

# Township of Emo

## Asset Management Plan



**Prepared By:**



SAULTEAUX CONSULTING  

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 & ENGINEERING

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Saulteaux Consulting and Engineering would like to thank Crupi Consulting Group for their assistance in the preparation of this Asset Management Plan:



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## **1.0 Executive Summary**

Saulteaux Consulting and Engineering (SCE) has prepared this Asset Management Plan (AMP) for the Township of Emo. In preparing the plan, SCE worked with Crupi Consulting Group (CCG). SCE undertook the inspections of Municipal Buildings, Recreation, Water, Waste Water, Electrical, Roads, and Vehicle inspections. CCG undertook the financial analysis, and life cycle costing process.

This AMP provides an overview of the estimated future expenditures related to municipal assets over the period of the next ten (10) years. This document will help the Township to undertake an ongoing process to budget for the expenditures necessary to maintain the service levels that have been outlined in the Township's Official Plan. Additionally, the plan identifies assets which require urgent attention in order to bring them to standard, and further identifies a recommended timeframe to undertake necessary maintenance, rehabilitation, and in some cases replacement of assets. The financial plan (Section 6.0) of this plan, outlines a recommended strategy for the Township to finance the necessary work while limiting the tax burden, and maintaining a fiscally responsible, sustainable approach to asset management.

Included in the plan are recommendations regarding the maintenance of each asset. If identified maintenance is completed, and ongoing maintenance is undertaken, this will extend the lifecycle of assets, giving the Township a much more manageable budgeting process.

All assumptions regarding levels of service are listed within the plan, the financial plan is developed with the understanding that the Township intends to maintain existing levels of service, and that any future development would be undertaken as per the Official Plan.

## 2.0 Introduction

This asset management plan has been developed for the Township of Emo to assist the Township in making informed choices regarding future investment. This plan helps to define priorities for future spending, identifies estimated maintenance costs for existing assets, and defines a financing strategy. The goal of this process is to provide the Township with the information required to ensure that it can develop a financing strategy to maintain satisfactory levels of service, and undertake required investments in the future.

Additionally, this process reviews the lifecycle cost of each asset including construction, ongoing maintenance, and disposal. Consideration has been given to ensuring that services are maintained in an environmentally sustainable manner, as per the Township's Official Plan. A key feature of this plan is that it will provide the Township with a prioritized listing of infrastructure needs. This listing of priorities will help the Township to identify projects to undertake in the coming years, with a clear focus on the most urgent priorities, projects that will require investment within the next three years.

This plan is designed to cover the lifecycle of each asset, and is intended as a living document to be amended, as required, or when new tangible assets are added to the Asset Listing.

For the purposes of completing this project, Saulteaux Consulting and Engineering (SCE) has worked with Crupi Consulting Group (CCG). SCE undertook the inspections of Municipal Buildings, Recreation, Water, Waste Water, Electrical, Roads, and Vehicle inspections. CCG undertook the financial analysis, and life cycle costing process.

## 2.1 Asset Listing

The following assets are included in the plan:

**Table 2.1 – Asset Listing**

Asset Name	Asset No.	Ext. No.	Asset Code	Quantity	Units
Municipal Office	100000	01	A1A	194.43	SQ. M
Curling Club Building	100100	01	A6A	1065.95	SQ. M
Public Library	100200	01	A3E	164.73	SQ. M
Toy Library	100200	02	A3E	141.93	SQ. M
Library Storage	100300	01	A2C	9.86	SQ. M
Pavilion	100400	01	A6H	80.63	SQ. M
Splash Pad Building	100500	01	A5A	27.55	SQ. M

Asset Name	Asset No.	Ext. No.	Asset Code	Quantity	Units
Washrooms	100600	01	A6H	45.33	SQ. M
Deck #1	100700	01	A6Z	36.86	SQ. M
Deck #2	100800	01	A6Z	36.86	SQ. M
Deck #3	100900	01	A6Z	107.99	SQ. M
Sportsfield Building	101000	01	A6H	121.57	SQ. M
Sportsfield Canopy	101100	01	A6H	127.58	SQ. M
Mortuary	101200	01	A3I	22.76	SQ. M
Snowmobile Club Building	101300	01	A6E	130.43	SQ. M
Storage and Recycling Building	101400	01	B4Z	235.26	SQ. M
Maintenance Garage/Fire Hall	101500	01	A2B/A3H	877.26	SQ. M
OPP Generator Building	101600	01	A5C	19.5	SQ. M
OPP Residence #21	101700	01	A4A	192.72	SQ. M
OPP Residence #25	101800	01	A4A	192.72	SQ. M
OPP Residence #31	101900	01	A4A	192.72	SQ. M
Arena	102000	01	A6B	3089.24	SQ. M
Emo OPP Building	102100	01	A1A	333.78	SQ. M
RR Futures Development Corporation	102200	01	A1A	197.37	SQ. M
Water Treatment Plant	102300	01	A5A	353.25	SQ. M
Water Treatment Storage Garage	102400	01	A2B	59.2	SQ. M
Little House	102500	01	A6H	7.87	SQ. M
Playground	200000	01	C5D	434	SQ. M
Tennis Court	200100	01	C5D	1247.8	SQ. M
Sportfield Area	200200	01	C5D	94700	SQ. M
Splash Park	200300	01	C5D	85	SQ. M
Water Treatment System	400000	01	B1C	1	EA
150mmø Watermain PVC	400100	01	B1B	7050	M
200mmø Watermain PVC	400200	01	B1B	930.5	M
300mmø Watermain PVC	400300	01	B1B	1445.22	M
150mmø Watermain DI	400400	01	B1B	3949.25	M
200mmø Watermain HDPE	400500	01	B1B	63.68	M
300mmø Watermain HDPE	400600	01	B1B	70.41	M
450mmø Watermain HDPE	400700	01	B1B	343.49	M
Sewage Lagoon	450000	01	B2E	1	EA
200mmø Sanitary Main	450100	01	B2A	5827.98	M
250mmø Sanitary Main	450200	01	B2A	3658.96	M
300mmø Sanitary Main	450300	01	B2A	498.64	M
100mmø Sanitary Forcemain	450400	01	B2J	1350.21	M
150mmø Sanitary Forcemain	450500	01	B2J	1413.89	M
Unknown ø Sanitary Main	450600	01	B2A	659.69	M
Roy Street Lift Station	450800	01	B2H	1	EA
Kaemingh Lift Station	450900	01	B2H	1	EA
HWY 11/71 Lift Station	451000	01	B2H	1	EA
Street Lights	500000	01	B3C	35	EA
Meadow Street	600000	01	D1D	0.42	KM
Maple Place	600100	01	D1D	0.1	KM
Birch Place	600200	01	D1D	0.1	KM
Turrell Street	600300	01	D1B	0.22	KM
Colonization Road	600400	01	D1C	0.7	KM
Kitchener Street	600500	01	D1C	0.2	KM
Byng Street - Surface Treated	600600	01	D1C	0.15	KM
Byng Street - Gravel	600700	01	D1B	0.3	KM
Adelaide Street	600800	01	D1C	0.38	KM
Mitchell Street	600900	01	D1B	0.1	KM
Union Street	601000	01	D1B	0.2	KM

