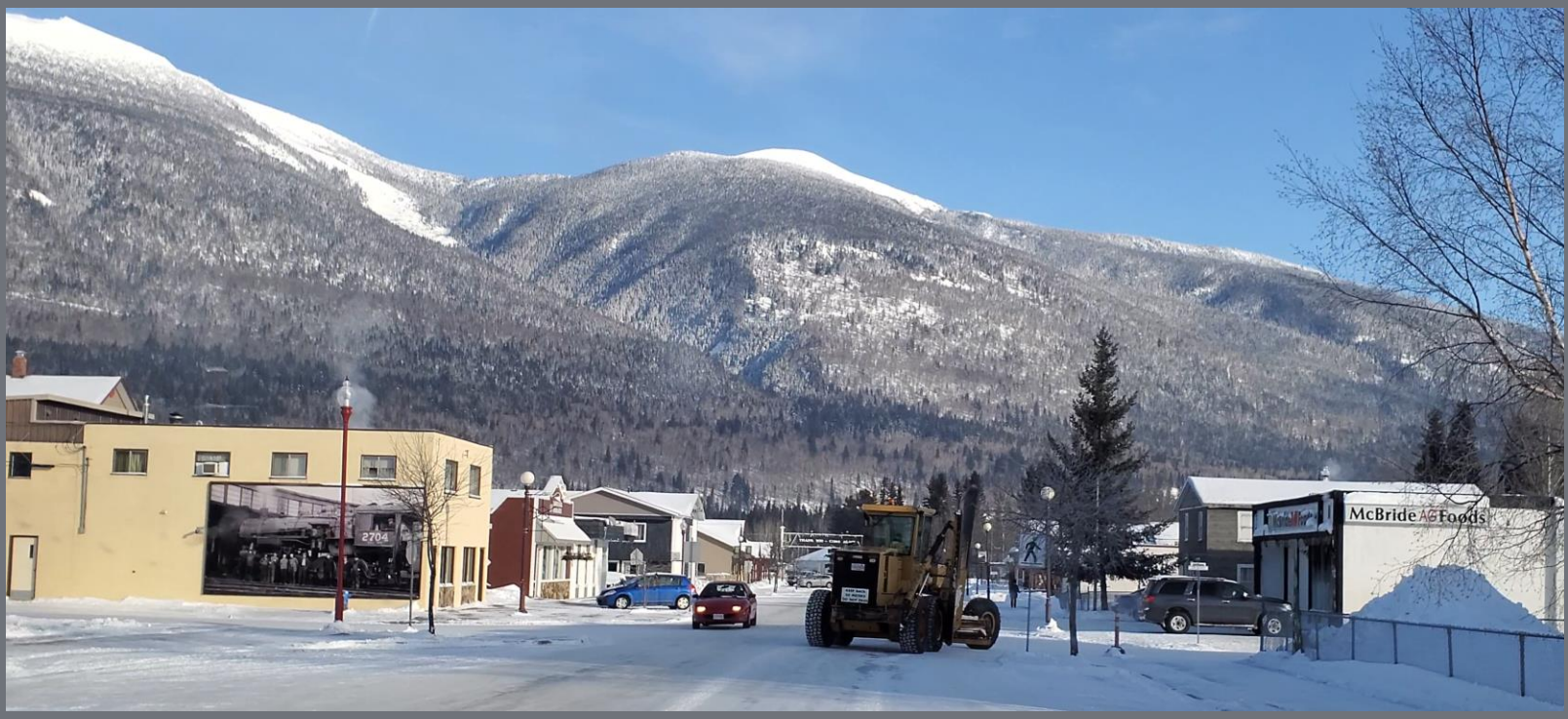
REPORT

PREPARED FOR THE VILLAGE OF McBRIDE

Asset Management Assessment and Asset Management Plan



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Asset Management Assessment and Asset Management Plan

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1.0 Introduction

The Village is responsible for providing and maintaining a wide variety of community infrastructure. Some systems operate across a large geographic area, such as the water and wastewater systems, while others are at a single location, such as the Village Office. Some infrastructure is essential to the community's operations, such as the water supply system, while others help to enhance the overall quality of life for residents, such as park land.

These infrastructure assets support the services delivered by the Village. Failure to care for and invest in these assets risks degrading, or even losing, the services that are currently enjoyed and depended upon by residents. Development of sound asset management practices will support the long term sustainable delivery of services to residents. The challenge for the Village, like most local governments, is to balance the performance of infrastructure against available revenues in the long term.

Development of an asset management program begins to tackle this challenge by informing infrastructure decision-making through identifying and integrating all of a community's long term infrastructure costs and available funding in the context of 'infrastructure supporting McBride's vibrant community'.

Asset management is an integrated process, bringing together skills, expertise and activities of people; with information about physical assets; and finances; so that informed decisions can be made. It involves being good stewards of infrastructure and community assets by making sure that infrastructure is well cared for. It involves ensuring that decisions about how to invest in McBride's infrastructure are adequately informed.

The Village is taking strides in improving their stewardship of the capital assets and is investing in planning towards action to improve their asset management practices. This process has involved:

- Understanding the context within which asset management is evolving in the province
- Taking stock of the Village's current asset management related practices, and outlining areas of focus that deserve investment
- Outlining the main actions that can help the Village make advancements in managing the assets for which the organization is responsible.

The Village has outlined the importance of initiating these asset management practices as they help to:

- Organize and improve understanding about the services provided to the community
- Communicate the future needs and current steps that are important to maintain the infrastructure and related servicing to the community
- Support the Village in making application for senior government funding

2.0 Provincial Context

It is reasonable to align the Village's asset management approach with what is commonly accepted in the province. Investments have already been made to help organize topics and areas of focus that can be leveraged to help advance the Village's approach. It is also worthwhile to note that the Province of British Columbia and the Union of British Columbia Municipalities (UBCM) are aligning grant program criteria to give preference to local governments that are proactive in their asset management. McBride having an asset management program that aligns with the Province's and UBCM's expectations is worthwhile.

UBCM recently prepared (in partnership with Ministry of Community, Sport, and Cultural Development, and Asset Management BC) the Asset Management for Sustainable Service Delivery: A BC Framework, which outlines a strategic level, outcome focused approach to asset management practices. The framework defines asset management as "*an integrated process, bringing together skills, expertise, and activities of people; with information about a community's physical assets; and finances; so that informed decisions can be made, supporting sustainable service delivery*".

The following graphic illustrates the on-going process of asset management which also has been developed to assist communities in meeting the administrative requirements of the renewed Gas Tax Agreement.

The On-going Process of Asset Management,
Asset Management for Sustainable Service Delivery, A BC Framework

The process illustrated to the right is founded on continuous quality improvement which is incremental and scalable. The process involves assessing capacity (shown in red), planning what needs to be done (shown in yellow) and implementing the plans (shown in green).

The graphic also illustrates (in blue) the four core elements of asset management – assets, information, finances, and people. These can be defined as flows:

- Assets – Physical Infrastructure to enable Service Delivery
- Information – to Support Decision-making for Sustainable Service Delivery
- Finances – Understanding Long Term Costs of Service Delivery
- People – Culture and Capacity for Informed Decision-making

3.0 Assessing the Village's Current Situation

The Village, in alignment with the framework outlined above, completed an assessment of its practices and priorities. The assessment involved completing interactive discussions with Village public works and administrative staff to help gain context about current Village investments and actions in managing the municipality's infrastructure. The process also involved a workshop designed to bring the Village's Council together to talk and learn about asset management and the current actions and gaps within the Village's current operations.

The process included:

- Determining the Village's current asset management status
- Enabling an open group discussion about asset management
- Discussing its benefits
- Defining priorities and next steps

Determining the Village's current asset management status
Each municipality is different. Their unique context influences priorities, opportunities and challenges. It is also very important to build on the progress already made so that the solution best fits McBride.

Enabling an open group discussion about asset management
Asset management program development is most effective when the team spans elected officials, administrative specialists, finance specialists, and technical specialists. As such, open and collaborative discussions on organizational capability, availability of resources, goals and objectives is critical in gaining consensus on an asset management business framework that can be implemented and sustained by the Village.

Discussing its benefits
The primary benefit of asset management is the ability to implement least life cycle cost, and programs to attain affordable levels of infrastructure service, performance, condition and risk. For McBride, the balancing of levels of infrastructure service, performance, and condition across its asset base requires making wise investment choices with the municipality's limited funds.

