

ASSET MANAGEMENT PLAN



HEMSON Consulting Ltd.

in conjunction with:



December 2013
As Amended December 2015

TABLE OF CONTENTS

EXECUTIVE SUMMARY	2
A. STATE OF THE LOCAL INFRASTRUCTURE	2
B. DESIRED LEVELS OF SERVICE	2
C. ASSET MANAGEMENT STRATEGY	3
D. FINANCING STRATEGY	4
E. KEY FINDINGS AND RECOMMENDATIONS	5
I INTRODUCTION	8
II STATE OF LOCAL INFRASTRUCTURE.....	10
A. ASSET INVENTORY, CONDITION, AND VALUE	11
III DESIRED LEVELS OF SERVICE	18
IV ASSET MANAGEMENT STRATEGY	20
A. ASSET LIFECYCLE COST ANALYSIS	20
B. CALCULATION OF ANNUAL RESERVE CONTRIBUTIONS.....	22
C. HIGH PRIORITY WATER AND WASTEWATER CAPITAL WORKS.....	26
V FINANCING STRATEGY	28
A. AVAILABLE FUNDING TOOLS.....	28
B. FINANCING AND FINANCIAL MANAGEMENT PRACTICES.....	29
C. CURRENT INFRASTRUCTURE DEFICIT AND FUTURE FUNDING GAPS	31
VI CONCLUSIONS AND RECOMMENDATIONS	39
A. SUMMARY OF KEY FINDINGS.....	39
B. SUMMARY OF RECOMMENDATIONS	39

Appendix A: Detailed Asset List

EXECUTIVE SUMMARY

The following summarizes the findings of the Municipality of Marmora and Lake Asset Management Plan. The Plan applies to infrastructure assets related to: roads, sidewalks, bridges, water, wastewater, fleet and buildings.

The Plan follows the format set out in the recent *Building Together: Guide for Municipal Asset Management Plans* document released by the Ontario Ministry of Infrastructure.

A. STATE OF THE LOCAL INFRASTRUCTURE

- The Municipality’s infrastructure has a replacement value of \$156.8 million. The largest component relates to roads, which is valued at \$87.8 million;
- Although the road network is extensive, the majority of roads, about 67% or \$59.0 million, are in good standing condition; and
- Overall, about 61% (\$96.0 million) of assets analysed are rated in “good” standing condition. Although, a considerable portion of the total asset base, approximately 20% or \$30.8 million, is assessed as being in “poor” condition.
 - The majority of assets rated in “poor” condition are related to linear infrastructure (roads, water, sewer) and bridges. The Municipality, through its annual capital budgeting process, have been addressing critical issues and assets in need for repair or replacement.
 - Specifically related to water and sewer, the Municipality has identified 6 high priority capital projects. Council should be mindful of these capital works when making future capital repair and replacement decisions.

B. DESIRED LEVELS OF SERVICE

- Current service levels in Marmora and Lake have been developed based on a combination of internal asset management practices, community expectations, statutory requirements, and industry operation and safety standards;

- The Municipality has in the past been responsive to infrastructure repair needs to address immediate environmental or health risks and to infrastructure needs for new development; and
- The Municipality measures level of engineering related services provided using a number of key performance indicators. The table below shows that by these measures, service levels have remained relatively constant in recent years.

Key Indicators	2008	2009	2010	2011	2012	Target
Percentage of Roads in Fair or Good condition where the average daily traffic demand is more than 50 vehicles	-	-	-	-	56%	>60%
Percentage of Bridges and Culverts where the conditions is rated as good	n/a	n/a	n/a	n/a	28%	>28%
Percentage of winter events where the response met or exceeded locally determined municipal service levels for road maintenance	n/a	n/a	n/a	100%	100%	100%
Water loss analysis (water loss after treatment)	n/a	n/a	n/a	31%	28%	<28%
Number of natural main breaks per year	0	2	0	0	1	<2

Source: Based on MMAH FIR documents and Municipal data

C. ASSET MANAGEMENT STRATEGY

- The 20-year repair and replacement program for tax supported services equals about \$51.7 million. Roads services are the largest component, representing \$37.5 million, or 72.5% of all repair and replacement costs through to 2032;
- Approximately \$18.0 million of Municipal assets are considered “overdue” for replacement. The most significant share of this infrastructure, about \$10.5 million or 58% relates to roads. Again, through annual capital budgeting processes the Municipality has been addressing critical issues and assets in need for repair and replacement.
- In the long-term, contributions to reserves for tax supported services would have to be in the order of \$4.0 million per year, mostly relating to roads infrastructure. This amount equates to annual capital expenditures of about \$2.6 million per year to 2032. The \$1.4 million difference is related to provisions for infrastructure repair and replacement costs beyond 2032; and

- The Municipality has recently begun to make regular contributions to reserves for the repair and replacement of water and wastewater related infrastructure. The 2013 water and wastewater update analysis set utility rates so the Municipality contributes about 35% of the maximum required contribution to reserve for repair and replacement (about \$379,000) by 2019.

D. FINANCING STRATEGY

- The current infrastructure deficit for tax and utility rate supported services is calculated to be about \$45.9 million. This represents the difference between the reserves the municipality would have if they followed a full cost recovery plan and the current total reserve amounts;
- It is unrealistic in the current fiscal context to expect the Municipality to fully address the infrastructure deficit in the short-term;
- Three financing strategies were developed to determine what capital expenditures would be required to meet asset replacement needs for both tax and rate supported assets;
- The level of capital related expenditures (to 2019) projected in the 2013 update utility rate analysis have been incorporated in the utility rate supported strategies;
- Under the first strategy, the Municipality would need to increase capital funding by about 10.2% per year for tax supported assets and 12% per year (post 2019) for utility rate supported assets. The infrastructure deficit would be \$39.5 million for tax supported assets and \$10.7 million for utility rate supported assets by 2032;
- Under the second strategy, the Municipality would need to increase capital funding by about 7.9% per year for tax supported assets and 7.9% per year (post 2019) for utility rate supported assets. Under this approach, the infrastructure deficit would be \$48.5 million for tax supported assets and \$13.9 million for utility rate supported assets in 2032;
- Under the third strategy, capital expenditures are kept at current levels, increased funding only accounts for inflationary adjustments at a rate of 2% per annum. Under this approach, the infrastructure deficit would be \$62.8 million for tax supported assets and \$16.9 million for utility rate supported assets in 2032; and

- In addition, each financing strategy has been modified to include funding from other sources (likely federal or provincial grants) to support the repair and replacement of capital assets.

E. KEY FINDINGS AND RECOMMENDATIONS

Overall, the Municipality will need to continue to increase spending to address current and future infrastructure requirements in an effort to move forward with sustainable asset management planning:

1. Key Findings

- The Municipality's asset base is extensive, valued at \$156.8 million, in relation to the total population of about 4,100 persons. The responsibility to maintain existing infrastructure is challenging and the Municipality will need to continue to increase spending and transfers to reserve to address current and future infrastructure requirements;
- About 61% (or \$96.0 million) of Municipal assets are in good standing condition, however, approximately 20% or \$30.8 million, is assessed as being in "poor" condition;
- The Municipality, through its annual capital budgeting process, have been addressing critical issues and assets in need for repair or replacement;
- The Municipality has limited reserves available to fund both tax and utility rate supported capital projects; and
- The Municipality will continue to require funding from the federal and provincial government to undertake capital related works. In the immediate future, significant work is required to replace aged water and wastewater infrastructure, and without the assistance of upper-tier funding assistance, this work will result in significant upward pressure on the utility rates. Therefore, it is important the Municipality continue to seek financial assistance, where possible, from upper-tier government sources.

2. Continue to Improve Capital Development Planning Process

- The Municipality should adopt multi-year capital budgets and forecasts for all services based on a minimum 10 year forecast horizon;

- Capital budgets and forecasts should identify and evaluate each capital project in terms of the following, including but not limited to:
 - gross and net project costs;
 - timing and phasing;
 - funding sources;
 - growth-related components;
 - potential financing and debt servicing costs;
 - long-term costs, including operations, maintenance, and asset rehabilitation costs;
 - capacity to deliver; and
 - alternative service delivery and procurement options.
- A range of quantifiable service level targets that incorporate the quantity and quality of capital assets should be established for all services. Targets should be measured, reported on, and adjusted annually;
- Specifically related to water and sewer infrastructure, this plan identifies six key capital works which should be prioritized for repair and replacement.
- Other repair and replacement capital works should be prioritized based on asset condition ratings with assets overdue for replacement and/or identified as “poor” recognized for immediate attention and remediation.
- Assets which have been provided a “fair” condition rating should be targeted for maintenance to ensure they continue to perform at the expected level; and
- The Municipality should, where possible coordinate the construction of new (growth-related) infrastructure with infrastructure repairs and replacement to achieve cost efficiencies.

3. Ensure Asset Inventories are Updated Regularly

- Sound asset management decisions are only possible if information in the asset registry is accurate. The Municipality should regularly update the registry to account for asset purchases, upgrades, and replacements, as well as asset condition ratings and information on useful life; and
- The Municipality should update this Asset Management Plan at a minimum every 5 years.

4. Optimize the Use of Existing Assets

- The Municipality should implement a range of engineering and non-engineering approaches to extend the useful life of current assets. A number of municipalities in Ontario have had success in this regard by, for example:
 - implementing aggressive water conservation measures;
 - undertaking relining programs, cathodic protection measures, CCTV inspections (or other condition assessment reviews), and inflow and infiltration remedial work on existing pipe infrastructure;
 - deferring road resurfacing and improvement works to allow road service levels to decline to a level where repair is necessary; and
 - substituting retrofitting and rehabilitation work for (more costly) full replacement of an asset.

I INTRODUCTION

Well-managed public infrastructure is vital to the prosperity and quality of life of communities. Given the range and scope of services provided, Ontario's municipalities have a special responsibility in ensuring that infrastructure is planned, built, and maintained in a sustainable way. A detailed asset management plan is essential to carry out this responsibility.

Building on a recent Provincial funding commitment for municipal asset management, this Asset Management Plan is presented to the Council of the Municipality of Marmora and Lake. The Plan follows the format set out in the recent *Building Together: Guide for Municipal Asset Management Plans* document released by the Ontario Ministry of Infrastructure.

The Plan addresses all infrastructures for which the Municipality is responsible for, including roads, sidewalks, bridges, water, wastewater, fleet and building assets.

Asset management is not a new concept in the Municipality of Marmora and Lake. Council and staff have applied sound asset management processes to maintain records on tangible capital assets, monitor asset condition and performance, and plan for infrastructure acquisition, repair, rehabilitation, and replacement over the long-term.

The purpose of the Plan is to build on these existing practices by identifying how best to manage Municipal infrastructure over the period to 2032. A strategy for maintaining infrastructure so that desired service levels are achieved is an important element. In this respect, the Plan has been prepared with reference to the *Municipality's Level of Service Policy and Minimum Maintenance Standards* document. A financing strategy that integrates asset management with long-term financial planning is also included. Ultimately, the Plan will provide Council with information that can guide sustainable infrastructure investment decisions.

The Asset Management Plan is structured as follows:

Section II summarizes the state of the Municipality's infrastructure with reference to infrastructure quantity and quality.

Section III current service levels and service level targets are described.

Section IV sets out a strategy that will assist the Municipality in maintaining assets so that desired service levels are achieved.

Section V establishes how asset management can be delivered in a financially sustainable way.

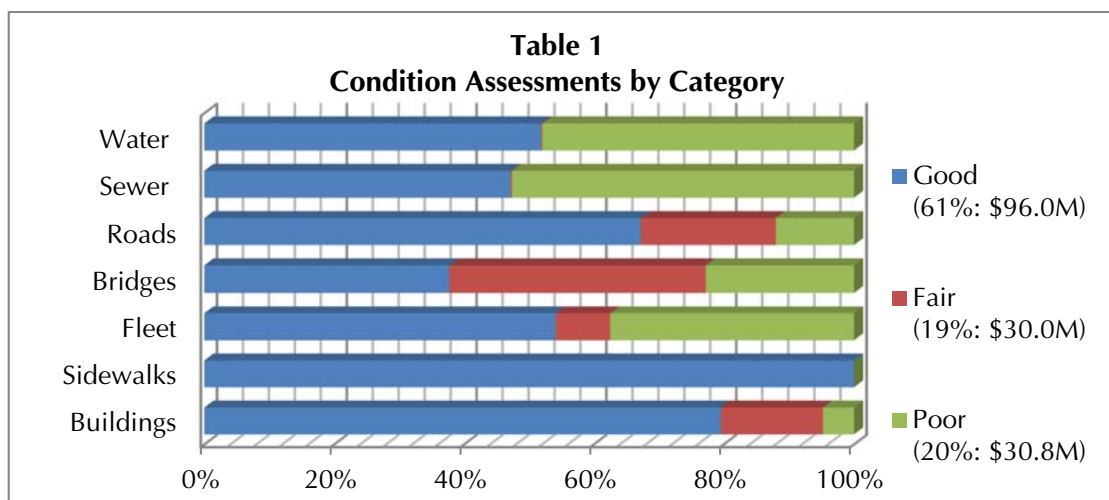
Section VI sets out the key findings and recommendations based on the analysis undertaken as part of the Plan.

II STATE OF LOCAL INFRASTRUCTURE

The Municipality’s capital asset inventory is documented in a municipal asset registry. The registry, which is updated regularly, contains information about the acquisition of assets, asset expansions and upgrades, and the condition of each asset. Each asset and asset class is categorized based on standard industry condition assessments such as “good”, “fair” and “poor”.

This section of the plan provides a summary of the state of Municipal assets with reference to infrastructure quantity and quality. Asset replacement costs, based on the estimated cost of replacing individual asset components (accounting for various attributes such as size, depth, and length of each component), are also provided. The detailed asset inventories are included in Appendix A.

The current (2013) replacement cost of all Municipal assets is estimated at \$156.8 million. Overall, many assets are in a state of good repair as about 61% (\$96.0 million) have been assessed as “good”. Although, a significant portion of the total asset base, approximately 20% or \$30.8 million, is assessed as being in “poor” condition. Although, the majority of assets rated in poor condition are related to linear infrastructure (roads, water, sewer) and bridges. The Municipality, through its annual capital budgeting process, have been addressing critical issues and assets in need for repair or replacement.

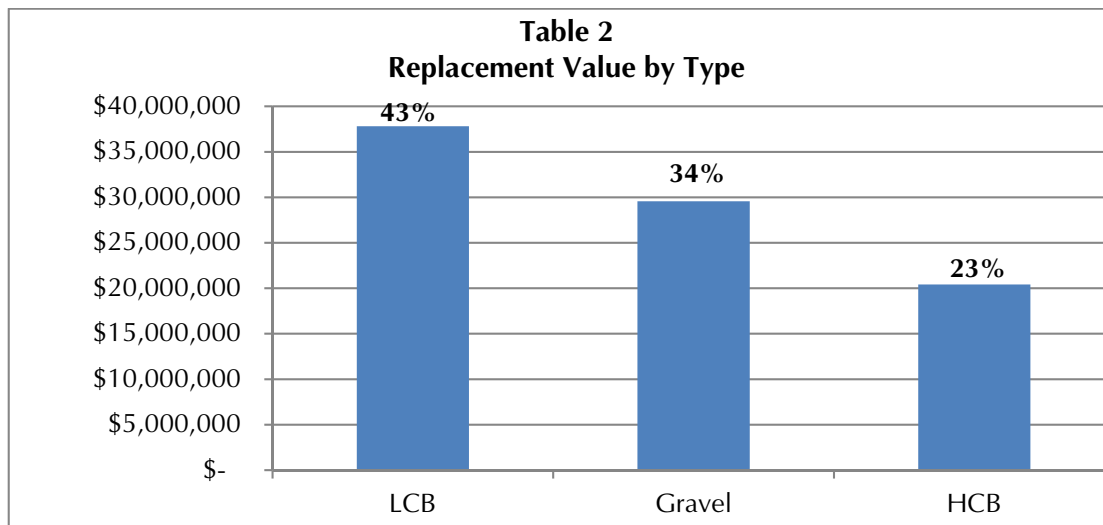


A. ASSET INVENTORY, CONDITION, AND VALUE

The following section summarizes all Municipal assets and the cost, in 2013\$, of asset replacement. It also discusses the condition and useful life of assets and asset classes.

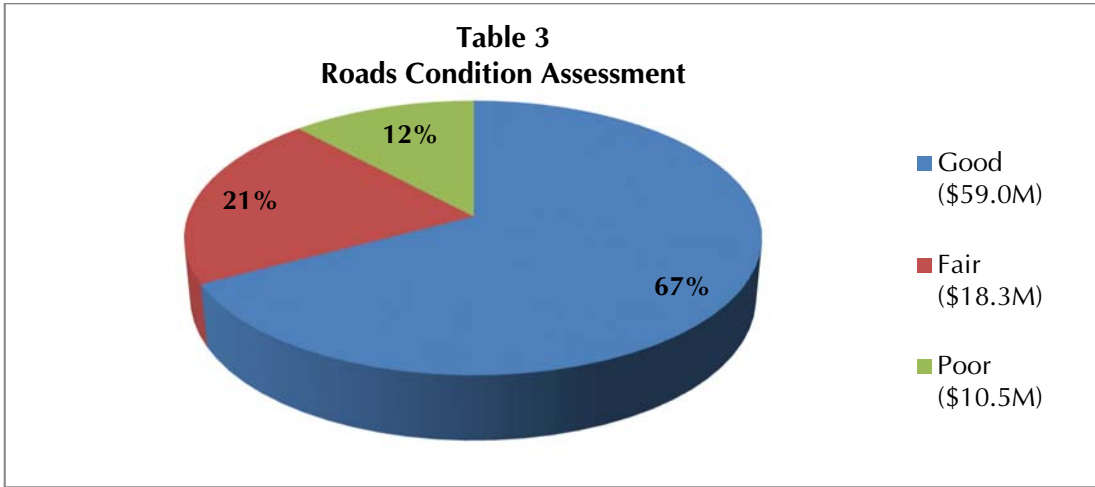
1. Road Infrastructure

The Transportation Services department is responsible for the construction and maintenance of all Municipal roads and sidewalks. The Municipality owns and maintains approximately 210 kilometers of roadway, of which about 43% is classified as Low Class Bituminous (surface treatment with flexible pavement). The total replacement value of the road network is estimated to be \$87.8 million. Table 2 summarizes the replacement value of the Municipal road network by road type.



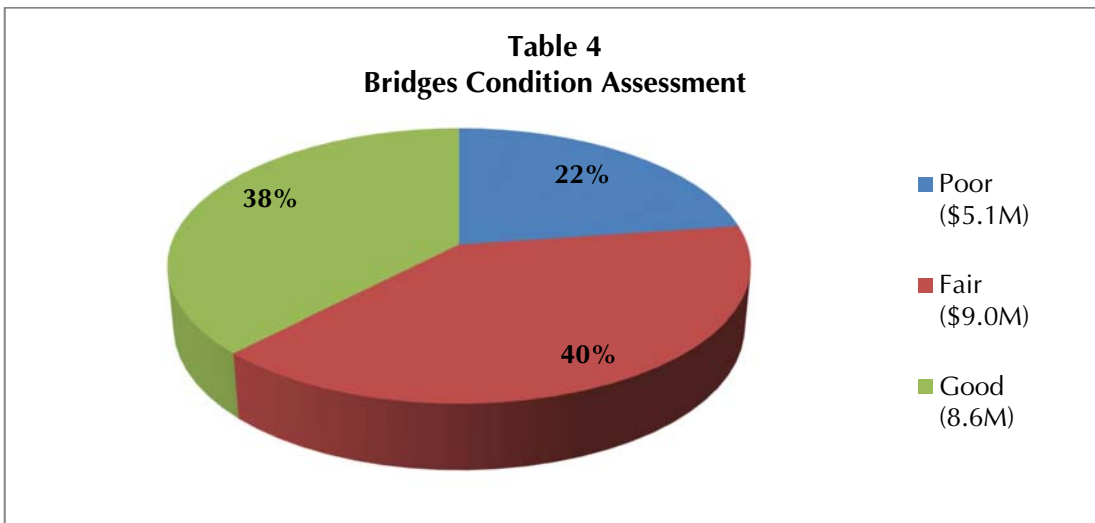
The condition of the roads infrastructure has been rated based on the need for road improvement work. For consistency with other Municipal infrastructure condition ratings, a classification system of “good”, “fair” and “poor” for all road infrastructures is used.

In total, the Municipality maintains 67% or \$59.0 million of the roads infrastructure in good condition. However, a significant portion, about 12% or \$10.5 million, of the Municipal road network is in poor condition. Table 3 summarizes the condition of the road infrastructure. It should be noted the condition analysis includes all municipal roads (both low and high traffic volume roads).



