



Township of Billings

ASSET MANAGEMENT PLAN

December 2013



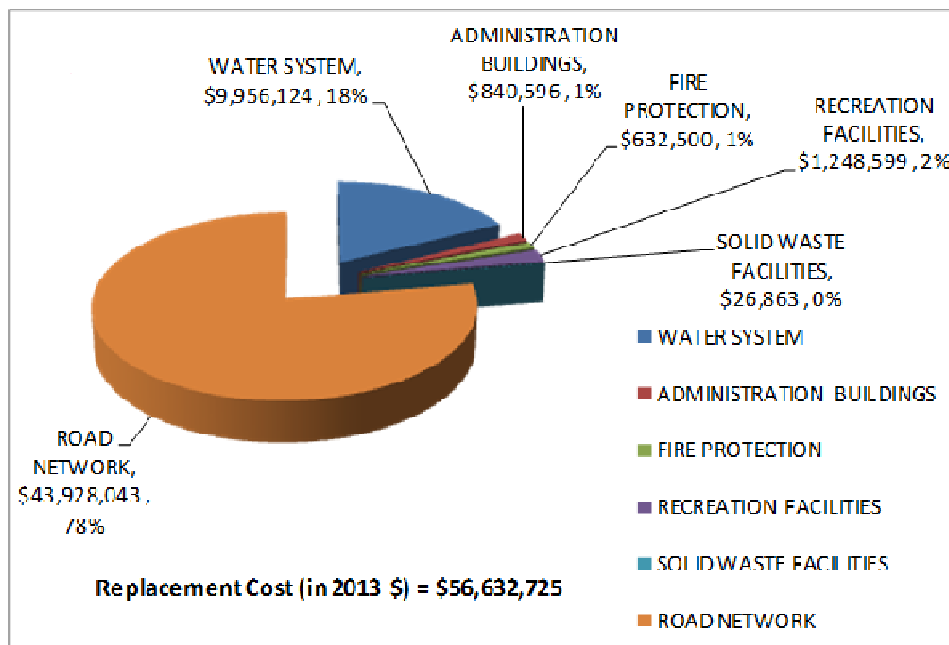
DFA Infrastructure International Inc.

Executive Summary

ES1 Background

The Township of Billings is responsible for providing a range of services to its community. These services support the local life style and economy and rely on the performance of the respective assets to deliver the required levels of service. The asset classes covered by this Asset Management Plan (AMP) and their respective replacement values are included in Figure ES-1.

Figure ES-1: Replacement Cost Valuation of Assets (in 2013 Dollars)



ES2 State of Infrastructure Report

The asset condition is rated as: *good, fair and poor*. Table ES-1 summarizes the asset condition for each asset class and shows the replacement cost in each condition category. In terms of replacement cost, the majority (70%) of the assets valued at approximately \$39.5 Million are in

good condition, \$2.9 Million (5%) of the assets are in fair condition and \$14.2 Million (25%) in poor condition. The condition by asset class is summarized as follows:

- Water System – Generally good condition except for the membrane filter at the treatment plant which is in fair to poor. Operations personnel have indicated that there are major challenges with the existing filter and increased risks related to water production. The filter replacement is critical to sustaining the water supply and is estimated to be approximately \$1.7 million;
- Administration Facilities – Generally good condition except for the Municipal Office which is considered to be in poor condition based on its age. Information from staff indicates that the roof is leaking and in need of replacement;
- Fire Protection Assets – The assets are generally in good condition;
- Recreation Facilities – Most assets are in good condition. One (1) building – the Spot is in poor condition. Information from staff indicates that the upper floor of the Spot was deemed to be unsafe for occupancy. A condition assessment is being undertaken to determine the extent of disrepair and the scope of rehabilitation work required. The equipment valued at approximately \$76,000 is in fair condition;
- Solid Waste Facilities – Generally in good condition except for the garbage truck which is considered to be in poor condition based on its age; and
- Road Network – The road base, culverts and bridges are in generally good condition. However 63 km (65%) of the road surfaces valued at approximately \$13.1 Million are in poor condition. Two (2) of the 8 vehicle and equipment units valued at approximately \$175,000 are in fair to poor condition. One or more components (i.e. electrical, mechanical, structural, roof) valued at approximately \$375,000 at 1 facility is also in poor condition.

Table ES-1: Asset Condition by Replacement Value

Asset	Condition Rating			Total
	Good	Fair	Poor	
Watermains	\$ 3,702,413	\$ -	\$ -	\$ 3,702,413
Service Connections	\$ 278,480	\$ -	\$ -	\$ 278,480
Hydrants	\$ 45,892	\$ -	\$ -	\$ 45,892
Water Facilities	\$ 4,229,338	\$ 1,700,000	\$ -	\$ 5,929,338
Total Water System	\$ 8,256,124	\$ 1,700,000	\$ -	\$ 9,956,124
Percentage (%)	83%	17%	0%	100%
Administration Facilities	\$ 256,517	\$ -	\$ 584,079	\$ 840,596
Total Administration Network	\$ 256,517	\$ -	\$ 584,079	\$ 840,596
Percentage (%)	31%	0%	69%	100%
Fire Facilities	\$ 378,513	\$ -	\$ -	\$ 378,513
Fire Vehicles and Equipment	\$ 253,987	\$ -	\$ -	\$ 253,987
Total Fire Protection Network	\$ 632,500	\$ -	\$ -	\$ 632,500
Percentage (%)	100%	0%	0%	100%
Recreation Facilities	\$ 1,016,445	\$ -	\$ 76,524	\$ 1,092,969
Recreation Vehicles and Equipment	\$ 79,679	\$ 75,951	\$ -	\$ 155,630
Total Recreation Network	\$ 1,096,124	\$ 75,951	\$ 76,524	\$ 1,248,599
Percentage (%)	88%	6%	6%	100%
Solid Waste Facilities	\$ 11,836	\$ -	\$ -	\$ 11,836
Solid Waste Vehicles	\$ -	\$ -	\$ 15,027	\$ 15,027
Total Solid Waste Network	\$ 11,836	\$ -	\$ 15,027	\$ 26,863
Percentage (%)	44%	0%	56%	100%
Road Facilities	\$ 834,398	\$ -	\$ 375,479	\$ 1,209,878
Road Vehicles and Equipment	\$ 660,645	\$ 154,036	\$ 20,837	\$ 835,518
Road Base	\$ 18,397,672	\$ -	\$ -	\$ 18,397,672
Road Surface	\$ 4,533,808	\$ 988,449	\$ 13,162,718	\$ 18,684,976
Road Culverts	\$ 3,000,000	\$ -	\$ -	\$ 3,000,000
Road Bridges	\$ 1,800,000	\$ -	\$ -	\$ 1,800,000
Total Road Network	\$ 29,226,523	\$ 1,142,485	\$ 13,559,034	\$ 43,928,043
Percentage (%)	67%	3%	31%	100%
Total Assets	\$ 39,479,625	\$ 2,918,436	\$ 14,234,664	\$ 56,632,725
Percentage (%)	70%	5%	25%	100%

The future infrastructure requirements are summarized in Table ES-2.

Table ES-2: Infrastructure Requirements

Asset	Total Replacement Costs (\$2013)	25 Year Requirement (2013-2037)	%	Requirement Beyond 25 years (>2037)	%
Total Water System	\$ 9,956,124	\$ 2,690,830	14%	\$ 7,265,295	19%
Total Administration Facilities	\$ 840,596	\$ 584,079	3%	\$ 256,517	1%
Total Fire Protection System	\$ 632,500	\$ 253,987	1%	\$ 378,513	1%
Total Recreation Facilities	\$ 1,248,599	\$ 278,404	1%	\$ 970,195	3%
Total Solid Waste System	\$ 26,863	\$ 15,027	0.1%	\$ 11,836	0%
Total Road Network	\$ 43,928,043	\$ 15,464,170	80%	\$ 28,463,873	76%
Total Assets	\$ 56,632,725	\$ 19,286,496	100%	\$ 37,346,229	100%

ES3 Levels of Service

The levels of service related to the assets shall include the targets noted in Table ES-3.

Table ES-3: Level of Service Targets

Service	Desired AMP Standard	Indicator	Target Value
Water Treatment & Distribution	Meeting Regulatory Requirements	Weighted number of days when a Boil Water Advisory issued by the Medical Officer of Health, applicable to a municipal water supply, was in effect	0
	Minimize Service Interruptions	Number of breaks in water mains per 100 km of water distribution pipe in a year	0
Transportation	Maintain Adequate Road Condition	Percentage of Paved-Lane Kilometres where Condition is rated Good to Very Good	89%
	Maintain Adequate Road Condition	Percentage of Bridges and culverts where the condition is rated as good to very good	91%
Recreation	Maintain Adequate Service	Percentage of Facilities where accessibility standards are met	100%
	Maintain Adequate Service	Percentage of Facilities where Condition is rated Good to Very Good	
Fire Protection	Maintain Adequate Service	Percentage of Fire Trucks where Condition is rated Good to Very Good	100%
	Maintain Adequate Service	Percentage of Fire Stations where Condition is rated Good to Very Good	100%
Administrative Services	Minimize Service Interruptions	Number of Days Facilities unable to be used due to failure of one or more asset components	0
	Maintain Adequate Service	Percentage of Facilities where accessibility standards are met	100%
	Maintain Adequate Service	Percentage of Buildings where Condition is rated Good to Very Good	100%
Solid Waste	Maintain Adequate Service	Number of complaints received in a year concerning the collection of garbage and recycled materials per 1,000 households	0
	Maintain Adequate Service	Number of Days Facilities unable to be used due to failure of one or more asset components	0
	Meeting Regulatory Requirements	Number of Leachate Breakouts per year	0

ES4 Preferred Asset Management Strategy

The Township's AMP shall include the following policy statements:

- Developing an asset database to track the inventory of assets and their respective attributes and condition;
- Using age as an indicator of asset condition in the absence of actual condition information;
- Identifying deteriorating asset performance through the normal operations and maintenance functions and flagging these assets for potential future rehabilitation and/ or replacement;
- Undertaking asset condition inspections on specific assets as needed based on age and/or indications of declining asset performance and regulatory requirements, to confirm asset condition;
- Allocating staff and equipment resources to long-term asset management;

- Giving priority to rehabilitation versus replacement to the extent possible in order to reduce costs;
- Allocating budgets on a prioritized basis for asset replacement and/ or rehabilitation while having regard to affordability and risks of delaying required work;
- Working with other municipalities when beneficial to do so in undertaking projects and initiatives;
- Seeking provincial government, federal government and other third party funding as much as possible for asset management projects and activities;
- Funding the respective asset management costs from the respective sources of funding including user rates, taxes, provincial government, federal government and other third party sources; and
- Updating the Asset Management Plan every 5 years as a minimum.

The main components of the preferred strategy include the following:

- A mix of rehabilitation and replacement of assets. Rehabilitation is considered for assets where the risk to the operation and/ or service is acceptable when compared to replacement;
- Addressing the assets that are deemed to be in fair or poor condition as soon as possible;
- Replacing the Water treatment Plant Membrane Filter as a priority due to its criticality and the potential high risk to the water production process;
- Addressing all of the road surface needs in the 25- year period through an annual program over the next 25 years. This approach considers road rehabilitation as the primary activity with replacement as needed based on inspections. Major road replacement is expected to be deferred to future years due to the annual rehabilitation program;
- Undertaking road and bridge inspections in alternate years;
- Undertaking building inspections;
- Rehabilitation of buildings and deferral of replacement; and
- Increasing the tax supported operations budget to allow for one (1) additional maintenance staff person and additional maintenance activities.

ES5 Financial Strategy

The water system costs, including any asset related costs, are recovered through user rates. These are flat fees which are set by the Township each year for water. The annual revenues required over the 25-year period through these rates are presented in Appendix G of the AMP. Table ES-4 summarizes the short-term requirements i.e. for the next 5 years.

Table ES-4: Short-Term Water Rate Revenue Requirements

Water System Financial Projections					
Cost / Revenue Item	2014	2015	2016	2017	2018
Township 5-Year Capital Forecast	\$ 57,938	\$ 13,473	\$ 9,288	\$ 37,029	\$ 1,391
Asset Rehabilitation	\$ -	\$ -	\$ -	\$ -	\$ -
Asset Replacement	\$ 1,751,000	\$ -	\$ -	\$ -	\$ -
<i>Total Capital Requirements</i>	<i>\$ 1,808,938</i>	<i>\$ 13,473</i>	<i>\$ 9,288</i>	<i>\$ 37,029</i>	<i>\$ 1,391</i>
Debt Financing	\$ 1,698,938	\$ -	\$ -	\$ -	\$ -
Capital Reserve Financing	\$ 110,000	\$ 13,473	\$ 9,288	\$ 37,029	\$ 1,391
Other Financing (Grants, third party, etc.)	\$ -	\$ -	\$ -	\$ -	\$ -
<i>Total Capital Financing</i>	<i>\$ 1,808,938</i>	<i>\$ 13,473</i>	<i>\$ 9,288</i>	<i>\$ 37,029</i>	<i>\$ 1,391</i>
Operations & Maintenance	\$ 183,128	\$ 185,261	\$ 188,966	\$ 192,745	\$ 196,600
Transfers to Capital Reserves	\$ 120,000	\$ 29,000	\$ 29,000	\$ 29,000	\$ 29,000
Debt Repayment	\$ -	\$ 209,464	\$ 209,464	\$ 209,464	\$ 209,464
Less Non-Rate Revenues	\$ 3,162	\$ 3,225	\$ 3,290	\$ 3,356	\$ 3,423
<i>Revenue Requirements (from Users)</i>	<i>\$ 299,966</i>	<i>\$ 420,499</i>	<i>\$ 424,140</i>	<i>\$ 427,853</i>	<i>\$ 431,641</i>
Annual Increase (\$)	\$ 94,965	\$ 120,533	\$ 3,641	\$ 3,714	\$ 3,788
Annual Increase (%)	46%	40%	1%	1%	1%

Significant increases in water rate revenue of approximately 46% in 2014 and 40% in 2015 are required mainly to finance the replacement of the failing membrane filter required in 2014. Deferring the replacement would lower the financial impacts. However, because the risk to the water production is high deferring the filter replacement is not recommended. It is recommended that the Township pursue available grant funding to partially offset the cost of the replacement and lower the revenue required from the users through the water rates.

All services provided by the Township except for water system costs, including any asset related costs, are recovered through the annual tax levy. The annual revenues required over the 25-year period through these rates are presented in Appendix G. Table ES-5 summarizes the short-term tax levy requirements i.e. for the next 5 years. The Township currently receives an annual operating grant of approximately \$506,000 from the Province. This funding is expected to be phased out over the next few years and the following assumptions were made related to the grant amounts between 2014 and 2017:

- 2014 – Grant amount of \$486,800;
- 2015 – Grant amount of \$300,000;
- 2016 – Grant amount of \$100,000;
- 2017 and beyond – Grant completely phased out.

Table ES-5: Short-Term Tax Levy Requirements

Tax Supported Services Financial Projections					
Cost / Revenue Item	2014	2015	2016	2017	2018
Township 5-Year Capital Forecast	\$ 239,990	\$ 19,096	\$ 14,205	\$ 20,259	\$ 15,071
Asset Rehabilitation	\$ 460,497	\$ 363,448	\$ 347,034	\$ 357,445	\$ 368,168
Asset Replacement	\$ 36,940	\$ -	\$ -	\$ -	\$ -
<i>Total Capital Requirements</i>	<i>\$ 737,427</i>	<i>\$ 382,545</i>	<i>\$ 361,239</i>	<i>\$ 377,704</i>	<i>\$ 383,239</i>
Debt Financing	\$ 447,427	\$ 363,449	\$ -	\$ -	\$ -
Capital Reserve Financing	\$ 290,000	\$ 19,096	\$ 361,239	\$ 377,704	\$ 383,239
Other Financing (Grants, third party, etc.)	\$ -	\$ -	\$ -	\$ -	\$ -
<i>Total Capital Financing</i>	<i>\$ 737,427</i>	<i>\$ 382,545</i>	<i>\$ 361,239</i>	<i>\$ 377,704</i>	<i>\$ 383,239</i>
Operations & Maintenance	\$ 1,553,726	\$ 1,584,801	\$ 1,616,497	\$ 1,648,827	\$ 1,681,803
Transfers to Capital Reserves	\$ 360,000	\$ 275,000	\$ 220,000	\$ 360,000	\$ 440,000
Debt Repayment	\$ 46,530	\$ 92,956	\$ 137,065	\$ 136,466	\$ 135,169
Less Non-Rate Revenues	\$ 719,688	\$ 537,426	\$ 342,055	\$ 246,776	\$ 251,711
<i>Revenue Requirements (from Users)</i>	<i>\$ 1,240,568</i>	<i>\$ 1,415,330</i>	<i>\$ 1,631,507</i>	<i>\$ 1,898,517</i>	<i>\$ 2,005,260</i>
Annual Increase (\$)	\$ 117,586	\$ 174,762	\$ 216,176	\$ 267,010	\$ 106,744
Annual Increase (%)	10%	14%	15%	16%	6%

Significant increases in the tax levy revenue of 10% to 16% are required between 2014 and 2017. These are due mainly to rehabilitation of buildings in poor condition, the increasing the annual road rehabilitation allocation and phase out of the Provincial grant. Deferral of building rehabilitation is not recommended due to the poor state of some of the facilities and related safety concerns.

It is also recommended that the Township pursue available grant funding to partially offset the cost of rehabilitating the critical buildings and road sections to lower the revenue required from the tax payers though the general tax levy.