Defining priorities and next steps
This is the essence of the planning process as it identifies where the Village goes from here. By understanding gaps in information, process and funding, the Village is better equipped to identify appropriate next steps. The development of next steps provides a focus for moving forward and enables the setting of priorities.

The Council workshop involved sharing opinions, discussing the results, and working towards consensus on the need to improve asset management decision-making in sustainably delivering services. Participants were asked a series of questions and were engaged in discussion aimed at assessing the core elements of asset management. Appendix A includes a summary of the responses and discussion. An assessment of the Municipality's overall practices and priorities was also completed in alignment with the Province's assessment framework outlined in Section 2.0 with support of the AssetSMART V2 tool. Appendix B includes the results of that assessment.

The following is a summary of the assessment results.

Summary of Observations

ASSETS

Infrastructure data (i.e. age, material, and location) needed for informed decision-making is collected and recorded in differing forms. Building a useful GIS would be a positive investment.

Recommendation – Continue to collect information on Village assets. Particularly, assets that have not yet been inventoried and included in the CAD base or other files. Outline a process showing roles/responsibilities for data handling and sharing. The Village might benefit from the development of a plan to leverage digital tools for use by office and field staff, but caution should be exercised to ensure that only wise investments in digital technology are made as there are numerus options and some choices may not result in good investments of time and funds.

INFORMATION

Long term capital planning and some specific civil infrastructure replacement priorities are generally understood but could be strengthened with asset condition information. Asset management plans and financial policies have yet to be completed. There are no specific policies or processes developed to share information, identify or prioritize projects in the long term. Risk and level of service assessments for decision-making are not formally documented but the investment decisions are guided by these influences.

Recommendation – The archiving of some older information (e.g. old contracts) would help to reduce the information that must be securely stored. Long term capital planning informed by level of service, risk, and affordability would help to provide clear direction on how to achieve sustainable service delivery. The Village should also adopt a business case approach when proposing major capital investments, which should also consider the implications of not proceeding.

FINANCES

A financial plan is in place with continued work by the Village to engage in better planning, but it does not reflect the future costs of replacing existing assets or ensure full cost recovery for each utility. Total replacement cost (of all assets) and average annual infrastructure renewal contribution are unknown.

Recommendation – A long term financial plan is required that is based on a set of guiding principles and strategies (around the topics of taxation, user fees, debt, grants, reserves, etc.) to achieve long term financial sustainability including adequately funding asset renewal. It is appreciated that the Village's limited tax base restricts the ability to make major financial shifts, so measured and staged changes over time will likely be a more palatable approach.

PEOPLE

The small size of the Village staff results in a cross-functional team to manage all the municipal functions. Staff are working to build their capacities and understanding, knowledge, and systems needed to support informed infrastructure decision-making. One of the Village's current obstacles to keeping the information current is that if staff changes occur, there will be changes in the methods used for collecting and storing information. Awareness of asset management has increased through this assessment.

Recommendation - A clear outline regarding the asset management policies and procedures will help minimize the impact that staffing changes will have on the methods behind documentation and leveraging of asset information. There exists the potential of engaging the Village's administrative staff in helping to manage the information that public works staff can collect during their routine duties.

4.0 The Overall Asset Management Strategy

Outcomes of the discussions with Village Council and staff included a greater shared awareness of the Village's status with respect to asset management, and the need to improve the approach for asset management decision-making and activities. That understanding helped participants to summarize that the primary strategy for implementing asset management will involve:

- Leveraging existing information and knowledge of Village staff
- Considering a measured approach to develop a GIS to provide accurate and up to date information within a common platform (to know what assets we have, their age and condition) to assist in decision-making
- Understanding capital replacement needs and ensure those needs are included in long term investment plans
- Creating better awareness amongst public and Council to better understand "trade-offs" with specific reference to affordability
- Understanding the big picture and have that be useful in guiding day-to-day operations
- Not waiting to have every component of an asset management plan researched and nailed down – there are some quick wins that can be advanced that will have immediate benefits

Use of the Council-Adopted Asset Management Policy as a Guide

Completing the asset management assessment and resulting plan involved preparing a policy to guide the Village's actions and decision-making related to sustainable capital investments. Developing the policy was a step forward and it is recommended that the Village consider the intent of the document when advancing their decision-making process.

5.0 The Village's Next Steps – The Asset Management Plan

Asset management is an ongoing process rather than a "one off" project. Some program components, such as development of an initial inventory for PSAB 3150 Tangible Capital Assets, and digital mapping in CAD of some systems are already complete. In moving forward, the Village could benefit from initiating a number of initiatives to build on the solid foundation for the program.

This section outlines plausible steps and priorities based on workshop outcomes and discussions. Some actions will evolve as the Village becomes more familiar with the impacts on financial reporting and asset management issues.

5.1 Short Term Objective: Understand Operations and Data Management

The following are steps that can be taken to help set the basis for the Village's asset management.

Engagement with Council

Engaging Council should occur at various stages in the process. Their support will help establish direction, including in the implementation of specific tasks. Throughout it is important to convey the following:

- The importance of infrastructure reinvestment
- Associated funding requirements
- The value of adopting a long-term approach

Operations and Maintenance Practices and Suggest Changes

While capital investments represent significant financial outlays, the continued operations and maintenance of the Village's infrastructure represents substantial expenditures on an annual basis. Sound operations and maintenance practices by the Public Works Department can also help to extend the lives of certain assets and help to identify problems before they require emergency repairs or replacements.

It is suggested that this work involves reviewing current practices with operations staff in order to obtain important input and perspectives from the individuals that operate and manage the infrastructure on a daily basis. The goal of this phase would be to review current and planned operations and maintenance practices and outline activities and funding allocations. The process would also help to identify opportunities to improve data management and when administrative office staff can be involved to take on information gathering and reporting activities.

It is not suggested that a detailed operations plan or maintenance management plan will be developed. Instead, general investments in operations and maintenance changes will be highlighted and major items will be included in the long-term Plan to ensure that financial implications are noted and planned for.

Develop Document Management Approach

There are several activities that the Village undertakes as part of regular duties that can help to inform infrastructure investment decision making. Whether it be recording routine activities or collecting specific information during infrastructure reviews and repairs, having the information collected will, over time, help to highlight where additional attention may be warranted.

The Village has noted the value in outlining a records management approach. This should include what information to be collected, triggers for reporting, appropriate computer-based and hardcopy filing approach, as well as how and when to archive data. Examples of asset management information that could be included in that process are:

- Watermain break incident reports (including photos, failure mechanism and other key information collected in the field)
- Inspection records of buildings, routine maintenance and repairs
- Capital project contract filing protocols
- Process for copying log books from the field
- Process for archiving the SCADA data before it is over-written

The goal should be to develop an overall approach but then phase in initiatives based on resources and priorities. Developing that approach should include:

- Taking stock of existing document practices and how what existing documents are archived
- Engage Village staff to understand what is working well and current shortcomings
- Leverage the above-noted review of operations and maintenance practices to help outline improvements for the Public Works staff
- Review plausible approaches for digital and hardcopy document organization and storage
- Confirm preferred approach complies with municipal and legal expectations
- Prepare an overall procedures, complete with suitable documentation and staff training

GIS Development

It is noted that employing GIS-based software to help organize and visualize the many spatially-based assets is worthy of more consideration. Affordability, staff training needs and expected actual use should be factors when deciding on the appropriate level of investment. Exploring how the Regional District could provide GIS services is also an idea raised by the Village.

It is also noted that there are GPS-enabled field collection tools that could help to build the GIS information. There are also tools that can be deployed to Public Works staff.

Implementing asset management requires effective change management. Key factors for a successful change to occur include:

- Clarity of program objectives
- Village leadership makes the asset management program a priority
- Buy-in from staff
- Education and training of Village staff
- Informing the public
- Follow a clear implementation plan
- Adequate resources (financial & human)

The absence of one or more of these factors may impact the success of the program.

There is a variety of software systems that merge operations and capital planning. There are few, however, that adequately consider the full context of integrated capital planning. Even though some use complex weighting factors and algorithms, they are limited in their handling of more nuanced issues such as politics and senior government grant influences. To be of use, capital planning software requires significant resources (cost, time and expertise). The market for those systems is typically large cities where the number of required works is numerous and crosses many administrative departments within the organization. It is anticipated that the Village would not receive good value by investing in such a capital planning software package at this time, if ever.

