

ASSET MANAGEMENT REPORT

MUNICIPALITY OF CENTRE HASTINGS



Prepared for:

Municipality of Centre Hastings
7 Furnace Street
Madoc, Ontario, K0K 2K0

Prepared by:

Greer Galloway Group Inc.
File No.: 13-3-5267
1620 Wallbridge-Loyalist Road
Belleville, Ontario, K8N 4Z5

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1. WHAT IS AN ASSET MANAGEMENT PLAN

An asset management plan is a strategic document that states how a group of assets is to be managed over a period of time. The plan describes the characteristics and condition of infrastructure assets, the levels of service expected from them, planned actions to ensure the assets are providing the expected level of service, and financing strategies to implement the planned actions.

At a minimum, a detailed asset management plan has the following sections:

- Introduction
- State of Local Infrastructure
- Expected Levels of Service
- Asset Management Strategy
- Financing Strategy

Future provincial capital funding will be conditional on municipalities ensuring that their asset management plans include the elements above. All data and analysis supporting the asset management plan is to be documented and kept on file.

Municipalities are responsible for tailoring their asset management plans to their unique needs and ensuring that all of the relevant expertise has been brought to bear in developing them.

2. INTRODUCTION

The Municipality of Centre Hastings has an obligation to provide a particular service to its residents and those who may happen to visit the area.

How one may define that service will vary from person to person – it may involve providing access to various points across the municipality, a particular level of safety or comfort, access to particular resources, or otherwise. Whatever the definition of the ‘service’ that the Municipal government provides, the ability to provide that service is directly dependent on the assets that are at the disposal of the Municipality. Without the buildings, roads, equipment, drinking water facilities, wastewater facilities, and other systems the people who make up the government would not be able to do their jobs or help contribute to the quality of life that residents of and guests to the area currently enjoy.

Documents such as this asset management report are a critical tool which provides current condition and future costing information that may impact the many decisions a Municipal government must make.

This asset management plan is a public document that will be made available to the public and provides information on how the municipality’s infrastructure is managed, where tax dollars and other revenues are spent and the magnitude of the expenditure that the assets demand.

While the Province requires the asset management plan cover a span of 10 years, this document extends over a full 30 year horizon. There are a great many assets for which a municipality is responsible that extend well beyond 10 years. It is felt critical that the horizon of a study such as this extend far enough to ensure that the bulk of the assets for which it covers are captured.

However, the shorter 10 year requirement emphasizes the relative importance of the more immediate timeframe in the study. The further into the future projections are made the less reliable it may become and the more likely it is to be revised as the asset management plan is maintained over the years.

2.1. Objective & Scope

The Municipality of Centre Hastings retained the Greer Galloway Group to develop a Asset Management Plan in accordance with the Ministry of Infrastructure’s “Building Together: Guide for Municipal Asset Management Plans.” The goal of the Asset Management Plan is to provide the Municipality with:

1. A detailed list of their current significant assets.
2. Develop a plan and process for making the best possible decisions in the future regarding the building, operation, maintenance, renewal, replacement and disposal of infrastructure assets.

This asset management plan provides an itemized list of significant assets. This is not an exhaustive list; rather it focuses on larger, more costly, individual assets. For example it includes assets such as public works vehicles, but it does not include the individual tools that are used to maintain the vehicle; it includes the library building but not the books in the library.

The intention – as directed by the Municipality – is to detail large capital expenditures. It is possible that the scope of the elements included in the municipal asset management system may be expanded, however this will occur as the asset management plan is developed over time.

The assets included in this study are grouped into the following categories:

- Road System
- Water Distribution
- Wastewater Collection
- Bridges
- Buildings and Facilities
- Drinking Water Treatment and Pumping
- Wastewater Treatment
- Equipment

The following publications were utilized in the development of this report and subsequent analysis:

1. The National Guide for Sustainable Municipal Infrastructure
2. Ontario Good Roads Association: How to Develop a Municipal Asset Management Plan
3. Building Together: Guide for Municipal Asset Management Plans
4. Ontario Good Roads Association: A Guide for Road and Bridge Asset Management Plan Development

2.2. Process

Information Gathering

The information contained in this document comes from a variety of sources, however the principal sources are municipal staff and their knowledge of both current practices and historical activities; available reports previously completed speaking to the inventory of assets and their makeup; and in-house knowledge of municipal assets that Greer Galloway staff have developed through previous involvement with a number of municipal systems.

Significant documents utilized in the information gathering process include the Municipal Road Needs Study, Ontario Structure Inspection Manual (OSIM) report, Public Sector Accounting Board (PSAB) documents and previous Municipal Budgets.

Where necessary information gaps were filled through consultation with municipal staff and / or field inspection of particular assets.

Condition Analysis

An organized review of the condition of each asset was undertaken. Where available, detailed condition assessments were considered and a single rating out of 10 was assigned.

It is this condition rating that drives the timing and therefore the priority of an asset need / expenditure.

Where available the condition ratings reflect rating provided by a recent road needs study, OSIM report or other municipal record. Where existing current records were not available field observations were completed and guidance provided by municipal staff.

Financial Analysis

The financial analysis is broken into two separate areas.

The first, anticipated future expenditure that an asset will require to maintain a condition generally reflective of that provided today for similar assets.

The feeling of both Greer Galloway and the Municipality is that in general, the assets across the Municipality are in fair condition. There are clearly assets that are in need of immediate attention, and others that are in comparatively good condition. This is typical and should be expected at any point in time as various elements move through their individual life cycles.

The intent of the financial analysis is not to overstate the costs associated with these assets, nor is it to understate the costs solely to fit a particular budget limitation or unsustainable practice. The intent is to estimate expenditures for each asset that to the greatest extent possible are based on real, local examples of similar work that are consistent with good practice and reflective of the environment in which the asset exists.

The second, has been provided by the Municipality and is an estimate of the revenue that can reasonably be expected to be available to offset the projected asset expenditure.

The intent again is not to exaggerate or underestimate the revenue that is likely to be available in the future, but to provide a reasonable representation of current practices regarding recurring and reliable municipal income streams.

Conclusions

After taking into consideration all the information assembled as part of this process, conclusions will be made regarding:

- Current practices and whether they are felt to be appropriate and reasonable.
- Is the anticipated funding adequate or is there a shortfall between anticipated infrastructure burdens (expenditure) and anticipated revenue?
- If there is a shortfall, how might the gap be filled (i.e. additional income streams, modification of a level of service, other)?

3. THE STATE OF OUR INFRASTRUCTURE

3.1. Overview

An inventory of significant local infrastructure elements is provided in the appendix. This inventory outlines the full list of assets, as well as a description of the current condition, estimated replacement value, and forecasted replacement date for each. The following section describes the approaches, assumptions and other elements considered when creating the appended inventory.

3.2. Assets Included in Management Plan

Table 1 lists each of the asset groups including a subset of assets related to each. Included are asset attributes such as quantity and expected life. The expected life assumes regular maintenance of the assets. Table 2 includes the attributes collected as well as calculated information that aids in the decision making process such as replacement costs, average remaining useful life, and average condition. This information gives a high level indication of the current state of the municipality's assets and some insight into what could be expected in the future.

Table 1: Asset attributes

Asset	Asset Sub-Class	Quantity	Average Expected Life
Roads	Gravel	53.6 km	40 yrs.
	Rural Asphalt	100 km	25 yrs.
	Village Streets	26 km	30 yrs.
Bridges	Substructure	18 individual structures	40yrs.
	Superstructure		40 yrs.
	Culverts		40 yrs.
Water and Wastewater System	Wastewater Treatment	2 Lagoons	40 yrs.
	Village Sanitary Sewers	26 km	30 yrs.
	Water Treatment and storage	2 facilities	30 yrs.
	Village Water Supply Lines	26 km	30 yrs.

Table 2: Asset information

Asset	Asset Sub-Class	Average Condition	Replacement Cost	Average Remaining Useful Life
Roads	Gravel	4.8	\$1,270,000	24 yrs.
	Rural Asphalt	6.5	\$8,581,386	7.2 yrs.
	Village Streets	6.3	\$26,468,000	25.9 yrs.
Bridges	Substructure	Fair	\$12,283,750	11.5 yrs.
Water and Wastewater System	Wastewater Treatment	Fair	\$1,200,000	<5 yrs.
	Village Sanitary Sewers	Fair	Included in Village Street Cost and Lifespan	
	Water Treatment and storage	Poor	\$990,000	<2 yrs.
	Village Water Supply Lines	Fair	Included in Village Street Cost and Lifespan	

3.3. Data Collection

Information Gathering

While the information contained in this document comes from a variety of sources, the principal sources are municipal staff with their knowledge of both current practices and historical activities; and previously completed reports dealing with the inventory of assets and their makeup.