ES6 Recommendations

The following are the recommendations:

1. That the Asset Management policy statements noted in Section 2.6 be adopted by the Township;
2. That the levels of service targets presented in Section 3 be adopted by the Township;
3. That the preferred Asset Management Strategy presented in Section 4 be adopted by the Township; and
4. That the Financial Strategy presented in Section 5 be adopted by the Township to support the asset management strategy

Table of Contents

Executive Summary
Table of Contents

1	Introduction	1
1.1	Background	1
2	State of Local Infrastructure	2
2.1	Asset Inventory	2
2.2	Financial Valuation	3
2.2.1	Accounting Valuation	4
2.2.2	Replacement Cost Valuation	4
2.3	Asset Age	5
2.3.1	Water System Age	5
2.3.2	Administration Facilities Age	6
2.3.3	Fire Protection Assets Age	7
2.3.4	Recreation Assets Age	7
2.3.5	Solid Waste Assets Age	7
2.3.6	Roads System Age	8
2.4	Asset Condition	9
2.5	Infrastructure Requirements	10
2.6	Asset Management Policy	11
3	Desired Levels of Service	12
4	Asset Management Strategy	13
4.1	Asset Management Strategy No.1	14
4.2	Asset Management Strategy No.2	14
4.3	Risk Analysis	15
4.4	Preferred Strategy	15
5	Financing Strategy	17
5.1	User Rate Requirements	17
5.2	Tax Levy Requirements	18
6	Recommendations	19
7	References	20

Appendices

Appendix A: Asset Condition

Appendix B: Assumptions

Appendix C: Report Card

Appendix D: Levels of Service

Appendix E: Alternative Asset Management Strategies

Appendix F: 25-Year Financial Projections (Alternative Strategy No.1)

Appendix G: 25-Year Financial Projections (Alternative Strategy No.2)

Appendix H: Risk Analysis

Tables

Table 2-1: Asset Inventory

Table 2-2: Accounting (PSAB) Valuation of Assets

Table 2-3: Water System Age

Table 2-4: Administration Facilities Age

Table 2-5: Fire Protection Assets Age

Table 2-6: Recreation Assets Age

Table 2-7: Solid Waste Facilities Age

Table 2-8: Road Network Age

Table 2-9: Asset Condition by Replacement Value

Table 2-10: Infrastructure Requirements (Next 25 Years & Beyond)

Table 4-1: Comparison of Alternative Strategies

Table 5-1: Short-Term Water Revenue Requirements

Table 5-2: Short-Term Tax Levy Requirements

Figures

Figure 2-1: Replacement Cost Valuation of Assets

1 Introduction

1.1 Background

The Township of Billings (Township) with a population of approximately 550 persons (and approximately 1500 in the summer) is located on the north central part of Manitoulin Island, Ontario which is renowned for its natural environment. It contains several lakes including part of Lake Kagawong and its northern boundary extends along Lake Huron which has a large portion of seasonal homes.

The economy of Billings is driven mainly by the tourism and service industries. Several thousand tourists annually visit the Township and take in the natural beauty of the area. There are souvenir and collectibles shops, eateries, a kayak rental facility, small chocolate and furniture businesses, a boating supply and repair facility, high school, a gas station, an automotive repair shop and several tourist resorts.

The Township responsible for providing fire protection, public works, water, parks and recreation (e.g. marina services), solid waste management, building and planning, and development control services to its community. These services support the local life style and economy and rely on the performance of the respective assets to deliver the required levels of service. The assets related to the following services are included in this Asset Management Plan (AMP):

- Water System Assets (treatment plant, mains, booster stations etc.);
- Administration Buildings (Municipal Office/ Library, Post Office, museum, etc.)
- Fire Protection Assets (vehicles, equipment, etc.)
- Recreational Facilities (marina etc);
- Solid Waste Management System Assets (landfill, building etc.); and
- Road Network Assets (Buildings, road base and surface, vehicles, equipment, bridges, culverts, etc.)

A complete listing of the assets included in the AMP is provided in Table 2-1.

The condition of these assets due to aging and deterioration could have major impact on service delivery if it goes unchecked. Sufficient investments are required to ensure that these assets are maintained, rehabilitated and/or replaced in a timely fashion to ensure that services are delivered at the desired levels. The importance of the assets (i.e. consequence of failure), their respective needs based on existing condition and using appropriate solutions must be considered in determining the most economical asset management strategy. The required investment amounts would be included the future annual operating and capital budgets. The financing of these expenditures through an appropriate financial plan that includes a combination of taxes, user rates, reserves and debt must also be developed to support the asset management strategy having regard to the Township's financial policies and debt capacity.

The purpose of the Asset Management Plan (AMP) is to establish a “road map” for the next 25 years (2013 to 2037) for the Township to assess the condition of its critical assets, identify the maintenance, rehabilitation and replacement needs and finance the work required to ensure that services are maintained at the desired levels.

A 100-year asset renewal outlook is used to capture the full life cycle of the assets when identifying the timing of asset replacement and/or rehabilitation requirements and associated costs. Many of the assets have life expectancies that span decades so a 100-year timeframe will ensure that the complete lifespan of each asset is captured. A 25-year life cycle cost projection as well as the annual amount required over the next 25 years for asset renewal beyond 2037 is included. This is intended to provide the full picture of “what is to come”.

The AMP was developed using the best available information provided by the Township and based on input from senior staff throughout its development.

The AMP presents a schedule for works to be undertaken and is intended to become effective in 2014 based on the schedule and be updated every 5 years to reflect changes to the asset data, Township priorities and financial opportunities over time.

Limitations of the AMP

This AMP is based on using the best information available to the Township and making assumptions using professional judgment to address the gaps. The limitations of this AMP include assumptions made regarding the following for some assets:

- Installation dates where these were not available;
- Allocation of total historical cost of an asset to the various asset components (e.g. structural, electrical, mechanical, roof etc.) due to the different life expectancies of each component;
- Use of age-based condition assessment in the absence of actual condition information;
- Estimates of costs based on professional judgment where cost information was unavailable;
- Timing of asset replacement and/ or rehabilitation within the 100-year period; and
- Debt financing rate and term and other financial rates

2 State of Local Infrastructure

2.1 Asset Inventory

The Township’s asset inventory covered under this Asset Management Plan is summarized in Table 2-1. This asset inventory was developed from the PSAB 3150 TCA data and the 2008 Asset Management Study and refined based on discussions with the Township to ensure as much accuracy as possible. The inventory forms part of the overall Asset Management and Financial Planning Model developed in MS Excel to establish the preferred asset management strategy and related financial strategy for the Township. The inventory includes all of the relevant asset attributes and was segmented by service to facilitate cost recovery from the appropriate funding sources e.g. taxes, user rates etc.

The Township’s ability to achieve and sustain its services at desired levels depends on the performance and condition of the assets related to the respective services. Therefore the timing of asset maintenance, rehabilitation and replacement activities is essential to sustaining performance so that service levels are maintained. It is important to note that the Township does not have a wastewater collection and treatment system.

However, it intends to undertake a cost benefit assessment of providing sanitary sewer services in the future to service mainly the marina and marina expansion buildings (i.e. not a community wide system). This is one of eight sustainability objectives noted in the Township’s Sustainability Plan (2012-2017). The scope, potential assets and related costs for these expansions are were not available and are not considered in the AMP.

Table 2-1: Asset Inventory

Service	Assets	Quantity
Water	Water Mains	9,594 metres
	Water Services	178 connections
	Water Hydrants	11 units
	Water Buildings	3 structures
	Water Land	3.26 acres
Administration	Administration Buildings	2 structures
	Administration Land	65.31 acres
Fire Protection	Fire Protection Buildings	1 structure
	Fire Protection Land	0.28 acres
	Fire Protection Vehicles	2 units
Recreation	Recreation Buildings	6 structures
	Recreation Land	72.62 acres
	Recreation Equipment	3 units
Solid Waste	Solid Waste Buildings	1 structure
	Solid Waste Land	147.18 acres
	Solid Waste Vehicles	1 unit
Road	Road Buildings	3 structures
	Road Land	6.96 acres
	Road Vehicles and Equipment	8 units
	Road Base	97.1 km
	Road Surface	97.1 km
	Road Culverts	300 structures
	Road Bridges	3 structures

2.2 Financial Valuation

Two perspectives of the financial valuation of the Township’s assets are presented below:

- *The Accounting Valuation.* This is based on historical costs and depreciation assumptions over the expected life of the asset; and
- *The Replacement Cost Valuation.* This is based on current industry pricing and inflation to the year of replacement and/ or rehabilitation.

2.2.1 Accounting Valuation

The Accounting Valuation is based on the Township’s PSAB 3150 reporting at December 31, 2012 and assumes straight line depreciation over the useful life of the assets. The valuation of assets by service area is reflected in Table 2-2 which indicates the following:

- The total historical cost of the of all the assets is approximately \$11.5 Million;
- The accumulated depreciation is approximately \$4.5 Million which means that the total asset base (i.e. as a “basket of goods”) is approximately 39% through its life expectancy; and
- The Net Book Value (NBV) of the asset base is approximately \$7.0 Million.

Most asset classes appear to have 60% or more of their expected life remaining with the water system and solid waste facilities being the newest. However, the road network’s is estimated to have only 42% of its expected life remaining and the administration facilities 46%.

Table 2-2: Accounting (PSAB) Valuation of Assets

Asset Class	Historical Cost	Accumulated Amortization	Net Book Value	Remaining Life
WATER SYSTEM	\$ 4,946,625	\$ 1,004,802	\$ 3,941,823	80%
ADMINISTRATION FACILITIES	\$ 315,046	\$ 169,481	\$ 145,565	46%
FIRE PROTECTION ASSETS	\$ 477,089	\$ 145,962	\$ 331,127	69%
RECREATION ASSETS	\$ 800,987	\$ 301,328	\$ 499,660	62%
SOLID WASTE ASSETS	\$ 18,610	\$ 5,526	\$ 13,085	70%
ROAD NETWORK	\$ 4,978,362	\$ 2,867,930	\$ 2,114,019	42%
TOTAL	\$ 11,536,720	\$ 4,495,029	\$ 7,045,277	61%

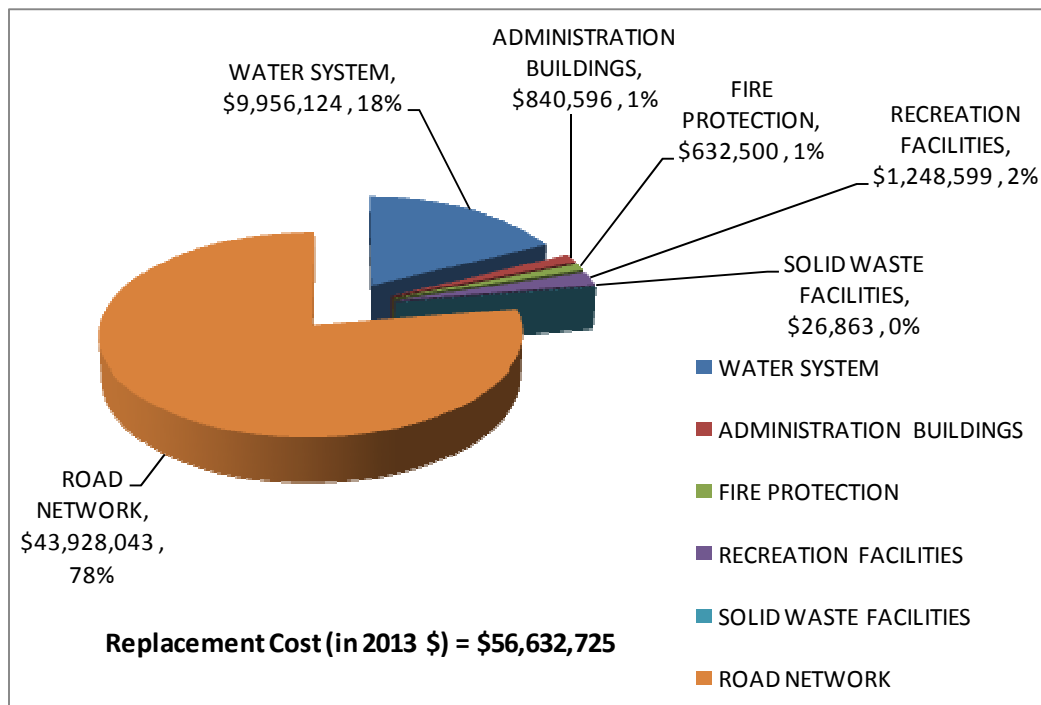
2.2.2 Replacement Cost Valuation

The Replacement Cost Valuation is based on the using a combination of current industry prices for the infrastructure assets and indexing historical costs to current year for vehicles and buildings to reflect the replacement value in 2013 Dollars. The 2013 replacement value is indexed using an annual inflation rate of 2% to the year in which future replacement and/ or rehabilitation work is expected to be undertaken. The useful lives were also adjusted where necessary from those used in the accounting valuation to reflect life expectancies from an engineering perspective.

Figure 2-1 shows the replacement value of the assets by service. The total replacement value of all the assets is estimated to be approximately \$56.6 Million in 2013 dollars. This is the estimated cost that would be incurred if the Township were to replace all of its assets today. The Road Network accounts for most of the value at approximately \$43.9 Million (78% of total assets) followed by the Water System at \$9.9 Million (18%).

This indicates that the replacement cost valuation is approximately seven (7) times higher than the accounting valuation (NBV) of the assets. Therefore the replacement costs valuation, which is a more realistic estimate of real costs that can be expected, is used for asset management planning as the Township looks to the future.

Figure 2-1: Replacement Cost Valuation of Assets (in 2013 Dollars)



2.3 Asset Age

2.3.1 Water System Age

The age of the water system is summarized in Table 2-3. It consists of approximately 9.6 kilometres of water main, 178 service connections, 11 hydrants and 3 facilities including plant and pumping stations.

The pipe system is all PVC ranging in diameter from 50mm to 200 mm. Approximately 1.4 km (15%) is 50 mm, 2.3 km (24%) is 100mm, 3.4 km (35%) is 150mm and 2.1 km (22%) is 200mm. The water system is generally less than 30 years old with only approximately 0.6km of 150mm diameter watermain in the 31-40 year range. This suggests that the water system is generally at 37% of its life expectancy which is projected to be approximately 80 years.

Table 2-3: Water System Age

Age of Water System Assets												
Water System Assets	Age (Years)										Total Length (m) or Units	Percent (%)
	<10	10 to 20	21 to 30	31 to 40	41 to 50	51 to 60	61 to 70	71 to 80	>80	Unknown		
<i>Watermains by Diameter (mm)</i>												
50	0	630	820	0	0	0	0	0	0	0	1450	15.11%
75	0	0	310	0	0	0	0	0	0	0	310	3.23%
100	0	0	2290	0	0	0	0	0	0	0	2290	23.87%
150	0	2140	630	595	0	0	0	0	0	0	3365	35.07%
200	1265	914	0	0	0	0	0	0	0	0	2179	22.71%
Length (m) by Age	1265	3684	4050	595	0	0	0	0	0	0	9594	
Percent (%) by Age	13.19%	38.40%	42.21%	6.20%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		100.00%
<i>Watermains by Material</i>												
PVC	1265	3684	4050	595	0	0	0	0	0	0	9594	100.00%
Length (m) by Age	1265	3684	4050	595	0	0	0	0	0	0	9594	
Percent (%) by Age	13.19%	38.40%	42.21%	6.20%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		100.00%
<i>Water Services</i>												
No. of Units by Age	0	25	153	0	0	0	0	0	0	0	178	
Percent (%) by Age	0.00%	14.04%	85.96%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		100.00%
<i>Hydrants</i>												
No. of Units by Age	0	0	11	0	0	0	0	0	0	0	11	
Percent (%) by Age	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		100.00%
<i>Water Facilities</i>												
No. of Facilities by Age	2	1	0	0	0	0	0	0	0	0	3	
Percent (%) by Age	66.67%	33.33%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		100.00%

2.3.2 Administration Facilities Age

The age of the administration facilities is summarized in Table 2-4. One (1) facility is in the 21 to 30 year range and the other facility (Municipal Office) is well over 80 years old. This indicates that the Municipal Office has already exceeded its useful life expectancy and would likely require major repairs.

Table 2-4: Administration Facilities Age

Age of Administration Assets												
Administration Assets	Age (Years)										Total Length (m) or Units	Percent (%)
	<10	10 to 20	21 to 30	31 to 40	41 to 50	51 to 60	61 to 70	71 to 80	>80	Unknown		
<i>Administration Facilities</i>												
No. of Facilities by Age	0	0	1	0	0	0	0	0	0	1	0	2
Percent (%) by Age	0.00%	0.00%	50.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	50.00%	0.00%	100.00%

2.3.3 Fire Protection Assets Age

The age of the fire protection assets are summarized in Table 2-5. The fire hall facility is approximately 31-40 years old. The two (2) vehicles are less than 10 years old with one being relatively new.

Table 2-5: Fire Protection Assets Age

Age of Fire Protection Assets												
Fire Protection Assets	Age (Years)										Total Length (m) or Units	Percent (%)
	<10	10 to 20	21 to 30	31 to 40	41 to 50	51 to 60	61 to 70	71 to 80	>80	Unknown		
<i>Fire Protection Facilities</i>												
No. of Facilities by Age	0	0	0	1	0	0	0	0	0	0	1	
Percent (%) by Age	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		100.00%
<i>Fire Protection Vehicles</i>												
No. of Units by Age	2	0	0	0	0	0	0	0	0	0	2	
Percent (%) by Age	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		100.00%

2.3.4 Recreation Assets Age

The age of the recreation facilities and equipment is summarized in Table 2-6. Seven (7) facilities are less than 40 years old. One (1) building (Log Museum) is over 80 years old but is in good condition. The equipment is generally less than 10 years old. The berthing facilities (listed as equipment) are 21-30 years old.

Table 2-6: Recreation Assets Age

Age of Recreation Assets												
Recreation Assets	Age (Years)										Total Length (m) or Units	Percent (%)
	<10	10 to 20	21 to 30	31 to 40	41 to 50	51 to 60	61 to 70	71 to 80	>80	Unknown		
<i>Recreation Facilities</i>												
No. of Facilities by Age	1	1	1	4	0	0	0	0	1	0	8	
Percent (%) by Age	12.50%	12.50%	12.50%	50.00%	0.00%	0.00%	0.00%	0.00%	12.50%	0.00%		100.00%
<i>Equipment</i>												
No. of Units by Age	2	0	1	0	0	0	0	0	0	0	3	
Percent (%) by Age	66.67%	0.00%	33.33%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		100.00%

2.3.5 Solid Waste Assets Age

The age of the solid waste facilities and vehicles is summarized in Table 2-7. There is 1 facility which is between 10 and 20 years old and 1 vehicle which is 21 to 30 years old.

Table 2-7: Solid Waste Facilities Age

Age of Solid Waste Assets												
Solid Waste Assets	Age (Years)										Total Length (m) or Units	Percent (%)
	<10	10 to 20	21 to 30	31 to 40	41 to 50	51 to 60	61 to 70	71 to 80	>80	Unknown		
<i>Solid Waste Facilities</i>												
No. of Facilities by Age	0	1	0	0	0	0	0	0	0	0	1	
Percent (%) by Age	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	
<i>Solid Waste Vehicles</i>												
No. of Units by Age	0	0	1	0	0	0	0	0	0	0	1	
Percent (%) by Age	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	

2.3.6 Roads System Age

The age of the road system is summarized in Table 2-8. It consists of approximately 97 kilometres of dirt, surface treated, asphalt and gravel road, 3 facilities and 8 vehicles and equipment, 300 culverts and 3 bridges.

Approximately 49 km (50%) of the roads is surface treated, 34 km (35%) gravel, 13 km (13%) dirt and 1.3 km (1.3%) asphalt. Most (62km or 64%) of the road surfaces and 69 km (71%) of the road base, are 51 to 60 years old. Almost all the dirt roads (12.2 km), 24.8 km (51%) of the surface treated surfaces and 24.7 km (72%) of the gravel surfaces fall in this age group. The asphalt roads are less than 10 years old. This suggests that many of the road surfaces have exceeded their life expectancy which is projected to be approximately 40 years.

