Village of Hilton Beach

Asset Management Plan

Final Report on:

Step 1 - Condition Assessment - State of Local Infrastructure

Step 2 - Desired Level of Service

Step 3 - Asset Management Strategy/Francing Strategy

March 25, 2014

To: Gloria Fischer
Clerk-Treasurer, Village of Hilton Beach
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BDO Canada LLP
Chartered Accountants and Advisors

March 25, 2014

Gloria Fischer Clerk Treasurer, Village of Hilton Beach PO Box 25 3100 Bowker Street Hilton Beach, ON POR 1G0

RE: Municipal Asset Management Plan

Dear Gloria:

Please find attached our final written report as per our discussion on Step 1 - Condition Assessment - State Of Local Infrastructure, Step 2 - Desired Level of Service for the Village's Asset Management Plan (AMP) and Step 3 - Asset Management Strategy/Financing Strategy. Step 3 - Asset Management Strategy/Financing Strategy is the final piece of the AMP and will attach the financial/budgeting strategies to this plan, based on the performance/risk/priorities identified herein. Once you have reviewed, we can set some time aside to discuss the implementation and any other questions or concerns you may have.

Keep in mind, the AMP is a tool and process that, once accepted and adopted, will provide the foundation for maintaining and operating Hilton Beach's assets in a cost effective manner to help ensure long-term sustainability of your Village's assets. The process requires a change in the way your Council does business and some development time. Thus, your Village's involvement at each step of the process is important in not only creating a successful AMP, but ensuring the understanding, knowledge and capacity is transferred to the Village to maintain the document and process over time. As always, we are available to assist now and in the future, should there be any uncertainties.

Yours sincerely,

Joe Melisek B.Sc. B.A. CMC Associate

Advisory Services BDO Canada LLP

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INTRODUCTION

Asset management planning is the process of making the best possible decisions regarding the building, operating, maintaining, renewing, replacing and disposing of infrastructure assets. The objective is to maximize benefits, manage risk, and provide satisfactory levels of service (LOS) to the public in a sustainable manner such that future users do not pay higher costs for the same LOS as current users.

The Ministry of Infrastructure's Guide for Municipal Asset Management Plans says that "Asset management requires a thorough understanding of the characteristics and condition of infrastructure assets, as well as the service levels expected from them. It also involves setting strategic priorities to optimize decision-making about when and how to proceed with investments. Finally, it requires the development of a financial plan, which is the most critical step in putting the plan into action". The province's goals for municipal infrastructure include: making good asset management planning universal; moving toward optimal use of a full range of infrastructure financing tools; and addressing the structural challenges facing small communities.

Asset management is considered to be crucial to the ongoing well being of Municipalities in Canada. As a municipality, it is important to ask ~ why? This is largely due to the significant infrastructure gap which has been created in Canada in the past 50-60 years, as well as the recent trend to transfer the responsibility of infrastructure investment to provinces and municipalities without sufficient resources. This is evidenced by¹:

- Investment in infrastructure in Canada has declined from 3% of GDP in the late 1950's to approximately 1.5% of GDP in the mid 2000's;
 - This represents approximately \$24B in missing annual investment in public capital each year.
- This decline has been created by 4 main factors:
 - Fiscal Imbalance
 - In 1955 the federal government owned 44% of the Canadian public capital stock, the provinces owned 34%, and local governments 22%;
 - This has reversed as of 2011, as the federal government owned only 13% of the stock, the provinces 35%, and municipalities 52%.
 - Use of Federal Spending Power

¹ "Canada's Infrastructure Gap - Where It Came From and Why It Will Cost So Much To Close", by Hugh Mackenzie, Canadian Centre for Policy Alternatives, January 2013

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- The fiscal imbalance noted above was not offset by a corresponding increase in transfer payments from the Federal Government to the Provinces and Local Governments. I.e. the shift in responsibility for public capital investment was not matched by corresponding transfer increases;
- Transfer payments were 3% of GDP in 1960, 4% to 4.5% in the 70's and 80's and then falling back to 1960's levels in the early to mid 2000's

Deficit Politics

- Trend towards Federal aversion to deficit financing;
- Easy to reduce capital spending and routine maintenance to avoid deficits, as there is less resistance to these cuts than cutbacks in other areas;
- Application of private-sector accounting rules to public sector budgets
 - In traditional approaches to accounting in the public sector, the financing of public capital investments through borrowing on capital markets contributes directly to fiscal deficits.

In developing this Asset Management Plan (AMP), reference was made to resources available from Ministry of Infrastructure's Guide for Municipal Asset Management Plans. "The plan sets out a strategic framework that will guide future investments in ways that support economic growth, are fiscally responsible, and respond to changing needs. A key element of this framework is ensuring good stewardship through proper asset management. Municipalities deliver many of the services that are critical to Ontarians, and these services rely on well-planned, well-built and well-maintained infrastructure."

An asset management plan is a strategic document that states how a group of assets is to be managed over a period of time. Key components of this document include:

- A description of the characteristics and condition of infrastructure assets;
- the levels of service expected from them, including performance, risk assessment and priority planning;
- planned actions to ensure the assets are providing the expected level of service;
 and.
- financing and monitoring strategies to implement the planned actions.

Report Structure

This AMP relies on the information provided by the Village of Hilton Beach ("the Village") in conjunction with the PSAB 3150 work previously completed by the Village. In particular, the asset inventory, roads improvement plan, fire department vehicles plan and water and sewer maintenance and capital plan are key components of the AMP.

