Prepared By:

Municipality of North Middlesex

Comprehensive Asset Management Plan

GMBP File: 516039

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COMPREHENSIVE ASSET MANAGEMENT PLAN

MUNICIPALITY OF NORTH MIDDLESEX

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EXECUTIVE SUMMARY

In 2012 Ontario's Ministry of Infrastructure released a guide titled *Building Together: Guide for Municipal Asset Management Plans*. This guide forms part of a comprehensive strategy called the Municipal Infrastructure Investment Initiative (MIII) which aims to develop a strong and cooperative relationship between municipalities and the Province of Ontario to address the significant challenges that currently face our deteriorating infrastructure.

The Province is seeking to achieve standardization and consistency in the management of municipal infrastructure. To achieve this, they are requiring that any Municipality seeking provincial capital funding for infrastructure projects be required to prepare an Asset Management Plan (AMP) to demonstrate the particular need of a project to the social, economic or environmental priorities of the community.

This report represents the Municipality of North Middlesex's first comprehensive AMP that reviews all of the assets that are owned or operated by the Municipality. It builds upon the limited AMP that was completed by Dillon Consulting Limited in 2014 that included only the Municipality's water, wastewater, storm water, and transportation infrastructure. The analysis in this report has been completed based on readily available information in the Municipality. The report also establishes a framework that supports an informed decision making process that is used to improve the management of the Municipality's infrastructure. North Middlesex has committed to continually improving this AMP over the coming years as additional information is collected and as knowledge of asset management in the Municipality increases.

This AMP is structured in the following sections:

- Section 1 introduces asset management and establishes goals for infrastructure management in the Municipality.
- Section 2 summarizes the state of the infrastructure in the Municipality and introduces the concepts of managing services through managing infrastructure.
- Section 3 documents the Municipality's plan for understanding the current performance of the entire suite of levels of service that will be used to drive future infrastructure investment.
- Section 4 documents the current asset management strategies practiced in North Middlesex and establishes the 25 year infrastructure investment needs to sustain the Municipality's existing infrastructure.
- Section 5 reviews the Municipality's finances and provides a strategy to achieve a sustainable level of investment to renew the existing infrastructure in perpetuity.
- Section 6 recommends a series of activities that the Municipality should implement to improve their understanding of the infrastructure needs and to reduce the cost of renewing the infrastructure systems, in addition to highlighting priority projects that should be undertaken by the Municipality.

This first iteration of the comprehensive AMP estimates the total value of the Municipality's infrastructure at approximately $267 million. The analysis identifies an ***annual infrastructure capital expenditure need*** of approximately $8.7 million at the level of service stated in this report including existing backlog of required expenditure needs. This expenditure need has been established based on a strategic review of the Municipality's asset inventory. It should be emphasized that value represents the capital expenditures that are required to sustain the Municipality's

existing infrastructure and does not include the resources that are required to operate or expand the infrastructure systems.

The analysis of the Municipality's capital and operating budgets indicated that North Middlesex is planning to spend an average of approximately $2.2 million per year over the next five years to renew their existing infrastructure based on the existing five year capital plan. This suggests that there is an annual expenditure shortfall of approximately $6.5 million.

The Municipality is striving to reach a position where the infrastructure needs equal the available revenues. Over the coming years, the Municipality will continually review the infrastructure needs as better information becomes available and as technological improvements reduce the cost of renewing infrastructure. The Municipality will also consider approaches to increase the revenue that is available to fund the renewal of existing infrastructure, including pursuing Provincial or Federal infrastructure grants. This strategy positions the Municipality on a path to ultimately reach a point where the infrastructure needs equal the available revenue.

It is important that the Municipality invests the appropriate resources to understand the infrastructure needs that are required to achieve the target levels of service. The understanding of these needs will be developed by completing engineering investigations or studies into each individual infrastructure group. The projects that the Municipality should implement to obtain a better understanding of infrastructure condition and performance are summarized as follows:

- Building Needs Study ($100,000 every 5 years)
- Water Distribution System Needs Study ($50,000 every 5 years)
- Sanitary Sewer Collection System Needs Study ($100,000 – $200,000 every 5 years)
- Parks and Lands Asset Inventory and Needs Study ($25,000 every 5 years)
- Road Needs Study ($100,000 every 5 years)
- Bridge Needs Study ($20,000 every 2 years)

The cost of these activities is an average of $85,000 – $105,000 per year. It is essential that the resources that are required to complete these investigations are incorporated into the Municipality's annual budgets.

Additionally, the following priority projects are recommended for implementation by the Municipality based on the analysis contained within this AMP.

- <u>Rehabilitation or replacement of bridges/culverts in poor condition</u>
  Bridges and culverts represent a critical asset category in North Middlesex and therefore it is important to ensure that they are in a state of repair that does not impact their safe use. The Municipality conducts biannual inspections of all bridges and culverts in accordance with Provincial regulations. The biannual inspections provide recommendations for the rehabilitation or replacement needs on each structure in North Middlesex to ensure that they are safe to use. The implementation of the recommendations from these biannual inspections should be considered a high priority. Additionally, to reduce bridge maintenance and rehabilitation/replacement costs, the Municipality can consider decommissioning bridges with low traffic volumes.

- <u>Rehabilitation or replacement of Pump Houses</u>
  Pump Houses, both for water and sewer collection conveyance, are important pieces of infrastructure in North Middlesex. High levels of deterioration leading to failure in these assets would detrimentally affect to the functionality of the Municipality's water and sewer system, greatly affecting the services provided to residents and businesses in the community. There are facilities within North Middlesex which have reached the end of their estimated service life, and as such should be addressed by means of an inspection and any required rehabilitation/replacement work necessary to ensure the safe and efficient use of the facility.

  Specific assets in the Municipality that are in this priority category are as follows:
  - Victoria Street Pump House on Travelled Road in Parkhill, Ontario
  - U/G Pump House at Elginfield Road and Centre Road

- Replacement of fleet assets related to fire services
  The replacement of deteriorating assets belonging to the Fire Services Department in North Middlesex is listed as priority projects due to the use of the assets. Failure of these assets can cause fire response units to be delayed in responding to emergency calls and can affect the efficiency of the Fire Services Department. These assets must be addressed to ensure community's safety with regards to fire protection services.

  Specific assets in the Municipality that are in this priority category are as follows:
  - 1992 GMC Tank Truck belonging to the Ailsa Craig Fire Station
  - 1996 GMC Rescue Unit belonging to the Ailsa Craig Fire Station
  - Fire Rescue Truck belonging to the Parkhill Fire Station

1. INTRODUCTION

This report represents the first comprehensive Asset Management Plan (AMP) for the Municipality of North Middlesex that includes all of the assets owned by the Municipality. It establishes a framework that supports an informed decision making process that is used to improve the management of the Municipality's infrastructure. This report builds upon the Municipality's first limited AMP that was prepared by Dillon Consulting Limited in 2014 for only the water, wastewater, storm water and transportation assets.

1.1 Provincial Guideline

In 2012 Ontario's Ministry of Infrastructure released a guide titled *Building Together: Guide for Municipal Asset Management Plans*. This guide forms part of a comprehensive strategy called the Municipal Infrastructure Investment Initiative (MIII) which aims to develop a strong and cooperative relationship between municipalities and the Province of Ontario to address the significant challenges that currently face our deteriorating infrastructure. Part of the Initiative from the Province includes making specific capital funds available to municipalities. To gain access to these specific funds a municipality must have completed an AMP to demonstrate the particular need of a project to the social, economic or environmental priorities of the community. Furthermore the AMP must demonstrate the coupling of capital investment to a customer expectation in terms of service provided by the infrastructure to which the capital investment is being made. This report and the accompanying analysis of the Municipality's asset inventories will support the funding applications for this, and future Provincial and Federal funding initiatives.

1.2 Goals of Asset Management

Asset management strives to continually improve the management of infrastructure. The following is a list of goals that asset management strategies and processes aim to achieve:

- Explicitly defining customer expectations with respect to the quantity, quality and availability of service provided by infrastructure assets.
- A repeatable, systematic, informed and transparent decision making process that provides elected officials with the knowledge that they need to make decisions regarding capital expenditures, operating costs and revenue requirements (i.e. rate and tax levels).
- Optimized life cycle cost (i.e. total operating, maintenance and capital resources) of providing services to residents.
- Reduced risk exposure to the Municipality and its customers by ensuring that assets are managed in a manner that matches the risk that their failure represents to the delivery of services.
- A mechanism to ensure that the services that are delivered through infrastructure can be provided at a sustainable level at a cost that is affordable to residents.