The initial activities completed at this stage of the assignment were to identify the inventory of infrastructure assets owned by the Municipality, their current conditions, and current and future maintenance and growth plans.

Significant documents utilized in the information gathering process include the Municipal Road Needs Study, Ontario Structure Inspection Manual (OSIM) report, Public Sector Accounting Board (PSAB) documents and previous Municipal Budgets. Where necessary, information gaps were filled through consultation with municipal staff and / or field inspection of particular assets.

Condition Analysis

An organized review of the condition of each asset was undertaken. Where available, detailed condition assessments were considered and a single rating out of 10 was assigned.

It is this condition rating that drives the timing and therefore the priority of an asset need / expenditure.

Where available, the condition ratings reflect ratings provided by a recent road needs study, OSIM report or other municipal record. Where existing current records were not available, field inspections were completed and guidance provided by municipal staff.

The frequency of routine condition assessments for each asset is listed below in Table 3. More frequent inspections or detailed assessments for certain assets generally result from the routine assessment.

Table 3: Assets Condition Assessment Frequency

Asset	Asset Sub-Class	Condition Assessment Frequency
Roads	Gravel	2 yrs.
	Rural Asphalt	2 yrs.
	Village Streets	2 yrs.
Bridges	Substructure	2 yrs.
	Superstructure	2 yrs.
	Culverts	2 yrs.
Water System	Village Storm Sewers	10 yrs.
	Village Water Supply Lines	10 yrs.
	Structures	10 yrs.
Waste Disposal	Facility	Yearly
Wastewater Treatment Plant	Facility	Yearly Operator Report
Municipal Fleet	Equipment	Continual Use Basis

Financial Analysis

The financial analysis is broken into two separate areas. The first, anticipated future expenditure that an asset will require to maintain a condition generally reflective of that provided today for similar assets. The feeling within the Municipality is that, in general, the assets across the Municipality are in fair condition. There are clearly assets that are in need of immediate attention, and others that are in comparatively good condition. This is typical and should be expected at any point in time as various elements move through their life cycle. The intent is not to overstate the costs associated with these assets, nor is it to understate the costs solely to fit a particular budget limitation or unsustainable practice. The goal is to estimate expenditures for each element that, to the greatest extent possible, are based on local examples of similar work, consistent with good practice and reflective of the asset's environment.

The second has been provided by the Municipality and is an estimate of the revenue that can reasonably be expected to be available to offset the projected asset expenditure. The intent again is not to exaggerate or underestimate the revenue that is likely to be available in the future, but to provide a reasonable representation of current practices regarding recurring and reliable municipal income streams.

Conclusions

After taking into consideration all the information assembled as part of this process, conclusions will be made regarding the appropriateness and reasonableness of current practices.

- Is the anticipated funding adequate or is there a shortfall between anticipated infrastructure burdens (expenditure) and anticipated revenue?
- If there is a shortfall, how might the gap be filled (i.e. additional income streams, modification of a level of service, other)?

4. DESIRED LEVELS OF SERVICE

Level of Service (LOS) can be defined using various criteria. Regardless of the criteria used, all methods measure performance versus targets and timelines. Although performance measures are subject to change through the evolution of the plan, the Municipality is responsible for legislated performance criteria such as Minimum Maintenance Standards for Municipal Highways¹, Environmental Compliance Approvals².

4.1. Roads

The number one priority for the Municipality of Centre Hastings (in terms of this asset) is to ensure safe travel and public health and to meet and/or exceed the Minimum Maintenance Standards sets by the Province. The Municipality will log all public calls and concerns for follow-up action and annual review.

The condition rating is important as it drives the remaining life and thus when funds are allocated for that asset. The standard grouping and associated Pavement Condition Index (PCI) is listed in Table 4.

Table 4: Standard PCI Rating Scale

Pavement Management Strategy	Scale	
Preventive Maintenance	Good	10-8.5
	Satisfactory	8.4-7.0
	Fair	6.9-5.5
Operation & Maintenance	Poor	5.4-4.0
	Very Poor	3.9-2.5
Full Reconstruction	Serious	2.4-1.0
	Failed	0.9-0

Critical PCI 5.5

A target average of “Fair” or better has been the determined goal condition level of the roads within the Municipality. Because of the low volume of traffic within the municipality road system the expected life expectancy of our road system is extended relative to standard estimates and is outlined in Table 5. It is believed that maintaining a higher condition level of roads through regular maintenance will considerably extend the lifespan of our road system leading to longer periods of time between complete road rehabilitations.

1 Ontario, Municipal Act 2001, O. Reg. 239/02, Minimum Maintenance Standards for Municipal Highways, (Consolidated 2013)

2 Ontario, Environmental Protection Act, R.S.O. 1990, Chapter E.19, (Consolidated 2011)

Table 5: Adjusted road life expectancy in the Municipality of Centre Hastings

Road Type	Standard Life expectancy	Expected Life Expectancy in Centre Hastings
Village Roads	25 yrs.	30 yrs.
Rural Asphalt Roads	20 yrs.	20 yrs.
Rural Tar & Chip Roads	8 yrs.	10 yrs.
Gravel Roads	40 yrs.	40 yrs.

The Municipal's road network inspection reviewed thousands of segments that established an overall PCI of approximately 6.0. Each road category was evaluated and given an individual PCI. Table 6 provides insight into the average state of the entire network.

Table 6: Average PCI for Road Network

Road Type	Average PCI
Village Roads	6.3
Rural Asphalt Roads	6.5
Rural Tar & Chip Roads	6.5
Gravel Roads	4.8
OVERALL	6.0

4.2. Bridges

Current legislation requires the Municipality of Centre Hastings to inspect all bridges every two years.³ The definition of a bridge as adopted by the Municipality and described in the Ontario Structure Inspection Manual⁴ is "A structure which provides a roadway or walkway for the passage of vehicles across an obstruction, gap or facility and which is greater than 3 m in span." With the potential for a vehicle to cross all pedestrian bridges, the Municipality contracts out the inspection of all pedestrian bridges meeting the definition of a bridge.

Experienced, professional engineers and inspectors must follow the guidelines in the Ontario Structure Inspection Manual (OSIM). This manual provides inspectors with specific inspection procedures that must be followed during all bridge inspections. These inspections, through the use of Municipal Data Works, result in a Bridge Condition Index (BCI) used to give the bridge an overall rating. This rating is organized into ranges from 0 to 100 with immediate action taken to address any safety concerns. The range breakdown is summarized in Table 7 below.

³ Ontario, Public Transportation and Highway Improvement Act, O. Reg. 104/97, Standards for Bridges, (Consolidated 2010)

⁴ Ontario, Ministry of Transportation, Ontario Structure Inspection Manual (OSIM) 2008, (St. Catharines, ON: Ministry of Transportation, 2008)

Table 7: Summary of rehabilitation action based on BCI

Condition	BCI index	Suggested Rehabilitation Action
Good	70-100	Rehabilitation work is not required within the next 5 yrs.
Fair	60-70	Rehabilitation work is usually scheduled within the next 5 yrs.
Poor	Less than 60	Rehabilitation work is usually scheduled within approximately 1 year.

The Municipality of Centre Hastings currently attempts to maintain bridges in the “Fair” or better range. The 2014 bridge inspection rating has indicated that the Municipality bridges have an overall rating of 58. Although this overall rating of “Poor” is given in the 2014 OSIM report, individual bridges are scheduled for rehabilitation over the next 3 years to improve this overall condition level. The scheduled 2016 bridge inspection will provide for the two year update requirement.

4.3. Water Distribution & Wastewater Collection

The village drinking water distribution and wastewater collection systems run in parallel throughout the village. The historical policy regarding the replacement of the water and wastewater network has been to plan to replace the network at the same time as the accompanying village street is scheduled for full rehabilitation. Based on the low volume of traffic on our streets as well as historical experience, village streets have an expected life expectancy of about 30 years instead of the standard 25 years seen in higher volume cities. With such a long lifecycle, the Municipality of Centre Hastings has deemed it an efficient and cost effective strategy to plan for the water and wastewater network to be rehabilitated during the same timeframe as the village streets.