With respect to the condition assessment, the AMP considers the following:

- Water and Sewer management has obtained an assessment of required maintenance and rehabilitation/replacement over the next 10 years from the Ontario Clean Water Agency;
- Roads management has obtained a 10 year roads improvement plan from Tulloch Engineering,
- Vehicles management has obtained a fire department vehicles plan from Tulloch Engineering
- All other Capital Assets management has advised that all other capital assets are either in good condition and do not warrant a 3rd party assessment, or may require future replacement, however these costs are currently unknown and will need to be updated in the future.

With respect to the desired levels of service, the AMP has considers the following, based on discussions with management of the Village:

- Water and Sewer we have considered the assessment of required maintenance and rehabilitation/replacement prepared by the Ontario Clean Water Agency to be comprehensive and reflective of the desired service levels of the Village over the upcoming 10 years.
- Roads we have considered the roads improvement plan prepared by Tulloch Engineering to be comprehensive and reflective of the desired service levels of the Village over the upcoming 10 years.
- Vehicles we have considered the fire department vehicles plan prepared by Tulloch Engineering to be comprehensive and reflective of the desired service levels of the Village over the upcoming 10 years.
- All other Capital Assets discussed with management.

STEP 1 - CONDITION ASSESSMENT - STATE OF LOCAL INFRASTRUCTURE

Asset Inventory

The assets that are the subject of this AMP are the tangible capital assets identified during preparation of the Tangible Capital Asset Accounting (PSAB 3150) documentation. During the PSAB 3150 work, asset inventories were prepared and asset values were established by the following asset categories:

- Water and Sewer
- Roads
- Vehicles
- Land and Improvements

- Buildings and Permanent Structures
- Docks
- · Equipment and Furnishings

This information is presented in the tables below, as well as Appendix I.

Asset Value

The spreadsheets in Appendix I provide summaries of asset values established during the PSAB 3150 work. Cost and net book value (as at December 31, 2012) of Municipal assets (by category) are depicted in Figures 1 and 2 below. Detailed breakdowns of the assets within each category are presented in the Municipality's PSAB 3150 documentation.

Tangible Capital Assets - Recent Cost Summary

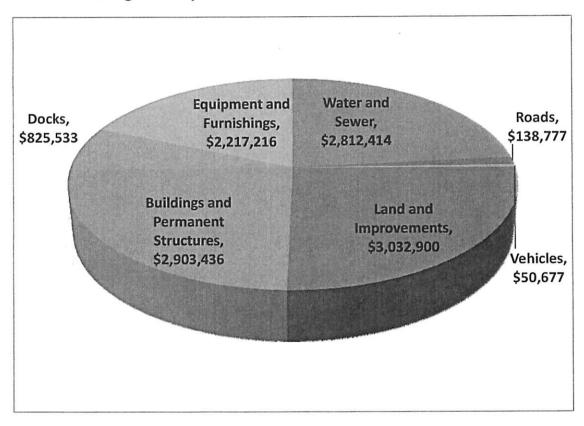


Figure 1: Tangible Capital Assets - Cost Summary

Tangible Capital Assets - Net Book Value (December 31, 2012)

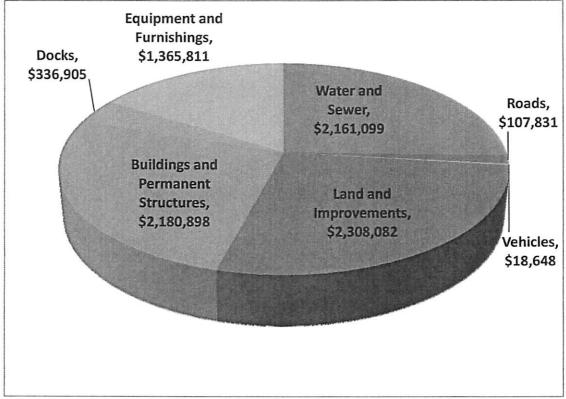


Figure 2: Tangible Capital Assets - Net Book Value (Dec 31/12)

Asset Condition

A key component of the AMP is the ongoing collection of information to facilitate condition assessments of aged and/or problematic assets (e.g. road/bridge/culvert inspections). With respect to the relative condition of the Villages capital, management has obtained 3rd party reports, as well as providing their own insight as follows:

- Water and Sewer management has obtained an assessment of required maintenance and rehabilitation/replacement over the next 10 years from the Ontario Clean Water Agency;
- Roads management has obtained a 10 year roads improvement plan from Tulloch Engineering,
- Vehicles management has obtained a fire department vehicles plan from Tulloch Engineering

 All other Capital Assets - management has advised that all other capital assets are either in good condition and do not warrant a 3rd party assessment, or may require future replacement, however these costs are currently unknown and will need to be updated in the future.

STEP 2 - DESIRED LEVEL OF SERVICE

Level of Service

Level of Service ("LOS") is a qualitative or quantitative measure to describe the accepted or expected performance of an asset or group of assets. The Municipality's objective should be to provide services at the established LOS's in the most cost effective manner. For Hilton Beach, LOS is based on:

- The asset condition assessments:
 - Water and Sewer prepared by the Ontario Clean Water Agency (Appendix II);
 - Roads prepared by Tulloch Engineering (Appendix III)
 - Vehicles prepared by Tulloch Engineering (Appendix IV)
- Interviews and other communications with Gloria Figher, the Clerk-Treasurer of the Village (hereinafter referred to as "management").

What follows is a chart for each asset grouping that:

- summarizes the asset condition assessments provided;
- provides a qualitative LOS description that has been adopted for each asset grouping;
- notes observations from asset condition assessments and communications with management;
- evaluates performance and risk (if possible from available information); and,
- provides recommendations for Step 3 of AMP, which is the Financing/Capital Budgeting Strategy.