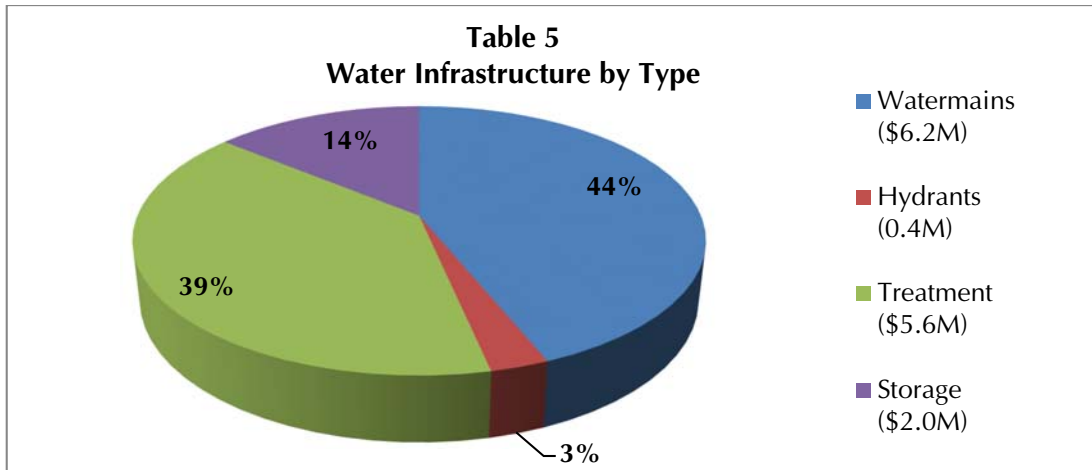
2. Bridges

The Transportation Services department is also responsible for bridge maintenance, repairs and replacement. The Municipality owns 28 bridges valued at approximately \$22.7 million. Much of this infrastructure is in a state of good repair, with about 77%, or \$17.6 million, of the assets being rated in good or fair condition. Most notably, the McFaul Bridge is identified to be in poor condition and is set with the highest priority for replacement at a cost of \$1.2 million. Table 4 summarizes the conditions of the bridge infrastructure.

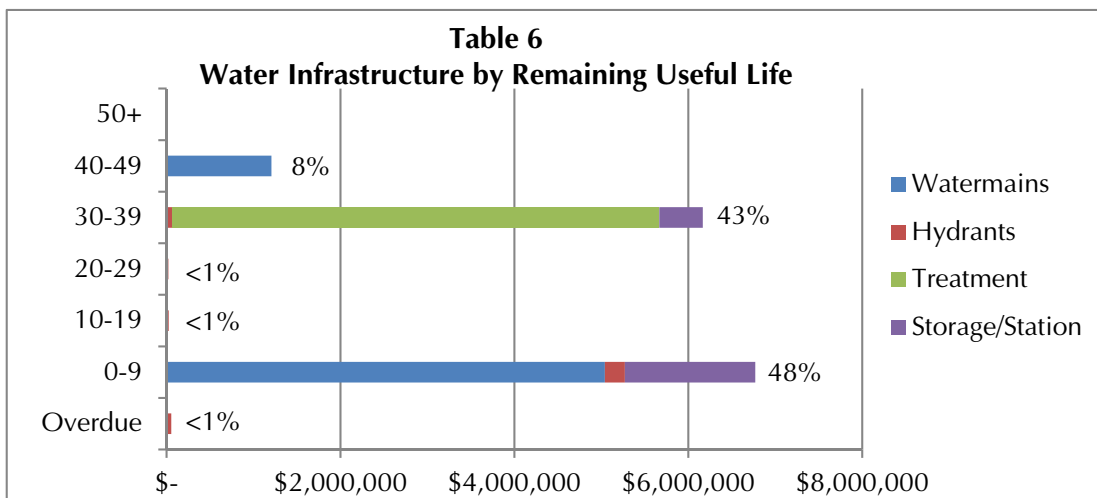


3. Water

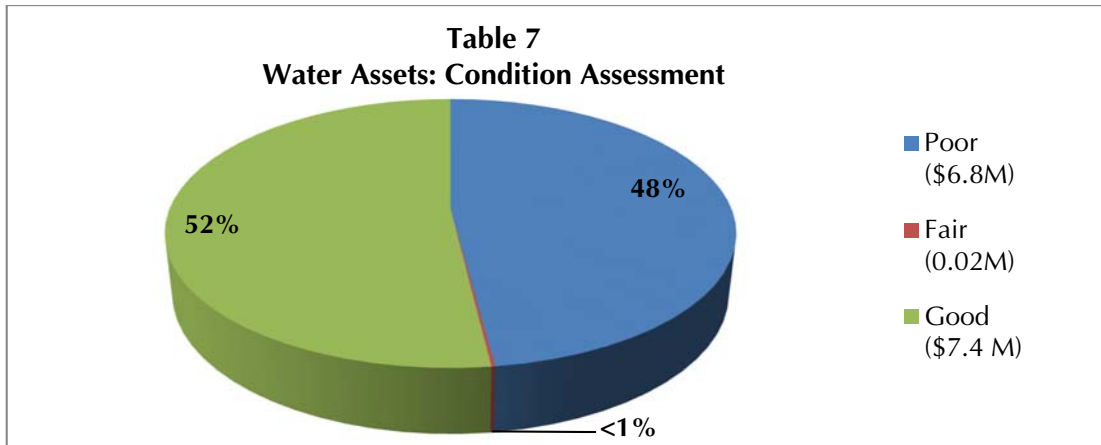
The Municipality maintains about 16,000 meters of linear water infrastructure along with a number of hydrants, booster stations and treatment plants. The infrastructure has a total replacement value of about \$14.2 million. As shown in Table 5, the largest component of this infrastructure is the watermains, which account for about 44%, or \$6.2 million, of the total replacement value of the water infrastructure.



Nearly half of the Municipality’s water infrastructure is relatively old; about \$6.9 million, or 48%, has a remaining useful life of less than 30 years. Of this, nearly all the infrastructure (\$6.8 million) requires replacement in the next ten years. Table 6 summarizes the age and value of the water infrastructure.

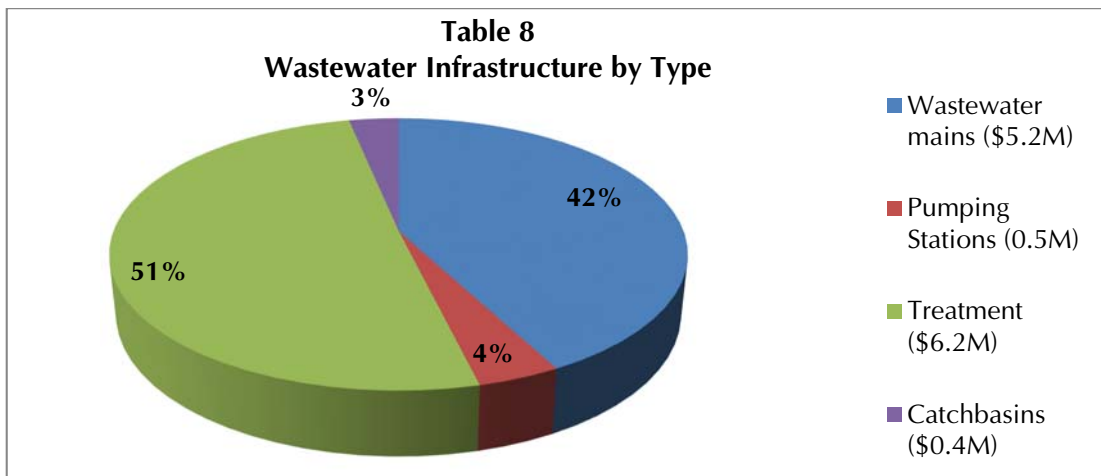


For the purposes of this Plan, water asset conditions were determined based on the remaining useful life identified in the asset registry. Using this approach, about 52% or \$7.4 million of the water infrastructure is considered to be in good condition. Conversely, about 48% or \$6.8 million is rated as being in poor condition. Table 7 summarizes the condition assessments.

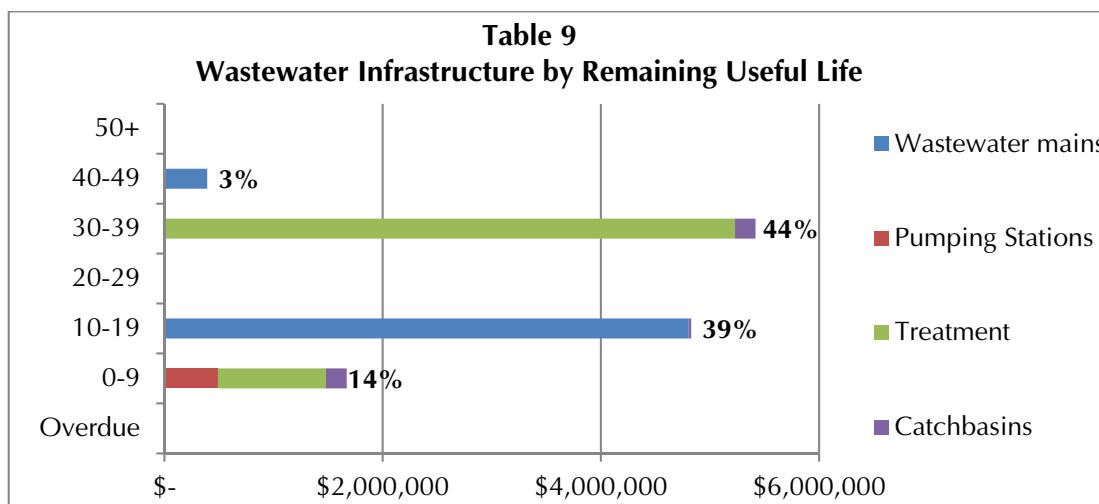


4. Wastewater

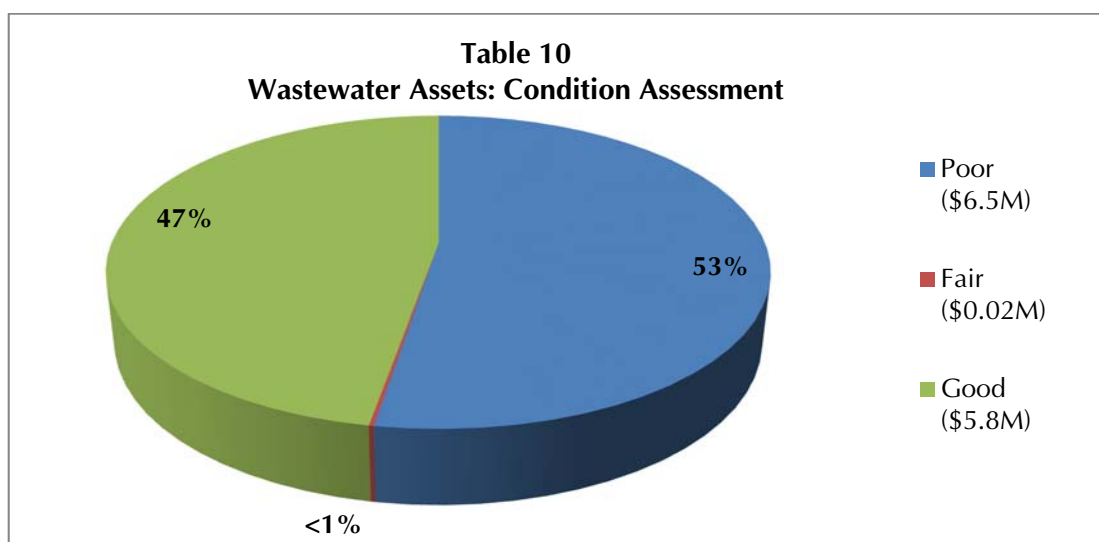
The Municipality maintains nearly 10,000 meters of linear wastewater mains in the Marmora and Deloro service areas in addition to a pump station, two treatment facilities, a storm water management pond and several catch basins. As illustrated in Table 8, the infrastructure has a total replacement value of about \$12.3 million. Unlike the water system, the largest component is wastewater treatment infrastructure, which accounts for \$6.2 million, or about 51% of the total replacement value of wastewater infrastructure. Wastewater mains account for about 42% or \$5.2 million of the total replacement value of the wastewater infrastructure.



As with the water infrastructure, about half the wastewater infrastructure is relatively old and in need of replacement; as shown in Table 9, about \$6.5 million (53%) have a remaining useful life of less than 30 years. Of this, about 14% (\$1.7 million) of the assets require replacement in the next ten years.



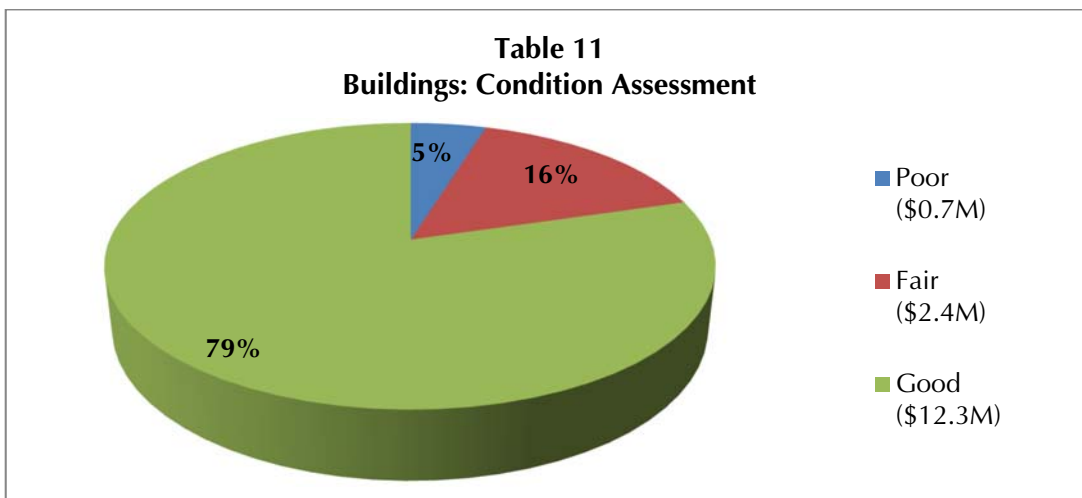
The condition of wastewater assets is also based on the remaining useful life as recorded in the asset registry. Under this approach, about 47% or \$5.8 million, of the infrastructure is considered to be in good condition. Conversely, about 53% or \$6.5 million of wastewater assets is identified in poor condition. Table 10 summarizes the results of the condition analysis.



5. Buildings

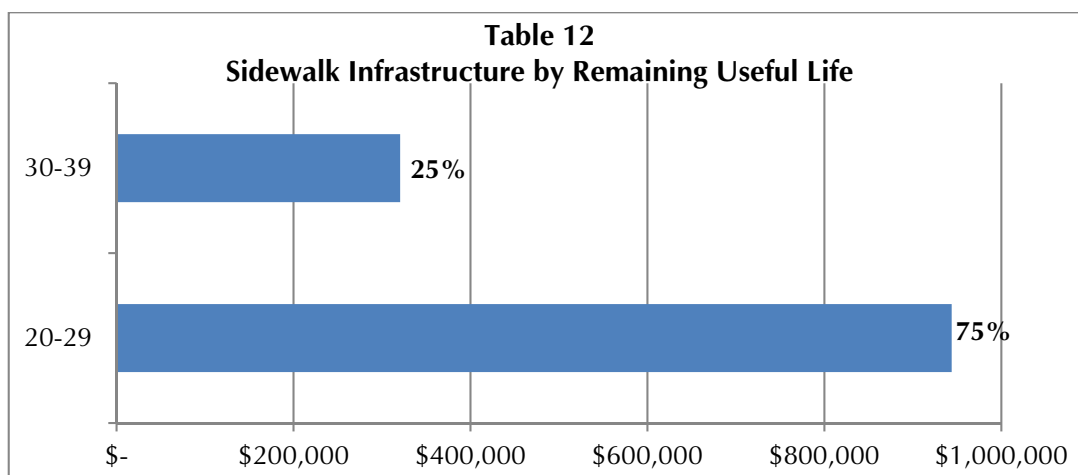
The Municipality is responsible for the maintenance and repair of several facilities, including recreation centres, libraries, park pavilions and the administration centre. The total replacement value of these buildings is estimated to be about \$15.4 million.

As indicated in Table 11, about 79% (\$12.3 million) of these buildings are considered to be in good condition. Only about 5% (\$735,000) are rated as being in poor condition with the Roads village garage/OPP building, valued at \$420,000, being the most significant building in this category.



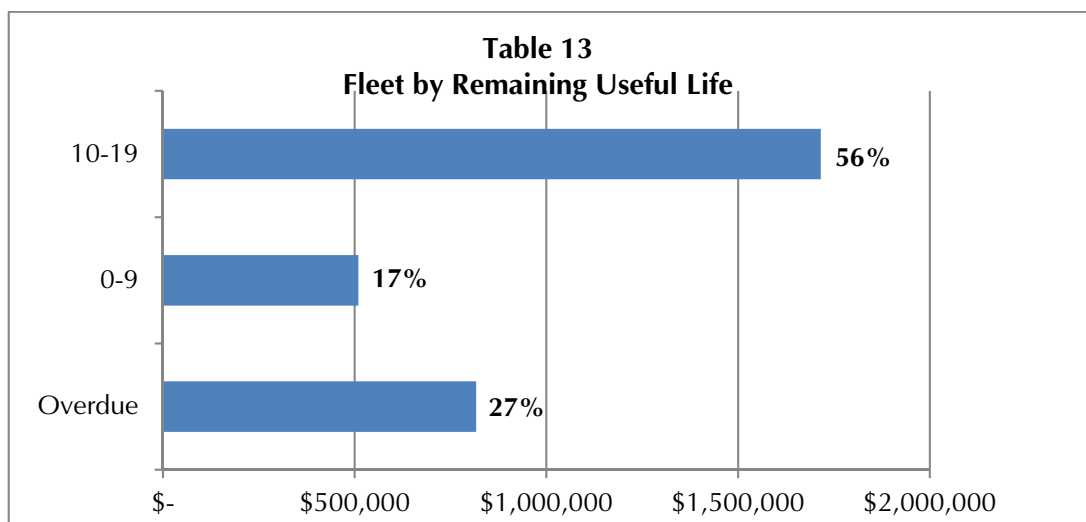
6. Sidewalks

The Municipality transportation services department is responsible for maintaining over 10,000 linear meters of sidewalk. This infrastructure is valued at approximately \$1.3 million. As illustrated in Table 12, municipal sidewalk infrastructure is new with all assets having a useful life greater than 20 years. To that end, all sidewalk infrastructures are considered to be in good standing condition.



7. Fleet

The Municipality has an extensive inventory of vehicles, machinery and equipment valued at approximately \$3.0 million, which are primarily used by staff in the Transportation Services department. The majority of municipal fleet require frequent replacement as the average life of these assets is about fifteen years. As shown in Table 13, about 44% (\$1.3 million) of the municipal fleet require immediate repair or replacement within the next ten years.



A significant portion of the municipal fleet, representing about \$1.9 million, or 63%, is categorized to be in good or fair condition. Although, about \$1.1 million or 37% of the assets have been assigned a poor condition rating.

III DESIRED LEVELS OF SERVICE

Asset management decisions must be made with reference to the level of service planned for by the Municipality. Current service levels in Marmora and Lake have been developed based on a combination of internal asset management practices, community expectations, statutory requirements, and industry operation and safety standards. Typically, the level of infrastructure investment made by the Municipality in any one year has been determined by funding availability. That said, the Municipality has in the past been responsive to infrastructure repair needs to address immediate environmental or health risks and to infrastructure needs for new development.

In our experience, the community expects that services be delivered in a cost effective and efficient way. Generally, community expectations revolve around the Municipality's ability to provide core services, such as: the delivery of potable drinking water; well maintained roadways; and the proximity and accessibility of "soft" services (e.g. recreation facilities; libraries; fire stations) within neighbourhoods.

The Municipality measures level of engineering related services provided using a number of key performance indicators. The table below shows that by these measures, service levels have remained relatively constant in recent years.

Key Indicators	2008	2009	2010	2011	2012	Target
Percentage of Roads in Fair or Good condition where the average daily traffic demand is more than 50 vehicles	-	-	-	-	56%	>60%
Percentage of Bridges and Culverts where the conditions is rated as good	n/a	n/a	n/a	n/a	28%	>28%
Percentage of winter events where the response met or exceeded locally determined municipal service levels for road maintenance	n/a	n/a	n/a	100%	100%	100%
Water loss analysis (water loss after treatment)	n/a	n/a	n/a	31%	28%	<28%
Number of natural main breaks per year	0	2	0	0	1	<2

Source: Based on MMAH FIR documents and Municipal data

The Table also shows target service levels which have been provided by Municipal staff:

- For Bridges, the Municipality maintains a portion of its bridges and culverts in good condition. It is staff's intentions to improve the condition of bridges and to ensure they continue to meet provincial safety standards and regulations.
- For roads, the municipality should target to maintain a minimum of 60% of roads with an average daily traffic demand in excess of 50 vehicles per day in good or fair condition. This would result in a maximum of 40% of their high volume road network being in poor condition, requiring immediate improvement work.
- Historically, the Municipality has experienced few instances where water or wastewater asset failure resulted in a reduced level of service. The Municipality will continue to prioritize the repair and replacement of water and wastewater main breaks when they occur.
- The Municipality has recently begun to track the delivery of potable water from treatment plants to community households and businesses. The loss of water in the distribution network has been about 30% of plant output in the last two years. This is a common rate of loss in the context of smaller Ontario municipalities. Although, staff are working towards reducing the amount of water loss in the distribution network each year.

As part of this Plan, the Municipality will continue to monitor and adjust current service level measures to meet legislative and community needs. The Municipality will also through master plans, official plans, community consultation and other studies develop service levels for the full range of municipal capital assets.