Judson Street	601100	01	D1B	0.3	KM
Maple Crescent	601200	01	D1B	0.4	KM
Marion Street	601300	01	D1B	0.2	KM
Canning Lane - Paved	601400	01	D1D	0.7	KM
Canning Lane - Gravel	601500	01	D1B	0.3	KM
Jessie Street West	601600	01	D1C	0.12	KM
Queen Street	601700	01	D1D	0.38	KM
Florence Street - Surface Treated	601800	01	D1C	0.1	KM
Florence Street - Paved	601800	02	D1D	0.3	KM
Roy Street - Surface Treated	601900	01	D1C	0.15	KM
Roy Street - Paved	601900	02	D1D	0.2	KM
Young Lane	602000	01	D1B	0.28	KM
Robert Street - Surface Treated	602100	01	D1C	0.05	KM
Robert Street - Paved	602100	02	D1D	0.1	KM
Station Street	602200	01	D1D	0.15	KM
Strachan Drive	602300	01	D1C	0.3	KM
Front Street	602400	01	D1D	1.6	KM
Walker Street - Surface Treated	602500	01	D1C	0.2	KM
Walker Street - Gravel	602500	02	D1B	0.1	KM
Hannah Street	602600	01	D1C	0.28	KM
River Street	602700	01	D1C	0.2	KM
King Street	602800	01	D1C	0.4	KM
Jessie Street East	602900	01	D1C	0.15	KM
Charles Street East	603000	01	D1C	0.15	KM
Charles Street West	603100	01	D1B	0.2	KM
Hornal Road	603200	01	D1B	2.6	KM
Emo Road - Gravel	603300	01	D1B	6.3	KM
Emo Road - Paved	603400	01	D1D	0.3	KM
Allan Road	603500	01	D1B	4.8	KM
Reid Road	603600	01	D1B	5	KM
Cooper Road South	603700	01	D1B	1.6	KM
Cooper Road North	603800	01	D1B	1.7	KM
Meyers Road	603900	01	D1B	4.7	KM
Everett Road	604000	01	D1B	1.8	KM
Howse Road	604100	01	D1B	3.3	KM
Dunbar Road	604200	01	D1B	1	KM
Mather Road	604300	01	D1B	0.1	KM
Off Lake Road	604400	01	D1B	5.6	KM
Vandrunen Road South	604500	01	D1B	4.8	KM
Carpenter Road	604700	01	D1B	8.1	KM
McDiarmid Road	604800	01	D1B	4.4	KM
Stewart Road	604900	01	D1B	4.8	KM
Alexander Road	605000	01	D1B	1.6	KM
Barnhardt Road	605100	01	D1B	6.6	KM
Carlson Road	605200	01	D1B	3.4	KM
George Road	605300	01	D1B	4	KM
Redford Road	605400	01	D1B	5.7	KM
Plaskett Road	605500	01	D1B	0.8	KM
Ellis Road	605600	01	D1B	0.8	KM
Locking Creek Road	605700	01	D1B	1.6	KM
Fisher Road	605800	01	D1B	9.5	KM
Alysworth Road	605900	01	D1B	6	KM
O'Neil Road	606000	01	D1A	0.9	KM
Jewell Road	606100	01	D1B	0.8	KM
McDonald Road	606200	01	D1A	1	KM
Ogden Road	606300	01	D1B	1.1	KM

Peterson Road	606400	01	D1B	0.4	KM
Larson Road	606500	01	D1B	0.5	KM
Cherlen Bay	606600	01	D1C	0.15	KM
Fire Tanker	901000	01	E1B	1	EA
Superior Unit #1 Fire Truck	901100	01	E1A	1	EA
Rescue 1	902000	01	E6C	1	EA
Truck 107	902100	01	E8L	1	EA
Chevy Silverado 4X4	902200	01	E6C	1	EA
Street Sweeper	902300	01	E8L	1	EA
Dump Truck	902400	01	E7U	1	EA
Zamboni	902500	01	E8L	1	EA
John Deere Tractor	902600	01	E8L	1	EA
Dodge Ram 2004	902700	01	E6C	1	EA
GMC Sierra Extended Cab	902800	01	E6C	1	EA
John Deere Loader	902900	01	E8L	1	EA
Dodge Ram 2001	903000	01	E6C	1	EA
Handicapped Van	903100	01	E6C	1	EA
Volvo Excavator	903200	01	E6C	1	EA
GMC Sierra Extended Cab	903300	01	E6C	1	EA
Volvo Grader	903400	01	E8K	1	EA

## 3.0 State of Local Infrastructure

This section outlines the following:

- Asset types (Roads, Buildings, Equipment, Water, Waste Water, and Vehicles).
- Identification of maintenance, repair, remediation, and replacement costs for assets.
- Age of assets, including age of assets as a portion of expected life.
- Condition of assets, as per standard engineering practices. Roads, vehicles, buildings, and recreation equipment were inspected for this process.

As the asset management planning process is intended to be ongoing, and the condition of assets, especially those requiring immediate repair, can impact the budget process, it is recommended that the tables included herein be updated with current information, as it becomes available. Data will be updated as identified in Municipal policy which complies with Provincial requirements (i.e. as required inspections are undertaken, at regular intervals).

### 3.1 Asset Types

**Table 3.1 – Listing of Asset Codes in Township of Emo**

<b>MUNICIPAL ASSET MANAGEMENT PLAN</b>				
<b>ASSET CODES</b>				
<b>Category</b>	<b>Class</b>	<b>Subclass</b>	<b>Asset Code</b>	<b>Units</b>
Building	Administrative	Office	A1A	SQ. M
Building	Operative	Garage (Municipal)	A2B	SQ. M
Building	Operative	Warehouse	A2C	SQ. M
Building	Institutional	Library	A3E	SQ. M
Building	Institutional	Church/Chapel	A3I	SQ. M
Building	Residential	Single Family House	A4A	SQ. M
Building	Utility	Water Supply/Treatment	A5A	SQ. M
Building	Utility	Electric Power Generation	A5C	SQ. M
Building	Recreational	City Rec Center/Hall/Cultural Center	A6A	SQ. M
Building	Recreational	Arena	A6B	SQ. M
Building	Recreational	Club HS/Youth Center/SR CIT/Drop-in	A6E	SQ. M
Building	Recreational	Shelter/Hut/Skate/Ball/Play	A6H	SQ. M
Building	Recreational	Other	A6Z	SQ. M
Utility	Water supply and distribution system	Water mains	B1B	M
Utility	Water supply and distribution system	Water Treatment System	B1C	EA
Utility	Waste Collection and Disposal System	Sanitary Main	B2A	M

<b>MUNICIPAL ASSET MANAGEMENT PLAN</b>				
<b>ASSET CODES</b>				
<b>Category</b>	<b>Class</b>	<b>Subclass</b>	<b>Asset Code</b>	<b>Units</b>
Utility	Waste Collection and Disposal System	Lagoon	B2E	EA
Utility	Waste Collection and Disposal System	Lift Station	B2H	EA
Utility	Waste Collection and Disposal System	Forcemain	B2J	M
Utility	Electrical Power and Dist. Sys.	Street Lights	B3C	EA
Utility	Solid Waste Collection and Disposal Sys.	Other	B4Z	-
Grounds	Playgrounds	Outdoor Hockey	C5D	EA
Transportation	Roads	Earth Road	D1A	KM
Transportation	Roads	Gravel Road	D1B	KM
Transportation	Roads	Surface Treated Roads	D1C	KM
Transportation	Roads	Paved Roads	D1D	KM
Vehicles	Fire	Mini-Pumper	E1A	EA
Vehicles	Fire	Triple Combination Pumper	E1B	EA
Vehicles	Administrative	Truck 1/2 Ton	E6C	EA
Vehicles	Construction	Truck, dump other	E7U	EA
Vehicles	Commercial	Grader	E8K	EA
Vehicles	Commercial	Miscellaneous	E8L	EA

**Note:** Quantity and extent of assets are identified in Table 2.1.

### 3.2 Total Maintenance, Remediation, Rehabilitation, and Replacement Costs

Asset Name	Asset Number	Asset Ext.	Year of Construction	Totals (\$)
Municipal Office	100000	01	1978	10,450.00
Curling Club Building	100100	01	1964	29,775.00
Public Library	100200	01	1986	425.00
Toy Library	100200	02	1986	1,600.00
Library Storage	100300	01	2012	150.00
Pavilion	100400	01	1988	12,850.00
Splash Pad Building	100500	01	2010	5,050.00
Washrooms	100600	01	1988	1,925.00
Deck #1	100700	01	1988	1,500.00
Deck #2	100800	01	1988	1,250.00
Deck #3	100900	01	1988	550.00
Sportsfield Building	101000	01	2008	1,100.00
Sportsfield Canopy	101100	01	2007	500.00
Mortuary	101200	01	1984	600.00
Snowmobile Club Building	101300	01	1992	4,700.00
Storage and Recycling Building	101400	01	1992	650.00
Maintenance Garage/Fire Hall	101500	01	1992	11,750.00
OPP Generator Building	101600	01	2003	1,200.00
OPP Residence #21	101700	01	2003	3,410.00
OPP Residence #25	101800	01	2003	3,525.00
OPP Residence #31	101900	01	2003	4,680.00
Arena	102000	01	1979	43,950.00
Emo OPP Building	102100	01	2003	25,950.00
RR Futures Development Corporation	102200	01	2003	2,350.00
Water Treatment Plant	102300	01	1969	39,400.00
Water Treatment Storage Garage	102400	01	1969	150.00
Little House	102500	01	1999	900.00
Playground	200000	01	2006	1,000.00
Tennis Court	200100	01	1988	23,250.00
Sportfield Area	200200	01	2007	14,100.00
Splash Park	200300	01	2010	-
Water Treatment System	400000	01	1969	628,100.00
150mmø Watermain PVC	400100	01	1969	-
200mmø Watermain PVC	400200	01	1969	2,500
300mmø Watermain PVC	400300	01	1969	-
150mmø Watermain DI	400400	01	1969	802,500
200mmø Watermain HDPE	400500	01	1969	-
300mmø Watermain HDPE	400600	01	1969	-
450mmø Watermain HDPE	400700	01	2015	-
Sewage Lagoon	450000	01	2014	18,000.00
200mmø Sanitary Main	450100	01	1969	-
250mmø Sanitary Main	450200	01	1969	-
300mmø Sanitary Main	450300	01	1969	-
100mmø Sanitary Forcemain	450400	01	1987	-
150mmø Sanitary Forcemain	450500	01	1987	-
Unknown ø Sanitary Main	450600	01	1969	-
Roy Street Lift Station	450800	01	1969	56,500.00
Kaemingh Lift Station	450900	01	1995	5,700.00
HWY 11/71 Lift Station	451000	01	1969	18,500.00
Street Lights	500000	01	2008	-
Meadow Street	600000	01	Township to advise	103,000.00