Most of the vehicles and equipment and 2 facilities are less than 20 years old and 1 facility (storage building) greater than 80 years old. All of the culverts are 10 to 20 years old and the bridges less than 10 years old.

Table 2-8: Road Network Age

Age of Road Assets												
Road Assets	Age (Years)										Total Length (km) or Units	Percent (%)
	<10	10 to 20	21 to 30	31 to 40	41 to 50	51 to 60	61 to 70	71 to 80	>80	Unknown		
<i>Road Facilities</i>												
No. of Facilities by Age	0	2	0	0	0	0	0	0	1	0	3	
Percent (%) by Age	0.00%	66.67%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	33.33%	0.00%	100.00%	
<i>Road Vehicles and Equipment</i>												
No. of Units by Age	5	3	0	0	0	0	0	0	0	0	8	
Percent (%) by Age	62.50%	37.50%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	
<i>Road Base</i>												
Length (km) by Age	8	0	0	13	7	69	0	0	0	0	97	
Percent (%) by Age	8.03%	0.21%	0.41%	12.87%	7.52%	70.96%	0.00%	0.00%	0.00%	0.00%	100.00%	
<i>Road Surface</i>												
Asphalt	1	0	0	0	0.2	0.1	0	0	0	0	1.3	1.34%
Dirt	0	0	0	0	0.8	12.2	0	0	0	0	13	13.39%
Gravel	0	0.2	0.4	5.9	2.8	24.7	0	0	0	0	34	35.02%
Sur Treat	15.74	0	0	5.8	2.47	24.79	0	0	0	0	48.8	50.26%
Length (km) by Age	17	0	0	12	6	62	0	0	0	0	97	
Percent (%) by Age	17.24%	0.21%	0.41%	12.05%	6.46%	63.64%	0.00%	0.00%	0.00%	0.00%	100.00%	
<i>Culverts</i>												
No. of Units by Age	0	300	0	0	0	0	0	0	0	0	300	
Percent (%) by Age	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	
<i>Bridges</i>												
No. of Units by Age	3	0	0	0	0	0	0	0	0	0	3	
Percent (%) by Age	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	

2.4 Asset Condition

The condition of each asset was determined based on age and adjusted as necessary using the condition assessment information from the 2008 Asset Management Study, discussions with staff to identify any operational issues due to deteriorating asset condition and capital works completed since 2008. The condition of the three (3) bridges was based on the bridge inspection reports completed in 2012.

The asset condition is rated as: *good, fair and poor*. Table 2-9 summarizes the asset condition for each asset class and shows the replacement cost in each condition category. Further breakdown of the condition of each asset class is provided in Appendix A.

In terms of replacement cost, the majority (67%) of the assets valued at approximately \$34.8 Million are in good condition, \$2.9 Million (6%) of the assets are in fair condition and \$14.3 Million (27%) in poor condition. The condition by asset class is summarized as follows:

- Water System – Generally good condition except for the membrane filter at the treatment plant which is in fair to poor. Operations personnel have indicated that there are major challenges with the existing filter and increased risks related to water production. The filter replacement is critical to sustaining the water supply and is estimated to be approximately \$1.7 million;
- Administration Facilities – Generally good condition except for the Municipal Office which is considered to be in poor condition based on its age. Information from staff indicates that the roof is leaking and in need of replacement;
- Fire Protection Assets – The assets are generally in good condition;
- Recreation Facilities – Most assets are in good condition. One (1) building – the Spot is in poor condition. Information from staff indicates that the upper floor of the Spot was deemed to be unsafe for occupancy. A condition assessment is being undertaken to determine the extent of disrepair and the scope of rehabilitation work required. The equipment valued at approximately \$76,000 is in fair condition;
- Solid Waste Facilities – Generally in good condition except for the garbage truck which is considered to be in poor condition based on its age; and
- Road Network – The road base, culverts and bridges are in generally good condition. However 63 km (65%) of the road surfaces valued at approximately \$13.1 Million are in poor condition. Two (2) of the 8 vehicle and equipment units valued at approximately \$175,000 are in fair to poor condition. One or more components (i.e. electrical, mechanical, structural, roof) valued at approximately \$375,000 at 1 facility is also in poor condition.

Table 2-9: Asset Condition by Replacement Value

Asset	Condition Rating			Total
	Good	Fair	Poor	
Watermains	\$ 3,702,413	\$ -	\$ -	\$ 3,702,413
Service Connections	\$ 278,480	\$ -	\$ -	\$ 278,480
Hydrants	\$ 45,892	\$ -	\$ -	\$ 45,892
Water Facilities	\$ 4,229,338	\$ 1,700,000	\$ -	\$ 5,929,338
Total Water System	\$ 8,256,124	\$ 1,700,000	\$ -	\$ 9,956,124
Percentage (%)	83%	17%	0%	100%
Administration Facilities	\$ 256,517	\$ -	\$ 584,079	\$ 840,596
Total Administration Network	\$ 256,517	\$ -	\$ 584,079	\$ 840,596
Percentage (%)	31%	0%	69%	100%
Fire Facilities	\$ 378,513	\$ -	\$ -	\$ 378,513
Fire Vehicles and Equipment	\$ 253,987	\$ -	\$ -	\$ 253,987
Total Fire Protection Network	\$ 632,500	\$ -	\$ -	\$ 632,500
Percentage (%)	100%	0%	0%	100%
Recreation Facilities	\$ 1,016,445	\$ -	\$ 76,524	\$ 1,092,969
Recreation Vehicles and Equipment	\$ 79,679	\$ 75,951	\$ -	\$ 155,630
Total Recreation Network	\$ 1,096,124	\$ 75,951	\$ 76,524	\$ 1,248,599
Percentage (%)	88%	6%	6%	100%
Solid Waste Facilities	\$ 11,836	\$ -	\$ -	\$ 11,836
Solid Waste Vehicles	\$ -	\$ -	\$ 15,027	\$ 15,027
Total Solid Waste Network	\$ 11,836	\$ -	\$ 15,027	\$ 26,863
Percentage (%)	44%	0%	56%	100%
Road Facilities	\$ 834,398	\$ -	\$ 375,479	\$ 1,209,878
Road Vehicles and Equipment	\$ 660,645	\$ 154,036	\$ 20,837	\$ 835,518
Road Base	\$ 18,397,672	\$ -	\$ -	\$ 18,397,672
Road Surface	\$ 4,533,808	\$ 988,449	\$ 13,162,718	\$ 18,684,976
Road Culverts	\$ 3,000,000	\$ -	\$ -	\$ 3,000,000
Road Bridges	\$ 1,800,000	\$ -	\$ -	\$ 1,800,000
Total Road Network	\$ 29,226,523	\$ 1,142,485	\$ 13,559,034	\$ 43,928,043
Percentage (%)	67%	3%	31%	100%
Total Assets	\$ 39,479,625	\$ 2,918,436	\$ 14,234,664	\$ 56,632,725
Percentage (%)	70%	5%	25%	100%

2.5 Infrastructure Requirements

Table 2-10 summarizes the infrastructure needs based on replacement for the study period i.e. 2013 – 2037 and beyond. This reflects the future costs facing the Township over the next 100 years. The assumptions made to develop these costs projections are included in Appendix B.

Approximately \$19.3 Million is required between 2013 and 2037 and \$37.3 Million beyond 2037. The latter amount translates to an annual requirement of approximately \$2.1 Million to ensure that sufficient funds are available for replacement beyond 2037.

Approximately 80% (\$15.5 Million) of the \$19.3 Million requirement over the next 25 years is road related mostly resurfacing. Water accounts for approximately \$2.7 Million (14%) of the requirements. Regarding the needs beyond 2037, Roads account for the majority of costs (76%) estimated at \$28.5 Million. Water accounts for \$7.3 Million (19%).

A Report Card reflecting the asset condition and projected costs is provided in Appendix C.

Table 2-10: Infrastructure Requirements (Next 25 years & Beyond)

Asset	Total Replacement Costs (\$2013)	25 Year Requirement (2013-2037)	%	Requirement Beyond 25 years (>2037)	%	Annual Lifecycle Replacement
Water Services	\$ 3,702,413	\$ -		\$ 3,702,413		\$ 192,683
Water Hydrants	\$ 278,480	\$ -		\$ 278,480		\$ 14,383
Water Buildings	\$ 45,892	\$ -		\$ 45,892		\$ 2,366
Water Land	\$ 5,929,338	\$ 2,690,830		\$ 3,238,509		\$ 167,625
Total Water System	\$ 9,956,124	\$ 2,690,830	14%	\$ 7,265,295	19%	\$ 377,058
Administration Buildings	\$ 840,596	\$ 584,079		\$ 256,517		\$ 15,512
Administration Land	\$ -	\$ -		\$ -		\$ -
Total Administration Facilities	\$ 840,596	\$ 584,079	3%	\$ 256,517	1%	\$ 15,512
Fire Protection Buildings	\$ 378,513	\$ -		\$ 378,513		\$ 23,788
Fire Protection Land	\$ -	\$ -		\$ -		\$ -
Fire Protection Vehicles	\$ 253,987	\$ 253,987		\$ -		\$ -
Total Fire Protection System	\$ 632,500	\$ 253,987	1%	\$ 378,513	1%	\$ 23,788
Recreation Buildings	\$ 1,092,969	\$ 122,774		\$ 970,195		\$ 57,750
Recreation Land	\$ -	\$ -		\$ -		\$ -
Recreation Equipment	\$ 155,630	\$ 155,630		\$ -		\$ -
Total Recreation Facilities	\$ 1,248,599	\$ 278,404	1%	\$ 970,195	3%	\$ 57,750
Solid Waste Buildings	\$ 11,836	\$ -		\$ 11,836		\$ 666
Solid Waste Land	\$ -	\$ -		\$ -		\$ -
Solid Waste Vehicles	\$ 15,027	\$ 15,027		\$ -		\$ -
Total Solid Waste System	\$ 26,863	\$ 15,027	0%	\$ 11,836	0%	\$ 666
Road Buildings	\$ 1,209,878	\$ 375,479		\$ 834,398		\$ 48,871
Road Land	\$ -	\$ -		\$ -		\$ -
Road Vehicles and Equipment	\$ 835,518	\$ 835,518		\$ -		\$ -
Road Base	\$ 18,397,672	\$ -		\$ 18,397,672		\$ 1,101,659
Road Surface	\$ 18,684,976	\$ 14,253,173		\$ 4,431,803		\$ 247,438
Road Culverts	\$ 3,000,000	\$ -		\$ 3,000,000		\$ 174,673
Road Bridges	\$ 1,800,000	\$ -		\$ 1,800,000		\$ 94,442
Total Road Network	\$ 43,928,043	\$ 15,464,170	80%	\$ 28,463,873	76%	\$ 1,667,083
Total Assets	\$ 56,632,725	\$ 19,286,496	100%	\$ 37,346,229	100%	\$ 2,141,858

2.6 Asset Management Policy

The Township's asset management policy with respect to asset data verification and undertaking condition assessments shall include:

- Developing an asset database to track the inventory of assets and their respective attributes and condition;
- Using age as an indicator of asset condition in the absence of actual condition information;
- Identifying deteriorating asset performance through the normal operations and maintenance functions and flagging these assets for potential future rehabilitation and/ or replacement;
- Undertaking asset condition inspections on specific assets as needed based on age and/or indications of declining asset performance and regulatory requirements, to confirm asset condition;
- Allocating staff and equipment resources to long-term asset management;
- Giving priority to rehabilitation versus replacement to the extent possible in order to reduce costs;
- Allocating budgets on a prioritized basis for asset replacement and/ or rehabilitation while having regard to affordability and risks of delaying required work;
- Working with other municipalities when beneficial to do so in undertaking projects and initiatives;
- Seeking provincial government, federal government and other third party funding as much as possible for asset management projects and activities;
- Funding the respective asset management costs from the respective sources of funding including user rates, taxes, provincial government, federal government and other third party sources; and
- Updating the Asset Management Plan every 5 years as a minimum.

3 Desired Levels of Service

The Township's corporate strategic objectives related to service levels and their respective asset classes are not explicitly documented in a strategic plan. However the general objectives of providing services at levels that meet the community expectations and compliance with regulatory requirements are inherent in the Township's current levels of service. In addition, the Township's Sustainability Plan (2012-2017) outlines eight (8) priority areas and related action items. These include the following actions related to asset management which are included in the financial plan:

- Undertaking a cost benefit analysis of providing a sanitary sewer system in the future as part of the Township's Community Improvement Plan;
- Upgrading the Park Centre and improvements to the Marina over a 10 year period (assuming availability of provincial and/ or federal funding) including a new shower house, restaurant and improvements to launch ramps on the inland lakes; and
- Developing a five-year plan for road upgrades and maintenance with the goal of budgeting every year for some improvements to municipal roads.

The Township's By-Law 2004-35 identifies the road maintenance standards (winter maintenance, patrols, etc.) i.e. the desired level of service for each road class. These standards are consistent with requirements of O.Reg. 239/02 which sets the minimum road maintenance service levels in Ontario and represent the desired service levels regarding the road system.

The Municipal Performance Measurement Program (MPMP) 2010 results were also used as the basis for defining the expected service levels for asset classes where MPMP information is available. The target values for the Township are the 2010 median MPMP values for the group of similar municipalities, i.e. northern communities with populations of less than 5,000.

In other cases the desired level of service is identified as the percentage of the asset class that is deemed to be in "good" condition. The initial target is set at 80% for watermains and 100% for buildings and vehicles, recognizing that these targets would be adjusted over time as more detailed asset condition information become available.

Appendix D identifies the Township's level of service by asset class. It shows the performance measure and the target (desired) and current values for each asset class. These service level targets were reviewed and discussed with Township staff prior to finalization. The current annual maintenance budget and staff resources does not allow the Township to meet all of these targets

As noted the target service levels are being met except for the following assets:

- Road Surfaces. Only 31% of road surfaces are in "good" condition compared to the MPMP target of 89%; and
- Administration, Recreation and Water Facilities. Approximately 31%, 88% and 83% based on replacement costs for Administration buildings, Recreation facilities and the Water Treatment System respectively are in "good" condition. The target requires that 100% of facilities be in good condition.

This suggests that higher levels of proactive (as opposed to reactive) road and facility maintenance is required in addition to building rehabilitation works at the Administration and Recreation facilities and replacement of the membrane filter at the water treatment plant.

The timing for achieving these service levels is considered in development of preferred asset management strategy as discussed in Section 4.5.

4 Asset Management Strategy

Two (2) alternative asset management strategies were identified based on a high level qualitative assessment of the potential likelihood and consequence of failure given the current asset condition in each system. The components of each strategy are summarized in Appendix E and generally include the following:

- Asset Management Strategy No.1. This strategy is generally based primarily on replacement of assets as they reach their respective life expectancies but includes maintenance and rehabilitation activities;
- Asset Management Strategy No.2. This strategy is generally based on a combination of inspection, maintenance, rehabilitation and replacement of assets to offer a balanced approach. It focuses on the assets that are a priority from a condition perspective and uses rehabilitation as the primary approach to defer replacement to future years.

In addition each strategy includes the following components:

- *Growth Considerations.* Growth is expected to be through infilling and conversion of seasonal to permanent residential units and accommodated through the existing infrastructure capacity i.e. no infrastructure capacity expansions are anticipated. Therefore the preferred strategy does not attempt to dovetail replacement and/ or rehabilitation work with any infrastructure expansion that may be required in the future if and when a major new development is identified;
- *Procurement.* The Township's policy on group procurement on a case specific basis when there is a potential benefit to be derived would continue;
- *Contracted Water & Wastewater Operations.* The water and wastewater operations are currently outsourced. This allows the Township to access the required expertise, control costs and manage risks. Under the contract the Township is responsible for major capital expenditures and maintenance call outs that exceed the specified allocation in the contract. This arrangement is expected to continue in the future; and
- *Operations and Maintenance.* Increasing the building maintenance budget by \$5,000. The Water Treatment Plant maintenance would remain the same this is covered under the operating contract and the existing budgets are sufficient to cover additional annual maintenance not included in the operations contract.

The life cycle costs of each alternative strategy were developed based on the projected capital, operating and maintenance costs over the life expectancy of each asset using the financial assumptions noted in Appendix B. The operating costs and non-rate revenue projections were based on the 2013 operating budget. The life cycle costs are presented in Appendix F.

4.1 Asset Management Strategy No.1

The main components of this strategy include the following:

- Replacement of assets as a priority over rehabilitation;
- Addressing the assets that are deemed to be in fair or poor condition as soon as possible;
- Replacing the Water treatment Plant Membrane Filter as a priority due to its criticality and the potential high risk to the water production process;
- Addressing the backlog in road surface replacement over a 10-year period;
- Undertaking road and bridge inspections in alternate years;
- Undertaking building inspections;
- Replacement of buildings as their life expectancy expires; and
- Increasing the tax supported operations budget to allow for one (1) additional maintenance staff person and additional maintenance activities.

The type of activity, timing of projects, estimated costs, reserve contributions and balances and available debt capacity over the 25-year period are presented in Appendix F.

4.2 Asset Management Strategy No.2

The main components of this strategy include the following:

- A mix of rehabilitation and replacement of assets. Rehabilitation is considered for assets where the risk to the operation and/ or service is acceptable when compared to replacement;
- Addressing the assets that are deemed to be in fair or poor condition as soon as possible;
- Replacing the Water treatment Plant Membrane Filter as a priority due to its criticality and the potential high risk to the water production process;
- Addressing all of the road surface needs in the 25- year period through an annual program over the next 25 years. This approach considers road rehabilitation as the primary activity with replacement as needed based on inspections. Major road replacement is expected to be deferred to future years due to the annual rehabilitation program;
- Undertaking road and bridge inspections in alternate years;
- Undertaking building inspections;
- Rehabilitation of buildings and deferral of replacement; and
- Increasing the tax supported operations budget to allow for one (1) additional maintenance staff person and additional maintenance activities.

The type of activity, timing of projects, estimated costs, reserve contributions and balances and available debt capacity over the 25-year period are presented in Appendix G.

4.3 Risk Analysis

A high level qualitative risk analysis was undertaken for the alternative strategies. The results are summarized in Appendix H. The risk assessment indicates that Alternative No.1 generally offers lower overall risk as assets would be replaced for the most part versus rehabilitation. However, the combination of replacement and rehabilitation activities included in Alternative No.2 also offers reduced risks to the service delivery. Therefore from a risk perspective both Alternatives No.1 and No.2 offer acceptable risks. Alternative No.2 is preferred due its potential lower cost over the 25-year period and deferral of costs while lowering the risk of asset failure.

