DISTRICT OF HIGHLANDS

Asset Management Plan - 2019

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1 APPROACH AND STATUS

The District of Highlands made the introduction of an Asset Management Strategy and the process of incorporating Natural Assets into that framework a priority in 2017. **A first Asset Management Plan for the community was approved in 2018.**

> *"ASSET MANAGEMENT • Maintain assets in an appropriate state of repair • Optimize capital investments to meet public and economic needs while achieving value for the investment."*

This document updates the 2018 plan to incorporate the District's recent work on pavement management, new reserves policy and pending Long-Term Financial Plan.

Asset Management for Sustainable Service Delivery - A BC Framework:

The approach used for this plan is based on the Asset Management British Columbia Framework. This framework was developed by Asset Management BC and establishes a high-level, systematic approach that supports local governments in moving toward service, asset and financial sustainability through an asset management process. The framework reflects current leading practices and aligns with internationally accepted approaches such as the International Infrastructure Management Manual and the ISO 55000 Standard for Asset Management.

The Framework is built on four key elements: People, Information, Assets and Finances and is structured in three stages **Assess**, **Plan** and **Implement**.

Assess(completed):

An initial assessment of available information, assets and capacity was completed in 2018:

1. Assessment of Asset Management Practices and People (completed in 2018).
2. Assess Current State of Assets (completed in 2018).
3. Assessment of Current Asset Reinvestment Funding (completed in 2018).

Plan (almost complete):

An Asset Management Policy, Individual Plans and a Strategy were prepared in 2017/18.

4. Asset Management Policy (completed in 2018).
5. Asset Management Plan (completed in 2018).
6. Asset Management Strategy (completed in 2018).
7. **Integrate to Long-term Financial Plan (Planned for summer 2019).**
   Asset Management Plans are integral to a robust Long-Term Financial Plan and support sustainable service delivery. This integration identifies gaps between long-term costs and available funding. The financial planning process identifies opportunities to close the gap through adjusting service levels (reducing costs) and/or increasing funding (raising revenue).

   The new District of Highlands Long Term Financial Plan integrates with this 2019 Asset

Management Plan.

Implement (started, under way):

Plans and practices are developed to be implemented.

8. **Implement Asset Management Practices.**
    - Train staff to enhance asset management competencies, skills, and organizational capacity. *(Planned for 2019 and 2020)*
    - Consolidate asset records and TCA records into a single database and prepare a consistent approach to categorizing and recording assets. *(Planned for 2020)*
    - Regularly update the consolidated asset database by adding new assets, identifying asset renewals, replacements, and decommissioned assets. *(Started, ongoing)*
    - Update the Asset Management Plan each year in conjunction with the Annual Budget process by regularly updating asset replacement costs, condition assessments, useful life estimates and financing targets. *(Started, ongoing)*
9. Measure and Report. (Completed in 2019, ongoing)

2 ASSET SCORECARD

The District maintains basic levels of asset condition information ranging from formal groundwater monitoring and bridge condition engineering assessments and annual road top reviews during maintenance activities; to an informal annual assessment of equipment, playground structures and buildings by staff. Fire vehicles and equipment are maintained by the Fire Department.

Since it is unrealistic to scientifically rate every asset for a high-level Infrastructure Condition Report, a simplified system has been used for each asset component grouping. Assets are evaluated on a simplified component-by-component basis.

Although every rating system is subjective, this process improves accuracy since it incorporates the anecdotal asset knowledge of employees and contractors. The approach suggested is a combined assessment of 'Condition and Performance,' 'Capacity versus Need' and 'Funding versus Need'.

It is intended as a starting point and should be refined in subsequent years as better information is obtained. Using this method, the following base scorecard report was developed. There is no change in the scorecard from 2018.

District of Highlands Infrastructure Report Card		
Asset Group	**Rating**	**Comments**

Land	**B**	Reasonable condition. No additional funding needed.
Groundwater Aquifer	**B**	Natural condition based on 2016 Golder and Associates Assessment. No additional funding needed.
Roads	**C**	Reasonable condition. Road profile assessment and PMP needed. Funding needed.
Bridges	**B**	Good condition based on Herold Engineering Assessment. Funding needed.
Facilities	**B**	Reasonable condition. Funding needed.
Park Improvements	**B**	Reasonable and natural condition. Modest increase in funding will maintain rating
Vehicles and Equipment	**B**	Reasonable condition. Modest increase in funding will maintain rating.
OVERALL	**B**	**FUNDING NEEDED.**

3 2019 ASSET MANAGEMENT SUMMARY

The District is well placed and has the basic capacity to undertake modest asset management as an ongoing corporate function. The District's infrastructure is in reasonable condition and funding of a moderate proportion of average annual replacement needs is provided. Improved road base and road top information was gathered in 2018/19 and a pavement management system and database is being developed.

This new information has been incorporated in this updated Asset Management Plan together with updated 2019 budget information and updated asset valuations.

Next steps include development of a Long-Term Financial Plan, alignment with this 2019 Asset Management Plan and increased annual asset reinvestment over time.