IV ASSET MANAGEMENT STRATEGY

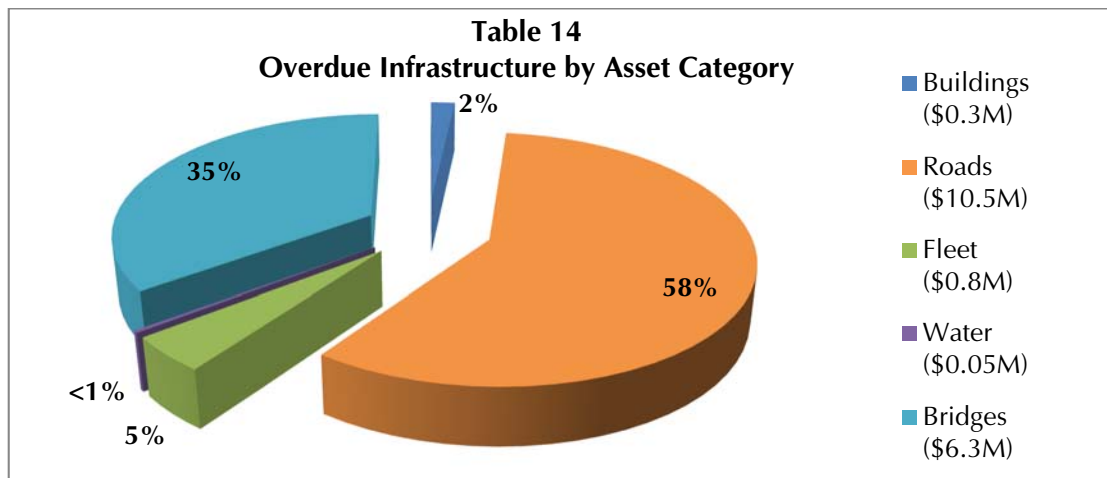
This section sets out an action plan that will assist the Municipality in maintaining assets so that desired service levels are achieved. An assessment of the lifecycle and criticality of assets is made. Future annual contributions to reserves for asset management purposes are also determined.

A. ASSET LIFECYCLE COST ANALYSIS

An understanding of the full lifecycle cost of assets is critical to determining the most cost-effective approach to asset management. In this section, a forecast of annual infrastructure replacement and rehabilitation needs is determined based on current (2013) replacement values and the useful life assigned to each asset and asset class.

1. Overdue Assets

As of 2013, the Municipality had approximately \$18.0 million in assets “overdue” for replacement. As outlined in Table 14, the most significant share of this infrastructure (\$10.5 million or 58%) relates to roads. An additional 35% (\$6.3 million) of overdue infrastructure relates to bridges. It should be noted that overdue road and bridge assets were determined based on the immediate requirement for work to be undertaken as opposed to the useful life of the asset. The overdue assets are identified in asset inventories found in Appendix A.

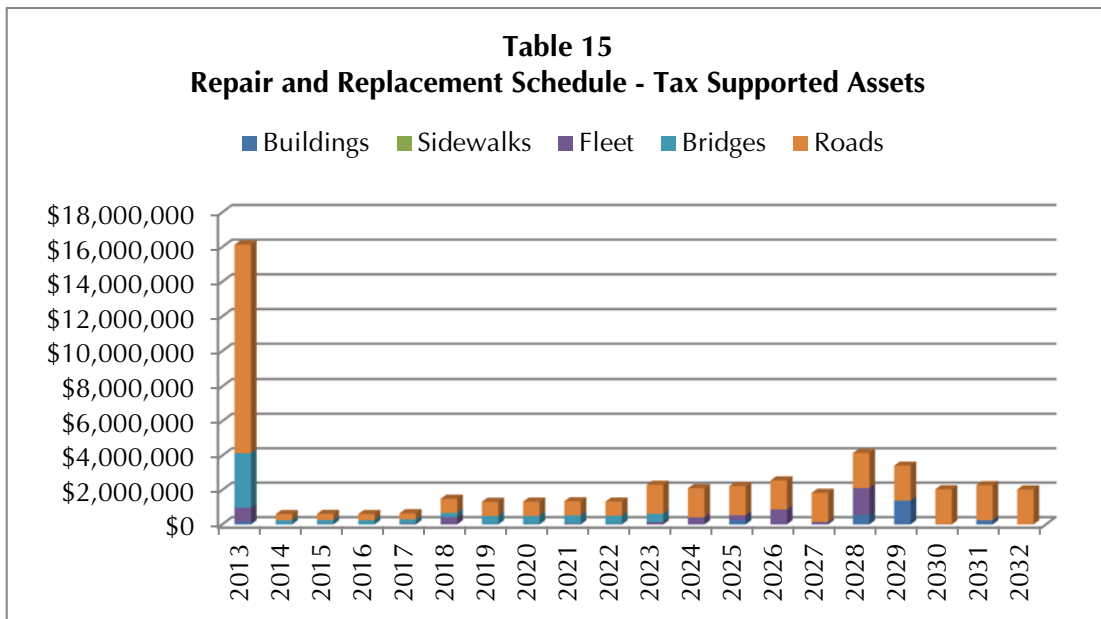


2. Repair and Replacement Program

Tables 15 and 16 set out the schedule of repair and replacement of assets required to meet service level targets for property tax supported as well as utility (i.e. water and wastewater) rate supported services. As shown in Table 15, roads services are the largest component of the tax supported repair and replacement program, representing \$37.5 million (72.5%), of all repair and replacement costs (\$51.7 million) through to 2032.

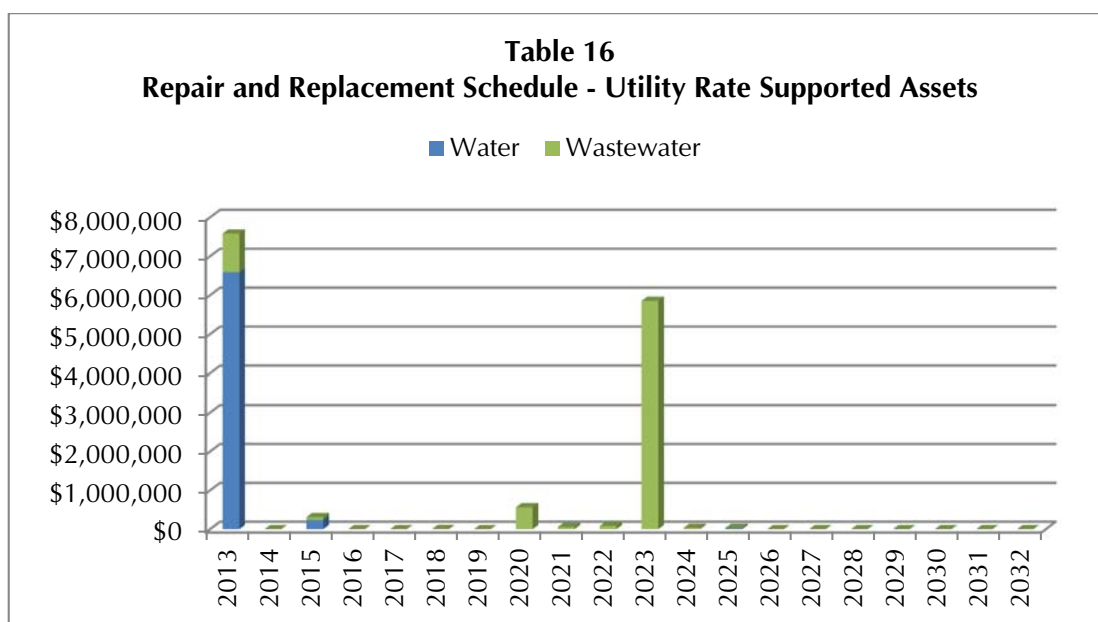
In 2013, significant expenditures have been identified that would require considerable road and bridge improvement works to be carried out. An analysis was undertaken which prioritized road improvement works based on traffic volumes and condition assessments for each asset. It should be noted that road improvement works are assumed to take place as a means of extending the useful life of roads in lieu of complete replacement. These expenditures can be mitigated through regular condition reassessments and by smoothing out road improvement works over a number of years.

In addition, given that retrofits and renovations can often extend the useful life of buildings in lieu of a complete replacement (shown in Table 15); the analysis assumes that costs to maintain buildings would be 50% of building replacement construction costs.



As identified in Section II, Municipal water and wastewater infrastructure is relatively old. As a result, a significant share of this infrastructure, mainly related to

linear assets, is due for replacement based on the estimated engineering design life of the assets. Table 16 demonstrates that a considerable share of water and wastewater repair and replacement costs is identified in 2013 and 2023 to cope with overdue infrastructure. Overall, wastewater services represent about 53% of the total \$14.5 million replacement costs through to 2032. Again, these expenditures can be mitigated through regular condition reassessments and by smoothing out repair and replacement works over a number of years. It should be noted that the schedule of replacement activities shown below is based solely on the estimated useful life of each asset and the actual condition of each asset differs, therefore, assets may continue to meet desired service levels beyond the engineered design standard, or require repair or replacement earlier than designed. Section C identifies capital projects which should be prioritized for repair/replacement, as identified by Municipal staff.



B. CALCULATION OF ANNUAL RESERVE CONTRIBUTIONS

A key component of the asset management strategy is to identify the level of expenditure required on an annual basis to pay for asset management. Costs to maintain and eventually replace newly acquired assets need to be understood. Contributions to reserves and reserve funds need to be quantified. In this section, provisions for infrastructure repair and replacement are calculated for each asset based on its remaining useful life and the anticipated cost of repair/replacement, in

the scheduled year of repair/replacement. The aggregate of all individual provisions form an annual contribution to reserve for the purpose of asset repair and replacement.

Tables 17 and 18 below show the funds that would have to be contributed annually to reserves to meet service level targets for tax and utility rate supported services to 2032.

Table 17 demonstrates that:

- Although the Municipality has regularly contributed to property tax supported reserves, a higher level of reserve contributions is required over the long term in order to meet service level requirements.
- Higher contributions would be required in the short-term to pay for significant road and bridge expenditures identified in 2013. However, there will likely be measures the Municipality could take to mitigate this financial pressure in 2013. These measures are more fully discussed in Section V.
- Average annual contributions over the 20-year period would have to be in the order of \$4.0 million per year, mostly relating to roads infrastructure.
- The Municipality would have to spend an average of \$2.6 million per year to 2032 to maintain tax supported assets, the additional \$1.4 million per year is to pay for infrastructure repair and replacement costs beyond 2032. This level of expenditure is approximately 5 times, or \$3.3 million, higher than the \$680,000 spent from the tax levy by the Municipality in 2013 on asset repair and replacement.

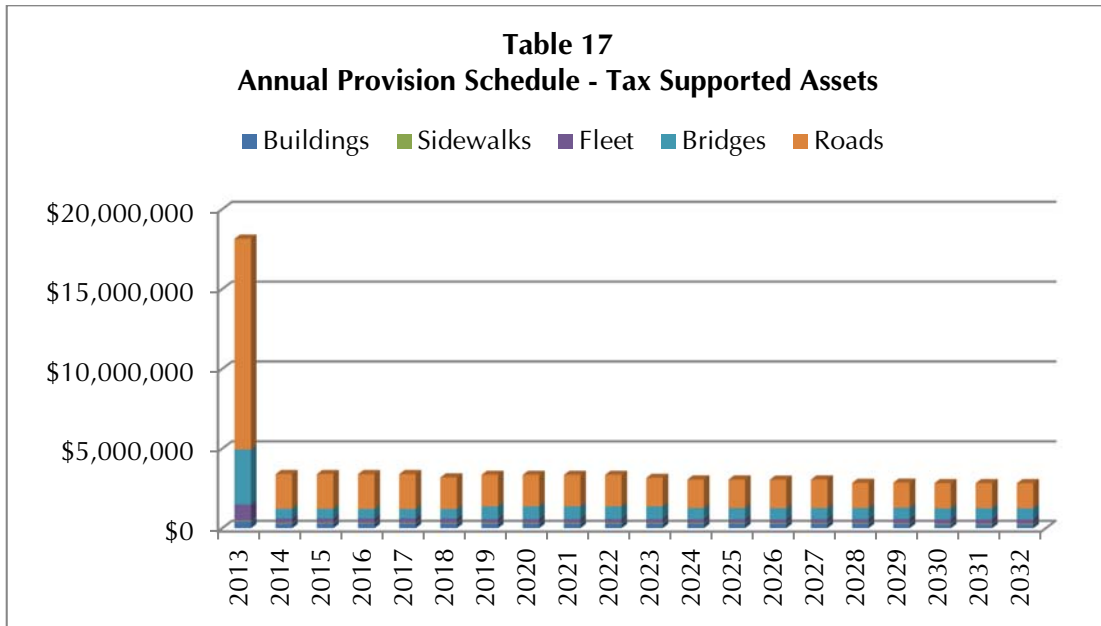
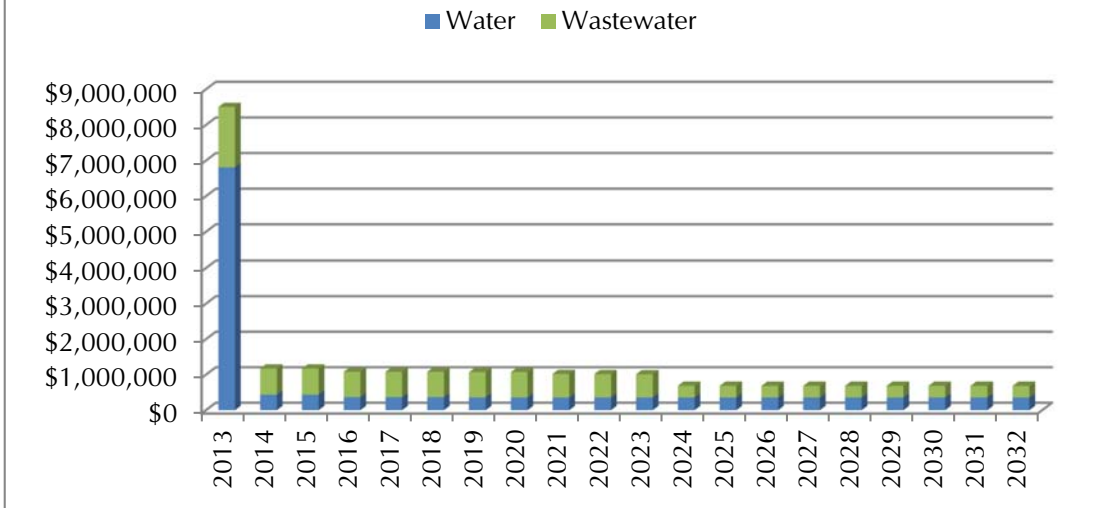


Table 18 shows the annual utility rate supported reserve contribution requirements to 2032. The Municipality has recently started to make regular contributions to reserves for the ultimate repair and replacement of water and wastewater related infrastructure. In 2011, the Municipality undertook a water and wastewater rates study that established utility rates to 2019. The study calculated utility rates in an effort to move the Municipality towards a full cost recovery system while promoting customer control and water conservation measures. In 2013, an update analysis was undertaken to reflect changes to the pattern of water consumption in the Municipality and revised operating and capital costs. This analysis set utility rates so the Municipality contributes about 35% of the maximum required contribution to reserve for repair and replacement (about \$379,000) by 2019. The analysis in Table 18 shows that higher contributions would be required in the short-medium term to pay for water and wastewater expenditures in the 2013 to 2023 period. That said, there will likely be measures the Municipality could take to mitigate this immediate financial pressure. These measures are discussed in Section V.

Table 18
Annual Provision Schedule - Utility Rate Supported Assets



C. HIGH PRIORITY WATER AND WASTEWATER CAPITAL WORKS

Although some of the Municipality's water and wastewater infrastructure is not due to be replaced for some time by virtue of the assets engineered design life, the condition of some assets are considered to be poor and no longer perform to the proper standards to meet current levels of service. In consultation with Municipal staff, the following table outlines 6 key projects which have been identified as a high priority and require immediate attention.

Table 19 – High Priority Water and Wastewater Capital Projects		
Priority #	Project Description	Estimated Cost
1.	Sanitary Sewer Forcemain	\$1,000,000
2.	Water/Sanitary Sewer Rehabilitation: New Water/Sewer on Crawford Drive	\$900,000
3.	Water Tower/Standpipe	\$1,500,000
4.	Watermain Rehabilitation: New Watermain from Norwood Road South to Roscoe Street	\$800,000
5.	Watermain Rehabilitation: New Watermain and Sewermain Extension: North Hastings to Ultramar	\$800,000
6.	Cathbasins – Installed from 1975-1982	\$190,000
Total		\$5,190,000

The level of capital repair and replacement works required would necessitate the Municipality to seek funding from a variety of sources, in addition to utility rate based revenues, to fund all of part these works. With a user base of approximately 800 billable units, the priority works would result in each billable unit contributing about \$6,500 in addition to the current utility rates in force, which are used to fund

largely the day-to-day water and sewer operations (incl. debt repayment) and minor capital repair works. The Municipality's utility rates will continue to be increased, which progressively over-time, moves the Municipality towards full cost recovery. However, in the short-medium term, the Municipality should look to secure grant funding to offset the capital costs of completing the noted projects.

The Municipality has always used internal control measures to prioritize capital related repair and replacement activities to align with available funds/resources to meet current levels of service. The Municipality will continue to utilize such measures to ensure capital works are carried out in a fiscally responsible manner. It is in this regard the Municipality has identified the need to complete the sanitary sewer forcemain project and the water/sewermain rehabilitation works on Crawford drive immediately, while the remaining high priority projects will be considered for completion in subsequent years beyond 2016. The Municipality's ability to undertake these projects is largely dependent on securing upper-level government grant funding, and therefore, the Municipality should exercise all available grant funding opportunities while continuing to move towards full cost recovery utility rates.

The financing strategies outlined in the following section detail the Municipality's commitment to increase capital contributions over time to progressively move towards self sustaining water and wastewater systems. It should be noted; annual capital budgeting exercises may reprioritize the capital works identified and/or alter from the assumed increase to capital contributions to balance affordable utility and tax rates.

V FINANCING STRATEGY

This section of the Plan is intended to provide a framework for the Municipality to integrate asset management with annual budgeting and long-term financial planning.

The Municipality has traditionally followed a “pay-as-you-go” approach to financing infrastructure, whereby capital expenditures are prioritized and approved with reference to the availability of funds. That said, the Municipality has historically set aside some funds in reserves and reserve funds in an effort to maintain its capital assets. Additionally, the Municipality has often relied on funding assistance from higher orders of government to undertake necessary capital works.

A. AVAILABLE FUNDING TOOLS

The following section discusses, at a high level, the range of tools available to the Municipality for funding capital expenditures.

Federal and Provincial Grants

Historically, the Municipality has had success in securing grant funding from higher orders of government to assist in funding capital projects. Most recently, the Municipality has secured approximately \$1.0 million to replace the Deloro septic system. Additionally, the Municipality has also applied for grant funding to carry out other high priority capital projects identified in this plan. The Municipality will continue to seek financial assistance from upper levels of government to fund capital works.

The Municipality of Marmora and Lake has indicated that it expects to continue receiving Gas Tax grant revenue. These funds can be applied to fund future capital replacement costs.

Development Charges

Development charges may be imposed to pay for increased capital costs required because of increased needs for services arising from development.

The Municipality does not utilize development charges as a tool for funding growth-related infrastructure.

Utility Rates

Following the 2011 Water and Wastewater Rate Study and subsequent update analysis in 2013, the Municipality implemented increases to utility rates in a move towards full cost recovery. The study documented the required utility rate increases for both the fixed and volumetric fees to support the short-medium term capital requirements. The study calculated rate increases, which progressively over-time, moves the Municipality towards full cost recovery. The results of this analysis are issued under separate cover.

Property Taxes

Property taxes represent approximately 50% of revenues in the 2013 tax supported budget. The use of property taxes to fund municipal services is the most secure source of funding for the Municipality. As such, the Municipality may be required to increase property tax revenue to fund additional capital expenditures.

User Fees

User fees are the second largest funding source of revenues for the Municipality at 27% of total revenue. To the extent that user fees are being collected to fund repair and replacement of capital infrastructure, a portion of user fees should be allocated to capital reserves.

B. FINANCING AND FINANCIAL MANAGEMENT PRACTICES

This section discusses, at a high level, the means by which capital revenue can be raised or secured.

Debt (as a financing tool)

Debt financing is a viable tool available to fund infrastructure projects. Planned debt is a responsible way to spread the costs of a project over the life of an asset to ensure the ratepayers who benefit from the asset share the cost. Therefore, the burden of capital is distributed equally between the current taxpayer and future rate payers. The Municipality has often exercised the ability to fund capital works through the issuance of debt.

The amount of debt a municipality can carry is set by provincial regulations to ensure municipalities continue to operate in a fiscally sound environment. The Municipality's total allowable annual debt costs equates to about \$1.0 million. Marmora and Lake currently operates below the debt threshold with \$248,000 in annual debt payments (principal and interest combined) as of January 1st 2013.

As a safe practice, any potential debt not be financed for a period longer than the average useful life of the asset. This will ensure the Municipality is not paying for an asset outside the design life beyond the assets expected use.

Reserves and Reserve Funds

Reserves are to be used to cope with high capital investment periods by saving during low capital investment periods. This practice will smooth annual expenditures and ensure the municipality can complete the required annual capital works. In addition to contributions during low investment periods many municipalities use annual surpluses, should one arise, to increase reserves. There is no prescribed amount of reserves for a municipality to have at any given time, but they should be sufficient to cover the difference between the annual contribution and the capital program.

As of January 1st 2013, the Municipality had a balance of \$616,000 of tax supported capital reserves and \$37,000 of utility rate supported capital reserves; these balances have been considered in the calculation of the infrastructure deficit in Part C of this section.

C. CURRENT INFRASTRUCTURE DEFICIT AND FUTURE FUNDING GAPS

To implement sustainable asset management practices the Municipality needs to have an understanding of the current “infrastructure deficit” as well as the funding gaps that would arise should the required annual contributions to reserves identified in Section IV be delayed.