4.4 Preferred Strategy

A qualitative comparison of both strategies was completed and Alternative Strategy No.2 was selected as the preferred asset management strategy due mainly to its lower cost over the 25-year period and deferral of costs to beyond 2037. It also lowers the risks of asset failure and related impacts. The comparison is summarized in Table 4-1.

Table 4-1: Comparison of Alternative Strategies

Criteria	Alternative Strategy No.1 - Replacement Based	Alternative Strategy No.2 - Rehabilitation Based
Water System Costs		
Within 25 years (2013-2037)	\$ 2,690,830	\$ 2,690,830
Beyond 25 years (> 2037)	\$ 7,265,295	\$ 7,265,295
Tax Supported Asset Costs		
Within 25 years (2013-2037)	\$ 16,595,667	\$ 9,953,719
Beyond 25 years (> 2037)	\$ 30,080,934	\$ 44,791,462
Total Asset Costs		
Within 25 years (2013-2037)	\$ 19,286,496	\$ 12,644,549
Beyond 25 years (> 2037)	\$ 37,346,229	\$ 52,056,757
	Higher 25- year costs	Lower 25- year costs and deferral of costs to later years
Revenue Requirements for <i>Water Services</i>	Short-term increases in revenue requirements are: 2014 = \$299,966 (46%) 2015 = \$420,499(40%) 2016 = \$424,140 (1%) 2017 = \$427,853 (1%) 2018 = \$431,641 (1%)	Same as Alternative No.1
	NPV of Revenues Required over the 25-year period = \$6,546,022	Same as Alternative No.1
Revenue Requirements for <i>Tax Supported Services</i>	Higher short-term increases in revenue requirements: 2014 = \$1,260,568 (12%) 2015 = \$1,715,959 (36%) 2016 = \$2,165,065 (26%) 2017 = \$2,815,678 (30%) 2018 = \$3,210,446 (14%)	Lower short-term increases in revenue requirements: 2014 = \$1,240,568 (10%) 2015 = \$1,415,330 (14%) 2016 = \$1,631,507(15%) 2017 = \$1,898,517(16%) 2018 = \$2,005,260 (6%)
	Higher NPV of Revenues Required over the 25-year period = \$39,652,944	Lower NPV of Revenues Required over the 25-year period = \$33,207,448
Debt Capacity (5-year)	Lower Available Debt Capacity Range : Between \$47,000 and \$285,000	Higher Available Debt Capacity Range: Between \$156,000 and \$264,000
Water Capital Reserve Balance (5-year)	Range: \$166,000 to \$264,000	Same as Alternative No.1
Tax Supported Services Capital Reserve Balance (5-year)	Lower Available Balance: Range \$388,000 to \$407,000	Higher Available Balance: Range \$412,000 to \$599,000
Safety	Improves asset condition and therefore safety	Improves asset condition and therefore safety
Municipal Image	Improves image as risks to service delivery are lowered	Improves image as risks to service delivery is lowered
Risk	Lower overall risk	Risks are manageable. Allows flexibility over time to target priority assets based on inspections

5 Financing Strategy

The cost of the Preferred Strategy over the 25-year period and the financing of these costs are presented in Appendix G. The financing strategy includes the following key components:

- Capital Projects would be financed through a combination of reserve funds and debt within the available debt limit. The annual debt limit projections are calculated using 25% of the projected net revenues (as a proxy for “own revenues”). Only approved grant funding is considered in the revenue;
- The annual operating costs including debt repayment and reserve contributions would be financed through non-rate revenues and taxes (for tax supported services) or the water rates (for the water system costs);
- The financial assumptions noted in Appendix B;
- Making annual contributions to the respective capital reserves over the period to maintain a minimum balance (to the extent possible) of approximately 1% of the asset value. This, along with the available debt capacity, is intended to provide the financial capacity to address any unforeseen asset needs;
- Building reserves to sufficient levels towards the end of the period so that the Township would be in a reasonable position to address the asset needs beyond 2037 (i.e. without overbuilding the reserves). In addition the financing strategy includes increasing the transfers to reserves to equal (to the extent possible) the “annuity” required for asset replacement beyond 2037;
- Aggressively pursuing grant funding opportunities particularly those that may become available through Provincial and Federal funding programs, to reduce the burden on the rate payers; and
- Annually assessing the Township’s financial position and making adjustments when necessary to maintain the objective of having a sustainable Asset Management Plan.

5.1 User Rate Requirements

The water system costs, including any asset related costs, are recovered through user rates. These are flat fees which are set by the Township each year for water. The annual revenues required over the 25-year period through these rates are presented in Appendix G. Table 5-1 summarizes the short-term requirements i.e. for the next 5 years.

Table 5-1: Short-Term Water Rate Revenue Requirements

Water System Financial Projections					
Cost / Revenue Item	2014	2015	2016	2017	2018
Township 5-Year Capital Forecast	\$ 57,938	\$ 13,473	\$ 9,288	\$ 37,029	\$ 1,391
Asset Rehabilitation	\$ -	\$ -	\$ -	\$ -	\$ -
Asset Replacement	\$ 1,751,000	\$ -	\$ -	\$ -	\$ -
<i>Total Capital Requirements</i>	<i>\$ 1,808,938</i>	<i>\$ 13,473</i>	<i>\$ 9,288</i>	<i>\$ 37,029</i>	<i>\$ 1,391</i>
Debt Financing	\$ 1,698,938	\$ -	\$ -	\$ -	\$ -
Capital Reserve Financing	\$ 110,000	\$ 13,473	\$ 9,288	\$ 37,029	\$ 1,391
Other Financing (Grants, third party, etc.)	\$ -	\$ -	\$ -	\$ -	\$ -
<i>Total Capital Financing</i>	<i>\$ 1,808,938</i>	<i>\$ 13,473</i>	<i>\$ 9,288</i>	<i>\$ 37,029</i>	<i>\$ 1,391</i>
Operations & Maintenance	\$ 183,128	\$ 185,261	\$ 188,966	\$ 192,745	\$ 196,600
Transfers to Capital Reserves	\$ 120,000	\$ 29,000	\$ 29,000	\$ 29,000	\$ 29,000
Debt Repayment	\$ -	\$ 209,464	\$ 209,464	\$ 209,464	\$ 209,464
Less Non-Rate Revenues	\$ 3,162	\$ 3,225	\$ 3,290	\$ 3,356	\$ 3,423
<i>Revenue Requirements (from Users)</i>	<i>\$ 299,966</i>	<i>\$ 420,499</i>	<i>\$ 424,140</i>	<i>\$ 427,853</i>	<i>\$ 431,641</i>
Annual Increase (\$)	\$ 94,965	\$ 120,533	\$ 3,641	\$ 3,714	\$ 3,788
Annual Increase (%)	46%	40%	1%	1%	1%

Significant increases in water rate revenue of approximately 46% in 2014 and 40% in 2015 are required mainly to finance the replacement of the failing membrane filter required in 2014. Deferring the replacement would lower the financial impacts. However, because the risk to the water production is high deferring the filter replacement is not recommended. It is recommended that the Township pursue available grant funding to partially offset the cost of the replacement and lower the revenue required from the users through the water rates.

5.2 Tax Levy Requirements

All services provided by the Township except for water system costs, including any asset related costs, are recovered through the annual tax levy. The annual revenues required over the 25-year period through these rates are presented in Appendix G. Table 5-2 summarizes the short-term tax levy requirements i.e. for the next 5 years. The Township currently receives an annual operating grant of approximately \$506,000 from the Province. This funding is expected to be phased out over the next few years and the following assumptions were made related to the grant amounts between 2014 and 2017:

- 2014 – Grant amount of \$486,800;
- 2015 – Grant amount of \$300,000;
- 2016 – Grant amount of \$100,000;
- 2017 and beyond – Grant completely phased out.

Table 5-1: Short-Term Tax Levy Requirements

Tax Supported Services Financial Projections					
Cost / Revenue Item	2014	2015	2016	2017	2018
Township 5-Year Capital Forecast	\$ 239,990	\$ 19,096	\$ 14,205	\$ 20,259	\$ 15,071
Asset Rehabilitation	\$ 460,497	\$ 363,448	\$ 347,034	\$ 357,445	\$ 368,168
Asset Replacement	\$ 36,940	\$ -	\$ -	\$ -	\$ -
<i>Total Capital Requirements</i>	<i>\$ 737,427</i>	<i>\$ 382,545</i>	<i>\$ 361,239</i>	<i>\$ 377,704</i>	<i>\$ 383,239</i>
Debt Financing	\$ 447,427	\$ 363,449	\$ -	\$ -	\$ -
Capital Reserve Financing	\$ 290,000	\$ 19,096	\$ 361,239	\$ 377,704	\$ 383,239
Other Financing (Grants, third party, etc.)	\$ -	\$ -	\$ -	\$ -	\$ -
<i>Total Capital Financing</i>	<i>\$ 737,427</i>	<i>\$ 382,545</i>	<i>\$ 361,239</i>	<i>\$ 377,704</i>	<i>\$ 383,239</i>
Operations & Maintenance	\$ 1,553,726	\$ 1,584,801	\$ 1,616,497	\$ 1,648,827	\$ 1,681,803
Transfers to Capital Reserves	\$ 360,000	\$ 275,000	\$ 220,000	\$ 360,000	\$ 440,000
Debt Repayment	\$ 46,530	\$ 92,956	\$ 137,065	\$ 136,466	\$ 135,169
Less Non-Rate Revenues	\$ 719,688	\$ 537,426	\$ 342,055	\$ 246,776	\$ 251,711
<i>Revenue Requirements (from Users)</i>	<i>\$ 1,240,568</i>	<i>\$ 1,415,330</i>	<i>\$ 1,631,507</i>	<i>\$ 1,898,517</i>	<i>\$ 2,005,260</i>
Annual Increase (\$)	\$ 117,586	\$ 174,762	\$ 216,176	\$ 267,010	\$ 106,744
Annual Increase (%)	10%	14%	15%	16%	6%

Significant increases in the tax levy revenue of 10 % to 16% are required between 2014 and 2017. These are due mainly to rehabilitation of buildings in poor condition, the increasing the annual road rehabilitation allocation and phase out of the Provincial grant. Deferral of building rehabilitation is not recommended due to the poor state of some of the facilities and related safety concerns.

It is also recommended that the Township pursue available grant funding to partially offset the cost of rehabilitating the critical buildings and road sections to lower the revenue required from the tax payers though the general tax levy.

6 Recommendations

The following are the recommendations:

1. That the Asset Management policy statements noted in Section 2.6 be adopted by the Township;
2. That the levels of service targets presented in Section 3 be adopted by the Township;
3. That the preferred Asset Management Strategy presented in Section 4 be adopted by the Township; and
4. That the Financial Strategy presented in Section 5 be adopted by the Township to support the asset management strategy

7 References

1. Building Together: A Guide for Municipal Asset Management Plans
2. Township of Billings 2012 and 2013 operating and capital budgets.
3. Township of Billings 5-year capital budget forecast.
4. Township of Billings 2012 PSAB 3150 TCA information.
5. 2008 Asset Management Study.
6. MPMP 2010 report.

APPENDIX A

ASSET CONDITION ASSESSMENT

APPENDIX A: Asset Condition Assessment

Age Based Condition Assessment			
	Poor <small>(less than)</small>	Fair <small>(between)</small>	Good <small>(greater than)</small>
Water Mains	5%	=> 5% and =< %15	15%
Water Services	5%	=> 5% and =< %15	15%
Water Hydrants	5%	=> 5% and =< %15	15%
Water Buildings	5%	=> 5% and =< %15	15%
Water Land	10%	=> 10% and =< %20	20%
Administration Buildings	5%	=> 5% and =< %15	15%
Administration Land	5%	=> 5% and =< %15	15%
Fire Protection Buildings	5%	=> 5% and =< %15	15%
Fire Protection Land	5%	=> 5% and =< %15	15%
Fire Protection Vehicles	10%	=> 10% and =< %20	20%
Recreation Buildings	5%	=> 5% and =< %15	15%
Recreation Land	5%	=> 5% and =< %15	15%
Recreation Equipment	5%	=> 5% and =< %15	15%
Solid Waste Buildings	5%	=> 5% and =< %15	15%
Solid Waste Land	5%	=> 5% and =< %15	15%
Solid Waste Vehicles	20%	=> 20% and =< %50	50%
Road Buildings	10%	=> 10% and =< %20	20%
Road Land	20%	=> 20% and =< %20	20%
Road Vehicles and Equipment	10%	=> 10% and =< %20	20%
Road Base	10%	=> 10% and =< %20	20%
Road Surface	10%	=> 10% and =< %20	20%
Road Culverts	10%	=> 10% and =< %20	20%
Road Bridges	5%	=> 5% and =< %15	15%

APPENDIX A: Asset Condition Assessment

Condition of Water System Assets

Water System Assets	Condition Rating			Total Length (m) or Units
	Good	Fair	Poor	
<i>Watermains</i>				
Length (m)	9,594	-	-	9,594
Percent (%)	100%	0%	0%	100%
Replacement Cost	3,702,413	-	-	\$ 3,702,413
Percent (%)	100%	0%	0%	100%
<i>Service Connections</i>				
No. of Units	178	-	-	178
Percent (%)	100%	0%	0%	100%
Replacement Cost	278,480	-	-	\$ 278,480
Percent (%)	100%	0%	0%	100%
<i>Hydrants</i>				
No. of Units	11	-	-	11
Percentage (%)	100%	0%	0%	100%
Replacement Cost	45,892	-	-	\$ 45,892
Percent (%)	100%	0%	0%	100%
<i>Water Facilities</i>				
No. of Units	2	1	-	3
Percentage (%)	67%	33%	0%	100%
Replacement Cost	4,229,338	1,700,000	-	\$ 5,929,338
Percent (%)	71%	29%	0%	100%

Condition of Administration Assets

Administration Assets	Condition Rating			Total Length (m) or Units
	Good	Fair	Poor	
<i>Administration Facilities</i>				
No. of Facilities	1	-	1	2
Percent (%)	50%	0%	50%	100%
Replacement Cost	256,517	-	584,079	\$ 840,596
Percent (%)	30.52%	0.00%	69.48%	100.00%

APPENDIX A: Asset Condition Assessment

Condition of Fire Protection Assets

Fire Protection Assets	Condition Rating			Total Length (m) or Units
	Good	Fair	Poor	
<i>Fire Facilities</i>				
No. of Facilities	2	-	-	2
Percent (%)	100%	0%	0%	100%
Replacement Cost	378,513	-	-	\$ 378,513
Percent (%)	100%	0%	0%	100%
<i>Fire Vehicles and Equipment</i>				
No. of Units	2	-	-	2
Percentage (%)	100%	0%	0%	100%
Replacement Cost	253,987	-	-	\$ 253,987
Percent (%)	100%	0%	0%	100%

Condition of Recreation Assets

Recreation Assets	Condition Rating			Total Length (m) or Units
	Good	Fair	Poor	
<i>Recreation Facilities</i>				
Length (km)	7	-	1	8
Percent (%)	88%	0%	13%	100%
Replacement Cost	1,016,445	-	76,524	\$ 1,092,969
Percent (%)	93%	0%	7%	100%
<i>Recreation Vehicles and Equipment</i>				
Length (km)	2	1	-	3
Percent (%)	67%	33%	0%	100%
Replacement Cost	79,679	75,951	-	\$ 155,630
Percent (%)	51%	49%	0%	100%

Condition of Solid Waste Assets

Solid Waste Assets	Condition Rating			Total Length (m) or Units
	Good	Fair	Poor	
<i>Solid Waste Facilities</i>				
No. of Units	1	-	-	1
Percentage (%)	100%	0%	0%	100%
Replacement Cost	11,836	-	-	\$ 11,836
Percent (%)	100%	0%	0%	100%
<i>Solid Waste Vehicles</i>				
No. of Units	-	-	1	1
Percentage (%)	0%	0%	100%	100%
Replacement Cost	-	-	15,027	\$ 15,027
Percent (%)	0%	0%	100%	100%

APPENDIX A: Asset Condition Assessment

Condition of Road Network Assets

Road Network Assets	Condition Rating			Total Length (m) or Units
	Good	Fair	Poor	
<i>Road Facilities</i>				
No. of Facilities	2	-	1	3
Percent (%)	67%	0%	33%	100%
Replacement Cost	834,398	-	375,479	\$ 1,209,878
Percent (%)	69%	0%	31%	100%
<i>Road Vehicles and Equipment</i>				
No. of Units	6	1	1	8
Percent (%)	75%	13%	13%	100%
Replacement Cost	660,645	154,036	20,837	\$ 835,518
Percent (%)	79%	18%	2%	100%
<i>Road Base</i>				
Length (km)	97	-	-	97.1
Percent (%)	100%	0%	0%	100%
Replacement Cost	18,397,672	-	-	\$ 18,397,672
Percent (%)	100%	0%	0%	100%
<i>Road Surface</i>				
Length (km)	30	4	63	97.1
Percent (%)	31%	4%	65%	100%
Replacement Cost	4,533,808	988,449	13,162,718	\$ 18,684,976
Percent (%)	24%	5%	70%	100%
<i>Road Culverts</i>				
No. of Units	300	-	-	300
Percent (%)	100%	0%	0%	100%
Replacement Cost	63,600	-	-	\$ 63,600
Percent (%)	100%	0%	0%	100%
<i>Road Bridges</i>				
No. of Units	3	-	-	3
Percent (%)	100%	0%	0%	100%
Replacement Cost	109,096	-	-	\$ 109,096
Percent (%)	100%	0%	0%	100%

APPENDIX B

ASSUMPTIONS

APPENDIX B: Assumptions

ASSUMPTIONS	
MUNICIPALITY	Township of Billings
SERVICE	AMP
STUDY PERIOD	25
YEAR OF STUDY	2013
FORECAST PERIOD	2014 - 2037
INFLATION RATE	2.0%
CAPITAL INFLATION	3.0%
BORROWING RATE	4.0%
BORROWING TERM	10
INVESTMENT RATE	1.5%