1.3 Scope of the AMP

This AMP covers a period of 25 years and reports on the majority of the assets owned by the Municipality, including:

- Bridges and large culverts
- Roads and traffic appurtenances
- Water mains and water distribution system appurtenances
- Storm water sewer infrastructure
- Sanitary sewer infrastructure
- Buildings and facilities
- Machinery and equipment
- Lands and land improvements
- Vehicles

1.4 Development of the AMP

This AMP was developed with a project team from the Municipality and GM BluePlan. The following documents were reviewed and incorporated throughout the development of this AMP:

- Fixed Asset List produced by the Keystone software
- Municipality of North Middlesex Limited Asset Management Plan prepared by Dillon Consulting Limited and all associated documents (2014)
- Tangible Capital Asset (TCA) Policy documentation
- Public Sector Accounting Board (PSAB) documentation
- Municipality GIS information
- Municipality Budgets and other financial documents
- Other relevant Municipality correspondence

1.5 Refinement of the AMP

The Municipality is realistic in recognizing that this AMP is another step along a pathway that will be able to achieve the goals outlined above. Section 6 describes a series of activities that will improve subsequent iterations of the AMP. This AMP reflects the latest data, desired levels of service, lifecycle management strategies and infrastructure priorities in North Middlesex.

2. STATE OF LOCAL INFRASTRUCTURE

This section summarizes the state of the Municipality's infrastructure, including:

- Inventory of all assets – what you own;
- Value of assets – what it is worth;
- Condition of assets – how long will it last;
- Capacity – when will it need replaced based on the demands put upon it; and
- The state of the services that are being provided by the Municipality – what level of service is currently being provided.

2.1 Sources of Asset Information

The Municipality of North Middlesex maintains several asset inventories at varying levels of detail, summarized as follows:

- **Fixed Asset List**
  The asset register was developed using the Keystone software to achieve the requirements of the Public Sector Accounting Board (PSAB) 3150 regarding full accrual accounting of assets in municipalities. While this Asset Register is comprehensive, there is not sufficient information on the assets to make informed investment decisions other than replacing an asset when it reaches the end of its amortization period (i.e. using construction dates and theoretical useful lives).

- **GIS / Database Inventories**
  The Municipality maintains Geographic Information System (GIS) inventories of a number of asset types. The inventories are an excellent source of information to support asset management decision making processes, providing the current inventories can be amended to relate to the information provided by the Keystone software.

- **Stand-Alone Spreadsheets**
  The Municipality also maintains several stand-alone spreadsheets that are used to collect and store information on some assets. Some of these spreadsheets are useful for asset management decision making processes.

The Municipality must strive to have all of their asset inventories in one location, referred to as asset centric data management, to allow asset management related information to be analyzed in a more timely and effective manner.

2.2 Asset Inventory

Table 1 summarizes the asset inventory that is included in the scope of this Comprehensive Asset Management Plan.

Table 1 – Asset Inventory

Asset Category	Includes items such as…	Inventory
Transportation - Bridges	All bridge structures	35 bridges
Transportation - Culverts	All culvert structures	40 culverts
Transportation - Roads (Paved)	Paved roads	98 km
Transportation - Roads (Unpaved)	Gravel roads	369 km
Water Distribution	Watermains	467 km
Storm Sewer	Storm sewer mains	23 km
Sanitary Sewer	Sanitary sewer mains	22 km
Buildings and Facilities	All buildings and facilities	59 building and facility assets
Lands and Land Improvements	All lands in use	65 land and land improvement assets
Machinery and Equipment	Street lights, light/heavy equipment, fire equipment, fences, etc.	68 machinery and equipment assets
Vehicles	All vehicles and fleet assets	23 vehicle assets
Other	Firewalls, TVs, cameras	2 assets

2.3 Asset Value

Table 2 summarizes the replacement value of the assets that are included in the scope of this AMP. It is apparent from Table 2 that the total value of the assets owned by the Municipality is approximately $267 million. The replacement value of all assets was determined by using the acquisition/construction cost provided by the Municipality and adjusting for 3% annual inflation as required. Additionally, where acquisition/construction costs were not available replacement values were determined based on local knowledge and professional judgement.

Table 2 – Asset Value (millions)

Asset Category	Replacement Value
Transportation - Bridges	$ 137.17
Transportation - Culverts	$ 9.85
Transportation - Roads (Paved)	$ 24.61
Transportation - Roads (Unpaved)	$ 6.56
Water Distribution	$ 23.54
Storm Sewer	$ 9.63
Sanitary Sewer	$ 15.42
Buildings and Facilities	$ 28.94
Lands and Land Improvements	$ 3.42
Machinery and Equipment	$ 4.99
Vehicles	$ 2.88
Other	$ 0.03
Total	**$267.04**

2.4 Asset Condition

Understanding the condition of the Municipality's assets is an essential component to an AMP. Ideally the condition information is based on assessment activities that provide first-hand knowledge of the condition of the infrastructure.

This information must, in all cases, be standardized and comparative to allow for the comparison of infrastructure needs and furthermore the analysis of trade-offs in capital investments. The Municipality's current maturity of asset data with respect to actual condition information is summarized in Table 3.

Table 3 – Data Maturity Assessment

Asset Category	Maturity Assessment
Transportation - Bridges	100% of bridges are subjected to biannual inspections in accordance with Provincial regulations, no BCI information is available for asset management planning purposes
Transportation - Culverts	100% of culverts are subjected to biannual inspections in accordance with Provincial regulations, no BCI information is available for asset management planning purposes
Transportation - Roads (Paved)	A full inventory is available, but no condition information is available for asset management planning purposes
Transportation - Roads (Unpaved)	A full inventory is available, but no condition information is available for asset management planning purposes
Water Distribution	Limited information is available for asset management planning purposes
Storm Sewer	A full inventory is available, but no condition information is available for asset management planning purposes
Sanitary Sewer	Limited information is available for asset management planning purposes
Buildings and Facilities	Limited information is available for asset management planning purposes
Lands and Land Improvements	No further data required for asset management planning purposes
Machinery and Equipment	Limited information is available for asset management planning purposes
Vehicles	Limited information is available for asset management planning purposes
Other	No further data required for asset management planning purposes

A significant portion of the assets in the Municipality's portfolio lacks standardized and comparative condition information. In these cases the condition of the assets had to be estimated based primarily on estimated service life. This is a common practice in municipalities in Ontario and across Canada where no reliable condition information exists. Caution must be used with this method in that it:

- Assumes replacement of the asset at the end of its estimated service life plus one day;
- Assumes a uniform deterioration rate irrespective of the applied load on that asset and the asset's physical make up; and
- Does not factor in substantial rehabilitation of an asset since it was put into service.

The best practice to estimate the condition of an asset, where assessment activities have not been completed, is to evaluate the amount of its useful life that has been consumed. For example, an asset that has a useful life of 10 years would be considered to be in excellent condition if it is 1 year old and poor condition if it is 9 years old. Although this approach does not always provide an accurate condition of the asset, particularly in cases of buried linear

infrastructure (i.e. water mains and sewers), it is a reasonable starting point where actual condition information is not easily accessible.

The Municipality's inventories contain information on the asset age and the useful life that has been estimated based on industry norms, and therefore it is possible to estimate the condition of the assets using this approach.

For the purposes of this report, the condition information for all asset categories was not available and was estimated based on Table 4.

Table 4 – Translating Estimated Service Life to Asset Condition

Condition	Percent of Estimated Service Life Remaining on Asset
Very Good	80 - 100%
Good	60 - 79%
Fair	40 - 59%
Poor	20 - 39%
Very Poor	<20%

Table 5 provides a summary of the range of estimated service lives that are used for each asset group in the Municipality. The specific estimated service life that is used for an individual asset will vary depending on the unique characteristics of the asset. It is recommended that Municipality staff review the estimated service lives that are used for each asset or asset group on a continual basis to ensure that the estimated service lives reflect real-world observations in North Middlesex and industry trends.