Asset Name	Asset Number	Asset Ext.	Year of Construction	Totals (\$)
Maple Place	600100	01	Township to advise	21,000.00
Birch Place	600200	01	Township to advise	103,000
Turrell Street	600300	01	Township to advise	21,000
Colonization Road	600400	01	Township to advise	23,000
Kitchener Street	600500	01	Township to advise	1,000
Byng Street - Surface Treated	600600	01	Township to advise	5,000
Byng Street - Gravel	600700	01	Township to advise	3,000
Adelaide Street	600800	01	Township to advise	0
Mitchell Street	600900	01	Township to advise	0
Union Street	601000	01	Township to advise	3,000
Judson Street	601100	01	Township to advise	1,000
Maple Crescent	601200	01	Township to advise	0
Marion Street	601300	01	Township to advise	0
Canning Lane - Paved	601400	01	Township to advise	0
Canning Lane - Gravel	601500	01	Township to advise	0
Jessie Street West	601600	01	Township to advise	67,000
Queen Street	601700	01	Township to advise	1,000
Florence Street - Surface Treated	601800	01	Township to advise	0
Florence Street - Paved	601800	02	Township to advise	8,000
Roy Street - Surface Treated	601900	01	Township to advise	5,000
Roy Street - Paved	601900	02	Township to advise	52,000
Young Lane	602000	01	Township to advise	0
Robert Street - Surface Treated	602100	01	Township to advise	37,000
Robert Street - Paved	602100	02	Township to advise	2,000
Station Street	602200	01	Township to advise	0
Strachan Drive	602300	01	Township to advise	13,000
Front Street	602400	01	Township to advise	25,000
Walker Street - Surface Treated	602500	01	Township to advise	16,000
Walker Street - Gravel	602500	02	Township to advise	10,000
Hannah Street	602600	01	Township to advise	1,000
River Street	602700	01	Township to advise	1,000
King Street	602800	01	Township to advise	0
Jessie Street East	602900	01	Township to advise	2,000
Charles Street East	603000	01	Township to advise	4,000
Charles Street West	603100	01	Township to advise	0
Hornal Road	603200	01	Township to advise	2,000
Emo Road - Gravel	603300	01	Township to advise	1,000
Emo Road - Paved	603400	01	Township to advise	2,000
Allan Road	603500	01	Township to advise	13,000
Reid Road	603600	01	Township to advise	4,000
Cooper Road South	603700	01	Township to advise	8,000
Cooper Road North	603800	01	Township to advise	2,000
Meyers Road	603900	01	Township to advise	16,000
Everett Road	604000	01	Township to advise	4,000
Howse Road	604100	01	Township to advise	25,000
Dunbar Road	604200	01	Township to advise	3,000
Mather Road	604300	01	Township to advise	1,000
Off Lake Road	604400	01	Township to advise	3,000
Vandrunen Road South	604500	01	Township to advise	24,000.00
Carpenter Road	604700	01	Township to advise	19,000
McDiarmid Road	604800	01	Township to advise	12,000
Stewart Road	604900	01	Township to advise	6,000
Alexander Road	605000	01	Township to advise	2,000

Asset Name	Asset Number	Asset Ext.	Year of Construction	Totals (\$)
Barnhardt Road	605100	01	Township to advise	10,000
Carlson Road	605200	01	Township to advise	4,000
George Road	605300	01	Township to advise	2,000
Redford Road	605400	01	Township to advise	8,000
Plaskett Road	605500	01	Township to advise	1,000
Ellis Road	605600	01	Township to advise	6,000
Locking Creek Road	605700	01	Township to advise	3,000
Fisher Road	605800	01	Township to advise	12,000
Alysworth Road	605900	01	Township to advise	12,000
O'Neil Road	606000	01	Township to advise	1,000
Jewell Road	606100	01	Township to advise	2,000
McDonald Road	606200	01	Township to advise	1,000
Ogden Road	606300	01	Township to advise	2,000
Peterson Road	606400	01	Township to advise	1,000
Larson Road	606500	01	Township to advise	1,000
Cherlen Bay	606600	01	Township to advise	1,000
Fire Tanker	901000	01	1992	-
Superior Unit #1 Fire Truck	901100	01	2004	-
Rescue 1	902000	01	2010	-
Truck 107	902100	01	1982	-
Chevy Silverado 4X4	902200	01	2009	-
Street Sweeper	902300	01	1973	1,500.00
Dump Truck	902400	01	2015	-
Zamboni	902500	01	2012	-
John Deere Tractor	902600	01	1995	500.00
Dodge Ram 2004	902700	01	2004	500.00
GMC Sierra Extended Cab	902800	01	2011	-
John Deere Loader	902900	01	2005	-
Dodge Ram 2001	903000	01	2001	2,700.00
Handicapped Van	903100	01	2005	2,500.00
Volvo Excavator	903200	01	2015	150.00
GMC Sierra Extended Cab	903300	01	2011	350.00
Volvo Grader	903400	01	2005	850.00
<b>Totals:</b>				<b>2,531,540.00</b>

The above table reflects maintenance, remediation, rehabilitation, and replacement costs. Ongoing maintenance items are not reflected beyond their initial occurrence; however they are listed in the financial plan, under Section 6.0 of the Asset Management Plan.

### 3.3 Asset Condition, Asset Age Distribution

**Table 3.3.1 Buildings, Grounds**

Asset Name	General Condition	Year Constructed	Estimated Remaining Life (Years)
Municipal Office	7	1978	30
Curling Club Building	7	1964	22
Public Library	8	1986	25
Toy Library	8	1986	25
Library Storage	7	2012	22
Pavilion	8	1988	25

Asset Name	General Condition	Year Constructed	Estimated Remaining Life (Years)
Splash Pad Building	7	2010	30
Washrooms	8	1988	25
Deck #1	9	1988	25
Deck #2	8	1988	25
Deck #3	8	1988	25
Sportsfield Building	8	2008	30
Sportsfield Canopy	9	2007	25
Mortuary	7	1984	20
Snowmobile Club Building	7	1992	30
Storage and Recycling Building	8	1992	22
Maintenance Garage/Fire Hall	8	1992	25
OPP Generator Building	8	2003	25
OPP Residence #21	8	2003	25
OPP Residence #25	8	2003	25
OPP Residence #31	8	2003	25
Arena	7	1979	22
Emo OPP Building	7	2003	25
RR Futures Development Corporation	8	2003	25
Water Treatment Plant	7	1969	20
Water Treatment Storage Garage	9	1969	30
Little House	7	1999	20
Playground	8	2006	20
Tennis Court	6	1988	20
Sportfield Area	7	2007	22
Splash Park	9	2010	20

**Table 3.3.2 Roads**

Asset Name	Pavement Condition Rating	Estimated Surface Age	Possible Remedial Treatments
Meadow Street	67	10	N/A
Maple Place	73	10	crack routing and sealing
Birch Place	80	10	crack routing and sealing/ 3 lm curb and gutter replacement
Turrell Street	72	10	Grade and shape shoulder
Colonization Road	73	10	Complete spot repairs for potholes and shoulder deterioration
Kitchener Street	81	10	Complete spot repairs for potholes and around manhole.
Byng Street - Surface Treated	85	10	None Required
Byng Street - Gravel	83	10	None Required
Adelaide Street	80	10	Complete surface patching to mitigate deterioration
Mitchell Street	86	10	None required for road and drainage - need a street name sign
Union Street	84	10	None required
Judson Street	85	10	None required
Maple Crescent	83	10	None required
Marion Street	86	10	None required
Canning Lane - Paved	59	10	1-5 years - design followed by upgrades and resurfacing
Canning Lane - Gravel	76	10	None required for road and drainage - need brushing and 3 X stop signs