Water and Sewer

| Water System - 0 | Capital | | | |
|--|--|------------------|--|--|
| | e - Provide safe, convenient, ition of drinking water meeti | | | |
| System Components | Observation/Interviews | Performance/Risk | Recommendations | |
| Seimens HMI Control Center for Autocon | For remote access | • N/A | 2014Cost - \$20,000 | |
| Spare Fire Hydrant & components/ main valve system | For emergency replacement/repair | • N/A | 2015Cost - \$4,500 | |
| 15 HP Grundfos Well Pump and Motor (Primary Well) | • Spare | • N/A | 2015Cost - \$5,200 | |
| Chlorine Analyzer | Nearing lifespan | • Failure | 2016Cost - \$4,800 | |
| Turbidity Analyzer | Nearing lifespan | • Failure | • 2016 • Cost - \$4,600 | |
| Reservoir Inspection | Five year cycle | • N/A | • 2018 • Cost - \$5,400 | |
| Surefeed Chlorine Chemical Board | • N/A | • N/A | • 2021 • Cost - \$14,500 | |
| Reservoir MCC Panel | • N/A | • N/A | • 2022 • Cost - \$7,500 | |
| Singer Valves | • N/A | • N/A | • 2022 | |

| Water System - | Maintenance | | |
|----------------------|--|------------------|---|
| | e - Provide safe, convenient, ution of drinking water meeti | | |
| System Components | Observation/Interviews | Performance/Risk | Recommendations |
| Main Pump Station | Add a phase, upgrade/rebuild | • N/A | 2014Cost - \$1,000 |

Cost - \$8,500

| W. C. | | | |
|---|-----------------------|-----------|------------------|
| Emergency Lighting | Replacement needed | • Failure | • 2014 |
| | | | • Cost - \$270 |
| UPS for SCADA System | • N/A | • N/A | • 2014 |
| | | | • Cost - \$620 |
| Wall Heater | Replacement required | • Failure | • 2014 |
| | | | • Cost - \$525 |
| WTP/reservoir valves (2) | Valves need replacing | • N/A | • 2019 |
| | | | • Cost - \$1,000 |

| Sewer - Capital | | | | | | |
|---|-----------------------------------|------------------|-----------------------------|--|--|--|
| Levels of Service - Provide safe, convenient, environmentally responsible and cost effective collection and disposal/diversion of waste meeting regulatory requirements | | | | | | |
| Waste | Observation/Interviews | Performance/Risk | Recommendations | | | |
| Main Pump Station | New pump #1 - high efficiency | • N/A | • 2014 • Cost - \$24,564 | | | |
| WWTP | Pressurized water at the plant | • N/A | • 2014 • Cost - \$12,000 | | | |
| WWTP Blower & Motor | Rebuilds | • N/A | • 2015 • Cost - \$3,500 | | | |
| Equalization Tank | Piping and diffusers rebuild | • N/A | • 2015 • Cost - \$3,500 | | | |
| Spare RBC 5.0 HP motor | • N/A | • N/A | • 2016 • Cost - \$9,850 | | | |
| WWTP Blower & Motor | Rebuilds | • N/A | • 2017 • Cost - \$3,500 | | | |
| Spare RBC 2.5 HP pump | • N/A | • N/A | • 2017 • Cost - \$6,440 | | | |
| New Alum Chemical Board (Surefeed) with pumps | • N/A | • N/A | • 2017 • Cost - \$18,000 | | | |

| | | , | |
|--|----------------------------|-------|-------------------|
| Main Pump Station | New pump #2 | • N/A | • 2018 |
| | | | • Cost - \$24,565 |
| WWTP Blower & Motor | • Rebuilds | • N/A | • 2019 |
| | | | • Cost - \$3,500 |
| Verbatim alarming system | Need to increase alarming | • N/A | • 2019 |
| | and response capabilities | | • Cost - \$8,000 |
| WWTP SCADA System | Only manual control | • N/A | • 2020 |
| | available | | • Cost - \$60,000 |
| Main Pump Station MCC Upgrades | • N/A | • N/A | • 2021 |
| | | | • Cost - \$6,500 |
| Main Pump Station MCC Upgrades | Controls, switches and | • N/A | • 2023 |
| 1707 | wiring | | • Cost - \$10,000 |
| WWTP Pump Control Systems | Switches, electrical boxes | • N/A | • 2023 |
| AND THE PERSON OF THE PERSON O | and wiring | | • Cost - \$4,500 |

Sewer - Maintenance

Levels of Service - Provide safe, convenient, environmentally responsible and cost effective collection and disposal/diversion of waste meeting regulatory requirements

| Waste | Observation/Interviews | Performance/Risk | Recommendations |
|-----------------------------------|---------------------------------|----------------------|--------------------|
| | MORE NO POSTAN CANA | T CITOTINGICO / KIDK | - Inccommendations |
| Emergency Lighting - Pump Station | New batteries | • N/A | • 2014 |
| | | | • Cost - \$275 |
| Plant Lighting | Ballasts | • N/A | • 2014 |
| | | | • Cost - \$400 |
| Service Entrance Breaker | New breaker required | • N/A | • 2014 |
| | | | • Cost - \$460 |
| Main Pump Station | Add a phase upgrade/rebuild | • N/A | • 2014 |
| | Require redundancy | | • Cost - \$1,000 |
| Main Pump Station | Add a phase upgrade/rebuild | • N/A | • 2014 |
| | Require redundancy | | • Cost - \$1,000 |