The current infrastructure deficit shown below represents the difference between the reserves the municipality would have if they followed a full cost recovery plan and the current total reserve amounts. If the municipality was following a full cost recovery plan to perform the work set out in the asset repair and replacement schedule identified in Section IV, they would have \$45.9 million in reserves.

Current Reserve Requirement - Tax Supported	
Buildings	\$3,117,174
Sidewalks	\$428,575
Fleet	\$1,440,112
Bridges	\$5,731,430
Roads	<u>\$21,701,452</u>
	\$32,418,743
Current Reserves	\$615,901
Current Infrastructure Deficit	\$31,802,842

Current Reserve Requirement - Utility Rate Support	
Water	\$8,050,554
Wastewater	<u>\$6,101,172</u>
	\$14,151,725
Current Reserves	\$37,257
Current Infrastructure Deficit	\$14,114,468

Total Current Infrastructure Deficit	\$45,917,310
---	---------------------

Financing Strategy

It is unrealistic in the current fiscal context to expect the Municipality to address the above \$45.9 million infrastructure deficit in the short-term. Accordingly, a long-term funding strategy that identifies options for addressing current and future asset expenditure requirements, including the recalculated infrastructure deficit, by 2032 is provided in this section. This analysis recognizes that the Municipality has not

kept pace with the required contributions to perform the work set out in the calculated asset repair and replacement schedule in Section IV.

Three financing strategies were developed to determine what capital expenditures would be required to meet asset repair and replacement needs for both tax and utility rate supported assets. It should be noted that the level of capital related expenditures (to 2019) adopted in the 2013 update utility rate analysis have been incorporated in the rate supported strategies. The financing strategies described below illustrate the “smoothed options” to the capital repair and replacement requirements identified in Section IV of this plan. The growth assumptions for each strategy are:

Financing Strategies	Tax Supported	Utility Rate Supported
Strategy 1	Increase annual capital funding by 10.2% per annum so the annual provision requirement is met in 15 years. The annual funding gap is closed by 2028.	Increase capital funding by 12.0% per annum post 2019.
Strategy 2	Increase annual capital funding by 7.9% so the annual provision requirement is met in 20 years. The annual funding gap is closed by 2032.	Increase capital funding by 7.9% per annum post 2019.
Strategy 3	Capital expenditures are kept at current levels; increased funding only accounts for inflationary adjustments at a rate of 2% per annum.	Capital expenditures are kept at current levels; increased funding only accounts for inflationary adjustments at a rate of 2% per annum post 2019.

In addition, each strategy shown above has been modified to include funding from other sources (likely federal or provincial grants) to support the repair and replacement of capital assets.

1. Tax Supported Assets

a) Analysis of Strategy 1

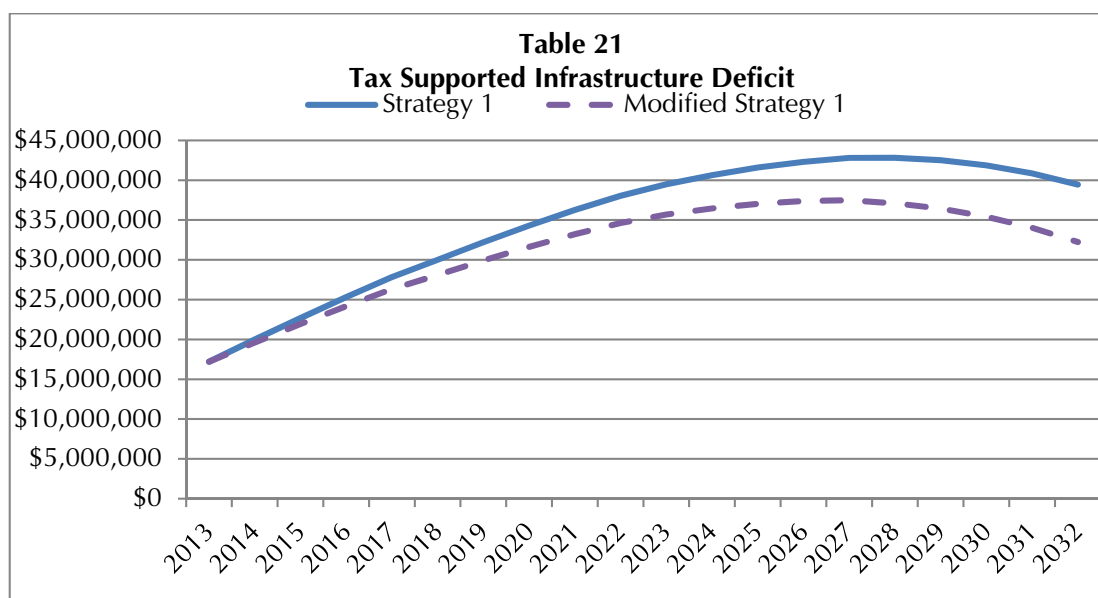
Given the capital expenditure requirement to meet the asset replacement needs, the accumulated infrastructure deficit will reach \$42.8 million before the Municipality begins to lower this amount by increasing capital funding by more than the annual provision requirement for tax supported assets. Table 20 below highlights the fact that the infrastructure deficit will increase by the annual funding gap and decrease once the annual contributions are greater than the annual provision. By 2032, the infrastructure deficit will be reduced to \$39.5 million. This scenario represents an increase in capital funding from the current level of \$680,000 by 10.2% annually. In 2014, this translates into a 2.6% increase to the property tax rate in order fund the additional capital expenditures.

**Table 20 – Projected Annual Funding Gap under Strategy One
For Tax Supported Assets**

	Projected Annual Capital Provision	Capital Funding from Tax Levy	% Annual Increase in Capital Funding	Other Sources of Funding	Total Capital Funding	Annual Funding Gap	Cumulative Infrastructure Deficit
2013	\$18,279,792	\$680,000		\$380,000	\$1,060,000	\$17,219,792	\$17,219,792
2014	\$3,531,213	\$749,421	10.2%	\$0	\$749,421	\$2,781,792	\$20,001,584
2015	\$3,531,213	\$825,929	10.2%	\$0	\$825,929	\$2,705,284	\$22,706,868
2016	\$3,528,498	\$910,248	10.2%	\$0	\$910,248	\$2,618,250	\$25,325,118
2017	\$3,528,498	\$1,003,175	10.2%	\$0	\$1,003,175	\$2,525,323	\$27,850,441
2018	\$3,266,180	\$1,105,589	10.2%	\$0	\$1,105,589	\$2,160,591	\$30,011,032
2019	\$3,430,836	\$1,218,458	10.2%	\$0	\$1,218,458	\$2,212,378	\$32,223,411
2020	\$3,429,976	\$1,342,850	10.2%	\$0	\$1,342,850	\$2,087,126	\$34,310,536
2021	\$3,428,965	\$1,479,941	10.2%	\$0	\$1,479,941	\$1,949,023	\$36,259,560
2022	\$3,427,876	\$1,631,028	10.2%	\$0	\$1,631,028	\$1,796,848	\$38,056,408
2023	\$3,237,613	\$1,797,539	10.2%	\$0	\$1,797,539	\$1,440,074	\$39,496,482
2024	\$3,135,830	\$1,981,049	10.2%	\$0	\$1,981,049	\$1,154,781	\$40,651,263
2025	\$3,133,878	\$2,183,294	10.2%	\$0	\$2,183,294	\$950,584	\$41,601,847
2026	\$3,125,359	\$2,406,186	10.2%	\$0	\$2,406,186	\$719,174	\$42,321,021
2027	\$3,136,815	\$2,651,833	10.2%	\$0	\$2,651,833	\$484,983	\$42,806,003
2028	\$2,922,557	\$2,922,557	10.2%	\$0	\$2,922,557	\$0	\$42,806,003
2029	\$2,937,507	\$3,220,920	10.2%	\$0	\$3,220,920	-\$283,414	\$42,522,590
2030	\$2,905,004	\$3,549,743	10.2%	\$0	\$3,549,743	-\$644,739	\$41,877,851
2031	\$2,905,264	\$3,912,135	10.2%	\$0	\$3,912,135	-\$1,006,871	\$40,870,980
2032	\$2,900,936	\$4,311,524	10.2%	\$0	\$4,311,524	-\$1,410,588	\$39,460,392
Total Infrastructure Deficit						\$39,460,392	

Other Sources of Funding

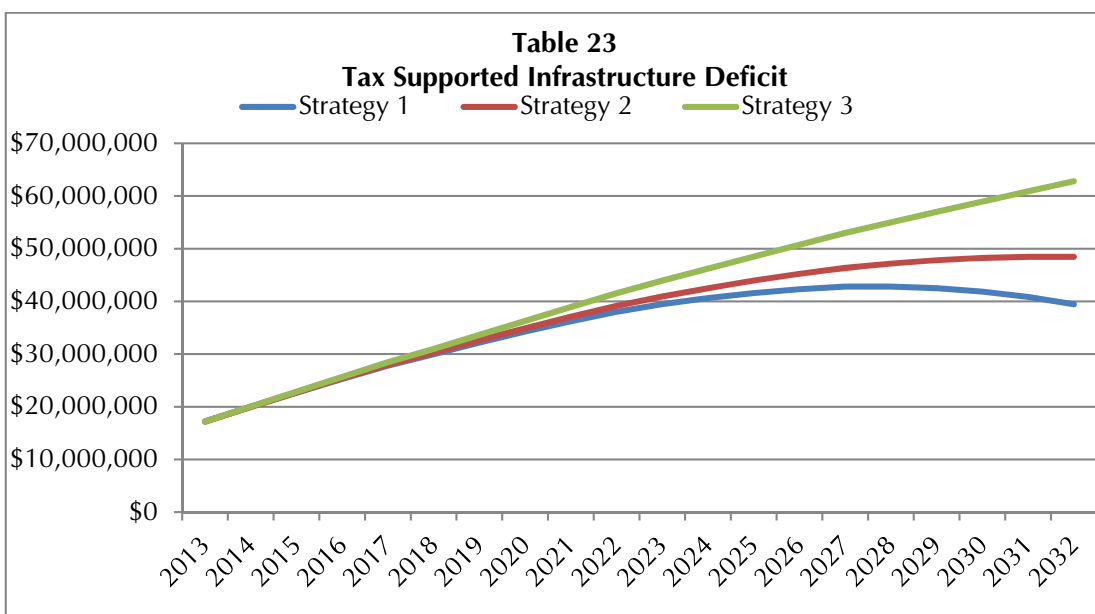
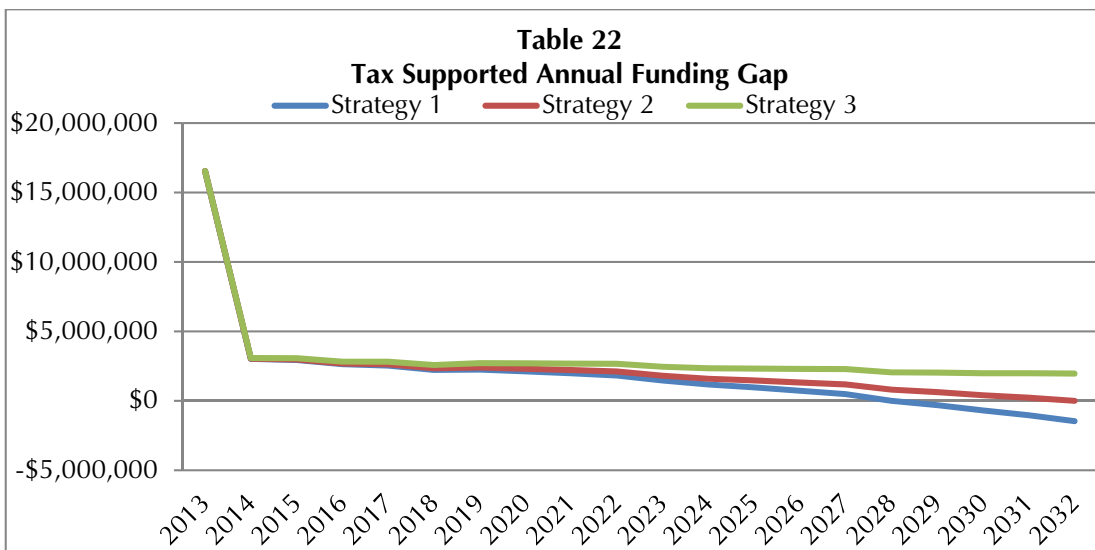
The strategy 1 analysis has been modified to assume the Municipality continues to receive other sources of funding (likely federal or provincial grants) at the current level throughout the planning period. Therefore, government assistance funding of \$380,000 is maintained through to 2032 to fund the repair and replacement of capital assets. Under this approach, the infrastructure deficit is reduced to \$32.2 million by 2032 from the \$39.5 million identified without federal or provincial funding assistance. Table 21 below compares the infrastructure deficit for the Strategy 1 analysis.



b) Alternative Financing Strategy

As shown in Table 22, two additional financing strategies were developed to identify when the Municipality would reach full cost recovery. It should be noted that when the annual funding gap is equal to or below zero the municipality is achieving full cost recovery as they will be contributing the required annual provision.

The strategy 2 analysis indicates that if the Municipality were to increase capital funding on average by 7.9% each year, full cost recovery would be reached in 2032, however, the infrastructure deficit will have increased to \$48.5 million. The third strategy assumes capital expenditures are kept at current levels; increased funding only accounts for inflationary adjustments at a rate of 2% per annum. This analysis indicates the Municipality would not reach full cost recovery by 2032 and the infrastructure deficit will have increased to \$62.8 million. Table 23 compares the infrastructure deficit for each financing strategy.



Other Sources of Funding

The strategy 2 and 3 analysis has also been modified to assume the Municipality continues to receive other sources of funding (likely federal or provincial grants) of about \$380,000 per annum throughout the planning period to fund the repair and replacement of capital assets. Under this approach, the infrastructure deficit is reduced to \$41.2 million and \$55.6 million respectively by 2032.

2. Utility Rate supported assets

This section discusses the three financing strategies to determine what capital expenditures would be required to meet asset replacement needs for rate supported assets.

a) Analysis of Strategy 1

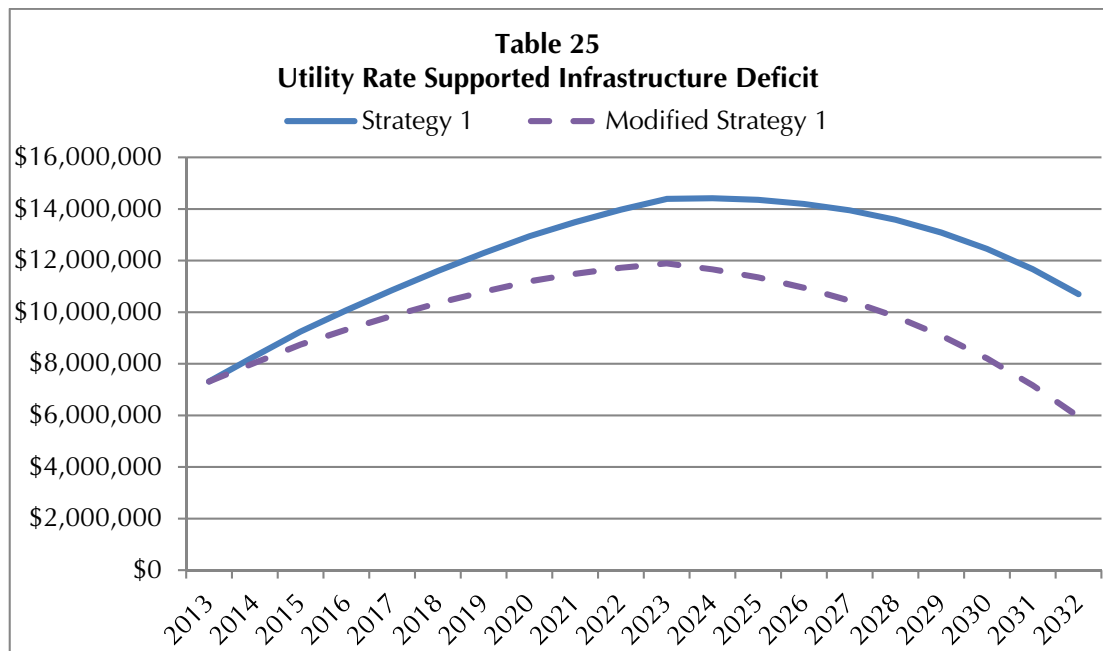
Given the capital expenditure requirement to meet the asset replacement needs, the accumulated infrastructure deficit will reach \$14.4 million before the Municipality begins to lower this amount by increasing capital funding more than the annual provision requirement for utility rate supported assets. Table 24 below highlights the fact that the infrastructure deficit will increase by the annual funding gap and decrease once the annual contributions are greater than the annual provision. By 2032, the infrastructure deficit will be reduced to \$10.7 million. This scenario represents capital funding projections to 2019 consistent with the 2013 update rate analysis. Thereafter, capital spending increases in the order of 12.0% per annum from 2020 forward is calculated.

**Table 24 – Projected Annual Funding Gap under Strategy One
For Utility Rate Supported Assets**

	Projected Annual Capital Expenditures	Capital Funding from Utilities	% Annual Increase in Utility Funding	Other Sources of Funding	Total Capital Funding	Annual Funding Gap	Cumulative Infrastructure Deficit
2013	\$8,550,838	\$187,500		\$1,000,000	\$ 1,187,500	\$7,363,338	\$7,363,338
2014	\$1,165,151	\$196,491	4.8%	\$0	\$ 196,491	\$968,661	\$8,331,999
2015	\$1,165,151	\$217,603	10.7%	\$0	\$ 217,603	\$947,548	\$9,279,548
2016	\$1,073,282	\$255,594	17.5%	\$0	\$ 255,594	\$817,688	\$10,097,236
2017	\$1,073,282	\$299,409	17.1%	\$0	\$ 299,409	\$773,873	\$10,871,108
2018	\$1,073,282	\$334,706	11.8%	\$0	\$ 334,706	\$738,576	\$11,609,684
2019	\$1,072,583	\$378,940	13.2%	\$0	\$ 378,940	\$693,643	\$12,303,328
2020	\$1,072,583	\$424,413	12.0%	\$0	\$ 424,413	\$648,171	\$12,951,498
2021	\$1,021,966	\$475,342	12.0%	\$0	\$ 475,342	\$546,624	\$13,498,122
2022	\$1,018,052	\$532,383	12.0%	\$0	\$ 532,383	\$485,668	\$13,983,790
2023	\$1,013,105	\$596,269	12.0%	\$0	\$ 596,269	\$416,836	\$14,400,626
2024	\$687,932	\$667,822	12.0%	\$0	\$ 667,822	\$20,110	\$14,420,737
2025	\$686,615	\$747,960	12.0%	\$0	\$ 747,960	-\$61,346	\$14,359,391
2026	\$685,466	\$837,715	12.0%	\$0	\$ 837,715	-\$152,250	\$14,207,141
2027	\$685,466	\$938,241	12.0%	\$0	\$ 938,241	-\$252,775	\$13,954,366
2028	\$685,466	\$1,050,830	12.0%	\$0	\$ 1,050,830	-\$365,364	\$13,589,002
2029	\$685,466	\$1,176,930	12.0%	\$0	\$ 1,176,930	-\$491,464	\$13,097,538
2030	\$685,466	\$1,318,161	12.0%	\$0	\$ 1,318,161	-\$632,696	\$12,464,842
2031	\$685,466	\$1,476,341	12.0%	\$0	\$ 1,476,341	-\$790,875	\$11,673,967
2032	\$685,466	\$1,653,502	12.0%	\$0	\$ 1,653,502	-\$968,036	\$10,705,932
Total Infrastructure Deficit						\$10,705,932	

