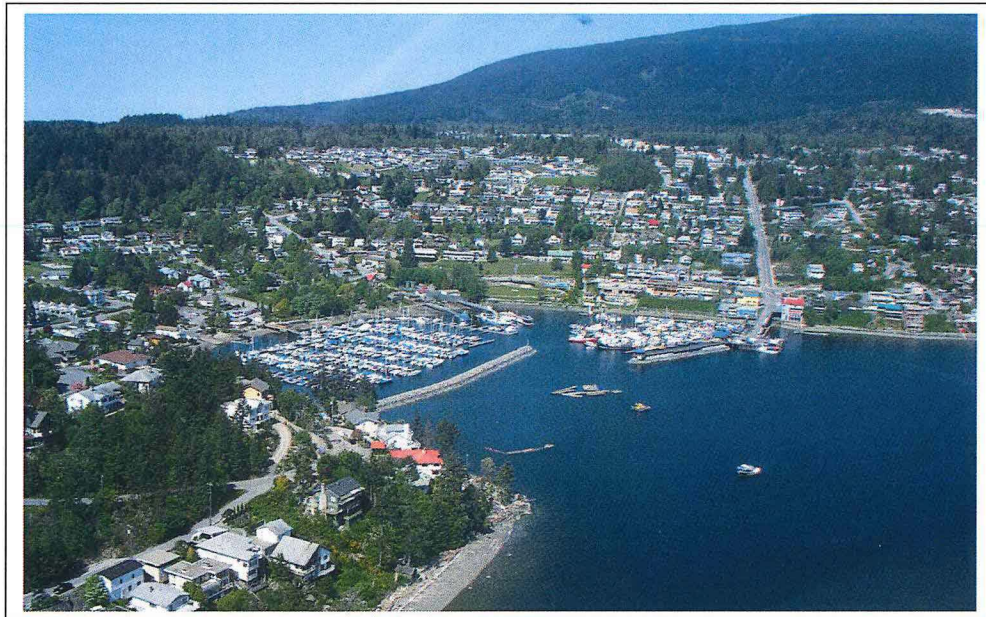


ASSET MANAGEMENT Status Update and Implementation Plan



Version 1.0, January 2017

Document Control

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Executive Summary

The Town of Gibsons has initiated a formalized asset management program to guide the sustainable service delivery of natural and engineered assets. The Status Update and Implementation Plan is an overview document for the Town's asset management program asking:

1. Where are we?
2. Where do we want to be?
3. How will we get there?

The Town assembled an interdepartmental asset management team to focus and drive the asset management program, with the assistance of industry templates and tools available through National Asset Management System of Canada (NAMS) and Asset Management British Columbia (AMBC).

The asset management team have divided the Town's assets into eight classes for the purpose of the asset management program: Sanitary, Water, Stormwater, Transportation, Gibsons District Energy Utility, Fleet and Equipment, Parks and Civic Lands, and Buildings and Structures. Based on how far along the Town is in the asset management process for a class, the maturity of each of the following focuses is rated at a core, intermediate, or advanced level:

1. Know Your Assets
2. Know your Financial Situation
3. Understand Decision Making
4. Manage Your Asset Lifecycle
5. Know the Rules
6. Sustainability Monitoring

Four "core elements" drive service delivery: information, finances, people, and assets. AMBC's framework incorporates these core elements to assess practices and assets, develop asset management planning documentation, and finally to implement the program to a financial and operational level.



The Town's assessment process begins with collecting and managing available information, including stakeholder expectations (Council's strategic plans and the Official Community Plan) and asset data (documentation and staff knowledge).

The Town has created a policy that outlines the Town's asset management priorities and the roles of each department in sustainable service delivery. Creating asset management plans for each of the eight asset classes will address unique levels of services, future demands, lifecycle management, finances, improvements, and monitoring.

Finally, a strategy will outline how the plans meet service delivery needs and support organizational objectives, as well as how they will integrate into the Town's long-term planning. These strategies and plans affect long-term operations and financial planning.

The asset management team has agreed on a long-term focuses for advancing the Town's asset management program as well as a specific task list for 2017. Throughout the process, the Town's asset management will also focus on continuous improvement opportunities to adapt to changes and growth of the core elements.

1.0 Introduction

A key issue facing local governments throughout Canada is managing aging assets and resources effectively while maintaining acceptable levels of service. Engineered and natural infrastructure assets such as roads, drainage, water, sewerage and public buildings each present their own particular challenges; methods differ for managing each asset class condition, operation, service life, expenditures, renewal, and replacements.

The goal of asset management is to ensure cost-effective and environmentally responsible service provision through the creation, acquisition, maintenance, operation, rehabilitation and disposal of assets for present and future consumers. The objective of the Asset Management Status Update and Implementation Plan is to establish a framework to guide the asset management planning process essential for Council to continue effective provision of services to the community.

1.1 Asset Management Organizations

This document references the following asset management planning processes of national and provincial organizations:

National Asset Management System of Canada (NAMS) is a non-profit asset management organization that provides tools, publications, and training for local governments' asset management programs. The Town of Gibsons has subscribed to NAMS.PLUS to receive support, tools, templates, and other resources.

Asset Management British Columbia (AMBC) is an asset management working group involved in broad consultation and discussion with local governments and professional associations, as well as private and academic sectors. AMBC has created tools and templates to help guide local governments towards sustainable infrastructure service delivery by combining administrative, technical, operational, financial, planning, and political disciplines.

1.2 Gibsons' Asset Management Team

A collaborative cross-departmental asset management team is in place to ensure the program is meeting needs and requirements of each department. The benefits of an asset management team include:

- championing of asset management process with accountability;
- demonstrating organizational support for sustainable asset management and encouraging corporate buy-in and responsibility;
- coordinating corporate expertise, strategic planning, information technology, departmental needs, and asset management activities;
- promoting uniform asset management practices across the organization;

The role of the asset management team will evolve as the organization maturity increases over several phases. The asset management team is currently completing Phase 1 and moving into Phase 2 in 2017. During Phase 1, the asset management team has developed the first Asset Management Status Update and Implementation Plan document version. A formalized improvement program will be developed and implemented before Phase 2. At Phase 2, the focus will be on the development of Asset Management Plans (AMPs) for each asset class. Next, staff review data accuracy and levels of service, and develop system plans. AMPs are implemented and in full operation in Phase 3. Finally, the iteration repeats through monitoring, evaluating, and reviewing outputs for improvement opportunities.

1.3 Asset Class Overview

The Town owns and operates a broad range of infrastructure to provide services to the community. *Table 1: Asset Class Descriptions* shows the asset classes and services provided by each asset class. The eight asset classes listed represent the eight AMPs that will be prepared. Natural assets are included within their appropriate class (for example, the aquifer is included in the Water asset class).

Table 1: Asset Class Descriptions

Class	Description	Services Provided
Sanitary	Wastewater treatment plant, pump station, collection pipe system, manholes, service connections, and an outfall	Wastewater collection, treatment, and disposal
Water	Aquifer, wells, reservoirs, pump station, distribution pipe system, service connections, universal cross-connection control, valves, universal metering, and hydrants	Provide safe drinking water and fire protection
Stormwater	Drainage pipe system, service connections, manholes, catch basins, ponds, outfalls, ditches, swales, and creeks	Stormwater management, flood prevention, environmental enhancement
Transportation	Roads (surface treatments and base layers), curbs, sidewalks, trails, bike lanes, signage and streetlights	Safe transportation for all users including motorized vehicles, pedestrians, and cyclists.
Gibsons District Energy Utility	Pump station, energy fields, distribution piping, and service connections	Localized district energy utility
Fleet and Equipment	Vehicles and equipment components including trucks, light-duty vehicles, and heavy equipment	Light vehicular duty, staff transportation use, snow clearing, earth moving, and excavation and other various maintenance

Class	Description	Services Provided
Parks and Civic Lands	Undeveloped and developed community parks, playing fields, beaches, boardwalk, land under roads, and other Town owned land	Recreation, land areas to support other infrastructure, and green space
Buildings and Structures	Town owned facilities and internal components (furniture and equipment), playgrounds, a skate park, retaining walls, stairs, fencing, and other miscellaneous structures	Safety, protection, recreation and amenities

1.4 Asset Management Levels

AMBC has identified three levels of asset management maturity:

1. **Basic ('Core') Level Asset Management** focuses on essential documentation and planning.
 - Documentation: current knowledge and systems used for managing assets (e.g. software, procedures, or staff experience).
 - Improvement planning: identifying gaps, significance of gaps, plan to progress asset management to the next level of maturity.
2. **Intermediate Level Asset Management** is the basic level of an asset management program but includes improved understanding, detail, completeness, and accuracy in practices and analysis
3. **Advanced Level Asset Management** has asset management practices that
 - are implemented ensuring long-term sustainability
 - involve a high level of knowledge, completeness, and accuracy
 - use formalized procedures for continuous improvement

Appendix A: Asset Management Road Map is a self-assessment tool showing these levels as a color-coded road map and self-assessment tool. Appendix B: Road Map Status and Task List outlines the maturity status of the Town's eight asset classes. AssetSMART2.0 is an additional AMBC tool. Appendix C: AssetSMART2.0 shows the status of the Town of Gibsons in the asset management planning process.

1.5 Asset Management Planning Process

Asset management planning is a process to create and maintain assets in a way that provides essential services in an economically, socially, and environmentally responsible manner. Data quality and process efficiencies need to be constantly reviewed and improved. A good asset management program will be looking for constant improvement through planning and assessment.



Figure 1: AMBC Asset Management Framework

The intended flow of information and documents for a formalized asset management planning process is shown in *Figure 2: Asset Management Planning Process*. The process begins with assessing current practices, community expectations, and knowledge management. Next, documents are developed, including an asset management policy, individual AMPs, and incorporated strategic plans. These plans are then implemented with a long-term financial plan with a funding plan.



Figure 2: Asset Management Planning Process

2.0 Where are we?

2.1 ASSESS: Strategic Planning

2.1.1 Stakeholder Requirements and Expectations

With aging infrastructure across the nation and an increasing “infrastructure gap” (available resources versus what the public expects and wants), asset management continues to be at the forefront of local government conversations.