Developing a plan to leverage software, starting with GIS and field collection tools, is a recommended first step in the process. The individual business practices, infrastructure information management and daily processes vary in each GIS implementation. Establishing key issues, opportunities and goals is essential before investment is made in system development and implementation.

Key tasks for developing the infrastructure inventory in GIS could include:

- Gather available GIS mapping (Provincial sources) and prepare GIS map foundation for the inventory
- Gather and organize all available infrastructure records pertaining to the water, sanitary sewer, drainage systems, and roads
- Take stock of gathered information and scan all relevant records/documents for easier reference
- Design and build GIS database to hold the Village's infrastructure records
- Populate GIS database with available spatial information (draw water, sanitary, drainage and road networks)
- Populate basic attribute information where available (asset identifier, pipe size, material, date installed and condition)
- Produce working maps summarizing missing information
- Take stock of information compiled and identify missing information and questions areas requiring further investigation
- Have key Village staff provide missing information from personal knowledge and experience
- Identify key infrastructure requiring field collection/surveying and determine level of effort/accuracy required
- Field collect/survey identified infrastructure (e.g. sanitary pipe inverts and rim elevation at manholes)
- Compile field collected information and populate/update GIS database
- Create infrastructure composite maps for the Village's use

With this information developed, the Village would then be in a position to further refine and leverage the information, with timing contingent of funding and staff resources. The preferences of the Village regarding access to information (e.g. online mapping for Village and public access of certain layers, use of tablets in the field by Village staff) could then be further explored.

Although developing the infrastructure inventory, as noted in the above list of tasks, is most efficient to complete in a single process, subsequent work could involve staged investments to suit the Village's available funds and priorities.

5.2 Medium Term Objective: Understand Capital and Funding Priorities

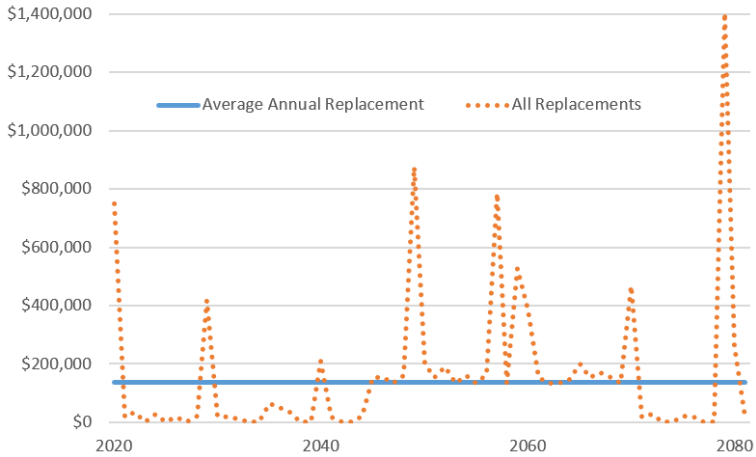
Once key work is complete, especially the GIS development, the Village will be in a position to leverage the information to gain a better understanding of the community's capital investment needs and to display the anticipated capital projects. That information will help to inform funding requirements and to help the Village consider if updates to revenues are warranted to ensure sustainable investment in capital infrastructure occurs.

Create Infrastructure Reinvestment Schedules

The objective in creating an Infrastructure Reinvestment Schedule is to provide an overview of long term investments driven by the need to replace and rehabilitate infrastructure that is nearing the end of its useful life. The related 30 year (and longer) funding levels will also be approximated to help provide context regarding the Village's current and anticipated capital spending needs.

The theoretical capital reinvestments for water, sanitary, storm sewer, transportation, buildings and facilities infrastructure will be summarized in graphs to help communicate replacement schedules and the related expenditure levels.

Infrastructure Reinvestment Schedule will be represented in graphical format as per this example



It is important to note that in recent years, providing a reinvestment schedule has been a condition of receiving final payment for certain capital grant programs.

Create a Meaningful 10 Year Capital Plan

Based on studies completed to date and input from the Village, infrastructure that is likely due for replacement in the coming years should be identified with the focus being on creating a meaningful 10 Year Capital Plan. For example, the Village has identified the desire to improve streetlighting downtown and make investments in the wastewater lagoon system. The Village has also noted that sewer camera work and review of results is an example of work that can be taken to help inform the Capital Plan. The building assessments and Public Works equipment review are also important investments the Village has made that should be leveraged within the Capital Plan.

Major infrastructure investigations, sometimes referred to as Master Plans, are not recommended at this stage as it is first important to take stock of known capital and financial issues. However, the process should be designed to incorporate the results of any future master planning that may be justified as the program evolves.

It is proposed this work would include the following tasks:

1. Preparing Inventory of Proposed Capital Investments
    - Identify proposed capital works and required upgrades based on existing studies and relevant new analysis, including compiling them into a common GIS based map to help identify integration opportunities

- Complete project identification workshop with key Village staff help determine if there are other projects that have yet to be identified. The working session will include assigning general priorities for the various projects and timings.
- Identify the current capital budget amounts and any expected changes

2. Conduct Analysis of Capital Projects and Align with Available Budget
   - Compile the required upgrades into single purpose and multi-purpose projects
   - Get current capital budget amounts and any planned increases from Village staff
   - Prepare conceptual capital cost estimates, suitable for initial budgeting purposes, with more detail focused on the highest priority capital projects
   - Identify why projects are needed based on one or more of the following criteria:
     - Rehabilitation of existing infrastructure
     - To accommodate growth
     - To increase level of service or economic development
   - Present and document information by building on the Village's GIS
   - Outline how the capital projects align with capital budget expectations and outline how changes in funding or reduction of capital projects can help align investments with expected funds
   - Engage with staff to discuss implications for the Village related to affordability and to further refine project scopes and priorities
   - Seek direction for moving forward with enhancing the asset management information base and decision-making process
3. Present to Village Staff and Council followed by finalizing reporting
   - Conduct review session with Council and Senior Staff
   - Finalize analysis and reporting based on feedback and prepare final GIS layers, maps and tables

Funding Review and Cash Flow Modeling

The capital planning work would focus on the projects to complete within the available funding plan. The purpose of the Funding Review is to provide an indication of required future funding levels to support asset management and, potentially, other capital investments that would otherwise be unaffordable. This effort will involve developing a cash flow model to help outline revenue needed to pay for projects in the context of what could be affordable to utility customers and taxpayers, while also showing the impacts of revenue increases.

The review should give consideration for sustainable revenue levels, appropriate reserve levels for each utility and general revenue investments, when debt financing should be considered and how senior government grant funding could influence affordability. That process could involve the following tasks:

1. Conduct Analysis of Capital Projects and Align with Available Budget
2. Outline how the capital projects align with capital budget expectations and outline how changes in funding or reduction of capital projects can help align investments with expected funds
    - Consider key variables affecting financing capacity [e.g. assessment base, levels of taxes and charges, etc.]
    - Identify issues arising from existing conditions, with emphasis on capital planning implications (e.g. affordability, sufficiency of revenues, certainty, competitiveness with other communities)
3. Prepare the cash flow analysis, with consideration for building reserves, drawing from reserves, leveraging debt and maintaining a pay-as-you-go approach.
4. Engage with Village to discuss affordability and to further refine funding approaches

5.3 Long Term Objective: Improve Knowledge and Information Management

The results of the short and medium term work will set the stage for the continued refinement of the information. The system for storing information in GIS and through proper document management will have been established. Capital planning and a strategy for sustainable funding will have been established.

The Village should be prepared for continued investment and refinement of processes to help inform decision making. Asset management is an ongoing process rather than a one-off project. There should then be an ongoing process to collect additional information about the infrastructure, such as condition, risk of failure, investments to extend lifespan and anticipated capital investments as infrastructure decays.

It is valuable to understand what condition assessment information is a priority to collect and how to properly store the (typically) large amount of information that can result. It is expected that the GIS development process and creation of a meaningful Capital Plan will result in the recommendation of infrastructure condition assessment work. At that time an investment plan and schedule for the condition assessment work should be identified.

Also, staged investment in GIS improvements and document management could involve providing improved data access for staff. A web-based GIS mapping system could also provide viewing of mapping for Council and the public.. There are numerous software systems and equipment to allow for information gathering in the field. Appropriate investments in the variety of approaches would be best to define as part of the longer term steps.

