

VILLAGE OF HARRISON HOT SPRINGS NOTICE OF MEETING AND AGENDA



COMMITTEE OF THE WHOLE

Date: Wednesday, January 29, 2020
Time: 9:00 a.m. to 12:00 noon
Location: Council Chambers, 495 Hot Springs Road
Harrison Hot Springs, British Columbia

1. CALL TO ORDER

Meeting called to order by Mayor Facio

2. APPROVAL OF AGENDA

3. ITEMS FOR DISCUSSION

(a) Report of Infrastructure Manager – January 10, 2020
Re: Asset Management Plan

Item 3(a)
Page 1

Recommendation:

THAT the Village of Harrison Hot Springs Asset Management Plan be approved.

4. ADJOURNMENT

MEMORANDUM FOR THE BOARD OF DIRECTORS
RE: NOTICE OF MEETING
AND AGENDA

COMMITTEE OF THE BOARD

DATE: _____

TIME: _____

PLACE: _____

BY: _____

The Board of Directors of the Corporation has determined that a meeting of the Board of Directors shall be held on the date, time and place stated above for the purpose of discussing and acting upon the following matters:

1. To receive and consider the report of the President and the report of the Board of Directors for the year ending December 31, 19____.

2. To receive and consider the report of the Treasurer and the report of the Board of Directors for the year ending December 31, 19____.

3. To receive and consider the report of the Secretary and the report of the Board of Directors for the year ending December 31, 19____.

4. To receive and consider the report of the Chairman of the Board of Directors and the report of the Board of Directors for the year ending December 31, 19____.

5. To receive and consider the report of the Vice Chairman of the Board of Directors and the report of the Board of Directors for the year ending December 31, 19____.

6. To receive and consider the report of the Executive Committee and the report of the Board of Directors for the year ending December 31, 19____.

7. To receive and consider the report of the Audit Committee and the report of the Board of Directors for the year ending December 31, 19____.

8. To receive and consider the report of the Compensation Committee and the report of the Board of Directors for the year ending December 31, 19____.

9. To receive and consider the report of the Nominations Committee and the report of the Board of Directors for the year ending December 31, 19____.

10. To receive and consider the report of the Special Committee and the report of the Board of Directors for the year ending December 31, 19____.

11. To receive and consider the report of the Board of Directors for the year ending December 31, 19____.

12. To receive and consider the report of the Board of Directors for the year ending December 31, 19____.

13. To receive and consider the report of the Board of Directors for the year ending December 31, 19____.

3(a)



VILLAGE OF HARRISON HOT SPRINGS

REPORT TO COUNCIL

TO: Mayor and Council **DATE:** January 10, 2020

FROM: Troy Davis **FILE:** 1835-20/1855-02-03
Infrastructure Manager

SUBJECT: Asset Management Plan

ISSUE: Approval of the asset management plan

BACKGROUND:

The Village received grants from the Federation of Canadian Municipalities and the Union of BC Municipalities to undertake a number of asset management projects. One of the expected outputs of the project is the development of an asset management plan. The attached asset management plan encompasses all Village assets in seven asset classes (i.e. Transportation, Sanitary Sewer, Storm Drainage, Water Service, Buildings and Structures, Vehicles and Equipment, and Parks and Recreation).

The most significant finding is that for the Village to undertake any major capital projects (i.e. renewals of existing infrastructure, or building/buying new infrastructure) funding from higher levels of government or borrowing will be required. Examples of assets that are not currently funded through existing budgets or reserves are the replacement of the 1992 Volvo fire truck, rebuilding roads that were identified for rehabilitation in the Road, Bridge, and Active Transportation Master Plan, and expanding the Village water system.

In addition to the above findings the process of developing the asset management plan identified some information deficiencies. However, these deficits are in line with what other communities have found when beginning their asset management programs. Any challenges will be addressed in future iterations of the asset management plan through implementation of the improvement plan.

RECOMMENDATION:

THAT the Village of Harrison Hot Springs Asset Management Plan be approved.

Respectfully submitted;

REVIEWED BY:

Troy Davis
Troy Davis
Infrastructure Manager

Madeline McDonald
Madeline McDonald
Chief Administrative Officer

MEMORANDUM FOR THE DIRECTOR

SUBJECT: [Illegible]

[The following text is extremely faint and illegible due to low contrast and blurring. It appears to be a memorandum body containing several paragraphs of text.]



Village of Harrison Hot Springs



Asset Management Plan

Version 1.0

January, 2020

Document Control		Asset Management Plan				 IPWEA <small>INSTITUTE OF PUBLIC WORKS ENGINEERING AUSTRALASIA</small>	
Document ID : NAMSPLUS Concise Asset Management Plan Template_V2_170508							
Rev No	Date	Revision Details	Author	Reviewer	Approver		

NAMS.PLUS Asset Management Plan Templates

NAMS.Plus offers two Asset Management Plan templates – ‘Concise’ and ‘Comprehensive’.

The Concise template is appropriate for those entities who wish to present their data and information clearly and in as few words as possible whilst complying with the ISO 55000 Standards approach and guidance contained in the International Infrastructure Management Manual.

The Comprehensive template is appropriate for those entities who wish to present their asset management plan and information in a more detailed manner.

The entity can choose either template to write/update their plan regardless of their level of asset management maturity and in some cases may even choose to use only the Executive Summary.

The illustrated content is suggested only and users should feel free to omit content as preferred (e.g. where info not currently available).

The concise Asset Management Plan may be used as a supporting document to inform an overarching Strategic Asset Management Plan.

This is the Concise Asset Management Plan template.

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www.ipwea.org/namsplus

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A-1 INTRODUCTION

A-1.1 Organization of the Asset Management Plan

The Village of Harrison Hot Springs AM Plan consists of eight sections. Section A provides the background, terminology, and detail of the AM Plan. That is followed by the seven AM Plans for the seven asset classes. These seven asset classes provide services for staff and the public and their respective section numbers are shown in Table A-1.1.

Table A-1.1 Asset Classes and the section where they can be found.

Asset Class	Section
Transportation	Section B
Sanitary Sewer	Section C
Water Service	Section D
Storm Drainage	Section E
Buildings and Structures	Section F
Vehicles and Equipment	Section G
Parks and Recreation	Section H

A-1.2 About the Plan

Asset management plans are dynamic documents that adjust to changes of available information and user expectations. Information changes can be as a result of additional or more accurate information becoming available (e.g. replacement cost, length of useful life, condition of an asset), or through new assets being added to the asset register either through amenity contributions, new construction, or adding assets that had not been identified in previous iterations of the plan (e.g. watermain valves, catch basins, manholes, etc.).

The expectations of users of assets and services can also change through demand drivers such as demographics, population, climate change, changing regulations, etc. For example, if the demographics of the Village change to have a population that is significantly older or younger the desired recreation facilities are likely to change.

A-1.3 The Purpose of the Plan

Asset management planning is a comprehensive ongoing process to ensure that delivery of services from infrastructure is provided in a financially sustainable manner.

A-1.4 Goals and Objectives of Asset Ownership

Our goal in managing infrastructure assets is to meet the defined level of service (as amended from time to time) in the most cost effective manner for present and future consumers. The key elements of infrastructure asset management are:

- Providing a defined level of service and monitoring performance,
- Managing the impact of growth through demand management and infrastructure investment,
- Taking a lifecycle approach to developing cost-effective management strategies for the long-term that meet the defined level of service,
- Identifying, assessing and appropriately controlling risks, and
- Linking to a long-term financial plan which identifies required, affordable expenditure and how it will be allocated and funded.

A-2 BACKGROUND

This AM Plan communicates the actions required for the responsive management of assets (and services provided from assets), compliance with regulatory requirements, and funding needed to provide the required levels of service over a 20-year planning period.

The asset management plan is to be read with the Village of Harrison Hot Springs planning documents. This should include the Asset Management Policy and Asset Management Strategy along with other key planning documents:

- Tangible Capital Asset Register
- 2007 Village of Harrison Hot Springs Official Community Plan
- 2018 Insurance Report by SCM Risk Management Services
- 2019 Village of Harrison Hot Springs Road, Bridge, and Active Transportation Master Plan
- 2016, Liquid Waste Management Plan
- 2018, MBR Wastewater Treatment Upgrade Investigations Report
- 2015, Water Management Plan
- 2018 Insurance Report by SCM Risk Management Services
- 2008, Storm Water Drainage Requirements Study

A-3 LEVELS OF SERVICE

A-3.1 Levels of Service

It is important to monitor the service levels provided regularly as these will change. The current performance is influenced by work efficiencies and technology, and customer priorities will change over time.

A-3.2 Strategic and Corporate Goals

This asset management plan is prepared under the direction of the Village of Harrison Hot Springs vision, mission, goals and objectives from the 2007 Village of Harrison Hot Springs Official Community Plan.

Our vision is:

To improve the wellbeing of the residents of and visitors to the Village of Harrison Hot Springs by providing leadership in asset management.

Our mission is:

To provide the community's desired levels of service of infrastructure assets through leadership and management.

A-4 Finance

A-4.1 Key Assumptions Made in Financial Forecasts

Key assumptions made in this AM Plan are:

- Values from Tangible Capital Asset Register are correct;
- Useful lives of assets are correct;
- Year acquired for assets is correct;
- Condition, function, and capacity ratings are correct;
- Not all assets have been captured in the AM Plan.
- Renewal and Upgrade/New plans will occur as planned

A-4.2 Forecast Reliability and Confidence

The expenditure and valuations projections in this AM Plan are based on best available data. The accuracy of data is critical to effective asset and financial management. The valuations and projections of future AM Plans for this asset class are expected to improve in accuracy as additional information is gathered.

A-5. PLAN IMPROVEMENT AND MONITORING

A-8.1 Status of Asset Management Practices

A-8.1.1 Accounting and financial data sources

The accounting and financial data sources consisted of the Tangible Capital Asset register and the audited 2018 Financial Statement, and 2019 Financial Plan prepared by the Financial Officer.

A-8.1.2 Asset management data sources

The asset register was developed from information in Tangible Capital Asset register (TCA), additions made by staff of assets not included in the TCA. Condition values were obtained through both contractor and staff inspection of assets.

On inspection the TCA data it was found that there are concerns about the accuracy of the Current Replacement Costs, Useful Lives, and Year Acquired values. As well, all asset classes have assets known to be missing from the asset registers. It is intended that future iterations of the AM Plan will include these assets in the analysis.