The condition rating of the

4.4. Wastewater Treatment Facility

The Municipality’s Waste water treatment facility consists of 2 facultative lagoons located to the south of the village. Currently the Lagoons support the demands of the Municipality. However, the Municipality is planning to increase the capacity by expanding the system in order to accommodate future population growth.

4.5. Buildings and Facilities

The asset management database accounts for 23 buildings and facilities. The Municipality is responsible for several more assets; however after reviewing the assets with municipal staff, these 23 were felt to be the most critical. The replacement of municipal building and facility assets is one of the more subjective asset classes. For each facility there are a variety of approaches that may be taken as the end of a life cycle is reached – be it significant rehabilitation or full reconstruction, expansion or maintaining the status quo.

For The Municipality of Centre Hastings most of the facilities have a significant service life remaining, this will allow decisions on what to be done with these facilities to wait for some

time. For those facilities that are farthest along their service life, it will become progressively more important to develop a replacement strategy for these elements.

Many buildings will require significant expenditures to replace principal systems – roof, heating, cooling, etc. – and to allow for this a recurring provision has been provided for these more minor, yet costly expenses.

5. GROWTH AND DEMAND

The Municipality of Centre Hastings had a measured population of 4,543 people according to the 2011 federal census. This represents a percentage change of 3.6% from 2006 which is significantly less than the national average of 5.9%. Continuing at this rate the forecasted population of Centre Hastings in 2031 is estimated at just over 5,000. This expected 12% population growth over the next 16 years will not have significant impact of the Municipality's infrastructure requirements.

6. ASSET MANAGEMENT STRATEGY

This asset management plan will be a tool that can be used to ensure that assets needs are anticipated, planned for and managed with a preventative and proactive strategy. The plan will provide council, staff and the public the means to see all assets in one comprehensive package. The plan will illustrate the asset management strategy supported by the Municipality and how they plan to manage their assets from needs and condition ratings to desired levels of service to managing risks and lowering life cycle costs.

The Asset Management plan is a living document that at this point is in its infancy and continued review of the asset management strategy, condition assessments, priority conformation and financial strategy will be necessary to ensure the future viability of the plan.

In the past the Municipalities approach to asset management has been generally reactive. Once an asset reached the end of its useful life funds were directed to replace the most critical asset to the extent that available funds would allow. Inevitably funds have not been sufficient to address community needs so service standards were lowered, poor conditions tolerated or external funding sources pursued.

As this asset management plan is developed, it is expected that all the assets will be viewed collectively and a more coordinated approach to funding their needs will develop and embrace planned actions such as those noted by the Ministry of Infrastructure below:

- Non-infrastructure solutions – actions or policies that can lower costs or extend asset life (e.g., better integrated infrastructure planning and land use planning, demand management, insurance, process optimization, managed failures, etc.).
- Maintenance activities – including regularly scheduled inspection and maintenance, or more significant repair and activities associated with unexpected events.
- Renewal/rehabilitation activities – significant repairs designed to extend the life of the asset. For example, the lining of iron water mains can defer the need for replacement.

- Replacement activities – activities that are expected to occur once an asset has reached the end of its useful life and renewal/rehabilitation is no longer an option.
- Disposal activities – the activities associated with disposing of an asset once it has reached the end of its useful life, or is otherwise no longer needed by the municipality.
- Expansion activities (if necessary) – planned activities required to extend services to previously un-serviced areas - or expand services to meet growth demands.

The asset management strategy is the set of planned actions that will enable the assets to provide the desired levels of service in a sustainable way, while managing risk, at the lowest lifecycle cost⁵. The following tables in this section will attempt to summarize the following strategies:

Non-Infrastructure solutions – actions or policies that can lower costs or extend asset.

Maintenance activities – including regularly scheduled inspection and maintenance, or more significant repair and activities associated with unexpected events.

Renewal/rehabilitation activities – significant repairs designed to extend the life of the asset.

Replacement activities – activities that are expected to occur once an asset has reached the end of its useful life and renewal/rehabilitation is no longer an option.

Disposal activities – the activities associated with disposing of an asset once it has reached the end of its useful life, or is otherwise no longer needed by the municipality.

Expansion activities – planned activities required to extend services to previously un-serviced areas - or expand services to meet growth demands.

⁵ Ministry of Infrastructure, Building Together; Guide for Municipal Asset Management Plan, (Queen's Printer for Ontario, 2012)

Table 8: Roads

Planned Action	Policy
Non-infrastructure solutions	The historical practice based on the low volume traffic on roads is to estimate longer road rehabilitation cycles in comparison to other regions with a higher traffic volume
Maintenance activities	The goal of the Municipality is to schedule our road maintenance schedule in order to keep the condition level fair or better. This policy has the intended goal of extending the lifecycles of our roads while keeping a lower overall maintenance and rehabilitation cost.
Renewal/rehabilitation activities	Due to the high life expectancy of our village streets, the village water and wastewater delivery networks are scheduled for replacement only when the streets are due for rehabilitation. This policy eliminates the needless cost of roads rebuilds due to water and waste water network replacements that are planned separate from the road network.
Replacement activities	The rehabilitation of roads nearing their life expectancy is planned for in advanced according to the roads replacement cost. Projects in excess of \$800,000 are staged over a 3 year period, while projects between \$400,000 and \$799,999 are staged over a 2 year period.
Disposal activities	Road surfaces are milled and used as road base.
Expansion activities	With the forecasted limited population and accompanying demand increase on our road infrastructure there is no foreseeable requirement to expand our current road system.

Table 9: Bridges

Planned Action	Policy
Non-infrastructure solutions	The historical practice based on the low volume traffic on roads is to estimate longer road rehabilitation cycles in comparison to other regions with a higher traffic volume.
Maintenance activities	The Municipality will adhere to the mandated 2 year bridge inspection schedule which provides a reliable and up-to-date condition report.
Renewal/rehabilitation activities	In order to plan for bridge renewal and rehabilitation activities, the Municipality of Centre Hastings has a policy of assigning financial staging periods for bridge construction based the estimate cost of the repair/renewal. Projects in excess of \$800,000 are staged over a 3 year period, while projects between \$400,000 and \$799,999 are staged over a 2 year period.
Replacement activities	Complete replacement of bridge when funding becomes available. Load limit signs are erected on bridges or bridge is closed until replaced.
Disposal activities	Cement materials from the disposed bridge are used for fill in low areas.

Table 10: Water and wastewater distribution network

Planned Action	Policy
Non-infrastructure solutions	To alleviate ground water from seeping into the sewer system, the Municipality is looking to enlarge the capacity of the lines during rehabilitation work and at the same time lower the road allowance on the water and waste water system.
Maintenance activities	Sewer mains on various streets have been sealed and pressure tested to prevent infiltration. Regular videotaping has occurred to determine problem areas. Continual dredging of lagoons and berm maintenance is carried out.
Replacement activities	Complete replacement of the water and wastewater distribution system, where needed, coinciding with street reconstruction.
Disposal activities	Municipality is currently looking at installing a third lagoon.
Expansion activities	To alleviate ground water from seeping into the sewer system, the Municipality has created a ditch and installed a sub-drain to divert water to storms sewer.

7. HIGH PRIORITY ASSETS

This asset management plan provides a full listing of the Municipality's assets their condition and their current ability to provide for the desired level of service. In accomplishing this plan, certain assets were flagged as a *high priority* concern. As such the Municipality of Centre Hastings has prioritized funding for the following assets.

7.1. Village of Madoc Municipal Water System Expansion

Currently the Village of Madoc obtains their drinking water from two (2) municipal supply wells, the Rollins Well and the Whytock Well, which currently service approximately 1500 people. The Whytock well experiences low flow during the dry season and is not considered a reliable municipal supply well. The Whytock well has also been reported to have exceedances in the Ontario Drinking Water Quality Standards for antimony and ammonia. These exceedances pose a health risk to the community. In order for the Municipality to accommodate their supply needs a new well and treatment building need to be developed to provide two fully functioning wells that meet both water supply and quality objectives for health and safety in order to supply safe and reliable water to the community.

Eliminating the existing Whytock well and developing a new Municipal well and treatment building would remove the risk of contamination from the water supply thus improving water quality and eliminating the health risk to the community. Finding a second reliable aquifer would improve supply quantities available and allow the Municipality to achieve their approved design flow. A second reliable well is a key component of the drinking water supply system.

The cost of developing a second aquifer has been estimated at \$990,633.60. The Municipality of Centre Hastings currently has within its water reserves funds \$99,093.35 allocated towards this project and is currently applying for external funding to allow the project to move forward.