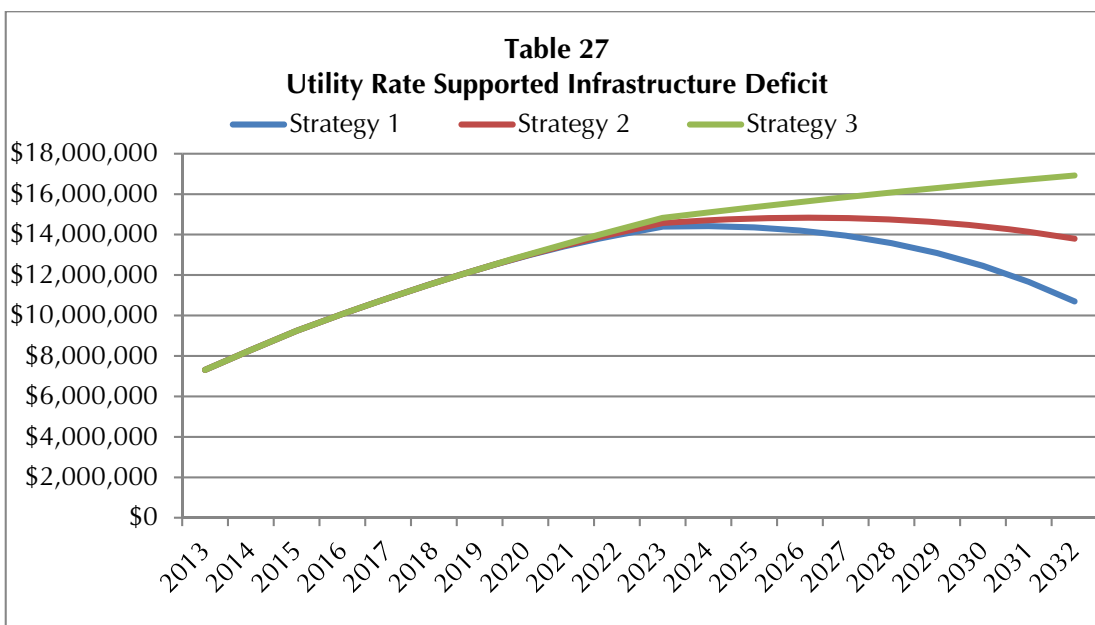
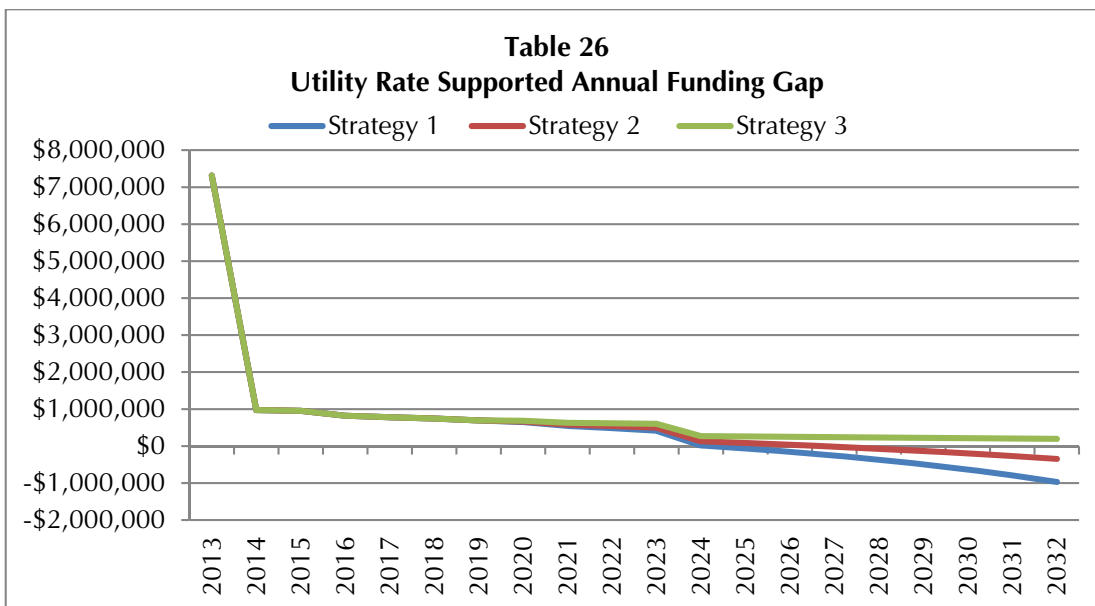
Other Sources of Funding

The strategy 1 analysis has been modified to assume the Municipality continues to receive other sources of funding (likely federal or provincial grants) of approximately \$250,000 per annum through to 2032 to fund the repair and replacement of capital assets. Under this approach, the infrastructure deficit is reduced to \$6.0 million by 2032 from the \$10.7 million identified without federal or provincial grant assistance. Table 25 below compares the infrastructure deficit for the Strategy 1 analysis.



b) Alternative Financing Strategy

Table 26 illustrates two additional strategies to identify when the Municipality would reach full cost recovery. The strategy 2 analyses indicates that if the Municipality were to increase capital funding on average by 7.9% each year post 2019, full cost recovery would be reached in 2027, and the infrastructure deficit will have increased to \$13.9 million. The third strategy assumes capital expenditures are kept at current levels; increased funding only accounts for inflationary adjustments at a rate of 2% per annum (post 2019). This analysis indicates the Municipality would not reach full cost recovery by 2032 and the infrastructure deficit will have increased to \$16.9 million. Table 27 compares the infrastructure deficit for each financing strategy.



Other Sources of Funding

The strategy 2 and 3 analysis has also been modified to assume the Municipality continues to receive other sources of funding in the amount of approximately \$250,000 per annum, through to 2032, to fund the repair and replacement of capital assets. Under this approach, the infrastructure deficit is reduced to \$9.2 million and \$12.2 million respectively by 2032.

VI CONCLUSIONS AND RECOMMENDATIONS

The objective of this Asset Management Plan is to provide the Municipality of Marmora and Lake with the information it needs to make decisions on how best to manage capital assets in a sustainable way to 2032. In this section, recommendations based on the analysis undertaken as part of the Plan are made.

A. SUMMARY OF KEY FINDINGS

Overall, the Municipality will need to continue to increase spending to address current and future infrastructure requirements in an effort to move forward with sustainable asset management planning:

- The Municipality's asset base is extensive, valued at \$156.8 million, in relation to the total population of about 4,100 persons. The responsibility to maintain existing infrastructure is challenging and the Municipality will need to continue to increase spending to address current and future infrastructure requirements;
- About 61% (or \$96.0 million) of Municipal assets are in good standing condition, however, approximately 20% or \$31.0 million, is assessed as being in "poor" condition;
- The Municipality, through its annual capital budgeting process, has been addressing critical issues and assets in need for repair or replacement;
- The Municipality has limited reserves available to fund both tax and utility rate supported capital projects; and
- The Municipality will continue to require funding from the federal and provincial government to undertake capital related works. In the immediate future, significant work is required to replace aged water and wastewater infrastructure, and without the assistance of upper-tier funding assistance, this work will result in significant upward pressure on the utility rates. Therefore, it is important the Municipality continue to seek financial assistance, where possible, from upper-tier government sources.

B. SUMMARY OF RECOMMENDATIONS

Based on the research and analysis undertaken for this Plan the following conclusions can be reached:

1. Continue to Improve Capital Development Planning Process

- The Municipality should adopt multi-year capital budgets and forecasts for all services based on a minimum 10 year forecast horizon.
- Capital budgets and forecasts should identify and evaluate each capital project in terms of the following, including but not limited to:
 - gross and net project costs;
 - timing and phasing;
 - funding sources;
 - growth-related components;
 - potential financing and debt servicing costs;
 - long-term costs, including operations, maintenance, and asset rehabilitation costs;
 - capacity to deliver; and
 - alternative service delivery and procurement options.
- A range of quantifiable service level targets that incorporate the quantity and quality of capital assets should be established for all services. Targets should be measured, reported on, and adjusted annually.
- Specifically related to water and sewer infrastructure, this plan identifies six key capital works which should be prioritized for repair and replacement.
- Other repair and replacement capital works should be prioritized based on asset condition ratings with assets overdue for replacement and/or identified as “poor” recognized for immediate attention.
- Assets which have been provided a “fair” condition rating should be targeted for maintenance to ensure they continue to perform at the expected level.
- The Municipality should, where possible coordinate the construction of new (growth-related) infrastructure with infrastructure repairs and replacement to achieve cost efficiencies.

2. Ensure Asset Inventories are Updated Regularly

- Sound asset management decisions are only possible if information in the asset registry is accurate. The Municipality should regularly update the registry to account for asset purchases, upgrades, and replacements, as well as asset condition ratings and information on useful life.
- The Municipality should update this Asset Management Plan at a minimum every 5 years.

3. Optimize the Use of Existing Assets

- The Municipality should implement a range of engineering and non-engineering approaches to extend the useful life of current assets. A number of municipalities in Ontario have had success in this regard by, for example:
 - implementing aggressive water conservation measures;
 - undertaking relining programs, cathodic protection measures, CCTV inspections (or other condition assessment reviews), and inflow and infiltration remedial work on existing pipe infrastructure;
 - deferring road resurfacing and improvement works to allow road service levels to decline to a level where repair is necessary; and
 - substituting retrofitting and rehabilitation work for (more costly) full replacement of an asset.

APPENDIX

APPENDIX A

DETAILED ASSET LIST

Appendix A
Municipality of Marmora and Lake
Capital Asset Inventory and Replacement Schedule
Roads

Name	From	To	Section Number	Length	Condition Assessment	Priority Rating	Surface Type	Estimated Replacement Cost (2013)	Overdue	Timing of First Recommended Road Work**	Cost of Road Work in Future Dollars*
Deloro Road	Deloro Dam Road	Lowry Road	1-057	2.70	Poor	45.6	LCB	\$1,080,000	\$1,080,000	2013	\$2,453,883
Deloro Road	Lowry Road	Malone South Limits (2)	1-058	2.10	Poor	42.2	LCB	\$840,000	\$840,000	2013	\$1,908,575
Beaver Creek Road	Cordova Road	Gulf Road	1-003	1.50	Poor	42.0	LCB	\$600,000	\$600,000	2013	\$737,274
Deloro Road	Malone South Limits	Malone Quarry Road	1-059	0.50	Poor	41.2	LCB	\$200,000	\$200,000	2013	\$454,423
Deloro Road	Malone Road	Centre Line Road	1-061	2.30	Poor	37.8	LCB	\$920,000	\$920,000	2013	\$2,090,344
Beaver Creek Road	Gulf Road	Quinn Road	1-004	1.50	Poor	37.6	LCB	\$600,000	\$600,000	2013	\$737,274
Twin Sister Lakes Road	End of Maintained Roa	Buttermilk Lane	1-153	0.85	Poor	35.4	Gravel	\$255,000	\$255,000	2013	\$125,499
Twin Sister Lakes Road	McGregor Lane	Twin Shore Lane	1-154	0.90	Poor	35.3	Gravel	\$270,000	\$270,000	2013	\$132,881
Deloro Road	Malone Quarry Road	Malone Road	1-060	0.20	Poor	35.2	LCB	\$80,000	\$80,000	2013	\$181,769
Marble Point Road	Cove Road	Sauna Road	1-097	0.70	Poor	33.7	LCB	\$280,000	\$280,000	2013	\$170,967
Marble Point Road	Tipperary Road	Cove Road	1-096	0.45	Poor	32.9	LCB	\$180,000	\$180,000	2013	\$109,907
Beaver Creek Road	Quinn Road	Centre Line Road	1-005	0.75	Poor	32.6	LCB	\$300,000	\$300,000	2013	\$368,637
Cook Road	Peepy Horn Road	Private Road	1-036	1.00	Poor	27.5	Gravel	\$300,000	\$300,000	2013	\$147,646
Station Road	Murphy Road	Deloro Road	1-140	1.30	Poor	26.9	LCB	\$520,000	\$520,000	2013	\$242,631
Bontevale Road	Marble Point Road	Wells Lane	1-009	0.40	Poor	26.7	Gravel	\$120,000	\$120,000	2013	\$59,058
Lakeshore Road	Booster Park Road	Dead End	1-086	0.65	Poor	26.5	LCB	\$260,000	\$260,000	2013	\$95,970
Silver Maple Lane	0.1 km East of Cordova	Dead End	1-136	0.80	Poor	26.2	Gravel	\$240,000	\$240,000	2013	\$118,117
Peepy Horn Road	Cook Road	Dead End	1-117	0.75	Poor	25.9	Gravel	\$225,000	\$225,000	2013	\$110,734
Silver Maple Lane	Cordova Road	0.1km East of Cordova	1-135	0.10	Poor	25.6	LCB	\$40,000	\$40,000	2013	\$14,765
Station Road	Bailey Road	Murphy Road	1-139	1.00	Poor	25.4	LCB	\$400,000	\$400,000	2013	\$186,639
Old Marmora Road	KOA Campground Roa	Stirling-Rawdon Bound	1-113	6.00	Poor	24.9	LCB	\$2,400,000	\$2,400,000	2013	\$1,119,834
Booster Park Road	Highway 7	Eady Lane	1-011	0.15	Poor	19.2	LCB	\$60,000	\$60,000	2013	\$12,991
Booster Park Road	Eady Lane	High Shore Road	1-012	0.70	Poor	19.2	LCB	\$280,000	\$280,000	2013	\$60,625
Booster Park Road	High Shore Road	Lakeshore Road	1-013	0.10	Poor	19.2	LCB	\$40,000	\$40,000	2013	\$8,661
Forsyth Street	0.1 km South of Nash St	Nash Street	2-014	0.10	Fair	39.1	HCB	\$135,000	\$0	2017	\$171,741
Cordova Road	1.7km North of Clemen	Vansicle Road/Haveloc	1-049	0.30	Fair	35.5	LCB	\$120,000	\$0	2017	\$83,634
Twin Sister Lakes Road	Twin Shore Lane	Gemm Lane	1-155	0.20	Fair	32.5	Gravel	\$60,000	\$0	2027	\$39,584
Twin Sister Lakes Road	Gemm Lane	Buttermilk Lane	1-156	0.30	Fair	32.5	Gravel	\$90,000	\$0	2027	\$59,377
Fidlar Glen Road	Fidlar Court	Cul-du-sac	1-067	0.50	Fair	32.1	Gravel	\$150,000	\$0	2027	\$98,961
Centre Line Road	Glen Ridge Road	Goat Hill Road	1-023	2.20	Fair	31.6	LCB	\$880,000	\$0	2017	\$269,212
Centre Line Road	Malone Road	Bronson Road	1-032	0.90	Fair	30.9	LCB	\$360,000	\$0	2017	\$84,371
Twin Sister Lakes Road	Iron Bridge Road	0.7km south of Iron Bri	1-159	0.70	Fair	29.4	Gravel	\$210,000	\$0	2027	\$138,545
Twin Sister Lakes Road	0.7 km south of Iron Bri	Clemenger Road	1-160	0.75	Fair	28.9	Gravel	\$225,000	\$0	2027	\$148,441
Twin Sister Lakes Road	Buttermilk Lane	Crofts Road	1-157	0.85	Fair	28.3	Gravel	\$255,000	\$0	2027	\$168,234



Appendix A
Municipality of Marmora and Lake
Capital Asset Inventory and Replacement Schedule
Roads

Name	From	To	Section Number	Length	Condition Assessment	Priority Rating	Surface Type	Estimated Replacement Cost (2013)	Overdue	Timing of First Recommended Road Work**	Cost of Road Work in Future Dollars*
Twin Sister Lakes Road	Crofts Road	Iron Bridge Road	1-158	1.10	Fair	27.7	Gravel	\$330,000	\$0	2027	\$217,714
Fidlar Glen Road	0.1km South of Beaver	Fidlar Court	1-066	1.40	Fair	27.1	Gravel	\$420,000	\$0	2027	\$277,991
Centre Line Road	Bronson Road	Deloro Road	1-033	2.40	Fair	26.3	LCB	\$960,000	\$0	2017	\$224,990
Centre Line Road	Goat Hill Road	Bell Road (South)	1-024	1.40	Fair	25.8	LCB	\$560,000	\$0	2017	\$157,204
Centre Line Road	Bell Road (South)	Bell Road (North)	1-025	0.30	Fair	25.8	LCB	\$120,000	\$0	2017	\$33,687
Centre Line Road	Bell Road (North)	Milk Run Road	1-026	0.06	Fair	25.8	LCB	\$24,000	\$0	2017	\$6,737
Centre Line Road	Milk Run Road	Beaver Creek Road	1-027	1.80	Fair	25.8	LCB	\$720,000	\$0	2017	\$202,120
Forsyth Street	Linn Street	Highway 7	2-015	0.43	Fair	25.1	HCB	\$573,750	\$0	2027	\$204,684
Forsyth Street	Nash Street	Linn Street	2-015	0.23	Fair	25.1	HCB	\$303,750	\$0	2027	\$108,362
Centre Line Road	Nelson Road	Malone Road	1-031	0.65	Fair	23.5	LCB	\$260,000	\$0	2017	\$60,935
Centre Line Road	Beaver Creek Road	Shannick Road	1-028	1.75	Fair	23.3	LCB	\$700,000	\$0	2017	\$164,055
River Garden Road	0.1km East of Cordova	Dead End	1-121	1.10	Fair	23.3	Gravel	\$330,000	\$0	2027	\$217,714
Roscoe Street	Highway 7	Old Norwood Road	1-129	0.20	Fair	22.9	Gravel	\$80,000	\$0	2027	\$73,891
Centre Line Road	Shannick Road	O'Heir Road	1-029	1.70	Fair	22.8	LCB	\$680,000	\$0	2017	\$159,368
Centre Line Road	O'Heir Road	Nelson Road	1-030	1.80	Fair	22.8	LCB	\$720,000	\$0	2017	\$182,653
Riverview Crescent	Cordova Road (South)	Drummond Road	1-122	0.70	Fair	22.2	LCB	\$280,000	\$0	2027	\$258,618
Riverview Crescent	Drummond Road	Cordova Road (North)	1-123	0.60	Fair	22.2	LCB	\$240,000	\$0	2027	\$221,672
River Garden Road	Cordova Road	0.1km East of Cordova	1-120	0.10	Fair	21.7	LCB	\$40,000	\$0	2027	\$36,945
Vansickle Road	FR 57	FR 59	5-005	1.00	Fair	21.6	LCB	\$400,000	\$0	2017	\$93,746
Station Road	Madoc Street	Goat Hill Road	1-137	0.90	Fair	20.3	LCB	\$360,000	\$0	2027	\$332,509
Station Road	Goat Hill Road	Bailey Road	1-138	0.60	Fair	20.3	LCB	\$240,000	\$0	2027	\$221,672
Deloro Road	Highway 7	Station Road	1-054	1.90	Fair	19.7	LCB	\$760,000	\$0	2027	\$701,963
KOA Campground Road	Highway 7	Old Marmora Road	1-082	0.60	Fair	19.4	LCB	\$240,000	\$0	2027	\$221,672
Centre Line Road	Cordova Road	Glen Ridge Road	1-082	0.06	Fair	19.1	LCB	\$24,000	\$0	2027	\$22,167
Crawford Drive	Madoc Street	Victoria Street	2-013	0.40	Fair	18.8	LCB	\$160,000	\$0	2027	\$147,782
North Steenburg Lake	Old Hastings Road	Dickey Lake Road	5-012	2.40	Fair	18.6	LCB	\$960,000	\$0	2027	\$886,690
North Marmora Road	Cordova Road	0.1km North of Road o	1-110	1.10	Fair	18.5	LCB	\$440,000	\$0	2027	\$406,399
Cordova Road	Quinlan Road	Clemenger Road	1-047	0.75	Fair	18.3	LCB	\$300,000	\$0	2017	\$209,086
Deloro Road	Station Road	Deloro Village South Li	1-055	0.70	Fair	18.0	LCB	\$280,000	\$0	2027	\$258,618
Deloro Road	Deloro Village North Li	Deloro Dam Road	1-056	0.10	Fair	17.1	LCB	\$40,000	\$0	2027	\$36,945
Deloro Road	Centre Line Road	Madoc Township Boun	1-062	1.80	Fair	17.1	LCB	\$720,000	\$0	2027	\$665,017
KOA Campground Road	Old Marmora Road	0.3km South of Old Ma	1-083	0.30	Fair	16.6	LCB	\$120,000	\$0	2027	\$110,836
Fidlar Glen Road	Beaver Creek Road	0.1km South of Beaver	1-065	0.10	Fair	16.4	HCB	\$135,000	\$0	2027	\$48,161
Rockhaven Road	Marble Point Road	Rock Haven Crescent (	1-126	0.30	Fair	16.3	Gravel	\$90,000	\$0	2027	\$59,377
Rockhaven Road	Rockhaven Crescent (E	Rockhaven Crescent (	1-127	0.30	Fair	16.3	Gravel	\$90,000	\$0	2027	\$59,377
Rockhaven Road	Rockhaven Crescent (	Dead End	1-128	0.10	Fair	16.3	Gravel	\$30,000	\$0	2027	\$19,792
North Marmora Road	0.1km North of Road o	Clemenger Road	1-111	2.20	Fair	16.0	Gravel	\$660,000	\$0	2027	\$435,428
North Hastings Avenue	Highway 7	Madoc Street	2-054	0.18	Fair	15.8	LCB	\$70,000	\$0	2027	\$64,654
Shannick Road	Centre Line Road	Beaver Creek Bridge	1-133	4.90	Fair	15.7	Gravel	\$1,470,000	\$0	2027	\$969,817
Ambro Road	Highway 7	Mary Street	1-001	0.80	Fair	13.2	LCB	\$320,000	\$0	2027	\$295,563
Madoc Street	Rose Avenue	North Maloney Street	2-031	0.15	Fair	9.7	HCB	\$202,500	\$0	2027	\$72,241
McGill Street	25m North of Madoc S	William Street	2-039	0.25	Fair	8.4	HCB	\$337,500	\$0	2027	\$120,402

Appendix A
Municipality of Marmora and Lake
Capital Asset Inventory and Replacement Schedule
Roads