A-8.2 Improvement Plan

The asset management improvement plan generated from this asset management plan for all asset classes is shown in Table A-8.1.

Table A-8.1: Improvement Plan

Task No	Task	Responsibility	Resources Required
1	Ensure all assets are captured in the asset register.	Infrastructure Manager	Audit of equipment, financial information
2	Confirm Current Replacement Costs, and Year Acquired values	Infrastructure Manager	Receipts and invoices, confirm values from retailers
3	Ensure that information is captured when assets are renewed, upgraded, or acquired.	Infrastructure Manager	Receipts, invoices, engineering plans, etc.
4	Re-evaluate Condition, Function and Capacity ratings	Infrastructure Manager	Contractor & staff assessments

A-9 REFERENCES

- IPWEA, 2006, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/IIMM
- IPWEA, 2008, 'NAMS.PLUS.Asset Management', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/namsplus.
- IPWEA, 2015, 3rd edn., 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/IIMM
- IPWEA, 2012 LTFP Practice Note 6 PN Long Term Financial Plan, Institute of Public Works Engineering Australasia, Sydney
- 2018 TCA Inventory and Valuation Tool BC with 2 buildings-2017 (updated),
- 2019 Annual Financial Plan
- 2018 Annual Audited Financial Statement
- Village of Harrison Hot Springs Official Community Plan, Bylaw 864, 2007
- Village of Harrison Hot Springs Bylaw NO. 937 A bylaw to amend Village of Harrison Hot Springs Official Community Plan Bylaw No. 864, 2007

- Harrison Hot Springs Official Community Plan Bylaw No. 864, 2007
- 2019 Village of Harrison Hot Springs Road, Bridge, and Active Transportation Master Plan by CTQ Consultants Ltd.
- Liquid Waste Management Plan, 2016. CTQ Consultants Ltd.
- MBR Wastewater Treatment Upgrade Investigations Report, 2018, AWC Water Solutions
- Water Management Plan, 2015
- Water Regulation Bylaw NO.967
- 2018 Insurance Report by SCM Risk Management Services
- Storm Water Drainage Requirements Study, 2008.

B. TRANSPORTATION

B-1 Asset Description

The Transportation assets include:

The Transportation network comprises:

- Sealed and unsealed roads
- Parking lots
- Sidewalks, pathways, and curbing
- Street and path lighting
- Vehicle and pedestrian bridges
- Culverts

These infrastructure assets have significant value estimated at **\$19,461,005**.

B-2 Levels of Service

Our present funding levels are insufficient to continue to provide existing services at current levels in the medium term without grants from higher levels of government.

The main services consequences are:

- Without funding from higher levels of government LoS may be reduced as infrastructure reaches or exceeds useful life.

B-3 Future Demand

The main demands for new services are created by:

- Population or Demographic changes
- Climate change
- Increased tourist visitation

These will be managed through a combination of managing existing assets, upgrading of existing assets and providing new assets to meet demand and demand management. Demand management practices include non-asset solutions, insuring against risks and managing failures.

- Addition of infrastructure to control speeding on affected streets
- Investigate the need for a snow removal reserve to address varying annual snowfalls.
- If road conditions deteriorate significantly and a renewal is not financially possible community speed limits could be lowered.
- Should maintenance budgets become regularly over spent, and renewals are not possible budgets could be increased through taxation to meet requirements.
- When renewal is possible staff will consider if it is necessary to implement designs that address congestion, and increase the number of parking stalls available.

B-4 Lifecycle Management Plan

What does it Cost?

The projected outlays of what is necessary to provide the services covered by this AM Plan includes operations, maintenance, renewal, upgrade and new assets over the 10-year planning period is **\$8,792,000** or **\$879,000 on average per year**.

B-5 Financial Summary

What we will do

Estimated available funding for this period is **\$2,148,000** or **\$215,000 on average per year** as per the long-term financial plan or budget forecast. This is **24% of the cost to sustain** the current level of service at the lowest lifecycle cost.

The infrastructure reality is that only what is funded in the long-term financial plan can be provided. The emphasis of the AM Plan is to communicate the consequences that this will have on the service provided and risks, so that decision making is "informed".

The allocated funding leaves a **shortfall of \$664,000** on average per year of the projected expenditure required to provide services in the AM Plan compared with planned expenditure currently included in the Long-Term Financial Plan. This is shown in the figure below.

Projected Operating and Capital Expenditure

Harrison Hot Springs Village - Projected Operating and Capital Expenditure (Transportation_S1_V2)

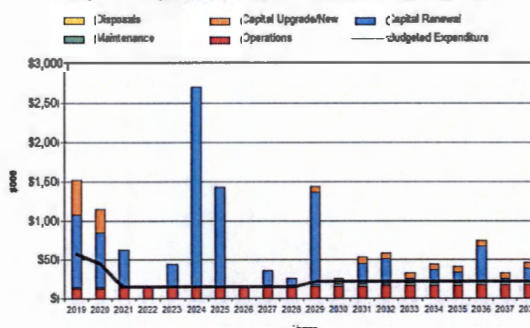


Figure Values are in current (real) dollars.

The above graph assumes no planned renewal of roads, nor repairs to the McCombs bridges.

We plan to provide Transportation services for the following:

- Operation, maintenance, renewal and upgrade of streets and roads, bridges and culverts, sidewalks

and pathways, street and pathway lights, curbing, and parking areas to meet service levels set by annual budgets.

- The confirmed renewals in this 10-year plan are the upgrading of the street lights to LEDs and paving of the Boat Launch Parking Lot. Additional projects may include the replacement of the McPherson St culvert and upgrading of the waste water treatment plant road.
- Additional renewals that are discussed in the Road, Bridge, and Active Transportation Master Plan are the upgrading of roads and necessary repairs to the two McCombs bridge timber abutments.

What we cannot do

We currently **do not** allocate enough funding to sustain these services at the desired standard or to provide all new services being sought. Works and services that cannot be provided under present funding levels are:

- Renew or upgrade Village roads without funding from higher levels of government.
- Upgrade WWTP Road without a grant from higher levels of government
- Repair McCombs bridge abutments without grants from higher levels of government

The importance of other funding

Upgrades associated with growth may be funded by Development Cost Charges, but it is anticipated that the Village will continue to require the assistance of higher levels of government to fund capital works

Managing the Risks

Our present funding levels are insufficient to continue to manage risks in the medium term without grants from higher levels of government.

The main risk consequences are:

- Risk of loss of access to the Waste Water Treatment Plant (WWTP) if the road is washed out. Depending on conditions that loss could be short (i.e. hours) or long (i.e. days). It may be necessary to access the WWTP by boat. However, the Village boat would not be safe to use in moderate weather or waves.
- Risk of a sewage spill if WWTP is shutdown during a high rainfall event.
- Loss of a bridge on McCombs Drive would be an inconvenience for a potentially extended period of time (i.e. months to 2-3 years).

We will endeavour to manage these risks within available funding by:

- Seeking funding opportunities from higher levels of government.

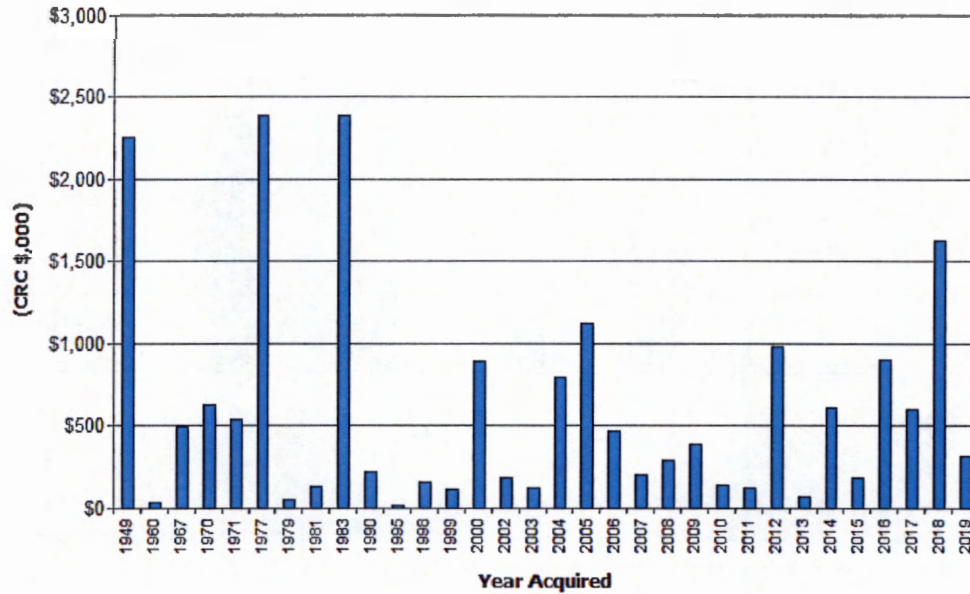
B-6 Appendix

Age and Condition of the Assets

- Below is the profile of the asset ages (Figure B-1) and asset condition (Figure B-2).

- Figure B-1: Asset Age Profile

**Harrison Hot Springs Village - Age Profile
(Transportation_S1_V2)**

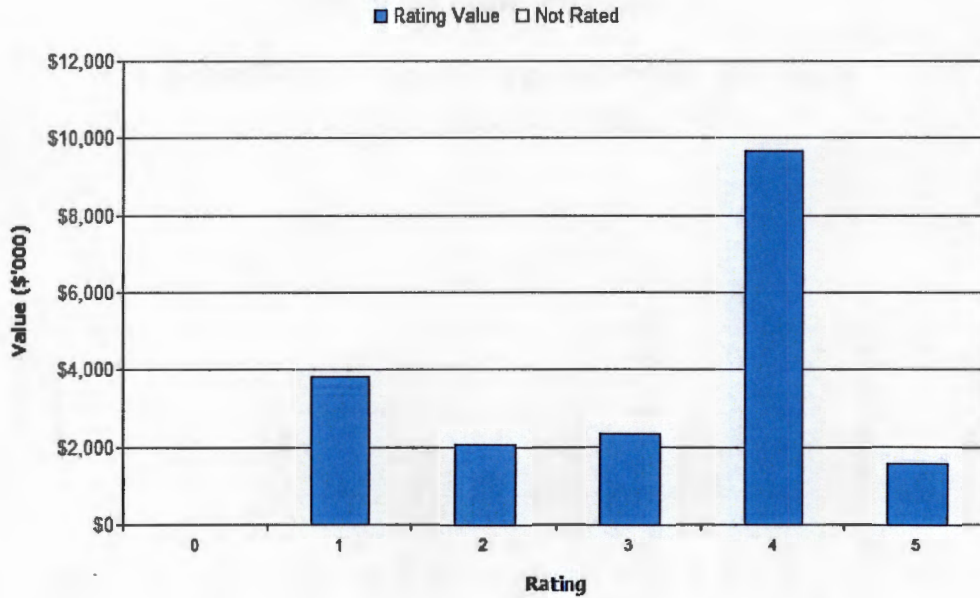


The majority of assets shown as acquired prior to 1990 were Village road bases, while the assets acquired between 1998 and 2007 were largely asphalt surfaces. The McCombs bridges were built in 2012, and the road work for the Neighbourhoods Water Project in Angus Estates, on Emerald Ave., Diamond St., Pine Ave., and Lakburg Cr. was upgraded to modern engineering standards in 2018.