In 2018 the District owned assets valued at $193 million with an average annual replacement cost of $692,000. In 2019 these values have been updated to $204 million reflecting an increase in the value of land, construction cost inflation for buildings and other built infrastructure and an inflationary increase in the cost of vehicles and equipment:

Component	Estimated Asset Life	Value at current replacement cost	Average Annual Replacement	Current Funding Level
Land	Indefinite	$ 102 Million	$ Not required	$ Not required
Groundwater Aquifer	Indefinite	$ 47 Million	$ Not required	$ Not required
Roads	15 to 80 Years	$ 44 Million	$ 250,000 (min)	$ 29,500
Bridges	50 to 75 Years	$ 1 Million	$ 22,000	$ 3,000
Facilities	50 plus Years	$ 5 Million	$ 184,000	$ 138,000
Parks Improvements	25 to 75 Years	$ 1 Million	$ 13,000	$ 2,000
Vehicles & Equipment	Varies	$ 4 Million	$ 244,000	$ 237,400
Total		$ 204 Million	$ 713,000	$ 409,900

In 2019 the District committed $409,900 in property tax supported funding per year for asset reinvestment as follows:

- Transfer of $252,400 to reserves for fire equipment and building replacement and debt repayment of $60,000 from the District's Annual Fire Specified Area property tax. The reserves transfer is planned to increase to $290,000 in 2027 when the current loan to purchase fire tender 2 and the Fire Hall expansion is paid out;
- Fire Turn Out Gear, Hose and SCBA equipment is replaced using an existing $22,000 annual operating budget and $20,000 capital budget;
- Road and bridge reserves $32,500
- Community Hall, heritage and park reserves $23,000

This is equivalent to $31 in general Infrastructure Property Taxes and $335 in Fire Specified Area Property Taxes from the Average Homeowner in 2019.

This means that the District is currently funding 57% of average annual replacement needs from property tax revenues in 2019.

The District has also established a property tax policy in 2019 to increase property taxes by the equivalent of a minimum 1% increase ($15,000) to the average homeowner each year. This fifteen-year approach to increase funding will gradually reduce the Districts asset replacement risk and reach minimum sustainable infrastructure replacement levels.

In the interim the District is planning to use a combination of accumulated road reserves and Federal Gas Tax funding to replace road top as outlined in the Pavement Management Plan. A three-year plan to spend $250,000 per year has been approved in the District's 2019 Five Year Financial Plan. Further funding may be required in the long term as the majority of roadwork comes due in the 2030's and 2040's.

Building in the annual $150,000 in Federal Gas Tax funding for road works on a more longer-term basis will ensure that the District is moving substantially toward funding asset management while the tax funded proportion is gradually increased over time. This will be the subject of review during development of the District's Long Term Financial Plan.

4 ASSET MANAGEMENT PLANS

4.1 LAND ASSETS PLAN

Component	Estimated Asset Life	Value at Historical Cost	Average Annual Replacement Cost
Land	Indefinite	$ 101.5 Million	$ n/a

Most of the District's land inventory is comprised of parks, trails, community areas and the land under roadways.

The District's primary municipal park is Twinflower Park, which has a tot lot playground, washrooms, a non-regulation size ball field, a bicycle jump and a horse-riding ring.

Eagles Lake Park features a small swimming beach and picnic area.

Hazlitt Creek Park is a 32-hectare nature park. Hazlitt Creek flows though the ravine and has some rough trails that provide access to the water. There is a wide easement trail that eventually leads to private property. The Park area is not maintained.

Bordered by private property on eight of its nine sides, Cal Revelle Nature Sanctuary is a 69-hectare natural area that abuts the Gowland-Tod Provincial Park to the west and northwest. Named after a former councilor of the Highlands, it includes Garry Oak, Douglas Fir, Arbutus and meadow lands. The area has old logging trails from the activity of early settlers. The Park area is not maintained other than occasional volunteer-based safety maintenance.

Caleb Pike Homestead is a 1.3-hectare heritage homestead site with several heritage buildings. Basic maintenance is organized by the District through a management agreement with the Highlands Heritage Park Society.

1150 Bear Mountain Parkway is a 19-hectare covenanted park area and unformalized trail system that is not maintained. A joint management plan with The Land Conservancy is expected.

An unnamed 19-hectare natural park area adjacent to Thetis Lake Park which is not maintained.

There are a variety of other small park access points, trails, land holdings and neighborhood park areas.

The park lands and trails are generally in natural condition with no known significant defects. Most remain in a natural state with no formal maintenance work.

No contaminated site obligations have been disclosed in the District's Audited Financial Statements in accordance with PSAAB Standard 3260.

Additional land inventory is acquired from time to time as community priorities are identified and as modest development activities involve the dedication of road, trail or other land to the municipality.

In 2018 no additional land inventory was acquired.

Land assets generally do not require significant reinvestment. Replacement values have been broadly estimated for the purposes for this report using a general average of $315,000 per acre – an increase of 5% over previous year.

What Condition Are these Assets in?

Land Assets continue to have an overall B rating. This rating indicates that the current land inventory is in generally good natural condition, performs to community standards and is sufficient for community needs.