| | | | , |
|---------------------------|--|-----------|------------------|
| Generator Louvers | Three defective motors | • Failure | • 2014 |
| | | | • Cost - \$1,725 |
| Plant HVAC | Replacement needed | • N/A | • 2014 |
| | | | • Cost - \$270 |
| Emergency Lighting WWTP | Replacement needed | • N/A | • 2014 |
| | | | • Cost - \$270 |
| Active Eyewash Station | If permanent water source is attained | • N/A | • 2015 |
| (Permanent) | | | • Cost - \$1,950 |
| RBC #1-#3 | Bearings, gear reducers, chain drive | • N/A | • 2016 |
| | 0.19200000000000000000000000000000000000 | | • Cost - \$2,800 |
| RBC #1-#3 | Bearings, gear reducers, chain drive | • N/A | • 2018 |
| | | | • Cost - \$2,800 |
| RBC Pumps | Back up system required | • N/A | • 2018 |
| | | | • Cost - \$1,000 |
| RBC #1-#3 | Bearings, gear reducers, chain drive | • N/A | • 2020 |
| | 2 | | • Cost - \$2,800 |

Roads

| Roads - Condition | | | | | |
|-------------------|------------------------|------------------------------|---------------------------|--------|------------------------|
| Road Name | Section | Surface Type ² | Year Round or Seasonal | Length | Condition ³ |
| Bowker St. | Bay St. to Mark St. | LCB | Yr Round | 0.1 km | 6 |
| Bay St. | Marks St. to End | Gravel | Yr Round | 0.1 km | 4 |

² Surface Types: LCB - Low Cost Bituminous, HCB - High Class Bituminous

³ Each road section was given a subjective evaluation from 1 to 10 based on current surface condition, surface type and drainage conditions. Condition ratings greater than five are considered acceptable and are expected to require only normal maintenance. A condition rating less than five is considered unacceptable and a road improvement was costed based upon required level of service.

| Marks St. | Marina Rd. to Hilton Rd. (Hwy 548) | НСВ | Yr Round | 0.3 km | 7 |
|--------------------|--|--------|----------|---------|----|
| Bowker St. | Mark St. to Park St. | LCB | Yr Round | 0.1 km | 7 |
| Park St. | Bowker St. to Canoe Point Rd. | LCB | Yr Round | 0.1 km | 6 |
| Park St. | Canoe Point Rd. to Hilton Rd. (Hwy 548) | Gravel | Seasonal | 0.2 km | 3 |
| Canoe Point Rd. | Hilton Rd. (Hwy 548) to Marks St. | LCB | Yr Round | 0.1 km | 8 |
| Canoe Point Rd. | Marks St. to Boundary Rd. | LCB | Yr Round | 0.4 km | 6 |
| Canoe Point Rd. | Boundary Rd. to Soo Mill Rd./Village Boundary | LCB | Yr Round | 0.8 km | 9 |
| Boundary Rd. | Canoe Point Rd. to Ringham St. | LCB | Yr Round | 0.15 km | 6 |
| Ringham St. | Boundary Rd. to Hilton Rd. | LCB | Yr Round | 0.4 km | 6 |
| East St. | Ringham St. to Canoe Point Rd. | LCB | Yr Round | 0.16 km | 6 |
| Maple St. | Hilton Rd. (Hwy 548) to Third St. | LCB | Yr Round | 0.2 km | 10 |
| Maple St. | Third St. to South End | Gravel | Yr Round | 0.08 km | 3 |
| Second St. | Maple St. to South St. | LCB | Yr Round | 0.2 km | 6 |
| First St. | Maple St. to South St. | LCB | Yr Round | 0.2 km | 6 |
| South St. | Hilton Rd. (Hwy 548) to Second St. | LCB | Yr Round | 0.18 km | 7 |
| South St. | Second St. to Sixth St. | LCB | Yr Round | 0.4 km | 7 |
| South St. | Sixth St. to South End | Gravel | Yr Round | 0.08 km | 6 |
| Sixth St. | South St. to Birch St. | LCB | Yr Round | 0.4 km | 8 |

| Birch St. | Water Treatment Plant (South End) to Sixth St. | Gravel | Yr. Round | 0.3 km | 5 |
|---------------|--|--------|-----------|---------|---|
| Birch St. | Sixth St. to Walnut St. (Hwy 548) | LCB | Yr Round | 0.1 km | 7 |
| Birch St. | Walnut St. (Hwy 548) to North End | Gravel | Seasonal | 0.1 km | 4 |
| Ash St. | Walnut St. (Hwy 548) to South End | LCB | Yr Round | 0.2 km | 7 |
| Cherry St. | Walnut St. (Hwy 548) to South End | Gravel | Seasonal | 0.1 km | 5 |
| Cherry St. | Walnut St. (Hwy 548) to North End | LCB | Seasonal | 0.1 km | 5 |
| Pine St. | Walnut St. (Hwy 548) to North End | Gravel | Seasonal | 0.15 km | 4 |
| Eighth St. | Pine St. to End | Gravel | Seasonal | 0.1 km | 4 |
| Mariner's Way | Walnut St. (Hwy 548) to End | Gravel | Yr Round | 0.15 km | 8 |
| Third St. | Walnut St. (Hwy 548) to Maple St. | LCB | Yr Round | 0.1 km | 5 |
| Bay St. | Hilton Rd. (Hwy 548) to Bowker St. | LCB | Yr Round | 0.1 km | 8 |
| Bay St. | Bowker St. to Marks St. | LCB | Yr Round | 0.15 km | 8 |
| Marina Rd. | Marks St. to End | LCB | Yr Round | 0.15 km | 8 |

| Roads - Improv | vements | | | | |
|----------------|--|----------|--|--|--|
| | ice - Provide facilities that directions (signage and line | | | | |
| Road | Observation/Interviews Performance/Risk Recommendations | | | | |
| South Street | • Embankment Slope Stabilization and Guiderail | • Safety | Rehabilitate in 2015Cost - \$25,000 | | |