Figure Values are in current (real) dollars.

Figure B-2: Asset Condition Profile

Harrison Hot Springs Village - Condition Profile (Transportation_S1_V2)



The Transportation assets rated with Good and Very Good condition comprise the vast majority of the number of the Transportation asset class, but only 30% of the total dollar value of all of the assets in the class. These assets consist of newly built or renewed roads, pedestrian bridges, and street lights.

The Poor and Very Poor condition rated assets are the second largest number of assets in this class, but represent 58% of the total dollar value of the Transportation asset class. These assets are largely roads, sidewalks, and the timber portion of, or bridge components impacted by the timber portion of, the McCombs bridges.

Condition is measured using a 1 – 5 grading system with 1 being Very Good and 5 being Very Poor

C. SANITARY SEWER

C-1 Asset Description

The Sanitary sewer assets include:

- Gravity and force mains
- Lift stations
- Waste Water Treatment Plant (WWTP)

These infrastructure assets have significant value estimated at **\$27,741,000**.

C-2 Levels of Service

Our present funding levels are insufficient to continue to provide existing services at current levels in the medium term.

C-3 Future Demand

The main demands for new services are created by:

- Population or Demographic changes
- Climate change
- Increased number of homes
- Resident vs non-resident populations
- Changing regulations

These will be managed through a combination of managing existing assets, upgrading of existing assets and providing new assets to meet demand and demand management. Demand management practices include non-asset solutions, insuring against risks and managing failures.

- Adjusting budgets/fees to meet demands

C-4 Lifecycle Management Plan

What does it Cost?

The projected outlays what is necessary to provide the services covered by this Asset Management Plan (AM Plan) includes operations, maintenance, renewal, upgrade and new assets over the 10-year planning period is **\$13,678,000 or \$1,368,000 on average per year**.

C-5 Financial Summary

What we will do

Estimated available funding for this period is **\$10,557,000 or \$1,056,000 on average per year** as per the long-term financial plan or budget forecast. This is **77% of the cost to sustain** the current level of service at the lowest lifecycle cost.

The infrastructure reality is that only what is funded in the long-term financial plan can be provided. The

emphasis of the Asset Management Plan is to communicate the consequences that this will have on the service provided and risks, so that decision making is "informed".

The allocated funding leaves a **shortfall of \$312,000** on average per year of the projected expenditure required to provide services in the AM Plan compared with planned expenditure currently included in the Long-Term Financial Plan. This is shown in the figure below.

Projected Operating and Capital Expenditure

Harrison Hot Springs Village - Projected Operating and Capital Expenditure (Wastewater_S1_V2)

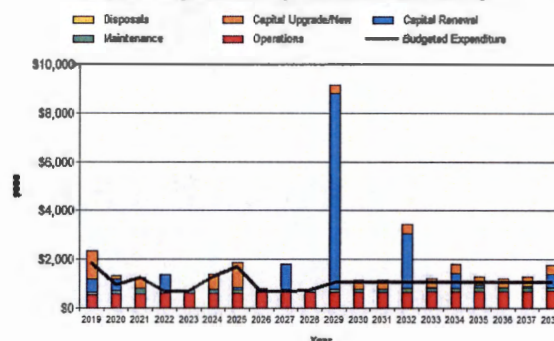


Figure Values are in current (real) dollars.

We plan to provide Sanitary Sewer services for the following:

- Operation, maintenance, renewal and upgrade of sewer mains, lift stations, and the WWTP to meet service levels set by in annual budgets.
- WWTP and lift station upgrades within the 10-year planning period.

What we cannot do by taxation alone

We currently do **not** allocate enough funding to sustain these services at the desired standard from taxation alone or to provide all new services being sought. Works and services that cannot be provided under present funding levels are:

- Perform all recommended changes to the WWTP as recommended in the 2018 MBR Wastewater Treatment Upgrade Investigations Report.
- Replace the siphon with a Lift Station (i.e. #7) without funding from higher levels of government
- Perform upgrades to sanitary sewer lines as per the 2016 Liquid Waste Management Plan

The importance of other funding

Upgrades associated with growth may be funded by Development Cost Charges, but it is anticipated that the Village will continue to require the assistance of higher levels of government to fund capital works.

Managing the Risks

Our present funding levels are insufficient to continue to manage risks in the medium term.

The main risk consequences are:

- Level of Service interruptions
- Higher repair and maintenance costs

We will endeavour to manage these risks within available funding by:

- Addressing issues as they develop.

C-6 Appendix

Age and Condition of the Assets

- Below is the profile of the asset ages (Figure C-1) and asset condition (Figure C-2).

Figure C-1: Asset Age Profile

Harrison Hot Springs Village - Age Profile (Wastewater_S1_V2)

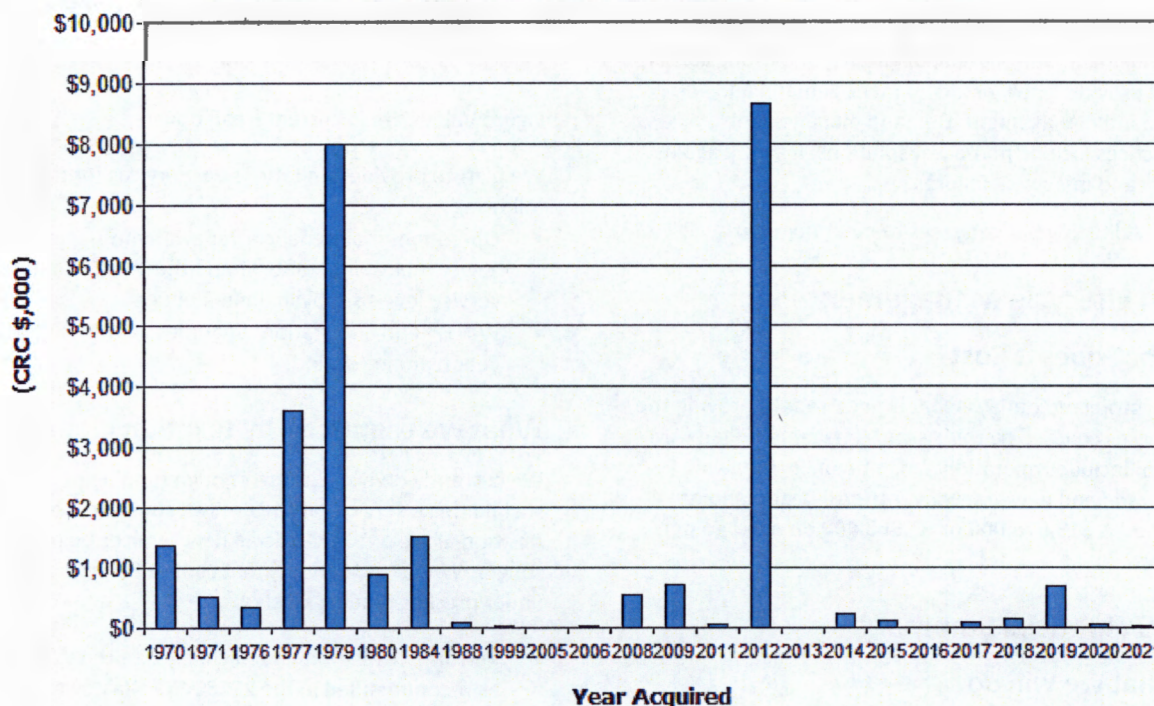
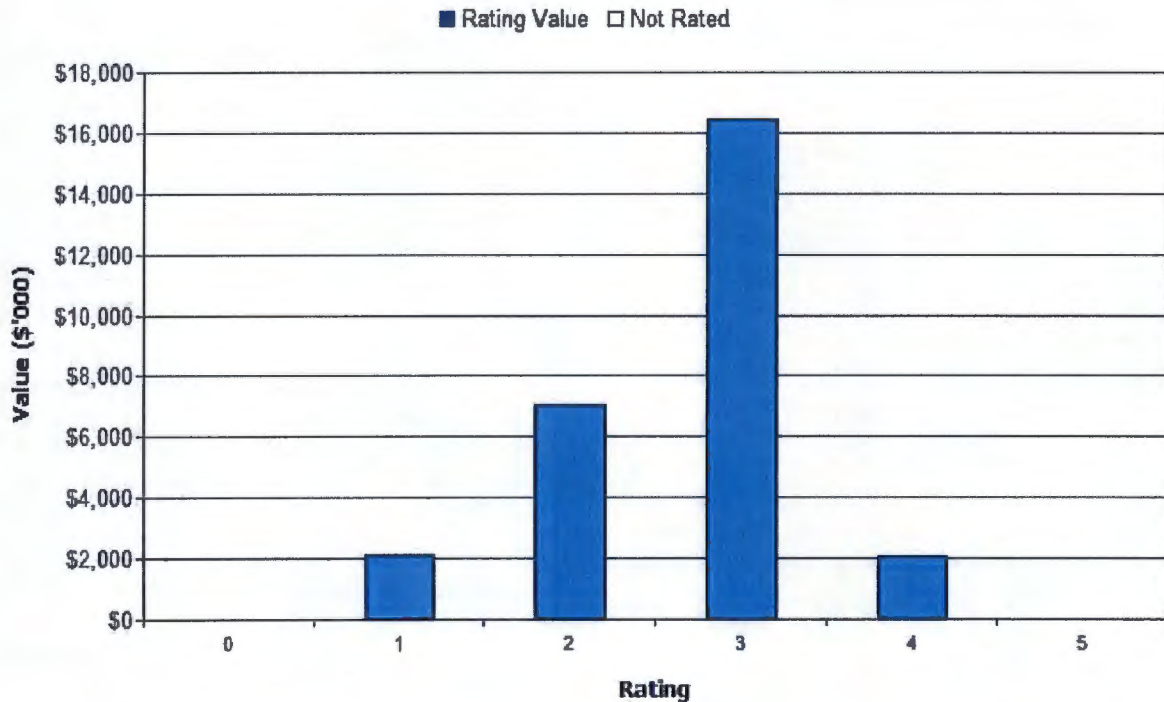


Figure Values are in current (real) dollars.