Asset Name	Pavement Condition Rating	Estimated Surface Age	Possible Remedial Treatments
Jessie Street West	78	10	None required
Queen Street	92	4	Minor sidewalk paving and asphalt pavement edge granular filling req'd
Florence Street - Surface Treated	66	10	Complete spot repairs
Florence Street - Paved	76	10	Minor sidewalk and pvmt spot repairs
Roy Street - Surface Treated	78	10	None required
Roy Street - Paved	73	10	Minor sidewalk and pvmt spot repairs
Young Lane	72	10	Require 50 mm Gran 'A' west of Robert St.
Robert Street - Surface Treated	73	10	None required
Robert Street - Paved	68	10	None required
Station Street	64	10	Complete spot repairs
Strachan Drive	63	10	4 patches and last 50 meters repave + signage
Front Street	80	10	Crack routing/sealing and shoulder repairs
Walker Street - Surface Treated	77	10	None required for road and drainage - curve signs recommended
Walker Street - Gravel	75	10	Grade and shape shoulder to permit good water shedding.
Hannah Street	84	10	None required for road and drainage.
River Street	79	10	Repair potholes
King Street	81	10	Minor sidewalk and pvmt spot repairs
Jessie Street East	82	10	N/A
Charles Street East	78	10	Minor pvmt edge/shoulder repairs
Charles Street West	80	10	Grade the road to take out and fill low areas.
Hornal Road	70 to 20	10	grade and shape shoulder first 0.1 km of road, install speed limit signs, install "enter at own risk sign" at km 1.7
Emo Road - Gravel	80	10	Install speed limit and stop signs, as well as complete minor brushing
Emo Road - Paved	57	10	Surface patching and shoulder graveling.
Allan Road	78	10	Grade surface, crown & pull shoulders, install speed & stop signs, brushing
Reid Road	77	10	Grade & shape shoulders (1000m total), Install speed limit sign, mild brushing (1000m)
Cooper Road South	73	10	Grade & shape shoulders, Install speed limit sign, minor brushing
Cooper Road North	63	10	Install stop & curve signs, brushing in ditch, addition granular over culvert
Meyers Road	65	10	Grade, shaping, ditching signage, & brushing.
Everett Road	85	10	Install stop & speed limit signs, mild brushing
Howse Road	88	10	Install curve & railway crossing signs
Dunbar Road	55	10	Install speed limit and stop signs, reshape embankment, remove beaver dam
Mather Road	84	10	Install stop & dead end signs.
Off Lake Road	90	10	Install speed limit signs & minor brushing
Vandrunen Road South	67	10	Grade road, major spot repairs requiring fill, shoulders, signage, crown road, ditching/brushing
Carpenter Road	82	10	Grade & shape shoulders, install speed limit signs, brushing, spot improvement.

Asset Name	Pavement Condition Rating	Estimated Surface Age	Possible Remedial Treatments
McDiarmid Road	62	10	Apply granular, grade and shape shoulder, signage, ditching, brushing, drainage, major spot repair.
Stewart Road	63	10	Grade & shape road/shoulders, install stop, speed limit and curve signs, install rip rap on culvert.
Alexander Road	70	10	Grade & Shape shoulders, install speed limit and bend signs, minor brushing
Barnhardt Road	79	10	Grade road & Shoulders, Install stop, speed limit, and keep right signs, brushing and drainage.
Carlson Road	72	10	grading, stop, signage, brusing
George Road	76	10	Install speed limit, corner & stop signs, cut brush in ditch.
Redford Road	73	10	Install stop signs, speed limit signs, keep right signs & cut brush in ditch
Plaskett Road	68	10	Grading, Install speed limit and stop sign.
Ellis Road	55	10	Grading, signage, shape embankment, allowance for spot improvement
Locking Creek Road	60	10	Spot improvement, Stop & speed limit signs.
Fisher Road	86	10	Install speed limit signs X6, cut brush in ditches
Alysworth Road	82	10	Install Speed limit signs x6, stop sign, Keep right at outcrop x2, brush cutting.
O'Neil Road	N/A	10	Install "Enter at own risk" sign
Jewell Road	50	10	spot repair, signage
McDonald Road	N/A	N/A	"Enter at own risk" sign
Ogden Road	53	10	Grading, speed limit, dead end & brushing required.
Peterson Road	80	10	Grading, Speed limit & dead end sign
Larson Road	N/A	N/A	Install Enter at own risk
Cherlen Bay	75	10	Patch around manholes, shoulders and misc. spots

**Table 3.3.3 Utility**

Asset Name	General Condition	Year Constructed	Estimated Remaining Life (Years)
Water Treatment System	7	1969	20
150mmø Watermain PVC	7	1969	30
200mmø Watermain PVC	7	1969	30
300mmø Watermain PVC	7	1969	30
150mmø Watermain DI	7	1969	10
200mmø Watermain HDPE	7	1969	30
300mmø Watermain HDPE	7	1969	30
450mmø Watermain HDPE	8	2015	40
Sewage Lagoon	8	2014	20
200mmø Sanitary Main	7	1969	40
250mmø Sanitary Main	7	1969	40
300mmø Sanitary Main	7	1969	60
100mmø Sanitary Forcemain	7	1987	40
150mmø Sanitary Forcemain	7	1987	40
Unknown ø Sanitary Main	7	1969	40
Roy Street Lift Station	5	1969	10
Kaemingh Lift Station	7	1995	15
HWY 11/71 Lift Station	7	1969	15
Street Lights	9	2008	22

**Table 3.3.4 Vehicles**

Asset Name	General Condition	Year Constructed	Estimated Remaining Life (Years)
Fire Tanker	7	1992	17
Superior Unit #1 Fire Truck	8	2004	20
Rescue 1	8	2010	20
Truck 107	8	1982	10
Chevy Silverado 4X4	8	2009	8
Street Sweeper	7	1973	8
Dump Truck	8	2015	20
Zamboni	8	2012	10
John Deere Tractor	7	1995	8
Dodge Ram 2004	7	2004	7
GMC Sierra Extended Cab	8	2011	15
John Deere Loader	7	2005	15
Dodge Ram 2001	6	2001	5
Handicapped Van	8	2005	15
Volvo Excavator	9	2015	20
GMC Sierra Extended Cab	8	2011	15
Volvo Grader	8	2005	15

**Notes and Assumptions:**

1. Estimated life value assumes that identified maintenance is completed, and regular ongoing maintenance is performed. Estimated remaining life for vehicles in good condition is assumed to be ten (10) years.
2. Building Condition rating scale is as follows:
  - 0 = Closed
  - 1 – 3 = Poor
  - 4 – 6 = Fair
  - 7 – 9 = Good
  - 10 = New
3. Roads use Pavement Condition Rating value from 0-100.

## 4.0 Desired Levels of Service

For the purposes of this AMP, it is assumed that all assets owned by the municipality will continue to be used for their existing purpose, at the existing level of service. All defined maintenance items are indicated based upon this assumption.

This assumption was developed based upon the following from the Township's Official Plan document, adopted September 2013:

"The Township is committed to actively seeking and encouraging new development that maintains and improves the quality of life, the health of existing businesses and diversifies the economy. "

Furthermore, The Township of Emo Official Plan document has outlined levels of service regarding roads in Section 6.1:

"Safe and efficient movement of people and goods within the Township and to and from adjacent municipalities is encouraged by this Plan. The road system should safely serve the Township but should not be developed to a standard or extended beyond which would result in a burden to the residents and taxpayers of the Township. The roads in the Township as shown on all schedules to this Plan include provincial highways and Township roads."

Regarding reported speed limits. Please note the speed limits reported on our inspection sheets is the speed limit either posted or specified by the Township staff. It is not an endorsement of the limit as this would involve geometric, sight line, road width, etc. considerations which are beyond the scope of the AMP.

### 4.1 Assumptions & Performance Measures

1. It is assumed that all roads will be maintained, and rehabilitated as required to continue to offer the existing level of service. It is further assumed that the Official Plan will apply when an increase to a level of service is warranted, and that any increase in level of service will be offset by a corresponding increase in tax revenue. Our inspections include some deferred estimated cost such as road widening for roads which are only currently used as agricultural access which have been termed as a "deferred improvement" only justifiable should additional residential development occur to warrant the works. Our inspections also include recommendations to post signs on roads, or in some cases trails, advising "road is un-maintained and to be used at own risk". Estimated annual daily traffic ranges are appended

to this report. It is important to note that the surface age is unknown and is assumed to be 10 years, this is used to calculate the estimated surface value of roads.