7.2. St. Lawrence Street Water System

The St. Lawrence Street water distribution and storm water collection pipes are in poor conditions and currently at the limit of their capacity to handle the present flow conditions. Each precast watermain is being considered for replacement in order to improve capacity and update the pipe material. The Municipality will also modify the road allowance, lowering the capacity limits for houses on the street. Plans are to seek external funding for the improvement of St. Lawrence in the upcoming year.

8. ASSETS LIFE CYCLE

This asset management plan will be a tool that can be used to ensure that assets needs are anticipated, planned for and managed with a preventative and proactive strategy. The plan will provide council, staff and the public the means to see all assets in one comprehensive package. The plan will illustrate the asset management strategy supported by the Municipality and how they plan to manage their assets from needs and condition ratings to desired levels of service to managing risks and lowering life cycle costs.

The Asset Management Plan is a living document that at this point is in its infancy and continued review of the asset management strategy, condition assessments, priority conformation and financial strategy will be necessary to ensure the future viability of the plan. In the past the Municipalities approach to asset management has been generally reactive. Once an asset reached the end of its useful life funds were directed to replace the most critical asset to the extent that available funds would allow. Inevitably funds have not been sufficient to address community needs so service standards were lowered, poor conditions tolerated or external funding sources pursued.

As this asset management plan is developed, it is expected that all the assets will be viewed collectively and a more coordinated approach to funding their needs will develop and embrace planned actions such as those noted by the Ministry of Infrastructure below:

- Non-infrastructure solutions – actions or policies that can lower costs or extend asset life (e.g., better integrated infrastructure planning and land use planning, demand management, insurance, process optimization, managed failures, etc.).
- Maintenance activities – including regularly scheduled inspection and maintenance, or more significant repair and activities associated with unexpected events.
- Renewal/rehabilitation activities – significant repairs designed to extend the life of the asset. For example, the lining of iron watermain can defer the need for replacement.
- Replacement activities – activities that are expected to occur once an asset has reached the end of its useful life and renewal/rehabilitation is no longer an option.
- Disposal activities – the activities associated with disposing of an asset once it has reached the end of its useful life, or is otherwise no longer needed by the municipality.
- Expansion activities (if necessary) – planned activities required to extend services to previously un-serviced areas - or expand services to meet growth demands.

8.1. Procurement

The Municipality has a Procurement Policy – Purchasing Procedures bylaw as required by the Municipal Act. This policy requires the following:

Purchases up to \$1,000 in value may be authorized by the department head.

Purchases up to \$10,000 (\$25,000 for building equipment, materials and repairs) in value may be authorized by the department head in consultation with Council.

Purchases of more than \$10,000 will be made following the receipt and approval of formal tenders.

This bylaw provides the basic minimum requirements for the acquisition of goods and services with a view to ensuring the Municipality obtains the best value for the goods and services it purchases.

8.2. Options Analysis

Undertaking options analysis is necessary to develop the strategy section of the asset management plan. This analysis compares different actions that would enable assets to provide the needed levels of service.

For the time being the focus of the Municipality will be on addressing immediate, critical needs that generally are well beyond the end of their useful life.

In order to delay other imminent costs some portion of the municipal resources may be redirected to more preventative or life extending measures (i.e. pipe lining vs. replacing; road/crack sealing and resurfacing vs. replacing; bridge rehabilitation vs. replacement; facility renovation vs. replacement).

This approach has some overlap into maintenance related activities. For the purpose of this document some elements have had periodic recurring maintenance provisions made to compliment the principal expense burden that of the significant capital works rehabilitation and replacement.

Periodic minor works intended to extend the overall life of the asset are built into the asset management plan for bridge structures. This is the most appropriate asset class for this approach at this stage for the Municipality. Typical bridge rehabilitation projects are a fraction of the replacement cost of the structure and can significantly extend the life of the structure.

Where a lower cost rehabilitation is possible this approach has been taken.

Asset management options may be compared based on:

- Lifecycle cost – the total cost of constructing, maintaining, renewing and operating an infrastructure asset throughout its service life.
- An assessment of all other relevant direct and indirect costs and benefits associated with each option. Examples include:

Direct Benefits and Costs

- Efficiencies and network effects (such as savings in wastewater treatment due to conservation and efficiency improvements to the water system or savings of

- time and vehicle operating costs for users of transportation infrastructure).
- Investment scheduling to appropriately time expansion in asset lifecycles (for example, consider delaying the resurfacing of road assets before an imminently-planned expansion to save costs and minimize waste).
- Safety (accident reduction and impact on both property damage and injury/fatalities).
- Environmental impacts such as greenhouse gas emissions or nutrient loading.
- Vulnerability to climate change impacts or climate change adaptation.

Indirect Benefits and Costs

- Municipal wellbeing and health.
- Amenity values.
- Value of culturally or historically significant sites.
- Municipal image.
- An assessment of the risks associated with all potential options. Each option may be evaluated based on its potential risks, using an approach that allows for comparative analysis. Risks associated with each option can be scored based on quantitative measures when reasonable estimates can be made of the probability of the risk event happening and the cost associated with the risk event. Qualitative measures can be used when reasonable estimates of the probability and the cost associated with the risk event cannot be made.

Again, it is expected that these elements will be considered in greater detail and included in the asset management plan as Municipal Staff and Council build on this initial asset management database.

8.3. Risk Analysis

A detailed asset management plan includes an overview of the ways in which the asset management strategy could fail to generate the expected service levels (risks) and the actions that will be taken in response to these identified risks (risk management strategies).

Risk analysis involves proactively identifying risks, the consequence and likelihood of their occurrence, and the best ways to reduce, mitigate, or transfer each risk so as to minimize the adverse effects.

As a best practice, risk analysis should be embedded throughout the asset management planning process. Through the development of the asset management strategy, different actions are compared that would enable assets to provide the desired levels of service in a sustainable way. Evaluating the risks and available risk management strategies associated with each option is an essential part of this comparison.

8.4. Identifying Risks

Risks can be identified using a variety of techniques, including:

- Analysis of historical information.
- Facilitated workshops among staff.
- Consultations with external experts.
- Research into the experiences of other municipalities.

8.5. Critical Assets

Some assets are more critical to the continuity of operations than others. Determining which assets are most critical to your municipality can help in prioritizing risk management activities. It can also help to ensure that operation and maintenance dollars and capital expenditures are targeted to assets with the greatest potential impact on service delivery. Critical assets are not necessarily those that have a high probability of failure - rather, they are those that would have the most significant impact on the municipality's ability to deliver services in the event of failure.

8.6. Risk Management Strategies

The risk analysis process should identify and evaluate a range of options for managing risks. Every risk management strategy has an associated cost - so the evaluation will ultimately assess value for money.

Risk management strategies can be separated into five broad categories:

- *Prevention*: Terminate the risk by doing things differently.
- *Reduction*: Take action to either reduce the likelihood of occurrence or limit the impact when the risk does occur.
- *Transference*: Pass management of the risk to a third party (e.g. insurance, contract provisions). Not all risks can be transferred in this way.
- *Acceptance*: Tolerate the risk, if the cost to mitigate the risk outweighs the likelihood and consequence of the risk, or the likelihood and impact of the risk occurring is acceptable.
- *Contingency*: Plan and organize actions to be initiated if the risk occurs. This includes ensuring the required resources are in place and responsibility for implementing the actions is clear.

8.7. Municipality of Centre Hastings's Approach to Risk Management

For the Municipality of Centre Hastings Asset Management Plan the elements described in this risk analysis process is imbedded in the condition rating or the remaining useful life of each particular element.

There no specific individual statement of a particular elements relative risk to another. For instance where there are two roads of similar relative condition, a roadway that has a higher traffic volume, higher speed, greater accident history, or otherwise which would result in it being considered a greater "risk" than the other is given a higher priority by more rapidly reducing its condition rating. This reflects the fact that its numeric condition rating is driving the point in time where funds are allocated for a particular asset relative to the next. Simply put, a troublesome road will reach a "0" condition rating more quickly than another because it should not be allowed to deteriorate to similar point due to the more rapid increase in risk (of accidents or otherwise) that accompanies that deterioration.

Critical Risk

The municipality will first and foremost endeavor to prevent the risk from occurring. Instances where there is a risk that has been identified and is felt to be particularly critical, specific and directed measures will be put in place to remove that risk. The highest of priority will be given to these assets as they are identified.