The Official Community Plan (OCP) is an important guideline for understanding stakeholder requirements and expectations. The OCP already considers asset management; however, AMPs may influence future iterations. In addition to the OCP, Council published a Strategic Plan for 2016-2018 highlighting Asset Management as a collective priority for their term in addition to their strategies regarding Community Development and Harbor Enhancement.

Asset Management	Community Development	Harbour Enhancement
Advancing our Eco-Asset Strategy	Building the Gibsons Public Market as a community hub	Developing a Gibsons Harbour Economic Strategic Plan
Targeting zero waste and climate change	Promoting regional and local economic development	Enhancing the harbour seawalk
Ensuring resilience of our engineered infrastructure	Collaborating on affordable housing initiatives	Helping to secure a reliable passenger ferry service
Completing a Town Land Inventory and Parks Master Plan	Supporting education, culture and inter-generational engagement	Making Armours Beach a family-friendly recreation site
Expanding safe pedestrian and cycling networks	Advocating for improved ferry and transit service	Restoring fish habitat in our creeks and harbour

Figure 3: Excerpt from Council's Strategic Plan 2016-2018

Stakeholder requirements and expectations consists of conversations between staff, Council, and the public. The Town's staff informs Council on relevant information and professional recommendations in a timely manner to ensure well-informed political decisions. Council considers staff recommendations as well as the concerns of the public to make the important political levels of service decisions. Staff and Council work together to ensure communication of the current infrastructure gap to the public.

Staff have begun creating information sheets for each asset class as a quick-reference guide for Council and the public. These highlight replacement costs, levels of service, funding shortfalls, and community goals. Current fact sheets are available in Appendix D: Town of Gibsons Asset Highlights. In addition, the asset management team is exploring a formalized communication plan for the public.

2.1.2 Knowledge Management

Reliable data is fundamental to asset management planning as analyses and plans can only be as accurate as the information base. Well-managed information should be accessible, current, complete, and correct. Processes need to be in place moving forward to capture information collected in development, studies, or general knowledge. New information, infrastructure, staff, and processes update the knowledge base.

Software systems manage available information from documentation and staff knowledge. Appendix B: Road Map Status and Task List further explores addressing missing process, inventory, value, condition, and capacity data.

Software

Information-management continues to move from manual paper-based methods to computer-based software. Staff departments use various software for managing data:

- AssetFinda is an infrastructure information management tool with financial, operations, and engineering functions including:
 - Displaying live infrastructure maps including field data capture; Digital defect and condition inspections;
 - Works request management; and
 - Financial reporting and modeling.

The Town has implemented the works requests management functionality as well as the mapping. Further integration of the software with Public Works operations and Financial data management will be explored in this coming year (see *4.2 2017 Work Plan*).

- GIS software manages access and display of geospatial information, and enables staff to create various maps.
- Various software used by the finance department manage financial-related asset data and processes.

Documentation

The Town of Gibsons has developed documents related to infrastructure management that will be important to consider while creating the AMPs. These documents include asset class plans, studies, infrastructure assessments, bylaws, and policies. Ideally, updates of these documents occur at intervals of no greater than 10 years. A list of relevant documents by asset class is available in Appendix E: Relevant Documentation.

Staff Knowledge

The Town of Gibsons has a collaborative approach to asset management; Council and all departments are working together to ensure sustainable infrastructure management. All departments at the Town of Gibsons have a role in the asset management program as shown in Appendix F: Asset Management Policy, as well as *2.2.3 Asset Management Plans*.

2.2 PLAN: Program Framework

2.2.1 Asset Management Policy

Appendix F: Asset Management Policy sets guidelines for consistent asset management processes. The document defines terms, objectives, principles, and responsibilities for asset management in the Town of Gibsons. The policy focuses on establishing priorities, expectations, direction, commitments, and plans for integration.

2.2.2 Asset Management Status Update and Implementation Plan

This Status Update and Implementation Plan document outlines where the Town is in the formalize asset management planning process, where the Town wants to be, and how the Town will get there. This document updates Council and the public on the current asset management program and create direction for staff and the asset management team moving forward.

In addition, the document will consolidate information used for Gas Tax Reporting requirements, which require:

- Asset management baseline template, which identifies gaps and demonstrates improvements at the organizational level;
- implementation plan to strengthen asset management process and identify activities, actions, and milestones; and
- asset management reporting.

Updates occur annually until each asset class has developed an AMP, or otherwise when the Town's asset management program undergoes significant changes.

2.2.3 Asset Management Plans

Staff will develop Asset Management Plans for each asset class listed in *Table 1: Asset Class Descriptions* using templates provided by the NAMs program. Plans assess the current state of an asset class to identify the “what, when, and how much” for infrastructure management. Each plan will outline how to close the gaps between resources, service levels, risk, and process.

AMPs can be created even with a low level of asset management maturity (see *1.4 Asset Management Levels*), but the plans greatly benefit from accurate and complete data. Iterations will reflect significant changes in the infrastructure class's processes, finances, or data (see section *3.2 Continuous Improvement*). AMPs will include the following sections:

1. Levels of service
2. Future demand
3. Lifecycle management plan
4. Financial summary
5. Plan improvement and monitoring

Each plan will require feedback from multiple departments.

Table 2: Asset Management Plan Roles

Role	Section	Discussion
Council	Levels of Service	<ul style="list-style-type: none"> Stakeholder research and expectations Strategic and corporate goals Legislative requirements Community levels of service
	Financial Summary	<ul style="list-style-type: none"> Funding strategy
Engineering	Levels of Service	<ul style="list-style-type: none"> Technical and legislated levels of service
	Future Demand	<ul style="list-style-type: none"> Demand impact on assets
	Lifecycle Management	<ul style="list-style-type: none"> Infrastructure risk management plans Renewal, replacement programs Creation, acquisition, upgrade plans Disposal plans
	Finance Summary	<ul style="list-style-type: none"> Valuation forecasts Funding strategy
Operations Teams: Public Works and Parks	Future Demand	<ul style="list-style-type: none"> Asset programs to meet demand
	Lifecycle Management Plan	<ul style="list-style-type: none"> Infrastructure risk management plan Routine operations and maintenance plan Renewal and replacement program Service consequences and risks
	Financial Summary	<ul style="list-style-type: none"> Operations and maintenance costs
Planning	Future Demand	<ul style="list-style-type: none"> Demand drivers Demand forecast
	Financial Summary	<ul style="list-style-type: none"> Financial statements and projections Funding strategy Valuation forecasts Key assumptions made in financial forecasts Forecast reliability and confidence

2.2.4 Asset Management Strategy

An asset management strategy is a guide for implementing AMPs detailing the following:

- how the asset portfolio will meet the service delivery needs of its community into the future;
- how Council's asset management policies are enabled to be achieved; and
- how Council's asset management integrates with long-term strategic plans.

The strategy follows the AMP's review of infrastructure service delivery, financial sustainability, asset management maturity, and Council's vision for the future.

2.3 IMPLEMENT: Service Delivery

2.3.1 Operations

The operations teams at the Town, including Public Works and Parks departments, manage assets over their lifecycle, including operations and maintenance. The expertise of the field staff will be crucial to maximizing the lifespan of the assets, managing risk, having feedback on decisions at the design level, and renewal and replacement needs of the Town.

A formalized program will have developed policies and regularly scheduled inspections. Successful operational plans will uphold planned service levels to extend the useful life of assets. Policies are currently in place for maintenance of sanitary and drainage infrastructure. In addition, regularly documented inspections are in place for trails, hydrants and sidewalks. The Town is currently investigating options to digitize these processes, which will help with data management, legal documentation, and knowledge transfer (see *4.2 2017 Work Plan*).

Fixing or replacing a component only when something breaks or wears down is reactive maintenance. This method is costly and time-consuming. Proactive maintenance involves scheduling activity to extend the useful life of an asset and to minimize emergency or unplanned costs. Appendix G: Public Works Maintenance Schedule provides an outline of the current planned preventative maintenance schedule.

2.3.2 Finance

The Finance Department is responsible for establishing financial plans for consideration by Council that will ensure stable, long-term funding for operations, maintenance, renewal, replacement and/or disposal of assets.

Asset Management Plans will highlight any gaps between existing and required funding levels, and provide the information needed to determine the amount and timing of funding required. Based on this information, staff will recommend programs to meet operational and capital needs. This information incorporates the Town's five-year Financial Plan Bylaw adopted each year by Council, as required by the Community Charter.

In addition to looking for efficiencies in operations and renewal programs, further mechanisms that support sustainable funding include appropriate rate setting, suitable reserve levels, strategic use of debt, and reduced reliance on grant funding for asset replacement requirements provides stable funding. While funding requirements for overall operational needs at existing levels of service are in place, establishing sufficient and reliable funding for asset renewal and replacement is a challenge. This is a challenge that many municipalities are grappling with.

Finance has developed a sustainable replacement program for the Town's Fleet and Equipment asset class. Annual contributions fund ongoing maintenance, scheduled

replacement, and contributions to the reserve for future vehicle and equipment replacement.

Developed long-term financial plans for the water and sewer utilities as well as a proposed series of rate increases are in place to create stable funding and build appropriate reserves, while reducing reliance on grant funding. Staff and Council review these plans annually as part of the budget process.

3.0 Where Do We Want to Be?

Formalizing an asset management program is a first step in measuring and obtaining sustainable service delivery. Plans facilitate risk management, community engagement, financial decisions, capital and renewal planning conversations and gather the different priorities of all departments to ensure a collaborative, obtainable plan.

3.1 AMBC Roadmap

AMBC published an Asset Management Roadmap Project in May of 2011 (see Appendix A: Asset Management BC Road). The roadmap uses six general category headlines with subcategories, which fall under one of the levels of asset management (core, intermediate, and advanced):

1. Know Your Assets
2. Know Your Financial Situation
3. Understand Decision Making
4. Manage Your Asset Lifecycle
5. Know the Rules
6. Sustainability Monitoring

AMBC periodically publishes updates based on feedback or the collaboration of BC asset management professionals. The Town of Gibsons recognizes room for improvement on the ABMC Road Map; however, the Town will continue to use the current published version in the interest of keeping to a consistent industry standard.