| Maple Street | Extension from Third Street to Sixth Street | Improvement | Minimum 66.67% Federal/Provincial Funding Required |
|--------------|---|-------------|--|
| Ash Street | Construct Snow Plow Turnaround | Safety | Resolved |
| Pine Street | Grade Raise at Highway 548 Approach | Safety | Cost CF 000 |

| Roads - Resurfacing | | | |
|---|---|--|---|
| Levels of Service - Provide facilities that are cost effective, safe, have smooth riding surfaces, clear directions (signage and line painting), no pot holes, no tripping hazards. | | | |
| Road | Observation/Interviews | Performance/Risk | Recommendations |
| Bowker Street - Section 100 | Surface Treatment - Single Course | Improve Riding Surface | Rehabilitate in 2014Cost - \$1,400 |
| Canoe Point Road - Section 135 | Surface Treatment - Single Course | Improve Riding Surface | Rehabilitate in 2014Cost - \$5,500 |
| Park Street - Section 120 | Surface Treatment - Single Course | Improve Riding Surface | Rehabilitate in 2015Cost - \$1,300 |
| First Street - Section 175 | Surface Treatment - Single Course | Improve Riding Surface | Rehabilitate in 2015Cost - \$2,900 |
| Cherry Street - Section 225 | Surface Treatment - Single Course | Improve Riding Surface | Rehabilitate in 2015Cost - \$800 |
| Third Street - Section 245 | Surface Treatment - Single Course | Improve Riding Surface | Rehabilitate in 2015Cost - \$1,300 |
| Ringham Street - Section 150 | Surface Treatment - Single Course | Improve Riding Surface | Rehabilitate in 2016Cost - \$6,700 |
| Second Street - Section 170 | Surface Treatment - Single Course | Improve Riding Surface | Rehabilitate in 2016Cost - \$2,400 |
| Boundary Road - Section 145 | Surface Treatment - Single Course | Improve Riding Surface | Rehabilitate in 2017Cost - \$2,100 |
| East Street - Section 155 | Surface Treatment - Single Course | Improve Riding Surface | Rehabilitate in 2017Cost - \$2,400 |

| | <u> </u> | | |
|-----------------------------------|-----------------------------------|----------------------------|--|
| South Street - Section 180 | Surface Treatment - Single Course | Improve Riding Surface | Rehabilitate in 2017Cost - \$2,800 |
| Birch Street - Section 205 | Surface Treatment - Single Course | Improve Riding Surface | Rehabilitate in 2017Cost - \$1,600 |
| Bowker Street - Section 115 | Surface Treatment - Single Course | Improve Riding Surface | Rehabilitate in 2018Cost - \$1,400 |
| South Street - Section 185 | Surface Treatment - Single Course | Improve Riding Surface | Rehabilitate in 2018Cost - \$6,500 |
| Canoe Point Road - Section 130 | Surface Treatment - Single Course | Improve Riding Surface | Rehabilitate in 2019Cost - \$1,400 |
| Ash Street - Section 215 | Surface Treatment - Single Course | Improve Riding Surface | Rehabilitate in 2019Cost - \$2,200 |
| Bay Street - Section 250 | Surface Treatment - Single Course | Improve Riding Surface | Rehabilitate in 2019Cost - \$2,000 |
| Sixth Street - Section 195 | Surface Treatment - Single Course | Improve Riding Surface | Rehabilitate in 2020 Cost - \$5,700 |
| Bay Street - Section 255 | Surface Treatment - Single Course | Improve Riding Surface | Rehabilitate in 2021Cost - \$2,900 |
| Marina Road - Section 260 | Surface Treatment - Single Course | Improve Riding Surface | Rehabilitate in 2021Cost - \$2,900 |
| Canoe Point Road - Section 140 | Surface Treatment - Single Course | Improve Riding Surface | Rehabilitate in 2022Cost - \$6,300 |

Vehicles

| Vehicles - Fire Department Vehicles⁴ | | | | |
|---|---------------------------------------|------------------------|---------------------|-----------------|
| Levels of Service - Provide safe, cost effective and reliable vehicles to support the delivery of Municipal services. | | | | |
| Vehicl | es | Observation/Interviews | Performance/Risk | Recommendations |
| Fire | Pumper | • 1995 HUB 1050 | Excellent condition | Replace in 2025 |
| Truck | Purchased in 2011 | No known | Replacement - | |
| | 30 yr useful life | mechanical issues | \$37,500 | |

⁴ The township of Hilton operates a shared fire department with the Village of Hilton Beach known as the Hilton Union Fire Department. Both municipalities own a 50% share of the fire department assets and expenses.

| Tanker Truck | 1987 Ford Near 30 yrs old Purchased in 1997 30-40 yr useful life | No known major defects Major malfunction could occur anytime, or in 4-6 yrs Constant maintenance and inspection are key | |
|---------------|---|---|--|
| Utility Truck | 1995 GMC Purchased in 2005 20 yr useful life | Allows for larger trucks to be used only for emergencies Allows access to rural locations w/o harm to more expensive trucks Replacement is critical in next one/two years | |

Bldys

STEP 3 - ASSET MANAGEMENT STRATEGY/ FINANCING STRATEGY

The Guide for Municipal Asset Management Plans provides the following direction with respect to a Municipalities overall asset management strategy:

"The asset management strategy is the set of planned actions that will enable the assets to provide the desired levels of service in a sustainable way, while managing risk, at the lowest lifecycle cost (e.g., through preventative action)"