Lands: A natural asset that does not require replacement. Monitoring and management to meet service expectations and be aware of climate change impacts is key. Ad hoc funding and volunteer effort is provided from time to time for basic maintenance activities as required.

Land Assets Detailed Rating		
Condition and Performance	B	B
Capacity vs. Need	A	
Funding vs. Need	A	

What needs to be done in the near term?

1. No specific reinvestment required.
2. Establish a volunteer based informal monitoring and assessment program.
3. Continue volunteer-based maintenance focus.
4. Confirm land inventory and combine database with TCA records.
5. Refine land replacement values and adjust Financial Statement disclosures annually.

4.2 GROUNDWATER AQUIFER NATURAL ASSET PLAN

Component	Estimated Asset Life	Value at current replacement cost	Average Annual Replacement Cost
Wark -Colquitz Aquifer	Indefinite	$ 47.3 Million Substitute cost	Not required if sustainably managed

The majority of the residential population obtains potable water from private, individual water wells. A small number of individual residences obtain potable water from local streams and lakes under surface water licenses.

The Province of British Columbia has primary jurisdiction and regulates through the Water Sustainability Act, Water Sustainability Regulation and Groundwater Protection Regulation. Other regulatory initiatives are also in progress.

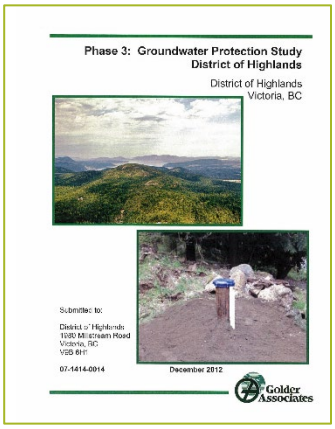
> Integrated Community Sustainability Plan:
>
> ICSP Statement 5.9.3. Human activities in watersheds are managed to maintain natural drainage systems so as to protect water quality, to optimize groundwater recharge, manage summer flows and to minimize runoff damage in long term (e.g. 100- year) flood scenarios.
>
> ICSP Statement 5.9.4. The supply of potable water from local natural sources is maintained for future generations.

The District's groundwater supply is primarily dependent on drilled wells supplied from the Wark-Colquitz Aquifer. (Aquifer No 680 BC Ministry of Environment). This is a class IIB Aquifer under the BC Aquifer system which indicates moderate demand relative to aquifer productivity and moderate vulnerability of the aquifer to contamination from surface sources. (Golder and Associates 2016)

The District is proactive in the monitoring, assessment and regulation of groundwater. Education and awareness activities occur regularly. The District is keen to assess the impact of future demand and climate change on the groundwater resource.

Highlands Bylaw No. 154 outlines the standards for regulating the subdivision or development of land within the Highlands, including standards for sanitary sewage systems and standards for water service.

Golder and Associates has conducted groundwater level monitoring in the Highlands since 2009 in support of the District's Groundwater Protection Study.



The latest report from Golder indicates that results from the 2015 groundwater monitoring program were generally consistent with the seasonal patterns reported for previous years. Water levels in the Highlands monitoring wells during the dry season of 2015 were within the range of those observed in previously monitored years (2010 – 2014).

Golder recommends that the groundwater monitoring program continue to assess seasonal patterns and long-term trends in groundwater levels across the Highlands, particularly for DOH-07B, which exhibited slightly lower water levels in 2015 compared to previous years. They also suggest that the results of stakeholder programs should also continue to be reviewed on an annual basis to monitor groundwater conditions in the southern portion of the Highlands where production wells are operated.

Climate change is expected to be the primary influencer on condition of groundwater resources.

Monitoring, demand management and climate change adaptation are suggested as the keys to effective management of this natural asset and avoidance of the cost to replace it with an engineered system.

What Condition Are these Assets in?

The Groundwater Aquifer has an overall B rating. This rating indicates that the groundwater aquifer is in generally good condition, performs to community standards and is sufficient for current community needs based on the most recent Golder and Associates Assessment.

Aquifer: A natural asset that does not require replacement. Monitoring, demand management and climate change adaptation is key. Funding is provided for monitoring.

Groundwater Natural Asset Detailed Rating		
Condition and Performance	B	B
Capacity vs. Need	B	
Funding vs. Need	B	

The substitute cost reflects the approximate cost of replacing the existing well system with a municipal piped water system using CRD Water, assumed to be supplied at Millstream Road at the south boundary of Highlands. The assumption is that the District's private onsite well system is rendered unsuitable for individual lot domestic use. A 'new' community piped system would require 2 pump stations, 5 pressure reducing stations, two reservoirs, and water supply/distribution mains on essentially all of the District's

existing road system (46 km's), plus supply lines to the reservoir sites and , the land cost of the reservoirs sites. The cost is updated for 2019 using the latest construction cost inflation factor for 2018 which is 5%. This increases 2019 cost from $45 million to $47.3 million not including water services on private properties.

What needs to be done in the near term?