Appendix B: Road Map Status and Task List by Asset Class defines the status of the Town's asset management for each asset class, and highlights which gaps need to be filled, as well as where and how to move forward.

3.2 Continuous Improvement

The Town of Gibsons is committed to excellence through continuous improvement. Improvement should be measurable and iterative.

The asset management industry is still evolving with more tools and concepts coming available to local governments every year. The asset management program should reflect the improvement of data and processes over time, as well as feedback on the asset management program from staff departments, Council, or consultants. Being open to this communication and feedback will make the program as effective, accepted, and relevant as possible.

In addition, improvement plans integrate into the AMP and strategy templates. These task-based lists are an opportunity to recognize what is outstanding before the next iteration of documents to improve data, processes, or analysis.

4.0 How Will We Get There?

The Town of Gibsons has made significant progress in understanding and applying asset management principles. The asset management team will be moving the asset management program forward integrating tools and methods available through NAMS and AMBC programs.

4.1 The Core Elements

Asset management at the Town of Gibsons will be integrating the following Core Elements to move the program forward:

People

Staff and Council who:

- understand asset management and its importance to sustainable service delivery;
- are committed to improvement, with effective leadership supportive of departmental integration;
- value informed decision making; and
- are open to developing and sharing knowledge, experience, and capacity.

Information

Reasonably complete and accurate data that supports and communicates financial, sustainability, and risk management decisions.

Assets

Current and future infrastructure systems or facilities managed by the Town, including Natural Assets.

Finances

Informed financial long and short term planning that supports sustainability, reserves, reducing risk, total lifecycle costs.

These elements are necessary for an effective program and directly relate to sustainable service delivery. *Asset Management for Sustainable Service Delivery: A BC Framework* also outlines the importance of the iterative process of ‘communicate, engage, and review’. Appendix C: AssetSMART2.0 further uses these core elements to show the status of the Town’s asset management program.

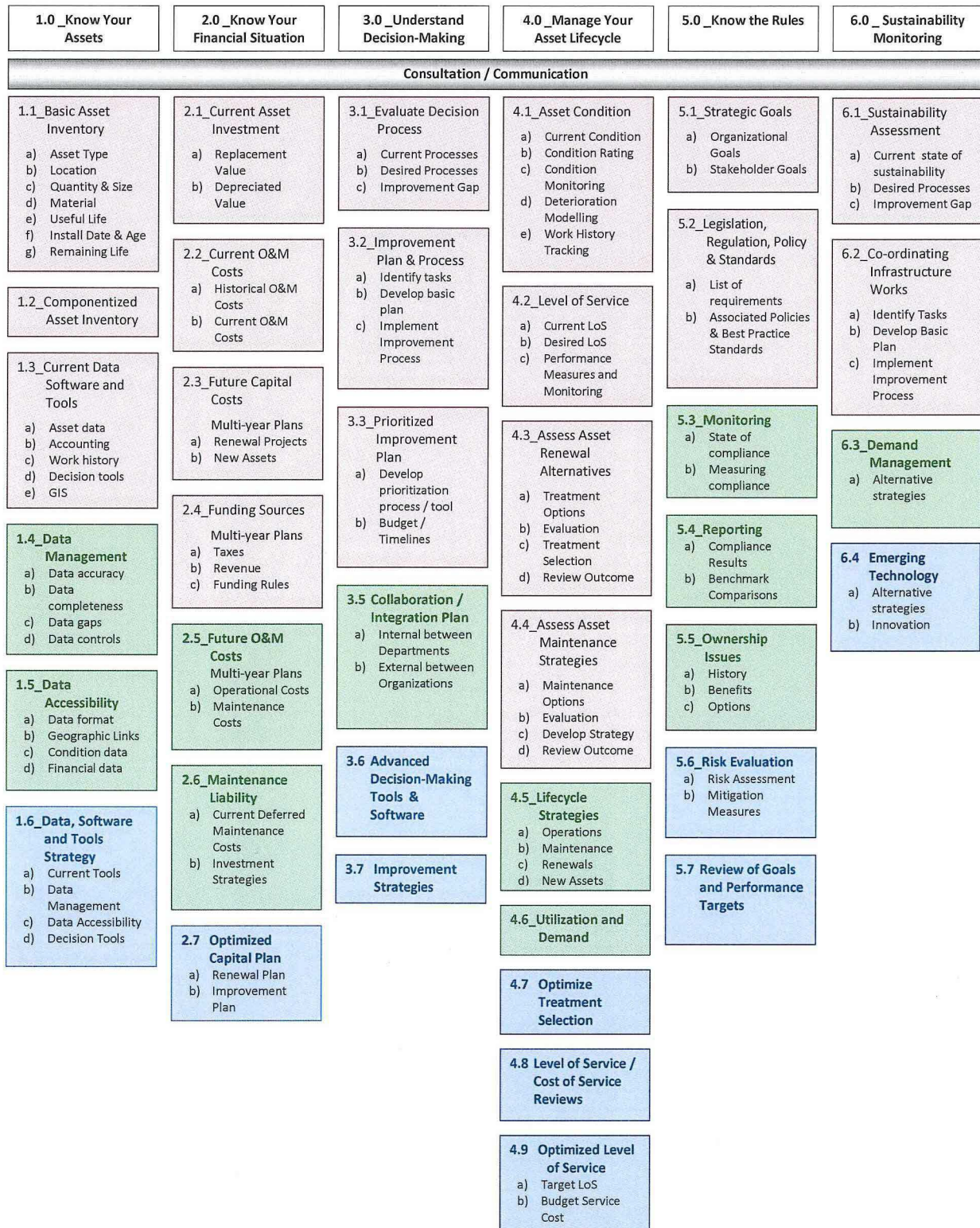
4.2 2017 Work Plan

The Town of Gibsons will be focusing efforts to complete the following items during 2017:

- Create AMPs for Water, Fleet and Equipment, and District Energy Utility asset classes;
- Implement GIS web interface for use in the office with improved access to supporting documents and task specific reports and printing templates;
- Review functionality of the AssetFinda iPad app, and options for different GIS interfaces;
- Explore tools and processes to improve electronic data capture process for new assets;
- Continue flushing and videoing programs for drainage and sanitary sewer systems;
- Integrate flushing and video findings with AssetFinda;
- Update the Integrated Stormwater Management Plan;
- Establish a Road Pavement Management Policy;
- Breakdown non-linear assets into components;
- Close the drainage inventory gaps;
- Explore a Tangible Capital Asset and AssetFinda inventory merge;
- Create digitized inspection forms and checklists; and
- Formalize a public communication plan for asset management.

Appendix A: Asset Management Road Map

AMBC : Asset Management Building Blocks : Roadmap



Colour Key for Asset Management (AM) Practice Modules

- Modules required for Basic Level Asset Management (AM)
- Additional Modules required for Intermediate AM
- Advanced Asset Management Practice Modules

Appendix B: Road Map Status and Task List by Asset Class

Sanitary

ROAD MAP STATUS

1.0 Know Your Assets	2.0 Know Your Financial Situation	3.0 Understand Decision Making	4.0 Manage Your Asset Lifecycle	5.0 Know the Rules	6.0 Sustainability Monitoring
Consultation/Communication					
1.1 Basic Asset Inventory	2.1 Current Asset Investment	3.1 Evaluate Decision Process	4.1 Asset Condition	5.1 Strategic Goals	6.1 Sustainability Assessment
1.2 Componentized Asset Inventory	2.2 Current O&M Costs	3.2 Improvement Plan and Process	4.2 Levels of Service	5.2 Legislation, Regulation, Policy, and Standards	6.2 Coordinating Infrastructure Works
1.3 Current Data Software and Tools	2.3 Future Capital Costs	3.3 Prioritized Improvement Plan	4.3 Assess Asset Renewal Alternatives	5.3 Monitoring	6.3 Demand Management
1.4 Data Management	2.4 Funding Sources	3.4 Collaboration / Integration Plan	4.4 Assess Asset Maintenance Strategies	5.4 Reporting	6.4 Emerging Technology
1.5 Data Accessibility	2.5 Future O&M Costs	3.5 Advanced Decision Making Tools and Software	4.5 Lifecycle Strategies	5.5 Ownership Issues	
1.6 Data, Software and Tools Strategy	2.6 Maintenance Liability	3.6 Improvement Strategies	4.6 Utilization and Demand	5.6 Risk Evaluation	
	2.7 Optimized Capital Plan		4.7 Optimize Treatment Selection	5.7 Review of Goals and Performance Targets	
			4.8 Levels of Service / Cost of Service Reviews		
			4.9 Optimized Level of Service		

Asset Management Practice Modules

	Basic Level
	Intermediate
	Advanced
	Current Status (2017)

Sanitary

ROAD MAP GAPS AND ASSET CLASS TASK LIST

The following tasks have been identified to close the gaps up to and including the current AM Road Map status provided above.