It is proposed that this future work involves:

- Identifying priorities for additional condition assessment activities and how the results should be coordinated to fit within the Village's GIS and recordkeeping systems
- Providing budget and proposed timing for the assessment work
- Using mobile technology to record issues and ratings in the field rather than a paper-based approach is possible, but the preferred approach should be designed in the future, based on the staff and resources at that time. Regardless of the data collection technique, the end goal should be to design the condition inspection recordkeeping so the information can be easily incorporated into the GIS.
- Apply the additional information to refine practices, update the capital plan and refine the funding strategy

5.4 Communications

For asset management to be a priority it requires a good awareness of its business principles and its benefits to the Village's staff and the taxpaying community. This awareness is required with staff, elected officials, and ultimately the public and provides a common vision that ensures everyone understands the end goal.

Most infrastructure funding and related capital planning initiatives involve some degree of public engagement. Communicating progress is beneficial for maintaining transparency and for building community buy-in, especially if their future support of tax and rate increases is needed.

Increasing public awareness could involve using tools such as press releases, mail outs, website and public meetings to help communicate key messages. The Village has noted that some success has occurred in engaging with the public through activities such as a community barbeque. That activity is an example of how community engagement can occur in different forms than traditional mail-outs or website posting.

Key Communications Messages

- Well-functioning infrastructure is the basis for the community's operations
- The infrastructure is aging
- A long term approach is required to ensure the right choices are made
- The Village will maintain fair tax rates

The Village is already providing mail-outs to the community to provide notification for upcoming public engagement sessions. It is therefore proposed that communications regarding the investment in the community's capital infrastructure can blend into that existing process.

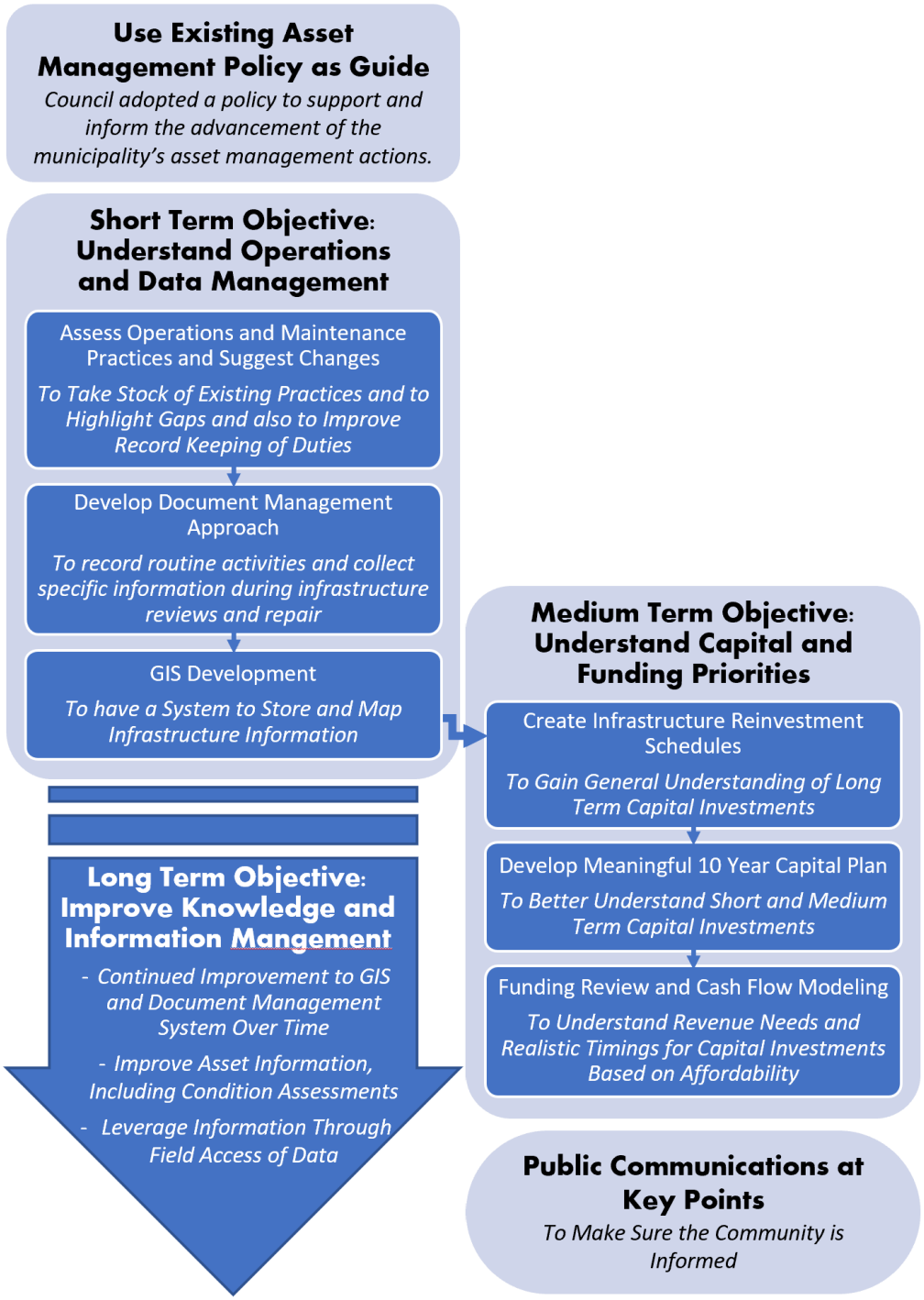
Many members of the public also visit the Village office as it is also the location where driver's licences are issued. Therefore, including some brief material or updates about the Village's investments in capital infrastructure could also be posted there.

The goal of public engagement for asset management is to raise awareness of the Village's priorities and outline how a phased approach can be advanced to balance affordability, service levels and risk. It is proposed that information be provided on the following:

- An overview of the Village's infrastructure and services in order to improve the understanding of municipal operations and the managing of capital assets
- Highlighting the value and importance of Asset Management investments
- Outline capital works and potential funding requirements
- Explain that the Village is attempting to work within affordable funding levels

5.5 Summary

The following figure provides an overview of the process that is outlined in more detail throughout this report section. The figure helps to communicate that there are sequential tasks at the outset, but then an ongoing approach should be adopted.



6.0 Implementing

There is a variety of challenges that must be faced in improving and maintaining asset management practices. There are financial constraints within which the program must operate, there is a large amount of information that needs to be gathered and processed about asset condition and remaining useful life. Planning for future, long term capital works must also compete with more immediate duties.

By proactively addressing infrastructure needs over the long term, the Village will be more likely to avoid crisis situations which are usually more costly to address and cause more disruption to the community. It will also ensure the Village is well placed to take advantage of new funding programs and to respond to changes in regulations.

A sustainable plan must recognize the foreseen challenges and provide the means to overcome them. The next steps, as outlined in Section 5 of this document, provide an approach to key activities that can help the Village recognize and plan for these challenges.

Having a systematic approach to developing and implementing asset management is not enough. The Village must commit to carry forward the program and assign appropriate resources in order to be successful. These resources include:

- Suitable and stable funding
- Staff time and training
- Appropriate technical expertise and tools

To keep an asset management program on track and resist reacting to short-term pressures, the Village will need to commit to making asset management a priority and a part of regular operations.

Appendix A – Council Workshop Summary

Council Workshop Summary

The assessment workshop comprised of questions that helped to create a forum with Village Council for a wide-ranging discussion about the Village's current state of asset management, priorities and expected level of commitment to sustaining the infrastructure over the long term.

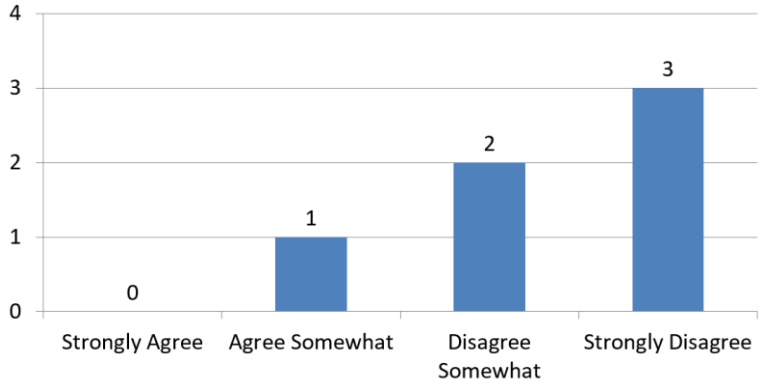
This appendix summarizes the assessment results. These results helped to inform the priorities in the recommended next steps and helped to inform the completion of the AssetSmart assessment.