Asset Management Strategy

With the objective of ensuring the effective maintenance, rehabilitation and if necessary, replacement of the Villages capital, we have analyzed the current situation and prepared a detailed asset management strategy and financial model (see Appendix VI), with consideration to the following:

- Assets in existence on December 31, 2012, by the following asset groupings:
 - Water and Sewer
 - Roads
 - Vehicles (fire department)

- Land and Improvements
- Buildings and Permanent Structures
- Docks
- Equipment and Furnishings
- The state of current assets, outlined in Step 1 (above) Condition Assessment State of Local Infrastructure;
- Desired level of service, outlined in Step 2 (above);
- Future replacement/rehabilitation requirements:
 - Year of anticipated replacement/rehabilitation
 - Replacement cost estimated in current dollars
- Future needs for expansion (if any) i.e. future capital additions.
- Maintenance activities:
 - Required maintenance activities
 - Potential to adjust maintenance activities to extend service life;
 - Monitor/Inspect to extend service life;
 - Renew/rehabilitate versus replace;
- Time value of money;
 - Consideration to investment potential for reserve funds versus inflationary erosion.

Financial Model

Based on the comprehensive Asset Management Plan, we have constructed a financial model in Microsoft Excel ("Excel") to enable Council and Management to make necessary capital budgeting decisions and set aside a sufficient amount in each year to provide for capital replacement. We refer to this allocation in our analysis as a "reserve fund". At a high level, the financial model has the following structure:

- Data, Inputs, Sensitivities ("Input" worksheet);
- Summary of Projected Replacement Costs Schedules 2 to 8;
- Capital Replacement Schedule Schedules 2A to 8A;

In our model, we have employed best practices to ensure that the model is:

- User friendly (i.e. can be followed by more than one user)
- Easily understood (i.e. can be understood by someone without detailed knowledge of the model, with some minimal level of investigation)
- Robust (i.e. the model is stable and reliable)
- Flexible (i.e. provides required sensitivity or scenario analysis, easy to expand or modify)

General

We have grouped assets into the following asset categories (on Schedule 1), in order to condense the significant amount of information into smaller segments:

- Water and Sewer (Black Tabs, Schedules 2 & 2A)
- Roads (Red Tabs, Schedules 3 & 3A)
- Vehicles (Orange Tabs, Schedules 4 & 4A)
- Land and Land Improvements (Purple Tabs, Schedules 5 & 5A)
- Building and Permanent Structures (Blue Tabs, Schedules 6 & 6A)
- Docks (Dark Red Tabs, Schedules 7 & 7A)
- Equipment and Furnishings (Green Tabs, Schedules 8 & 8A)

With respect to each individual asset grouping, the calculations of the present value of future replacement costs were performed in an identical fashion, as follows:

- The future replacement year was estimated per the information contained within each asset condition assessment and replacement plan;
- The current replacement cost (or value) of each asset or project was taken as given in the asset replacement plans;
- Current replacement costs for each asset were then inflated to their expected future replacement cost, based on a rate of inflation, specific to each asset grouping, as follows:
 - Roads 3%
 - Water and Sewer 3%
 - Vehicles 2%
 - Buildings 4%
 - Land and Improvements 2%
 - Docks 3%
 - Equipment and Furnishings 2%
- From future replacement costs, funding which has been confirmed, or reasonably expected to be realized has been deducted (as a percentage).
- Finally, the average required contribution to the capital reserve fund was calculated, based on a nominal discount rate of 1%. Based on historical returns on Village reserve funds, this is the rate of return, which is anticipated to prevail in the future.

Water and Sewer

We have evaluated the future capital needs of the Village related to the drinking water and waste systems, based on the condition assessment and 10 year replacement

cost estimate prepared by the Ontario Clean Water Agency (see the Step 2 Needs Assessment - above and Appendix II).

Asset Management Strategy Conclusions - Water and Sewer

- Based on the 10 year replacement cost estimate provided by the OCWA and our calculations on Schedule 2, we note that:
 - Replacement costs at present day dollars are estimated at \$273,400
 - Replacement costs at the date of replacement are estimated at \$308,400
 - Replacement costs net of funding dollars anticipated to be obtained (projected by management at 66.67%) are estimated at \$110,000.
- Based on our calculations on Schedule 2A, the present value of net future water and sewer replacement costs for the next 10 years is expected to be approximately \$105,300.

Conclusion: to ensure future capital needs are met, based on current assumptions the Village must transfer \$11,100 per year to a reserve fund.

Considerations for future asset management - Water and Sewer:

- Funding
 - We understand that to accomplish all of the necessary asset replacements over the next 10 years, Village management estimates that 66.67% funding from higher levels of Government will be required;
 - Accordingly we have factored this level of funding into our calculations

Reserves

- historically, it appears that the Village has invested in water and sewer, mainly based on the availability of Federal, or Provincial funding and until recently has not maintained a sufficient reserve fund;
- we note that, while funding has been available in the past, it may not be available to the same degree in the future. Accordingly, capital budgeting will be of the utmost importance.

Desired level of service

- Due to the nature of water and sewer systems there is often minimal activity required until such time that replacement of components is necessary.
- Also, delaying replacement can lead to major (and many times costly) consequences.
- Accordingly, adjusting the level of service with respect to water and sewer is not a preferred option.

Roads

We have evaluated the future capital needs of the Village related to its roads, based on the 10 year roads improvement plan prepared by Tulloch Engineering (see the Step 2 Needs Assessment - above and Appendix III).