1.0 Know Your Assets

- | | |
|---------------------------------------|--|
| 1.2 Componentizes Asset Inventory | • Inventory individual components of the wastewater treatment plant and lift station |
| 1.3 Current Data Software and Tools | • Merge PSAB and AssetFinda financial data |
| 1.5 Data Accessibility | • Translate CCTV footage to condition ratings |
| 1.6 Data, Software and Tools Strategy | • Confirm service connection, material, and diameter of inventory with CCTV program (Annual 2016-2023) |

2.0 Know Your Financial Situation

- | | |
|------------------------------|---|
| 2.1 Current Asset Investment | • Gather financial data and replacement values of treatment plant, pumps, lift stations |
| | • Import Detailed Unit Costs Available |

3.0 Understand Decision Making

- | | |
|-----------------------------------|---|
| 3.1 Evaluate Decision Process | • Identify desired processes and document improvement gap |
| 3.3 Prioritized Improvement Plans | • Develop prioritization processes |

4.0 Manage Your Asset Lifecycle

- | | |
|----------------------|-----------------------------------|
| 4.2 Level of Service | • Define level of service options |
|----------------------|-----------------------------------|

6.0 Sustainability Monitoring

- | | |
|---------------------------------------|--|
| 6.1 Sustainability Assessment | • Define desired processes |
| 6.2 Coordinating Infrastructure Works | • Implement improvement processes |
| 6.3 Demand Management | • Consolidate studies and import capacity issues to AssetFinda |

Water

ROAD MAP STATUS

1.0 Know Your Assets	2.0 Know Your Financial Situation	3.0 Understand Decision Making	4.0 Manage Your Asset Lifecycle	5.0 Know the Rules	6.0 Sustainability Monitoring
Consultation/Communication					
1.1 Basic Asset Inventory	2.1 Current Asset Investment	3.1 Evaluate Decision Process	4.1 Asset Condition	5.1 Strategic Goals	6.1 Sustainability Assessment
1.2 Componentized Asset Inventory	2.2 Current O&M Costs	3.2 Improvement Plan and Process	4.2 Levels of Service	5.2 Legislation, Regulation, Policy, and Standards	6.2 Coordinating Infrastructure Works
1.3 Current Data Software and Tools	2.3 Future Capital Costs	3.3 Prioritized Improvement Plan	4.3 Assess Asset Renewal Alternatives	5.3 Monitoring	6.3 Demand Management
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1.6 Data, Software and Tools Strategy	2.6 Maintenance Liability	3.6 Improvement Strategies	4.6 Utilitization and Demand	5.6 Risk Evaluation	
	2.7 Optimized Capital Plan		4.7 Optimize Treatment Selection	5.7 Review of Goals and Performance Targets	
			4.8 Levels of Service / Cost of Service Reviews		
			4.9 Optimized Level of Service		

Asset Management Practice Modules

	Basic Level
	Intermediate
	Advanced
	Current Status (2017)

Water

ROAD MAP GAPS AND ASSET CLASS TASK LIST

The following tasks have been identified to close the gaps up to and including the current AM Road Map status provided above.

1.0 Know Your Assets

- | | |
|-------------------------------------|--|
| 1.2 Componentizes Asset Inventory | • Inventory individual components of the reservoir and pump station |
| 1.3 Current Data Software and Tools | • Digitize inspection and condition forms, works requests, and maintenance schedules |
| 1.4 Data Management | • Address minor data gaps |

2.0 Know Your Financial Situation

- | | |
|------------------------------|--|
| 2.1 Current Asset Investment | • Import updated unit costs |
| | • Input updated costs of replacement of wells (pumps and motors) |

4.0 Manage Your Asset Lifecycle

- | | |
|---------------------|---|
| 4.1 Asset Condition | • Input criticality asset information into AssetFinda |
|---------------------|---|

5.0 Know the Rules

- | | |
|----------------------|---|
| 5.5 Ownership Issues | • Define ownership options |
| | • Pursue fringe area agreement for aquifer protection |

6.0 Sustainability Monitoring

- | | |
|---------------------------------------|-----------------------------------|
| 6.1 Sustainability Assessment | • Outline desired processes |
| 6.2 Coordinating Infrastructure Works | • Implement improvement processes |

Stormwater

ROAD MAP STATUS

1.0 Know Your Assets	2.0 Know Your Financial Situation	3.0 Understand Decision Making	4.0 Manage Your Asset Lifecycle	5.0 Know the Rules	6.0 Sustainability Monitoring
Consultation/Communication					
1.1 Basic Asset Inventory	2.1 Current Asset Investment	3.1 Evaluate Decision Process	4.1 Asset Condition	5.1 Strategic Goals	6.1 Sustainability Assessment
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1.5 Data Accessibility	2.5 Future O&M Costs	3.5 Advanced Decision Making Tools and Software	4.5 Lifecycle Strategies	5.5 Ownership Issues	
1.6 Data, Software and Tools Strategy	2.6 Maintenance Liability	3.6 Improvement Strategies	4.6 Utilitization and Demand	5.6 Risk Evaluation	
	2.7 Optimized Capital Plan		4.7 Optimize Treatment Selection	5.7 Review of Goals and Performance Targets	
			4.8 Levels of Service / Cost of Service Reviews		
			4.9 Optimized Level of Service		

Asset Management Practice Modules

	Basic Level
	Intermediate
	Advanced
	Current Status (2017)

Stormwater

ROAD MAP GAPS AND ASSET CLASS TASK LIST

The following tasks have been identified to close the gaps up to and including the current AM Road Map status provided above.

1.0 Know Your Assets

- | | |
|---------------------------------------|---|
| 1.6 Data, Software and Tools Strategy | <ul style="list-style-type: none">• Confirm service connection, material, and diameter of inventory with CCTV program (Annual 2016-2023)• Update ISMP• Inventory ditches and culverts |
|---------------------------------------|---|

2.0 Know Your Financial Situation

- | | |
|--------------------------|---|
| 2.2 Current O&M Costs | <ul style="list-style-type: none">• Gather historical O&M costs data |
| 2.3 Future Capital Costs | <ul style="list-style-type: none">• Identify and formalize renewal projects |

4.0 Manage Your Asset Lifecycle

- | | |
|-----------------------|---|
| 4.1 Asset Condition | <ul style="list-style-type: none">• Input condition and asset information into AssetFinda using video records• Establish a schedule for a Qualified Environmental Professional to inspect natural assets |
| 4.2 Levels of Service | <ul style="list-style-type: none">• Inspect culverts• Define level of service options |

5.0 Know the Rules

- | | |
|----------------|---|
| 5.3 Monitoring | <ul style="list-style-type: none">• Monitor creek flows |
|----------------|---|

Transportation

ROAD MAP STATUS

1.0 Know Your Assets	2.0 Know Your Financial Situation	3.0 Understand Decision Making	4.0 Manage Your Asset Lifecycle	5.0 Know the Rules	6.0 Sustainability Monitoring
Consultation/Communication					
1.1 Basic Asset Inventory	2.1 Current Asset Investment	3.1 Evaluate Decision Process	4.1 Asset Condition	5.1 Strategic Goals	6.1 Sustainability Assessment
1.2 Componentized Asset Inventory	2.2 Current O&M Costs	3.2 Improvement Plan and Process	4.2 Levels of Service	5.2 Legislation, Regulation, Policy, and Standards	6.2 Coordinating Infrastructure Works
1.3 Current Data Software and Tools	2.3 Future Capital Costs	3.3 Prioritized Improvement Plan	4.3 Assess Asset Renewal Alternatives	5.3 Monitoring	6.3 Demand Management
1.4 Data Management	2.4 Funding Sources	3.4 Collaboration / Integration Plan	4.4 Assess Asset Maintenance Strategies	5.4 Reporting	6.4 Emerging Technology
1.5 Data Accessibility	2.5 Future O&M Costs	3.5 Advanced Decision Making Tools and Software	4.5 Lifecycle Strategies	5.5 Ownership Issues	
1.6 Data, Software and Tools Strategy	2.6 Maintenance Liability	3.6 Improvement Strategies	4.6 Utilization and Demand	5.6 Risk Evaluation	
	2.7 Optimized Capital Plan		4.7 Optimize Treatment Selection	5.7 Review of Goals and Performance Targets	
			4.8 Levels of Service / Cost of Service Reviews		
			4.9 Optimized Level of Service		

Asset Management Practice Modules

	Basic Level
	Intermediate
	Advanced
	Current Status (2017)

Transportation

ROAD MAP GAPS AND ASSET CLASS TASK LIST

The following tasks have been identified to close the gaps up to and including the current AM Road Map status provided above.

1.0 Know Your Assets

- | | |
|-------------------------------------|---|
| 1.2 Componentizes Asset Inventory | • Breakdown asphalt into level components on AssetFinda |
| 1.3 Current Data Software and Tools | • Formalize inventory and finance data management in AssetFinda |
| 1.4 Data Management | • Formalize process for capturing new inventory information |
| | • Review sidewalks, curbs, and streetlight inventory for completeness |
| | • Input rehabilitation study information into AssetFinda |

2.0 Know Your Financial Situation

- | | |
|------------------------------|--|
| 2.1 Current Asset Investment | • Gather and input historical unit costs for asphalt, curbs, sidewalks, and streetlights |
|------------------------------|--|

3.0 Understand Decision Making

- | | |
|-------------------------------|---|
| 3.1 Evaluate Decision Process | • Formalize current processes through policy |
| | • Formalize funding plans and levels of service |

4.0 Manage Your Asset Lifecycle

- | | |
|---------------------------------------|--|
| 4.1 Asset Condition | • Digitize work history |
| | • Inventory and inspect curbs, sidewalks, and streetlights |
| 4.2 Levels of Service | • Define desired levels of service |
| | • Formalize level of service options |
| 4.3 Assess Asset Renewal Alternatives | • Develop strategy for asset renewals |

5.0 Know the Rules

- | | |
|---------------------|----------------------------|
| 5.1 Strategic Goals | • Define stakeholder goals |
| 5.3 Monitoring | • Measure compliance |
| 5.4 Reporting | • Benchmark comparisons |

6.0 Sustainability Monitoring

- | | |
|---------------------------------------|--|
| 6.1 Sustainability Assessment | • Define desired processes and improvement gap |
| 6.2 Coordinating Infrastructure Works | • Implement improvement process |

District Energy Utility

ROAD MAP STATUS

1.0 Know Your Assets	2.0 Know Your Financial Situation	3.0 Understand Decision Making	4.0 Manage Your Asset Lifecycle	5.0 Know the Rules	6.0 Sustainability Monitoring
Consultation/Communication					
1.1 Basic Asset Inventory	2.1 Current Asset Investment	3.1 Evaluate Decision Process	4.1 Asset Condition	5.1 Strategic Goals	6.1 Sustainability Assessment
1.2 Componentized Asset Inventory	2.2 Current O&M Costs	3.2 Improvement Plan and Process	4.2 Levels of Service	5.2 Legislation, Regulation, Policy, and Standards	6.2 Coordinating Infrastructure Works
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	2.7 Optimized Capital Plan		4.7 Optimize Treatment Selection	5.7 Review of Goals and Performance Targets	
			4.8 Levels of Service / Cost of Service Reviews		
			4.9 Optimized Level of Service		

Asset Management Practice Modules

	Basic Level
	Intermediate
	Advanced
	Current Status (2017)

ROAD MAP GAPS AND ASSET CLASS TASK LIST

The following tasks have been identified to close the gaps up to and including the current AM Road Map status provided above.