INFORMATION

Information is integral to ongoing day to day operations and improving decision-making related to asset management. Data for decision-making includes each asset's current condition and remaining life, the level of service it is providing, the risk of its failure and cost of deferral, and its location and descriptive data.

Question: We have all the necessary infrastructure information to make informed decisions.

1. Strongly Agree
2. Agree Somewhat
3. Disagree Somewhat
4. Strongly Disagree

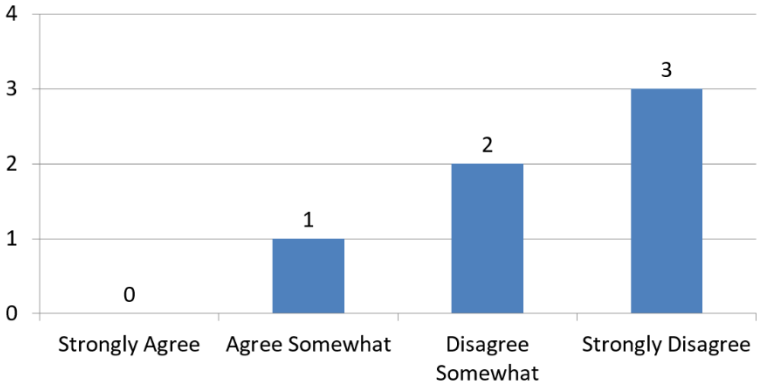


Workshop Discussions and Observations:

- The amount of information varies by type of infrastructure (e.g. more information about water system than drainage system)
- Building assessment and equipment assessments were both recently completed
- Concerns raised that having all relevant information may not be affordable

Question: Our information is stored in a secure and easily accessible location (i.e. database).

1. Strongly Agree
2. Agree Somewhat
3. Disagree Somewhat
4. Strongly Disagree



Workshop Discussions and Observations:

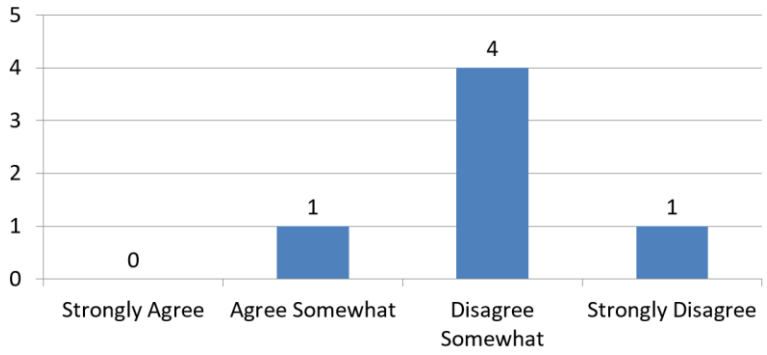
- Much information is available, but some is not consolidated
- Policies and procedures are saved in electronic form and there are duplicated maps for the water distribution system for recording leaks and changes
- The importance of having proper information backups is well understood
- Change of staff makes the process more difficult
- Including information in GIS and in other digital formats, complete with offsite backups, could help to further reduce risks
- The Village does have fire-rated storage of documents and some backup of digital information, but improving archiving protocols would be valuable

FUNDING

No community has enough money to do everything it needs or wants to do, as a result, costs and available funding must be balanced and juggled to manage infrastructure at affordable levels of service and risk. Unfunded service level backlogs or infrastructure deficits do not go away but grow unless carefully managed through long term multi-asset improvement plans or performance-based budgeting.

Question: We have established affordable levels of service and risk for our infrastructure.

1. Strongly Agree
2. Agree Somewhat
3. Disagree Somewhat
4. Strongly Disagree

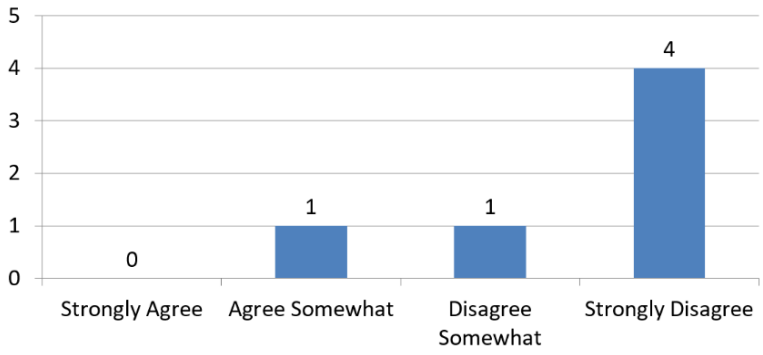


Workshop Discussions and Observations:

- There is useful information from the building assessment but there are gaps for other types of assets
- Specific levels of service have not been established in a formal way
- Affordable levels of service may never always meet public expectations
- Can help with public outreach, engaging the public on what service levels they want to fund

Question: We have an integrated long term capital planning process that incorporates levels of service, condition, performance, risk, and cost for assets.

1. Strongly Agree
2. Agree Somewhat
3. Disagree Somewhat
4. Strongly Disagree

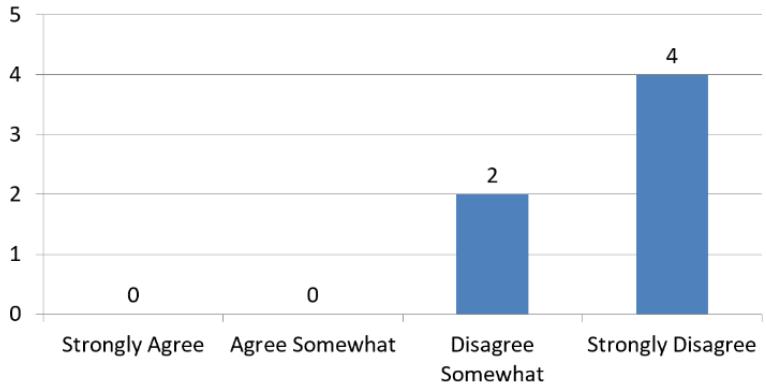


Workshop Discussions and Observations:

- No formalized/standard capital planning process is followed
- The Strategic Plan is the longest long-term plan at this stage
- A building assessment has been done, which helps to inform needed capital investments
- The Village is interested in considering the costs of leasing vs. purchasing some major equipment
- In recent years the capital plan was not broken down into specific projects but now it is showing some priorities
- Benefits of long term investment planning were discussed and supported as it will help with strategic planning
- There exists the understanding that doing nothing (i.e. not investing in asset replacement) results in an increase in risk

Question: We have quantified our infrastructure deficit.

1. Strongly Agree
2. Agree Somewhat
3. Disagree Somewhat
4. Strongly Disagree

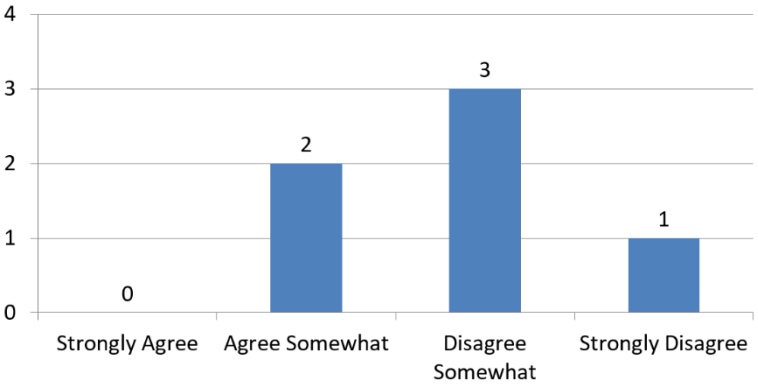


Workshop Discussions and Observations:

- McBride has a small tax base so it is difficult to increase the amount available to invest in aging assets from rate increases (1% tax increase relates to ~$4,600 of additional revenue)
- There are some concerns about the size and manageability of the deficit

Question: Our budgeting process is directly linked to our long term Capital Plan, i.e. performance-based budgeting.