APPENDIX B: Assumptions

Water Mains							
REHAB STRATEGY	Year of Information	Unit Cost m	Inflated to Year	Current Unit Cost	Service Life	Source	Comments
Slip-Lining	2012	\$300.00	2013	\$300.00	50	Cost estimate	Seemed too low. (Les suggests raising to \$300 range)
Relining	2012	\$325.00	2013	\$325.00	75	Acuro Rehabilitation Infrastructure (Quebec)	Trenchless Rehab Investigation
CIPP	2012	\$200.00	2013	\$200.00	50	Liquiforce (Kingsville)	Estimated 1cent per mm diameter.
Water Mains							
REPLACEMENT	Year of Information	Unit Cost m	Inflated to Year	Current Unit Cost	Service Life	Source	Comments
Water Mains	2008	\$370.00	2013	\$385.91	80	Walker Study	Replacement
Water Services							
REHAB STRATEGY	Year of Information	Unit Cost	Inflated to Year	Current Unit Cost	Service Life	Source	Comments
Slip-Lining	2012	\$1,704.55	2013	\$1,704.55	50		Service Connection Length estimated at 5.68m (2500/440)
Relining	2012	\$1,846.59	2013	\$1,846.59	75		Service Connection Length estimated at 5.68m (2500/440)
CIPP	2012	\$1,136.36	2013	\$1,136.36	50		Service Connection Length estimated at 5.68m (2500/440)
Water Services							
REPLACEMENT	Year of Information	Unit Cost	Inflated to Year	Current Unit Cost	Service Life	Source	Comments
Water Services	2008	\$1,500.00	2013	\$1,564.50	80	Walker Study	
Water Hydrants							
REPLACEMENT	Year of Information	Unit Cost	Inflated to Year	Current Unit Cost	Service Life	Source	Comments
Water Hydrants	2008	\$4,000.00	2013	\$4,171.99	80	Walker Study	
Water Buildings							
REPLACEMENT	Year of Information	Unit Cost m	Inflated to Year	Current Unit Cost	Service Life	Source	Comments
Elevated Storage	2008	1000020	2013	\$1,043,018.86	60		Values assumed
Low Lift Station Structure	2008	315,000.00	2013	\$328,544.37	60		Values assumed
WTP Structure	2008	1789980	2013	\$1,866,945.56	60		Values assumed
Lift station generator	2008		2013	\$0.00	30		PSAB
WTP ME Membrane Filter	2012	1700000	2013	\$1,700,000.00	30		Estimate from Township
Low Lift Station ME	2008	135000	2013	\$140,804.73	30		PSAB
WTP ME	2008	770010	2013	\$803,118.89	30		PSAB

APPENDIX B: Assumptions

Administration Buildings							
REHAB STRATEGY	Year of Information	Unit Cost	Inflated to Year	Current Unit Cost	Service Life	Source	Comments
The Old Mill	2013		2013	\$292,039.44		PSAB	Assumes Rehab cost instead of replacement to be equal to 50% of replacement cost
Library	2013		2013	\$144,872.00		PSAB	Assumes Rehab cost equal to replacement replacement cost

Administration Buildings							
REPLACEMENT	Year of Information	Unit Cost	Inflated to Year	Current Unit Cost	Service Life	Source	Comments
The Old Mill	2008	560000	2013	\$584,078.88	60	PSAB	
The Old Mill ME	2008		2013	\$0.00	30	PSAB	
The Spot	2008		2013	\$0.00	30	PSAB	

Fire Protection Buildings							
REPLACEMENT	Year of Information	Unit Cost m	Inflated to Year	Current Unit Cost	Service Life	Source	Comments
Fire Hall	2008	350000	2013	\$365,049.30	60	PSAB & INSURANCE	Values assumed
Fire Protection ME			2013	#N/A	30		

Fire Protection Vehicles							
REPLACEMENT	Year of Information	Unit Cost m	Inflated to Year	Current Unit Cost	Service Life	Source	Comments
Heavy Vehicle					20	PSAB	
Light Vehicle					15	PSAB	

APPENDIX B: Assumptions

Recreation Buildings							
REHAB STRATEGY	Year of Information	Unit Cost	Inflated to Year	Current Unit Cost	Service Life	Source	Comments
The Spot			2013	\$76,524.00		New Rehab Strategy. Fill Information in Yellow Cells	Assumes Rehab cost equal to replacement cost
Log Museum			2013	\$10,625.00		New Rehab Strategy. Fill Information in Yellow Cells	Assumes Rehab cost instead of replacement to be equal to 50% of replacement cost

Recreation Buildings							
REPLACEMENT	Year of Information	Unit Cost m	Inflated to Year	Current Unit Cost	Service Life	Source	Comments
market shelter			2013	#N/A	60	PSAB	Values assumed
Library	2008	290,000.00	2013	\$302,469.42	60	PSAB & ESTIMATE	Values assumed
Changehouse			2013	#N/A	60	PSAB	Values assumed
Marina warehouse			2013	#N/A	60	PSAB	Values assumed
washroom and shower			2013	#N/A	60	PSAB	Values assumed
The Park Centre	2008	440000	2013	\$458,919.12	60	PSAB & ESTIMATE	Values assumed
Rec Building ME			2013	#N/A	30	PSAB	Values assumed
Icehouse - "the anex"	2012	\$25,000.00	2013	\$25,000.00	60	500 sq.ft. cement Block Building (\$50 per square foot)	Cost estimate
Log Museum	2012	\$21,250.00	2013	\$21,250.00	60	425 sq.ft. (\$50 per square foot)	Cost estimate

Recreation Equipment							
REPLACEMENT	Year of Information	Unit Cost m	Inflated to Year	Current Unit Cost	Service Life	Source	Comments
Equipment					20	PSAB	

Solid Waste Buildings							
REPLACEMENT	Year of Information	Unit Cost m	Inflated to Year	Current Unit Cost	Service Life	Source	Comments
Dump Shelter					50	PSAB	Values assumed

Solid Waste Vehicles							
REPLACEMENT	Year of Information	Unit Cost m	Inflated to Year	Current Unit Cost	Service Life	Source	Comments
Heavy Vehicle					20	Service Life PSAB	
Light Vehicle					15	Service Life PSAB	

APPENDIX B: Assumptions

Road Buildings							
REPLACEMENT	Year of Information	Unit Cost m	Inflated to Year	Current Unit Cost	Service Life	Source	Comments
Storage Shed	2008	60000	2013	\$62,579.88	50		Values assumed
Garage	2008	440,000.00	2013	\$458,919.12	50		Values assumed
Butler Building	2008	360000	2013	\$375,479.28	50		Values assumed
Road Vehicles and Equipment							
REPLACEMENT	Year of Information	Unit Cost m	Inflated to Year	Current Unit Cost	Service Life	Source	Comments
Heavy Vehicle/Equip					20		Service Life PSAB
Light Vehicle/Equip					15		Service Life PSAB
Road Base							
REPLACEMENT	Year of Information	Unit Cost m	Inflated to Year	Current Unit Cost	Service Life	Source	Comments
Granular 'B'	2008	\$209.00	2013	\$217.99	80		Values were not calculated. Used Gravel Replacement Costs.
Dirt	2012	\$5.00	2013	\$5.00	80		
Road Surface							
REHAB STRATEGY	Year of Information	Unit Cost m	Inflated to Year	Current Unit Cost	Service Life	Source	Comments
SST	2010	\$17.98	2013	\$19.11	6	Grimsby Unit Costs were Multiplied by a width of 6.35m to match Walker Study format	(single surface treatment)
G/ST Rehab	2012	\$114.00	2013	\$114.00	25	Granular B replacement cost of \$218/m divided by 2 for rehabilitation	For gravel and surface treated road rehabilitation
DST	2007	\$31.77	2013	\$36.18	6	Grimsby Unit Costs were Multiplied by a width of 6.35m to match Walker Study format	(double surface treatment)
CM/SST	2007	\$79.42	2013	\$90.44	20	Grimsby Unit Costs were Multiplied by a width of 6.35m to match Walker Study format- Service Life is a professional estimate	(cold mix plus single surface treatment)
R2	2007	\$127.08	2013	\$144.70	20	Grimsby Unit Costs were Multiplied by a width of 6.35m to match Walker Study format- Service Life is a professional estimate	(rural: 50mm full width milling plus 50mm HL8 HS & 40mm HL3 HS asphalt overlay)
R1	2010	\$145.25	2013	\$154.37	20	Grimsby Unit Costs were Multiplied by a width of 6.35m to match Walker Study format- Service Life is a professional estimate	(semi-urban: base repairs plus 40mm asphalt overlay)
SR	2010	\$145.25	2013	\$154.37	20	Grimsby Unit Costs were Multiplied by a width of 6.35m to match Walker Study format- Service Life is a professional estimate	(semi-urban: base repairs plus 40mm asphalt overlay of various lengths)
R1M	2010	\$196.97	2013	\$209.34	20	Grimsby Unit Costs were Multiplied by a width of 6.35m to match Walker Study format- Service Life is a professional estimate	(semi-urban: 50mm full width milling plus 50mm HL8 HS & 40mm HL3 HS asphalt overlay)
R1U	2010	\$190.62	2013	\$202.59	20	Grimsby Unit Costs were Multiplied by a width of 6.35m to match Walker Study format- Service Life is a professional estimate	(c/g urban: base repairs plus 40mm asphalt overlay)
R1UM	2010	\$251.04	2013	\$266.81	20	Grimsby Unit Costs were Multiplied by a width of 6.35m to match Walker Study format- Service Life is a professional estimate	(c/g urban, 50mm full width milling plus 50mm HL8 HS & 40mm HL3 HS asphalt overlay)
RNS	2007	\$775.55	2013	\$883.12	20	Grimsby Unit Costs were Multiplied by a width of 6.35m to match Walker Study format- Service Life is a professional estimate	(reconstruction utilizing existing storm sewers to full urban standards)
RSS	2007	\$1,080.54	2013	\$1,230.40	20	Grimsby Unit Costs were Multiplied by a width of 6.35m to match Walker Study format- Service Life is a professional estimate	(reconstruction including new storm sewers to full urban standards)
Road Surface							
REPLACEMENT	Year of Information	Unit Cost m	Inflated to Year	Current Unit Cost	Service Life	Source	Comments
Gravel	2008	\$163.00	2013	\$170.01	40	Walker Study	
Sur Treat	2008	\$243.00	2013	\$253.45	40	Walker Study	
Asphalt	2008	\$300.00	2013	\$312.90	40	Walker Study	
Granular 'B'	2008	\$209.00	2013	\$217.99	80		Values were not calculated. Used Gravel Replacement Costs.
Dirt	2012	\$5.00	2013	\$5.00	80		
Road Culverts							
REPLACEMENT	Year of Information	Unit Cost m	Inflated to Year	Current Unit Cost	Service Life	Source	Comments
Culverts	2012	\$10,000	2013	\$10,000.00	50		Estimated as the cost per Culvert
Road Bridges							
REPLACEMENT	Year of Information	Unit Cost m	Inflated to Year	Current Unit Cost	Service Life	Source	Comments
Bridge	2012	\$600,000	2013	\$600,000	50		Estimated as the cost per bridge (discussion with Township)

APPENDIX C

REPORT CARD

APPENDIX C: REPORT CARD

2013 ASSET REPORT CARD					
Asset Type	CONDITION			Investment Needed	
	GOOD	FAIR	POOR	25 years	After 2037
WATER SYSTEM	Watermains Service Connections Hydrants Water Facilities	Membrane Filter		\$2,690,830	\$7,265,295
VALUE Percentage (%)	\$8,256,124 83%	\$1,700,000 17%	\$0 0%		
ADMINISTRATION	Library		Municipal Office	\$292,039	\$840,596
VALUE Percentage (%)	\$256,517 31%	\$0 0%	\$584,079 69%		
FIRE PROTECTION	Firehall & Vehicles			\$253,987	\$378,513
VALUE Percentage (%)	\$632,500 100%	\$0 0%	\$0 0%		
RECREATION	Most Facilities	Dock Facilities & Equipment	The Spot	\$392,904	\$970,195
VALUE Percentage (%)	\$1,096,124 88%	\$75,951 6%	\$76,524 6%		
SOLID WASTE	Facilities		Collection Vehicle	\$15,027	\$11,836
VALUE Percentage (%)	\$11,836 44%	\$0 0%	\$15,027 56%		
ROADS & BRIDGES	Road Facilities (2) Road Vehicles and Equipment (6) Road Base (97 km) Road Surface (30 km) Road Culverts (300) Road Bridges (3)	Road Vehicles and Equipment (1) Road Surface (4 km)	Road Facilities (1) Road Vehicles and Equipment (1) Road Surface (63 km)	\$8,999,762	\$42,590,321
VALUE Percentage (%)	\$29,226,523 67%	\$1,142,485 3%	\$13,559,034 31%		
TOTAL VALUE	\$39,479,625	\$2,918,436	\$14,234,664	\$12,644,548	\$52,056,756
Percentage (%)	70%	5%	25%		

APPENDIX D

LEVELS OF SERVICE

APPENDIX D: Levels of Service

Asset Type	MPMP Standard (2010)	Range	Median	Desired AMP Standard	Indicator	Target Value	Current Performance	Target Met or Exceeded	Comment
Water System Assets	Weighted number of days when a Boil Water Advisory issued by the Medical Officer of Health, applicable to a municipal water supply, was in effect	0.00 to 3.00	0	Meet Regulatory Requirements	Weighted number of days when a Boil Water Advisory issued by the Medical Officer of Health, applicable to a municipal water supply, was in effect	0	0	Yes	Target is the MPMP Median value for the group of Municipalities in which the Township is included
	Number of breaks in water mains per 100 kilometres of water distribution pipe in a year	0 to 50	0	Minimize Service Interruptions	Number of breaks in water mains per 100 km of water distribution pipe in a year	0	TO BE DETERMINED (TBD)	TO BE DETERMINED (TBD)	Target is the MPMP Median value for the group of Municipalities in which the Township is included
					Percentage of Water Mains where Condition is rated Good	80%	100%	Yes	Assumed Target. Performance based on Condition noted in Appendix A of AMP Report
Administrative Services Assets	No MPMP data relevant to asset condition is available			Minimize Service Interruptions	Number of Days Facilities unable to be used due to failure of one or more asset components	0	0	Yes	Assumed Target
				Maintain Adequate Service	Percentage of Facilities where accessibility standards are met	100%	TO BE DETERMINED (TBD)	TO BE DETERMINED (TBD)	Assumed Target
				Maintain Adequate Service	Percentage of Facilities where Condition is rated Good	100%	90%	No	Assumed Target. Performance based on Condition noted in Appendix A of AMP Report
Fire Protection Assets	No MPMP data relevant to asset condition is available			Maintain Adequate Service	Percentage of Fire Trucks where Condition is rated Good	100%	100%	Yes	Assumed Target. Performance based on Condition noted in Appendix A of AMP Report
				Maintain Adequate Service	Percentage of Fire Stations where Condition is rated Good	100%	100%	Yes	Assumed Target. Performance based on Condition noted in Appendix A of AMP Report
Recreation Assets	No MPMP data relevant to asset condition is available			Minimize Service Interruptions	Number of Facilities unable to be used due to failure of one or more asset components	0	1	No	Assumed Target
				Maintain Adequate Service	Percentage of Facilities where accessibility standards are met	100%	TO BE DETERMINED (TBD)	TO BE DETERMINED (TBD)	Assumed Target
				Maintain Adequate Service	Percentage of Facilities where Condition is rated Good	100%	75%	No	Assumed Target. Performance based on Condition noted in Appendix A of AMP Report
Solid Waste Assets	Number of complaints received in a year concerning the collection of garbage and recycled materials per 1,000 households	0 to 38	0	Maintain Adequate Service	Number of complaints received in a year concerning the collection of garbage and recycled materials per 1,000 households	0	TO BE DETERMINED (TBD)	TO BE DETERMINED (TBD)	Target is the MPMP Median value for the group of Municipalities in which the Township is included
				Maintain Adequate Service	Percentage of Facilities where Condition is rated Good	100%	100%	Yes	Assumed Target. Performance based on Condition noted in Appendix A of AMP Report
				Meet Regulatory Requirements	Number of Leachate Breakouts per year	0	TBD	TBD	Assumed Target
Roads Assets	Percentage of Paved-Lane Kilometres where Condition is rated Good to Very Good	10% to 100%	89%	Maintain Adequate Road Condition	Percentage of Road Surface where Condition is rated Good	89%	31%	No	Target is the MPMP Median value for the group of Municipalities in which the Township is included. It is modified to include all road surfaces not just paved roads
	Percentage of Bridges and culverts where the condition is rated as good to very good	25% to 100%	91%	Maintain Adequate Road Condition	Percentage of Bridges and culverts where the condition is rated as good	91%	100%	Yes	Target is the MPMP Median value for the group of Municipalities in which the Township is included. Performance based on Condition noted in Appendix A of AMP Report
				Undertake Bridge Inspections as per Regulations	Percentage of Bridges inspected every 2 years	100%	100%	Yes	Inspections complete din 2012
				Meeting Minimum Road Maintenance Standards	Indicators are those identified in the Township's Road Maintenance By-Law 2004-35 for the respective road classes	Meeting the minimum maintenance standards 100% of the time	Not all minimum maintenance standards are being met 100% of the time	No	Township has a Road Maintenance By-Law 2004-35 adopted by Council

APPENDIX E

ALTERNATIVE ASSET MANAGEMENT STRATEGIES

APPENDIX E: Alternative Strategies

Alternative Strategy No.1	Alternative Strategy No.2
Water System	
Replace watermains as their expected lives expire	Continue regular watermain maintenance as they are in relatively good condition and non-critical.
Replace service connections as their expected lives expire	Continue regular service connection maintenance as they are in relatively good condition and non-critical.
Replace hydrants and valves as they fail	Continue regular hydrant and valve maintenance as they are in relatively good condition
Replace membrane filters as this is critical to the water supply and non in good condition based on operational experience	Replace membrane filters as this is critical to the water supply and non in good condition based on operational experience
Replace structural components as their expected lives expire	Inspect & rehabilitate structural components as needed
Replace mechanical / electrical equipment as their expected lives expire	Inspect, maintain & replace mechanical / electrical equipment as needed
Continue system maintenance to meet DWQMS requirements	Continue system maintenance to meet DWQMS requirements
Administration Buildings	
Replace building components as their expected lives expire	Undertake inspections to assess need and rehabilitate as necessary. One building is in need of work based on current condition
Fire Protection	
Replace building components as their expected lives expire	Undertake inspections to assess need and rehabilitate as necessary. Not critical at this time. In relatively good condition
Replace vehicles as needed	Vehicles in relatively good condition. Maintain and replace as needed
Recreation Facilities	
Replace building components as their expected lives expire	Undertake inspections to assess need and rehabilitate as necessary. Two facilities are in need of work based on current condition
Replace equipment as needed	Replace equipment as needed
Solid Waste System	
Replace building components as their expected lives expire	Undertake inspections to assess need and rehabilitate as necessary. Facility is relatively good condition. Not critical.
One vehicle is poor condition. Replace vehicles as needed	One vehicle is poor condition. Replace vehicles as needed
Road Network	
Replace road base sections as they expire	Repair and reconstruct road base sections only as needed based on inspections. In relatively good condition. Non critical.
Approximately 63 km of surface in poor condition. Replace backlog of road surface sections in poor condition over 10 years	Approximately 63 km of surface in poor condition. Continue annual road resurfacing (rehabilitation) program and replace road surface based on inspections and prioritized need over the 25 year period.
Replace bridges as they expire	Bridges are in relatively good condition. Rehabilitate bridges based on inspections
Replace culverts as they expire	Culverts are in relatively good condition. Rehabilitate culverts based on inspections
Continue to comply with minimum road maintenance standards	Continue to comply with minimum road maintenance standards
Replace vehicles as needed	Two vehicles are in fair to poor condition. Replace vehicles as needed
Replace building components as their expected lives expire	Undertake inspections to assess need and rehabilitate as necessary
Financial	
Defer reserve contributions for work beyond 2037 to the end of the 25 year period	Defer reserve contributions for work beyond 2037 to the end of the 25-year period
Water System Requirement in 25 year Period = \$2,690,830	Water System Requirement in 25 year Period = \$2,690,830
Water System Requirement Beyond 2037 = \$7,265,295	Water System Requirement Beyond 2037 = \$7,265,295
Tax Supported Requirement in 25-year Period = \$16,595,667	Tax Supported Requirement in 25-year Period = \$9,964,344
Tax Supported Requirement Beyond 2037 = \$25,243,630	Tax Supported Requirement Beyond 2037 = \$40,164,158 (deferred cost)
Funding to be from a combination of taxes (or user fees as the case may be) and debt and avoid exceeding debt limit. Seek available Federal and Provincial Funding to reduce impact to rate/ tax payer	Funding to be from a combination of taxes (or user fees as the case may be) and debt and avoid exceeding debt limit. Seek available Federal and Provincial Funding to reduce impact to rate/ tax payer
Policies	
Joint procurement with others on a case by case basis	Joint procurement with others on a case by case basis
Continue to combine activities to reduce costs	Continue to combine activities to reduce costs
Continue to outsource Water operations	Continue to outsource Water operations