Table 5 – Estimated Service Lives of Assets

Asset Category	Estimate Service Life (years)
Transportation - Bridges	50 – 75
Transportation - Culverts	40 – 75
Transportation - Roads (Paved)	35
Transportation - Roads (Unpaved)	Graded Yearly
Water Distribution	75
Storm Sewer	75
Sanitary Sewer	75
Buildings and Facilities	30 – 75
Lands and Land Improvements	Does Not Depreciate
Machinery and Equipment	10 – 30
Vehicles	6 – 20
Other	5 – 10

Table 6 summarizes the distribution of asset condition. It is apparent that $134.4 million worth of assets are considered to be in very poor condition. However, this is based on the assumption that this infrastructure is in very poor condition because it has reached or is near the end if its useful life.

Table 6 – Estimated Condition of Infrastructure by Replacement Value

Condition	Value of Assets in Condition (millions)	Percentage of Assets in Condition
Very Good	$35.2	13%
Good	$31.8	12%
Fair	$41.1	15%
Poor	$14.6	6%
Very Poor	$134.4	50%
Not Rated	$9.9	4%

It should be noted that a condition has not been assigned to unpaved roads or lands and land improvements (i.e. "Not Rated" assets). Unpaved roads are graded annually by the Municipality and are assumed to be maintained indefinitely. Lands and land improvements generally do not deteriorate over time and as such have not been assigned a condition value.

It should also be noted that of the $134.4 million of assets in Very Poor condition, $119.6 million of these assets are bridges which have extended past the end of their estimated service life and have substantial replacement costs.

2.5 Asset Capacity and Availability

The determination of asset capacity is an integral component of an AMP. An asset can be well within its estimated service life and exhibit "like new" condition however may not meet the capacity or availability requirements of customers. In essence capacity and availability can be described as:

- Capacity: the ability of an asset to meet the current demands put upon it both now and in the future by customers (i.e. sewer or water system capacity).
- Availability: the number of assets available to meet customer needs (i.e. number and utilization of park or recreational spaces to meet the needs of customers).

In reviewing the information provided by Municipality staff, GM BluePlan observed that capacity data was lacking in significant areas. Recommendations in Section 6 of this report highlight the need for the collection of standardized capacity and availability information.

2.6 Recommended Data to Determine Condition and Performance

Given the level of maturity of the asset management data in North Middlesex, Table 7 highlights the type of information for each asset category that should be gathered by the Municipality moving forward to improve the method of analysis in subsequent iterations of the AMP.

Table 7 – Recommended Asset Data to Determine Condition and Performance

Asset Category	Recommended Data
Transportation - Bridges	Calculated Bridge Condition Indexes (BCIs) using the biannual inspection in accordance with Provincial regulations
Transportation - Culverts	Calculated Bridge Condition Indexes (BCIs) using the biannual inspection in accordance with Provincial regulations
Transportation - Roads (Paved)	Calculated Pavement Condition Indexes (PCIs) as a result of a Road Needs Study
Transportation - Roads (Unpaved)	No further data required
Water Distribution	Water main breaks per section; Water distribution system capacity as a result of a Water Distribution Needs Study
Storm Sewer	PACP scores based on CCTV inspections; capacity needs as a result of a Storm Sewer Collection System Needs Study
Sanitary Sewer	PACP scores based on CCTV inspections; capacity needs as a result of a Sanitary Sewer Collection System Needs Study
Buildings and Facilities	Condition ratings based on visual inspection as a result of a Building Needs Study
Lands and Land Improvements	No further data required
Machinery and Equipment	Condition ratings based on visual inspection
Vehicles	Condition ratings based on visual inspection
Other	No further data required for asset management planning purposes

2.7 State of Services in North Middlesex

In 2014 the *Canadian Infrastructure Report Card* published an *Asset Management Primer* to contribute to municipal infrastructure management discussion and the understanding of asset performance. The following excerpt is particularly noteworthy:

> "At the most basic level, municipalities exist to provide services to their residents. The concept of service levels can be difficult for many asset managers to describe and define because we manage the physical assets, and not the services provided by the assets. This changing mindset will shift the focus of asset management to the level of service delivered by our infrastructure systems.
>
> As a municipality develops an understanding of the physical condition of their assets, they will inevitably begin to understand how this condition impacts the service that the assets provide. This will lead to asset management processes that focus on managing services and how investment decisions may be used to best support the delivery of these services"

Over the next decade, this section of the AMP will transition from being titled "State of Local Infrastructure" to "State of Local Services". The following section provides a discussion on levels of service in North Middlesex.

3. LEVELS OF SERVICE

A "level of service" is a term that is used to describe quality, quantity and availability of the service that that is being provided. In the context of asset management plans, levels of service are established as a way to guide the management of infrastructure in a manner that aims to achieve the level of service goal. This develops a systematic process for:

- Coupling the customer level of service expectation, Customer Level of Service, with technical units of measure, Technical Levels of Service, used by technical staff in the analysis of infrastructure need.
- Tracking the current level of service through Key Performance Indicators.
- Deciding the appropriate target level at which to provide each service.
- Preparing a strategy to achieve the level of service target if it is not currently being achieved.
- Establishing a clear linkage between the costs of higher service levels.

3.1 Types of Levels of Service

Levels of service vary widely depending on the level of sophistication of an organization. They can be related to regulations, customer expectations, or corporate vision. In terms of municipal infrastructure, the services that they provide are generally related to either condition or capacity of the asset or infrastructure system. Levels of service can also be based on managing the risk that the failure of the asset has on the service that it provides.

Condition Levels of Service
The most basic level of service for the Municipality is established around maintaining infrastructure in an acceptable state of repair. This strategy is based on replacing an asset when it reaches a condition state that reduces its ability to provide the service for which it was constructed. The specific condition state when the renewal of the asset is required will change based on the importance of the service that the asset provides (i.e. local roads compared to collector roads).

Capacity Levels of Service
Capacity levels of service are related to the amount or size of infrastructure that is required to provide the objectives of the organization. Similar to most municipalities in Ontario, North Middlesex does not have many specific levels of service that are used to address the renewal of existing infrastructure based on capacity issues.

3.2 Performance Metrics

Performance metrics, or Key Performance Indicators (KPIs), are used to assess how well the infrastructure is achieving the service levels. It is essential that each level of service have a corresponding performance metric that will be tracked on an ongoing basis because they will be used to make decisions about why and when to invest in the Municipality's infrastructure systems.

3.3 Levels of Service in North Middlesex

For this iteration of the AMP, GM BluePlan was instructed to use "industry standards" to determine the target levels of service. Given this and the information available for this iteration of the AMP, the condition level of service for all assets in the Municipality is based on the end of each assets estimated service life.

While not included in the scope of this project due to time and budgetary constraints, we recommend that workshops be held with Municipality staff during future iterations of this AMP to develop levels of service and performance metrics (KPIs) for each infrastructure system. The results of these workshops would ultimately be a document that contains:

1. Customer service statements that describe what service the Municipality is providing through the infrastructure system;
2. Customer or Council focused levels of service and associated performance metrics that are used to convey how well the infrastructure system is providing its intended service to the general public; and
3. Technical focused levels of service and associated KPIs that are used by staff to convey how well the infrastructure system is providing its intended service to technical experts in the infrastructure business.

4. ASSET MANAGEMENT STRATEGY

4.1 Asset Management Strategy Overview

The asset management strategy component of the AMP represents the set of planned activities to ensure that the infrastructure is able to achieve the level of service goals. The strategy is generally related to optimizing decisions with respect to:

- The replacement or rehabilitation of assets;
- The optimal level of maintenance investment required to optimize the long term costs of the assets (i.e. does more maintenance result in a longer useful life?);
- Disposing of assets that are not required to meet service levels; and
- Addressing policies that impact the strategy for how to renew the asset (i.e. does the asset size/design need to change to meet a certain policy?).

The items summarized above are the goals for an AMP (and the associated systems that support the plan) to achieve through an analysis of readily available information. In this iteration of the Municipality's AMP, achieving a process that optimizes these goals is difficult due to a lack of readily available information and established processes to support the decisions.

For example, the decision to rehabilitate a sanitary sewer is dependent on knowing if the size is sufficient or should be increased to provide adequate service to accommodate future growth. If the pipe is too small then rehabilitation is not an option. Therefore, the Municipality needs to have the data in place (i.e. functioning hydraulic model of their sanitary sewer collection system with growth projections and spatial records of basement flooding complaints) in order to determine if the sanitary sewer is too small to support the decision making process of rehabilitation versus replacement.

4.2 Asset Management Strategies in North Middlesex

Table 8 below highlights the current asset management strategies that are practiced in North Middlesex.