While the Township can control development within its boundaries, activities occurring in surrounding areas can impact levels of use. If an increase in traffic volume creates increased maintenance costs that cannot be offset by tax revenue, the Township should re-visit its financial plan to:

- Determine the best means to cover the cost to maintain the existing level of service during the period of increased use, using the options outlined in the financial plan.

Or

- If it is not feasible to cover the cost to maintain the existing level of service, the Township could consider reducing the level of service. By reducing the level of service, the Township may deter the factors leading to increased use of the asset.

2. It is assumed that all buildings will continue to be used for their current purpose for the duration of the plan. If a change in service is required, it is assumed that any increase in level of service, or operating requirements will be offset by a corresponding increase in tax revenue. It is recommended that the Township follow up on all maintenance items identified in the inspection reports appended to the plan to ensure that all buildings can operate at their present level of service, and conform to code requirements. See the asset reports for a detailed listing of maintenance needs, and a description of the building.

If new buildings are required, it is assumed that the costs to construct new structures would be offset by a corresponding increase in tax revenue, or by using a debt financing solution, as outlined in the Financial Plan.

3. Given the relatively static population trends in the Township, it is assumed that all recreation equipment will continue to be used for its current purpose, at a similar level of use, for the duration of the plan. If a change in service is required, it is assumed that any increase in level of service, or operating requirements will be offset by a corresponding increase in tax revenue. It is recommended that the Township continue to undertake regular maintenance to ensure that the equipment remains in good working order, and is safe to use.

4. It is assumed that all vehicles will continue to be used for their current purpose for the duration of the plan. It is recommended that the Township follow up on all maintenance items identified in the inspection reports appended to the plan to ensure that all vehicles can operate at their present level of service. It should be noted that while many of the vehicles are older, they are in good condition, and it is anticipated that with proper maintenance, the vehicles should last for the duration of the plan. Unless vehicles are identified for replacement in our estimates.

**Note:** Detailed inspection reports regarding each asset are appended to this report. Descriptions of each asset are available under the General Description heading contained within each asset report.

## 5.0 Asset Management Strategy

The asset management strategy is a set of planned actions that will allow the Township of Emo to ensure that its assets offer the desired levels of service, for a sustainable cost, while managing risk.

This section summarizes the following:

- Non-infrastructure solutions.
- Maintenance activities.
- Renewal / Rehabilitation activities.
- Replacement activities.
- Disposal activities.
- Expansion activities.

### 5.1 Non-Infrastructure Solutions

Non-infrastructure solutions are actions or policies that can lower costs or extend asset life. The Township of Emo has identified many of these solutions in their official plan which was approved in 2013, and is intended to last for a period of 20 years.

Included in the Basis for the plan is the following:

- The Township of Emo is characterized primarily by rural residential development and agriculturally based activities. The rural character of the Township will be maintained over the lifetime of this Plan.
- Private water and sewage will continue to be the primary source of lot servicing in areas beyond the Village of Emo Settlement Area. As a result, developments that require communal or full municipal services will be only be considered only if the lands are within the Village of Emo Settlement Area and meet the criteria laid out in the official plan. Any application to extend services from an adjacent municipality will be considered only with an amendment to the Official Plan.
- Much of the Township's existing non-residential development occurs in The Village of Emo Settlement Area. This Plan recognizes The Village of Emo Settlement Area as the continued focus of primary economic development in the Township.
- It is assumed that if a development proceeds requiring affected services to be upgraded/improved that needs and associated costs will be included in the approvals required to advance the project and are beyond the scope of this plan.

Additionally, Section 5.1 of the plan indicates a mechanism for demand management, and a mechanism for directing development to limit the burden on existing road assets.

It is recommended that the Township of Emo continue to undertake land use planning, undertake development in accordance with the Official Plan, and continue with the fiscally sound methodology outlined in the Official Plan. Doing so will help manage demand, and ensure that the Township develops in such a way that has a sustainable plan to cover the costs needed to maintain levels of service.

## **5.2 Maintenance Activities**

A detailed list of maintenance activities for each asset is appended to this report. It is recommended that the Township undertake the identified maintenance within the timeframe identified in each asset report.

Some significant maintenance activities that were identified during the inspection process include (these include critical health and safety issues and building code issues):

1. Install rated door and closer in mechanical room, remove stored material in mechanical room & replace battery for emergency lighting in Municipal Office.
2. Install additional guard on entrance stair rail, Provide 1hr f.r.r. at mech. Room, Upgrade door to compressor room, Install handrails on stairs, and remove stored materials from mechanical room at the Curling Club Building.
3. Install rated door & closer for furnace room, Drywall at underside of stairs in storage room & Install smoke/CO detector in furnace /HRV room (Toy Library).
4. Install grab bars in Sports field Building.
5. Install carbon monoxide detector in OPP Residence #21.
6. Install emergency exit signs & carbon monoxide detector in OPP Residence #25.
7. Mount fire extinguisher, install exit and carbon monoxide detector in OPP Residence #31
8. Lower concrete curb at main entrance of Arena.
9. Install door closer on mechanical room door, label electrical panel in hallway near washrooms and install smoke/CO detector in mech. room in OPP building.
10. Install handrails on stairs in Little House.
11. Replace ladder & tighten hand grab at Water Treatment System lift station.

### **5.3 Renewal / Rehabilitation Activities**

A detailed list of maintenance activities for each asset is appended to this report. It is recommended that the Township undertake the identified maintenance within the timeframe identified in each asset report. Renewal / Rehabilitation costs are identified within each asset report.

It should be noted that it is recommended that all roads be rehabilitated as described in the individual asset reports within a period of ten (10) years, as identified. It is recommended that the following roads should be rehabilitated in the present year.

1. George Road
2. O'Neil Road
3. Jewell Road
4. Larson Road

In addition to the above recommendations roads requiring signage such as stop signs, speed limit signs, approaching curve signs, dead end signs etc. should be installed in the present year.

### **5.4 Replacement Activities**

A detailed list of maintenance activities for each asset is appended to this report. It is recommended that the Township undertake the identified maintenance within the timeframe identified in each asset report. When required, replacement costs are identified within each asset report. It is recommended that the Township replace the following assets as identified in the asset reports.

1. Replace wood siding at curling club.
2. Replace wood shakes on pavilion roof.
3. Replace loading dock doors with rollup door at water treatment plant.
4. Replace asphalt surface of tennis court.
5. Replace various fencing posts at sewage lagoon.
6. Replace magnesium meter, pipes and valves, and guide rails at Roy Street Lift Station.
7. Replace switch on pump #1 control panel.
8. Re surface portions of Meadow Street.
9. Replace curb and gutters on Birch Place road.
10. Resurface Canning Lane – Paved.
11. Resurface Jessie Street West.

12. Resurface road on Florence Street – Surface Treated.
13. Replace various sections of sidewalk located on Roy Street – Paved.
14. Re-pave asphalt on Robert Street – Paved.
15. Re-pave Station Street.
16. Re-surface Strachan Drive.
17. Replace 150mmø Watermain DI with new PVC watermain.

## **5.5 Disposal Activities**

It is recommended that the Township dispose of assets in accordance with their procurement policy, if the asset has potential value (e.g. used vehicle, building). Otherwise, the Township should dispose of assets in accordance with environmental regulations as required. Disposal of assets should occur in accordance with the Official Plan.