APPENDIX F

ALTERNATIVE STRATEGY NO.1 25-YEAR FINANCIAL PROJECTIONS

APPENDIX F: ALTERNATIVE STRATEGY NO.1 (25-YEAR FINANCIAL PROJECTIONS)

WATER SYSTEM ASSET REQUIREMENTS

Description	Forecast																							
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Capital Budget																								
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Update SCADA computer terminals (2)	11,330	-	-	-	-	13,135	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Upgrade contact tank chlorine analyzer feed system with pump	5,150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Replace citric acid pump	-	5,145	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Replace hypochlorite CIP pump	-	5,145	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Repairs to building eaves trough and soffit	773	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Overhead doors require servicing (2)	1,236	-	-	-	1,391	-	-	-	-	1,613	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Replace chemical feed pumps (pre chlorine)	-	-	-	21,385	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Replace chemical solution tanks with sealed units and vent outside	4,635	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Move pre chlorine system to replace existing zebra mussel system	-	-	-	3,264	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Complete upgrades to filter backwash plumbing	7,725	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Replace Chlorine analyzer	-	3,183	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Load Test Generator	1,957	-	-	2,138	-	-	2,337	-	-	2,553	-	-	2,790	-	-	3,049	-	-	3,332	-	-	3,641	-	-
Replace generator batteries	618	-	-	675	-	-	738	-	-	806	-	-	881	-	-	963	-	-	1,052	-	-	1,150	-	-
rebuild kit for plant pressure relief valve	1,236	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Upgrades to tower to bring equipment into compliance with current legislation	2,781	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SWOB Complete system	-	-	9,288	9,567	-	-	-	10,768	11,091	-	-	-	12,483	12,857	-	-	-	14,471	14,905	-	-	-	16,775	17,279
Stock up on Distribution parts	5,150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Intake Inspection	15,347	-	-	-	-	6,567	-	-	-	-	7,613	-	-	-	-	8,826	-	-	-	-	10,232	-	-	-
Rehabilitation Budget																								
Water Mains	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Services	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Hydrants	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Buildings	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Land	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Replacement Budget																								
Water Mains	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Services	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Hydrants	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Buildings	1,751,000	-	-	-	-	-	-	-	-	-	-	-	206,776	-	-	-	-	-	-	-	87,259	-	1,585,025	-
Water Land	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Capital Requirements	1,808,938	13,473	9,288	37,029	1,391	19,702	3,075	10,768	11,091	4,972	7,613	-	222,930	12,857	-	12,838	-	14,471	19,289	-	97,491	4,790	1,601,800	17,279

APPENDIX F: ALTERNATIVE STRATEGY NO.1 (25-YEAR FINANCIAL PROJECTIONS)

Water System Financial Projections

Cost / Revenue Item	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	
Township 5-Year Capital Forecast	\$ -	\$ 57,938	\$ 13,473	\$ 9,288	\$ 37,029	\$ 1,391	\$ 19,702	\$ 3,075	\$ 10,768	\$ 11,091	\$ 4,972	\$ 7,613	\$ -	\$ 16,154	\$ 12,857	\$ -	\$ 12,838	\$ -	\$ 14,471	\$ 19,289	\$ -	\$ 10,232	\$ 4,790	\$ 16,775	\$ 17,279	
Asset Rehabilitation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Asset Replacement	\$ -	\$ 1,751,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 206,776	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 87,259	\$ -	\$ 1,585,025	\$ -	
Total Capital Requirements	\$ -	\$ 1,808,938	\$ 13,473	\$ 9,288	\$ 37,029	\$ 1,391	\$ 19,702	\$ 3,075	\$ 10,768	\$ 11,091	\$ 4,972	\$ 7,613	\$ -	\$ 222,930	\$ 12,857	\$ -	\$ 12,838	\$ -	\$ 14,471	\$ 19,289	\$ -	\$ 97,491	\$ 4,790	\$ 1,601,800	\$ 17,279	
Debt Financing	\$ -	\$ 1,698,938	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 17,279
Capital Reserve Financing	\$ 110,000	\$ 13,473	\$ 9,288	\$ 37,029	\$ 1,391	\$ 19,702	\$ 3,075	\$ 10,768	\$ 11,091	\$ 4,972	\$ 7,613	\$ -	\$ 222,930	\$ 12,857	\$ -	\$ 12,838	\$ -	\$ 14,471	\$ 19,289	\$ -	\$ 97,491	\$ 4,790	\$ 1,601,800	\$ -	\$ -	
Other Financing (Grants, third party, etc.)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Total Capital Financing	\$ -	\$ 1,808,938	\$ 13,473	\$ 9,288	\$ 37,029	\$ 1,391	\$ 19,702	\$ 3,075	\$ 10,768	\$ 11,091	\$ 4,972	\$ 7,613	\$ -	\$ 222,930	\$ 12,857	\$ -	\$ 12,838	\$ -	\$ 14,471	\$ 19,289	\$ -	\$ 97,491	\$ 4,790	\$ 1,601,800	\$ 17,279	
Operations & Maintenance	\$ 179,101	\$ 183,128	\$ 185,261	\$ 188,966	\$ 192,745	\$ 196,600	\$ 202,232	\$ 204,543	\$ 208,634	\$ 212,806	\$ 217,063	\$ 223,404	\$ 225,832	\$ 230,349	\$ 234,956	\$ 239,655	\$ 246,648	\$ 249,337	\$ 254,323	\$ 259,410	\$ 264,598	\$ 272,390	\$ 275,288	\$ 280,794	\$ 286,409	
Transfers to Capital Reserves	\$ 29,000	\$ 120,000	\$ 29,000	\$ 29,000	\$ 29,000	\$ 29,000	\$ 29,000	\$ 29,000	\$ 29,000	\$ 29,000	\$ 29,000	\$ 29,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	
Debt Repayment	\$ -	\$ -	\$ 209,464	\$ 209,464	\$ 209,464	\$ 209,464	\$ 209,464	\$ 209,464	\$ 209,464	\$ 209,464	\$ 209,464	\$ 209,464	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Less Non-Rate Revenues	\$ 3,100	\$ 3,162	\$ 3,225	\$ 3,290	\$ 3,356	\$ 3,423	\$ 3,491	\$ 3,561	\$ 3,632	\$ 3,705	\$ 3,779	\$ 3,854	\$ 3,932	\$ 4,010	\$ 4,090	\$ 4,172	\$ 4,256	\$ 4,341	\$ 4,428	\$ 4,516	\$ 4,606	\$ 4,699	\$ 4,793	\$ 4,888	\$ 4,986	
Revenue Requirements (from Users)	\$ 205,001	\$ 299,966	\$ 420,499	\$ 424,140	\$ 427,853	\$ 431,641	\$ 437,205	\$ 439,446	\$ 443,465	\$ 447,565	\$ 451,747	\$ 458,013	\$ 421,900	\$ 426,338	\$ 430,865	\$ 435,482	\$ 442,392	\$ 444,996	\$ 449,896	\$ 454,894	\$ 459,992	\$ 467,691	\$ 470,495	\$ 475,905	\$ 481,423	
Annual Increase (\$)	\$ -	\$ 94,965	\$ 120,533	\$ 3,641	\$ 3,714	\$ 3,788	\$ 5,564	\$ 2,241	\$ 4,020	\$ 4,100	\$ 4,182	\$ 6,266	\$ (36,113)	\$ 4,438	\$ 4,527	\$ 4,617	\$ 6,910	\$ 2,604	\$ 4,900	\$ 4,998	\$ 5,098	\$ 7,700	\$ 2,804	\$ 5,410	\$ 5,518	
Annual Increase (%)	0%	46%	40%	1%	1%	1%	1%	1%	1%	1%	1%	1%	-8%	1%	1%	1%	2%	1%	1%	1%	1%	2%	1%	1%	1%	

Water System Capital Reserve Schedule

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Opening Balance	\$ 105,746	\$ 146,917	\$ 169,421	\$ 197,872	\$ 230,998	\$ 236,464	\$ 268,034	\$ 281,492	\$ 312,028	\$ 335,214	\$ 358,420	\$ 388,185	\$ 415,716	\$ 624,952	\$ 611,052	\$ 810,168	\$ 1,025,321	\$ 1,230,670	\$ 1,452,130	\$ 1,662,224	\$ 1,870,579	\$ 2,101,638	\$ 2,237,209	\$ 2,468,905	\$ 1,083,112
Transfer from Operating	\$ 39,000	\$ 130,000	\$ 39,000	\$ 39,000	\$ 39,000	\$ 29,000	\$ 29,000	\$ 29,000	\$ 29,000	\$ 29,000	\$ 29,000	\$ 29,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000
Transfer to Capital	\$ -	\$ 110,000	\$ 13,473	\$ 9,288	\$ 37,029	\$ 1,391	\$ 19,702	\$ 3,075	\$ 10,768	\$ 11,091	\$ 4,972	\$ 7,613	\$ -	\$ 222,930	\$ 12,857	\$ -	\$ 12,838	\$ -	\$ 14,471	\$ 19,289	\$ -	\$ 97,491	\$ 4,790	\$ 1,601,800	\$ -
Transfer to Operating	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Closing Balance	\$ 144,746	\$ 166,917	\$ 194,948	\$ 227,584	\$ 232,969	\$ 264,073	\$ 277,332	\$ 307,417	\$ 330,260	\$ 353,123	\$ 382,448	\$ 409,572	\$ 615,716	\$ 602,022	\$ 798,195	\$ 1,010,168	\$ 1,212,483	\$ 1,430,670	\$ 1,637,659	\$ 1,842,935	\$ 2,070,579	\$ 2,204,147	\$ 2,432,419	\$ 1,067,105	\$ 1,283,112
Interest	\$ 2,171	\$ 2,504	\$ 2,924	\$ 3,414	\$ 3,495	\$ 3,961	\$ 4,160	\$ 4,611	\$ 4,954	\$ 5,297	\$ 5,737	\$ 6,144	\$ 9,236	\$ 9,030	\$ 11,973	\$ 15,153	\$ 18,187	\$ 21,460	\$ 24,565	\$ 27,644	\$ 31,059	\$ 33,062	\$ 36,486	\$ 16,007	\$ 19,247
Target Min. Balance (1% of Asset Value)	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000
Amount Below Min. Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

APPENDIX F: ALTERNATIVE STRATEGY NO.1 (25-YEAR FINANCIAL PROJECTIONS)

TAX SUPPORTED SERVICES ASSET REQUIREMENTS

Description	Forecast																							
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Capital Budget																								
Roof Replacement (Old Mill)	113,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road Resurfacing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
New Backhoe	113,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bridge Inspections	3,090	-	3,278	-	3,478	-	3,690	-	3,914	-	4,153	-	4,406	-	4,674	-	4,959	-	5,261	-	5,581	-	5,921	-
Building Inspections (10 x \$5000)	10,300	10,609	10,927	11,255	11,593	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bridge Rehab Allowance	15,450	5,305	-	5,628	-	5,970	-	6,334	-	6,720	-	7,129	-	7,563	-	8,024	-	8,512	-	9,031	-	9,581	-	10,164
Road Inspections	-	3,183	-	3,377	-	3,582	-	3,800	-	4,032	-	4,277	-	4,538	-	4,814	-	5,107	-	5,418	-	5,748	-	6,098
Rehabilitation Budget																								
Recreation Buildings	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Recreation Land	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Recreation Equipment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solid Waste Buildings	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solid Waste Land	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solid Waste Vehicles	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road Buildings	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road Land	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road Vehicles and Equipment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road Base	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road Culverts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road Bridges	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Replacement Budget																								
Recreation Buildings	78,820	-	-	-	-	-	-	-	-	-	29,415	-	-	-	-	-	-	-	-	-	-	-	49,340	-
Recreation Land	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Recreation Equipment	78,230	-	-	-	-	-	-	-	-	-	-	12,832	-	-	-	-	-	120,326	-	-	-	-	-	-
Solid Waste Buildings	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solid Waste Land	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solid Waste Vehicles	15,478	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road Buildings	386,744	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road Land	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road Vehicles and Equipment	21,462	-	-	-	-	33,694	247,577	97,695	-	-	-	-	-	-	-	-	421,406	-	-	160,265	-	-	-	-
Road Base	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road Surface	1,355,760	1,396,433	1,438,326	1,481,476	1,525,920	1,571,697	2,834,516	1,667,414	1,717,436	1,768,959	-	-	-	-	-	109,126	-	-	-	-	-	65,151	-	-
Road Culverts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Capital Requirements	2,191,933	1,415,529	1,452,531	1,501,735	1,540,990	1,614,944	3,085,783	1,775,242	1,721,350	1,779,711	33,568	24,238	4,406	12,101	4,674	543,369	4,959	133,946	165,526	14,449	5,581	80,480	55,260	16,262

APPENDIX F: ALTERNATIVE STRATEGY NO.1 (25-YEAR FINANCIAL PROJECTIONS)

Tax Supported Services Financial Projections

Cost / Revenue Item	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	
Township 5-Year Capital Forecast	\$ 263,000	\$ 255,440	\$ 19,096	\$ 14,205	\$ 20,259	\$ 15,071	\$ 9,552	\$ 3,690	\$ 10,134	\$ 3,914	\$ 10,751	\$ 4,153	\$ 11,406	\$ 4,406	\$ 12,101	\$ 4,674	\$ 12,838	\$ 4,959	\$ 13,619	\$ 5,261	\$ 14,449	\$ 5,581	\$ 15,329	\$ 5,921	\$ 16,262	
Asset Rehabilitation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Asset Replacement	\$ -	\$ 1,936,493	\$ 1,396,433	\$ 1,438,326	\$ 1,481,476	\$ 1,525,920	\$ 1,605,391	\$ 3,082,093	\$ 1,765,108	\$ 1,717,436	\$ 1,768,959	\$ 29,415	\$ 12,832	\$ -	\$ -	\$ -	\$ 530,531	\$ -	\$ 120,326	\$ 160,265	\$ -	\$ -	\$ 65,151	\$ 49,340	\$ -	
Total Capital Requirements	\$ 263,000	\$ 2,191,933	\$ 1,415,529	\$ 1,452,531	\$ 1,501,735	\$ 1,540,990	\$ 1,614,944	\$ 3,085,783	\$ 1,775,242	\$ 1,721,350	\$ 1,779,711	\$ 33,568	\$ 24,238	\$ 4,406	\$ 12,101	\$ 4,674	\$ 543,369	\$ 4,959	\$ 133,946	\$ 165,526	\$ 14,449	\$ 5,581	\$ 80,480	\$ 55,260	\$ 16,262	
Debt Financing	\$ -	\$ 1,871,933	\$ 995,529	\$ 1,002,531	\$ 551,735	\$ 340,990	\$ 214,944	\$ 1,585,783	\$ 275,242	\$ 221,350	\$ 279,711	\$ 29,415	\$ -	\$ -	\$ -	\$ -	\$ 12,838	\$ -	\$ 13,620	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Capital Reserve Financing	\$ 263,000	\$ 320,000	\$ 420,000	\$ 450,000	\$ 950,000	\$ 1,200,000	\$ 1,400,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 4,153	\$ 24,238	\$ 4,406	\$ 12,101	\$ 4,674	\$ 530,531	\$ 4,959	\$ 120,326	\$ 165,526	\$ 14,449	\$ 5,581	\$ 80,480	\$ 55,260	\$ 16,262	
Other Financing (Grants, third party, etc.)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Total Capital Financing	\$ 263,000	\$ 2,191,933	\$ 1,415,529	\$ 1,452,531	\$ 1,501,735	\$ 1,540,990	\$ 1,614,944	\$ 3,085,783	\$ 1,775,242	\$ 1,721,350	\$ 1,779,711	\$ 33,568	\$ 24,238	\$ 4,406	\$ 12,101	\$ 4,674	\$ 543,369	\$ 4,959	\$ 133,946	\$ 165,526	\$ 14,449	\$ 5,581	\$ 80,480	\$ 55,260	\$ 16,262	
Operations & Maintenance	\$ 1,518,359	\$ 1,553,726	\$ 1,584,801	\$ 1,616,497	\$ 1,648,827	\$ 1,681,803	\$ 1,715,439	\$ 1,749,748	\$ 1,784,743	\$ 1,820,438	\$ 1,856,847	\$ 1,893,984	\$ 1,931,863	\$ 1,970,500	\$ 2,009,910	\$ 2,050,109	\$ 2,091,111	\$ 2,132,933	\$ 2,175,592	\$ 2,219,104	\$ 2,263,486	\$ 2,308,755	\$ 2,354,930	\$ 2,402,029	\$ 2,450,070	
Transfers to Capital Reserves	\$ 315,068	\$ 380,000	\$ 400,000	\$ 500,000	\$ 900,000	\$ 1,200,000	\$ 1,400,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 100,000	\$ 100,000	\$ 250,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000	
Debt Repayment	\$ 47,580	\$ 46,530	\$ 268,584	\$ 390,623	\$ 513,627	\$ 580,354	\$ 622,395	\$ 648,897	\$ 844,409	\$ 861,732	\$ 870,439	\$ 904,924	\$ 677,759	\$ 555,019	\$ 431,416	\$ 363,392	\$ 321,351	\$ 296,433	\$ 100,921	\$ 68,665	\$ 41,374	\$ 6,889	\$ 3,262	\$ 3,262	\$ 3,262	
Less Non-Rate Revenues	\$ 758,025	\$ 719,688	\$ 537,426	\$ 342,055	\$ 246,776	\$ 251,711	\$ 256,746	\$ 261,880	\$ 267,118	\$ 272,460	\$ 277,910	\$ 283,468	\$ 289,137	\$ 294,920	\$ 300,818	\$ 306,835	\$ 312,971	\$ 319,231	\$ 325,615	\$ 332,128	\$ 338,770	\$ 345,546	\$ 352,457	\$ 359,506	\$ 366,696	
Revenue Requirements (from Users)	\$ 1,122,982	\$ 1,260,568	\$ 1,715,959	\$ 2,165,065	\$ 2,815,678	\$ 3,210,446	\$ 3,481,089	\$ 3,636,764	\$ 3,862,034	\$ 3,909,710	\$ 3,949,376	\$ 2,565,440	\$ 2,370,485	\$ 2,280,599	\$ 2,240,508	\$ 2,206,666	\$ 2,349,490	\$ 2,410,135	\$ 2,250,897	\$ 2,255,641	\$ 2,266,090	\$ 2,270,098	\$ 2,305,736	\$ 2,345,785	\$ 2,386,636	
Annual Increase (\$)	\$ -	\$ 137,586	\$ 455,391	\$ 449,106	\$ 650,613	\$ 394,768	\$ 270,643	\$ 155,676	\$ 225,270	\$ 47,675	\$ 39,666	\$ (1,383,935)	\$ (194,955)	\$ (89,885)	\$ (40,091)	\$ (33,842)	\$ 142,824	\$ 60,645	\$ (159,239)	\$ 4,744	\$ 10,449	\$ 4,008	\$ 35,638	\$ 40,049	\$ 40,850	
Annual Increase (%)	0%	12%	36%	26%	30%	14%	8%	4%	6%	1%	1%	-35%	-8%	-4%	-2%	-2%	6%	3%	-7%	0%	0%	0%	2%	2%	2%	