Based on the Tulloch roads improvement plan, we have considered the following general road improvements which are expected to be undertaken over the next 10 years:

- South Street Embankment Slope Stabilization and Guardrail
 - Cost estimated at \$25,000
 - Expected to be performed in 2015
- Maple Street Extension
 - Cost estimated at \$230,000
 - Expected to be performed in 2018
 - Funding is Critical will not be undertaken without 2/3 support from higher levels of government.
- Pine Street Grade Raise at Highway 548 Approach
 - Cost estimated at \$5,000
 - Expected to be performed in 2019
- Resurfacing
 - Various roads require surface treatment over the next 10 years at a total cost of \$62,500.
- All other roads Budget for maintain/inspect

Asset Management Strategy Conclusions - Roads

- Based on the 10 year replacement cost estimate provided by Tulloch Engineering and our calculations on Schedule 3, we note that:
 - Replacement costs at present day dollars are estimated at \$322,500
 - Replacement costs at the date of replacement are estimated at \$360,500
 - Replacement costs net of funding dollars anticipated to be obtained (assumed at 66.67% for the Maple Street extension and not considered for other improvements) are estimated at \$187,900.
- Based on our calculations on Schedule 3A, the present value of net future Road replacement costs for the next 10 years is expected to be approximately \$181,300.

Conclusion: to ensure future capital needs are met, based on current assumptions the Village must transfer \$21,200 per year to a reserve fund.

Considerations for future asset management - Roads:

- Desired level of service
 - historically, the roads of the Village have been well maintained and have provided residents with a relatively high level of service.
 - the potential exists to save future maintenance costs by reducing the level of service of roads; however, this may decrease useful lives and result in higher capital replacement costs on an average basis;
- Useful life
 - the useful lives of Village roads could be extended further with additional maintenance expenditures.
- Reserves
 - historically, it appears that the Village has invested in roads, mainly based on the availability of Federal, or Provincial funding and has not maintained a reserve fund;
 - we note that, while funding has been available in the past, it may not be available to the same degree in the future. Accordingly, capital budgeting will be of the utmost importance.

Vehicles

We have evaluated the future capital needs of the Village related to its vehicles, based on the Fire Department Vehicles Plan prepared by Tulloch Engineering (see the Step 2 Needs Assessment - above and Appendix IV).

Based on the Tulloch plan, we have considered the following vehicle improvements which are expected to be required over the next 12 years⁵:

- Fire Utility Truck
 - Expected to be replaced in 2015
 - Estimated Cost (at 50%) \$5,000
- Fire Tanker Truck
 - Expected to be replaced in 2020
 - Estimated Cost (at 50%) \$20,000
- Fire Pumper Truck

The township of Hilton operates a shared fire department with the Village of Hilton Beach known as the Hilton Union Fire Department. Both municipalities own a 50% share of the fire department assets and expenses.

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- Expected to be replaced in 2025
- Estimated Cost (at 50%) \$37,500

Asset Management Strategy Conclusions - Vehicle

- Based on the Fire Department Vehicles Replacement Plan prepared by Tulloch Engineering and our calculations on Schedule 4, we note that:
 - Replacement costs at present day dollars are estimated at \$62,500
 - Replacement costs at the date of replacement are estimated at \$74,300
 - Replacement costs net of funding dollars anticipated to be obtained (assumed at 0%) are estimated at \$74,300.
- Based on our calculations on Schedule 4A, the present value of net future vehicle replacement costs for the next 12 years is expected to be approximately \$68,000.

Conclusion: to ensure future capital needs are met, based on current assumptions the Village must transfer \$6,000 per year to a reserve fund.

Considerations for future asset management - Vehicles:

- Useful life
 - the useful lives of Village vehicles could be extended with additional and more regular maintenance expenditures;
 - this would likely result in a diminished level of service, however capital outlays could be extended.

Other Capital Assets

We have discussed the potential for additional capital replacement requirements (not considered above) over the next 10 years with Village management and understand that: in general, all other capital assets are either in good condition and do not require replacement, or may require future replacement, however costs are currently unknown and will need to be updated in the future. Specifically, with respect to the individual asset groupings, Village management has informed us of the following:

- Land and Improvements
 - No land acquisitions are expected to take place over the next 10 years
 - No land improvements are anticipated to be required over the next 10 years
- Buildings and Permanent Structures
 - Community Hall
 - Renovated in 1990
 - HVAC, Fire Suppression and Appliances have been addressed in recent years

- No further capital investment is anticipated in the upcoming 10 years
- Municipal Office
 - Addition in 2008
 - Renovated in 2006
 - No further capital investment is anticipated in the upcoming 10 years
- Fire Building
 - Will require capital investment within the next 10 years
 - Plan for rehabilitation/replacement has not yet been completed
 - AMP must be updated when costs are known
- Docks
 - No investment in docks is anticipated to be required over the next 10 years
- Equipment and Furnishings
 - No investment in equipment and furnishings is anticipated to be required over the next 10 years

While we understand management's position, we also understand that circumstances can quickly change and accordingly have included in our financial model additional spreadsheets in the event that costs associated with the above asset groupings become known and the plan must be updated.

See Schedules 5 to 8A for details.

Financial Model - Instructions

Given that the financial model is considered to be a "living model" (in that, it must be continually updated to ensure changing capital requirements are considered), it will be necessary for Village personnel to update the model each year. Accordingly, we have attempted to make the model as user friendly and stable as possible to ensure annual updating is done with ease and is free from errors. In practice, however, creating a financial model which can be easily updated each year by simply plugging values into input cells is rarely, if ever possible. Accordingly, we have provided instructions, which should be reviewed during the updating process each year. See Appendix V for details.

Gap Analysis

Based on the asset management financial model, developed on Schedules 1-8A; on Schedule 1A, we have compared the funds which were actually dedicated to capital items over the past three years, to the expected reserve fund contribution as calculated by the model.