The District is committed to the sustainable management of this natural resource and has established an effective monitoring and reporting regime. Awareness and education work continues. The District recently updated Highlands Bylaw 154 which regulates the subdivision or development of land to better reflect this commitment.

The District also was successful in 2019 in obtaining a Federal Gas Tax Grant to develop an implementation plan for the recommended groundwater protection actions from the Golder Groundwater Studies and the Sustainable Land Use Select Committee for groundwater protection in the Highlands.

The purpose of this work is to develop a realistic framework for the implementation of groundwater protection measures in the District of Highlands.

Funding for replacement is not required if groundwater natural capacity is sustainably managed.

Staff and community resources are committed to the assessment process, education and awareness activities.

Work in the near term will focus on the following:

1. Continue the annual monitoring and assessment program with Golder.
2. Continue to assess Climate Change effects and adapt.
3. Proactively manage demand and quality control through education, awareness, policy and regulation. Implement Groundwater Protection measures.
4. Report out on Groundwater Natural Asset condition via the budget process, tax notices and Annual Community Report.

4.3 ROAD ASSETS PLAN

Component	Kilometers	Estimated Asset Life	Value at current replacement cost	Average Annual Replacement Cost
Local	29.7	25 - 30 Years	$ 11.1 Million	
Collector	6.3	20 - 25 Years	$ 2.9 Million	Minimum of
Major	10.5	15 – 20 Years	$ 5.5 Million	$250,000 (PMP)
Road Base		75 Years	$ 24.9 Million	$Nominal
Total	46.5		$ 44.4 Million	$250,000 (PMP)

The District's road system is comprised of 46.5 kilometers of major, collector and local level roads in a rural environment. Millstream Lake Road and Ross-Durrance Road were added to the District's Heritage Register in 2013 and are a 6.7 kilometer Transportation Act Section 42 road of heritage significance.

The road system is valued at a current replacement cost of $44.4 million dollars. This has been updated for 2019 based on a local road construction cost inflation factor of 5%.

By maintaining the road top in good condition (an overall PAVI rating of 75 or better) the District can maintain road base without significant replacement costs on an indefinite basis, and therefore minimize future replacement cost for almost $25 million dollars of road base. This is a sound reinvestment strategy.

The level of annual reinvestment in road top maintenance to maintain a PAVI rating of 75 or better is outlined in the Districts Pavement Management Plan. The plan suggests an initial eight year paving investment of $250,000 per year plus inflation. This is less than the projected long term average replacement cost which is likely to be approximately $450,000, due to the overall better than average conditions of the roads at this time. This will be addressed as part of the Pavement Management Plan discussions.

Between 1998 and 2002, with assistance from the Province of British Columbia Newly Incorporated Territories Program, almost 50% of the District's roads (23 of 47 kilometers) were paved or overlaid with hot machine asphalt concrete. This included all the collector and local class A roads. This means there will be a significant 'bulge' in repaving/surfacing requirements as this group of pavements essentially all age out at the same time. This has given the District some leeway in maintenance requirements for the last fifteen years but will start to require additional maintenance in the near term. The Pavement Management Plan shows this bulge starting in the 2030's and 2040's where replacement spending will significantly increase for a period of time.

The recently completed road surface profile indicates that further detailed testing of Transportation Act Section 42 road base is not needed at this time. This area of road has been given heritage status by the District and parts may have been built using a corduroy road base technique that does require replacement at some point in time. Repairs to this section of road are expected to be needed in about ten years' time and are factored into the Pavement Management Plan Model.

Many of the District's existing roads do not have any ditches or storm drainage facilities (such as curbs or catch basins). In most cases, the road drainage infiltrates adjacent to the road surfaces, however there are many sections, particularly on the upstream side of roads with long sustained gradients, where no ditches have been provided, where the road drainage is trapped and travels along the road for a considerable distance. This often erodes and/or undermines the shoulder and road base, resulting in uneven shoulders and threatening the integrity of the road surface.

While the District has historically used accumulated Road Reserve funds and some Gas Tax Reserves to maintain a program of annual road repair and upgrading work, the use of one-time road reserve funding is not sustainable.

The Districts operating budget was updated in 2019 to establish a $209,500 annual program of road maintenance, modest crack sealing, road base repairs (potholes) and shoulder maintenance work. This will serve to leverage the value of the road surface and reduce premature road failures along these sections. Consideration should also be given to providing methods of removing large quantities of water using cross drains or swales to reduce erosion in these sections.

An initial Pavement Management Plan program of $250,000 per year for three years is funded in the Districts current Five-Year Financial Plan and is partially funded as tax supported pavement funding is built up over time. Priority work in those years will begin with these areas:

Grind and Pave:

- Millstream Road to Hanington Road for 200meters, east lane only
- Millstream Road South from 1927 Millstream Lakes for 530 meters, both lanes
- Millstream Road at Caleb Pike Road for 300 meters
- Millstream Road 300m North of Hannington Road for 200 meters
- Munn Road at top of hill for 530 meters, both lanes
- Finlayson Arm Road East of Rowntree for 600 meters, one lane

Overlay:

- Bukin Drive East for 300 meters, both lanes.
- Finlayson Arm Road West of York Ridge, 300 meters, both lanes
- Finlayson Arm Road from Millstream Road to York Ridge Place for 575 meters, both lanes
- Raven Heights for 250 meters
- Lorimer Road for 310 meters

In 2019, operating budget funding of $23,500 was also established to provide the contracted technical capacity to manage the paving assessment and annual upgrading programs.