1.0 Know Your Assets

- | | |
|-----------------------------------|---|
| 1.2 Componentizes Asset Inventory | • Inventory individual components of the pump station |
| 1.4 Data Management | • Identify and fill data gaps |

2.0 Know Your Financial Situation

- | | |
|------------------------------|---|
| 2.1 Current Asset Investment | <ul style="list-style-type: none"> • Research construction records and import values into AssetFinda • Compare actual capital, operations, and maintenance costs to projected costs |
|------------------------------|---|

4.0 Manage Your Asset Lifecycle

- | | |
|-----------------------|--|
| 4.2 Levels of Service | • Define performance measures and monitoring |
|-----------------------|--|

Fleet and Equipment

ROAD MAP STATUS

1.0 Know Your Assets	2.0 Know Your Financial Situation	3.0 Understand Decision Making	4.0 Manage Your Asset Lifecycle	5.0 Know the Rules	6.0 Sustainability Monitoring
Consultation/Communication					
1.1 Basic Asset Inventory	2.1 Current Asset Investment	3.1 Evaluate Decision Process	4.1 Asset Condition	5.1 Strategic Goals	6.1 Sustainability Assessment
1.2 Componentized Asset Inventory	2.2 Current O&M Costs	3.2 Improvement Plan and Process	4.2 Levels of Service	5.2 Legislation, Regulation, Policy, and Standards	6.2 Coordinating Infrastructure Works
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	2.7 Optimized Capital Plan		4.7 Optimize Treatment Selection	5.7 Review of Goals and Performance Targets	
			4.8 Levels of Service / Cost of Service Reviews		
			4.9 Optimized Level of Service		

Asset Management Practice Modules

	Basic Level
	Intermediate
	Advanced
	Current Status (2017)

ROAD MAP GAPS AND ASSET CLASS TASK LIST

The following tasks have been identified to close the gaps up to and including the current AM Road Map status provided above.

6.0 Sustainability Monitoring

6.3 Demand Management

- Review replacement program's actual vs projected condition

Parks and Civic Lands

ROAD MAP STATUS

1.0 Know Your Assets	2.0 Know Your Financial Situation	3.0 Understand Decision Making	4.0 Manage Your Asset Lifecycle	5.0 Know the Rules	6.0 Sustainability Monitoring
Consultation/Communication					
1.1 Basic Asset Inventory	2.1 Current Asset Investment	3.1 Evaluate Decision Process	4.1 Asset Condition	5.1 Strategic Goals	6.1 Sustainability Assessment
1.2 Componentized Asset Inventory	2.2 Current O&M Costs	3.2 Improvement Plan and Process	4.2 Levels of Service	5.2 Legislation, Regulation, Policy, and Standards	6.2 Coordinating Infrastructure Works
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1.6 Data, Software and Tools Strategy	2.6 Maintenance Liability	3.6 Improvement Strategies	4.6 Utilization and Demand	5.6 Risk Evaluation	
	2.7 Optimized Capital Plan		4.7 Optimize Treatment Selection	5.7 Review of Goals and Performance Targets	
			4.8 Levels of Service / Cost of Service Reviews		
			4.9 Optimized Level of Service		

Asset Management Practice Modules

	Basic Level
	Intermediate
	Advanced
	Current Status (2017)

ROAD MAP GAPS AND ASSET CLASS TASK LIST

As the Parks asset class has not yet been integrated into the asset management program, no tasks have yet been identified to close gaps up to and including the current AM Road Map status provided above.

Buildings and Structures

ROAD MAP STATUS

1.0 Know Your Assets	2.0 Know Your Financial Situation	3.0 Understand Decision Making	4.0 Manage Your Asset Lifecycle	5.0 Know the Rules	6.0 Sustainability Monitoring
Consultation/Communication					
1.1 Basic Asset Inventory	2.1 Current Asset Investment	3.1 Evaluate Decision Process	4.1 Asset Condition	5.1 Strategic Goals	6.1 Sustainability Assessment
1.2 Componentized Asset Inventory	2.2 Current O&M Costs	3.2 Improvement Plan and Process	4.2 Levels of Service	5.2 Legislation, Regulation, Policy, and Standards	6.2 Coordinating Infrastructure Works
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			4.8 Levels of Service / Cost of Service Reviews		
			4.9 Optimized Level of Service		

Asset Management Practice Modules

	Basic Level
	Intermediate
	Advanced
	Current Status (2017)

ROAD MAP GAPS AND ASSET CLASS TASK LIST

The following tasks have been identified to close the gaps up to and including the current AM Road Map status provided above.

4.0 Manage Your Asset Lifecycle

- | | |
|-----------------------|------------------------------------|
| 4.2 Levels of Service | • Define desired levels of service |
|-----------------------|------------------------------------|

Appendix C: AssetSMART2.0

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 January 2017

NAME Town of Gibson's Asset Management Team

ORGANIZATION Town of Gibsons

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.

VERSION 2.01

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 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.

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

page 3

	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	EVIDENCE / NOTES
1 Location	<p>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.</p> <input type="checkbox"/>	<p>Accurate location data is available for at least 50% of the assets.</p> <input type="checkbox"/>	<p>Complete and accurate data is available for most assets, including all critical assets. Data is easily accessible to all who require it.</p> <input type="checkbox"/>	<p>Complete and accurate data is available for all assets, including new assets. Data is easily accessible to all who require it.</p> <input type="checkbox"/>	
2 Key Attribute Data	<p>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.</p> <input type="checkbox"/>	<p>Accurate attribute data is available for at least 50% of the assets.</p> <input type="checkbox"/>	<p>Complete and accurate data is available for most assets, including all critical assets. Data is easily accessible to all who require it.</p> <input type="checkbox"/>	<p>Complete and accurate data is available for all assets, including new assets. Data is easily accessible to all who require it.</p> <input type="checkbox"/>	
3 Install Data	<p>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.</p> <input type="checkbox"/>	<p>Asset installation date is available for at least 50% of the assets.</p> <input type="checkbox"/>	<p>Accurate install date is available for most assets, including all critical assets. Data is easily accessible to all who require it.</p> <input type="checkbox"/>	<p>Complete and accurate data is available for all assets, including new assets. Data is easily accessible to all who require it.</p> <input type="checkbox"/>	
4 Historic Cost	<p>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.</p> <input type="checkbox"/>	<p>Accurate historic cost data is available for at least 50% of the assets.</p> <input type="checkbox"/>	<p>Complete and accurate historic cost data is available for most assets, including all critical assets. Data is easily accessible to all who require it.</p> <input type="checkbox"/>	<p>Complete and accurate historic cost data is available for all assets, including new assets. Data is easily accessible to all who require it.</p> <input type="checkbox"/>	
5 Natural Assets	<p>No consideration is given to natural assets in planning for sustainable service delivery.</p> <input type="checkbox"/>	<p>There is general awareness of the services provided by natural assets, but natural assets are not included in planning or decision making.</p> <input type="checkbox"/>	<p>Some natural assets have been identified and the value of service is partially understood.</p> <input type="checkbox"/>	<p>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.</p> <input type="checkbox"/>	



6

Policy

LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	EVIDENCE / NOTES
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.	
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 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.	

7

Strategy

8

Level of Service



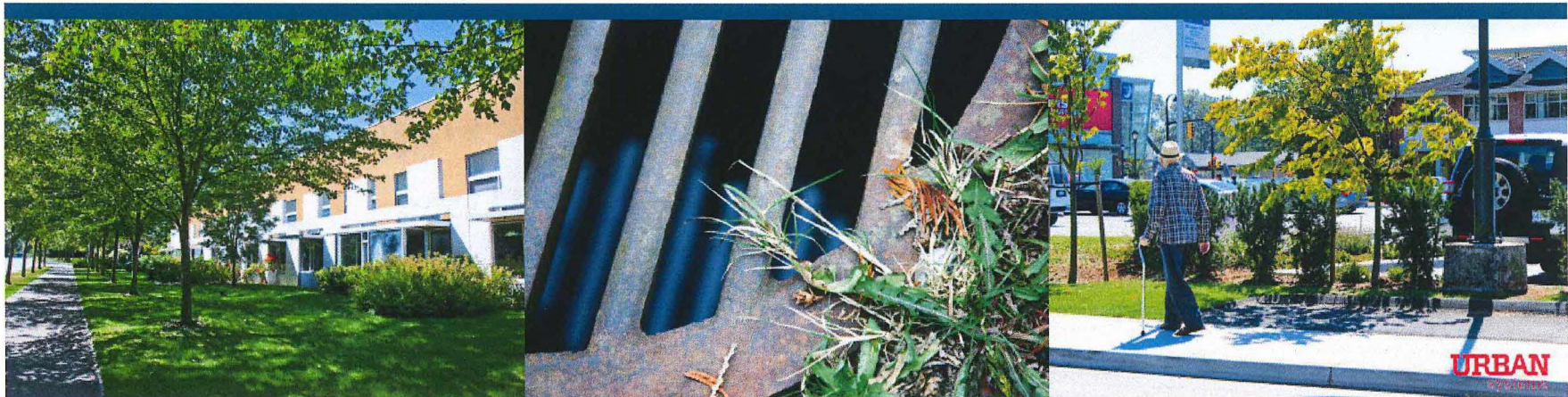
	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	EVIDENCE / NOTES
9 Risk	Risks to assets and service levels are not understood or documented	Asset risk is estimated according to asset remaining life only; condition assessment information is not available. Broader service delivery risks have not been considered.	Estimated 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.	
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.	
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.	



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.	





FINANCES

page 7

	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.	
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.	
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.	
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.	