## **5.6 Expansion Activities**

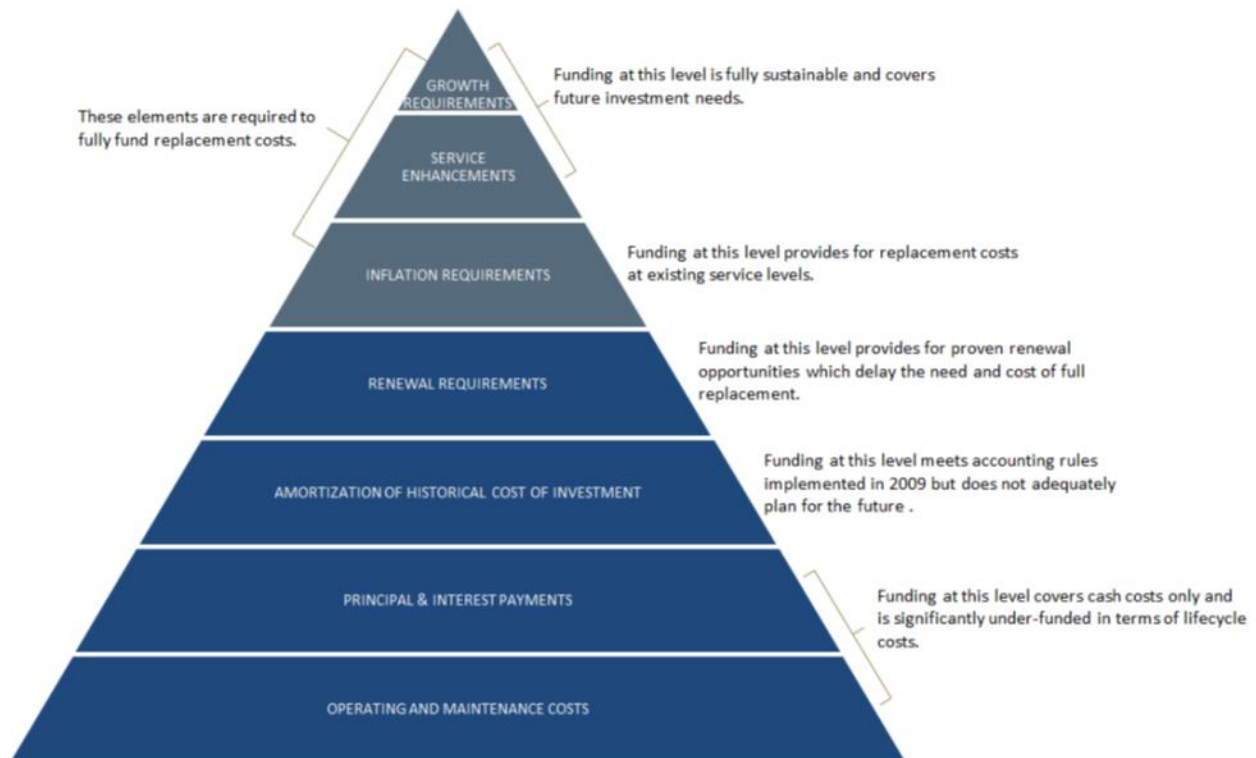
Expansion activities should occur in accordance with the Official Plan, which utilizes a fiscally responsible approach to development focussed on The Village of Emo Settlement Area, which limits financial exposure.

## 6.0 Financial Strategy

### 6.1 General overview of financial plan requirements

In order for an AMP to be effectively put into action, it must be integrated with financial planning and long-term budgeting. The development of a comprehensive financial plan will allow the Township of Emo to identify the financial resources required for sustainable asset management based on existing asset inventories, desired levels of service and projected growth requirements.

The following pyramid depicts the various cost elements and resulting funding levels that should be incorporated into AMP's that are based on best practices.



This report develops such a financial plan by presenting several scenarios for consideration and culminating with final recommendations. As outlined below, the scenarios presented model different combinations of the following components:

- a) The financial requirements for:
  - existing assets
  - existing service levels
  - requirements of contemplated changes in service levels (none identified for this plan)

- requirements of anticipated growth (none identified for this plan)
- b) Use of traditional sources of municipal funds:
- tax levies
  - user fees
  - reserves
  - debt
  - development charges (not applicable)
- c) Use of non-traditional sources of municipal funds:
- reallocated budgets (not required for this AMP)
  - partnerships (not applicable)
  - procurement methods (no changes recommended)
- d) Use of other orders of government funds:
- Federal gas tax
  - grants

If the financial plan component of an AMP results in a funding shortfall, the Province requires the inclusion of a specific plan as to how the impact of the shortfall will be managed. In determining the legitimacy of a funding shortfall, the Province may evaluate a municipality's approach to the following:

- a) In order to reduce financial requirements, consideration has been given to revising service levels downward.
- b) All asset management and financial strategies have been considered. For example:
- If a zero debt policy is in place, is it warranted? If not, the use of debt should be considered.
  - Do user fees reflect the cost of the applicable service? If not, increased user fees should be considered.
  - Our organization recently attended the Ontario Good Roads Association meeting in which both the Premier and Minister of Infrastructure encouraged the carrying of a maximum of 11% debt load by municipalities. This is now considered prudent as it multi-generations. Thus a 10-year plan to finance a bridge would be viewed quite favourably by both Provincial and Federal funding agencies.

This AMP includes recommendations that avoid long-term funding deficits.

## **6.2 Financial information relating to the Township of Emo's AMP**

### **6.2.1 Funding objective**

We have developed scenarios that would enable the Township of Emo to achieve full funding within 10 years for the following assets:

#### **a) Tax funded assets – Road network; Water and Wastewater; Facilities; Equipment and Other**

For each scenario developed we have included strategies, where applicable, regarding the use of tax revenues, grant revenues, reserves and debt financing. It should be noted that in developing these scenarios it was projected that the percentage of total taxation revenue allocated to capital projects will remain consistent with prior year's allocations. In years prior to 2016 approximately 28% of total taxation revenue was allocated to capital projects and this was the percentage that was used for all projected taxation revenue dedicated to capital throughout this financial plan. It should be noted that the level of taxation revenue that the Township is able to dedicate to capital is quite exceptional as, for example, the City of Thunder Bay is only able to allocate approximately 10% of its budget to capital.

## **6.3 Tax funded assets**

### **6.3.1 Current funding position**

Tables 1 and 2 outline, by asset category, the Township of Emo's annual asset investment requirements, projected funding positions and funding changes projected and required to achieve full funding on assets funded by taxes.

**Table 1: Summaries of Projected Annual Infrastructure Requirements and Projected Annual Funding**

**2016 Summary of Projected Annual Infrastructure Requirements and Projected Annual Funding**

<b>2016 Projected Annual Funding Available</b>						
<b>Asset Category</b>	<b>Projected 2016 Investment Required</b>	<b>Taxes</b>	<b>Gas Tax</b>	<b>Other</b>	<b>Total</b>	<b>2016 Projected Annual Surplus</b>
Roads	\$579,517	\$132,926	\$72,504	\$ -	\$209,430	\$(370,087)
Water & Wastewater	\$126,100	\$126,100	\$ -	\$ -	\$126,100	\$ -
Facilities	\$89,905	\$89,905	\$ -	\$ -	\$89,905	\$ -
Equipment	\$34,250	\$34,250	\$ -	\$ -	\$34,250	\$ -
Other	\$15,000	\$15,000	\$ -	\$ -	\$15,000	\$ -
<b>Total</b>	<b>\$844,772</b>	<b>\$402,181</b>	<b>\$72,504</b>	<b>\$ -</b>	<b>\$474,685</b>	<b>\$(370,087)</b>

**Years 1 to 5 Summary of Projected Annual Infrastructure Requirements and Projected Annual Funding**

<b>Year 1 to 5 Projected Annual Funding Available</b>						
<b>Asset Category</b>	<b>Projected Year 1 - 5 Investment Required</b>	<b>Taxes</b>	<b>Gas Tax</b>	<b>Other</b>	<b>Total</b>	<b>Year 1 - 5 Projected Annual Deficit</b>
Roads	\$107,387	\$144,727	\$72,504	\$ -	\$217,231	\$109,844
Water & Wastewater	\$250,000	\$130,000	\$ -	\$ 60,000	\$190,000	\$ (60,000)
Facilities	\$118,998	\$118,998	\$ -	\$ -	\$118,998	\$ -
Equipment	\$25,000	\$25,000	\$ -	\$ -	\$25,000	\$ -
Other	\$15,000	\$15,000	\$ -	\$ -	\$15,000	\$ -
<b>Total</b>	<b>\$516,385</b>	<b>\$433,725</b>	<b>\$72,504</b>	<b>\$ 60,000</b>	<b>\$566,229</b>	<b>\$49,844</b>

**Years 6 to 10 Summary of Projected Annual Infrastructure Requirements and Projected Annual Funding**

Asset Category	Year 6 to 10 Projected Annual Funding Available					Year 6 - 10 Projected Annual Surplus
	Projected Year 6 - 10 Investment Required	Taxes	Gas Tax	Other	Total	
Roads	\$204,334	\$354,671	\$72,504	\$ -	\$298,658	\$94,324
Water & Wastewater	\$122,000	\$122,000	\$ -	\$ -	\$122,000	\$ -
Facilities	\$85,000	\$85,000	\$ -	\$ -	\$85,000	\$ -
Equipment	\$25,000	\$25,000	\$ -	\$ -	\$25,000	\$ -
Other	\$15,000	\$15,000	\$ -	\$ -	\$15,000	\$ -
<b>Total</b>	<b>\$451,334</b>	<b>\$473,154</b>	<b>\$72,504</b>	<b>\$ -</b>	<b>\$545,658</b>	<b>\$94,324</b>

**6.3.2. Recommendations for full funding**

The annual investment requirement for roads, water/wastewater facilities and equipment and the annual revenue allocated to these assets are:

**Table 2: Summary of Annual Investment Requirements and Annual Revenue Allocated**

	Annual Investment Requirement	Annual Revenue Allocated	Annual Surplus (Deficit)
<i>2016</i>	\$844,772	\$474,685	\$(370,087)
<i>Years 1 to 5</i>	\$516,385	\$566,229	\$49,844
<i>Years 6 to 10</i>	\$451,334	\$545,658	\$94,324

Therefore, the cumulative annual surplus for capital investments is projected to be \$350,753 over the next 10 years. These infrastructure categories are projected to be funded via taxation revenue and Gas Tax funding at 75% of the townships long-term requirements assuming no additional capital spending other than the maintenance costs projected.