What Condition Are these Assets in?

The road system has an overall C rating. This rating is based on recent anecdotal assessments of road base and road top conditions by the District's roads consultant and in winter 2017 by our team in lieu of a formal Pavement Management Plan. Road top is generally in good condition. Only minor defects and deterioration is present in a few specific locations.

Road Base: Road base generally does not require replacement. Road base renewal usually occurs when other underground works or development improvements are being built.

Road Base Detailed Rating		
Condition and Performance	B	B
Capacity vs. Need	B	
Funding vs. Need	C	

The District has identified an area of Transportation Act Section 42 roads. Road base condition information is minimal. A pavement surface profile will provide an indication if further detailed road base assessment is needed. Some risk relative to drainage control.

Road Top Detailed Rating		
Condition and Performance	C	C
Capacity vs. Need	B	
Funding vs. Need	C	

Road Top: The optimal replacement frequency of road top should be managed through introduction of a Pavement Management Plan. This plan can be developed while a small program of crack sealing and drainage repair is maintained. Drainage maintenance also required.

What needs to be done in the near term?

1. Maintain annual funding for crack sealing, shouldering/drainage repair and a road contingency.
2. Establish a Formal Pavement Management Plan and update annually.
3. Provide technical resources to manage Pavement Management Plan
4. Increase annual road top reinvestment funding to move toward updated Pavement Management Plan recommended levels.
5. Update replacement cost estimates on an annual basis.
6. Incorporate new techniques, paving methods or technologies to ensure most efficient use of available funding.

4.4 BRIDGE ASSETS PLAN

Component	Kilometers	Estimated Asset Life	Value at current replacement cost	Average Annual Replacement
Bridges		75 Years	$ 0.79 Million	$22,000

The District operates four small bridges (Bellamy, Corry, Edwards and Hanington) valued at a current replacement cost of $790,000 dollars (2018 value plus 5% inflation) with an average annual investment of approximately $22,000 required to replace them on a lifecycle basis.

Replacement of the first of the bridges is at least fifty years into the future, leaving significant time to accumulate funding.

Bridge maintenance is funded from time to time based on the recommendations from Herold Engineering. No replacement funding has been identified to date.

What Condition Are these Assets in?

The Bridge system has an overall B rating. This rating is based on the latest Herold Engineering assessment completed in 2017.

Bridges: bridges are in good condition and require regular maintenance to reach regular lifecycle replacement in approximately 50 years. Expansion of the structures in the interim is not expected.

Bridge Assets Detailed Rating		
Condition and Performance	A	B
Capacity vs. Need	A	
Funding vs. Need	C	

What needs to be done in the near term?

1. No significant bridge replacements are expected in the near term.
2. Continue to increase annual reinvestment toward recommended $22,000 level.
3. Continue to assess bridges on a bi-annual basis as required for insurance purposes.
4. Update replacement cost estimates on a regular basis.

4.5 FACILITY ASSETS PLAN

Component	Estimated Asset Life	Value at current replacement cost	Average Annual Replacement Cost
Municipal	70 years	$ 0.53 Million	$ 16,000
Fire Rescue	70 years	$ 2.73 Million	$ 123,000
Heritage	Not Defined	$ 0.53 Million	$ 20,000
Community Users	70 years	$ 0.84 Million	$ 25,000
Total		$ 4.63 Million	$ 184,000

The District's facilities are comprised of buildings that support local government business, fire rescue operations, heritage and community activities. They serve as base for fire rescue response, storage for records, historic documents, and specialized vehicles/equipment. They provide for recreation, community-based activities and a regional cultural identity. Major building repair and maintenance is managed on an ad hoc basis. An Insurance policy is maintained to assist with the cost to repair/replace in the event of accidental damage.

The facilities are grouped into four categories:

- Municipal (District Office);
- Fire Rescue (East and West Fire Halls);
- Heritage (Caleb Pike Dairy, Schoolhouse, Teacherage, Museum, Caretakers Residence);
- Community Users (Community Hall and Garden).

Facilities are broadly valued at a current replacement cost of $4.6 million dollars based on the most recent insurance valuation plus construction inflation of 5% for 2018. Given the community commitment to volunteerism, Heritage buildings are assumed to be replaced with a combination of contracted resources and community volunteer effort and modest replacement funding is identified. An average annual investment of approximately $184,000 is estimated to renew buildings.

Major building maintenance and repair funding is also required to ensure that full building lifecycles are achieved. A General Capital Reserve contribution of $35,000 per year is used to fund a variety of projects including building component replacements such as plumbing and siding. This should be revaluated in context with an overall plan.