Name	From	To	Section Number	Length	Condition Assessment	Priority Rating	Surface Type	Estimated Replacement Cost (2013)	Overdue	Timing of First Recommended Road Work**	Cost of Road Work in Future Dollars*
Deloro Dam Road	0.1 5km East of Deloro	Dead End	1-053	0.65	Good	44.0	Gravel	\$195,000	\$0	2042	\$173,145
Quinlan Road	Cordova Road	Dead End	1-118	0.33	Good	36.7	Gravel	\$97,500	\$0	2042	\$86,572
Marble Point Road	Sauna Road	Dead End	1-098	0.68	Good	36.0	Gravel	\$202,500	\$0	2042	\$179,804
Crowe Court	South Road	Dead End	5-011	0.65	Good	35.4	LCB	\$260,000	\$0	2042	\$323,204
Jasper Crescent	Jennison Road	Jennison Road	6-004	0.45	Good	33.4	LCB	\$180,000	\$0	2042	\$223,756
Iron Bridge Road	Twin Sister Lakes Road	Unmaintained Section	1-080	1.00	Good	31.9	Gravel	\$300,000	\$0	2042	\$266,377
Tangamong Road	Havelock Belmont Met	Dead End	5-009	2.20	Good	31.9	Gravel	\$660,000	\$0	2042	\$586,029
Eady Lane	Highway 7	Booster Park Road	1-063	0.30	Good	31.4	Gravel	\$90,000	\$0	2042	\$79,913
Milk Run Road	Centre Line Road	0.2km South of Centre	1-106	0.20	Good	29.7	LCB	\$80,000	\$0	2042	\$99,447
Buttermilk Lane	Twin Sister Lakes Road	Young Lane	1-018	1.20	Good	28.8	Gravel	\$360,000	\$0	2042	\$319,652
Clemenger Road	Twin Sister Lakes Road	Ledge Road	1-034	0.90	Good	28.0	Gravel	\$270,000	\$0	2032	\$196,670
Mary Street	Marmora Town Limit	Marmora Mine Road	1-099	1.35	Good	28.0	Gravel	\$405,000	\$0	2042	\$359,609
Coat Hill Road	Centre Line Road	Station Road	1-075	1.30	Good	27.7	Gravel	\$520,000	\$0	2042	\$646,407
Marble Point Road	Rockhaven Road	Bontervale Road	1-092	0.33	Good	27.3	LCB	\$130,000	\$0	2032	\$132,570
The Ridge Road	Wollaston Township B	Dead End	5-008	1.60	Good	26.5	Gravel	\$480,000	\$0	2042	\$426,203
Buttermilk Lane	Young Lane	Dead End	1-019	0.80	Good	26.3	Gravel	\$240,000	\$0	2042	\$213,101
Tipperary Road	Marble Point Road	Tipperary Court	1-150	0.23	Good	26.3	Gravel	\$67,500	\$0	2042	\$59,935
Marble Point Road	Paradise Road	McKinnon Lane	1-094	0.53	Good	26.2	LCB	\$210,000	\$0	2022	\$153,241
Gulf Road	Beaver Creek Road	Unmaintained Section	1-077	1.50	Good	25.9	Gravel	\$450,000	\$0	2042	\$399,565
Beaver Creek Road	Jones Road	Dead End	1-007	1.00	Good	25.8	Gravel	\$300,000	\$0	2042	\$266,377
Malone Quarry Road	Deloro Road	Dead End	1-088	0.30	Good	25.5	Gravel	\$90,000	\$0	2042	\$79,913
Clemenger Road	Ledge Road	Cordova Road	1-035	2.90	Good	25.0	Gravel	\$870,000	\$0	2032	\$633,713
High Shore Road	Highway 7	Booster Park Road	1-078	1.90	Good	24.9	LCB	\$760,000	\$0	2032	\$775,024
Road of Memories	North Marmora Road	Dead End	1-124	1.50	Good	24.8	Gravel	\$450,000	\$0	2042	\$399,565
Old Hastings Road	Thompson Lane	Madoc Township Boun	5-010	2.60	Good	24.7	Gravel	\$780,000	\$0	2042	\$692,579
Shanick Road	Beaver Creek Bridge	Dead End	1-134	3.10	Good	24.7	Gravel	\$930,000	\$0	2042	\$825,768
Quinn Road	Beaver Creek Road	Unmaintained Section	1-119	1.80	Good	24.4	Gravel	\$540,000	\$0	2042	\$479,478
Vansickle Road	3.4km North of FR 59	Dead End	5-007	0.40	Good	24.4	Gravel	\$120,000	\$0	2042	\$106,551
Old Hastings Road	North Steenburg Lake	Thompson Lane	5-010	3.00	Good	24.3	Gravel	\$900,000	\$0	2042	\$799,130
Savage Crescent	Old Norwood Road	Dead End	2-051	0.10	Good	24.1	LCB	\$40,000	\$0	2042	\$49,724
Forest Park Road	Birch Court	Juniper Court	3-008	0.43	Good	24.0	LCB	\$170,000	\$0	2042	\$211,326
Forest Park Road	Juniper Court	River Heights Road	3-009	0.25	Good	24.0	LCB	\$100,000	\$0	2042	\$124,309
Vansickle Road	1.7km North of FR 59	3.4km North of FR 59	5-006	1.70	Good	23.7	Gravel	\$510,000	\$0	2042	\$452,840
Bontervale Road	Wells Lane	Dead End	1-010	0.35	Good	23.5	Gravel	\$105,000	\$0	2042	\$93,232
Fidlar Court	Fidlar Glen Road	Dead End	1-064	0.30	Good	23.2	Gravel	\$90,000	\$0	2042	\$79,913
McCleary Road	Highway 7	1.0km South of Highwa	1-100	1.00	Good	23.1	LCB	\$400,000	\$0	2042	\$497,237
Mikolla Road	0.3km South of Mikolla	Sauna Road	1-105	0.15	Good	23.0	Gravel	\$45,000	\$0	2042	\$39,957
Forest Park Road	Tall Pine Court	Birch Court	3-007	0.25	Good	22.9	LCB	\$100,000	\$0	2042	\$124,309
Rockhaven Crescent	Rockhaven Road	Rockhaven Road	1-125	0.90	Good	22.8	Gravel	\$270,000	\$0	2042	\$239,739
Cordova Road	Beaver Creek Road	North Marmora Road	1-045	0.40	Good	22.7	LCB	\$160,000	\$0	2022	\$123,119
Nelson Road	Centre Line Road	Unmaintained Section	1-109	0.50	Good	22.7	Gravel	\$150,000	\$0	2042	\$133,188
Paradise Road	Marble Point Road	Dead End	1-116	0.45	Good	22.7	Gravel	\$135,000	\$0	2042	\$119,870



LCB=Low Cost Bituminous
HCB=High Cost Bituminous

Appendix A
Municipality of Marmora and Lake
Capital Asset Inventory and Replacement Schedule
Roads

Name	From	To	Section Number	Length	Condition Assessment	Priority Rating	Surface Type	Estimated Replacement Cost (2013)	Overdue	Timing of First Recommended Road Work**	Cost of Road Work in Future Dollars*
Vansickle Road	FR 59	1.7km North of FR 59	5-006	1.70	Good	22.6	Gravel	\$510,000	\$0	2042	\$452,840
Bronson Road	Centre Line Road	Private Road	1-017	2.50	Good	22.4	Gravel	\$750,000	\$0	2042	\$665,942
Mikolla Road	Marble Point Road	Mikolla Court	1-103	0.28	Good	22.4	Gravel	\$82,500	\$0	2042	\$73,254
Mikolla Road	Mikolla Court	0.3km South of Mikolla	1-104	0.30	Good	22.4	Gravel	\$90,000	\$0	2042	\$79,913
Crowview Court	River Heights Road	Dead End	3-004	0.45	Good	22.3	Gravel	\$135,000	\$0	2042	\$119,870
Wells Lane	Bontervale Road	Dead End	1-161	0.35	Good	22.1	Gravel	\$105,000	\$0	2042	\$93,232
Birch Court	Forest Park Road	Dead End	3-002	0.30	Good	21.8	Gravel	\$90,000	\$0	2042	\$79,913
Cedar Court	River Heights Road	Dead End	3-003	0.20	Good	21.8	Gravel	\$60,000	\$0	2042	\$53,275
Marble Point Road	Bontervale Road	Paradise Road	1-093	0.30	Good	21.6	LCB	\$120,000	\$0	2022	\$87,566
Marble Point Road	McKinnon Lane	Tipperary Road	1-095	0.20	Good	21.6	LCB	\$80,000	\$0	2022	\$58,378
O'Heir Road	Centre Line Road	Dead End	1-112	0.40	Good	21.6	Gravel	\$120,000	\$0	2042	\$106,551
Deloro Dam Road	Deloro Road	0.15km East of Deloro	1-052	0.15	Good	21.5	Gravel	\$45,000	\$0	2042	\$39,957
Crofts Road	Twin Sister Lakes Road	Ledge Road	1-050	1.50	Good	21.3	Gravel	\$450,000	\$0	2042	\$399,565
Skene Road	Launch Road	Jade Court	6-013	1.70	Good	21.3	LCB	\$680,000	\$0	2032	\$693,442
Tipperary Road	Tipperary Court	Dead End	1-151	0.15	Good	21.3	Gravel	\$45,000	\$0	2042	\$39,957
Tipperary Road	Tipperary Road	Dead End	1-152	0.10	Good	21.3	Gravel	\$30,000	\$0	2042	\$26,638
Callaghan Rapids Road	Havelock Belmont Met	Tiffen Road	1-020	1.40	Good	21.2	Gravel	\$420,000	\$0	2042	\$372,927
Red Oak Road	Pineview Court	Dead End	3-021	0.25	Good	21.2	Gravel	\$75,000	\$0	2042	\$66,594
Thanet Lake Road	Pine Tree Place	Red Oak Court	7-009	0.15	Good	21.2	Gravel	\$45,000	\$0	2042	\$39,957
Thanet Lake Road	Red Oak Court	Island View Drive	7-010	0.03	Good	21.2	Gravel	\$7,500	\$0	2042	\$6,659
Thanet Lake Road	Island View Drive	Hemlock Court	7-011	0.15	Good	21.2	Gravel	\$45,000	\$0	2042	\$39,957
Ledge Road	Crofts Road	Clemenger Road	1-087	1.90	Good	21.1	Gravel	\$570,000	\$0	2042	\$506,116
Murphy Road	Station Road	Private Road	1-108	0.20	Good	21.1	Gravel	\$60,000	\$0	2042	\$53,275
Waite Court	Jade Court	Dead End	6-016	0.15	Good	21.1	Gravel	\$45,000	\$0	2042	\$39,957
Lake of Islands Road	Dickey Lake Road	Peninsula Road	6-007	0.60	Good	21.0	Gravel	\$180,000	\$0	2042	\$159,826
Bell Road	Centre Line Road	Centre Line Road	1-008	0.40	Good	20.7	Gravel	\$120,000	\$0	2042	\$106,551
Red Oak Road	Forest Park Road	Pineview Court	3-020	0.20	Good	20.7	Gravel	\$60,000	\$0	2042	\$53,275
Lajoie Road	Station Road	Dead End	1-085	2.10	Good	20.6	Gravel	\$630,000	\$0	2042	\$993,392
Jade Court	Skene Road	Waite Court	6-002	0.35	Good	20.6	LCB	\$140,000	\$0	2042	\$174,033
Lake of Islands Road	Peninsula Road	Dead End	6-008	1.50	Good	20.5	Gravel	\$450,000	\$0	2042	\$399,565
O'Brien Street	0.38km North of Delor	0.5km North of Deloro	4-003	0.13	Good	20.5	HCB	\$168,750	\$0	2042	\$81,023
South Maloney Street	Highway 7	Dead End	2-062	0.60	Good	20.4	LCB	\$240,000	\$0	2032	\$244,744
Jennison Road	Dickey Lake Road	Jasper Crescent	6-005	0.70	Good	20.3	LCB	\$280,000	\$0	2032	\$285,535
Bailey Road	Station Road	Dead End	1-002	0.30	Good	20.2	Gravel	\$90,000	\$0	2042	\$79,913
Mill Road	Main Street	Water Street	2-042	0.10	Good	20.2	LCB	\$40,000	\$0	2042	\$49,724
Sauna Road	Marble Point Road	Mikolla Road	1-131	0.40	Good	20.1	Gravel	\$120,000	\$0	2042	\$106,551
Sauna Road	Mikolla Road	Dead End	1-132	0.30	Good	20.1	Gravel	\$90,000	\$0	2042	\$79,913
Skene Road	Jade Court	Lake of Islands Road	6-014	1.20	Good	19.8	LCB	\$480,000	\$0	2032	\$489,489
Juniper Court	Forest Park Road	Dead End	3-010	0.20	Good	19.6	Gravel	\$60,000	\$0	2042	\$53,275
Pineview Court	Red Oak Road	Dead End	3-016	0.30	Good	19.6	Gravel	\$90,000	\$0	2042	\$79,913
Tail Pine Court	Forest Park Road	Dead End	3-028	0.30	Good	19.6	Gravel	\$90,000	\$0	2042	\$79,913
Jennison Road	Jasper Crescent	Dead End	6-006	2.80	Good	19.5	LCB	\$1,120,000	\$0	2032	\$1,142,140



LCB=Low Cost Bituminous
HCB=High Cost Bituminous

Appendix A
Municipality of Marmora and Lake
Capital Asset Inventory and Replacement Schedule
Roads

Name	From	To	Section Number	Length	Condition Assessment	Priority Rating	Surface Type	Estimated Replacement Cost (2013)	Overdue	Timing of First Recommended Road Work**	Cost of Road Work in Future Dollars*
Thanet Lake Road	0.7km South of North S	Pine Tree Place	7-008	0.55	Good	19.4	Gravel	\$165,000	\$0	2042	\$146,507
Thanet Lake Road	Hemlock Court	Clear Lake Court	7-012	0.03	Good	19.4	Gravel	\$7,500	\$0	2042	\$6,659
Thanet Lake Road	Clear Lake Court	Fish Hook Lane	7-013	0.13	Good	19.4	Gravel	\$37,500	\$0	2042	\$33,297
Thanet Lake Road	Fish Hook Lane	Dead End	7-014	0.48	Good	19.4	Gravel	\$142,500	\$0	2042	\$126,529
Marble Point Road	Highway 7	Industry Lane	1-090	0.20	Good	19.2	LCB	\$270,000	\$0	2032	\$106,347
Marble Point Road	Industry Lane	Rockhaven Road	1-091	0.18	Good	19.2	LCB	\$70,000	\$0	2032	\$71,384
Cordova Road	Clemenger Road	1.7km North of Clemem	1-048	1.70	Good	19.1	LCB	\$680,000	\$0	2022	\$523,255
Crofts Road	Ledge Road	Vansicle Road	1-051	2.80	Good	19.1	Gravel	\$840,000	\$0	2042	\$745,855
Old Nonwood Road	Roscoe Road	Dead End	1-115	0.45	Good	19.1	LCB	\$180,000	\$0	2042	\$223,756
Twin Court	River Heights Road	Dead End	3-029	0.20	Good	19.1	Gravel	\$60,000	\$0	2042	\$53,275
Callaghan Rapids Road	Tiffen Road	Stirling-Rawdon Bound	1-021	0.90	Good	18.7	Gravel	\$270,000	\$0	2042	\$239,739
Island View Road	Thanet Lake Road	Dead End	7-004	0.30	Good	18.7	Gravel	\$90,000	\$0	2042	\$79,913
Maple Road	Red Oak Road	Arrowhead Road	3-011	0.50	Good	18.5	Gravel	\$150,000	\$0	2042	\$133,188
Maple Road	Arrowhead Road	Dead End	3-012	0.40	Good	18.5	Gravel	\$120,000	\$0	2042	\$106,551
Marble Court	Red Oak Road	Dead End	3-013	0.23	Good	18.5	Gravel	\$67,500	\$0	2042	\$59,935
North River Court	River Heights Road	Dead End	3-014	0.20	Good	18.5	Gravel	\$60,000	\$0	2042	\$53,275
Osborne Court	River Heights Road	Dead End	3-015	0.45	Good	18.5	Gravel	\$135,000	\$0	2042	\$119,870
Peninsula Road	Lake of Island Road	Martini Point Court	6-010	0.10	Good	18.3	Gravel	\$30,000	\$0	2042	\$26,638
Vansickle Road	FR 54	FR 57	5-004	1.10	Good	18.2	LCB	\$440,000	\$0	2022	\$113,853
Nash Street	Cameron Street	Forsyth Street	2-043	0.13	Good	18.1	Gravel	\$37,500	\$0	2042	\$33,297
Water Street	Mill Road	Madoc Street	2-060	0.28	Good	18.1	Gravel	\$82,500	\$0	2042	\$73,254
Pearce Road	Madoc Street	William Street	2-057	0.25	Good	18.0	LCB	\$75,000	\$0	2042	\$65,921
Beaver Creek Road	Centre Line Road	Jones Road	1-006	0.80	Good	18.0	Gravel	\$240,000	\$0	2042	\$213,101
McCleary Road	1.0km South of Highwa	Dead End	1-101	1.10	Good	18.0	Gravel	\$330,000	\$0	2042	\$293,014
Mikolla Court	Mikolla Road	Dead End	1-102	0.40	Good	18.0	Gravel	\$120,000	\$0	2042	\$106,551
Clear Lake Court	Thanet Lake Road	Dead End	7-001	0.20	Good	17.9	Gravel	\$60,000	\$0	2042	\$53,275
Hayes Street	Madoc Street	William Street	2-016	0.28	Good	17.9	LCB	\$110,000	\$0	2042	\$136,740
Pine Tree Place	Thanet Lake Road	Dead End	7-005	0.05	Good	17.8	Gravel	\$5,000	\$0	2042	\$5,319
Red Oak Court	Thanet Lake Road	Dead End	7-006	0.20	Good	17.8	Gravel	\$60,000	\$0	2042	\$53,275
Red Oak Place	Red Oak Court	Dead End	7-007	0.05	Good	17.8	Gravel	\$15,000	\$0	2042	\$13,319
Marini Point Court	Peninsula Road	Dead End	6-009	0.10	Good	17.7	Gravel	\$30,000	\$0	2042	\$26,638
Arrowhead Road	Maple Road	River Heights Road	3-001	0.40	Good	17.6	Gravel	\$120,000	\$0	2042	\$106,551
Terry Court	Cordova Road	Dead End	1-147	0.20	Good	17.6	LCB	\$80,000	\$0	2042	\$99,447
Hemlock Court	Thanet Lake Road	Dead End	7-003	0.10	Good	17.4	Gravel	\$30,000	\$0	2042	\$26,638
Stirling-Marmora Road	0.3km South of Nash St	0.3km South of Nash St	1-141	0.20	Good	17.4	LCB	\$270,000	\$0	2032	\$106,347
Stirling-Marmora Road	Forest Park Road	Stirling-Rawdon Bound	1-145	1.25	Good	17.4	LCB	\$1,687,500	\$0	2032	\$664,670
Cameron Street	Nash Street	Dead End	2-012	0.25	Good	17.3	Gravel	\$75,000	\$0	2042	\$66,594
Madoc Street	2.5m East of North Mal	Station Road	2-032	0.10	Good	17.3	LCB	\$40,000	\$0	2032	\$40,791
Thomas Street	McGill Street	Dead End	2-055	0.20	Good	17.3	LCB	\$80,000	\$0	2042	\$99,447
Fish Hook Lane	Thanet Lake Road	Dead End	7-002	0.60	Good	17.2	Gravel	\$180,000	\$0	2042	\$159,826
Roscoe Street	Old Norwood Road	Dead End	1-130	0.15	Good	17.1	LCB	\$60,000	\$0	2042	\$74,585
Cameron Street	Highway 7	Linn Street	2-009	0.40	Good	17.0	LCB	\$160,000	\$0	2032	\$163,163



LCB=Low Cost Bituminous
HCB=High Cost Bituminous

Appendix A
Municipality of Marmora and Lake
Capital Asset Inventory and Replacement Schedule
Roads