Table 8 – Current Asset Management Strategies in North Middlesex

Asset Category	Current Asset Management Strategy
Transportation - Bridges	Biannual inspections in accordance with Provincial regulations to determine required rehabilitation/replacement activity
Transportation - Culverts	Biannual inspections in accordance with Provincial regulations to determine required rehabilitation/replacement activity
Transportation - Roads (Paved)	Road resurfacing when pavement reaches its end of estimated service life
Transportation - Roads (Unpaved)	Graded annually
Water Distribution	Replace at the end of useful life
Storm Sewer	Replace at the end of useful life
Sanitary Sewer	Replace at the end of useful life
Buildings and Facilities	Rehabilitate or replace at the end of useful life
Lands and Land Improvements	On-going maintenance, no asset management strategy required
Machinery and Equipment	Replace at the end of useful life
Vehicles	Replace at the end of useful life
Other	Replace at the end of useful life

4.3 The Relationship between Levels of Service and Infrastructure Investment Needs

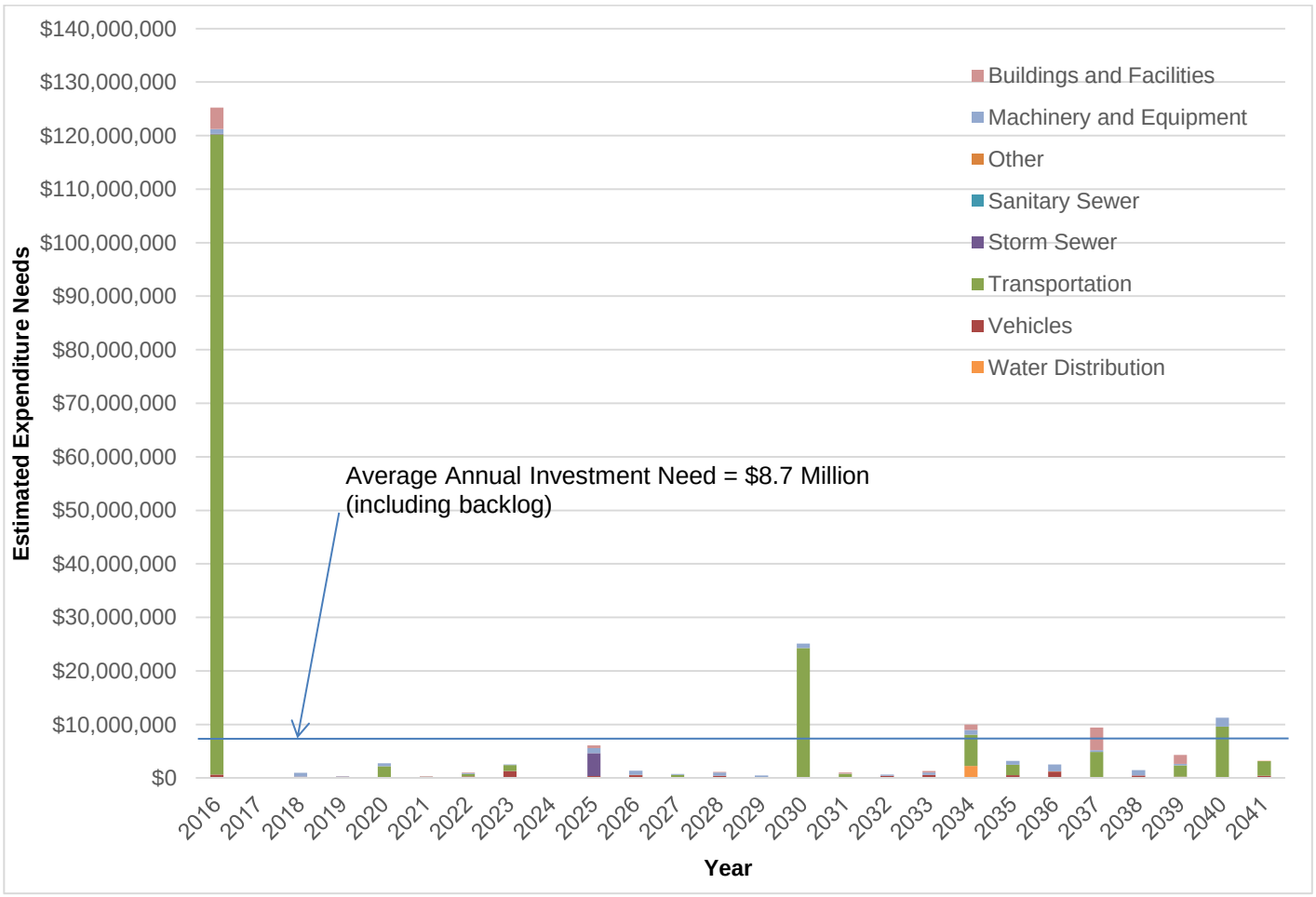
The relationship between the levels of service that are provided by an infrastructure systems and the corresponding investment needs is used in the Municipality's Asset Management strategy to guide investment decisions. In this iteration of the Municipality's Asset Management Plan there is limited data available to support an analysis of the infrastructure investments needs to provide the level of service targets.

Due to the lack of information as previously discussed, the level of service and required action for all assets included in the AMP is replacement of the asset once it reaches the end of its estimated service life.

4.4 Infrastructure Investment Needs

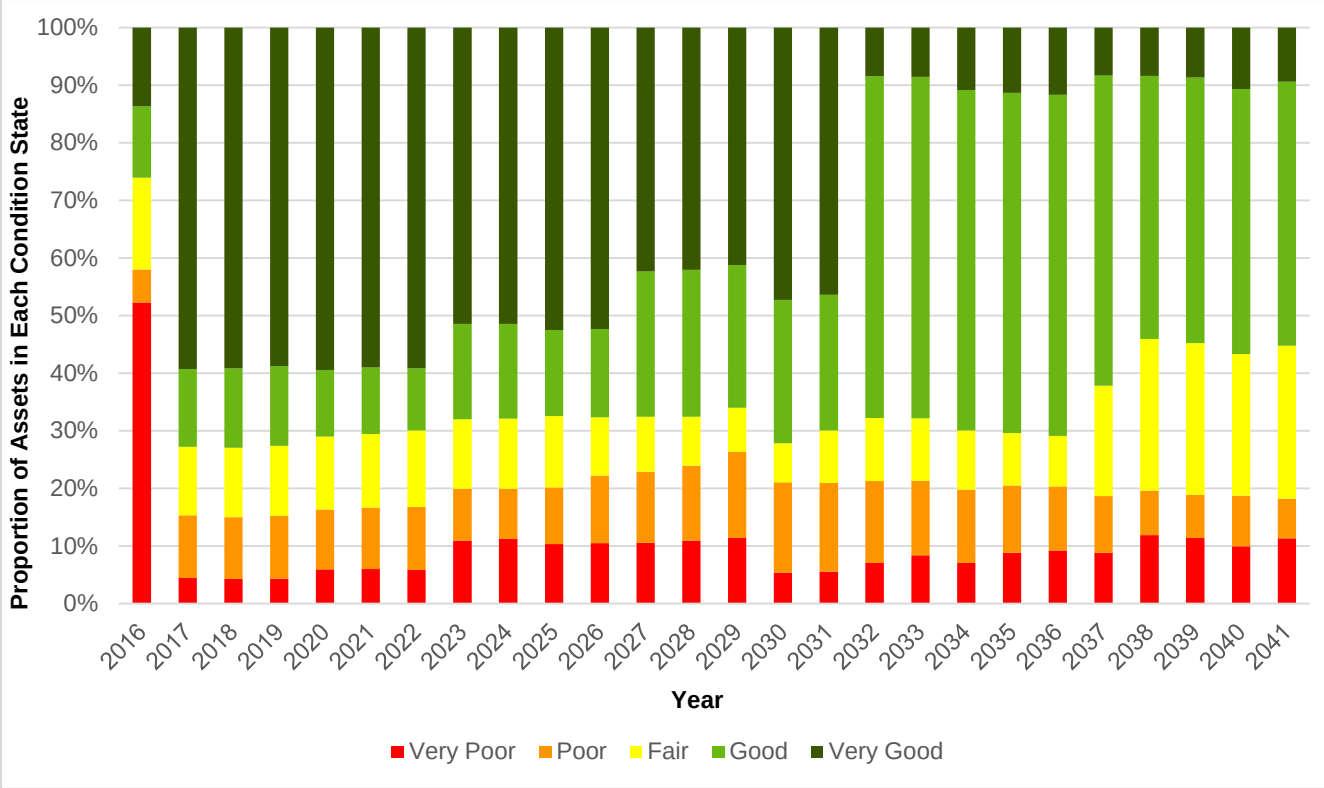
Figure 1 illustrates the expenditure needs that are required to provide the level of service described in Section 4.2 and 4.3. It is apparent from Figure 1 that over the next 25 years the expenditure needs are an average of approximately $8.7 million per year. This includes a significant backlog of required expenditures which are required to renew assets that are currently below the target level of service. It is not realistic to renew this amount of infrastructure in one year, and therefore the backlog of needs has been included in the average renewal needs over the next 25 years. If the backlog is not considered then the average annual expenditure needs are approximately $3.7 million per year. Understanding the actual backlog that exists is an important reason to implement the recommendations in Section 6 of this report. It should be noted that a significant portion of the estimated backlog ($119.6 million) is due to bridges that have exceeded their estimated service life. Also, by the end of the 25 year period the expenditure needs escalate to approximately $217 million over a 25 year period when 3% annual inflation is factored into the analysis.