Tolerable Risk

The more common condition that will exist is where a risk is known, but not felt to be of a critical nature. These would typically be items that have long been in existence and have no particular accident or occurrence history. The risks associated with these assets will be tolerated until such time that the whole asset is in need of attention and the asset will be improved in a manner that will prevent or reduce the impact of that risk at that time.

8.8. Transferring, Accepting or Risk Contingencies

Where a known risk cannot reasonably be prevented and will remain in some manner for the foreseeable future that risk will be accepted by the Municipality and where appropriate that risk may be transferred or a contingency put in place to minimize the impact of that risk.

8.9. Anticipating Risk

It is important to note that risk analysis is based on the expectation that a risk has been or can be identified by the municipality.

In many cases a risk may not be known until something happens to bring it to the attention of the Municipality. This is not to say that the Municipality should not exercise its due diligence in proactively identifying areas of risk, rather it is simply to acknowledge that not all conditions, situations, actions or results can be anticipated.

8.10. Review and Improvement

As with asset management planning as a whole, risk analysis should be seen as an ongoing process to be refined and improved over time. Implementation of risk management strategies should be monitored and reviewed. This includes:

- watching for the early warning signs that a risk is developing
- tracking trends and refining predictions around the consequence and likelihood of risks
- checking that planned actions are being implemented
- checking that actions taken are effective

9. FINANCIAL STRATEGY

A financial plan is critical for putting an asset management plan into action. By having a strong financial plan, municipalities can demonstrate that they have made a concentrated effort to integrate asset management planning with financial planning and budgeting and to make full use of all available infrastructure financing tools.

9.1. Capital Revenue / Expenditure History

On average over the past five years the Municipality of Centre Hastings has collected approximately \$650,000 each year through taxation to pay for capital deficits, debt and expenditures. This \$3,250,000 represents a contribution to \$10,243,899.03 of new or rehabilitated infrastructure and repayments of \$1,918,623.60 for capital expenditures in prior years.

The existing debt associated with the Medical Centre will be paid off in 2025 and the municipality will have an additional \$170,000 for use on new capital projects.

If the Municipality continues to pay down the unfinanced capital deficit at the same rate, after 7 years approximately \$215,000 will be available for new capital projects

The Municipality has received an average of \$810,000 per year in capital infrastructure grants from upper level governments. These funds are applied for on a year by year basis based on what is available. Each grant has its own criteria and methodology and there is never a guarantee that we will receive funds. Ideally a sustainable capital infrastructure funding would be available to municipalities on an ongoing basis, however the municipality will have to adjust this plan yearly based on any grant approvals.

Based on a stable tax base and no known or planned new revenue sources it is felt a yearly capital budget of \$850,000 will eventually be available to offset projected capital expenditures and prior year capital expenditures is appropriate.

The following summary has been provided:

	2011 Actual	2012 actual	2013 Actual	2014 Actual	2015 Budget	5 year Average
Unfinanced Capital Additions	\$90,500.00	\$0.00	\$0.00	\$0.00	\$0.00	\$81,531.00
Unfinanced Capital Payments	\$205,912.00	\$296,509.00	\$196,644.60	\$284,925.00	\$179,100.00	\$297,766.25
Net Unfinanced Capital	\$115,412.00	\$296,509.00	\$196,644.60	\$284,925.00	\$179,100.00	\$214,518.12
Loan Payments	\$169,142.00	\$169,142.00	\$169,142.00	\$169,142.00	\$169,170.00	\$169,147.60
Gas Tax Received	\$269,081.12	\$288,857.30	\$269,081.12	\$255,745.99	\$263,088.88	\$269,170.88
Grants Received	\$432,301.00	\$111,887.00	\$1,906,155.00	\$587,364.02	\$1,009,946.00	\$809,530.60
From Reserves	\$258,557.00	\$645,115.00	\$1,738,849.00	\$1,236,843.42	\$1,156,254.00	\$1,007,123.68
Contributions to Reserves	\$378,927.00	\$825,483.00	\$94,300.00	\$789,576.47	\$0.00	\$417,657.29
Capital Expenditures	\$1,155,939.00	\$653,617.00	\$4,037,087.00	\$2,181,854.03	\$2,215,402.00	\$2,048,779.81
Net Capital Expenditures	\$844,008.00	\$722,098.00	\$486,383.00	\$1,147,223.06	\$49,202.00	\$649,782.81
Annual Capital Budget	\$1,128,562.00	\$1,187,749.00	\$852,169.60	\$1,601,290.06	\$397,472.00	\$1,033,448.53

For the purpose of this study and forecast it is assumed that the following revenue will be available:

Year 1 - \$450,000

Year 2 to 7 – increased at 2% per year.

Year 8 - \$650,000

Year 9 to 10 – increased at 2% per year.

Year 11 - \$850,000

Year 13 and beyond – increased at 2% per year.

9.2. Capital Revenue / Expenditure Forecast

The breakdown and distribution of anticipated expenditures and revenues across a 30 year horizon are provided in the appendix. Particular highlights are provided below:

Existing Forecast Conditions

Revenue

-	Opening Balance	\$0
-	Annual Capital Revenue	\$0.45M
-	External Funding Sources	\$0
-	Interest Rate (Reserves/Loans)	3%
-	Capital Revenue Increase Rate	2%

Expenditure

-	Inflation Rate 2%	
-	Total Expenditure	\$87.5M

Road System	\$47.0M
Water Distribution	\$5.8M
Wastewater Collection	\$4.0M
Bridges	\$6.2M
Buildings & Facilities	\$12.2M
Drinking Water Treat & Pump	\$5.5M
Wastewater Treatment	\$1.0M
Equipment	\$4.0M
Other	\$1.6M

-	Average Yearly Expenditure	\$2.7M
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Results (\$0 Starting Revenue)

-	Minimum Balance	(\$173M) (deficit)
-	Forecast is not sustainable and quickly cascades into unmanageable debt conditions.	

Forecast Conditions *with* Additional Funding Sources

Results (\$45.0M Starting Revenue)

-	Minimum Balance	(\$56.8M) (deficit)
-	This forecast scenario is significantly improved over the existing financial	

forecast but remains in a significant deficit throughout the horizon.

Results (\$60M Starting Revenue)

- Minimum Balance (\$20.0M) (deficit)
- This forecast scenario improves further however generally remains in a deficit condition with the exception of the very end of the horizon.

Results (\$67.5M Starting Revenue)

- Minimum Balance \$1.2M surplus
- This forecast scenario provides a more balanced mixture of deficit and reserve conditions through the first 2/3 of the horizon. The minimum balance is of an amount that could be financed if the timing of expenses could not be sufficiently adjusted or other savings found as the asset management plan develops over time.
- This scenario results in a significant reserve at the end of the horizon. The Municipality would be able stop the yearly increase in revenue to offset this excessive reserve.

10. CONCLUSIONS

While the assets noted have been tracked and lifecycles considered to varying degrees, there will undoubtedly be modifications made to this plan as the various asset groups become more regularly considered collectively and over a longer horizon.

As revenue sources are developed and the significant imbalance between revenue and expense better balanced, more discrete assessments and management of the elements can be incorporated and the asset management plan can be further refined over time.

However for the time being, this initial asset management plan provides the following:

The Municipality is responsible for an extensive and varied service and infrastructure system.

Generally, the Municipality currently provides a level of service that is appropriate to its size, location and public demands. The Water supply system within the Village of Madoc has been identified as a high priority asset in need of development.

This asset management plan considers the maintenance of the assets in a manner more or less consistent with current practices and those considered typical for a municipality such as this.

The financial demands of the existing systems are well beyond the revenue that the existing tax base and other known predictable revenue sources is capable of providing – even when an exceptional increase to the current tax rate is considered.

While there are opportunities to extend the life of existing assets through preventative or proactive maintenance and improvement strategies (i.e. sewer relining, road crack sealing, etc.) they are less viable in smaller communities such as Centre Hastings where it is more difficult to take advantage of costs of scale and benefits would be minor relative to the existing revenue / expense forecast.

Where particular peak financial demands arise due to coincident needs of various assets it would be reasonable and expected that the Municipality would consider financing the costs over the short term – as has been done in the past – however this approach is not sufficient to address the existing shortfall.

In previous years there have been opportunities to bridge the gap between revenue and expenses with cost sharing agreements and funding programs with other levels of government. While it unclear if this will be available in the future, additional funding from Provincial and Federal governments seems to be a critical element to any future

approach to the maintenance of the existing municipal assets.