Tax Supported Services Capital Reserve Schedule (all reserves combined)

Description	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Opening Balance	\$ 285,727	\$ 342,862	\$ 408,905	\$ 394,739	\$ 451,410	\$ 407,431	\$ 413,542	\$ 419,745	\$ 426,041	\$ 432,432	\$ 438,918	\$ 445,502	\$ 498,719	\$ 532,348	\$ 586,611	\$ 684,628	\$ 791,653	\$ 518,789	\$ 826,037	\$ 1,020,797	\$ 1,172,600	\$ 1,480,023	\$ 1,801,059	\$ 2,050,888	\$ 2,330,062
Transfer from Operating	\$ 315,068	\$ 380,000	\$ 400,000	\$ 500,000	\$ 900,000	\$ 1,200,000	\$ 1,400,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 100,000	\$ 100,000	\$ 250,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000
Transfer to Capital	\$ 263,000	\$ 320,000	\$ 420,000	\$ 450,000	\$ 950,000	\$ 1,200,000	\$ 1,400,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 4,153	\$ 24,238	\$ 4,406	\$ 12,101	\$ 4,674	\$ 530,531	\$ 4,959	\$ 120,326	\$ 165,526	\$ 14,449	\$ 5,581	\$ 80,480	\$ 55,260	\$ 16,262
Transfer to Operating	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Closing Balance	\$ 337,795	\$ 402,862	\$ 388,905	\$ 444,739	\$ 401,410	\$ 407,431	\$ 413,542	\$ 419,745	\$ 426,041	\$ 432,432	\$ 438,918	\$ 491,349	\$ 524,481	\$ 577,942	\$ 674,510	\$ 779,954	\$ 511,122	\$ 813,830	\$ 1,005,711	\$ 1,155,271	\$ 1,458,151	\$ 1,774,442	\$ 2,020,579	\$ 2,295,628	\$ 2,613,800
Interest	\$ 5,067	\$ 6,043	\$ 5,834	\$ 6,671	\$ 6,021	\$ 6,111	\$ 6,203	\$ 6,296	\$ 6,391	\$ 6,486	\$ 6,584	\$ 7,370	\$ 7,867	\$ 8,669	\$ 10,118	\$ 11,699	\$ 7,667	\$ 12,207	\$ 15,086	\$ 17,329	\$ 21,872	\$ 26,617	\$ 30,309	\$ 34,434	\$ 39,207
Target Min. Balance (1% of Asset Value)	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000
Amount Below Min. Balance	\$ (57,138)	\$ -	\$ (5,261)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Total Debt Capacity

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Total Debt Limit	\$ 331,996	\$ 390,134	\$ 534,115	\$ 647,301	\$ 810,883	\$ 910,522	\$ 979,573	\$ 1,019,052	\$ 1,076,375	\$ 1,089,319	\$ 1,100,281	\$ 755,863	\$ 698,096	\$ 676,734	\$ 667,843	\$ 660,537	\$ 697,971	\$ 713,783	\$ 675,198	\$ 677,634	\$ 681,520	\$ 684,447	\$ 694,058	\$ 705,423	\$ 717,015
Less Curent Debt Repayment	\$ 47,580	\$ 46,530	\$ 478,048	\$ 600,087	\$ 723,091	\$ 789,818	\$ 831,859	\$ 858,360	\$ 1,053,873	\$ 1,071,196	\$ 1,079,902	\$ 1,114,388	\$ 677,759	\$ 555,019	\$ 431,416	\$ 363,392	\$ 321,351	\$ 296,433	\$ 100,921	\$ 68,665	\$ 41,374	\$ 6,889	\$ 3,262	\$ 3,262	\$ 3,262
Available Debt Capacity	\$ 284,416	\$ 343,603	\$ 56,066	\$ 47,214	\$ 87,792	\$ 120,704	\$ 147,715	\$ 160,692	\$ 22,502	\$ 18,123	\$ 20,378	\$ (358,525)	\$ 20,338	\$ 121,715	\$ 236,427	\$ 297,145	\$ 376,620	\$ 417,350	\$ 574,278	\$ 608,969	\$ 640,146	\$ 677,559	\$ 690,796	\$ 702,161	\$ 713,753

Total Debt Limit Assumed to be 25% of Net Revenue (not including one-time grants) for debt capacity projection purposes

APPENDIX G

ALTERNATIVE STRATEGY NO.2
25-YEAR FINANCIAL PROJECTIONS

APPENDIX G: ALTERNATIVE STRATEGY NO.2 (25-YEAR FINANCIAL PROJECTIONS)

WATER SYSTEM ASSET REQUIREMENTS

Description	Forecast																							
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Capital Budget																								
Update SCADA computer terminals (2)	11,330	-	-	-	-	13,135	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Upgrade contact tank chlorine analyzer feed system with pump	5,150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Replace citric acid pump	-	5,145	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Replace hypochlorite CIP pump	-	5,145	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Repairs to building eaves trough and soffit	773	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Overhead doors require servicing (2)	1,236	-	-	-	1,391	-	-	-	-	1,613	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Replace chemical feed pumps (pre chlorine)	-	-	-	21,385	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Replace chemical solution tanks with sealed units and vent outside	4,635	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Move pre chlorine system to replace existing zebra mussel system	-	-	-	3,264	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Complete upgrades to filter backwash plumbing	7,725	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Replace Chlorine analyzer	-	3,183	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Load Test Generator	1,957	-	-	2,138	-	-	2,337	-	-	2,553	-	-	2,790	-	-	3,049	-	-	3,332	-	-	3,641	-	-
Replace generator batteries	618	-	-	675	-	-	738	-	-	806	-	-	881	-	-	963	-	-	1,052	-	-	1,150	-	-
rebuild kit for plant pressure relief valve	1,236	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Upgrades to tower to bring equipment into compliance with current legislation	2,781	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SWOB Complete system	-	-	9,288	9,567	-	-	-	10,768	11,091	-	-	-	12,483	12,857	-	-	-	14,471	14,905	-	-	-	16,775	17,279
Stock up on Distribution parts	5,150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Intake Inspection	15,347	-	-	-	-	6,567	-	-	-	-	7,613	-	-	-	-	8,826	-	-	-	-	10,232	-	-	-
Rehabilitation Budget																								
Water Mains	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Services	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Hydrants	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Buildings	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Land	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Replacement Budget																								
Water Mains	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Services	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Hydrants	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Buildings	1,751,000	-	-	-	-	-	-	-	-	-	-	-	206,776	-	-	-	-	-	-	-	87,259	-	1,585,025	-
Water Land	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Capital Requirements	1,808,938	13,473	9,288	37,029	1,391	19,702	3,075	10,768	11,091	4,972	7,613	-	222,930	12,857	-	12,838	-	14,471	19,289	-	97,491	4,790	1,601,800	17,279

Water System Financial Projections

Cost / Revenue Item	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Township 5-Year Capital Forecast	\$ -	\$ 57,938	\$ 13,473	\$ 9,288	\$ 37,029	\$ 1,391	\$ 19,702	\$ 3,075	\$ 10,768	\$ 11,091	\$ 4,972	\$ 7,613	\$ -	\$ 16,154	\$ 12,857	\$ -	\$ 12,838	\$ -	\$ 14,471	\$ 19,289	\$ -	\$ 10,232	\$ 4,790	\$ 16,775	\$ 17,279
Asset Rehabilitation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Asset Replacement	\$ -	\$ 1,751,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 206,776	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 87,259	\$ -	\$ 1,585,025	\$ -
Total Capital Requirements	\$ -	\$ 1,808,938	\$ 13,473	\$ 9,288	\$ 37,029	\$ 1,391	\$ 19,702	\$ 3,075	\$ 10,768	\$ 11,091	\$ 4,972	\$ 7,613	\$ -	\$ 222,930	\$ 12,857	\$ -	\$ 12,838	\$ -	\$ 14,471	\$ 19,289	\$ -	\$ 97,491	\$ 4,790	\$ 1,601,800	\$ 17,279
Debt Financing	\$ -	\$ 1,698,938	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 17,279
Capital Reserve Financing	\$ -	\$ 110,000	\$ 13,473	\$ 9,288	\$ 37,029	\$ 1,391	\$ 19,702	\$ 3,075	\$ 10,768	\$ 11,091	\$ 4,972	\$ 7,613	\$ -	\$ 222,930	\$ 12,857	\$ -	\$ 12,838	\$ -	\$ 14,471	\$ 19,289	\$ -	\$ 97,491	\$ 4,790	\$ 1,601,800	\$ -
Other Financing (Grants, third party, etc.)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Capital Financing	\$ -	\$ 1,808,938	\$ 13,473	\$ 9,288	\$ 37,029	\$ 1,391	\$ 19,702	\$ 3,075	\$ 10,768	\$ 11,091	\$ 4,972	\$ 7,613	\$ -	\$ 222,930	\$ 12,857	\$ -	\$ 12,838	\$ -	\$ 14,471	\$ 19,289	\$ -	\$ 97,491	\$ 4,790	\$ 1,601,800	\$ 17,279
Operations & Maintenance	\$ 179,101	\$ 183,128	\$ 185,261	\$ 188,966	\$ 192,745	\$ 196,600	\$ 202,232	\$ 204,543	\$ 208,634	\$ 212,806	\$ 217,063	\$ 223,404	\$ 225,832	\$ 230,349	\$ 234,956	\$ 239,655	\$ 246,648	\$ 249,337	\$ 254,323	\$ 259,410	\$ 264,598	\$ 272,390	\$ 275,288	\$ 280,794	\$ 286,409
Transfers to Capital Reserves	\$ 29,000	\$ 120,000	\$ 29,000	\$ 29,000	\$ 29,000	\$ 29,000	\$ 29,000	\$ 29,000	\$ 29,000	\$ 29,000	\$ 29,000	\$ 29,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000
Debt Repayment	\$ -	\$ -	\$ 209,464	\$ 209,464	\$ 209,464	\$ 209,464	\$ 209,464	\$ 209,464	\$ 209,464	\$ 209,464	\$ 209,464	\$ 209,464	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Less Non-Rate Revenues	\$ 3,100	\$ 3,162	\$ 3,225	\$ 3,290	\$ 3,356	\$ 3,423	\$ 3,491	\$ 3,561	\$ 3,632	\$ 3,705	\$ 3,779	\$ 3,854	\$ 3,932	\$ 4,010	\$ 4,090	\$ 4,172	\$ 4,256	\$ 4,341	\$ 4,428	\$ 4,516	\$ 4,606	\$ 4,699	\$ 4,793	\$ 4,888	\$ 4,986
Revenue Requirements (from Users)	\$ 205,001	\$ 299,966	\$ 420,499	\$ 424,140	\$ 427,853	\$ 431,641	\$ 437,205	\$ 439,446	\$ 443,465	\$ 447,565	\$ 451,747	\$ 458,013	\$ 421,900	\$ 426,338	\$ 430,865	\$ 435,482	\$ 442,392	\$ 444,996	\$ 449,896	\$ 454,894	\$ 459,992	\$ 467,691	\$ 470,495	\$ 475,905	\$ 481,423
Annual Increase (\$)	\$ -	\$ 94,965	\$ 120,533	\$ 3,641	\$ 3,714	\$ 3,788	\$ 5,564	\$ 2,241	\$ 4,020	\$ 4,100	\$ 4,182	\$ 6,266	\$ (36,113)	\$ 4,438	\$ 4,527	\$ 4,617	\$ 6,910	\$ 2,604	\$ 4,900	\$ 4,998	\$ 5,098	\$ 7,700	\$ 2,804	\$ 5,410	\$ 5,518
Annual Increase (%)	0%	46%	40%	1%	1%	1%	1%	1%	1%	1%	1%	1%	-8%	1%	1%	1%	2%	1%	1%	1%	1%	2%	1%	1%	1%

APPENDIX G: ALTERNATIVE STRATEGY NO.2 (25-YEAR FINANCIAL PROJECTIONS)

Water System Capital Reserve Schedule

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Opening Balance	\$ 105,746	\$ 146,917	\$ 169,421	\$ 197,872	\$ 230,998	\$ 236,464	\$ 268,034	\$ 281,492	\$ 312,028	\$ 335,214	\$ 358,420	\$ 388,185	\$ 415,716	\$ 624,952	\$ 611,052	\$ 810,168	\$ 1,025,321	\$ 1,230,670	\$ 1,452,130	\$ 1,662,224	\$ 1,870,579	\$ 2,101,638	\$ 2,237,209	\$ 2,468,905	\$ 1,083,112
Transfer from Operating	\$ 39,000	\$ 130,000	\$ 39,000	\$ 39,000	\$ 39,000	\$ 29,000	\$ 29,000	\$ 29,000	\$ 29,000	\$ 29,000	\$ 29,000	\$ 29,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000
Transfer to Capital	\$ -	\$ 110,000	\$ 13,473	\$ 9,288	\$ 37,029	\$ 1,391	\$ 19,702	\$ 3,075	\$ 10,768	\$ 11,091	\$ 4,972	\$ 7,613	\$ -	\$ 222,930	\$ 12,857	\$ -	\$ 12,838	\$ -	\$ 14,471	\$ 19,289	\$ -	\$ 97,491	\$ 4,790	\$ 1,601,800	\$ -
Transfer to Operating	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<i>Closing Balance</i>	\$ 144,746	\$ 166,917	\$ 194,948	\$ 227,584	\$ 232,969	\$ 264,073	\$ 277,332	\$ 307,417	\$ 330,260	\$ 353,123	\$ 382,448	\$ 409,572	\$ 615,716	\$ 602,022	\$ 798,195	\$ 1,010,168	\$ 1,212,483	\$ 1,430,670	\$ 1,637,659	\$ 1,842,935	\$ 2,070,579	\$ 2,204,147	\$ 2,432,419	\$ 1,067,105	\$ 1,283,112
Interest	\$ 2,171	\$ 2,504	\$ 2,924	\$ 3,414	\$ 3,495	\$ 3,961	\$ 4,160	\$ 4,611	\$ 4,954	\$ 5,297	\$ 5,737	\$ 6,144	\$ 9,236	\$ 9,030	\$ 11,973	\$ 15,153	\$ 18,187	\$ 21,460	\$ 24,565	\$ 27,644	\$ 31,059	\$ 33,062	\$ 36,486	\$ 16,007	\$ 19,247
Target Min. Balance (1% of Asset Value)	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000
Amount Below Min. Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

TAX SUPPORTED SERVICES ASSET REQUIREMENTS

Description	Forecast																								
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	
Capital Budget																									
Building Inspections (10 x \$5000)	10,300	10,609	10,927	11,255	11,593	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Roof Replacement & Stone Rehab (Old Mill)	113,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road Resurfacing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
New Backhoe	113,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bridge Inspections	3,090	-	3,278	-	3,478	-	3,690	-	3,914	-	4,153	-	4,406	-	4,674	-	4,959	-	5,261	-	5,581	-	5,921	-	-
Bridge Rehab Allowance	-	5,305	-	5,628	-	5,970	-	6,334	-	6,720	-	7,129	-	7,563	-	8,024	-	8,512	-	9,031	-	9,581	-	9,581	10,164
Road Inspections	-	3,183	-	3,377	-	3,582	-	3,800	-	4,032	-	4,277	-	4,538	-	4,814	-	5,107	-	5,418	-	5,748	-	5,748	6,098
Rehabilitation Budget																									
Recreation Buildings	78,820	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Recreation Land	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Recreation Equipment	39,115	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solid Waste Buildings	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solid Waste Land	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solid Waste Vehicles	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road Buildings	-	26,523	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road Land	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road Vehicles and Equipment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road Base	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road Surface	327,113	336,926	347,034	357,445	368,168	379,213	390,589	402,307	414,376	426,808	439,612	452,800	466,384	480,376	494,787	509,631	524,920	540,667	556,887	573,594	590,802	608,526	626,781	645,585	-
Road Culverts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road Bridges	15,450	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Replacement Budget																									
Recreation Buildings	-	-	-	-	-	-	-	-	-	-	29,415	-	-	-	-	-	-	-	-	-	-	-	142,357	-	49,340
Recreation Land	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Recreation Equipment	-	-	-	-	-	-	-	-	-	-	-	12,832	-	-	-	-	-	-	-	-	-	-	141,291	-	-
Solid Waste Buildings	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solid Waste Land	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solid Waste Vehicles	15,478	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road Buildings	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	719,457	-
Road Land	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road Vehicles and Equipment	21,462	-	-	-	-	33,694	247,577	97,695	-	-	-	-	-	-	-	-	421,406	-	160,265	-	-	-	-	-	-
Road Base	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road Surface	-	-	-	-	-	-	155,855	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road Culverts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Capital Requirements	737,427	382,545	361,239	377,704	383,239	639,824	797,711	510,136	418,291	437,559	473,180	477,038	470,790	492,477	499,461	943,874	529,878	674,613	722,413	588,043	880,031	1,343,312	682,042	661,847	