Figure 1 – 25 Year Infrastructure Expenditure Needs



Additionally, Figure 2 summarizes the aggregate performance for all asset groups that would result from meeting the Expenditure Needs stated above, idealizing that the entirety of the backlog is addressed immediately.

Figure 2 – 25 Year Distribution of Condition of All Assets



It is apparent from Figure 2 that the annual expenditure needs shown in Figure 1 will result in approximately 20% of the Municipality's assets being in Poor or Very Poor condition in any given year. In subsequent iterations of this AMP the Municipality will work toward understanding what proportion of each asset type should be permitted to fall into a Poor or Very Poor condition state.

5. FINANCING STRATEGY

5.1 Scope and Process

The financing strategy outlines the suggested financial approach to funding the scenario outlined in Section 4. This section of the asset management plan includes:

- Annual expenditure forecasts broken down by category; and
- Recommendations to raise sufficient funds.

The long-term financing strategy forecast was prepared so that it can be used in conjunction with the annual budget process. The below points highlight various financing methods that can be used for both initial asset purchases as well as replacements:

- Development charges (for growth in the Municipality);
- Reserves and reserve funds;
- Debentures;
- Taxation (increases to taxation as necessary);
- User fees (increases to user fees as necessary);
- Provincial and Federal grants;
- Tax supported operating budget;
- User fees operating budget;
- Proceeds from asset disposals; and
- Funding from disposals/decommissioning and reduced maintenance costs.

5.2 Funding Strategy

As shown in Figure 1 in Section 4.3, expenditure requirements will fluctuate year-to-year in all asset categories. While this annual expenditure requirement fluctuation may occur, it is important for the Municipality to implement a consistent, yet increasing annual investment in capital so that the excess annual funds can accrue in capital reserve funds. Funds which have accrued in capital reserves can then be drawn on when rehabilitation/replacement activity is required.

Through discussions with the Municipality it is understood that this AMP will be used as a guideline to determine a funding strategy with the objective of generating an investment strategy to meet the anticipated required expenditure needs. Table 9 highlights the annual required investment needs that should be targeted by the Municipality for each asset category.

Table 9 – Estimated Expenditure Needs by Asset Category (millions)

Asset Category	Total 25 Year Investment Needs	Average Annual Investment Needs
Transportation - Bridges	$ 137.41	$ 5.50
Transportation - Culverts	$ 9.24	$ 0.37
Transportation - Roads (Paved)	$ 29.09	$ 1.16
Transportation - Roads (Unpaved)	-	-
Water Distribution	$ 2.32	$ 0.08
Storm Sewer	$ 4.39	$ 0.18
Sanitary Sewer	$ 0.00	$ 0.00
Buildings and Facilities	$ 12.30	$ 0.49
Lands and Land Improvements	-	-
Machinery and Equipment	$ 13.32	$ 0.53
Vehicles	$ 8.44	$ 0.34
Other	$ 0.18	<$ 0.01
Total	**$ 216.69**	**$ 8.67**

Table 10 below highlights North Middlesex's planned capital expenditures for asset construction/acquisition, renewal/rehabilitation, and replacement, in addition to non-infrastructure costs and reserve fund contributions that are found in the Municipality's five year capital plan. As shown below, the Municipality's total contribution to capital activities through the five year capital plan is approximately $10.8 million, equaling an average of approximately $2.2 million per year.

Table 10 – Distribution of Capital Expenditures as per Five Year Capital Plans (thousands)

Asset Category	Expenditures for Constructing/ Acquiring New Assets	Expenditures for Renewal/ Rehabilitation Activities	Expenditures for Replacing Assets	Total
Facilities	$ 0	$ 1,176	$ 188	$ 1,364
Fire Department - Buildings	$ 0	$ 150	$ 0	$ 150
Fire Department - Equipment	$ 0	$ 0	$ 690	$ 690
General Government - Equipment	$ 27	$ 22	$ 36	$ 85
Recreation - Facilities	$ 0	$ 75	$ 0	$ 75
Recreation - Equipment	$ 28	$ 22	$ 127	$ 177
Works (Roads) - Road Work	$ 931	$ 3,839	$ 95	$ 4,865
Works (Roads) - Equipment	$ 0	$ 0	$ 1,436	$ 1,436
Building and By-Law - Equipment	$ 0	$ 0	$ 29	$ 29
			Non-Infrastructure Expenses	$ 600
			Contributions to Reserve Funds	$ 1,339
			TOTAL	**$ 10,820**

Additionally, Table 11 below highlights the Municipality's operating and maintenance activities for 2014, 2015 and 2016 (budgeted). Table 11 allows for the comparison of the Municipality's operating and maintenance expenditures to the average annual planned capital expenditures.

Table 11 – Historical Maintenance and Operating Expenditures (thousands)

Asset Category	2014 Operating and Maintenance Expenditures	2015 Operating and Maintenance Expenditures	2016 (budgeted) Operating and Maintenance Expenditures
Works (Roads)	$ 888	$ 919	$ 978
Works (Bridges/Culverts)	$ 279	$ 279	$ 287
Works (Vehicles and Equipment)	$ 419	$ 320	$ 380
Works (Street Lighting)	$ 46	$ 43	$ 46
Facilities and Recreation (Facilities)	$ 766	$ 998	$ 1,010
Facilities and Recreation (Equipment)	$ 15	$ 18	$ 29
Water	$ 1,011	$ 1,206	$ 1,634
Sewer	$ 651	$ 634	$ 707
TOTAL	$ 4,075	$ 4,417	$ 5,071

The Municipality's planned capital expenditures are funded primarily through tax revenue and tax generated reserve funds, with additional funding from provincial grants such as the Gas Tax. It is evident that the average annual planned capital expenditure of $2.2 million is less than the $8.7 million average annual investment needs required as shown in Section 4.3. This creates a funding shortfall of approximately $6.5 million per year when backlog is considered. Also as shown in Section 4.3, if the backlog is not considered, the average annual investment needs are approximately $3.7 million. This reduces the annual funding shortfall to approximately $1.5 million. Methods of mitigating this shortfall are highlighted in the Section 5.3 below.

5.3 Mitigating Funding Shortfalls

While investing annually into capital with excess annual funds being accrued in capital reserve funds may be adequate for most rehabilitation and replacement activities, this funding technique may be inadequate for large capital investments such as the replacement of a bridge. In events where this method of funding is inadequate, the Municipality can consider the following options to further mitigate any funding shortfalls that occur:

- Applying rehabilitation techniques to extend the lifespan of assets;
- Rate increases, where needed (i.e. taxation, user fees, parking);
- Actively seeking out and applying for grants;
- Decrease expected levels of service;
- Divestment of facilities, parks, or other non-critical infrastructure where it is practical and appropriate to do so;
- Decommission existing bridges with low traffic volumes;
- Issuing debt for significant and/or unforeseen capital projects while staying within the Municipality's debt capacity limits; or
- Implementing operating efficiencies (i.e. reduce operating costs to allow more capital investment).

The Municipality has stated that this AMP will be used to develop a detailed funding plan to address the required annual expenditure needs and address the current funding shortfall.

6. CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

This first iteration of the AMP estimates the total value of the Municipality's infrastructure at approximately $267 million. The analysis identifies an ***annual infrastructure capital expenditure need*** of approximately $8.7 million based on the levels of service indicated in this AMP. The expenditure need has been established based on a strategic review of the Municipality's asset inventory. It should be emphasized that value represents the capital expenditures that are required to sustain the Municipality's existing infrastructure and does not include the resources that are required to operating the infrastructure systems or to expand the systems.

It is important to recognize that the Municipality is striving to reach a position where the infrastructure needs equal the available revenues. Over the coming years, the Municipality will continually review the infrastructure needs as better information becomes available and as technological improvements reduce the cost of renewing infrastructure. The Municipality will also consider approaches to increase the revenue that is available to fund the renewal of existing infrastructure, including pursuing Provincial or Federal infrastructure grants. This strategy positions the Municipality on a path to ultimately reach a point where the infrastructure needs equal the available revenues.

6.2 Recommended Priority Projects

The following priority projects are recommended for implementation in the Municipality based on the analysis completed in this AMP:

- Rehabilitation or replacement of bridges/culverts in poor condition
  Bridges and culverts represent a critical asset category in North Middlesex and therefore it is important to ensure that they are in a state of repair that does not impact their safe use. The Municipality conducts biannual inspections of all bridges and culverts in accordance with Provincial regulations. The biannual inspections provide recommendations for the rehabilitation or replacement needs on each structure in North Middlesex to ensure that they are safe to use. The implementation of the recommendations from these biannual inspections should be considered a high priority. Additionally, to reduce bridge maintenance and rehabilitation/replacement costs, the Municipality can consider decommissioning bridges with low traffic volumes.

- Rehabilitation or replacement of Pump Houses
  Pump Houses, both for water and sewer collection conveyance, are important pieces of infrastructure in North Middlesex. High levels of deterioration leading to failure in these assets would detrimentally affect the functionality of the Municipality's water and sewer system, greatly affecting the services provided to residents and businesses in the community. There are facilities within North Middlesex which have reached the end of their estimated service life, and as such should be addressed by means of an inspection and any required rehabilitation/replacement work necessary to ensure the safe and efficient use of the facility.

  Specific assets in the Municipality that are in this priority category are as follows:
  - Victoria Street Pump House on Travelled Road in Parkhill, Ontario
  - U/G Pump House at Elginfield Road and Centre Road

- Replacement of fleet assets related to fire services
  Deteriorating assets belonging to the Fire Services Department in North Middlesex are listed as priorities due to the use of the assets. Failure of these assets can cause fire response units to be delayed in responding to emergency calls. These assets must be addressed to ensure community's safety with regards to fire protection services.

  Specific assets in the Municipality that are in this priority category are as follows:
  - 1992 GMC Tank Truck belonging to the Ailsa Craig Fire Station
  - 1996 GMC Rescue Unit belonging to the Ailsa Craig Fire Station
  - Fire Rescue Truck belonging to the Parkhill Fire Station

A complete list of assets that have reached or surpassed their estimated service life (i.e. 0% of estimated service life remaining) has been included in Appendix A – Table 12. The rehabilitation/replacement of these assets should be considered a priority by the Municipality.

Additionally, a complete list of assets determined to be in Very Poor condition (i.e. less than 20% of estimated service life remaining) has been included in Appendix A – Table 13. The rehabilitation/replacement of these assets should be considered by the Municipality once all assets that have reached or surpassed their estimated service life have been addressed.

6.3 Improving the Municipality's Understanding of their Infrastructure Investment Needs

The analysis completed to determine the current state of the Municipality's infrastructure and the required average annual expenditures were predicted upon the infrastructure information provided by the Municipality. As such the analysis does not factor in the following:

- Infrastructure that may perform adequately well beyond its estimated service life; and
- Infrastructure that may fail prematurely or requires enhancement due to capacity or availability constraints;
- Substantial rehabilitation of infrastructure that has occurred in the past which is not evident due to lack of comparative condition; and
- Representative risk factors associated with failure of a specific asset.

In addition, the analysis presented represents the replacement of assets and not extension of asset or infrastructure life through advanced rehabilitation techniques which can significantly reduce capital expenditures and extend asset life. In order to accommodate these factors the GM BluePlan project team respectfully recommends that the Municipality revisit these analyses when improved and refined infrastructure data becomes available.

The Municipality has committed to advancing asset management practices in the organization. The following strategies will help North Middlesex refine their infrastructure needs by understanding the current condition and performance of the infrastructure systems based on detailed assessments. However, some of these processes will take several years to develop. In the short term the Municipality should develop aggressive, yet realistic, goals for:

- Gathering the available data that currently exists to support improved analyses of the capital infrastructure renewal needs; and
- Collecting additional information over the next year in a format that will facilitate an improved analysis of the capital infrastructure renewal needs.

The following projects will allow Municipality Staff to better understand the actual asset condition, capacity and risk posed by their infrastructure portfolio and potentially achieve significant reductions to the capital investment requirements to sustain the infrastructure systems. It should be noted that the annual aggregate cost of these projects represent approximately 0.04% of the current replacement value of the Municipality's infrastructure portfolio.

1. **Complete a Building Needs Study ($100,000 every 5 years)**

   The Municipality should complete a building needs study that develops inventories, and reviews the condition and performance of the various components in each facility. The study should also review the operating and maintenance costs benchmarked against industry average values. The assessment should establish immediate maintenance issues, as well as short term and long term capital needs. Through this project a data hierarchy will be established for the facilities that will be used as the basis for the Asset Portfolio. A data hierarchy is the structure of how the assets will be tracked in the Asset Management database in the Municipality.

2. **Complete a Needs Study for the Water Distribution System ($50,000 every 5 years)**

   A Needs Study for a water distribution system reviews and compares the available system performance (typically through the use of a hydraulic model of the system) with a set of target service levels (i.e. target water pressures or fire flow rates) to establish a list of prioritized needs in the system. The list of needs will indicate which water

mains need to be larger, where additional looping may be required, if there are any concerns with the layout of pressure zones, and other improvements that may be required to the system. A Needs Study may also consider the condition of the water mains (through break records or material/age) and other system performance concerns, such as water quality complaints. The recommendations of the Needs Study should incorporate the optimal use of replacement versus rehabilitation strategies and consider non-infrastructure solutions to achieve service levels.

3. **Complete Storm and Sanitary Sewer Collection System Needs Studies ($100,000 – $200,000 every 5 years)**

   A Needs Study for a sanitary sewer collection system reviews and compares the available system performance (typically through the use of a hydraulic model of the system) with a set of target service levels (i.e. target wet weather events that cause sewer to surcharge) to establish a list of prioritized needs in the system. The list of needs will indicate which sewers need to be larger, where additional storage may be required, and other improvements that may be required to the system. A Needs Study also considers the condition of the sewers (through CCTV inspections) and other system performance concerns, such as overflows. The recommendations of the Needs Study should incorporate the optimal use of replacement versus rehabilitation strategies and consider non-infrastructure solutions to achieve service levels.

4. **Complete a Parks and Lands Asset Inventory and Needs Study ($25,000 every 5 years)**

   At present the asset inventory within these two service areas is not described nor documented at a level that allows for an evidence based assessment of infrastructure needs. This project would allow for a significantly increased understanding of asset performance in each of these areas.

5. **Complete Road and Bridge Needs Studies ($100,000 every 2 to 5 years)**

   Needs studies for roads and bridges reviews and compares the available system performance, typically through a Pavement Condition Index (PCI) for roads and a Bridge Condition Index (BCI) for bridges, obtained every 2 years through Ontario Structure Inspection Manuals (OSIMs) with a set of target service levels (i.e. target PCI and BCI) to establish a list of prioritized needs in the system. The list of needs will indicate which sections of road needs resurfacing and which bridges and bridge components require repair or replacement. The recommendations of the Needs Studies should incorporate the optimal use of replacement versus rehabilitation strategies and consider non-infrastructure solutions to achieve service levels.

6. **Continue to Develop the Municipality's GIS Database of Assets (Internal + $50,000)**

   Over the recent years, the Municipality has developed a Geographic Information System (GIS) database to store asset information. A GIS is an ideal system for storing information that can be used to manage the Municipality's asset, particularly for linear assets. The Municipality should continue to develop and populate the asset portfolios in their GIS.