In Figure C-1 the projects shown in 1970 and 1977 include lift stations that are currently in need of renewal or replacement. The large values in 1979 and 2012 are the 2.5-million-gallon bioreactor and the new waste water treatment plant respectively. The bioreactor is the highest valued individual asset in this asset class, and will reach the end of its assumed useful life (i.e. 50 years) in 2029.

Figure C-2: Asset Condition Profile

Harrison Hot Springs Village - Condition Profile (Wastewater_S1_V2)



The majority of the assets rated as very good or good (1 & 2) are either observable by staff, or are new infrastructure. As it has been 10 years since the sanitary sewer lines have been inspected and they are well within their useful life expectation of 100 years (average age – 39) an estimated condition of Fair (3) was designated. The assets with condition ratings of poor (4) are almost exclusively lift stations 1, 4, 5, and 6. The condition of these assets is due to the age of the infrastructure (i.e. 12-24 years past their assumed useful lives), and the corrosive environment that the assets are in.

The assets rated as poor have either been identified through inspections by a contractor, through staff experience (e.g. emergency callouts, known reliability issues, etc.), or are well past their useful lives.

Figure Values are in current (real) dollars.

Condition is measured using a 1 – 5 grading system with 1 being Very Good and 5 being Very Poor

D. WATER SERVICE

D-1 Asset Description

The Water Service assets include:

The Potable Water network comprises:

- Water treatment plant
- Watermains and related assets
- Fire hydrants
- Water meters
- Intake system including pumps
- Reservoir

These infrastructure assets have significant value estimated at **\$11,802,369**.

D-2 Levels of Service

Our present funding levels are sufficient to continue to provide existing services at current levels in the medium term.

The main services consequences are:

- Major renewals, upgrades, or new infrastructure cannot be built without funding from higher levels of government.

D-3 Future Demand

The main demands for new services are created by:

- Population
- Demographic changes
- Climate change
- Resident vs non-resident populations
- Increased tourist visitation

These will be managed through a combination of managing existing assets, upgrading of existing assets and providing new assets to meet demand and demand management. Demand management practices include non-asset solutions, insuring against risks and managing failures.

- Monitor use, and plan to use DCCs to construct an additional water reservoir.

D-4 Lifecycle Management Plan

What does it Cost?

The projected outlays necessary to provide the services covered by this Asset Management Plan (AM Plan) includes operations, maintenance, renewal, upgrade and new assets over the **10-year planning period is \$4,722,000 or \$472,000 on average per year**.

D-5 Financial Summary

What we will do

Estimated available funding for this period is **\$4,425,000 or \$443,000 on average per year** as per the long-term financial plan or budget forecast. This is **94%** of the cost to sustain the current level of service at the lowest lifecycle cost.

The infrastructure reality is that only what is funded in the long-term financial plan can be provided. The emphasis of the Asset Management Plan is to communicate the consequences that this will have on the service provided and risks, so that decision making is "informed".

The allocated funding leaves a **shortfall of \$30,000 on average per year** of the projected expenditure required to provide services in the AM Plan compared with planned expenditure currently included in the Long-Term Financial Plan. This is shown in the figure below.

Projected Operating and Capital Expenditure

Harrison Hot Springs Village - Projected Operating and Capital Expenditure: (Potable Water_S1_v1)

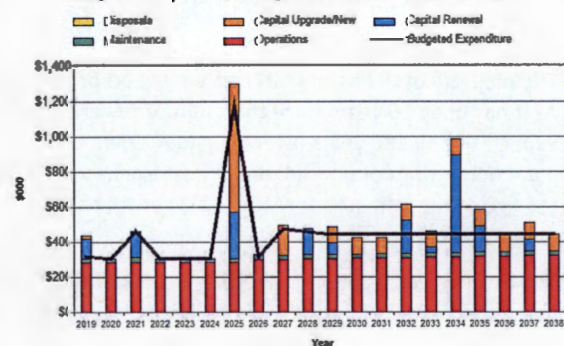


Figure Values are in current (real) dollars.

We plan to provide Transportation services for the following:

- Operation, maintenance, renewal and upgrade of water service infrastructure to meet service levels set by in annual budgets.
- Watermain looping and installing Village water on streets without it within the 10-year planning period.

What we cannot do

We currently do **not** allocate enough funding to sustain these services at the desired standard or to provide all new services being sought. Works and

services that cannot be provided under present funding levels are:

- Meet improvements listed in the Water Master Plan without funding from higher levels of government.

The importance of other funding

Upgrades associated with growth may be funded by Development Cost Charges, but it is anticipated that the Village will continue to require the assistance of higher levels of government to fund capital works

Managing the Risks

Our present funding levels are sufficient to continue to manage risks in the medium term.

The main risk consequences are:

- Higher risk of multiple homes being damaged by a fire in areas without fire hydrant coverage

We will endeavour to manage these risks within available funding by:

- Searching for applicable grants from higher levels of government

D-6 Appendix

Age and Condition of the Assets

- Below is the profile of the asset ages (Figure D-1) and asset condition (Figure D-2).
- The age profile of the assets included in this AM Plan are shown in Figure D-1.

Figure D-1: Asset Age Profile

Harrison Hot Springs Village - Age Profile (Potable Water_S1_V3)

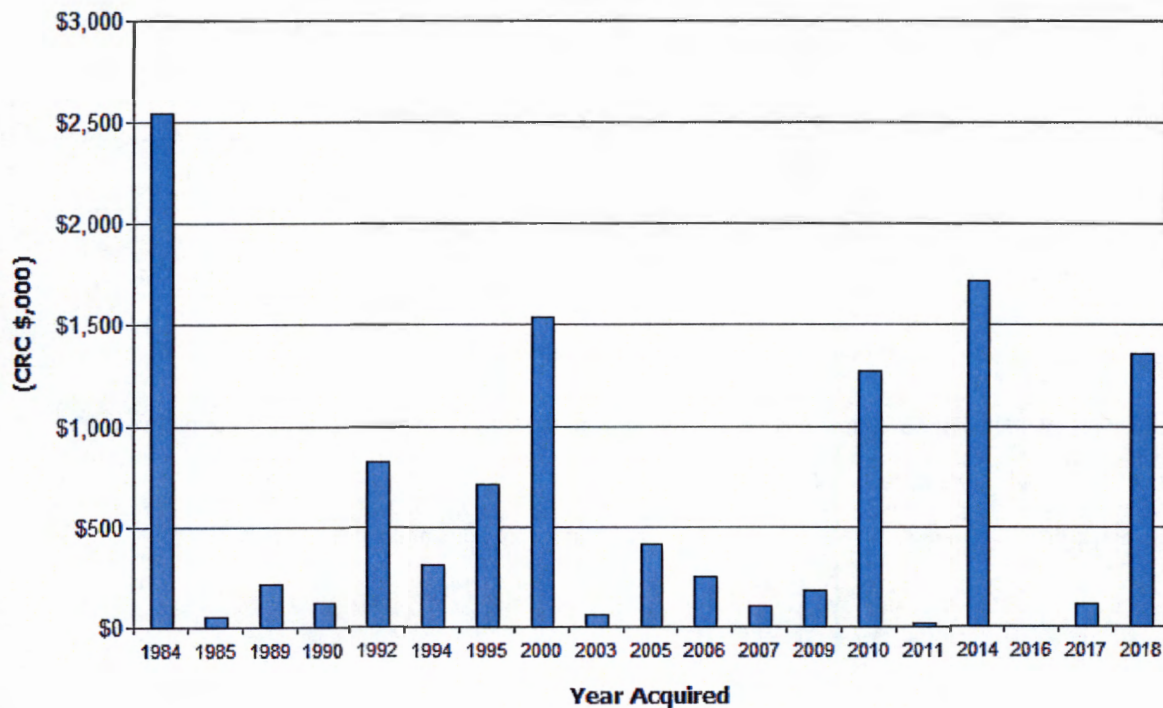


Figure Values are in current (real) dollars.

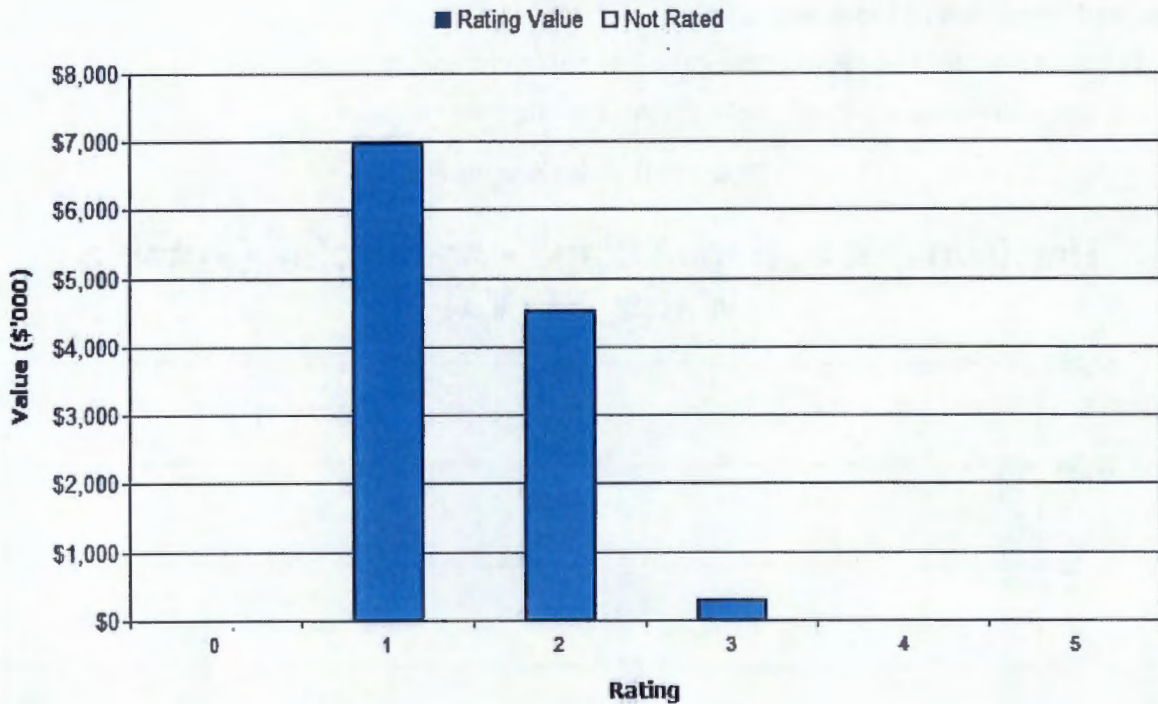
The majority (i.e. 95%) of the system has >75% of its useful life left (assuming the useful lives values are correct).