Name	From	To	Section Number	Length	Condition Assessment	Priority Rating	Surface Type	Estimated Replacement Cost (2013)	Overdue	Timing of First Recommended Road Work**	Cost of Road Work in Future Dollars*
Cameron Street	Linn Street	0.1km South of Linn Str	2-010	0.10	Good	17.0	LCB	\$40,000	\$0	2032	\$40,791
Haves Street	William Street	Dead End	2-017	0.15	Good	17.0	LCB	\$202,500	\$0	2042	\$97,227
Cordova Road	McGill Street	0.4km North of McGill	1-037	0.40	Good	16.9	HCB	\$540,000	\$0	2032	\$212,694
Jones Road	Milk Run Road	Beaver Creek Road	1-081	2.00	Good	16.9	Gravel	\$600,000	\$0	2042	\$532,753
North Maloney Road	Highway 7	Madoc Street	2-056	0.15	Good	16.9	LCB	\$60,000	\$0	2032	\$61,186
Skene Road	Lake of Island Road	Dead End	6-015	0.30	Good	16.9	LCB	\$120,000	\$0	2032	\$122,372
Boyd Road	First Road	Tiffen Road	1-015	1.50	Good	16.7	Gravel	\$450,000	\$0	2042	\$399,565
Main Street	Tiffen Road	Dead End	1-016	0.30	Good	16.7	Gravel	\$90,000	\$0	2042	\$79,913
Nash Street	Mill Road	McGill Street	2-035	0.25	Good	16.7	HCB	\$337,500	\$0	2032	\$132,934
Cordova Road	Forsyth Street	Burshall Street	2-044	0.13	Good	16.7	LCB	\$50,000	\$0	2042	\$62,155
Cordova Road	0.4km North of McGill	Centre Line Road	1-038	0.20	Good	16.5	HCB	\$270,000	\$0	2022	\$61,559
Cordova Road	Centre Line Road	Riverview Crescent (So	1-039	0.80	Good	16.5	HCB	\$1,080,000	\$0	2022	\$246,238
Cordova Road	Riverview Crescent (So	Silver Maple Lane	1-040	0.50	Good	16.5	HCB	\$675,000	\$0	2022	\$153,899
Cordova Road	Silver Maple Lane	River Garden Road	1-041	0.15	Good	16.5	HCB	\$202,500	\$0	2022	\$46,170
Cordova Road	Riverview Crescent (No	Glen Allen Road	1-043	1.50	Good	16.5	HCB	\$2,025,000	\$0	2022	\$461,696
Cameron Street	0.1km South of Linn Str	Nash Street	2-011	0.10	Good	16.3	Gravel	\$30,000	\$0	2032	\$21,852
Red Oak Road	River Heights Road	Maple Road	3-017	0.20	Good	16.3	LCB	\$80,000	\$0	2042	\$99,447
Red Oak Road	Maple Road	Marble Court	3-018	0.15	Good	16.3	LCB	\$60,000	\$0	2042	\$74,585
Red Oak Road	Marble Court	Forest Park Road	3-019	0.20	Good	16.3	LCB	\$80,000	\$0	2042	\$99,447
Dickey Lake Road	North Steenburg Lake	Skene Road	6-001	0.90	Good	16.1	LCB	\$360,000	\$0	2032	\$367,116
Skene Road	Dickey Lake Road	Launch Road	6-012	0.25	Good	16.1	LCB	\$100,000	\$0	2032	\$101,977
Matthew Street	0.375km West of South Ma	Victoria Street	2-041	0.15	Good	15.9	HCB	\$202,500	\$0	2032	\$116,195
Matthew Street	Victoria Street	North Hastings Avenue	2-042	0.15	Good	15.9	HCB	\$202,500	\$0	2032	\$116,195
Matthew Street	North Hastings Avenue	Burshall Street	2-043	0.13	Good	15.9	HCB	\$175,500	\$0	2032	\$100,703
Matthew Street	Burshall Street	Forsyth Street	2-044	0.13	Good	15.9	HCB	\$175,500	\$0	2032	\$100,703
Matthew Street	Forsyth Street	Cameron Street	2-045	0.13	Good	15.9	HCB	\$175,500	\$0	2032	\$100,703
Matthew Street	Cameron Street	0.1km West of Cameron St	2-046	0.10	Good	15.9	HCB	\$135,000	\$0	2032	\$77,464
Malone Road	Deloro Road	Centre Line Road	1-089	3.10	Good	15.9	Gravel	\$930,000	\$0	2042	\$825,768
Jade Court	Waite Court	Dead End	6-003	0.25	Good	15.7	LCB	\$100,000	\$0	2042	\$124,309
McGill Street	William Street	Thomas Street	2-040	0.10	Good	15.6	HCB	\$135,000	\$0	2042	\$64,818
Burshall Street (South	Linn Street	Nash Street	2-007	0.22	Good	15.4	LCB	\$88,000	\$0	2032	\$89,740
Cordova Road	Glen Allen Road	Beaver Creek Road	1-044	1.50	Good	15.4	LCB	\$600,000	\$0	2022	\$461,696
Booster Park Road	North Marmora Road	Quinlan Road	1-046	2.90	Good	15.4	LCB	\$1,160,000	\$0	2022	\$892,612
Linn Street	Lakeshore Road	Dead End	1-014	0.10	Good	15.2	LCB	\$40,000	\$0	2042	\$49,724
Main Street	Cameron Street	Forsyth Street	2-021	0.13	Good	15.2	LCB	\$50,000	\$0	2042	\$62,155
North Hastings Avenue	Reginald Street	Mill Road	2-034	0.23	Good	15.2	HCB	\$303,750	\$0	2022	\$150,099
Old Norwood Road	Madoc Street	William Street	2-055	0.28	Good	15.2	LCB	\$110,000	\$0	2032	\$112,174
Burshall Street (South	Cul-du-sac	Roscoe Street	1-114	0.45	Good	15.2	LCB	\$180,000	\$0	2042	\$223,756
McGill Street	Nash Street	Dead End	2-008	0.08	Good	15.0	LCB	\$30,000	\$0	2042	\$37,293
KOA Campground Roa	Thomas Street	Main Street	2-041	0.18	Good	15.0	HCB	\$236,250	\$0	2042	\$113,432
Forest Park Road	0.3km South of Old Ma	Private Road	1-084	1.30	Good	14.4	LCB	\$520,000	\$0	2042	\$646,407
	Stirling-Marmora Road	Red Oak Road	3-005	0.25	Good	14.2	LCB	\$100,000	\$0	2042	\$124,309



LCB=Low Cost Bituminous
HCB=High Cost Bituminous

Appendix A
Municipality of Marmora and Lake
Capital Asset Inventory and Replacement Schedule
Roads

Name	From	To	Section Number	Length	Condition Assessment	Priority Rating	Surface Type	Estimated Replacement Cost (2013)	Overdue	Timing of First Recommended Road Work**	Cost of Road Work in Future Dollars*
Forest Park Road	Red Oak Road	Tall Pine Court	3-006	0.35	Good	14.2	LCB	\$140,000	\$0	2042	\$174,033
Burshall Street (South)	Mary Street	0.1km South of Mary S	2-005	0.10	Good	14.0	LCB	\$40,000	\$0	2032	\$40,791
Burshall Street (South)	0.1km South of Mary S	Linn Street	2-006	0.15	Good	14.0	LCB	\$60,000	\$0	2032	\$61,186
Madoc Street	McGill Street	Hayes Street	2-025	0.13	Good	14.0	LCB	\$168,750	\$0	2032	\$66,467
Madoc Street	Hayes Street	North Hastings Avenue	2-026	0.13	Good	14.0	LCB	\$168,750	\$0	2032	\$66,467
Madoc Street	North Hastings Avenue	Pearce Street	2-027	0.10	Good	14.0	LCB	\$135,000	\$0	2032	\$53,174
Madoc Street	Pearce Street	Victoria Street	2-028	0.10	Good	14.0	LCB	\$135,000	\$0	2032	\$53,174
Madoc Street	Victoria Street	Crawford Drive	2-029	0.30	Good	14.0	LCB	\$405,000	\$0	2032	\$159,521
Madoc Street	Crawford Drive	Rose Avenue	2-030	0.13	Good	14.0	LCB	\$168,750	\$0	2032	\$66,467
Iroquois Avenue	Tecumseh Road	Algonquin Street	2-019	0.20	Good	13.9	LCB	\$80,000	\$0	2042	\$99,447
Madoc Street	Main Street	McGill Street	2-024	0.08	Good	13.9	LCB	\$101,250	\$0	2032	\$39,880
Main Street	Madoc Street	Reginald Street	2-033	0.08	Good	13.9	LCB	\$101,250	\$0	2032	\$39,880
Stirling-Marmora Road	0.3km South of Nash St	0.7km South of Nash St	1-142	0.40	Good	13.9	LCB	\$540,000	\$0	2032	\$212,694
Stirling-Marmora Road	0.7km South of Nash St	River Heights Road	1-143	1.00	Good	13.9	LCB	\$1,350,000	\$0	2032	\$531,736
Stirling-Marmora Road	River Heights Road	Forest Park Road	1-144	0.35	Good	13.9	LCB	\$472,500	\$0	2032	\$186,108
Burshall Street (North)	Highway 7	Madoc Street	2-003	0.20	Good	13.6	LCB	\$80,000	\$0	2032	\$81,581
Vansickle Road	1.0km North of Cordov	Crofts Road	5-002	1.90	Good	13.6	LCB	\$760,000	\$0	2022	\$196,655
Matthew Street	0.1km East of North Malon	North Maloney Street	2-038	0.10	Good	13.5	LCB	\$135,000	\$0	2032	\$77,464
Matthew Street	North Maloney Street	South Maloney Street	2-039	0.08	Good	13.5	LCB	\$108,000	\$0	2032	\$61,971
Matthew Street	South Maloney Street	0.375km West of South Ma	2-040	0.38	Good	13.5	LCB	\$513,000	\$0	2032	\$294,361
Rose Avenue	Madoc Street	Dead End	2-050	0.10	Good	13.5	LCB	\$40,000	\$0	2042	\$49,724
Cordova Road	River Garden Road	Riverview Crescent (No	1-042	0.40	Good	13.4	LCB	\$540,000	\$0	2032	\$212,694
Burshall Street (South)	Highway 7	Mary Street	2-004	0.20	Good	13.3	LCB	\$80,000	\$0	2032	\$81,581
Linn Street	Forsyth Street	Burshall Street	2-022	0.13	Good	12.9	LCB	\$168,750	\$0	2042	\$81,023
O'Brien Street	Deloro Street	0.38km North of Delor	4-002	0.38	Good	12.7	LCB	\$506,250	\$0	2042	\$243,069
Tecumseh Drive	Algonquin Street	Iroquois Avenue	2-054	0.15	Good	12.6	LCB	\$202,500	\$0	2042	\$97,227
Vansickle Road	Cordova Road	1.0km North of Cordov	5-001	1.00	Good	12.5	LCB	\$400,000	\$0	2022	\$103,503
Vansickle Road	Crofts Road	FR 54	5-003	2.20	Good	12.5	LCB	\$880,000	\$0	2022	\$227,706
Glen Allen Road	Cordova Road	Maloney Road	1-070	0.40	Good	12.4	LCB	\$160,000	\$0	2042	\$198,895
Glen Allen Road	Maloney Road	1.0km West of Malone	1-071	1.00	Good	12.4	LCB	\$400,000	\$0	2042	\$497,237
Glen Allen Road	1.0km West of Malone	Glen Allen Park Lane	1-072	0.30	Good	12.4	LCB	\$120,000	\$0	2042	\$149,171
Terrace Road	Highway 7	Dead End	1-146	0.80	Good	12.4	Gravel	\$240,000	\$0	2042	\$213,101
Coat Hill Road	Station Road	Highway 7	1-076	0.80	Good	12.3	Gravel	\$240,000	\$0	2042	\$213,101
Mary Street	South Hastings Avenue	Marmora Town Limit	2-037	0.20	Good	12.2	LCB	\$80,000	\$0	2042	\$99,447
William Street	McGill Street	Hayes Street	2-061	0.13	Good	12.2	LCB	\$168,750	\$0	2032	\$66,467
William Street	Hayes Street	North Hastings Avenue	2-062	0.13	Good	12.2	LCB	\$168,750	\$0	2032	\$66,467
William Street	North Hastings Avenue	Pearce Street	2-063	0.10	Good	12.2	LCB	\$135,000	\$0	2032	\$53,174
William Street	Pearce Street	Victoria Street	2-064	0.15	Good	12.2	LCB	\$202,500	\$0	2032	\$79,760
Algonquin Street	Highway 7	Iroquois Avenue	2-001	0.20	Good	12.0	LCB	\$80,000	\$0	2042	\$99,447
Tiffen Road	Highway 7	Boyd Road	1-148	0.10	Good	12.0	Gravel	\$30,000	\$0	2032	\$21,852
Tiffen Road	Boyd Road	Callaghan Rapids Road	1-149	2.90	Good	12.0	Gravel	\$870,000	\$0	2032	\$633,713
James Street	Old Norwood Road	Private Road	2-020	1.30	Good	11.7	Gravel	\$390,000	\$0	2042	\$346,290



LCB=Low Cost Bituminous
HCB=High Cost Bituminous

Appendix A
Municipality of Marmora and Lake
Capital Asset Inventory and Replacement Schedule
Roads

Name	From	To	Section Number	Length	Condition Assessment	Priority Rating	Surface Type	Estimated Replacement Cost (2013)	Overdue	Timing of First Recommended Road Work**	Cost of Road Work in Future Dollars*
First Road	Highway 7	Boyd Road	1-068	0.20	Good	11.5	Gravel	\$60,000	\$0	2042	\$53,275
First Road	Boyd Road	Dead End	1-069	0.80	Good	11.5	Gravel	\$240,000	\$0	2042	\$213,101
Hughes Lane	Highway 7	Dead End	2-018	0.35	Good	10.9	LCB	\$472,500	\$0	2042	\$226,864
Reginald Street	Main Street	Dead End	2-049	0.05	Good	10.9	LCB	\$20,000	\$0	2042	\$24,862
Victoria Street	Madoc Street	Crawford Drive	2-057	0.08	Good	10.7	LCB	\$101,250	\$0	2032	\$39,880
Victoria Street	Crawford Drive	William Street	2-058	0.20	Good	10.7	LCB	\$270,000	\$0	2032	\$106,347
Mary Street	Burshall Street	South Hastings Avenue	2-036	0.10	Good	10.5	LCB	\$135,000	\$0	2042	\$64,818
Madoc Street	Water Street	Main Street	2-023	0.10	Good	10.1	LCB	\$135,000	\$0	2022	\$33,428
McGill Street	Highway 7	25m North of Madoc S	2-038	0.20	Good	10.1	LCB	\$270,000	\$0	2032	\$106,347
River Heights Road	Stirlings-Marmora Road	Twin Court	3-022	0.28	Good	10.1	LCB	\$110,000	\$0	2042	\$136,740
River Heights Road	Twin Court	North River Court	3-023	0.18	Good	10.1	LCB	\$70,000	\$0	2042	\$87,016
River Heights Road	North River Court	Arrowhead Road	3-024	0.35	Good	10.1	LCB	\$140,000	\$0	2042	\$174,033
River Heights Road	Arrowhead Road	Forest Park Road	3-025	0.40	Good	10.1	LCB	\$160,000	\$0	2042	\$198,895
River Heights Road	Forest Park Road	Cedar Court	3-026	0.48	Good	10.1	LCB	\$190,000	\$0	2042	\$236,187
River Heights Road	Cedar Court	Crowview Court	3-027	0.20	Good	10.1	LCB	\$80,000	\$0	2042	\$99,447
Algonquin Street	Iroquois Avenue	Tecumseh Drive	2-002	0.10	Good	9.8	LCB	\$135,000	\$0	2042	\$64,818
Victoria Street	William Street	Dead End	2-059	0.25	Good	9.6	LCB	\$337,500	\$0	2042	\$162,046
Victoria Street	Highway 7	Madoc Street	2-056	0.18	Good	9.0	LCB	\$236,250	\$0	2042	\$113,432
O'Brien Street	0.5km North of Deloro	Deloro Village North Li	4-004	0.50	Good	8.6	LCB	\$200,000	\$0	2042	\$248,618
South Hastings Avenue	Highway 7	Mary Street	2-052	0.20	Good	6.7	LCB	\$270,000	\$0	2042	\$129,637
Glen Ridge Road	Centre Line Road	Dead End	1-074	0.50	Good	6.6	Gravel	\$150,000	\$0	2042	\$133,188
Madoc Street	North Maloney Street	25m East of North Mal	2-032	0.03	Good	4.9	LCB	\$33,750	\$0	2032	\$13,293
Industry Lane	Marble Point Road	Dead End	1-079	0.20	Good	4.8	LCB	\$270,000	\$0	2042	\$129,637
TOTAL								\$87,812,250	\$10,490,000		

* Recommended road works is based on a priority of the section relative to its condition and the traffic it serves. All road works recommended from 2013 -2022 consider traffic volumes in excess of 50 cars per day. The priority rating and the timing of required road works was obtained from the Draft Road Needs Study analysis being undertaken for the Municipality. The results of the road needs analysis is issued under separate cover. For the purpose of this analysis, road improvement works for all roads (high and low traffic volume roads) are assumed to take place as a means of extending the useful life of roads in lieu of complete replacement.

**Timing of the road work was assigned as either immediate, 1-5 years, 6-10 years, 11-15 years, 16-20 or 21-30 years. The timing shown in this schedule is the final year of the range but in the replacement schedule the road works are spread out evenly over the range.



Appendix A
Municipality of Marmora and Lake
Capital Asset Inventory and Replacement Schedule
Bridges

Bridge ID	Structure Name	Structure Type	Material Type (Primary Load Carrying Component)	Number of Spans	Total Deck Length (m)	Deck Area (m2)	BCI	BSI	Useful Life	2013 Replacement Cost	Condition	Timing of Recommended Work	Bridge Work in Future Dollars*
BR-09	McFaul Bridge**	T-Beam	Cast in Place Concrete	2	30.0	165.0	57	48	50	\$1,175,000	Poor	2013	\$1,175,000
BR-15	Hamah's Bridge	Rigid Frame	Cast in Place Concrete	1	6.6	49.5	19	10	50	\$465,000	Poor	2013	\$465,000
BR-04	Boyd Bridge	Open Footing Rigid Frame	Cast in Place Concrete	1	6.1	52.5	18	12	50	\$360,000	Poor	2013	\$360,000
BR-20	Pit Bridge	Rigid Frame	Cast in Place Concrete	1	3.7	31.4	40	34	50	\$465,000	Poor	2013	\$465,000
BR-19	Wilman's Bridge	T-Beam	Cast in Place Concrete	1	17.6	123.2	49	39	50	\$570,000	Poor	2018	\$165,612
BR-06	Young's Bridge	Open Footing Rigid Frame	Cast in Place Concrete	1	6.0	51.0	49	41	50	\$105,000	Poor	2018	\$176,653
BR-30	North Twin Sister Culvert	Arch	Corrugated Steel	1	-	-	56	48	50	\$130,000	Poor	2018	\$60,724
BR-25	Glanmire Bridge	T-Beam	Cast in Place Concrete	3	40.0	220.0	39	29	50	\$1,900,000	Poor	2023	\$2,316,089
BR-29	Centre Twin Sister Culvert	Earth Filled Arch	Steel	1	-	-	63	59	50	\$130,000	Fair	2013	\$35,000
BR-10	Bontier Bridge	Timber Deck on Steel Beam	Wood	1	8.1	39.7	70	60	50	\$260,000	Fair	2013	\$31,000
BR-31	Cole Culvert	Arch	Corrugated Steel	1	-	-	67	62	50	\$150,000	Fair	2013	\$40,000
BR-32	Joe Barrons Culvert	Arch	Corrugated Steel	1	-	-	69	63	50	\$150,000	Fair	2013	\$40,000
BR-17	Don Shannon's Bridge	Precast Concrete Girder	Precast Concrete	1	38	425.6	68	65	50	\$1,600,000	Fair	2013	\$525,500
BR-26	Nicholson's Bridge	T-Beam	Cast in Place Concrete	1	6.1	31.7	61	53	50	\$275,000	Fair	2018	\$86,118
BR-27	Gut Bridge	Box Beams of Girders	Precast Concrete	1	16.3	80.0	66	58	50	\$765,000	Fair	2018	\$17,665
BR-16	Shanick Bridge	Through Truss	Steel	1	34.4	168.6	63	63	50	\$1,650,000	Fair	2018	\$1,656
BR-07	Malone Bridge	Through Truss	Steel	2	67.7	311	72	64	50	\$3,300,000	Fair	2018	\$200,943
BR-08	Bronson Bridge	Timber Deck on Steel Beam	Wood	1	14.2	80.9	69	61	50	\$695,000	Fair	2023	\$104,834
BR-18	Kelly's Bridge	Arch	Cast in Place Concrete	1	-	-	75	69	50	\$175,000	Good	2013	\$1,500
BR-23	Deer River Bridge	Precast Girder Semi Integral	Precast Concrete	1	29.6	287.1	73	70	50	\$1,400,000	Good	2013	\$36,000
BR-24	Wiley Bridge	Precast Concrete Girder	Cast in Place Concrete	1	22.2	217.6	70	66	50	\$960,000	Good	2018	\$529,959
BR-12	South Twin Sister Bridge	Precast Girder Integral	Precast Concrete	2	29	281	75	71	50	\$2,140,000	Good	2018	\$3,864
BR-03	Mary Street	Arch	Cast in Place Concrete	1	-	-	75	67	75	\$300,000	Good	2088	\$1,324,751
BR-11	Riverview Crescent Bridge	Box - Open Footing	Cast in Place Concrete	1	15.3	133.1	75	68	75	\$300,000	Good	2088	\$1,324,751
BR-02	Station Bridge	I-Beam or Girders	Cast in Place Concrete	1	32.36	216.8	75	70	75	\$1,500,000	Good	2088	\$6,623,753
BR-05	Ackerman Bridge	Box - Open Footing	Cast in Place Concrete	1	15.5	181.4	75	71	75	\$430,000	Good	2088	\$1,898,809
BR-01	Gawley Bridge	I-Beam or Girders	Steel	1	20.9	135.8	88	82	75	\$970,000	Good	2088	\$4,283,360
BR-01	Gawley Bridge	Steel Box Culvert	Steel	-	-	-	100	97	75	\$400,000	Good	2088	\$1,766,334
TOTAL										\$22,720,000			

* Recommended bridge work is based on BSI (Bridge Sufficiency Index)

**The condition of McFaul Bridge is of particular concern due to extensive shear cracking of the concrete girders. Therefore it has been set with the highest priority for replacement.