PEOPLE

page 8

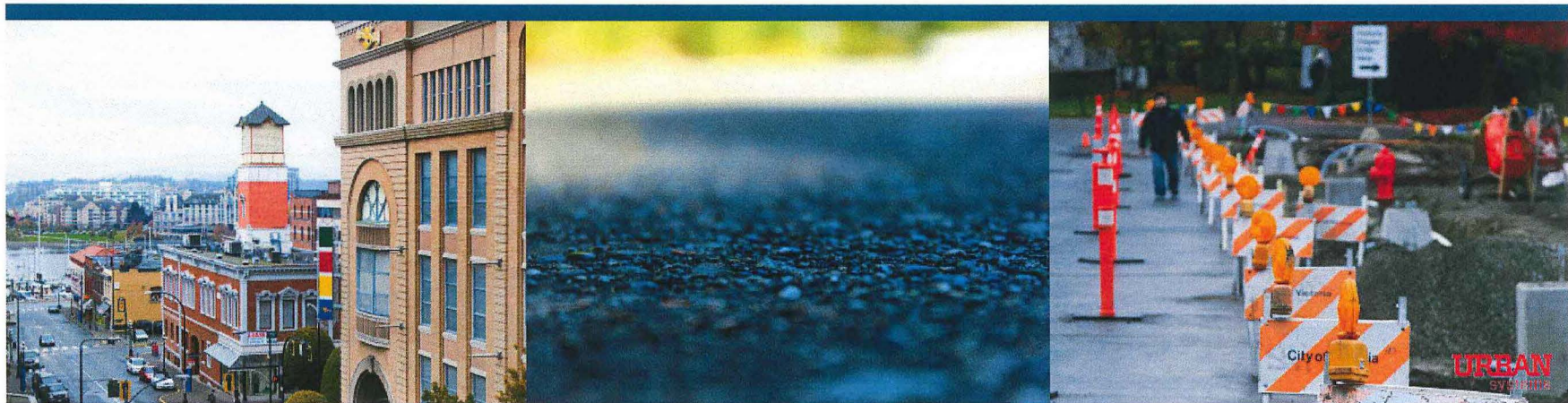
	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	EVIDENCE / NOTES
17 People Capacity	Staff have no time for asset management.	Some staff time could be made available for asset management, but staff have limited or no knowledge of the tasks and processes required to meet asset management outcomes.	Staff are investing 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.	
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.	
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.	
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'.	



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.	



Appendix D: Town of Gibsons Asset Highlights

Town of Gibsons Asset Highlights:

The following asset classes will be completed and summarized:
water; sanitary; storm; geo-utility; roads; sidewalks; streetlights; fleet; buildings; land; other

Annual Cost of Sustainable Ownership

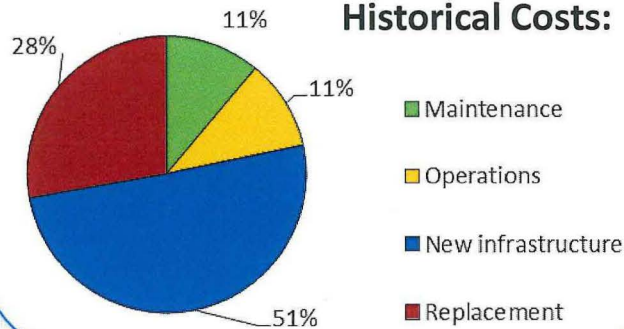
The annual amount required to operate, maintain and ultimately replace a given asset over a long time period, e.g. 50 years

Fast Facts

Information regarding the particular asset will be included in this box such as:

- Value of asset class
- Some basic information about the asset class, such as lengths
- Some historical costs relating to the asset (see example below)
- Unit costs, e.g., did you know that it costs \$___per kilometer to repave a road

Historical Costs:



Community Goals

Staff are anticipating involving the public in information sessions about Asset Management and how it directly impacts service levels and taxation. Community goals would usually include those stated in the OCP.

Levels of Service

Service Levels depend on what a municipality can afford and what property owners are willing to pay for.

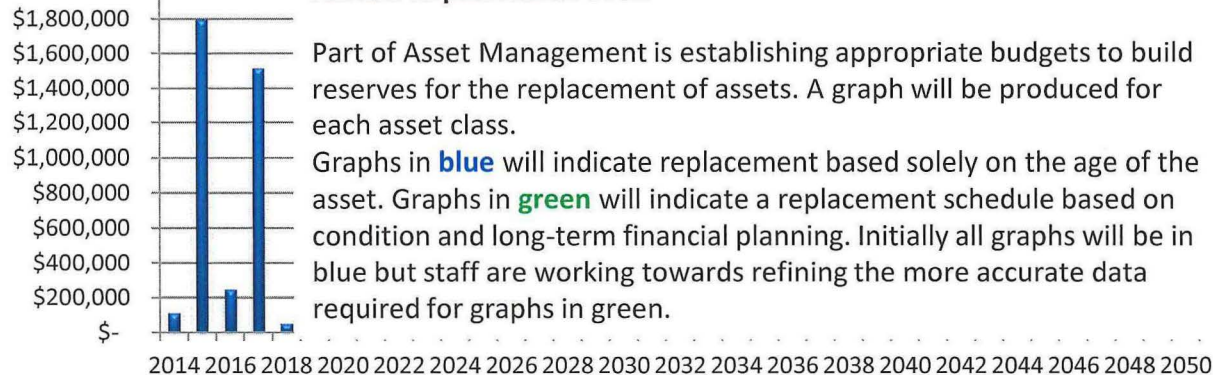
There are three types of Service Levels:

1. The selection of services that are provided by a municipality such as bike lanes, sidewalks, doggie bags or a recreation centre.
2. The standard of service that is provided, such as paved versus unpaved roads, gravel walkways versus concrete sidewalks.
3. The standard to which an asset is maintained, e.g., frequency of curb sweeping, how often a road is repaved.

Community engagement is required to

1. Provide the public information about the cost of assets and the financial state of the municipality.
2. Provide the public the opportunity to indicate the level of service that they are willing to pay for.

Annual Replacement Costs



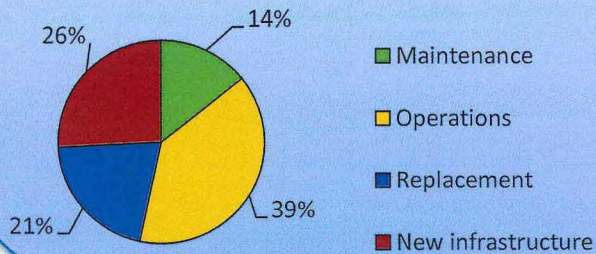
Town of Gibsons Asset Highlights: WATER SYSTEM (Engineered Assets)

Funding required to operate, maintain and replace asset: \$ _____/yr
 Projected financial contributions: \$ _____/yr
 Shortfall: \$ _____/yr

Fast Facts

- The Town of Gibsons currently owns and operates:
 - Two reservoirs
 - Four water supply wells
 - 40 km of water distribution pipe
- Replacement value of water system: ~\$19,000,000
- Revenue generated from an average residential home in one year is enough to replace one metre of water pipe.

Historical Costs:



Community Goals

Pending

Levels of Service

Higher service levels (higher costs) – reliable, high quality water – requires regular water main replacements, water conservation, adequate staff to respond to provide customer service and public information.

NEW OUTDOOR WATER USE RESTRICTIONS

STAGE 1 NORMAL
 Even addresses: Tues, Thurs & Sat 7:00 to 9:00 am and 7:00 to 9:00 pm
 Odd addresses: Mon, Wed & Sat 7:00 to 9:00 am and 7:00 to 9:00 pm

STAGE 2 MODERATE
 Even addresses: Thurs & Sun 7:00 to 9:00 am
 Odd addresses: Wed & Sat 7:00 to 9:00 am

STAGE 3 ACUTE
 Ban on all outdoor sprinkling
 Hand watering permitted

STAGE 4 SEVERE
 Ban on all outdoor watering

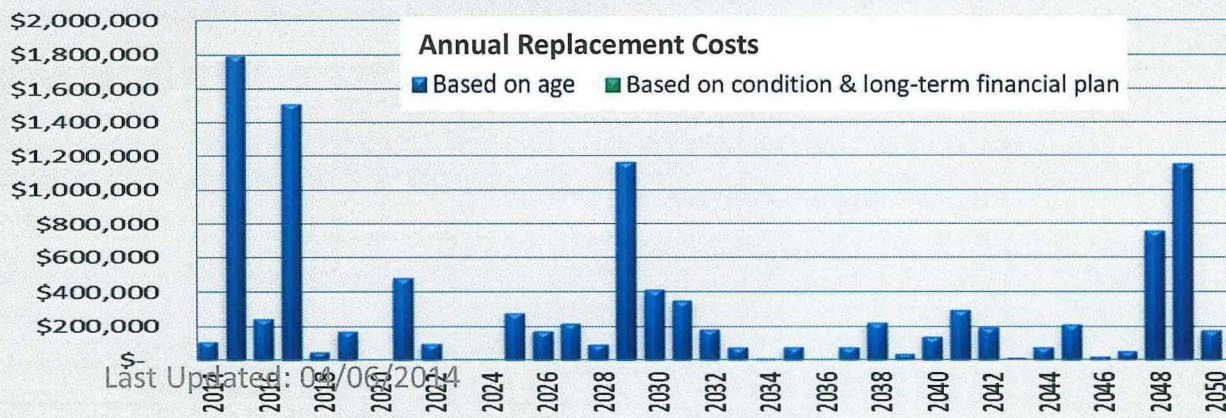
The above restrictions are considered watering restrictions. New outdoor water use restrictions. Such water conservation actions are in adapting to the increasing frequency and severity of summer droughts.

Town of Gibsons
 www.gibsons.ca
 604-899-2274



DRINKING WATER WEEK
 What do you know about H₂O?