The high values in Figure D-1 are due to:

- 1984 – Installation of water service
- 1992 – Installation of water service
- 2000 – Lake intake
- 2010 – New reservoir
- 2014 – Water Treatment Plant
- 2018 – Neighbourhoods Water Project

Figure D-3: Asset Condition Profile

Harrison Hot Springs Village - Condition Profile (Potable Water_S1_V3)



The overall condition of the system is quite high largely due to the low age relative to useful life of the system.

Figure Values are in current (real) dollars.

Condition is measured using a 1 – 5 grading system with 1 being Very Good and 5 being Very Poor.

E. STORM DRAINAGE

E-1 Asset Description

The Storm Drainage assets include:

The Storm Drainage network comprises:

- All storm drainage assets including service connections
- Flood pump

These infrastructure assets have significant value estimated at **\$8,214,132**.

E-2 Levels of Service

Our present funding levels are sufficient to continue to provide existing services at current levels in the medium term.

E-3 Future Demand

The main demands for new services are created by:

- Population or Demographic changes
- Climate change
- Increased number of homes
- Resident vs non-resident populations
- Changing regulations

These will be managed through a combination of managing existing assets, upgrading of existing assets and providing new assets to meet demand and demand management. Demand management practices include non-asset solutions, insuring against risks and managing failures.

- Adjusting budgets to meet demands

E-4 Lifecycle Management Plan

What does it Cost?

The projected outlays necessary to provide the services covered by this Asset Management Plan (AM Plan) includes operations, maintenance, renewal, upgrade and new assets over the 10-year planning period is **\$1,265,00** or **\$127,000 on average per year**.

E-5 Financial Summary

What we will do

Estimated available funding for this period is **\$1,239,000** or **\$124,000 on average per year** as per the long-term financial plan or budget forecast. This is **98% of the cost to sustain** the current level of service at the lowest lifecycle cost.

The infrastructure reality is that only what is funded in the long-term financial plan can be provided. The

emphasis of the Asset Management Plan is to communicate the consequences that this will have on the service provided and risks, so that decision making is "informed".

The allocated funding leaves a **shortfall of \$3,000 on average per year** of the projected expenditure required to provide services in the AM Plan compared with planned expenditure currently included in the Long-Term Financial Plan. This is shown in the figure below.

Projected Operating and Capital Expenditure

Harrison Hot Springs Village - Projected Operating and Capital Expenditure (Drainage_S1_V7)

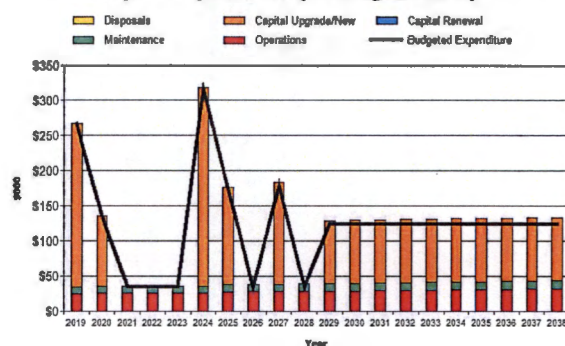


Figure Values are in current (real) dollars.

We plan to provide Storm Drainage services for the following:

- Operation, maintenance, renewal and upgrade of Storm Drainage to meet service levels set by in annual budgets.
- There are seven capital projects totalling **\$899,000** within the 10-year planning period.

What we cannot do

We currently do **not** allocate enough funding to sustain these services at the desired standard or to provide all new services being sought. Works and services that cannot be provided under present funding levels are:

- Build infrastructure as per the time table described in the 2016 Liquid Waste Management Plan

The importance of other funding

Upgrades associated with growth may be funded by Development Cost Charges, but it is anticipated that the Village will continue to require the assistance of higher levels of government to fund capital works

Managing the Risks

Our present funding levels are sufficient to continue to manage risks in the medium term.

The main risk consequences are:

- Potential minor localized flooding during sustained high rain fall events

We will endeavour to manage these risks within available funding by:

- Addressing issues as they develop.

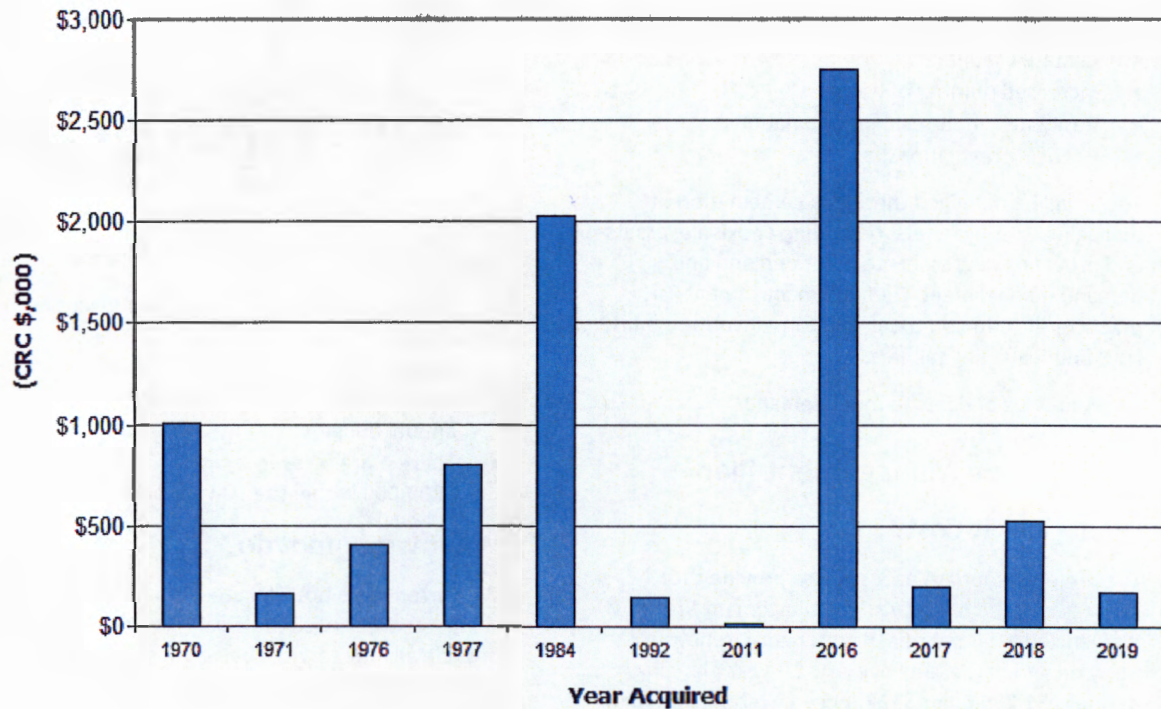
E-6 Appendix

Age and Condition of the Assets

- Below is the profile of the asset ages (Figure E-1) and asset condition (Figure E-2).
- The age profile of the assets included in this AM Plan are shown in Figure E-1.

- **Figure E-1: Asset Age Profile**

**Harrison Hot Springs Village - Age Profile
(Drainage_S1_V7)**



- The majority of the assets in this class are relatively new, as most storm drainage infrastructure if properly maintained has an expected useful life of approximately 100 years. The flood pump infrastructure (e.g. pump screws, motors, instrumentation, etc.) has useful lives ranging from 25 to 50 years.
- Figure Values are in current (real) dollars.

Figure E-2: Asset Condition Profile

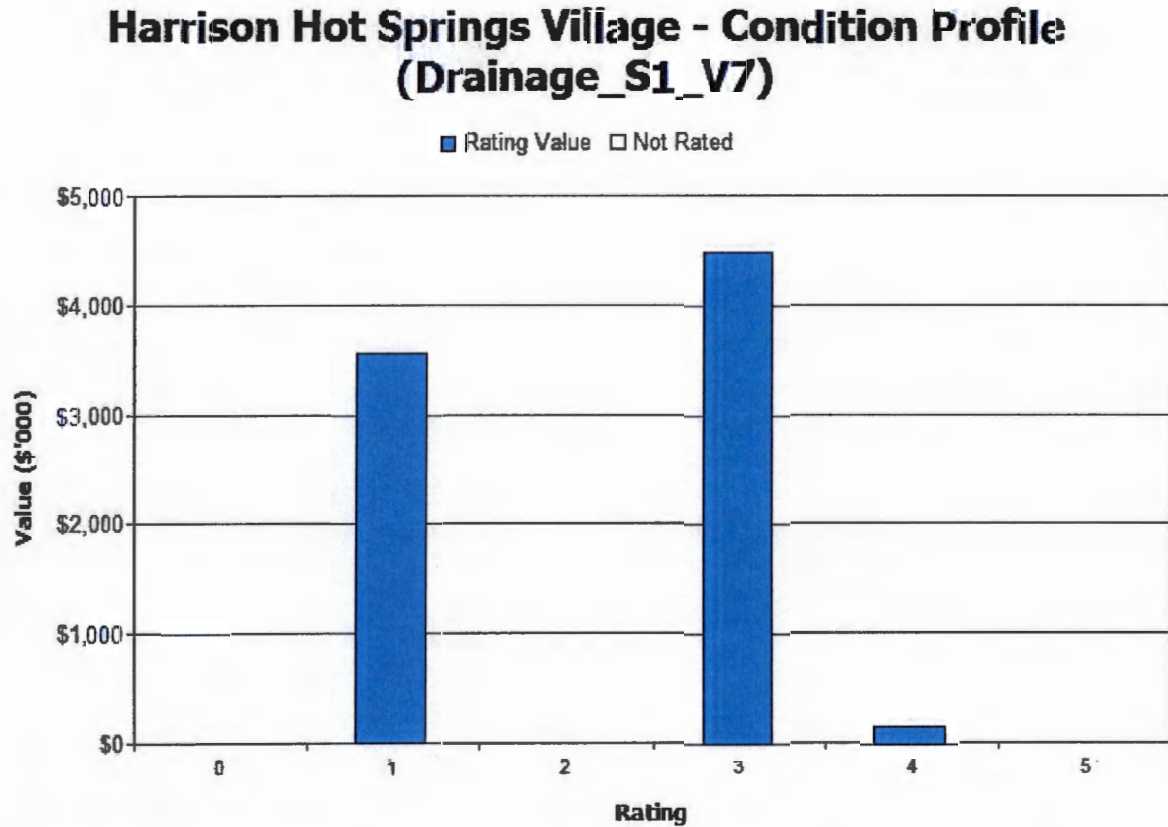


Figure Values are in current (real) dollars.