APPENDIX G: ALTERNATIVE STRATEGY NO.2 (25-YEAR FINANCIAL PROJECTIONS)

Tax Supported Services Financial Projections

Cost / Revenue Item	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Township 5-Year Capital Forecast	\$ 239,990	\$ 19,096	\$ 14,205	\$ 20,259	\$ 15,071	\$ 9,552	\$ 3,690	\$ 10,134	\$ 3,914	\$ 10,751	\$ 4,153	\$ 11,406	\$ 4,406	\$ 12,101	\$ 4,674	\$ 12,838	\$ 4,959	\$ 13,619	\$ 5,261	\$ 14,449	\$ 5,581	\$ 15,329	\$ 5,921	\$ 16,262
Asset Rehabilitation	\$ 460,497	\$ 363,448	\$ 347,034	\$ 357,445	\$ 368,168	\$ 596,578	\$ 390,589	\$ 402,307	\$ 414,376	\$ 426,808	\$ 439,612	\$ 452,800	\$ 466,384	\$ 480,376	\$ 494,787	\$ 509,631	\$ 524,920	\$ 540,667	\$ 556,887	\$ 573,594	\$ 590,802	\$ 608,526	\$ 626,781	\$ 645,585
Asset Replacement	\$ 36,940	\$ -	\$ -	\$ -	\$ -	\$ 33,694	\$ 403,432	\$ 97,695	\$ -	\$ -	\$ 29,415	\$ 12,832	\$ -	\$ -	\$ -	\$ 421,406	\$ -	\$ 120,326	\$ 160,265	\$ -	\$ 283,648	\$ 719,457	\$ 49,340	\$ -
<i>Total Capital Requirements</i>	\$ 737,427	\$ 382,545	\$ 361,239	\$ 377,704	\$ 383,239	\$ 639,824	\$ 797,711	\$ 510,136	\$ 418,291	\$ 437,559	\$ 473,180	\$ 477,038	\$ 470,790	\$ 492,477	\$ 499,461	\$ 943,874	\$ 529,878	\$ 674,613	\$ 722,413	\$ 588,043	\$ 880,031	\$ 1,343,312	\$ 682,042	\$ 661,847
Debt Financing	\$ 447,427	\$ 363,449	\$ -	\$ -	\$ -	\$ 33,694	\$ 403,432	\$ 97,695	\$ -	\$ -	\$ 29,415	\$ -	\$ -	\$ -	\$ -	\$ 421,406	\$ -	\$ -	\$ 160,265	\$ -	\$ 283,648	\$ 678,739	\$ -	\$ -
Capital Reserve Financing	\$ 290,000	\$ 19,096	\$ 361,239	\$ 377,704	\$ 383,239	\$ 606,130	\$ 394,279	\$ 412,441	\$ 418,291	\$ 437,559	\$ 443,765	\$ 477,038	\$ 470,790	\$ 492,477	\$ 499,461	\$ 522,468	\$ 529,878	\$ 674,613	\$ 562,148	\$ 588,042	\$ 596,383	\$ 664,572	\$ 682,042	\$ 661,847
Other Financing (Grants, third party, etc.)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<i>Total Capital Financing</i>	\$ 737,427	\$ 382,545	\$ 361,239	\$ 377,704	\$ 383,239	\$ 639,824	\$ 797,711	\$ 510,136	\$ 418,291	\$ 437,559	\$ 473,180	\$ 477,038	\$ 470,790	\$ 492,477	\$ 499,461	\$ 943,874	\$ 529,878	\$ 674,613	\$ 722,413	\$ 588,042	\$ 880,031	\$ 1,343,311	\$ 682,042	\$ 661,847
Operations & Maintenance	\$ 1,553,726	\$ 1,584,801	\$ 1,616,497	\$ 1,648,827	\$ 1,681,803	\$ 1,715,439	\$ 1,749,748	\$ 1,784,743	\$ 1,820,438	\$ 1,856,847	\$ 1,893,984	\$ 1,931,863	\$ 1,970,500	\$ 2,009,910	\$ 2,050,109	\$ 2,091,111	\$ 2,132,933	\$ 2,175,592	\$ 2,219,104	\$ 2,263,486	\$ 2,308,755	\$ 2,354,930	\$ 2,402,029	\$ 2,450,070
Transfers to Capital Reserves	\$ 360,000	\$ 275,000	\$ 220,000	\$ 360,000	\$ 440,000	\$ 440,000	\$ 440,000	\$ 440,000	\$ 450,000	\$ 470,000	\$ 480,000	\$ 540,000	\$ 600,000	\$ 600,000	\$ 600,000	\$ 600,000	\$ 600,000	\$ 720,000	\$ 740,000	\$ 760,000	\$ 800,000	\$ 800,000	\$ 820,000	\$ 900,000
Debt Repayment	\$ 46,530	\$ 92,956	\$ 137,065	\$ 136,466	\$ 135,169	\$ 135,169	\$ 139,324	\$ 189,063	\$ 184,496	\$ 165,912	\$ 165,912	\$ 114,375	\$ 69,565	\$ 69,565	\$ 69,565	\$ 69,565	\$ 117,367	\$ 67,627	\$ 55,582	\$ 75,341	\$ 75,341	\$ 106,686	\$ 190,368	\$ 190,368
Less Non-Rate Revenues	\$ 719,688	\$ 537,426	\$ 342,055	\$ 246,776	\$ 251,711	\$ 256,746	\$ 261,880	\$ 267,118	\$ 272,460	\$ 277,910	\$ 283,468	\$ 289,137	\$ 294,920	\$ 300,818	\$ 306,835	\$ 312,971	\$ 319,231	\$ 325,615	\$ 332,128	\$ 338,770	\$ 345,546	\$ 352,457	\$ 359,506	\$ 366,696
<i>Revenue Requirements (from Users)</i>	\$ 1,240,568	\$ 1,415,330	\$ 1,631,507	\$ 1,898,517	\$ 2,005,260	\$ 2,033,862	\$ 2,067,191	\$ 2,146,688	\$ 2,182,474	\$ 2,214,849	\$ 2,256,428	\$ 2,297,101	\$ 2,345,146	\$ 2,378,657	\$ 2,412,839	\$ 2,447,705	\$ 2,531,069	\$ 2,637,603	\$ 2,682,558	\$ 2,760,057	\$ 2,838,551	\$ 2,909,160	\$ 3,052,892	\$ 3,173,742
Annual Increase (\$)	\$ 117,586	\$ 174,762	\$ 216,176	\$ 267,010	\$ 106,744	\$ 28,602	\$ 33,329	\$ 79,497	\$ 35,785	\$ 32,376	\$ 41,579	\$ 40,673	\$ 48,045	\$ 33,512	\$ 34,182	\$ 34,865	\$ 83,364	\$ 106,535	\$ 44,955	\$ 77,499	\$ 78,494	\$ 70,609	\$ 143,732	\$ 120,850
Annual Increase (%)	10%	14%	15%	16%	6%	1%	2%	4%	2%	1%	2%	2%	2%	1%	1%	1%	3%	4%	2%	3%	3%	2%	5%	4%

Tax Supported Services Capital Reserve Schedule (all reserves combined)

Description	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Opening Balance	\$ 285,727	\$ 342,862	\$ 419,055	\$ 685,083	\$ 552,002	\$ 542,312	\$ 608,059	\$ 448,558	\$ 501,693	\$ 537,191	\$ 577,434	\$ 619,023	\$ 665,087	\$ 738,970	\$ 881,203	\$ 1,003,557	\$ 1,120,657	\$ 1,216,162	\$ 1,305,578	\$ 1,371,229	\$ 1,572,317	\$ 1,770,439	\$ 2,003,667	\$ 2,171,181	\$ 2,343,776
Transfer from Operating	\$ 315,068	\$ 360,000	\$ 275,000	\$ 220,000	\$ 360,000	\$ 440,000	\$ 440,000	\$ 440,000	\$ 440,000	\$ 450,000	\$ 470,000	\$ 480,000	\$ 540,000	\$ 600,000	\$ 600,000	\$ 600,000	\$ 600,000	\$ 600,000	\$ 720,000	\$ 740,000	\$ 760,000	\$ 800,000	\$ 800,000	\$ 820,000	\$ 900,000
Transfer to Capital	\$ 263,000	\$ 290,000	\$ 19,096	\$ 361,239	\$ 377,704	\$ 383,239	\$ 606,130	\$ 394,279	\$ 412,441	\$ 418,291	\$ 437,559	\$ 443,765	\$ 477,038	\$ 470,790	\$ 492,477	\$ 499,461	\$ 522,468	\$ 529,878	\$ 674,613	\$ 562,148	\$ 588,042	\$ 596,383	\$ 664,572	\$ 682,042	\$ 661,847
Transfer to Operating	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<i>Closing Balance</i>	\$ 337,795	\$ 412,862	\$ 674,959	\$ 543,844	\$ 534,298	\$ 599,073	\$ 441,929	\$ 494,279	\$ 529,252	\$ 568,900	\$ 609,875	\$ 655,258	\$ 728,049	\$ 868,180	\$ 988,726	\$ 1,104,096	\$ 1,198,189	\$ 1,286,284	\$ 1,350,965	\$ 1,549,081	\$ 1,744,275	\$ 1,974,056	\$ 2,139,095	\$ 2,309,139	\$ 2,581,929
Interest	\$ 5,067	\$ 6,193	\$ 10,124	\$ 8,158	\$ 8,014	\$ 8,986	\$ 6,629	\$ 7,414	\$ 7,939	\$ 8,534	\$ 9,148	\$ 9,829	\$ 10,921	\$ 13,023	\$ 14,831	\$ 16,561	\$ 17,973	\$ 19,294	\$ 20,264	\$ 23,236	\$ 26,164	\$ 29,611	\$ 32,086	\$ 34,637	\$ 38,729
Target Min. Balance (1% of Asset Value)	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000
Amount Below Min. Balance	\$ (57,138)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Total Debt Capacity

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Total Debt Limit	\$ 385,134	\$ 458,957	\$ 513,912	\$ 581,593	\$ 609,225	\$ 617,767	\$ 626,659	\$ 647,538	\$ 657,510	\$ 666,649	\$ 678,610	\$ 679,750	\$ 692,871	\$ 702,381	\$ 712,080	\$ 722,524	\$ 744,016	\$ 771,875	\$ 784,363	\$ 805,012	\$ 826,561	\$ 844,914	\$ 882,199	\$ 913,791
Less Current Debt Repayment	\$ 46,530	\$ 302,419	\$ 346,528	\$ 345,929	\$ 344,632	\$ 344,632	\$ 348,788	\$ 398,527	\$ 393,960	\$ 375,376	\$ 375,376	\$ 114,375	\$ 69,565	\$ 69,565	\$ 69,565	\$ 69,565	\$ 117,367	\$ 67,627	\$ 55,582	\$ 75,341	\$ 75,341	\$ 106,686	\$ 190,368	\$ 190,368
<i>Available Debt Capacity</i>	\$ 338,603	\$ 156,538	\$ 167,383	\$ 235,663	\$ 264,593	\$ 273,134	\$ 277,872	\$ 249,011	\$ 263,550	\$ 291,273	\$ 303,234	\$ 565,375	\$ 623,306	\$ 632,815	\$ 642,515	\$ 652,959	\$ 626,650	\$ 704,248	\$ 728,781	\$ 729,671	\$ 751,219	\$ 738,228	\$ 691,831	\$ 723,423

Total Debt Limit Assumed to be 25% of Net Revenue (not including one-time grants) for debt capacity projection purposes

APPENDIX H

RISK ASSESSMENT

APPENDIX H: RISK ASSESSMENT

Likelihood and Consequence (Risk Level) Chart

Likelihood	Consequence		
	Minor	Moderate	Major
Likely	Medium	Medium	High
Somewhat Likely	Low	Medium	High
Unlikely	Low	Medium	High

Risk Assessment

Risks	Likelihood	Consequence	Level of Risk	Priority	Strategy No.1	Strategy No.2	Assessment	Preferred Strategy
Water System								
Frequent main breaks affecting supply to localized areas	Unlikely	Minor	Medium	Low	Replace watermains as their expected lives expire	Continue regular watermain maintenance as they are in relatively good condition and non-critical.	Mains in relatively good condition. Continuation of regular maintenance offers acceptable risk	Strategy No.2
Service connection failure affecting customers	Unlikely	Minor	Medium	Low	Replace service connections as their expected lives expire	Continue regular service connection maintenance as they are in relatively good condition and non-critical.	Pipes in relatively good condition. Continuation of regular maintenance offers acceptable risk	Strategy No.2
Water valve and hydrant failure affecting ability to isolate system and fire fighting capability	Unlikely	Major	Medium	Low	Replace hydrants and valves as they fail	Continue regular hydrant and valve maintenance as they are in relatively good condition	No major issues. Regular maintenance would address risks	Strategy No.2
Potential loss of treatment capability due to failing membrane filter. Would affect ability to supply water; Impact to public health and image; significant costs	Likely	Major	High	High	Replace membrane filters as this is critical to the water supply and not in good condition based on operational information	Replace membrane filters as this is critical to the water supply and not in good condition based on operational information	Membrane condition is a major risk if goes unattended. Replacement offers best risk reduction. Rehabilitation may offer acceptable risk but may be relatively expensive and not as reliable as replacement	Both offer same risk reduction
Potential loss of treatment capability due to deterioration of structure. Would affect ability to supply water; Impact to public health and image; significant costs	Unlikely	Moderate	Medium	Low	Replace structural components as their expected lives expire	Inspect & rehabilitate structural components as needed	Structure is in relatively good condition. No issues identified. Periodic inspections and rehabilitation offer acceptable risk	Strategy No.2

APPENDIX H: RISK ASSESSMENT

Risks	Likelihood	Consequence	Level of Risk	Priority	Strategy No.1	Strategy No.2	Assessment	Preferred Strategy
Potential loss of treatment capability due to failing electrical and mechanical components. Would affect ability to supply water; Impact to public health and image; significant costs	Unlikely	Moderate	Medium	Low	Replace mechanical / electrical equipment as their expected lives expire	Inspect, maintain & replace mechanical / electrical equipment as needed	Most electrical/ mechanical components are in relatively good condition. Periodic inspections and rehabilitation or replacement as needed offer acceptable risk	Strategy No.2
Administration Buildings								
Poor building condition potentially resulting in loss of use and public safety issues; Public image affected; significant costs	Likely	Moderate	Medium	High	Replace building components as their expected lives expire	Undertake inspections to assess need and rehabilitate as necessary. Two facilities are in need of work based on current condition	Strategy No.2 offers reasonable risk reduction. Inspection of the two facilities required immediately	Strategy No.2
Fire Protection Equipment								
Reduced capacity to respond to fire call outs due to buildings in poor condition	Unlikely	Major	Low	Low	Replace building components as their expected lives expire	Undertake inspections to assess need and rehabilitate as necessary. Not critical at this time. In relatively good condition	Building in good condition. No issues identified. Strategy No.2 offers acceptable risk management	Strategy No.2
Reduced capacity to respond to fire call outs due to equipment in poor condition	Unlikely	Major	Low	Low	Replace vehicles as needed	Vehicles in relatively good condition. Continue regular maintenance	No major issues. Regular maintenance would address risks	Strategy No.2
Recreation Facilities								
Fair to poor asset condition resulting in temporary loss of use; public image impact; public safety issues	Likely	Minor	Medium	Medium	Replace building components as their expected lives expire	Undertake inspections to assess need and rehabilitate as necessary. Two facilities are in need of work based on current condition	Strategy No.2 offers reasonable risk reduction. Inspection of the two facilities required immediately	Strategy No.2
Fair to poor asset condition resulting in temporary loss of use; public image impact; public safety issues	Unlikely	Minor	Low	Low	Replace equipment as needed	Replace equipment as needed	No major issues identified.	Both offer same risk reduction
Solid Waste System								
Reduced capacity to respond to deliver service due to buildings in poor condition	Unlikely	Moderate	Medium	Low	Replace building components as their expected lives expire	Undertake inspections to assess need and rehabilitate as necessary. Facility is relatively good condition. Not critical.	Assets in good condition. Strategy No.2 offers acceptable risk management	Strategy No.2

APPENDIX H: RISK ASSESSMENT

Risks	Likelihood	Consequence	Level of Risk	Priority	Strategy No.1	Strategy No.2	Assessment	Preferred Strategy
Reduced capacity to respond to deliver service due to equipment in poor condition	Somewhat Likely	Moderate	Medium		One vehicle is poor condition. Replace vehicles as needed	One vehicle is poor condition. Replace vehicles as needed	Replacement offers the best risk reduction	Both offer same risk reduction
Road Network								
Poor road base condition potentially affecting public safety; significant costs	Unlikely	Minor	Low	Low	Replace road base sections as they expire	Repair and reconstruct road base sections only as needed based on inspections. In relatively good condition. Non critical.	Road Base is in good condition. Strategy No.2 offers acceptable risk management	Strategy No.2
Poor road surface condition potentially affecting public safety; significant costs	Likely	Major	High	High	Approximately 63 km of surface in poor condition. Replace backlog of road surface sections in poor condition over 10 years	Approximately 63 km of surface in poor condition. Continue annual road resurfacing (rehabilitation) program and replace road surface based on inspections and prioritized need over the 25 year period.	Strategy No.1 offers faster road resurfacing. Strategy No.2 lowers risk of further surface deterioration by having ongoing resurfacing and addresses backlog over time.	Strategy No.2
Poor bridge condition potentially affecting public safety; significant costs	Unlikely	Major	High	Medium	Replace bridges as they expire	Bridges are in relatively good condition. Rehabilitate bridges based on inspections	Strategy No.2 offer acceptable risk by undertaking inspection-based work as needed	Strategy No.2
Poor culvert condition potentially affecting public safety; affecting drainage; significant costs	Unlikely	Moderate	Medium	Low	Replace culverts as they expire	Culverts are in relatively good condition. Rehabilitate culverts based on inspections	Strategy No.2 offer acceptable risk by undertaking inspection-based work as needed	Strategy No.2
Fair to poor vehicle condition affecting ability to carry out operations and respond to situations; Public image impact; reduced level of service	Likely	Minor	Medium	High	Replace vehicles as needed	Three vehicles are in fair to poor condition. Replace vehicles as needed	Replacement offers best risk reduction	Both offer same risk reduction
Fair to poor facility electrical/ mechanical condition affecting ability to carry out operations and respond to situations; worker safety issues; Public image impact; reduced level of service	Somewhat Likely	Minor	Medium	Low	Replace building components as their expected lives expire	Undertake inspections to assess need and rehabilitate as necessary	Strategy No.2 offers reasonable risk reduction	Strategy No.2