Appendix A
Municipality of Marmora and Lake
Capital Asset Inventory and Replacement Schedule
Water and Sewer

Asset ID	Asset Name	Year Installed	Useful Life	Replacement Cost	Condition Assessment	Overdue	Timing of Need for Recommended Work - Based on Useful Life ⁽³⁾	Replacement Cost in Future Dollars
Sewerline (Waste Water): Distribution District=Marmora								
SN-5	Forcemain ⁽¹⁾	1973	50	1,000,000	Poor		2023	\$1,000,000
SN-5	Sanitary Sewer	1973	50	\$2,097,000	Poor		2023	\$2,556,231
SN-4	Sanitary Sewer	1973	50	\$752,500	Poor		2023	\$917,293
SN-3	Sanitary Sewer	1973	50	\$515,500	Poor		2023	\$628,392
SN-2	Sanitary Sewer	1973	50	\$280,500	Poor		2023	\$341,928
SN-1	Sanitary Sewer	1973	50	\$157,000	Poor		2023	\$191,382
Sewerline (Waste Water): Distribution District=Deloro								
SN-6	Sanitary Sewer	2009	50	\$392,500	Good		2059	\$975,995
Pumping Station								
Pumping Station		1970	50	\$490,000	Poor		2020	\$562,856
Treatment Facilities								
Treatment ⁽²⁾	Deloro Sewage Plant	1984	40	\$990,000	Poor		2013	\$990,000
Stormwater	Storm Water Management Pond	2006	40	\$229,700	Good		2046	\$441,537
Treatment	Wastewater Treatment Plant (Marmora)	2008	40	\$5,000,000	Good		2048	\$9,999,448
Catchbasins								
Catchbasins: 1975	27.0	1975	40	\$67,500	POOR		2015	\$70,227
Catchbasins: 1978	2.0	1978	40	\$5,000	POOR		2018	\$5,520
Catchbasins: 1981	19.0	1981	40	\$47,500	POOR		2021	\$55,654
Catchbasins: 1982	28.0	1982	40	\$70,000	POOR		2022	\$83,656
Catchbasins: 1984	10.0	1984	40	\$25,000	FAIR		2024	\$31,084
Catchbasins: 2004	3.0	2004	40	\$7,500	GOOD		2044	\$13,857
Catchbasins: 2005	9.0	2005	40	\$22,500	GOOD		2045	\$42,402
Catchbasins: 2006	51.0	2006	40	\$127,500	GOOD		2046	\$245,085
Catchbasins: 2008	9.0	2008	40	\$22,500	GOOD		2048	\$44,998
Catchbasins: 2009	3.0	2009	40	\$7,500	GOOD		2049	\$15,299
TOTAL WASTEWATER INFRASTRUCTURE								
				\$12,307,200				

Note 1: Although the timing of work based on useful is not until 2023, this project needs to be replaced immediately and has been identified as a high priority capital project
 Note 2: Current to the preparation of this document, this plant is currently being replaced and therefore the condition of this asset will be changed to "good" once complete
 Note 3: The timing need for work is based on the engineered design life of the asset, however, the actual condition of each asset differs. Therefore, assets may continue to meet desired service levels beyond the engineered design standard, or require repair or replacement earlier than designed

Appendix A
Municipality of Marmora and Lake
Capital Asset Inventory and Replacement Schedule
Water and Sewer

Hydrant: Distribution District=Marmora							
H1	Fire Hydrants	1965	40	\$54,600	Poor	2013	\$54,600
H2	Fire Hydrants	1975	40	\$231,000	Poor	2015	\$240,332
H3	Fire Hydrants	1985	40	\$25,200	Fair	2025	\$31,960
Hydrant: Distribution District=Deloro							
H8	Fire Hydrants	1995	40	\$12,600	Good	2035	\$19,479
H4	Fire Hydrants	1995	40	\$8,400	Good	2035	\$12,986
H5	Fire Hydrants	2005	40	\$16,800	Good	2045	\$31,660
Hydrant: Distribution District=Deloro							
H9	Fire Hydrants	2008	40	\$12,600	Good	2048	\$25,199
Hydrant: Distribution District=Marmora							
H6	Fire Hydrants	2008	40	\$4,200	Good	2048	\$8,400
H7	Fire Hydrants	2009	40	\$33,600	Good	2049	\$68,540
Waterline: Asset Material=Asbestos Cement							
WN-2	Watermain	1963	50	\$4,720,000	Poor	2013	\$4,720,000
WN-1	Watermain	1963	50	\$320,000	Poor	2013	\$320,000
Waterline: Asset Material=Polyvinyl Chloride							
WN-3	Watermain	2007	50	\$276,000	Good	2057	\$659,655
WN-4	Watermain	2009	50	\$564,000	Good	2059	\$1,402,449
WN-5	Watermain	2009	50	\$365,600	Good	2059	\$909,105
Water Treatment							
Treatment	Water Treatment Plant (Marmora)	2006	40	\$5,000,000	Good	2046	\$9,611,157
Treatment	Deloro Water Plant	2005	40	\$600,000	Good	2045	\$1,130,724
Storage							
Water Tower/Standpipe	Marmora	1963	50	\$1,500,000	Poor	2013	\$1,500,000
Storage / Station	Booster Station	2006	40	\$500,000	Good	2046	\$961,116
TOTAL WATER INFRASTRUCTURE							
\$14,244,600							
TOTAL WATER AND WASTEWATER INFRASTRUCTURE							
\$26,551,800							

Appendix A
Municipality of Marmora and Lake
Capital Asset Inventory and Replacement Schedule
Buildings

Building Address	Department	Building Name	Year Built	Age	Useful Life	2013 Replacement Cost	Condition	Overdue	Time of Need for Recommended Work	Building Cost in Future Dollars*
1 Cameron Street	Parks	Ball Park/ Canteen / Beach House	1948	65	50	\$155,270	POOR	Y	2013	\$77,635
20 Cameron Street	Parks	Train Station / Tennis Court	1950	63	50	\$160,000	POOR	Y	2013	\$80,000
53 Deloro Street	Corporate Management	Deloro Hall/Community Centre/ Library	1975	38	50	\$404,625	FAIR		2025	\$256,581
5 Matthew Street	Fire Department	Fire Hall	1978	35	50	\$811,178	GOOD		2028	\$545,870
2 Crawford Drive	Parks	Fair Grounds / Curling Club	1979	34	50	\$2,015,301	FAIR		2029	\$1,383,288
70 O'Brian Street	Roads Department	Deloro Depot	1981	32	50	\$348,475	FAIR		2031	\$248,854
20 Matthew St	Roads Department	Village Garage/OPP	1983	30	50	\$	POOR		2033	\$311,847
28 Victoria Street	Parks	Arena/ Dr. Crawford Com. Centre	1948	65	50	\$5,006,053	GOOD		2040	\$4,272,382
12 Burstall Street	Corporate Management	Town Hall	1913	100	50	\$1,003,418	GOOD		2040	\$856,360
10 Burstall Street	Protection	Parks and Rec Building	1945	68	50	\$430,128	GOOD		2045	\$405,297
6 Matthew Street	Corporate Management	Tourism Centre	2001	12	50	\$201,777	GOOD		2051	\$214,115
44 Matthew Street	Cemetery	Cemetery	2002	11	50	\$64,300	GOOD		2052	\$69,597
Beaver Creek Road	Roads Department	Sand Dome Beaver Creek	1989	24	50	\$127,088	GOOD		2058	\$154,911
1 Madoc Street	Public Health	Medical Centre	1991	22	50	\$1,244,200	GOOD		2058	\$1,516,589
Forsyth & Matthew Street	Library	Library/Memorial Building	1928	85	50	\$1,552,307	GOOD		2059	\$1,929,991
70 O'Brian Street	Roads Department	Dome #32	2009	4	50	\$194,490	GOOD		2059	\$241,810
199 Booster Park Road	Parks	Booster Park - Well House / Storage Shed	2011	2	50	\$9,216	GOOD		2061	\$11,921
199 Booster Park Road	Parks	Booster Park	2011	2	50	\$61,508	GOOD		2061	\$79,563
70 O'Brien Street	Roads Department	Deloro Works Garage	2011	2	50	\$181,177	GOOD		2061	\$234,359
70 O'Brien Street	Roads Department	Deloro Vehicle Storage	2011	2	50	\$134,394	GOOD		2061	\$173,843
22 Water Street	Water	Environmental Services Garage	2011	2	50	\$58,207	GOOD		2061	\$75,292
199 Booster Park Road	Parks	Booster Park Change Rooms	2011	2	50	\$27,754	GOOD		2061	\$35,900
28 Victoria Street	Parks	Ceccession Booth	2001	12	50	\$91,512	GOOD		2063	\$123,156
28 Victoria Street	Parks	Pavilion - 28 Victoria	1992	21	50	\$43,720	GOOD		2063	\$58,838
28 Victoria Street	Parks	Storage Building - 28 Victoria	1980	33	50	\$62,044	GOOD		2063	\$83,498
28 Victoria Street	Parks	Pole Barn	1990	23	50	\$87,333	GOOD		2063	\$117,532
28 Victoria Street	Parks	Pole Barn	1990	23	50	\$59,794	GOOD		2063	\$80,470
28 Victoria Street	Parks	Pole Barn	1990	23	50	\$56,579	GOOD		2063	\$76,144
70 O'Brian Street	Roads Department	Salt Shed -70 O'Brians Street	1980	33	50	\$69,545	GOOD		2063	\$93,593
2054 North Steenburg Road	Roads Department	Sand Storage Building	2009	4	50	\$208,699	GOOD		2059	\$259,477
Beaver Creek Road	Roads Department	Storage Building - Beaver Creek Road	1970	43	50	\$164,272	GOOD		2063	\$221,076
TOTAL						\$15,454,089				

Note: Given that retrofits and renovations can often extend the useful life of buildings in lieu of a complete replacement; the analysis assumes that costs to maintain buildings would be 50% of building replacement construction costs.

Appendix A

Municipality of Marmora and Lake
Capital Asset Inventory and Replacement Schedule
Sidewalks

Asset Name	Asset ID	Location Description	Year of Installation	Useful Life	Linear Meters	2013 Replacement Cost	Condition	Overdue	Timing of Recommended Work	Replacement Cost in Future Dollars
Burshall Street	1	From Hwy #7 going south on the east side of Burshall Street to Mary Street	1995	40	188	\$22,348	Good		2035	\$34,549
Burshall Street	2	From Mary Street going south on the east side of Burshall Street to the dead end.	1995	40	500	\$59,436	Good		2035	\$91,887
Cameron Street	5	From the dead end travelling north on the east side of the street to Linn Street	1995	40	81	\$9,629	Good		2035	\$14,886
Cameron Street	6	From Linn Street travelling north on the east side of the street to Highway 7	1995	40	421	\$50,045	Good		2035	\$77,369
Forsyth Street	8	From Matthew Street travelling south on the west side of the street to Linn Street	1995	40	393	\$46,717	Good		2035	\$72,223
Forsyth Street	9	From Linn Street travelling south on the west side of the street to Linn Street	1995	40	202	\$24,012	Good		2035	\$37,122
Roscoe Street	11	From Norwood Road travelling south on the east side of the street to the dead end at Roscoe Street	1995	40	192	\$22,823	Good		2035	\$35,285
Crowe Valley Court	12	From Highway 7 travelling south on the west side of the street to the dead end	1995	40	110	\$13,076	Good		2035	\$20,215
Norwood Road	16	From Roscoe Street travelling east on the north side of the street to Savage Crescent	1995	40	404	\$48,024	Good		2035	\$74,245
Norwood Road	17	From Savage Crescent travelling east on the north side of the street to the dead end	1995	40	127	\$15,097	Good		2035	\$23,339
Matthew Street	18	From the bridge at Crowe Valley Court travelling east on the side of the street to Cameron Street	1995	40	183	\$2,398	Good		2035	\$3,707
William Street	42	From Hayes Street travelling west on the north side of the street to McGill Street	1995	40	109	\$12,957	Good		2035	\$20,031
McGill Street	43	From William Street travelling south on the east side of the street to Madoc Street	1995	40	466	\$44,308	Good		2035	\$68,500
Nash Street	3	From Burshall Street travelling west on the south side of the street to Highway # 14	1997	40	108	\$10,269	Good		2037	\$16,517
Linn Street	4	From Burshall Street travelling west on the north side of the street to Hwy. 14	1997	40	101	\$9,603	Good		2037	\$15,446
Forsyth Street	13	From dead at of Forsyth Street travelling north on the east side of the street to Nash Street	1997	40	123	\$14,621	Good		2037	\$23,517
Forsyth Street	14	From Nash Street travelling north on the east side of the street to Linn Street	1997	40	144	\$17,118	Good		2037	\$27,533
Forsyth Street	15	From Linn Street travelling north on the east side of the street to Highway 7	1997	40	421	\$50,045	Good		2037	\$80,494
McGill Street	44	From William Street travelling south on the east side of the street to Madoc Street	1997	40	74	\$8,797	Good		2037	\$14,149
Main Street	45	From Madoc Street travelling north on the east side of the street to McGill Street	1997	40	553	\$65,736	Good		2037	\$105,733
Front Street	57	From Madoc Street travelling north on the west side of the street to McGill Street	1997	40	38	\$12,286	Good		2037	\$19,761
Forsyth Street	10	From Nash Street travelling south on the west side of street to dead end on Forsyth Street	1998	40	123	\$14,621	Good		2038	\$23,988
Matthew Street	30	From Mac's Milk Convenience Store on the north side of the street to the dead end	1999	40	17	\$2,021	Good		2039	\$3,382
Hastings Street	31	From Highway 7 travelling south on the west side of the street to Mary Street	1999	40	188	\$22,348	Good		2039	\$37,397
Mary Street	32	From Hastings Street travelling east on the north side of the street to the dead end	1999	40	253	\$30,075	Good		2039	\$50,327
Mary Street	33	From Hastings Street travelling west on the north side of the street to Burshall Street	1999	40	102	\$12,125	Good		2039	\$20,290
Pearce Street	34	From Madoc Street travelling north on the east side of the street to William Street	1999	40	260	\$30,907	Good		2039	\$51,720
Hayes Street	35	From William Street travelling north on the east side of the street to the dead end at Water Street	1999	40	148	\$17,593	Good		2039	\$29,441
Hayes Street	36	From William Street travelling south on the east side of the street to Madoc Street	1999	40	267	\$31,739	Good		2039	\$53,112
Burshall Street	37	From Madoc Street travelling south on the east side of the street to highway #7	1999	40	175	\$20,803	Good		2039	\$34,811
Burshall Street	38	From Highway #7 travelling north on the west side of the street to Madoc Street	1999	40	96	\$11,412	Good		2039	\$19,097
North Hastings	39	From Highway #7 travelling north on the east side of the street to Madoc Street	1999	40	177	\$21,040	Good		2039	\$35,209
North Hastings	40	From Madoc Street travelling north on the east side of the street to William Street	1999	40	267	\$31,739	Good		2039	\$53,112
William Street	41	From Victoria Street travelling west on the north side of the street to Hayes Street	1999	40	351	\$41,724	Good		2039	\$69,822
Forsyth Street	7	From Matthew Street travelling south on the west side of the street	2000	40	35	\$8,321	Good		2040	\$14,203
Matthew Street	22	From Burshall Street travelling east on the south side of the street to Hastings Street	2000	40	109	\$15,550	Good		2040	\$26,542
Deloro Street	61	From O'Brien Street travelling west on the south side of the street to Deloro Community Centre	2000	40	28	\$3,328	Good		2040	\$5,681
O'Brien Street	62	From Deloro Street travelling north on the east side of the street to dead end	2000	40	371	\$35,275	Good		2040	\$60,211
O'Brien Street	63	From dead end travelling south on the west side of the street to Deloro Street	2000	40	358	\$34,039	Good		2040	\$58,101
Matthew Street	19	From Cameron Street travelling east on the south side of the street to the Library	2004	40	83	\$9,866	Good		2044	\$18,229
Matthew Street	20	From Library going east on the south side of the street to Highway 14	2004	40	24	\$5,706	Good		2044	\$10,542
Matthew Street	21	From Forsyth Street travelling east on the south side of the street to Burshall Street	2004	40	108	\$15,407	Good		2044	\$28,467
Matthew Street	23	From North Maloney Street travelling west on the north side of the street to the Ultramar Gas Station	2004	40	445	\$52,898	Good		2044	\$97,734
Matthew Street	24	From Ultramar Gas Station travelling west on the north side of the street to Victoria Street	2004	40	97	\$11,531	Good		2044	\$21,304
Matthew Street	25	From Victoria Street travelling west on the north side of the street to Matthew Place	2004	40	60	\$7,132	Good		2044	\$13,178
Matthew Street	26	From Matthew Place travelling west on the north side of the street to North Hastings Street	2004	40	92	\$17,495	Good		2044	\$32,324
Matthew Street	27	From North Hastings Street travelling west on the north side of the street to Burshall Street	2004	40	109	\$15,550	Good		2044	\$28,730
Matthew Street	28	From Burshall Street travelling west on the north side of the street to Forsyth Street	2004	40	106	\$20,157	Good		2044	\$37,243

Appendix A
Municipality of Marmora and Lake
Capital Asset Inventory and Replacement Schedule
Sidewalks

Asset Name	Asset ID	Location Description	Year of Installation	Useful Life	Linear Meters	2013 Replacement Cost	Condition	Overdue	Timing of Recommended Work	Replacement Cost in Future Dollars
Matthew Street	29	From Forsyth Street travelling west on the north side of the street to Mac's Milk Convenience Store	2004	40	82	\$9,748	Good		2044	\$18,009
Main Street	46	From McGill Street travelling north on the east side of the street to the dead end	2008	40	259	\$30,788	Good		2048	\$61,572
Front Street	47	From Highway #7 travelling north on the west side of the street	2008	40	97	\$23,061	Good		2048	\$46,120
Front Street	48	From Highway #7 travelling north on the west side of the street	2008	40	12	\$6,561	Good		2048	\$13,122
Front Street	49	From Highway #7 travelling north on the west side of the street	2008	40	25	\$4,754	Good		2048	\$9,508
Front Street	50	From Highway #7 travelling north on the west side of the street	2008	40	38	\$4,517	Good		2048	\$9,034
Medical Centre	58	From Madoc street travelling north on the west side of the street to dead end	2008	40	27	\$4,494	Good		2048	\$8,988
Deloro Street	59	From Old School 911 sign travelling east on the north side of the street to O'Brien Street	2008	40	106	\$10,079	Good		2048	\$20,156
Deloro Street	60	From O'Brien Street on the north side of the street to dead end	2008	40	180	\$21,399	Good		2048	\$42,795
Front Street	51	From Highway #7 travelling north on the west side of the street to Madoc Street	2010	40	12	\$3,708	Good		2050	\$7,416
Front Street	52	From Madoc Street travelling south on the east side of the street	2010	40	9	\$2,354	Good		2050	\$4,898
Front Street	53	From Madoc Street travelling south on the east side of the street	2010	40	29	\$4,137	Good		2050	\$8,608
Front Street	54	From Madoc Street travelling south on the east side of the street	2010	40	7	\$2,163	Good		2050	\$4,501
Front Street	55	From Madoc Street travelling south on the east side of the street	2010	40	63	\$17,975	Good		2050	\$37,401
Front Street	56	From Madoc Street travelling south on the east side of the street to Highway #7	2010	40	62	\$19,160	Good		2050	\$39,866
TOTAL						\$1,264,647				

Appendix A
Municipality of Marmora and Lake
Capital Asset Inventory and Replacement Schedule
Fleet

Asset ID	Asset Name	Initial Value	Year Purchased	Useful Life	Condition	2013 Replacement Cost	Overdue	Timing of Recommended Replacement	Replacement Cost in Future Dollars
FLV016	Pumper	\$183,138	1992	15	POOR	\$277,576	Y	2013	\$277,576
FLV006	Grader	\$161,690	1985	15	POOR	\$281,506	Y	2013	\$281,506
FLV017	Tanker	\$146,510	1992	15	POOR	\$222,060	Y	2013	\$222,060
FLV001	Kubota L4150	\$11,318	1989	15	POOR	\$18,204	Y	2013	\$18,204
FLV011	Loader	\$8,565	1977	15	POOR	\$17,472	Y	2013	\$17,472
FLV015	Heavy Rescue Truck	\$8,000	2000	15	POOR	\$10,349		2015	\$10,767
FLV012	Roller	\$28,707	1997	20	GOOD	\$39,409		2017	\$42,657
FLV018	Mini Pumper	\$227,451	2003	15	POOR	\$277,261		2018	\$306,119
M-8	Zamboni	\$75,787	2008	10	FAIR	\$83,675		2018	\$92,384
	Ford EXP XLT		2003	15	POOR	\$10,842		2018	\$11,970
	Ford EXP XLT		2003	15	POOR	\$10,842		2018	\$11,970
	Mont. Tandem Trailer		1994	25	FAIR	\$8,846		2019	\$9,962
FLV022	Kubota B2100	\$11,744	2000	20	FAIR	\$15,192		2020	\$17,451
FLV014	Medical Rescue Truck	\$8,965	2006	15	FAIR	\$10,298		2021	\$12,066
FLV019	ATV	\$9,569	2006	15	FAIR	\$10,992		2021	\$12,879
	Chevrolet Silverado		2006	15	POOR	\$13,500		2021	\$15,817
FLV020	Water Dept. Distri.	\$9,072	2004	18	FAIR	\$10,842		2022	\$12,957
	Adva Sa Trailer		1997	25	FAIR	\$7,860		2022	\$9,393
FLV008	Dump Truck	\$60,789	2008	15	FAIR	\$67,116		2023	\$81,814
	Dodge Ram 5500		2008	15	FAIR	\$41,900		2023	\$51,076
FLV007	Backhoe Loader	\$97,059	2004	20	GOOD	\$115,994		2024	\$144,225
FLV009	Dump Truck	\$203,746	2009	15	GOOD	\$220,541		2024	\$274,215
FLV021	DUMP Truck/Plow	\$184,934	2010	15	GOOD	\$196,253		2025	\$248,897
	Dodge 1500		2010	15	GOOD	\$22,495		2025	\$28,529
FLV023	Dump Truck/Plow	\$99,970	2011	15	GOOD	\$104,009		2026	\$134,546
FLV024	Tandem dump/plow	\$195,145	2011	15	GOOD	\$203,029		2026	\$262,639
FLV025	Crawler/Loader	\$196,965	2011	15	GOOD	\$204,922		2026	\$265,089
	International 7600 SFA 6x4		2011	15	GOOD	\$160,000		2026	\$206,977
	International Workstar Truck		2012	15	GOOD	\$104,900		2027	\$138,413
	Homemade Flatbed Trailer		2002	25	GOOD	\$6,500		2027	\$8,577
	International Pumper	\$267,905	2013	15	GOOD	\$267,905		2028	\$360,565
Total						\$ 3,042,292			

HEMSON