The assets in Figure E-2 rated as very good (i.e. 1) as are either observable by staff, or are new infrastructure. As it has been 10 years since the Storm Drainage lines have been inspected and they are well within their useful life expectation of 100 years (average age – 40) an estimated condition of Fair (3) was designated. The assets with condition ratings of poor (i.e. 4) is one section of storm drainage pipe on McCombs that is known to have defects.

Condition is measured using a 1 – 5 grading system with 1 being Very Good and 5 being Very Poor

F. BUILDINGS AND STRUCTURES

F-1 Asset Description

The Buildings and Structures assets include:

The Buildings and Structures network comprises:

- 12 buildings
- The dike
- Two Docks and wharfs
- The Boat Launch
- Four bus shelters
- Two concrete washrooms
- One picnic shelter and one bandstand

These infrastructure assets have significant value estimated at **\$8,403,655**.

F-2 Levels of Service

Our present funding levels are insufficient to continue to provide existing services at current levels in the medium term as long as not significant capital renewals are required.

F-3 Future Demand

The main demands for new services are created by:

- Population or Demographic changes
- Climate change
- Increased number of homes
- Resident vs non-resident populations

These will be managed through a combination of managing existing assets, upgrading of existing assets and providing new assets to meet demand and demand management. Demand management practices include non-asset solutions, insuring against risks and managing failures.

F-4 Lifecycle Management Plan

What does it Cost?

The projected outlays what is necessary to provide the services covered by this Asset Management Plan (AM Plan) includes operations, maintenance, renewal, upgrade and new assets over the 10-year planning period is **\$5,700,000 or \$570,000 on average per year**.

F-5 Financial Summary

What we will do

Estimated available funding for this period is **\$2,860,000 or \$286,000 on average per year** as per the long-term financial plan or budget forecast. This is **50% of the cost** to sustain the current level of service at the lowest lifecycle cost.

The infrastructure reality is that only what is funded in the long-term financial plan can be provided. The emphasis of the AM Plan is to communicate the consequences that this will have on the service provided and risks, so that decision making is "informed".

The allocated funding leaves a **shortfall of \$284,000 on average per year** of the projected expenditure required to provide services in the AM Plan compared with planned expenditure currently included in the Long-Term Financial Plan. This is shown in the figure below.

Projected Operating and Capital Expenditure

Harrison Hot Springs Village - Projected Operating and Capital Expenditure (Buildings and Structures_si_V5)

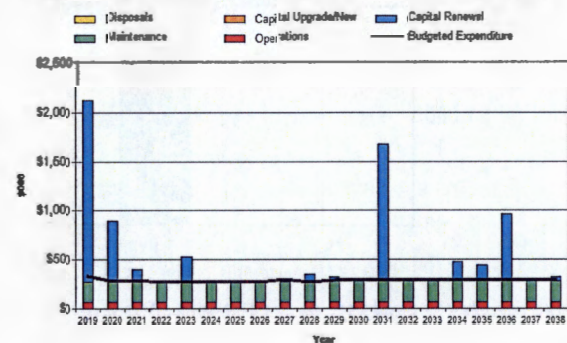


Figure Values are in current (real) dollars.

We plan to provide Building and Structures services for the following:

- Operation, maintenance, renewal and upgrade of all buildings and structures to meet service levels set by in annual budgets.
- There are no major renewals or upgrades planned within the next 10-year planning period.

What we cannot do

- High value capital renewal/upgrades such as roof replacement, Fire Hall upgrades, Federal Wharf piling replacement, etc.

The importance of other funding

Upgrades associated with growth may be funded by Development Cost Charges, but it is anticipated that the Village will continue to require the assistance of higher levels of government to fund capital works

Managing the Risks

Our present funding levels are insufficient to continue to manage risks in the medium term.

The main risk consequences are:

- Level of Service interruptions
- Higher repair and maintenance costs

We will endeavour to manage these risks within available funding by:

- Addressing issues as they develop.

F-6 Appendix

Age and Condition of the Assets

Below is the profile of the asset ages (Figure F-1) and asset condition (Figure F-2).

The age profile of the assets included in this AM Plan are shown in Figure F-1.

Figure F-1: Asset Age Profile

Harrison Hot Springs Village - Age Profile (Buildings and Structures_S1_V5)

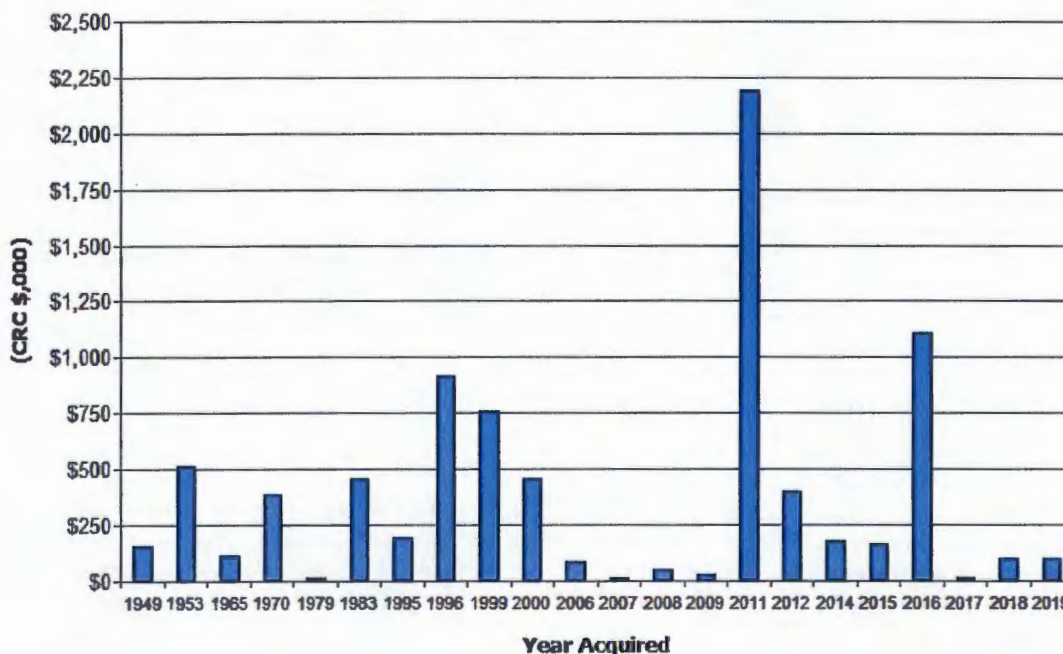


Figure Values are in current (real) dollars.

This AM Plan addresses all Village owned buildings and structures. Each building or structure is broken into four components (i.e. Envelope, Roof, Services, Interiors) as required by the Tangible Capital Asset register (TCA). The AM Plan would be more thorough and accurate if the assets in this class were broken out into additional components.

There are two reasons for this. First, is that the Useful Life of items in each of the four components used can be greatly different. For example, the Services component captures both hot water tanks and furnaces. A hot water tank is recommended to be replaced after 10 years, while a furnace can function for 25 or more years. The second reason is that the current information has four components, while industry standard is a up to nine components under the UniFormat Elemental Classification for Building Specifications. The nine components of the UniFormat standard can be further broken down using the MasterFormat.

In addition to the number of components used there are some known challenges with the dataset in regards to the year of acquisition of many of the assets in this class. For example, the Village Office was originally constructed in

1888, but has a year acquired date of 1983. It does not appear that any of the renewals or upgrades that have occurred since it was built, or acquired have been taken into account with regards to the overall Useful Life of the building.

The age profile of the assets included in this AM Plan are shown in Figure F-2. However, they do not necessarily reflect the true age of some of the assets in this class as some of the Year Acquired information is assumed to be incorrect.

Figure F-2: Asset Condition Profile

Harrison Hot Springs Village - Condition Profile (Buildings and Structures_S1_V5)

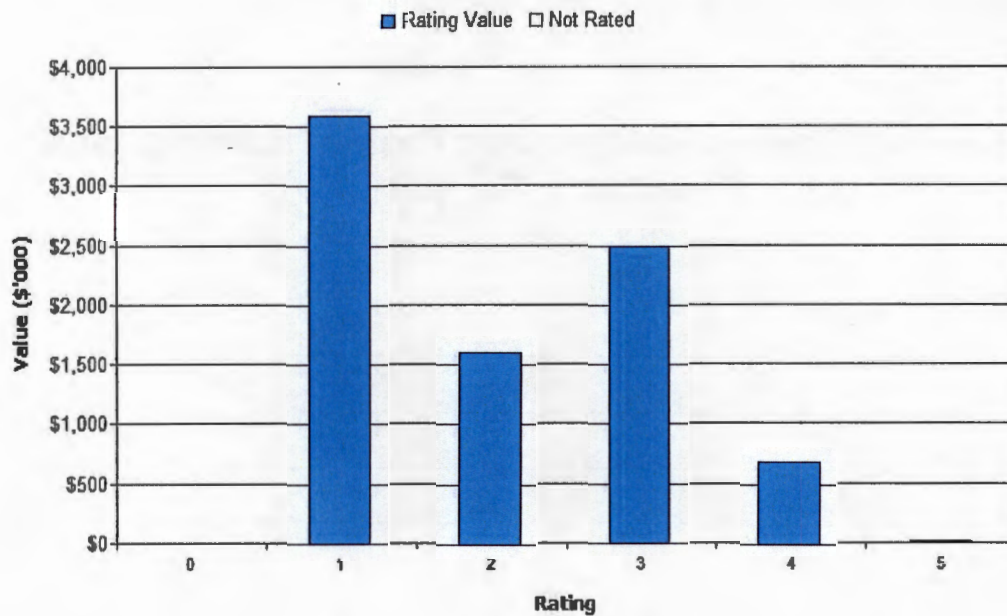


Figure Values are in current (real) dollars.