Without additional sources of revenue the level of service, safety and general quality of life for those living in and visiting the Municipality of Centre Hastings will slowly deteriorate in the short term, but will continue to deteriorate at a progressively more rapid pace over time.

Respectfully Submitted,

**THE GREER GALLOWAY GROUP INC.
ENGINEERS AND PLANNERS**

11. GLOSSARY

Roads

Life Expectancy – This is essentially the useful life of the asset. When a road reached the end of its useful life major rehabilitation or reconstruction is required.

Remaining Life – This is the number of years remaining until a provision is made for the major rehabilitation or reconstruction of an asset.

Year Constructed/Purchased – The year a road is constructed is not typically known, or is no longer relevant, accordingly this column is left blank.

Current Year – This is starting year of the asset management table and year to which the remaining life of an asset is added to determine when provisions are made for the rehabilitation or reconstruction of the asset.

Life Expectancy Adjustment – This allows the timing of an asset cost to be adjusted for any number of reasons. The most common reason is to spread out a group of assets that are due on the same year. This can also be used to adjust an assets priority by manually moving it forward or back in time.

Replacement Date – This is the sum of the current year, remaining life and life expectancy adjustment. This is the year that the rehabilitation / replacement expenditure is applied.

Repair / Rehabilitation Staging – For larger projects this allows the costs for that asset to be spread over 1, 2 or 3 years.

Repair Cycle – This is the spacing between repair provisions. This is a repeating or recurring provision that is applied to extend an assets useful life beyond that which is normally found. If the practice is to replace an asset at the end of its life cycle this feature is not applied.

Road Type – This documents the basic classification of a road. This determines the life expectancy, repair cycle and unit cost of the road.

Quantity & Units – This is the amount of the asset, be it the total length or quantity of the asset.

Unit Cost - This replacement or rehabilitation cost of the asset per unit length or per asset. In the case of a road it is the full cost of the removal of the existing roadway surface elements, construction of new surface and drainage elements, professional services and other typically associated costs. It does NOT include the cost of water distribution or wastewater collection pipes beneath the road, these are accounted for separately.

Water Distribution & Wastewater Collection

Condition Rating & Life Expectancy – *These fields are blank because the timing of this asset cost is linked to the timing of the associated road reconstruction.*

Unit Cost – *The unit cost to replace a watermain and associated appurtenances is \$500/meter. The unit cost to replace a sewer main is \$400/meter.*

Repair Percentage – *Repair or maintenance provisions have not been included at this time. To our knowledge the rate of repair or other maintenance work is not significant enough at this time to warrant provisions beyond the planned replacement of the mains with the associated road work.*

Rehabilitation / Replacement Percentage - *For the purpose of this database it is assumed that all cast iron and all ductile iron watermain, and vitrified clay and asbestos cement sewers will be replaced when the associated road system is reconstructed.*

Data Collection

Initial Year – *This is the year in which the study takes effect. It is 2016 as the database is intended to begin the coming year – not what has been spent in the current year.*

Study Horizon – *As noted earlier, this represents the number of years for which asset needs have been considered – in this case 30 years.*

Opening Balance – *This reflects the estimated existing reserve balance that will be available to offset asset costs in year 1 (2016).*

Current Capital Budget / Year 1 Capital Budget – *For the purpose of this study these values are assumed equal – there are no significant changes to the available budget anticipated for 2016. The Capital Budget refers to the funds that are expected to be available to offset the cost burden of the stated assets.*

Interest Rate – *This is an assumed average interest rate that may be earned on invested funds that are held in reserve or interest charged on (negative) funds that are financed.*

Inflation Rate – *This is an assumed average rate of inflation that is applied to all costs. Costs are shown in 'todays or current 2016 dollars'. Costs are compounded year over year and results in the actual costs of an element increasing over time.*

Taxes (H.S.T.) – *This is the portion of the Harmonized Sales Tax that is NOT related to a municipal government.*

Budget Increase Rate – *This is the rate at which the budget or the funds available are assumed to increase year over year. In this case the budget is assumed to increase at a rate consistent with the rate of inflation.*

Budget Increase Period – *How often the budget is increased can vary. For instance it can be a yearly increase (as is proposed) or a larger increase can be applied every two or three years.*

Special Contribution / Year of Contribution – *Used if there was a known special or unique one time source of additional funding, a lump sum could be applied in any particular year. For example there is a funding agreement in place for the rehabilitation of the municipal lagoon system which will incur a cost of \$4,000,000, an amount equal to the funds to be received from higher levels of government for this work has been included.*

Appendix A – Asset Management Database: Data Entry Table

ASSET MANAGEMENT PLAN:			Municipality of Centre Hastings											Condition Rating	Life Expectancy (Years)	Remaining Life (Years)	Year Constructed/Purchased (If Applicable)	Current Year	Life Expectancy Adjustment (Years)	Replacement Date	Repair / Rehabilitation Staging Period (Maximum 3 Years)	Repair Cycle (Years)	Road Type: Urban (1); HCB (2); LCB (3); Gravel (4)	Water				Sewage				Quantity of Asset	Units (m, m2, each, etc)	Unit Cost (Current Dollars)	Repair Percentage (%)	Rehabilitation / Replacement Percentage (%)	Repair Cost (Incl. HST)	Rehabilitation / Replacement Cost (Current Dollars; Incl. HST)	Initial Year:																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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Appendix B – Asset Management Database: Financial Schedule