Low service level (lower cost) – water quality suffers, reliable service delivery drops



Last Updated: June 4, 2014

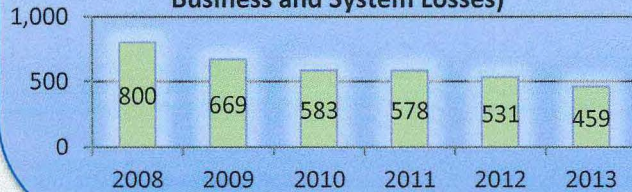
Town of Gibsons Asset Highlights: WATER SYSTEM (Natural Assets)

Funding required to operate, maintain and replace asset: \$44,000/yr
 Projected financial contributions: \$_____/yr
 Shortfall: \$_____/yr

Fast Facts

- It takes about 10 years for a drop of water falling on Mount Elphinstone and entering the aquifer to make its way to the Town wells.
- The aquifer is not an underground river or lake – it is gravel and sand that is saturated by water.
- About 75% of the Town's water is provided by the Gibsons Aquifer and 25% is supplied by SCRD from Chapman Creek
- Water consumption has dropped by approximately 43% since 2008

Litres per capita per day (Residential, Business and System Losses)



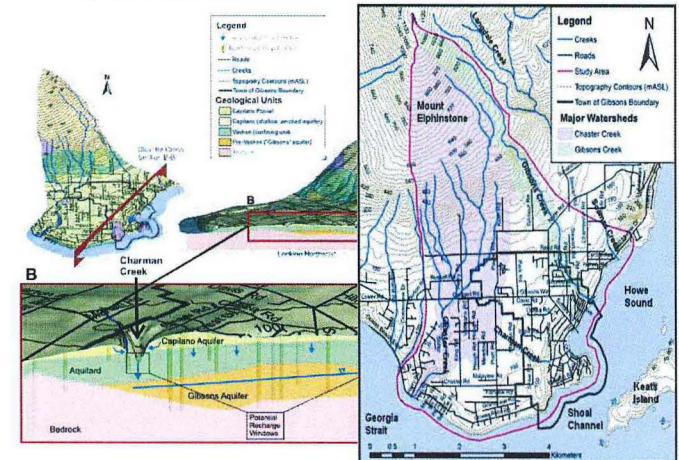
Community Goals

Pending

Levels of Service

Higher service levels (higher costs)

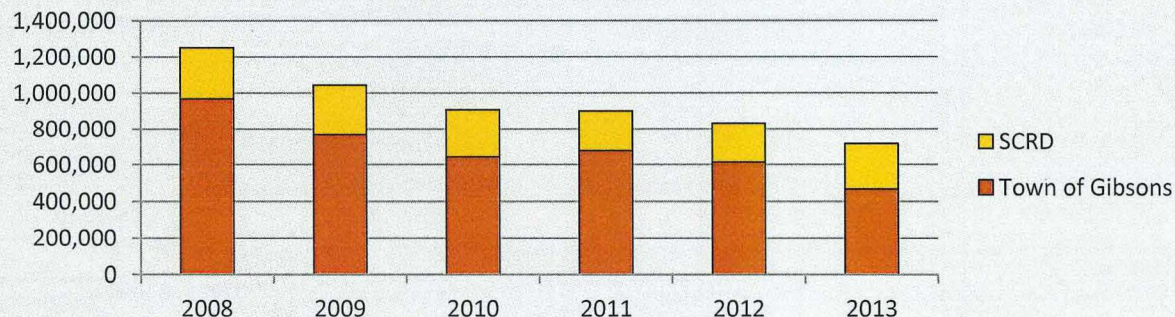
- Annual monitoring program allows early response to changing conditions.
- Communication keeps the public informed and aware of the value of water, the need to protect our resource and the reasons behind water conservation



Low service level (lower cost)

- Numerous recommendations were made in the Aquifer Mapping Study. Some of these recommendations could be abandoned or postponed. Examples of these recommendations are: Community Engagement, Well Maintenance Program, installation of additional monitoring wells, surface water monitoring, etc.

Water volume pumped (cubic metres)



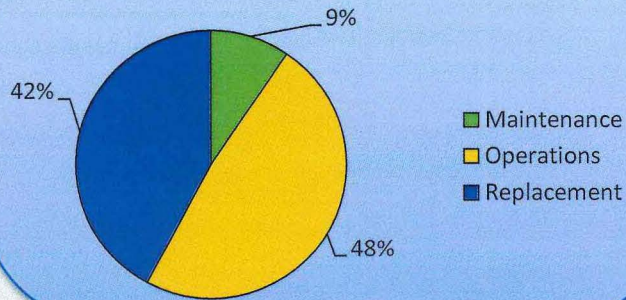
Town of Gibsons Asset Highlights: FLEET

Funding required to operate, maintain and replace asset: \$ _____/yr
 Projected financial contributions: \$ _____/yr
 Shortfall: \$ _____/yr

Fast Facts

- The Town of Gibsons currently owns and operates 21 municipal vehicles
- One of the Town's most versatile vehicles is the vactor/flush truck which helps our crews locate services, flush our sewers, excavate holes in tight spots, and clean our drains
- Replacement value of Town Fleet:
~\$1,500,000

Historical Costs:



Community Goals

Pending

Levels of Service

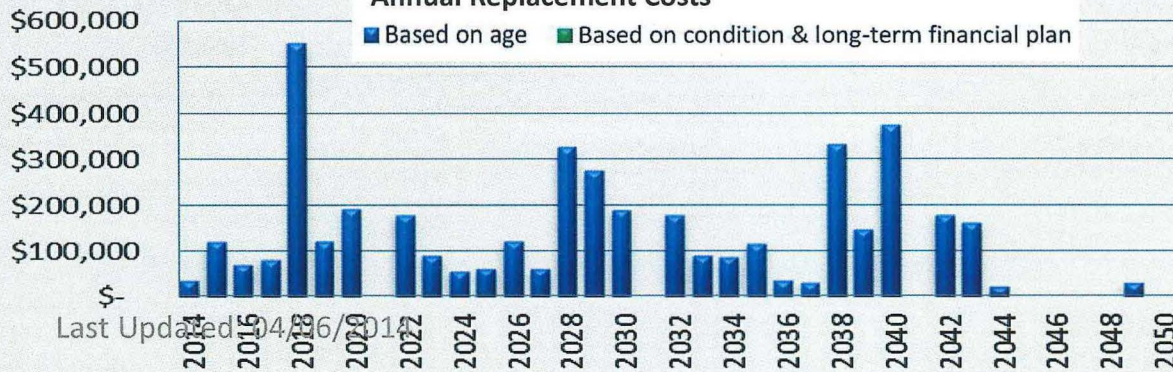
Higher service levels (higher costs) – well-planned purchasing of equipment, such as a vactor truck or a riding lawn mower, can reduce staff time, improve efficiency and provide faster service to the public.



Low service level (lower cost) – Older vehicles are generally less reliable than newer ones, which means that staff may not have the ability to respond as quickly as the public would like.



Annual Replacement Costs



Last Updated: June 4, 2014

Town of Gibsons Asset Highlights: SANITARY SEWER

Funding required to operate, maintain and replace asset: \$ _____/yr
 Projected financial contributions: \$ _____/yr
 Shortfall: \$ _____/yr

Fast Facts

Historical Costs:

Community Goals

Pending

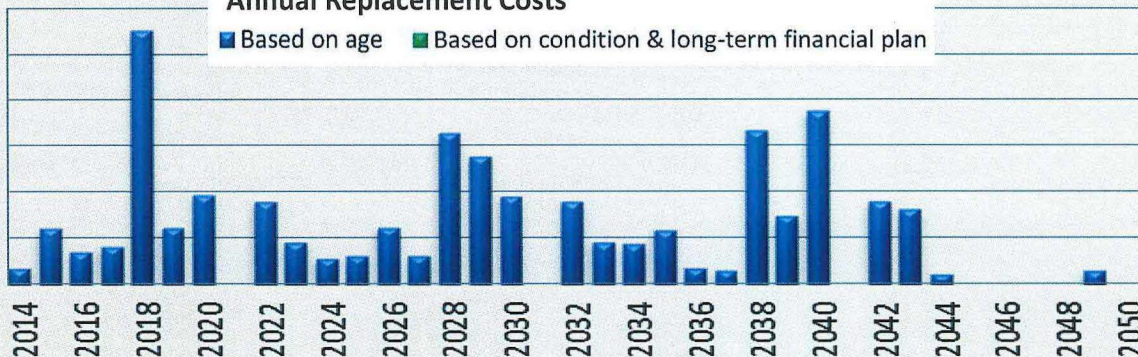
Levels of Service

Higher service levels (higher costs)

Low service level (lower cost)

Annual Replacement Costs

■ Based on age ■ Based on condition & long-term financial plan



Appendix E: Infrastructure Documentation

Relevant Town of Gibsons Asset Management Documentation

Asset Class	Documents
Town of Gibsons Master Documents	Strategic Plan 2016-2018 An Eco-Asset Strategy, 2016 Official Community Plan, 2015 Public Participation Toolkit, 2015 DCC Bylaw Update, 2014 Subdivision and Development Servicing and Stormwater Management Bylaw No. 1175, 2012 PSAB Tangible Capital Asset Inventory, 2010 Comprehensive Infrastructure Management Program, 2003
Sanitary	Sanitary Sewer Regulation Bylaw No. 1194, 2014 Wastewater Collection Strategic Plan, 2008 Wastewater Collection Financial Plan, 2008
Water	Water Rates Study (Updated Annually), 2013-2016 Water Regulation Bylaw No. 1192, 2014 Water Strategic Plan Update, 2014 Aquifer Mapping Study, 2013 Sonic Leak Survey, 2013 Water Audit and Leak Detection, 2008 Water Supply Strategic Plan, 2005
Stormwater	Drainage Infrastructure Policy, 2016 Subdivision and Development Servicing and Stormwater Management Bylaw No. 1175, 2012 Integrated Stormwater Management Plan, 2010
Transportation	Pavement Management Update, 2014 Traffic and Highway Use Bylaw No. 1193, 2014 Pavement Management Plan, 2004
Gibsons District Energy Utility	District Energy Bylaw No. 1995, 2014
Fleet	(none)
Parks	Parks Master Plan (Draft)
Buildings	Community Lands Inventory, 2008

Appendix F: Asset Management Policy



TOWN OF GIBSONS

Policy Manual

SECTION:	FINANCE		
TITLE:	Asset Management Policy	POLICY # 2.9	
EFFECTIVE DATE:	2014-07-15	APPROVED DATE:	2014-07-15
		REVISED DATE:	
		RESOLUTION #:	2014-R225

1 PURPOSE

To set guidelines for implementing consistent Asset Management processes within the Town of Gibsons. The following terms are used within this policy and are defined as follows:

Asset Management: an integrated, lifecycle approach to effective stewardship of infrastructure assets to maximize benefits, manage risk and provide satisfactory Levels of Service to the public in a Sustainable manner. The majority of the services that the Town provides are related to Asset Management.