1. Strongly Agree
2. Agree Somewhat
3. Disagree Somewhat
4. Strongly Disagree



Workshop Discussions and Observations:

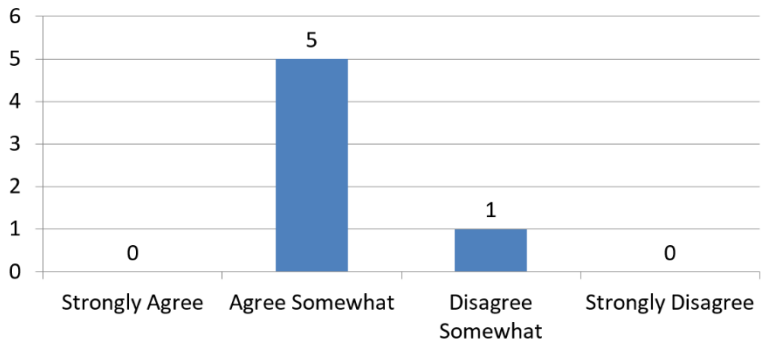
- There are no clear policies regarding spending. Identified that this current process will help to support creating those spending policies.
- Could help to identify what is acceptable and affordable to the community
- It would be of benefit to create a meaningful 10 Year Capital Plan

PEOPLE

Moving to an asset management business approach to work is very much about people; at the beginning it is about people and change, and as the business approach is adopted it is about having adequate people resources with the right knowledge and skills. This requires teamwork, clear roles and responsibilities, and the sharing of knowledge and information.

Question: There is good awareness of asset management, and its benefits and priorities, among elected officials and key staff.

1. Strongly Agree
2. Agree Somewhat
3. Disagree Somewhat
4. Strongly Disagree

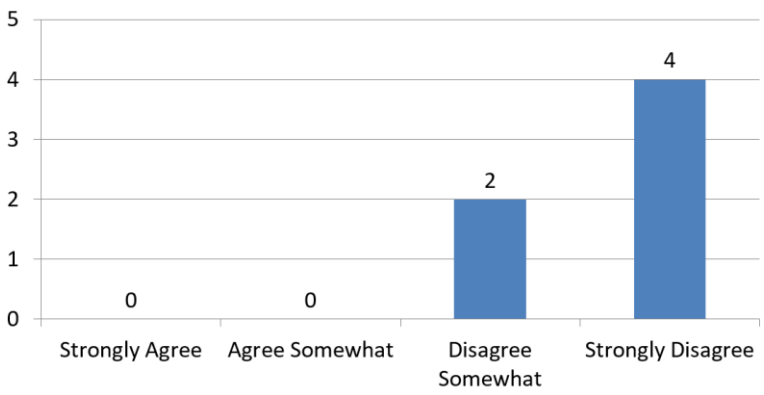


Workshop Discussions and Observations:

- Council appreciates the value of the process but not the specific approach or actions to take.
- Staff awareness likely varies between members of staff, but they understand they have a role in helping to advance asset management.

Question: There is good awareness of asset management, and its benefits and priorities, among *the public*.

1. Strongly Agree
2. Agree Somewhat
3. Disagree Somewhat
4. Strongly Disagree

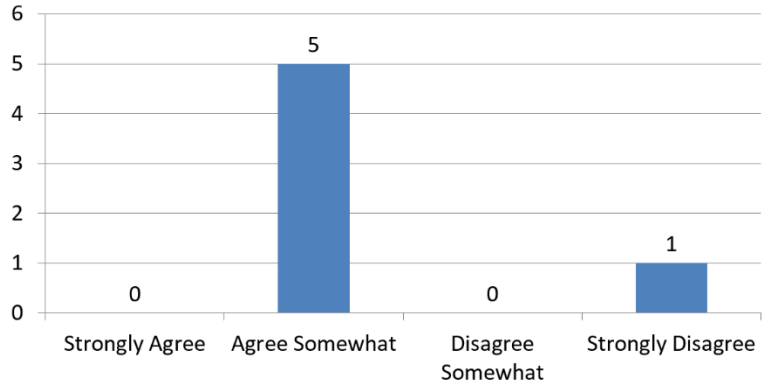


Workshop Discussions and Observations:

- There has not been much public engagement in recent years, but additional effort is being made (e.g. mail-outs and community barbeque)
- Public is likely aware of infrastructure, but they are not aware of the impacts of aging infrastructure
- Noted it is important for staff and elected officials to be informed before they can meaningfully inform the public
- Having a communications plan would be useful (for residents and out-of-town service population)

Question: Our staff have a good level of asset management knowledge and skills.

1. Strongly Agree
2. Agree Somewhat
3. Disagree Somewhat
4. Strongly Disagree

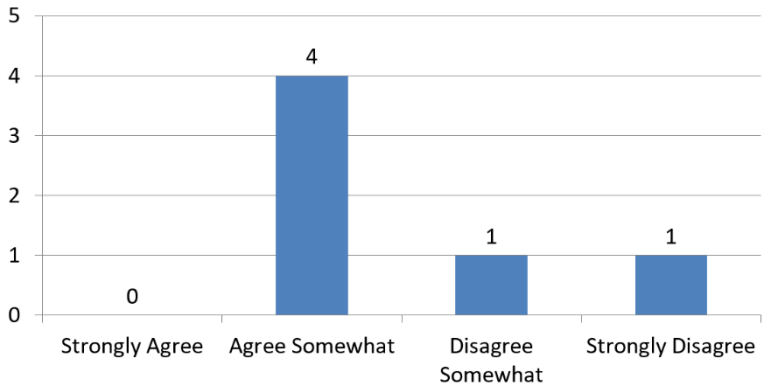


Workshop Discussions and Observations:

- Staff are aware of benefits of asset management but are not fully informed regarding specific actions to advance and improve the asset management process
- The Village has a champion (CAO) to help promote and guide the process
- Need to improve the awareness of asset management overall process, goals and benefits

Question: We are proactive in managing knowledge transfer and related documentation.

1. Strongly Agree
2. Agree Somewhat
3. Disagree Somewhat
4. Strongly Disagree



Workshop Discussions and Observations:

- There is a lot of valuable knowledge retained by Public Works staff
- Knowledge transfer is important when there is a change of staff in order to maintain a consistency of approach
- Documentation and information management is a key to knowledge transfer
- Some process and checklists are used less than in the past, but the Village has an eagerness to address this and is gaining ground

Appendix B – AssetSmart V2 Assessment

AssetSMART 2.0

A Tool to Assess Your Community's Asset Management Practices

What is AssetSMART?

AssetSMART is a tool that local governments can use to assess their capacity to manage their assets. This tool has been designed to help local governments:

- ◊ Evaluate their asset management practices in a comprehensive way
- ◊ Identify particular areas of strength and areas for improvement
- ◊ Establish priorities
- ◊ Build awareness of the many dimensions of asset management
- ◊ Generate productive discussion across departments
- ◊ Measure progress over time
- ◊ Benchmark against other communities
- ◊ Set short-, mid-, and long-term objectives in specific areas

Which communities should use AssetSMART?

AssetSMART has been specifically designed to reflect the unique challenges that local governments face in managing their assets. This tool is intended to be used by any local government, of any size, and at any stage of implementing an asset management program. Whether your community is in the initial or advanced stages of asset management, AssetSMART can help your organization take stock of where it is today and plan for the future.

DATE Results from January 2019 Review with Village Staff and Council

NAME Rick Collins, P.Eng.

ORGANIZATION Village of McBride

The Framework

AssetSMART uses Asset Management for Sustainable Service Delivery: A BC Framework (the Framework) as a foundation. The Framework establishes a high-level, systematic approach that supports local governments in moving toward service, asset and financial sustainability through an asset management process.

The Core Elements of Asset Management

People, Information, Assets, and Finances are considered the core elements of asset management. Each of these elements are necessary for sustainable service delivery. Success requires the integration of these four elements throughout the process of asset management. The four core elements form the AssetSMART assessment categories.

Using AssetSMART 2.0

Step 1 Assess Current Capacity

For each of the rows, choose the cell that most closely describes your organization's capacity today (simply check the appropriate box). If you feel that your organization falls between two cells, choose the line between the two cells. Add comments as needed in the adjacent column.

The assessment matrix is organized into the five core capacity areas (rows), and by capacity level (columns). Capacity increases from left to right as follows:

Level (1) Very low capacity
Level (2) Fair capacity
Level (3) Good capacity
Level (4) High capacity

Step 2 Identify Desired Capacity

For each of the rows, choose the cell that most closely describes the level of capacity that you would like your organization to have in the future. You may want to indicate desired capacities for a given timeframe, as your organization may have different short-, mid-, and long-term objectives.