ASSET MANAGEMENT PLAN:			CASH FLOW																							
Municipality of Centre Hastings			0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15 - 19	20 - 24	25 - 29	30	31	TOTAL			
ADDRESS:			Current Capital Budget:	\$ 650,000	\$ 663,000	\$ 676,260	\$ 689,785	\$ 703,581	\$ 717,653	\$ 732,006	\$ 746,646	\$ 761,579	\$ 776,810	\$ 792,346	\$ 808,193	\$ 824,357	\$ 840,844	\$ 857,661	\$ 910,514	\$ 1,005,281	\$ 1,109,911	\$ 1,177,385	\$ 1,200,933	\$ 28,747,569		
7 Furnace Street, Box 900			Opening Balance:	\$ -	\$ (8,352,772)	\$ (9,551,449)	\$ (11,545,571)	\$ (15,048,863)	\$ (20,469,472)	\$ (20,768,176)	\$ (20,961,855)	\$ (24,553,229)	\$ (39,396,732)	\$ (58,063,184)	\$ (63,984,622)	\$ (66,700,741)	\$ (75,805,756)	\$ (80,447,434)	\$ (92,669,674)	\$ (122,928,523)	\$ (144,232,651)	\$ (165,051,719)	\$ (168,790,564)	\$ -		
Madoc, ON, K0K 2K0			Special Contribution:	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
(613) 473-4030			Transfers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
			Interest on Reserves	\$ (243,285)	\$ (278,198)	\$ (336,279)	\$ (438,316)	\$ (596,198)	\$ (604,898)	\$ (610,539)	\$ (715,143)	\$ (1,147,478)	\$ (1,691,161)	\$ (1,863,630)	\$ (1,942,740)	\$ (2,207,935)	\$ (2,343,129)	\$ (2,699,117)	\$ (16,016,002)	\$ (20,055,848)	\$ (22,724,895)	\$ (4,916,230)	\$ (5,027,689)	\$ (86,458,708)		
			Anticipated Needs	\$8,759,488	\$1,583,479	\$2,334,103	\$3,754,761	\$5,527,991	\$411,458	\$315,145	\$3,622,877	\$14,457,604	\$17,752,101	\$4,850,155	\$1,581,572	\$7,721,438	\$3,139,393	\$10,380,784	\$18,795,417	\$6,274,685	\$3,643,730	\$0	\$0	\$ 114,906,182		
			Ending Balance	\$ (8,352,772)	\$ (9,551,449)	\$ (11,545,571)	\$ (15,048,863)	\$ (20,469,472)	\$ (20,768,176)	\$ (20,961,855)	\$ (24,553,229)	\$ (39,396,732)	\$ (58,063,184)	\$ (63,984,622)	\$ (66,700,741)	\$ (75,805,756)	\$ (80,447,434)	\$ (92,669,674)	\$ (122,928,523)	\$ (144,232,651)	\$ (165,051,719)	\$ (168,790,564)	\$ (172,617,320)	\$ -		
ITEM	ASSET	Comment (1)	Comment (1)	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030 - 2034	2035 - 2039	2040 - 2044	2045	2046	TOTAL		
ROAD SYSTEM																										
1	Roslin Road	Shannonville Road	Highway 37	\$0	\$0	\$0	\$32,397	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ 32,397		
2	Shannonville Road	Highway 37	Boundary Line	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ 136,956	\$ -	\$ -	\$0	\$0	\$ 136,956		
3	Boundary Road	Hwy 37 Westerly	0.4 km west of Hwy 37	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$23,378	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ 23,378		
4	Boundary Road	0.4 km westerly of Hwy 37	2.4 km west of Hwy 37	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$116,890	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ 116,890		
5	Boundary Road	2.4 km west of Hwy 37	Phillipston Road	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$77,205	\$ -	\$ -	\$ -	\$0	\$0	\$ 77,205		
6	Phillipston Road	Southerly limit of Huntingdon Twp	-	\$0	\$176,452	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ 176,452		
7	Emerson Road	Moira Road	Boundary Road	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$80,562	\$ -	\$ -	\$ -	\$0	\$0	\$ 80,562		
8	Clearview Road	Phillipston Road	Wilson Road	\$0	\$0	\$254,091	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ 254,091		
9	Clearview Road	Wilson Road westerly	Limit of Huntingdon Twp	\$0	\$0	\$0	\$0	\$27,537	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ 27,537		
10	Wannamaker Road	Clearview Road	Moira Road	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ 103,772	\$ -	\$ -	\$0	\$0	\$ 103,772		
11	School House Road	Moira Road	Clearview Road	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ 96,359	\$ -	\$ -	\$0	\$0	\$ 96,359		
12	Wilson Road	Clearview Road	Hwy 62	\$0	\$0	\$21,174	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ 21,174		
13	Elliot Road	Wilson Road	End	\$0	\$0	\$0	\$16,198	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ 16,198		
14	Ridge Road	Hwy 62 westerly	West limit of Huntingdon Twp	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ 142,489	\$ -	\$ -	\$0	\$0	\$ 142,489		
15	Donnan Road	Ridge Road	Ridge Road	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ 85,493	\$ -	\$ -	\$0	\$0	\$ 85,493		
16	Moira Road	Hwy 62 easterly	20m west of Phillipston Road	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ 1,823,854	\$ -	\$ -	\$0	\$0	\$ 1,823,854		
17	Moira Road	20m west of Phillipston Road	200m east of Phillipston Road	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ 62,695	\$ -	\$ -	\$0	\$0	\$ 62,695		
18	Moira Road	200m east of Phillipston Road	Hwy 37	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ 883,429	\$ -	\$ -	\$0	\$0	\$ 883,429		
19	Crookston Road	Easterly Twp limit of Huntingdon westerly	1.2 km east of Hwy 62	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ 2,355,636	\$ -	\$ -	\$0	\$0	\$ 2,355,636		
20	Jones Road	Crookston Road northerly	Quin-Mo-Lac Road	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ -		
21	Camp Road	Quin-Mo-Lac Road	Camp Lane	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ 85,241	\$ -	\$ -	\$0	\$0	\$ 85,241		
22	Frank's Road	Camp Road westerly	Retriever Lane	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ -		
23	Quin-Mo-Lac Road	Camp Road westerly	Hwy 62	\$0	\$0	\$275,265	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ 275,265		
24	Preston Road	Hwy 62	Spring Brook Road	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ -		
25	Crookston Road	Hwy 62 easterly	0.8km east of Hwy 62	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ 219,129	\$ -	\$ -	\$0	\$0	\$ 219,129		
26	Crookston Road	0.8km east of Hwy 62	1.2km east of Hwy 62	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ 109,564	\$ -	\$ -	\$0	\$0	\$ 109,564		
27	Thompson Road	Crookston Road northerly	Sloat Road	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	27,106	\$0	\$0	\$ 27,106		
28	Sloat Road	0.4km east of Thompson Road westerly	0.2km west of Thompson Road	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ -		
29	Douglas Road	Crookston Road southerly	Slab Street	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ 107,478	\$ -	\$ -	\$0	\$0	\$ 107,478		
30	Kerby Road	Hwy 62 southerly	Slab Road	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ 37,061	\$ -	\$ -	\$0	\$0	\$ 37,061		
31	Kerby Road	Slab Street	Hallowview Road	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ 100,065	\$ -	\$ -	\$0	\$0	\$ 100,065		
32	McCumber Road	Kerby Road easterly	-	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0														

ASSET MANAGEMENT PLAN:				CASH FLOW																							
Municipality of Centre Hastings				0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15 - 19	20 - 24	25 - 29	30	31	TOTAL			
ADDRESS:				Current Capital Budget:	\$ 650,000	\$ 663,000	\$ 676,260	\$ 689,785	\$ 703,581	\$ 717,653	\$ 732,006	\$ 746,646	\$ 761,579	\$ 776,810	\$ 792,346	\$ 808,193	\$ 824,357	\$ 840,844	\$ 857,661	\$ 910,514	\$ 1,005,281	\$ 1,109,911	\$ 1,177,385	\$ 1,200,933	\$ 28,747,569		
7 Furnace Street, Box 900				Opening Balance:	\$ -	\$ (8,352,772)	\$ (9,551,449)	\$ (11,545,571)	\$ (15,048,863)	\$ (20,469,472)	\$ (20,768,176)	\$ (20,961,855)	\$ (24,553,229)	\$ (39,396,732)	\$ (58,063,184)	\$ (63,984,622)	\$ (66,700,741)	\$ (75,805,756)	\$ (80,447,434)	\$ (92,669,674)	\$ (122,928,523)	\$ (144,232,651)	\$ (165,051,719)	\$ (168,790,564)	\$ -		
Madoc, ON, K0K 2K0				Special Contribution:	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
(613) 473-4030				Transfers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
				Interest on Reserves	\$ (243,285)	\$ (278,198)	\$ (336,279)	\$ (438,316)	\$ (596,198)	\$ (604,898)	\$ (610,539)	\$ (715,143)	\$ (1,147,478)	\$ (1,691,161)	\$ (1,863,630)	\$ (1,942,740)	\$ (2,207,935)	\$ (2,343,129)	\$ (2,699,117)	\$ (16,016,002)	\$ (20,055,848)	\$ (22,724,895)	\$ (4,916,230)	\$ (5,027,689)	\$ (86,458,708)		
				Anticipated Needs	\$8,759,488	\$1,583,479	\$2,334,103	\$3,754,761	\$5,527,991	\$411,458	\$315,145	\$3,622,877	\$14,457,604	\$17,752,101	\$4,850,155	\$1,581,572	\$7,721,438	\$3,139,393	\$10,380,784	\$18,795,417	\$6,274,685	\$3,643,730	\$0	\$0	\$ 114,906,182		
				Ending Balance	\$ (8,352,772)	\$ (9,551,449)	\$ (11,545,571)	\$ (15,048,863)	\$ (20,469,472)	\$ (20,768,176)	\$ (20,961,855)	\$ (24,553,229)	\$ (39,396,732)	\$ (58,063,184)	\$ (63,984,622)	\$ (66,700,741)	\$ (75,805,756)	\$ (80,447,434)	\$ (92,669,674)	\$ (122,928,523)	\$ (144,232,651)	\$ (165,051,719)	\$ (168,790,564)	\$ (172,617,320)	\$ -		
ITEM	ASSET	Comment (1)	Comment (1)	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030 - 2034	2035 - 2039	2040 - 2044	2045	2046	TOTAL			
121	Prince Albert Street East	Hwy 62	Madawaska Street	\$0	\$0	\$0	\$269,971	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ 269,971			
122	Prince Albert Street	Madawaska Street	End of Prince Albert Street W	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ -			
123	Prince Albert Street East	Hwy 62	Durham Street	\$0	\$0	\$0	\$0	\$275,371	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ 275,371			
124	Prince Albert Street East	Durham Street	Davidson Street	\$0	\$0	\$0	\$0	\$550,741	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ 550,741			
125	Prince Albert Street	Davidson Street	Wellington Street	\$0	\$0	\$0	\$0	\$3,029,078	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ 3,029,078			
127	Wellington Street	St. Lawrence Street	Wellington Court N	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,168,903	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ 1,168,903			
128	Wellington Court	Wellington Street	end of Wellington Court	\$0	\$0	\$529,356	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ 529,356			
130	Wellington Street	St. Lawrence Street	Elgin Street	\$0	\$0	\$0	\$0	\$0	\$140,439	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ 140,439			
131	Elgin Street	Wellington Street	Concession Road	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,045,579	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ 2,045,579			
134	Concession Road	Elgin Street	St. Lawrence Street East	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$596,140	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ 596,140			
135	Concession Road	St. Lawrence Street	Boundary Road	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$596,140	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ 596,140			
136	St. Lawrence Street	East Boundary	Concession Road	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$298,070	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ 298,070			
137	St. Lawrence Street	Concession Road	Durham Street	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$8,047,894	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ 8,047,894			
145	St. Lawrence Street	Durham Street	Hill Avenue	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,168,536	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ 5,168,536			
150	Hill Avenue	St. Lawrence Street West	Old Marmora Road	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,356,754	\$ -	\$ -	\$ -	\$0	\$0	\$ 3,356,754			
152	Seymour Street	Rollins Street	Hill Avenue	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,824,189	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ 1,824,189			
153	Seymour Street West	Durham Street	Rollins Street	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$608,063	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ 608,063			
154	Rollins Street	Seymour Street	Livingston Street	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,192,281	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ 1,192,281			
155	Colborne Street	Rollins Street	Dead end Colborne Street	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,031,458	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ 4,031,458			
157	Rollins Street	Livingston Street	St. Lawrence Street West	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,937,456	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ 1,937,456			
159	Wishart Street	Rollins Street	Dead end	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$178,842	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ 178,842			
162	Whytock Street	St. Lawrence Street	North end	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,040,315	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ 3,040,315			
165	St. Peter Street North	St. Lawrence Street	Dead end	\$0	\$0	\$0	\$0	\$206,528	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ 206,528			
166	St. Peter Street South	St. Lawrence Street	0.5 km s. of St. Lawrence	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,581,572	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ 1,581,572			
168	St. Peter Street	Livingston Street	Dead end	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$60,806	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ 60,806			
171	Champlain Street	Livingston Street	St. Lawrence Street	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$645,281	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ 645,281			
172	Livingston Street	Francis Street	0.2 km east of Baldwin	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,807,533	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ 5,807,533			
177	Baldwin Street	Seymour Street	Elgin Street	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ 2,137,329	\$ -	\$ -	\$ -	\$0	\$0	\$ 2,137,329		
178	Elgin Street	Wellington Street	Baldwin Street	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$806,602	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ 806,602			
179	Dufferin Street	Russel Street	East limits	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$658,187	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ 658,187			
180	Marmora Street	Rollins Street	West limit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$298,070	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ 298,070			
181	Francis Street	Livingston Street	North limits	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ 349,237	\$ -	\$ -	\$ -	\$0	\$0	\$ 349,237		
182	Russel Street	Gladstone Street	St. Lawrence Street West	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ 1,746,183	\$ -	\$ -	\$ -	\$0	\$0	\$ 1,746,183		
183	Elgin Street	Durham Street	Baldwin Street	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$335,675	\$ -	\$ -	\$ -	\$0	\$0	\$ 335,675			
184	Furnace Street	Durham Street	Baldwin Street																								