As can be seen in Figure F-2 most assets in this class are in fair to very good condition. Only 8% of buildings have a component that is in poor condition. The majority of these buildings are non-public. It is also important to note that none of these buildings have been formally assessed for the condition rating. These conditions were obtained by using either their age and/or an inspection by staff. Examples include the interiors at the Boat Launch washrooms. The interiors are functional, but very dated. In contrast the roofs of the Waste Water Treatment plant office and the shed at the community garden are both rated as very poor as they are both quite old and damaged.

Condition is measured using a 1 – 5 grading system with 1 being Very Good and 5 being Very Poor

G. VEHICLES AND EQUIPMENT

G-1 Asset Description

The Vehicles and Equipment assets include:

The Vehicle and Equipment network comprises:

- Fire Department Vehicles and Equipment
- Public Works & Utilities Vehicles
- Public Works non-motorized and motorized equipment and attachments
- Administration Equipment
- Car charging stations

These infrastructure assets have significant value estimated at **\$2,657,000**.

G-2 Levels of Service

Our present funding levels are sufficient to continue to provide existing services at current levels in the medium term.

The main services consequences are:

- Borrowing may be required to purchase a new Fire Truck in 2021

G-3 Future Demand

The main demands for new services are created by:

- Population or Demographic changes
- Climate change
- Aging infrastructure
- Increased tourist visitation

These will be managed through a combination of managing existing assets, upgrading of existing assets and providing new assets to meet demand and demand management. Demand management practices include non-asset solutions, insuring against risks and managing failures.

- Reducing Level of Service with regards to increased time needed to plow Village streets and sidewalks.
- Adjusting R&M budgets to address changes
- Change outside staff schedules and levels as necessary.

G-4 Lifecycle Management Plan

What does it Cost?

The projected outlays necessary to provide the services covered by this Asset Management Plan (AM Plan) includes operations, maintenance, renewal, upgrade and new assets over the 10-year planning period is **\$4,639,000 or \$464,00 on average per year**.

G-5 Financial Summary

What we will do

Estimated available funding for this period is **\$2,551,000 or \$255,000 on average per year** as per the long-term financial plan or budget forecast. This is **55% of the cost to sustain** the current level of service at the lowest lifecycle cost.

The infrastructure reality is that only what is funded in the long-term financial plan can be provided. The emphasis of the Asset Management Plan is to communicate the consequences that this will have on the service provided and risks, so that decision making is "informed".

The allocated funding leaves a **shortfall of \$209,000 on average per year** of the projected expenditure required to provide services in the AM Plan compared with planned expenditure currently included in the Long-Term Financial Plan. This is shown in the figure below.

Projected Operating and Capital Expenditure

Harrison Hot Springs Village - Projected Operating and Capital Expenditure (Vehicles and Equipment_S1_V2)

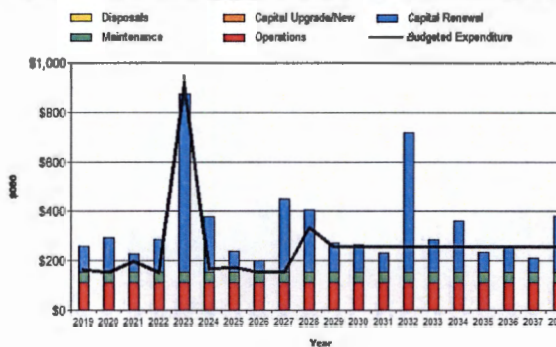


Figure Values are in current (real) dollars.

We plan to provide Vehicle and Equipment services for the following:

- Operation, maintenance, renewal and upgrade of Administration, Public Works, Utilities, and Fire Department Vehicles and Equipment to meet service levels set by in annual budgets.
- The major renewals that are planned within the 10-year planning period are:
 - 2021 Replacement of the Volvo Fire Truck and F-350 Pickup Truck
 - 2023 Replacement of the 2003 F-550
 - 2028 Replacement of the 1993 Dump Truck

What we cannot do

Assuming that borrowing will be used to purchase the Fire Truck in 2021 we currently allocate enough funding to sustain these services at the desired standard. At this time all works and services can be provided under present funding levels are:

Managing the Risks

Our present funding levels are sufficient to continue to manage risks in the medium term.

The main risk consequences are:

- Failure of either the F-350 or 2003 F-550 Public Works trucks resulting in service being affected for a short period of time.

We will endeavour to manage these risks within available funding by:

- Replacing the F-350 truck in 2021
- Replacing the 2003 F-550 truck in 2023

G-6 Appendix

Age and Condition of the Assets

Below is the profile of the asset ages (Figure G-1) and asset condition (Figure G-2).

The age profile of the assets included in this AM Plan are shown in Figure G-1.

Figure G-1: Asset Age Profile

Harrison Hot Springs Village - Age Profile (Vehicles and Equipment_S1_V2)

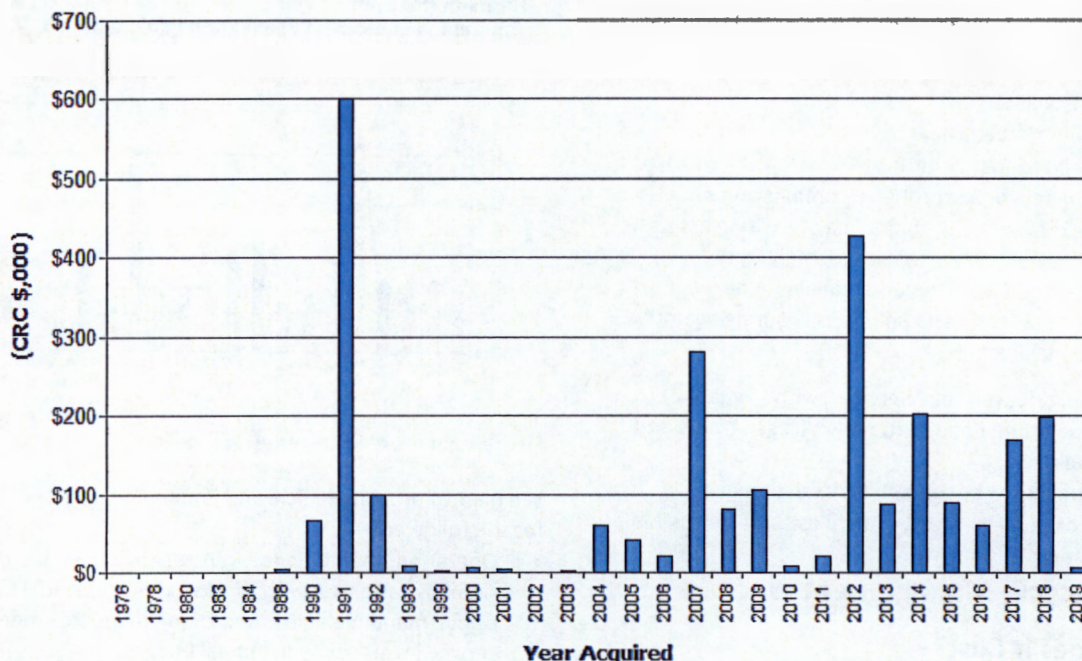


Figure Values are in current (real) dollars.

The age profile above shows the year of purchase for assets in this class in 2019 dollars. It also identifies a significant expense in years 1991 and 2012. Both of these reflect when fire trucks were purchased. The majority of the expense shown in 2007 is for the purchase of the Aquadams, and the 2014 value is largely based on the purchase of the backhoe. Eventually these larger purchases will require replacement.

Figure G-2: Asset Condition Profile

Harrison Hot Springs Village - Condition Profile (Vehicles and Equipment_S1_V2)

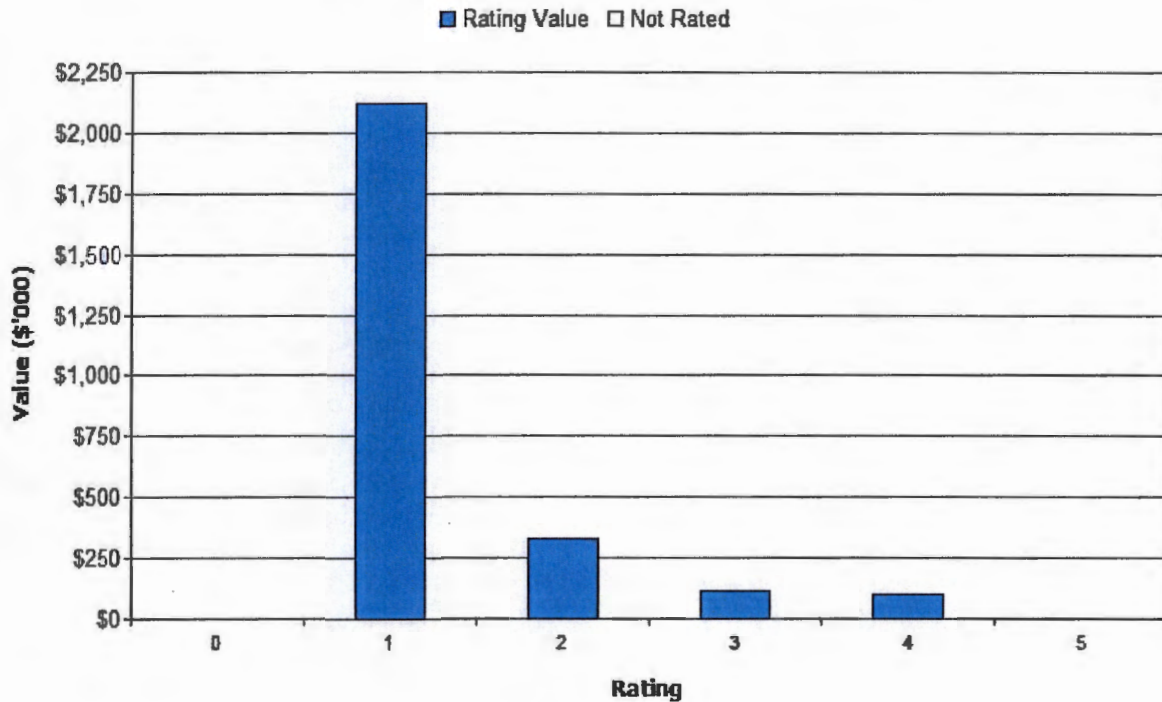


Figure Values are in current (real) dollars.

As can be seen above in Figure G-2 the overall condition of the V&E assets is excellent with 92% of the assets (by dollar value) being rated as very good/good condition. Considering the age of some of the equipment a high condition rating is a testament to the care that Village staff take with the equipment.