The Township of Emo budgeted for annual tax revenues of \$1,398,403 in 2015. Planned funding would require an increase in tax revenue corresponding to the projected annual inflation rate.

We recommend that over the next 10 years an annual tax increase corresponding to the annual inflation rate be implemented in order to achieve the required total tax revenue.

This involves full funding being achieved over 10 years by:

- a) Increasing tax revenues by the annual inflation rate each year for the next 10 years solely for the purpose of full funding to the 5 asset categories covered by this AMP.
- b) Allocating 100% of the gas tax revenue (currently \$72,504) to the roads category.

- c) Applying for grant funding as required.
- d) Allocating reserve funds to the five asset categories as outlined below.
- e) Utilizing debt financing as required as outlined below.

It should be noted that several major capital outlays will be required in the next 5 years in order to achieve all of the requirements outlined in the AMP. These major capital items consist of:

- a) The Water Treatment System requires \$628,100 in improvements which include a new line and utility locator.
- b) Canning Lake Road will require repaving of \$66,150
- c) Emo Road will require repaving of \$125,000
- d) Jewell Road will require upgrading of \$160,000
- e) Meadow Street will require upgrading of \$103,000
- f) O'Neill Road will require upgrading of \$200,900

In performing our projections these expenditures were not assigned to any particular year within the next 5 years. Instead these expenditures were projected in equal annual amounts throughout the next 5 years as it was not possible for us to project specifically which year the Township will perform these major repairs. This method ensures that all of the expenditures are recorded within the projections however it does fail to indicate that these large expenditures will not be incurred in smaller annual amounts but will instead be incurred in larger less reliable expenditure amounts. The overall affect by the end of the 5 year and 10 year projections will be the same however the actual expenditures will not be incurred as smoothly as these projections indicate.

Although this option achieves full funding on an annual basis in 10 years and provides financial sustainability over the period modeled (to 2050), the recommendations do require prioritizing capital projects to fit the resulting annual funding available. Prioritizing these and future projects will require the age based data to be replaced by condition based data.

## **6.4 Use of Grant Funding**

### **6.4.1 Grant funding**

For the purposes of the Township's financial plan we have accounted for three possible scenarios pertaining to possible grant funding for the Water Treatment Plant improvements. As indicated in the report a new line and utility locator is recommended to be installed in the Water Treatment Facility within the next 5 years at an estimated total cost of \$600,000. Given the costs projected for rehabilitation of the Township's various other assets over the 1 to 5 year period we project that the township would be able to fund the Water Treatment Plant upgrades through taxation revenue and reserves alone however these costs could cause a strain on the financial wellbeing of the Township in the next 5 to 10 years. Table 3 indicates scenarios regarding grant funding for the improvements to the Water Treatment Plant.

**Table 3: Years 1 to 5 Grant Funding Scenarios**

**Primarily Grant Funded Scenario**

	<b>Investment Required</b>	<b>Grant Funding</b>	<b>Debt Financing</b>	<b>Taxation Revenue</b>	<b>Surplus (Deficit)</b>
Water Treatment Plant Upgrades	\$600,000	\$600,000	\$ -	\$ -	\$ -

**Primarily Debt Financed Scenario**

	<b>Investment Required</b>	<b>Grant Funding</b>	<b>Debt Financing</b>	<b>Taxation Revenue</b>	<b>Surplus (Deficit)</b>
Water Treatment Plant Upgrades	\$600,000	\$ -	\$600,000	\$ -	\$ -

**Grant Funded and Debt Financed Scenario**

	<b>Investment Required</b>	<b>Grant Funding</b>	<b>Debt Financing</b>	<b>Taxation Revenue</b>	<b>Surplus (Deficit)</b>
Water Treatment Plant Upgrades	\$600,000	\$300,000	\$300,000	\$ -	\$ -

It should be noted that if the Township is unable to receive grant funding for 100% of the Water Treatment Plant upgrades debt financing could be required to complete the funding of the project. In the “Use of Debt” section below we outline potential financing costs related to any debt financing required as part of this financial plan.

**6.4.2 Recommendation**

In our opinion, the most beneficial scenario for the Township would be to have the Water Treatment Plant upgrades be 100% grant funded, however we also believe this is the least likely scenario given the provincial and federal government’s history of requiring municipalities to participate as partners in major capital projects.

In our opinion the most likely scenario would be that the Township is able to find grant funding for a portion of the bridge replacement project sometime within the 1 to 5 year period, in this case we assume the project is 50% grant funded and 50% debt financed obviously the portions grant funded as compared to financed may vary from these estimates. Possible funding sources for the project would be Canada-Ontario Municipal Rural Infrastructure Fund (COMRIF) or the Small Rural & Northern Municipal Infrastructure Fund.

There is also the possibility that the Township is unable to locate grant funding for the Water Treatment Plant upgrades and is required to 100% finance the project. We believe that the

Township would have minimal trouble 100% financing the project given the Township’s strong historical financial data and the data included indicating that tax revenues will be earned to repay any debt incurred within the next 10 years. Obviously, the negative consequences of fully financing the project would be that the Township would incur significantly more financing costs than if the project was partially or fully grant funded.

## 6.5 Use of debt

### 6.5.1 Use of debt

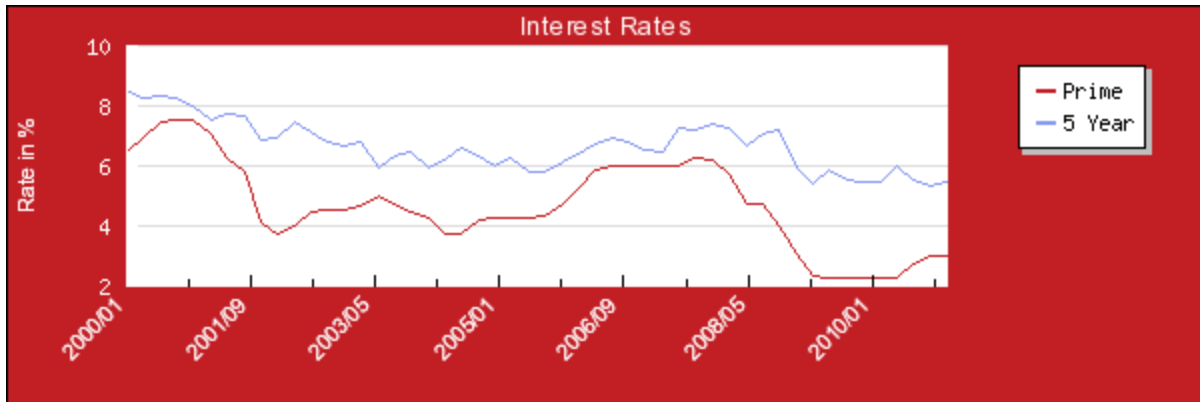
For reference purposes, table 4 outlines the premium paid on a project if financed by debt. For example, a \$1M project financed at 3.0% over 15 years would result in a 26% premium or \$260,000 of increased costs due to interest payments. For simplicity, the table does not take into account the time value of money or the effect of inflation on delayed projects.

**Table 4: Total Interest Paid as a % of Project Costs**

Interest Rate	Number of Years Financed					
	5	10	15	20	25	30
7.0%	22%	42%	65%	89%	115%	142%
6.5%	20%	39%	60%	82%	105%	130%
6.0%	19%	36%	54%	74%	96%	118%
5.5%	17%	33%	49%	67%	86%	106%
5.0%	15%	30%	45%	60%	77%	95%
4.5%	14%	26%	40%	54%	69%	84%
4.0%	12%	23%	35%	47%	60%	73%
3.5%	11%	20%	30%	41%	52%	63%
3.0%	9%	17%	26%	34%	44%	53%
2.5%	8%	14%	21%	28%	36%	43%
2.0%	6%	11%	17%	22%	28%	34%
1.5%	5%	8%	12%	16%	21%	25%
1.0%	3%	6%	8%	11%	14%	16%
0.5%	2%	3%	4%	5%	7%	8%
0.0%	0%	0%	0%	0%	0%	0%

It should be noted that current interest rates are near all-time lows. Sustainable funding models that include debt need to incorporate the risk of rising interest rates. The following graph shows where historical lending rates have been:

**Table 5: Historical Prime Lending Rates**



As illustrated in table 4, a change in 15 year rates from 3% to 6% would change the premium from 26% to 54%. Such a change would have a significant impact on a financial plan.