Full funding of $123,000 to replace the East and West Fire Halls is in place. District office, heritage and community building is an additional $61,000 per year for a total of $184,000 needed over time.

No facilities were added or disposed of in 2018.

Buildings have an overall B rating. This is a combined rating reflective of the mixture of individual building conditions, the unique nature of the uses and funding approaches (no significant replacement funding for municipal, heritage and community user buildings).

Municipal

The District Office was built in 2000 and is in good general condition. No planned maintenance program has been established to date. The need for additional capacity has been identified

Municipal - Detailed Rating		
Condition and Performance	B	C
Capacity vs. Need	C	
Funding vs. Need	C	

Fire Rescue

The West Fire Hall is twenty years old and in good condition. The East Fire Hall was recently constructed in 2015 and is in new condition. Full funding is in place for replacement.

Fire - Detailed Rating		
Condition and Performance	B	B
Capacity vs. Need	B	
Funding vs. Need	A	

Heritage

The Caleb Pike Homestead heritage site is in good condition given its vintage. The structures continue to be maintained in a manner respectful of their heritage nature.

Heritage - Detailed Rating		
Condition and Performance	B	B
Capacity vs. Need	B	
Funding vs. Need	B	

Community Users

The Community Hall was constructed in 2014 and is in new condition. No funding for replacement or planned maintenance has been identified.

External - Detailed Rating		
Condition and Performance	A	B
Capacity vs. Need	A	
Funding vs. Need	C	

What needs to be done in the near term?

1. Continue to increase replacement funding toward sustainable level.
2. Establish a major building repair and maintenance program. (Annual cost unknown at present).
3. Reevaluate cost factors and useful life estimates each year.
4. Continue to innovate new technology approaches to ensure most efficient use of funding.

4.6 PARK IMPROVEMENT ASSETS PLAN

The District's primary active municipal park is Twinflower Park, which has a tot lot playground, washrooms and a fieldhouse, a non-regulation size ball field, a bicycle jump and a horse-riding ring. The other primary active recreation park is Eagles Lake.

Eagles Lake features a small swimming beach and picnic area. One of the unique features of the lake is a cob washroom with a composting toilet which was built by volunteers. The washrooms feature the building techniques used in cob construction and a living roof.

Parks improvements are valued at a current replacement cost of $500,000 dollars (2018 plus construction inflation factor of 5%) with an average annual investment of approximately $13,000 required to renew on a lifecycle basis.

A Management Plan will be developed with the Land Conservancy for the 19 hectare unformalized trail system off 1150 Bear Mountain Parkway. This may envision further trail work.

Significant community volunteer effort has contributed to the development of many park improvements and this is assumed to continue for the purposes of this plan.

No assets were added or disposed of in 2018.

Component	Estimated Asset Life	Value at current replacement cost	Average Annual Replacement Cost
Sport Fields	25 years	$ 0.21 Million	$ 8,000
Playgrounds	30 Years	$ 0.02 Million	$ 1,000
Washrooms	75 years	$ 0.08 Million	$ 1,000
Parking Areas	50 years	$ 0.17 Million	$ 3,000
Trails	TBD	$ 0.10 Million	$ To be Determined
Total		$ 0.58 Million	$ 13,000

Park Improvement Assets have an overall B rating. Park improvements are in good and/or natural state condition and require little priority work. Replacement of some ageing amenities and accesses will improve condition ratings over time.

Sport Fields: The Twinflower sport field is in good condition as it was upgraded in partnership with Westshore Parks & Recreation and requires no significant renewal work now. For purposes of this plan, field work is assumed to be provided by community volunteer effort.

Detailed Rating		
Condition and Performance	C+	C
Capacity vs. Need	C	
Funding vs. Need	C	

Playgrounds: The Twinflower Park tot lot playground, bicycle jump and riding ring are in reasonable condition. Fencing was replaced in 2016.

Detailed Rating		
Condition and Performance	B	B
Capacity vs. Need	B	
Funding vs. Need	C	

Washrooms: The Twinflower Park washroom and cob washroom at Eagle Lake are both in good condition.

Detailed Rating		
Condition and Performance	B	B
Capacity vs. Need	B	
Funding vs. Need	C	

Trails and Accesses: Most trails are in natural state condition. No significant trail maintenance is funded. Trail work, if any, is community based.

Detailed Rating		
Condition and Performance	B	B
Capacity vs. Need	B	
Funding vs. Need	B	

Parking Areas: All parking areas are in good general condition.

Detailed Rating		
Condition and Performance	B	B
Capacity vs. Need	B	
Funding vs. Need	B	

What needs to be done in the near term?

1. No significant asset replacement is needed in the near term.
2. Develop a Trail Maintenance Plan and confirm annual funding need.
3. Continue to increase replacement funding toward $13,000 sustainable target.
4. Re-evaluate cost factors and useful life estimates each year.