Defining "desired capacity levels" will likely be more difficult than identifying "current capacity levels", and will require organization-wide discussion to establish attainable objectives. It is not suggested that all communities aim for Level (4) capacity on all components – targets will need to reflect the specific circumstances of each community.

Who should fill in the self-assessment?

Effectively managing a community's assets will require the participation of many individuals and groups from across the organization. At a minimum, personnel responsible for the following functions should be invited to participate in the self-assessment:

- ◊ Engineering (transportation, water, sanitary, stormwater)
- ◊ Facilities
- ◊ Parks and Recreation
- ◊ Operations
- ◊ Planning (current and long-range)
- ◊ Finance

How should the self-assessment be completed?

Local governments can opt to fill in the self-assessment in a number of ways, such as:

A group (whole organization)
Local governments may choose to complete the assessment together as a group in workshop format, to help ensure that all participants are on the same page. This approach can effectively build buy-in from the entire group, but may not highlight significant differences in understanding across the organization.

Individually
Alternatively, local governments may choose to ask each participant to complete the assessment independently, and then meet as a group to review the results. Providing respondents with the assessment prior to meeting as a group can help ensure that individual input is fully explored, and bring to light any significant differences in understanding across the organization.

Business units
Other local governments may choose to complete the assessment first by business unit or department, and then discuss the results as an entire organization.

Local governments will need to choose an approach that makes the most sense for their organization. However, it is recommended that local governments always include plenty of time for discussion about assessment results. **The discussion is the most valuable part of the exercise.** Local governments may also find it helpful to have an outside asset management expert facilitate the discussion. Involving an objective third-party can help ensure that issues are discussed fairly and comprehensively.

How can the assessment results be used?

Completing AssetSMART is an important first step in developing an asset management strategy. Next steps include:

Prioritizing gaps
For most local governments, it will not be reasonable to expect to build capacity in all areas at once. Local governments will need to choose which capacity gaps to address first. Some capacity gaps will be more significant than others. This will all depend on the local government's unique circumstances.

Developing implementation strategies
The next step will be to develop detailed implementation strategies to fill the most significant capacity gaps.

AssetSMART helps frame the discussion on prioritizing gaps and developing implementation plans, but it is does not provide pre-packaged solutions. Local governments will need to look carefully at their specific circumstances, evaluate available options, and decide for themselves the best way forward.

Glossary

ASSET

A physical component of a system that has value, enables services to be provided, and has an economic life of greater than 12 months.

ASSET MANAGEMENT

Systematic and coordinated activities and practices through which an organization manages its assets, their associated performance, risks and expenditures over their life cycles.

ASSET MANAGEMENT PLAN

Document specifying activities and resources, responsibilities and timescales for implementing the asset management program.

ASSET MANAGEMENT PROGRAM

A program to identify asset management needs, set up longer term financing means, and regularly schedule maintenance, rehabilitation and replacement works for the long term sustainability of the asset.

ASSET RENEWAL

Works to upgrade, refurbish or replace existing facilities with facilities of equivalent capacity or performance capability.

GIS

Geographic Information System.

INFRASTRUCTURE DEFICIT

A cumulative shortfall of required asset renewal.

LEVEL OF SERVICE

The defined quality for the provision of a particular service. Service levels usually relate to quality, quantity, reliability, responsiveness, environmental acceptability, and cost.

LIFE CYCLE

The life of an asset, from the point when a need for it is first established, through its design, construction, acquisition, operation and any maintenance or renewal, to its disposal.

LIFE CYCLE COST

The total cost of an asset throughout its life including planning, design, construction, acquisition, operation, maintenance, rehabilitation, and disposal costs.

LOCAL GOVERNMENT

Municipalities and regional districts.

LONG-TERM FINANCIAL PLAN

Funds the long term investment plan.

LONG-TERM INVESTMENT PLAN

A long-term multi-asset renewal plan (e.g. 20 years).

MAINTENANCE

All actions necessary for retaining an asset as near as practicable to its original condition, but excluding rehabilitation or renewal.

ASSETS

Legend

- Base Assessment - 2020
- Projected Assessment - Future

	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	EVIDENCE / NOTES
1 Location	Accurate location data is available for fewer than half of the assets and is in a format or location that is generally inaccessible to those who need it.	Accurate location data is available for at least 50% of the assets.	Complete and accurate data is available for most assets, including all critical assets. Data is easily accessible to all who require it.	Complete and accurate data is available for all assets, including new assets. Data is easily accessible to all who require it.	Information is available for the water system. Buildings are well understood. Staff has an understanding of where assets are located except for some old, buried infrastructure. It is not recommended that accurate location data be the focus for all assets as there are some minor ones that are not a priority right away. Looking in to GPS-based field pick up of some assets may be considered
2 Key Attribute Data	Accurate attribute data is available for fewer than half of the assets and is in a format or location that is generally inaccessible to those who need it.	Accurate attribute data is available for at least 50% of the assets.	Complete and accurate data is available for most assets, including all critical assets. Data is easily accessible to all who require it.	Complete and accurate data is available for all assets, including new assets. Data is easily accessible to all who require it.	Getting accurate information for some minor assets is not viewed as good value, but action should be taken to ensure that most assets, including critical assets, are well logged.
3 Install Data	The installation date is available for fewer than half of the assets and is in a format or location that is generally inaccessible to those who need it.	Asset installation date is available for at least 50% of the assets.	Accurate install date is available for most assets, including all critical assets. Data is easily accessible to all who require it.	Complete and accurate data is available for all assets, including new assets. Data is easily accessible to all who require it.	Taking the time to collect historical installation information is not recommended. Moving forward, it is expected that installation information will be recorded and assigned to the infrastructure.
4 Historic Cost	Accurate historic cost data is available for fewer than half of the assets and is in a format or location that is generally inaccessible to those who need it.	Accurate historic cost data is available for at least 50% of the assets.	Complete and accurate historic cost data is available for most assets, including all critical assets. Data is easily accessible to all who require it.	Complete and accurate historic cost data is available for all assets, including new assets. Data is easily accessible to all who require it.	Some of this information is available/estimated as part of the Tangible Capital Assets inventory. Taking time to find the actual historical costs is not recommended as estimated values are likely accurate enough. As new infrastructure is constructed the actual costs should be recorded within the Tangible Capital Assets Inventory.
5 Natural Assets	No consideration is given to natural assets in planning for sustainable service delivery.	There is general awareness of the services provided by natural assets, but natural assets are not included in planning or decision making.	Some natural assets have been identified and the value of service is partially understood.	All significant natural assets have been identified and the value of service they provide is understood. This value is considered in decision making and planning.	Natural assets are not assigned dollar values or captured in financial statements, yet their protection and management is understood. An example is the Village's appreciate for protecting the watershed that provides drinking water.

URBAN systems

	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	EVIDENCE / NOTES
6 Policy	No policies are in place related to sustainable service delivery.	Some policies related to sustainable service delivery are in place, but there are significant gaps or policies are not actionable.	Good policies are in place related to sustainable service delivery, but they are not all referenced for decision making.	Policy(ies) adopted by council that are understood and provide clear direction on how the community will achieve sustainable service delivery. Policies are a regular reference for guiding decisions.	The Village is adopting an Asset Management Policy and there is recognition of the value of building upon that work by developing policies about document management and identifying appropriate service levels. Developing and following clear policies regarding funding levels and goals for reserves are also viewed as appropriate additions.
7 Strategy	No strategy is in place.	Components of a strategy or framework are in place, but there are significant gaps in providing direction for sustainable service delivery and the linkage of plans and initiatives.	A strategy / framework is in place that identifies specific sustainable service delivery goals, the approach to achieving them, and identifies how organizational plans or initiatives fit together to inform decision making and achieving the goals. The strategy is not being widely implemented.	A strategy / framework is in place that identifies specific sustainable service delivery goals, the approach to achieving them, and identifies how organizational plans or initiatives fit together to inform decision making and achieving the goals. The strategy is being implemented.	The Village has invested in building assessments and Public Works equipment assessments and they form the basis for strategies for capital replacement. There is also an annual strategy/approach in place for maintaining the sewage collection system. Having a strategy in place for key infrastructure systems would be of value.
8 Level of Service	The levels of service currently delivered are not consistently understood by the public or documented.	In some of the core service areas, the current level of service is understood and documented, and the desired level of service has been defined.	In all service areas, the current level of service is understood and documented, and service targets have been set.	Current and desired levels of service, and trade offs between costs and services are well understood by both staff and the public.	The general/basic expectations of the community and regulatory agencies are understood and considered (e.g. water and wastewater quality and monitoring), however, there is no formal documentation regarding public expectations and the public have not been engaged in conversations about service levels. Moving to a Level 3 is not suggested as the investment in defining service levels for every single municipal service may not be good value for this small community.