   The following points summarize some of the factors to consider when populating the GIS:

   - The information that is required to complete the Tangible Capital Asset reporting should be included for each asset in the GIS (i.e. acquisition cost, year of installation & amortization period/useful life).
   - The GIS must have direct linkages to the maintenance management systems in the Municipality to enable O&M versus replacement analyses.

It should be noted that these recurring projects will decrease in cost over time as the incremental knowledge of the asset portfolio increases and is maintained over time as the Municipality's asset management plan, information sources and business processes are improved over time.

6.4 Long Term Activities to Advance the Municipality's Asset Management Strategy

The following points provide a series of long term activities that the Municipality should consider undertaking to advance their asset management strategy:

1. **Develop a Strategy to Optimize Investments between Operating, Maintenance and Capital**

   Complete detailed investigations into the operating and maintenance costs of the Municipality's infrastructure, and complete analyses to determine if they are within industry standards or if they can be optimized to reduce the long term costs. For example, this may demonstrate that the construction of a new, energy efficient facility to replace an old facility will have a long term financial savings to the Municipality.

2. **Public Engagement**

   The Municipality should develop a program to engage the public with infrastructure decisions. This could include:

   - Developing an annual satisfaction survey that can be administered to the public in either random telephone surveys, web-based surveys, in a town-hall environment, etc. Effort should be made to ensure that the survey mechanism also serves to educate residents on the relationship between service levels and the cost of the infrastructure.
   - Expand on the process for registering complaints that are received by the Municipality (presently referred to as Service Tracker). This could include establishing a formal 3-1-1 call system, or simply logging the calls that are received in a database that tracks information such as where the complaint is, what asset it refers to, and the nature of the complaint.

3. **Develop a Reporting Process to Communicate the State of Infrastructure in the Municipality**

   A periodic reporting process should be established to communicate to stakeholders in the Municipality how well the infrastructure is meeting the target service levels. This should be a transparent and open process that provides clear results of the performance monitoring and customer satisfaction feedback.

4. **Develop Annual Infrastructure Scorecard**

   Municipality staff should develop an annual Infrastructure Scorecard to allow Council, Municipality Staff and the Public to understand the return on investment of previous capital infrastructure investment on customer level of service, asset sustainability, asset backlog and risk. This will clearly illustrate the connection between levels of investment and the quality, quantity and availability of services.

6.5 Next Steps

The infrastructure investment needs have been established based on a strategic review of the Municipality's asset inventory. It is important to recognize that the Municipality is striving to reach a position where the infrastructure needs equal the available revenues (i.e. a full cost recovery approach). Over the coming years, the Municipality will continually review the infrastructure needs as better information becomes available and as technological improvements reduce the cost of renewing infrastructure. This will include the adoptions of infrastructure rehabilitation techniques such as trenchless technologies in order to provide the desired level of service in a more cost effective manner.

The Municipality will also consider approaches to increase the revenue that is available to fund the renewal of existing infrastructure, including pursuing Provincial or Federal infrastructure grants. This strategy positions the Municipality on a path to ultimately reach a point where the infrastructure needs equal the available revenues.

APPENDIX A

Priority Rehabilitation/Replacement Projects

The following Table 12 highlights all assets that have reached or surpassed their estimated service life (i.e. 0% of estimated service life remaining). The rehabilitation/replacement of these assets should be considered a priority by the Municipality.

Table 12 – Assets to be Considered a Priority for Rehabilitation/Replacement

Asset No.	Asset Category	Asset Description
BDG-0009-001	Buildings and Facilities	Canteen/Storage Facility at Lieury Ball Park
BDG-0009-002	Buildings and Facilities	Washrooms at Lieury Ball Park
BDG-0013-000	Buildings and Facilities	McGillivray Community Centre
BDG-0027-002	Buildings and Facilities	Lion's Park Pavilion
BDG-0029-000	Buildings and Facilities	Ailsa Craig Community Centre
BDG-0029-001	Buildings and Facilities	Booth/Washrooms at Ailsa Craig Recreation Facility
BDG-0029-002	Buildings and Facilities	Picnic Shelter at Ailsa Craig Recreation Facility
BDG-0030-000	Buildings and Facilities	Old Town Hall on Ailsa Craig Main Street
BDG-0036-001	Buildings and Facilities	Park Booth/Storage Facility at West Williams Recreation Facility
BDG-0036-002	Buildings and Facilities	Picnic Shelter at West Williams Recreation Facility
BDG-0038-000	Buildings and Facilities	Sylvan Cemetery Storage Building
BDG-0041-000	Buildings and Facilities	Picnic Shelter at Coronation Park
BDG-0047-000	Buildings and Facilities	Victoria Street Pump House
BDG-0052-000	Buildings and Facilities	Parkhill Library
BDG-0070-000	Buildings and Facilities	U/G Pump House
EQT-7300-010	Machinery and Equipment	924 ft of 5 ft Chain Link Fence at Ailsa Craig Community Park
EQT-7300-011	Machinery and Equipment	1900 ft of 6 ft Chain Link Fence at Ailsa Craig Community Park
EQT-7300-012	Machinery and Equipment	War Monument at Coronation Park
EQT-7300-021	Machinery and Equipment	Refrigeration Condenser at Parkhill Arena
FLT-3218-000	Machinery and Equipment	2000 CAT Loader at West McGillivray Works Yard
FLT-3219-000	Machinery and Equipment	2003 Trackless at West McGillivray Works Yard
FLT-3223-000	Machinery and Equipment	1992 John Deere at West McGillivray Works Yard
FLT-3234-000	Machinery and Equipment	1995 Elgin Whirlwind Sweeper at West McGillivray Works Yard
FLT-3237-001	Machinery and Equipment	21 Ton EZ Load Tag Trailer at West McGillivray Works Yard
SWR-4310-109	Storm Sewer	Victoria St. from Mill St. to S Bend
BRG-3100-0015	Transportation - Bridges	Bridge No. 15 on Adare Dr. Crossing Ausable River
BRG-3100-0017	Transportation - Bridges	Bridge No. 17 on Mooresville Dr. Crossing Ausable River
BRG-3100-0021	Transportation - Bridges	Bridge No. 21 on New Ontario Rd.
BRG-3100-0024	Transportation - Bridges	Bridge No. 24 on West Corner Dr. 0.3km W of Charlton Rd.
BRG-3100-0030	Transportation - Bridges	Bridge No. 30 on Poplar Hill Rd. 0.60km N of Poplar Hill Rd.
BRG-3100-0032	Transportation - Bridges	Bridge No. 32 on Bear Creek Rd. North of CR 19
BRG-3100-0034	Transportation - Bridges	Bridge No. 34 on New Ontario Rd.
BRG-3100-0035	Transportation - Bridges	Bridge No. 35 on Springbank Rd.

Table 12 – Assets to be Considered a Priority for Rehabilitation/Replacement (Continued)

Asset No.	Asset Category	Asset Description
BRG-3100-0037	Transportation - Bridges	Bridge No. 37 on Ausable Rd. McLeish Bridge LT 11 CON 7/8
RDS-3100-039	Transportation - Paved Roads	Annie Ada Shipley St. from West End to Stewart St.
RDS-3100-054	Transportation - Paved Roads	Atkinson St. from Queen St. to East End
RDS-3100-188	Transportation - Paved Roads	Eleanor St. from Queen St. to East End
RDS-3100-290	Transportation - Paved Roads	Hamilton St. from West End to Queen St.
RDS-3100-322	Transportation - Paved Roads	James St. from William St. to South End
RDS-3100-371	Transportation - Paved Roads	Mary St. from Queen St. to East End
FLT-2104-001	Vehicles	1992 GMC Tank Truck at Ailsa Craig Fire Hall
FLT-2104-002	Vehicles	1996 GMC Rescue Unit at Ailsa Craig Fire Hall
FLT-2400-001	Vehicles	2008 Dodge Caravan at Parkhill Municipal Office
FLT-3232-000	Vehicles	1987 Ford Boom Truck at West McGillivray Works Yard
FLT-3236-000	Vehicles	2006 International at West McGillivray Works Yard
FLT-7300-000	Vehicles	2009 Ford F150 at Parkhill Recreation Facility

The following Table 13 highlights all assets that have been determined to be in Very Poor condition (i.e. less than 20% of estimated service life remaining). These assets should be considered for rehabilitation/replacement once all assets that have reached or surpassed their estimated service life (as highlighted in Table 12) have been addressed.