Historically, the Township of Emo has used debt financing minimally for capital projects and as of the 2015 fiscal year the Township has minimal outstanding debt. As illustrated in this plan Emo could be required to finance a portion of the investment requirements under the asset management plan. Table 6 outlines projected financing costs resulting from various funding scenarios related to financing of the Water Treatment Plant upgrades:

**Table 6: Planned Debt Financing**

Principal	Term	Interest Rate	Monthly Payment	Financing Costs
\$300,000	10 years	3%	\$2,897	\$47,619
\$300,000	10 years	6%	\$3,331	\$99,674
\$300,000	20 years	3%	\$1,664	\$99,310
\$300,000	20 years	6%	\$2,149	\$215,830
\$600,000	10 years	3%	\$5,794	\$95,237
\$600,000	10 years	6%	\$6,661	\$199,349
\$600,000	20 years	3%	\$3,328	\$198,621
\$600,000	20 years	6%	\$4,299	\$431,661

As indicated above ideally Emo should be able to receive grant funding for at least 50% of the Water Treatment Plant upgrades and could then finance only 50% of the project. If this were the case the financing costs for the project would be kept to a minimum. The financing for the project could be kept to shorter term and the monthly payments would not be overly cumbersome under the Township’s budget.

### **6.5.2 Recommendation**

Our recommendation is that if the project is grant funded approximately 50% that Emo obtain financing for at most a 10 year term in order to minimize the debt financing costs. Should Emo be required to fully finance the project it would be overall most beneficial to the Township to try to keep the term loan at a maximum of 10 years in order to minimize financing costs however given how cumbersome to the annual budget the size of the monthly payment might become we would suggest that the Township review its budget to ensure that the monthly financing payments are not overly cumbersome.

By utilizing debt funding for this project the Township will be able to avoid a massive reduction to the Township's reserve funds over the next 10 years and will be able to better manage its cash flows.

Given the fact that the other orders or government are supporting the practice of municipalities using debt to finance major capital projects, as outlined earlier, this use of debt by Emo would likely assist with future funding applications.

## **6.6 Use of Reserves**

### **6.6.1 Available reserves**

Reserves play a critical role in long-term financial planning. The benefits of having reserves available for infrastructure planning include:

- the ability to stabilize tax rates when dealing with variable and sometimes uncontrollable factors
- financing one-time or short-term investments
- accumulating the funding for significant future infrastructure investments
- managing the use of debt
- normalizing infrastructure funding requirements

By reserve type, table 7 outlines the details of the reserves available to the Township of Emo budgeted for 2015.

**Table 7: Summary of Reserves Available**

<b>Reserve Type</b>	<b>Balance</b>
<u>Reserve Funds</u>	
Capital	\$1,014,609
<u>Deferred Revenue</u>	
Gas Tax	\$45,479

There is considerable debate in the municipal sector as to the appropriate level of reserves that a municipality should have on hand. There is no clear guideline that has gained wide acceptance. Factors that municipalities should take into account when determining their capital reserve requirements include:

- breadth of services provided
- age and condition of infrastructure
- use and level of debt
- economic conditions and outlook
- internal reserve and debt policies

We are projecting that in order to fund the major capital expenditures in the roads sector the Township will be required to utilize \$370,087 of its capital reserves in 2016 in order to ensure that the roads maintenance deficit is properly funded.

#### **6.6.4 Recommendation**

Under the plan the Township of Emo will be required to use and contribute to reserve funds as necessary in order to implement the financial plan required to fund the AMP outlined. It is possible the Township of Emo could utilize reserves instead of debt to fund the Water Treatment Plant upgrades required by the AMP however this might result in a significant reduction of the Township of Emo's reserves for a 5 to 10 year period a tax revenues are collected to replenish the reserve funds. If possible it would be most beneficial to avoid such a reduction of reserves and to utilize grant funding a debt options to fund the Water Treatment Plant upgrades.

## 6.7 Summary of Financial Plan

Table 10 illustrates the expected annual capital investments, revenues, reserve allocations and debt financing required under the recommended financial plan.

**Table 10: Summary of Annual Capital Transactions Under the Financial Plan**

### Summary of 2016 Capital Transactions Under the Financial Plan

Asset Category	2016 Annual Investment Required	2016 Projected Taxation Revenue	2016 Projected Gas Tax	2016 Projected Grant Revenue	2016 Surplus (Deficit)	2016 Projected Reserve Allocations	2016 Debt Financing	2016 Adjusted Surplus (Deficit)
Roads	\$579,517	\$136,926	\$72,504	\$ -	\$(370,087)	\$(370,087)	\$ -	\$-
Water & Wastewater	\$126,100	\$126,100	\$ -	\$ -	\$ -	\$-	\$ -	\$ -
Facilities	\$89,905	\$89,905	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Equipment	\$34,250	\$34,250	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other	\$15,000	\$15,000						
<b>Total</b>	<b>\$844,772</b>	<b>\$402,181</b>	<b>\$72,504</b>	<b>\$ -</b>	<b>\$(370,087)</b>	<b>\$370,087</b>	<b>\$ -</b>	<b>\$-</b>

### Summary of Year 1 to 5 Annual Capital Transactions Under the Financial Plan

Asset Category	Year 1 - 5 Annual Investment Required	Year 1 - 5 Projected Annual Taxation Revenue	Year 1 - 5 Projected Annual Gas Tax	Year 1 - 5 Projected Annual Grant Revenue	Year 1 - 5 Annual Surplus (Deficit)	Year 1 - 5 Projected Annual Reserve Allocations	Year 1 - 5 Annual Debt Financing	Year 1 - 5 Adjusted Annual Surplus (Deficit)
Roads	\$107,387	\$144,727	\$72,504	\$ -	\$109,844	\$109,844	\$ -	\$ -
Water & Wastewater	\$250,000	\$130,000	\$ -	\$60,000	\$(60,000)	\$ -	\$60,000	\$ -
Facilities	\$118,998	\$118,998	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Equipment	\$25,000	\$25,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other	\$15,000	\$15,000	\$ -	\$ -				
<b>Total</b>	<b>\$516,385</b>	<b>\$433,725</b>	<b>\$72,504</b>	<b>\$60,000</b>	<b>\$49,844</b>	<b>\$109,844</b>	<b>\$60,000</b>	<b>\$ -</b>

## Summary of Year 6 to 10 Annual Capital Transactions Under the Financial Plan

Asset Category	Year 6 - 10 Annual Investment Required	Year 6 - 10 Projected Annual Taxation Revenue	Year 6 - 10 Projected Annual Gas Tax	Year 6 - 10 Projected Annual Grant Revenue	Year 6 - 10 Annual Surplus (Deficit)	Year 6 - 10 Projected Annual Reserve Allocations	Year 6 - 10 Annual Debt Financing	Year 6 - 10 Adjusted Annual Surplus (Deficit)
Roads	\$204,334	\$226,154	\$72,504	\$ -	\$94,324	\$94,324	\$ -	\$ -
Water & Wastewater	\$122,000	\$122,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Facilities	\$85,000	\$85,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Equipment	\$25,000	\$25,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other	\$15,000	\$15,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total</b>	<b>\$451,334</b>	<b>\$473,154</b>	<b>\$72,504</b>	<b>\$ -</b>	<b>\$94,324</b>	<b>\$94,324</b>	<b>\$ -</b>	<b>\$ -</b>

The financial plan will result in the Township of Emo annually increasing its tax rate at a rate equal to the annual inflation rate. It is assumed that Gas Tax revenue will remain constant at \$72,504 over the next 10 years as there is no indication from the information reviewed that these revenues will significantly increase. We are assuming that the Township of Emo will be able to qualify for grant revenue in the amount of \$300,000 during the years 1 to 5 periods to assist in financing a Water Treatment Facility upgrade. We are also recommending debt financing be utilized to make up the difference between the grant funding received and the investment required for the recommended Water Treatment Plant upgrade. Finally, we are recommending the usage of reserve funds as necessary and the buildup of reserves where possible. Of course, it is possible that the township could use some of the funds that the plan has designated to increase reserve balances in order to assist in payments of the debt financing's principal.

It should be noted that in preparing this financial plan several projections and estimates were required and it is possible that actual future results could differ materially from the projections and estimates that were utilized in preparing the above financial plan.