Engineered Assets: assets that have been constructed and are owned by the Town (e.g., watermain, roads, streetlights, buildings), land that is owned by the Town and supports assets (e.g., land under roads or buildings), or land that is undeveloped and owned by the Town. These assets must be operated, maintained, managed, and, with the exception of land, ultimately replaced as they wear out.

Level of Service: the service level delivered to the public by the Town. This can take the form of the selection of services that are provided (e.g., bike lanes, doggie bags, or a new pool), the standard of infrastructure in place (e.g., concrete sidewalks versus gravel paths), or the standard to which an asset is maintained (e.g., the frequency of scheduled curb sweeping). The desire of Council or the public for a particular Level of Service will directly affect utility fees or taxation.

Natural Assets: naturally occurring land or subsurface features which perform or support service delivery to the Town (e.g., the Gibsons Aquifer, which filters and stores water, and the creeks, which convey and treat stormwater run-off). This category also includes artificial features that mimic naturally occurring features (e.g., ditches, ponds and wetlands). If these assets did not exist, Engineered Assets would be required to provide these services. Natural Assets must be operated and maintained but, if managed appropriately, require no replacement.

Risk: analysis of the 'likelihood' and the 'consequences' of a given event. Establishing the risk associated with lower infrastructure performance due to Levels of Service or postponement of asset replacement will identify system vulnerabilities and assist in

prioritizing work. For example, puddles on a gravel walkway may have a high likelihood of occurring but the consequences are not significant. In comparison, an ageing sanitary main may have a high likelihood of failure and the consequences of a break may be significant.

Sustainable: meeting the needs of the present without compromising the ability of future generations to meet their own needs. In relation to Asset Management a sustainable approach takes into consideration the current and future benefits and costs of existing and new assets or services.

2 OBJECTIVE

To ensure adequate provision is made for operations, maintenance and long-term replacement of major Engineered and Natural Assets by:

- 2.1 Maintaining assets in the most natural, energy-efficient and reliable manner that cost the least to operate over the life cycle of the asset;
- 2.2 Ensuring that the Town's services and infrastructure are provided in a Sustainable manner, with the appropriate Levels of Service to all users within the Town;
- 2.3 Managing Town of Gibsons Engineered and Natural Assets by implementing appropriate Asset Management strategies and appropriate financial resources for those assets;
- 2.4 Fostering an environment where all Town of Gibsons employees take an integral part in overall management of Town assets by creating and sustaining Asset Management awareness throughout the organization through training and development;
- 2.5 Ensuring resources and operational capabilities are identified and responsibilities for all areas of Asset Management are appropriately assigned;
- 2.6 Continually seeking opportunities for improving efficiencies in operations, maintenance and asset replacement practices;
- 2.7 Demonstrating transparent and responsible Asset Management processes that align with established best practices; and
- 2.8 Meeting legislative requirements for Asset Management.

3 POLICY

3.1 Background

- 3.1.1 Council's vision and goal for the community includes providing a safe, livable, Sustainable and economically vibrant community underpinned by well managed and maintained infrastructure assets. These assets include but are not limited to efficient transportation networks, an economical and

reliable water distribution network, a safe and reliable sewage collection system, reliable information technology systems, appropriate fleets, and accessible parks, recreation and civic facilities.

- 3.1.2 The Town of Gibsons is committed to implementing a systematic Asset Management methodology in order to apply appropriate Asset Management best practices across all areas of the organization. This includes ensuring that assets are planned, created, operated, maintained, renewed and disposed of, where appropriate, in accordance with the Town's Levels of Service priorities.
- 3.1.3 As of December 2013, the Town of Gibsons owns and operates approximately \$65 Million (historical costs) of Engineered Assets to support its core business of delivery of service to the community. Although the equivalent values have not been established, the Town also recognizes the additional and significant contribution made by Natural Assets in the delivery of service to the community.
- 3.1.4 Asset Management is the core business of the Town of Gibsons and appropriate Asset Management is required to achieve our strategic service delivery objectives.
- 3.1.5 Adopting Asset Management principles will assist Council in achieving its strategic plans and long term financial objectives.
- 3.1.6 A strategic approach to Asset Management will ensure that the Town of Gibsons delivers the appropriate Level of Service through its assets.

3.2 Principles

- 3.2.1 A consistent Asset Management Strategy will be used for implementing systematic Asset Management and appropriate Asset Management best-practices throughout all departments of the Town of Gibsons.
- 3.2.2 Levels of Service will continue to be determined and refined in consultation with the community.
- 3.2.3 All relevant legislative requirements together with social, economic and environmental impacts are to be taken into account in Asset Management.
- 3.2.4 Asset Management principles will be integrated within existing planning and operational processes.
- 3.2.5 Natural Assets are recognized by Council as performing essential service delivery and will be identified and managed in a similar manner as Engineered Assets.

- 3.2.6 Asset Management plans will be developed for major service/asset categories. The plans will be informed by community consultation and financial planning and reporting.
- 3.2.7 An inspection regime will be used as part of Asset Management to ensure agreed service levels are maintained and to identify asset renewal priorities.
- 3.2.8 Asset renewals and Levels of Service defined in adopted Asset Management plans and long term financial plans will form the basis of annual budget estimates with the service and risk consequences of variations in defined services levels and budget resources detailed in budget documentation.
- 3.2.9 Asset renewal plans will be prioritized and implemented progressively based on agreed Levels of Service and the effectiveness of the current assets to provide that Level of Service.
- 3.2.10 Systematic and cyclical reviews will be applied to all asset classes and are to ensure that the assets are managed, valued and depreciated in accordance with appropriate best practices.
- 3.2.11 Future life cycle and replacement costs for all asset categories will be established with a goal to be completed by 2019.
- 3.2.12 Life cycle costs will be reported and considered in all decisions relating to new services and asset classes and upgrading of existing services and asset classes as soon as they are established.
- 3.2.13 Training in asset and financial management will be provided for relevant staff.

4 SCOPE

This policy applies to all Town of Gibsons activities.

5 LEGISLATION

All aspects of Asset Management within the Town shall be conducted in accordance with applicable legislation.

6 RELATED DOCUMENTS

Asset Management Strategy and associated Asset Management Plans (to be developed).

7 RESPONSIBILITIES

Asset Management is a corporate responsibility that involves all staff and members of Council in the effective implementation of Sustainable service delivery.

7.1 Council is responsible for:

- 7.1.1 adopting this Asset Management Policy and future updates;
- 7.1.2 allocation of resources;
- 7.1.3 providing high level oversight of the delivery of the organization's Asset Management strategy; and
- 7.1.4 ensuring that organizational resources are appropriately utilized to address the organization's strategic plans and priorities.

7.2 The Chief Administrative Officer has overall responsibility for:

- 7.2.1 developing Asset Management strategies, plans, and procedures, in conjunction with the management team;
- 7.2.2 reporting to Council and updating the community regularly on the status, effectiveness, and performance of work related to the implementation of this Asset Management policy; and
- 7.2.3 considering and incorporating Asset Management in all other corporate plans (e.g. Strategic Plans).

7.3 The Director of Engineering will be responsible for:

- 7.3.1 ensuring that the most up to date information on the Town's Natural and Engineered Assets is gathered and maintained in the Town's Geographical Information System (GIS) as well as other software and databases;
- 7.3.2 using industry standard unit costs and service lives for all infrastructure components, taking into account variations due to unique local conditions;
- 7.3.3 establishing infrastructure replacement strategies through the use of full life cycle costing principles;
- 7.3.4 establishing operations and maintenance policies to deliver Levels of Service and extending the useful life of assets;
- 7.3.5 where possible, integrate engineering and financial asset requirements into a single asset register; and
- 7.3.6 in consultation with other Directors, prepare Asset Management Plans and

strategies for each asset type.

7.4 The Director of Public Works and the Director of Parks and Cultural Services will be responsible for:

7.4.1 maintaining and managing infrastructure assets at defined levels; and

7.4.2 conducting ongoing reviews and implementing changes to realize efficiencies in operations and maintenance practices.

7.5 The Director of Planning will be responsible for:

7.5.1 ensuring that standards, goals and objectives in the Official Community Plan and other bylaws, policies and plans are consistent with Sustainable Asset Management principles;

7.5.2 providing Council with the full life-cycle costing impacts of proposed community amenities and variances to development standards; and

7.5.3 in consultation with other Directors, determine if the projected revenues from incremental as well as full build out of the Town, as outlined in the Official Community Plan, will support over time the assets necessary to provide established Levels of Service to the Community.

7.6 The Director of Finance will be responsible for:

7.6.1 planning financially for the appropriate level of maintenance for assets to deliver established Levels of Service with the goal to extend the useful life of Town assets;

7.6.2 establishing financial plans for consideration by Council that will ensure stable, long-term funding for replacement, renewal and/or disposal of assets;

7.6.3 valuing and depreciating assets in accordance with appropriate best practices; and

7.6.4 integrating financial reporting requirements with the Town's asset inventory register.

8 REVIEW DATE

This policy has a life of 4 years. It will be reviewed in 2019

Appendix G: Public Works Routine Maintenance Schedule

Public Works Routine Maintenance Schedule

TASK	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
DRAINAGE												
Catch basin cleaning	√	√	√	√	√	√	√	√	√	√	√	√
Culvert maintenance inspections			√	√	√					√	√	
Storm main flushing				√	√	√	√	√	√			
OTHER												
Painting of buildings						√	√	√				
Purchase new equipment					√							
Spring clean-up						√	√	√				
ROADS												
Brush cutting						√						
Crack sealing program						√	√	√	√			
Ditching					√	√	√	√	√			
Dust control						√						
Lane grading			√			√			√			
Line painting						√	√	√				
Paving						√	√	√				
Salting roads	√	√	√							√	√	√
Sidewalk inspection & maintenance				√					√			
Snow removal	√	√	√								√	√
Sweeping program	√	√	√	√	√	√	√	√	√	√	√	√
SANITARY												
Camera inspection						√	√	√				
Flushing program				√	√	√	√	√	√			
Lift station cleaning					√							
Man hole inspections	√	√	√	√	√	√	√	√	√	√	√	√
WATER												
Hydrant maintenance									√			
Routine maintenance flygt pumps									√			
Uni directional water main flushing									√			
Water valve exercising							√	√	√			