Table 13 – Assets with Less Than 20% of Estimated Service Life Remaining

Asset No.	Asset Category	Asset Description
BDG-0036-003	Buildings and Facilities	Park Change House/Washrooms at West Williams Recreation Facility
BDG-0056-002	Buildings and Facilities	Pavilion at Parkhill Recreation Facility
BDG-0056-003	Buildings and Facilities	Washrooms at Parkhill Recreation Facility
BDG-0058-000	Buildings and Facilities	Parkhill Fire Hall
EQT-7300-006	Machinery and Equipment	Asphalt Tennis Court at Parkhill Sports Field
EQT-7300-019	Machinery and Equipment	Sound System at Ailsa Craig Recreation Centre
EQT-7300-024	Machinery and Equipment	30hp Compressor at Parkhill Arena
FLT-3216-000	Machinery and Equipment	2007 Case Backhoe at West McGillivray Works Yard
SWR-4310-016	Storm Sewer	Anna St. from Pearl St. to Elk St.
SWR-4310-017	Storm Sewer	Anna St. from Elk St. to Parkhill George St.
SWR-4310-018	Storm Sewer	Anna St. from Parkhill George St. to Eagle St.
SWR-4310-023	Storm Sewer	Ardross St. from Parkhill Main St. to George St.
SWR-4310-024	Storm Sewer	Ardross St. from Catherine St. to East End
SWR-4310-026	Storm Sewer	Bethany St. from Station St. to Parkhill Main St.
SWR-4310-027	Storm Sewer	Broad St. from Parkhill Main St. to Station St.
SWR-4310-029	Storm Sewer	Broadway St. from Albert St. to Ann St.
SWR-4310-030	Storm Sewer	Broadway St. from Ann St. to Parkhill Main St.
SWR-4310-031	Storm Sewer	Catherine St. from South End to Tain St.

Table 13 – Assets with Less Than 20% of Estimated Service Life Remaining (Continued)

Asset No.	Asset Category	Asset Description
SWR-4310-032	Storm Sewer	Catherine St. from Tain St. to Ardross St.
SWR-4310-033	Storm Sewer	Catherine St. from Ardross St. to Roskeen St.
SWR-4310-034	Storm Sewer	Catherine St. from Roskeen St. to Ellen St.
SWR-4310-035	Storm Sewer	Catherine St. from Ellen St. to Allness St.
SWR-4310-036	Storm Sewer	Centre St. from Duchess Ave. to Elliot St.
SWR-4310-037	Storm Sewer	Centre St. from Elliot St. to West Park Dr.
SWR-4310-041	Storm Sewer	Duchess Ave. from Centre St. to Duke St.
SWR-4310-044	Storm Sewer	Eagle St. from Hastings St. to Anna St.
SWR-4310-046	Storm Sewer	Elk St. from CN Rail to Hastings St.
SWR-4310-047	Storm Sewer	Elk St. from Hastings St. to Anna St.
SWR-4310-048	Storm Sewer	Ellen St. from Parkhill Main St. to Catherine St.
SWR-4310-049	Storm Sewer	Ellen St. from Catherine St. to Mill Craig St.
SWR-4310-050	Storm Sewer	Elliot St. from Centre St. to South of Duke St.
SWR-4310-051	Storm Sewer	Elliot St. from South of Duke St. to Broadway St.
SWR-4310-052	Storm Sewer	William St. E from Parkhill Main St. to Pearl St.
SWR-4310-053	Storm Sewer	Emily St. from Station St. to Parkhill Main St.
SWR-4310-061	Storm Sewer	Hastings St. from Parkhill Main St. to Pearl St.
SWR-4310-062	Storm Sewer	Hastings St. from Pearl St. to Delaware St.
SWR-4310-065	Storm Sewer	John St. from West Park Dr. to Albert St.
SWR-4310-066	Storm Sewer	John St. from Albert St. to Ann St.
SWR-4310-067	Storm Sewer	John St. from Ann St. to Parkhill Main St.
SWR-4310-068	Storm Sewer	Leonard Ave. from Ann St. to Parkhill Main St.
SWR-4310-069	Storm Sewer	McLeod St. from West End to Parkhill Main St.
SWR-4310-070	Storm Sewer	Mill St. from Victoria St. to Parkhill Richmond St.
SWR-4310-071	Storm Sewer	Mill St. from Parkhill Richmond St. to Union St.
SWR-4310-072	Storm Sewer	Mill St. from Union St. to Station St.
SWR-4310-073	Storm Sewer	Mill St. from Station St. to Parkhill Main St.
SWR-4310-074	Storm Sewer	Millcraig St. from Ellen St. to East End
SWR-4310-077	Storm Sewer	Parkhill King St. from West End to West Park Dr.
SWR-4310-078	Storm Sewer	Parkhill King St. from West Park Dr. to Albert St.
SWR-4310-079	Storm Sewer	Parkhill King St. from Albert St. to Ann St.
SWR-4310-080	Storm Sewer	Parkhill Main St. from Elginfield Rd. to Tain St.
SWR-4310-081	Storm Sewer	Parkhill Main St. from Tain St. to Ellen St.
SWR-4310-082	Storm Sewer	Parkhill Main St. from Ellen St. to Parkhill King St.
SWR-4310-083	Storm Sewer	Parkhill Main St. from Parkhill King St. to Anna St.
SWR-4310-084	Storm Sewer	Parkhill Main St. from Hastings St. to Anna St.
SWR-4310-085	Storm Sewer	Parkhill Main St. from Anna St. to Emily St.
SWR-4310-086	Storm Sewer	Parkhill Main St. from Emily St. to William St. W
SWR-4310-087	Storm Sewer	Parkhill Main St. from William St. W to Bethany St.

Table 13 – Assets with Less Than 20% of Estimated Service Life Remaining (Continued)

Asset No.	Asset Category	Asset Description
SWR-4310-088	Storm Sewer	Parkhill Main St. from McLeod St. to Leonard Ave.
SWR-4310-089	Storm Sewer	Parkhill Main St. from Leonard Ave. to Ardross St.
SWR-4310-090	Storm Sewer	Parkhill Main St. from John St. to Broadway St.
SWR-4310-091	Storm Sewer	Ellen St. from Parkhill Main St. to Catherine St.
SWR-4310-093	Storm Sewer	Pearl St. from CN R.O.W. to Hastings St.
SWR-4310-094	Storm Sewer	Pearl St. from CN R.O.W. to Anna St.
SWR-4310-095	Storm Sewer	Pearl St. from Anna St. to William St. E
SWR-4310-096	Storm Sewer	Prince St. from Duchess Ave. to Elliot Dr.
SWR-4310-097	Storm Sewer	Prince St. from Elliot Dr. to West Park Dr.
SWR-4310-105	Storm Sewer	Roskeen St. from Parkhill Main St. to Catherine St.
SWR-4310-106	Storm Sewer	Roskeen St. from Catherine St. to East End
SWR-4310-107	Storm Sewer	Tain St. from Parkhill Main St. to Catherine St.
SWR-4310-108	Storm Sewer	Union St. from Mill St. to North End
SWR-4310-121	Storm Sewer	William St. E from Delaware St. to Parkhill George St.
SWR-4310-122	Storm Sewer	William St. W from Station St. to Parkhill Main St.
BRG-3100-0005	Transportation - Bridges	Bridge No. 5 on Prance Rd. North of Parkhill Dr.
BRG-3100-0006	Transportation - Bridges	Bridge No. 6 on McInnis Rd. S of Mark Settlement Dr.
BRG-3100-0007	Transportation - Bridges	Bridge No. 7 on West Corner Dr. S of Mark Settlement Dr.
BRG-3100-0019	Transportation - Bridges	Bridge No. 19 on Maguire Rd. 1.2km S of Clandeboye Dr.
BRG-3100-0020	Transportation - Bridges	Bridge No. 20 at Ausable Dr. and Brinsley Rd.
0013	Transportation - Culverts	Culvert No. 13 on Bornish Dr. 0.3km south of Fort Rose Rd.
0016	Transportation - Culverts	Culvert No. 16 on Mooresville Drive 0.5km east of Maguire Rd.
FLT-3255-000	Vehicles	2011 Chevrolet Silverado Pick-Up Truck
WTR-4200-030	Water Distribution	Ardross St. from Parkhill Main St. to Catherine St.
WTR-4200-159	Water Distribution	Elk St. from Anna St. to Hastings St.
WTR-4200-262	Water Distribution	Leonard Ave. from Ann St. to Parkhill Main St.