4.7 VEHICLES AND EQUIPMENT ASSETS PLAN

Component	Estimated Asset Life	Value at current replacement cost	Average Annual Replacement Cost
Fire Vehicles	20-25 Years	$ 2.60 Million	$ 182,000
General Vehicles	15 years	$ 0.03 Million	$ 2,000
Fire Equipment	Varies	$ 0.71 Million	$ 44,000
General Equipment	Varies	$ 0.17 Million	$ 16,000
Total		$ 3.51 Million	$ 244,000
2019 Reserves Transfer			$ 237,400
Percent Funded			**97%**

The District operates a Fire fleet of vehicles for public safety use and a pickup truck for general administrative use. A variety of fire turn out gear, self-contained breathing apparatus (SCBA) and hose equipment is also maintained. A variety of furniture, technology and equipment is used in several locations. Access gates and signs are included in this category as well.

In 2018 no significant vehicles or equipment were replaced. Replacement values increased by 5% over 2018.

Vehicles and Equipment have an overall B rating. This is a combined rating reflective of the condition mixture of vehicle fleet, information technology and other equipment.

Vehicles: Fleet vehicles are in reasonable condition and full funding is in place for the existing Fire fleet and the equipment located on the vehicles. Significant replacements in the near term include the general use administrative Pickup Truck, Fire Engine 2 in 2020 and Fire Tanker 2 in 2025.

Detailed Rating		
Condition and Performance	B	B
Capacity vs. Need	B	
Funding vs. Need	A	

Equipment: Fire Turnout Gear, SCBA and Hose is replaced on a regular cycle with funding from the fire operations and capital budgets. Information Technology is replaced on a relatively regular cycle. Furniture and access gates are replaced on an as needed basis. No regular replacement funding has been established for general equipment and technology replacement.

Detailed Rating		
Condition and Performance	B	B
Capacity vs. Need	B	
Funding vs. Need	C	

What needs to be done in the near term?

1. Replace vehicles and equipment on lifecycle basis - replace Pickup truck and Fire Engine 2 in near term.
2. Increase average annual replacement to maintain sustainable levels.
3. Refine inventory information, replacement values, remaining useful life estimates and detailed condition assessments each year.
4. Right size vehicles and equipment wherever possible.

5 APPENDICES

5.1 Appendix - Asset Management Policy

DISTRICT OF HIGHLANDS **POLICY AND PROCEDURES**

TITLE:	**Asset Management Policy**		
SECTION:		**POLICY No.**	
Adopted:		**Resolution:**	
Amended:		**Resolution:**	

1. VISION AND PURPOSE

The purpose of this policy is to set guidelines for implementing consistent Asset Management processes within the District of Highlands.

The vision for the community includes providing a safe, livable and sustainable community with well managed and maintained infrastructure assets. These assets include the Wark-Colquitz Aquifer, efficient transportation networks, public safety vehicles and equipment, information technology systems, and accessible parks, community and civic facilities.

The District of Highlands is committed to implementing a systematic Asset Management methodology 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 District's priorities.

The District of Highlands owns and operates $51 Million of Engineered Assets to support delivery of service to the community.

Although the equivalent values have not been fully established, the District also recognizes the additional and significant contribution made by Natural Assets in the delivery of service to the community.

Adopting Asset Management principles will assist Council in achieving its strategic plans and community long term financial objectives.

2. TERMS

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.

Engineered Assets: assets that have been constructed and are owned by the District (e.g. roads, buildings and vehicles), land that is owned by the District and supports assets (e.g., land under roads or buildings), or land that is undeveloped and owned by the District. These assets must be operated, maintained, managed, and, apart from land, ultimately replaced as they wear out.

Natural Assets: naturally occurring land or subsurface features which perform or support service delivery to the District (e.g., the Wark-Colquitz Aquifer which filters and stores water, woodlands and the creeks which convey and treat storm water 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 bridge structure may have a high likelihood of failure and the consequences 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.

Level of Service: the service level delivered to the public by the District. This can take the form of the selection of services that are provided (e.g., bike lanes, doggie bags, or a new community hall), 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 road sweeping or line painting). The desire of Council or the public for a particular Level of Service will directly affect taxation.

3. OBJECTIVES

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

- Maintaining assets in the most natural, energy-efficient and reliable manner that costs the least to operate over the life cycle of the asset;
- Managing District of Highlands Engineered and Natural Assets by implementing appropriate Asset Management strategies and appropriate financial resources for those assets;
- Fostering an environment where all District of Highlands employees take an integral part in overall management of District assets by creating and sustaining Asset Management awareness throughout the organization through training and development;
- Continually seeking opportunities for improving efficiencies in operations, maintenance and asset replacement practices;
- Demonstrating transparent and responsible Asset Management processes that align with established best practices; and
- Meeting legislative requirements for Asset Management.

4. PRINCIPLES

- A consistent Asset Management Strategy will be used for implementing systematic Asset Management leading practices;
- Natural Assets are recognized by Council as performing essential service delivery and will be identified and managed in a similar manner as Engineered Assets;
- Asset Management plans will be developed and maintained for major service/asset categories. The plans will be informed by community consultation and financial planning and reporting;
- An inspection and condition assessment regime will be used to ensure agreed service levels are maintained and to identify asset renewal priorities;
- Asset renewals and levels of service will form the basis of annual budget estimates;
- Training in asset and financial management will be provided for relevant staff.

