenario.
The recommended *Current Level of Service* option provides the most balanced approach -

maintaining good to very good asset condition, meeting regulatory requirements and supporting affordability for ratepayers.

ASSET CLASS	LOW LEVELS OF SERVICE	CURRENT LEVELS OF SERVICE	ENHANCED LEVELS OF SERVICE
Water Pipes	$ 38,445,334	$ 59,874,039	$ 73,181,640
Wastewater Pipes	33,350,721	35,962,236	54,107,442
Roads - Paved	46,487,549	92,241,529	194,681,838
Roads - Gravel	3,642,943	7,524,199	10,926,529
Sidewalks	-	1,617,902	5,469,944
Streetlights	-	1,408,188	N/A
Bridges and Culverts	237,720	18,002,550	38,613,676
Stormwater	-	5,422,529	N/A
Total	**$ 122,164,267**	**$ 222,053,172**	**$ 376,981,119**

SCENARIO	TOTAL TEN-YEAR COST -ALL ASSET CLASSES	AVERAGE CONDITION RANGE (2035)	OVERALL RISK / AFFORDABILITY
Low LOS	$ 122,164,267	Fair to Good	↑ High risk of asset failure, deferred maintenance backlog.
Current LOS (RECOMMENDED)	**$ 222,053,172**	**Good to Very Good**	**Balanced cost, sustainable, compliant**
Enhanced LOS	$ 370,394,253	Very Good	↓ Low operational risk but high cost / limited affordability.

While staff recommend maintaining the **Current Levels of Service**, it is important to recognize that doing so will be challenging under current funding levels. The Town is not yet contributing sufficient annual funding to fully sustain the long-term renewal needs of its infrastructure network, including water, wastewater, transportation, and stormwater assets. The **$345,000 asset management levy** included in the 2026 Budget represents a positive first step toward closing this infrastructure funding gap. However, this contribution alone will not be sufficient to maintain the current condition of assets indefinitely.

Staff will continue to refine long-range financial strategies to support asset renewal and lifecycle management. This may include a combination of approaches such as **strategic use of**

debt financing, **reprioritization or deferral of lower-priority capital projects**, and **incremental annual funding increases** dedicated to asset management reserves.

The forthcoming **2025 Asset Management Plan** will provide additional recommendations on how to achieve sustainable funding levels to support the current and future levels of service while maintaining affordability for residents.

H. In Consultation With

Monica Quinlan, Director of Corporate & Financial Services
Alan Pacheco, Director of Operations
Allison Kewshaw, Manager of Water & Wastewater Services
Jim McCannell, Manager of Roads & Drainage
Mark Service, Wastewater Supervisor
Rob Gilchrist, Water Supervisor
Meg Boyd, Water & Wastewater Compliance Coordinator

I. Public Engagement

The topic of this Staff Report has not been the subject of a Public Meeting and/or a Public Information Centre as neither a Public Meeting nor a Public Information Centre are required. However, any comments regarding this report should be submitted to Vicky Bouwman, Asset Management Specialist, budgetteam@thebluemountains.ca.

J. Attached

N/A

Respectfully submitted,

Vicky Bouwman,
Asset Management Specialist

For more information, please contact:
Vicky Bouwman, Asset Management Specialist
budgetteam@thebluemountains.ca
519-599-3131 extension 245

Report Approval Details

Document Title:	CFS.25.022 Asset Management Plan Phase 1 Proposed Levels of Service for Water and WW and Road Assets.docx
Attachments:	
Final Approval Date:	Oct 22, 2025

This report and all of its attachments were approved and signed as outlined below:

Michael Switzer - Oct 22, 2025 - 3:28 PM

Monica Quinlan - Oct 22, 2025 - 3:52 PM