	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	EVIDENCE / NOTES
9 Risk	Risks to assets and service levels are not understood or documented	Asset risk is estimated according to asset remaining life only, condition assessment information is not available. Broader service delivery risks have not been considered.	Estimated remaining life is known for all assets and is supported by a condition assessment for critical assets or assets nearing replacement. Risk assessments consider the consequence of failure. Some 'big-picture' risks to service delivery for the organization are understood at a corporate level.	Asset risks are well understood and documented based on evidence of the probability and the consequence of failure. High-level organizational risks to service delivery are well understood throughout the corporation.	The Village has not done any official risk assessments for assets but there is a general 'feel' or understanding that is adopted when capital replacement planning is undertaken - the biggest limiter is financial constraints. Having risk assessments for critical assets is a future goal.
10 AMP - Asset Replacement Plans	No Asset Replacement Plan exists to show the theoretical timing for asset replacement.	Parts of an Asset Replacement Plan exist (e.g. for some asset categories, for a duration <20 years, etc.) but it is not consolidated into an organizational long term view.	An Asset Replacement Plan has been developed, but it is either <20 years in scope or does not include all assets.	A long term (75+ year) plan is in place that illustrates the timing of expenditure to replace all existing assets, the current infrastructure deficit, and the average annual sustainable funding level.	Some capital replacement planning is in place for buildings and equipment. Some other projects are also understood. Developing a Replacement Plan with a focus on main municipal infrastructure should be the first step. Some theoretical planning could be done but more detail could not be provided until better condition information is available and once affordable funding levels are identified.
11 AMP - Long Term Capital Plan	No long term (10 year) capital plan is in place.	A ten year capital plan is in place but it is limited to new projects and it does not reflect anticipated asset renewal.	A ten year capital plan is in place that reflects new capital projects for growth or regulatory compliance, and the replacement of existing assets to manage risk and deliver an appropriate level of service.	A ten year capital plan is in place that is current, informed by level of service targets, risk to service delivery. The capital plan is integrated with the long term financial plan, and is being followed and tracked.	The Village acknowledges this gap and has noted a desire to develop a meaningful Capital Plan. The first version would not fully address service levels and risk as those aspects are not currently well documented, but the capital planning process can proceed with future refinements.

12 Climate Change

LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	EVIDENCE / NOTES
Climate change is not considered in service delivery risk or long term asset replacements.	Probable local impacts of climate change have been identified and are considered in some organizational plans.	An assessment of risk to some critical existing infrastructure has been conducted. Design and construction of new assets consider climate change.	An assessment of risk to existing infrastructure has been conducted, and plans are in place to manage this risk. Design and construction of new assets consider climate change.	The impacts of drought, or more extreme weather events are not considered to a great degree when capital planning, but only because the impacts of such climate changes are expected to be minimal on the short and medium term capital projects that are anticipated. The impacts on climate change will be considered as part of the engineering design of any new or replacement infrastructure.

FINANCES

	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	EVIDENCE / NOTES
13 Long Term Financial Plan	No long term financial plan is in place.	A financial plan is in place but it covers <10 years or does not reflect the future costs of replacing existing assets.	A long term (10+ years) financial plan is in place that reflects the revenue required and funding sources to fund new assets and asset replacements, but the plan is not being followed or updated.	A comprehensive long term financial plan exists and is based on up to date information. The plan looks forward 10 years or more and is integrated with long term capital plan. The plan is being tracked and followed.	The Village intends to consider financing at long term scale, however, short and medium term affordability will be strong influences. It is important that we are realistic in what changes can be made over the medium term as there will likely be a funding deficit.
14 Revenue	Revenue is year to year and there is no linkage between revenues and long term requirements. Revenues are not sufficient to meet needs without reliance on grants or subsidies.	Revenue is sufficient and reliable to fund the requirements for the next 5 years, but there is a significant gap between revenues and sustainable funding levels for later years.	Revenue is sufficient and reliable to fund the requirements in the 10 year capital plan, but there is still a gap between revenues and sustainable funding levels for the long term.	Revenues are sufficient, predictable, and stable to fund long term sustainable service delivery in alignment with the long term financial plan and the asset replacement plan.	Achieving Level 3 would be preferred, but affordability and ability to increase revenues through tax increases are significant restrictions.
15 Reserves	No reserves are in place.	Minimal reserves are in place that can buffer short term fluctuations in revenue (e.g. 6 weeks operating expenses).	Reserves are in place to buffer short term revenue fluctuations. There are dedicated reserves for future capital renewal, but do not meet the levels required as identified in the financial plan.	Reserves are held at levels established in accordance with the financial plan in order to meet long term requirements.	Some reserves are in place but they are insufficient to address expected needs. Achieving Level 4 would be preferred, but affordability and ability to increase revenues through tax increases are significant restrictions.
16 Debt	Debt levels are high (at or very near the maximum), limiting capacity for additional borrowing and no plan is in place to reduce debt.	Debt levels higher than desired and debt management strategy is being considered.	Debt levels are reasonable but is trending upward and are not aligned with the long term financial plan.	Debt levels are prudent and reasonable. Debt levels are in line with the long term financial plan and relatively stable.	The Village has no debt, reserves or investment policies. The Village appreciates that in some cases it can make sense to incur debt (such as major capital investments that will benefit the community for many years).

PEOPLE

	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	EVIDENCE / NOTES
17 People Capacity	Staff have no time for asset management.	Some staff time could be made available for asset management, but staff have limited or no knowledge of the tasks and processes required to meet asset management outcomes.	Staff are investing some time in asset management and are working to build the capacities, knowledge, and systems needed.	Staff have the necessary time, knowledge, skills, and capacities to achieve asset management outcomes and are implementing asset management as part of their jobs.	Staff are generally spending some time on asset management and tracking (e.g. log books and vehicle work tracked) but don't really call it "asset management" in a formal sense. The increase to Level 3 relates mostly to providing some staff time to advance document management, mapping and asset management systems, as well as engaging staff in updating some operational processes.
18 Awareness	There is no awareness of the needs to manage assets and sustainably deliver services among staff, elected officials, or members of the public.	Staff are generally aware of the major issues related to Asset Management and service sustainability in the community, and what is needed to address these issues.	Staff members and elected officials are aware of community issues and future risks related to sustainable service delivery.	Members of the public are aware of the issues related to sustainable service delivery, and there is evidence these issues are considered in public decision making.	The workshop process and previous understanding by staff and elected officials helps to round out the awareness at the Village. More work is justified once key next steps are laid out. Engaging with the public will be an important step as the process evolves.
19 Teamwork	No cross functional team is in place to manage assets. There are significant siloes in the organization that prevent information from being shared and used in decision making.	A cross functional team is in place, but siloes among departments or staff positions (e.g. between operations and management) still prevent information from being shared.	A cross functional team is in place that is effectively bridging siloes in the organization.	There is no perception of siloes across departments at all levels of the organization. There is a strong culture of teamwork and information is readily and consistently shared through formal and informal channels.	As a small community there are few siloes. The focus for next steps relates to investing in key members of staff to advance specific asset management initiatives.
20 Role	People do not understand their role in asset management or sustainable service delivery which hinders the ability to manage assets.	A small group of people understand their role as it relates to sustainable service delivery, but there are some significant gaps causing things to fall through the cracks.	Most people in the organization understand their role as it relates to sustainable service delivery.	Roles are clearly understood by everyone, including council, resulting in nothing 'falling through the cracks'.	Achieving Level 4 may occur into the future but first goals should aim to focusing on key initiatives that provide the best return on investment

PEOPLE

21 Decision Making

LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	EVIDENCE / NOTES
Decisions are made based on a short term frame or reactive in nature and in isolation of appropriate information.	Decision making based on a long term frame, but are informed only by incomplete or anecdotal information.	Decision making is based on the long term and incorporates appropriate information.	Decision making about assets and service delivery is informed with appropriate and timely information, is transparent, and is aligned with community priorities and long-term sustainable service delivery.	Currently in some cases decisions are made with a longer term time frame but the Village is currently working on collecting some key information (such as building assessment work that was done) to help inform the decision-making process.