In calculating actual funds dedicated to capital items, we:

- have assumed a zero based budget for operating and maintenance of Village capital (i.e. revenue is completely offset by expenditures);
- have examined amounts transferred to reserve for capital items identified within the model, less amounts withdrawn from reserve.
 - From 2010 to 2012 \$21,000 was transferred to capital reserves (net of withdrawals) this represents and average contribution of \$7,000;
 - As at December 31, 2012 the reserve fund balance for identified capital items was \$21,000.

Comparing the average contribution to capital items detailed above (\$7,000) to the ideal capital allocation as calculated within the model (\$38,300), we have identified a gap of \$31,300. We have the following comments regarding this gap:

- It must be understand that the gap as currently calculated within the model is reflective of a required contribution to reserve for Water and Sewer, Roads and Vehicles and does not consider the potential for capital spending in other areas such as:
 - Land and Improvements
 - Buildings and Permanent Structures
 - Docks
 - Equipment and Furnishings

Management has advised that all other capital assets are either in good condition and do not require replacement for the upcoming 10 years; or may require future replacement, however these costs are currently unknown and will need to be updated in the future. Accordingly, when replacement of <u>all</u> capital items are considered, it is likely that the actual infrastructure gap will be larger (potentially significantly) than that noted in the financial model.

- Historically, the Village has managed their infrastructure gap in 4 ways:
 - Annual reserve transfers (as noted above minimal);
 - Use of long term debt to spread the cost of the asset over a longer period;
 - Funding from higher levels of government;
 - Current tax base.
- Based on historical reserve transfers, compared to the expected required transfer, one can conclude that the tax base in prior years has not sufficiently provided for future asset replacement and thus current users must pay in the short term.

Financing Strategy - Results

- To fund the gap noted above, several potential solutions exist and should be considered by Council:
 - Alternate investment strategy reserve funds;

- Currently the Village generates minimal investment income on its reserves
 (i.e. our 1% nominal discount rate is considered to be an accurate
 representation of the normal return on investment of the Village);
- Based on the anticipated inflation noted in the financial model, the return on invested reserve funds will not even keep up with inflation;
- A more aggressive investment strategy could be considered:
 - Balance terms of investments efficiently short/medium/long depending on need for funds;
 Short term funds may be invested conservatively, however a more aggressive strategy could be considered for long term funds;
 - Consider seeking advice from an investment advisor.
- Financing asset acquisitions
 - strategy currently in use by the municipality should be an ongoing consideration
 - spread cost over several years;
 - cost is borne by users who will benefit from the use of the asset
 - payments can be made from reserve funds if necessary
- Repair/Rehabilitate versus replace
 - Short term solution to manage initial gap as reserve funds may have been deficient in the past;
 - A lower level of service in the short term could be accepted.
- Current users pay for past deficits increase tax rates in the short term
- Seek Federal and Provincial support
- Use of reserves balance \$21K at December 31, 2012
- Potential Development charges
- User fees
- Other Funding Options
- Some combination of the above

Action Planning

Adherence to the action plan⁶ items below supports the AMP and ensures that lifecycle costs are minimized while an acceptable LOS is maintained (for all assets considered). Priority development, technical and financing/capital budgeting strategies for the Village going forward should consider:

Support

⁶ Adapted from Ministry of Infrastructure "Guide for Municipal Asset Management Plans"

- AMP Supports Future Decision-making
- Policy Supports the AMP update or create policy for AMP implementation and action planning

• Planning and Communication

- Council/administrators commit to AMP implementation
- What is your commitment and your role?
- Municipality communicates with the public about the benefits of good asset management, updates regularly and makes it publicly available

Improvement

- Ongoing evaluation of the effectiveness of the AMP takes place
- Required improvements identified with a timetable for implementation

Tracking

- All assets continued to be tracked in asset inventories
- Significant asset components tracked individually
- Basic characteristics of assets/components included in the inventory
- All assets/components have appropriate accounting valuations and replacement cost valuations
- All the assumptions supporting the accounting and replacement cost valuations clearly documented
- Condition of all assets/components assessed using standard engineering practices

• Levels of Service

- Municipality understands how its goals rely on infrastructure
- LOS for individual assets are defined through performance measures/targets
- Actual performance relative to the targets are tracked
- External trends or issues affecting LOS (e.g. new accessibility standards, climate change impacts, etc.) are identified and understood

Asset Management Strategy

- Lifecycle costs are part of the analysis
- Relevant direct and indirect costs and benefits of options are included in analysis
- Risk analysis for each option is included in the analysis
- A full range of options are considered (e.g. non-infrastructure solutions, maintenance activities, renewal/rehabilitation activities, replacement activities, disposal activities, etc.)
- Opportunities to coordinate solutions to multiple problems are explored
- Opportunities for collaboration and partnerships with other municipalities explored
- Alternative financing and procurement (AFP) considered where possible

Financial Strategy

- At least a 10 year financial strategy maintained to allow the asset management strategy to continue to be fully implemented with assumptions supporting expenditure and revenue forecasts clearly documented
- Effort to make use of all available infrastructure financing tools
- Revisit "zero debt" policy and user fees
- Eliminate funding shortfalls by revising service levels and/or asset management and financial strategies
- Plan in place to manage the impact of any funding shortfall that cannot be eliminated

CONCLUSION

Asset management planning is the process of making the best possible decisions regarding the building, operating, maintaining, renewing, replacing and disposing of infrastructure assets. We trust that we have met the objectives of the exercise and are available to assist in helping to put the plan into action. Thank you to the Village and staff for their commitment to the process.

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