ASSET MANAGEMENT PLAN:				CASH FLOW																					
Municipality of Centre Hastings				0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15 - 19	20 - 24	25 - 29	30	31	TOTAL	
ADDRESS:				Current Capital Budget:	\$ 650,000	\$ 663,000	\$ 676,260	\$ 689,785	\$ 703,581	\$ 717,653	\$ 732,006	\$ 746,646	\$ 761,579	\$ 776,810	\$ 792,346	\$ 808,193	\$ 824,357	\$ 840,844	\$ 857,661	\$ 910,514	\$ 1,005,281	\$ 1,109,911	\$ 1,177,385	\$ 1,200,933	\$ 28,747,569
7 Furnace Street, Box 900				Opening Balance:	\$ -	\$ (8,352,772)	\$ (9,551,449)	\$ (11,545,571)	\$ (15,048,863)	\$ (20,469,472)	\$ (20,768,176)	\$ (20,961,855)	\$ (24,553,229)	\$ (39,396,732)	\$ (58,063,184)	\$ (63,984,622)	\$ (66,700,741)	\$ (75,805,756)	\$ (80,447,434)	\$ (92,669,674)	\$ (122,928,523)	\$ (144,232,651)	\$ (165,051,719)	\$ (168,790,564)	\$ -
Madoc, ON, K0K 2K0				Special Contribution:	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(613) 473-4030				Transfers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
				Interest on Reserves	\$ (243,285)	\$ (278,198)	\$ (336,279)	\$ (438,316)	\$ (596,198)	\$ (604,898)	\$ (610,539)	\$ (715,143)	\$ (1,147,478)	\$ (1,691,161)	\$ (1,863,630)	\$ (1,942,740)	\$ (2,207,935)	\$ (2,343,129)	\$ (2,699,117)	\$ (16,016,002)	\$ (20,055,848)	\$ (22,724,895)	\$ (4,916,230)	\$ (5,027,689)	\$ (86,458,708)
				Anticipated Needs	\$8,759,488	\$1,583,479	\$2,334,103	\$3,754,761	\$5,527,991	\$411,458	\$315,145	\$3,622,877	\$14,457,604	\$17,752,101	\$4,850,155	\$1,581,572	\$7,721,438	\$3,139,393	\$10,380,784	\$18,795,417	\$6,274,685	\$3,643,730	\$0	\$0	\$ 114,906,182
				Ending Balance	\$ (8,352,772)	\$ (9,551,449)	\$ (11,545,571)	\$ (15,048,863)	\$ (20,469,472)	\$ (20,768,176)	\$ (20,961,855)	\$ (24,553,229)	\$ (39,396,732)	\$ (58,063,184)	\$ (63,984,622)	\$ (66,700,741)	\$ (75,805,756)	\$ (80,447,434)	\$ (92,669,674)	\$ (122,928,523)	\$ (144,232,651)	\$ (165,051,719)	\$ (168,790,564)	\$ (172,617,320)	\$ -
ITEM	ASSET	Comment (1)	Comment (1)																						
				2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030 - 2034	2035 - 2039	2040 - 2044	2045	2046	TOTAL	
137	St. Lawrence Street	Concession Road	Durham Street	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ -
145	St. Lawrence Street	Durham Street	Hill Avenue	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ -
150	Hill Avenue	St. Lawrence Street West	Old Marmora Road	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ -
152	Seymour Street	Rollins Street	Hill Avenue	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ -
153	Seymour Street West	Durham Street	Rollins Street	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ -
154	Rollins Street	Seymour Street	Livingston Street	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ -
155	Colborne Street	Rollins Street	Dead end Colborne Street	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ -
157	Rollins Street	Livingston Street	St. Lawrence Street West	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ -
159	Wishart Street	Rollins Street	Dead end	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ -
162	Whytock Street	St. Lawrence Street	North end	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ -
165	St. Peter Street North	St. Lawrence Street	Dead end	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ -
166	St. Peter Street South	St. Lawrence Street	0.5 km s. of St. Lawrence	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ -
168	St. Peter Street	Livingston Street	Dead end	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ -
171	Champlain Street	Livingston Street	St. Lawrence Street	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ -
172	Livingston Street	Francis Street	0.2 km east of Baldwin	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ -
177	Baldwin Street	Seymour Street	Elgin Street	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ -
178	Elgin Street	Wellington Street	Baldwin Street	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ -
179	Dufferin Street	Russel Street	East limits	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ -
180	Marmora Street	Rollins Street	West limit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ -
181	Francis Street	Livingston Street	North limits	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ -
182	Russel Street	Gladstone Street	St. Lawrence Street West	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ -
183	Elgin Street	Durham Street	Baldwin Street	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ -
184	Furnace Street	Durham Street	Baldwin Street	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ -
185	Davidson Street	St. Lawrence Street	Prince Albert Street	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ -
186	Nelson Street	St. Lawrence Street	Prince Albert Street	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ -
187	Gream Street	St. Lawrence Street	North limits	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ -
189	Victoria Street	St. Lawrence Street	McKenzie Street	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ -
190	Park Street	St. Lawrence Street	Elgin Street	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ -
193	Acreman Road	Concession Road	West limits	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ -
194	Talc Mine Road	Concession Road	East limits	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ -
195	Concession Road	McKenzie Road	Talc Mine Road	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ -
196	Church Street	Elgin Street	St. Lawrence Street	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ -
197	McKenzie Street	Concession Road	Frederick Street	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -	\$ -	\$ -	\$0	\$0	\$ -
198	McKenzie Street	Frederick Street	Victoria Street	\$0	\$0	\$0	\$0	\$0	\$																

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