Condition is measured using a 1 – 5 grading system with 1 being Very Good and 5 being Very Poor

H. PARKS AND RECREATION

H-1 Asset Description

The Parks and Recreation assets include:

The Parks and Recreation network comprises:

- Garbage cans and dog bag stations;
- Benches, Bike racks, flag poles;
- Art and interpretive signage;
- Sports fields & playgrounds;
- Showers, park signs, kiosks, clock, shelters, fencing;
- Picnic Tables and BBQ stands
- Miscellaneous items

These infrastructure assets have significant value estimated at **\$1,795,253**.

H-2 Levels of Service

Our present funding levels are insufficient to continue to provide existing services at current levels in the medium term.

The main services consequences are:

- Renewals and upgrades are not funded

H-3 Future Demand

The main demands for new services are created by:

- Population or Demographic changes
- Climate change
- Increased tourist visitation

These will be managed through a combination of managing existing assets, upgrading of existing assets and providing new assets to meet demand and demand management. Demand management practices include non-asset solutions, insuring against risks and managing failures.

- Replace assets with are desirable to different demographics.
- Current trees may need to be replaced with hardier species that are tolerant of the new climate
- Purchase playground assets or plant trees that provide shade to or near the playground apparatuses
- As visitation increases there may need to be more recreation amenities provided in or near the main commercial area.
- Recreation opportunities for visitors may need to be provided outside of the main commercial area.
- As visitation increases there may need to be more recreation amenities provided in or near the main commercial area.

- Recreation opportunities may need to be provided outside of the main commercial area.

H-4 Lifecycle Management Plan

What does it Cost?

The projected outlays necessary to provide the services covered by this Asset Management Plan (AM Plan) includes operations, maintenance, renewal, upgrade and new assets over the 10-year planning period is **\$4,656,000 or \$466,000 on average per year**.

H-5 Financial Summary

What we will do

Estimated available funding for this period is **\$3,690,000 or \$369,000 on average per year** as per the long-term financial plan or budget forecast. This is **79% of the cost to sustain** the current level of service at the lowest lifecycle cost.

The infrastructure reality is that only what is funded in the long-term financial plan can be provided. The emphasis of the Asset Management Plan is to communicate the consequences that this will have on the service provided and risks, so that decision making is "informed".

The allocated funding leaves a **shortfall of \$93,000 on average per year** of the projected expenditure required to provide services in the AM Plan compared with planned expenditure currently included in the Long-Term Financial Plan. This is shown in the figure below.

Projected Operating and Capital Expenditure

Harrison Hot Springs Village - Projected Operating and Capital Expenditure (Park and Rec_S1_V10)

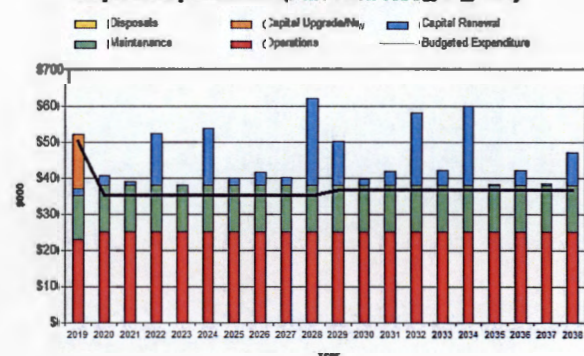


Figure Values are in current (real) dollars.

We plan to provide Park and Recreation services for the following:

- Operation, maintenance, renewal and upgrade of Park and Recreation assets to meet service levels set by in annual budgets.
- There are no known major renewals or upgrades planned within the 10-year planning period.

What we cannot do

We currently do **not** allocate enough funding to sustain these services at the desired standard or to provide all new services being sought. Works and services that cannot be provided under present funding levels are:

- Major renewals or upgrades of existing infrastructure.

The importance of other funding

Upgrades associated with growth may be funded by Development Cost Charges, but it is anticipated that the Village will continue to require the assistance of higher levels of government to fund capital works

Managing the Risks

Our present funding levels are insufficient to continue to manage risks in the medium term.

At this time there are no critical risks in this asset class.

H-6 Appendix

Age and Condition of the Assets

- Below is the profile of the asset ages (Figure H-1) and asset condition (Figure H-2).
- The age profile of the assets included in this AM Plan are shown in Figure H-1.

Figure H-1: Asset Age Profile

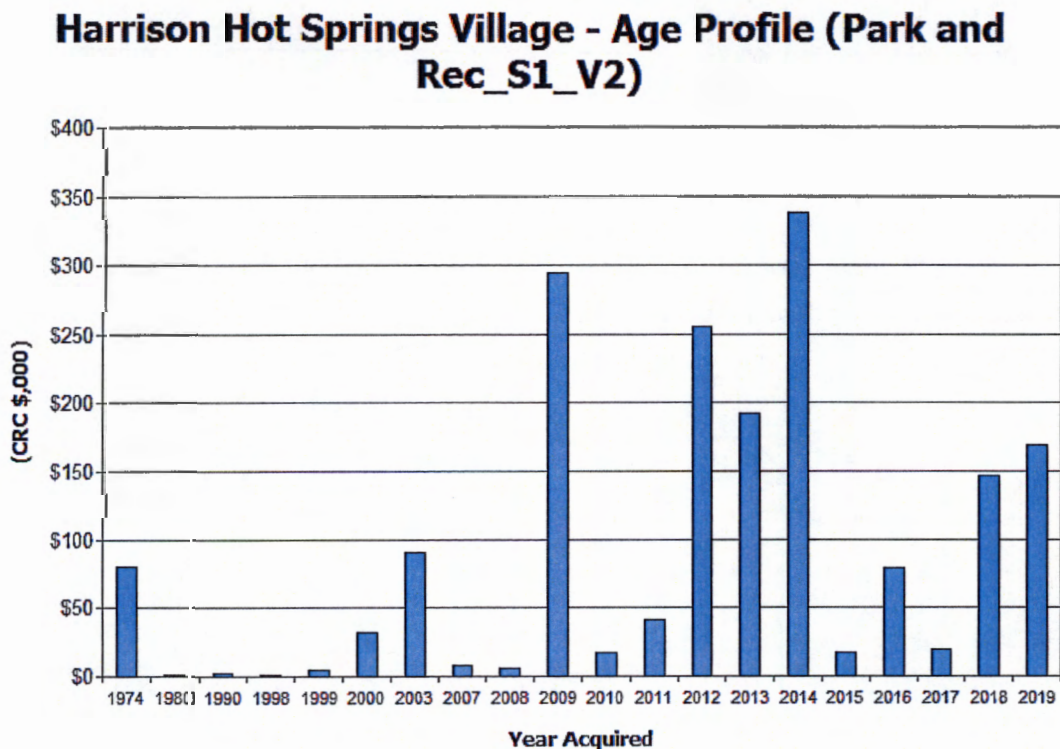
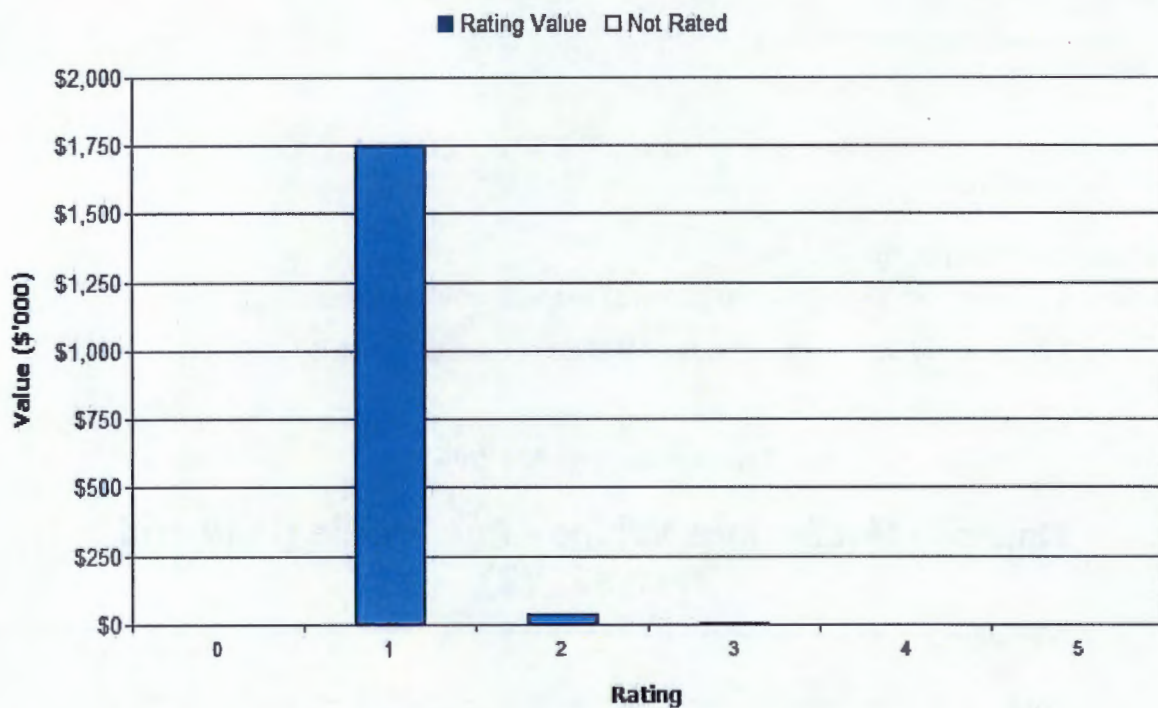


Figure Values are in current (real) dollars.

The value in the above figure represented in 1974 is the tennis court, 2003 is the value for the public clock (though it is understood that the Village did not pay the amount recorded as the Current Replacement Cost for the clock), the 2009 value represents the works in Harrison Plaza. 2012 was a large purchase of garbage cans (bear proof and wire mesh), dog bag stations, memorial benches and the Spring Park playground apparatus. The 2013 value is for the Village front entrance and the Beachfront playground. The 2014 value is largely the renewal of the lacrosse box (i.e. \$300,000).

Figure H-2: Asset Condition Profile

Harrison Hot Springs Village - Condition Profile (Park and Rec_S1_V2)



As can be seen from Figure H-2 above the majority of the assets in this class have a condition rating of Very Good.

Figure Values are in current (real) dollars.

Condition is measured using a 1 – 5 grading system with 1 being Very Good and 5 being Very Poor