5. SCOPE

This policy applies to all District of Highlands activities.

6. LEGISLATION

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

7. RELATED DOCUMENTS

Asset Management Strategy and associated Asset Management Plans. Integrated Community Sustainability Plan, Official Community Plan.

8. RESPONSIBILITIES

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

8.1. Council is responsible for:

- adopting this Asset Management Policy and future updates;
- allocation of resources;
- providing high level oversight of the delivery of the District's Asset Management Strategy; and

8.2. The Chief Administrative Officer is responsible for:

- developing Asset Management strategies, plans, and procedures;
- 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;
- establishing financial plans for consideration by Council that will ensure stable, long-term funding for replacement, renewal and/or disposal of assets;
- ensuring that the most up to date information on the District's Natural and Engineered Assets is gathered and maintained;
- using industry standard unit costs and service lives for all infrastructure components, considering variations due to unique local conditions;
- 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 District assets; and
- valuing and depreciating assets in accordance with appropriate best practices.

9. REVIEW DATE

This policy has a life of 3 years. It will be reviewed in 2021.

5.2 Appendix – Report Card Basis and Assumptions

Assumptions and Understanding

A: Condition Assessments

Since it is unrealistic to scientifically rate every asset for a high-level Infrastructure Condition Report, a modified American Society of Civil Engineers (ASCE) alphanumeric system was employed for each asset component grouping based on the method developed by the City of Hamilton. Assets are evaluated on a simplified component-by-component basis. Although every rating system is subjective, this process improves accuracy since it incorporated the anecdotal knowledge of the employees with respect to the assets.

The assets (by individual components) are rated using a three-step process to ensure consistency, focus, and detail:

1. The first step is a rating of current condition in order to start understanding the makeup of the overall rating and identifying what the potential problems the managers were facing.
    - Condition and Performance
    - Capacity versus Need
    - Funding versus Need

    Condition and Performance: This first criterion characterizes the current physical condition of infrastructure. The condition index scale below is a general guideline for grading under this category:

    A = Excellent: No noticeable defects. Some aging or wear may be visible.
    B = Good: Only minor deterioration or defects are evident.
    C = Fair: Some deterioration or defects evident, but function not significantly affected.
    D = Poor: Serious deterioration in at least some portion of the structure. Function is inadequate.
    F = Failed: No longer functional. A general failure or complete failure of a major structural component.

    Capacity versus Need: For most infrastructure categories, this second criterion relates to the demand on a system, such as volume or use, versus its design capacity. This is a critical evaluation criterion for municipalities that are facing ongoing population and community growth. It is also important because an asset may be in excellent condition and performing well, but it is simply too small to meet the needs. A grading scale in 10-percent increments is suggested as a guideline for purposes of intuitive assessment as follows:

    A = systems that can support > 100% of demand
    B = systems that can support 90 - 99% of demand

C = systems that can support 80 - 89% of demand
D = systems that can support 70 - 79% of demand
F = systems that can support less than 70% of demand

Funding versus Need: The third evaluation criterion reflects the status of funding dedicated to:

a. Maintaining, replacing and improving the current condition of existing infrastructure, and/or;

b. Building new infrastructure that is needed to keep up with growth (where development charges may not be applicable or may be difficult to define).

Infrastructure systems need funding that is dedicated, indexed, long-term, and most importantly sustainable. The primary measure is the amount of funding provided versus the estimated funds needed to meet or maintain the community's desired quality or performance standard.

Dedicated funds, such as user fees and development charges, need to be applied only to infrastructure systems for which they are raised. Indexing means that funds need to increase as the use of the system increases, or as the cost of providing the service increases. Maintenance and construction costs also need to be considered in the evaluation of funding. Steady funding provides for maintenance that extends the life of infrastructure. Long-term, multi-year funding plans should account for growth estimates so that projects can be designed and constructed in anticipation of needs where it is logical and feasible to do so, and not simply in reaction to inadequate capacity or problems caused by poor maintenance. Again, a grading scale in 10 percent increments is used as a guideline for purposes of intuitive assessment as follows:

A = 90 to 100% of need
B = 80 to 89% of need
C = 70 to 79% of need
D = 41 to 69% of need
F = under 40% of need

Qualitative information collected through the review process can also be incorporated into the grading process.

2. The second step is to combine the detailed rating into a single blended rating that represented the overall score of that component, and then totaled into an overall score for the asset class for purposes of the Report Card.
3. The last step is a Report Card Rating is then assigned to each asset category based on a consolidation of Condition & Performance, Capacity vs. Need and Funding vs. Need criteria.

B: Cost Estimates

4. The District's Tangible Capital Assets Inventory has been used as the base for the plan. This inventory was assumed to be materially complete.

5. The District's Replacement Cost Estimates and Useful Life Estimates have been used. These are assumed to be substantially current for the purposes of this plan.

6. The District's replacement cost estimates have been supplemented with insurance valuation information, engineering bridge replacement estimates and local road paving cost information where available.

7. Inflation factors have been used to develop future replacement costs.