



# Lower Trent Conservation Program and Service Inventory

**Effective Date: February 28, 2022**

Lower Trent Conservation  
Administration Office  
714 Murray Street  
Trenton, ON  
K8V 5P4  
Tel.: 613-394-4829  
Fax: 613-394-5226  
Web: [www.LTC.on.ca](http://www.LTC.on.ca)

## **Table of Contents**

	Page
<b>INTRODUCTION</b>	ii
<b>PROGRAMS</b>	
Enabling Services .....	1
Natural Hazard Management Program .....	2
Provincial Water Quality and Quantity Monitoring.....	4
Local Water Quality Monitoring .....	4
Drinking Water Source Protection.....	5
Core Watershed-based Resource Management Strategy .....	5
Conservation Authority Lands and Conservation Areas .....	6
Special Projects .....	7
<b>APPENDICES</b>	
Appendix 1: Details on the Program and Services Inventory	
Appendix 2: Category 2 Summary Information	
Appendix 3: Category 3 Summary Information	
Appendix 4: Capital Asset Management Plan	

## INTRODUCTION

O. Reg. 687/21 “Transition Plans and Agreements for the Programs and Services Under Section 21.1.2 of the Act” and O. Reg. 686/21 “Mandatory Programs and Services” were released by the Ministry of the Environment, Conservation and Parks in October 2021.

The Transition Plan under O. Reg. 687/21, outlined the process and timelines for the development of cost apportioning agreements with municipalities within their jurisdiction for non-mandated programs and services.

The Transition Plan was developed for the following municipalities in the jurisdiction of Lower Trent Conservation: Alnwick/Haldimand Township, Cramahe Township, the Municipality of Brighton, the Municipality of Trent Hills, the City of Quinte West, the Township of Stirling-Rawdon and the Municipality of Centre Hastings. For the purposes of the Clean Water Act the Township of Havelock-Belmont-Methuen is included.

The first deliverable under the Transition Plan is the inventory of programs and services. The inventory classifies each program or service under specific categories as defined in O. Reg. 686/21:

Category 1 programs are those defined as Mandatory and are financed through the municipal levy. Examples of Category 1 programs are hazard regulations and flood forecasting and warning.

Category 2 programs are those that are delivered to the municipality by the conservation authority at the request of the municipality under an agreement of memorandum of understanding. Examples of Category 2 programs are risk management services under the local Source Protection Plan or plan review outside of natural hazards.

Category 3 programs are those that are delivered by a conservation authority either independent of municipal funding or dependent on municipal funding through a cost apportioning agreement. Examples of Category 3 program are youth education or stewardship.

The program and services inventory will be the basis of negotiations for Agreements and/or Memorandums of Understanding between Lower Trent Conservation and our municipal partners as per the Transition Plan. The Transition Plan was distributed to our partner municipalities on November 19, 2021.

The following program and services inventory meets the requirements under O. Reg. 687/21 and has been approved by the Lower Trent Conservation Board of Directors on February 10, 2022.

# Lower Trent Conservation Inventory of Programs and Services

Draft: February 22, 2022

	Program/Service and Subservices	Description	Category (1,2,3)	Category Rationale Act/Regs	Program Cost Estimate (\$)	Funding mechanism and percentage of costs
<b>Enabling Services:</b> Program Description: Key assistance provided to all departments of the conservation authority, board of directors, member municipalities and the general public to enable Lower Trent Conservation to operate in an accountable, transparent, efficient and effective manner.						
	Corporate Services	Administrative, human resources, operating and capital costs which are not directly related to the delivery of any specific program or service, but are the overhead and support costs of a conservation authority. Includes health and safety program, overseeing programs and policies.	1	CA Act 20	\$649,749	Municipal Levy - 78%  Self-Generated – 22%  Varies based on self-generated revenue
	Financial Services	Annual budget, accounts payable and receivable, payroll, financial analysis, financial audit, administration of reserves and investments, financial reports for funding agencies, preparing and submitting reports to CRA, benefits program administration.	1	CA Act 20		
	Legal Expenses	Costs related to agreements/contracts, HR, etc.	1	CA Act 20		
	Governance	Supporting CA Boards, Advisory Committees, Office of CAO/ST	1	CA Act Part IV		
	Communications and Outreach	Public awareness-natural hazards, flood forecasting and warning, permitting requirements, natural hazard identification, mitigation, readiness and response, governance, policy, municipal and public relations and engagement, conservation lands. Website and social media content management.	1	CA Act 20		
	Administration Buildings	Office buildings and workshop used to support LTC staff, programs, and services. Includes utilities, routine and major maintenance, property taxes.	1	CA Act 20		
	Information Technology Management/ GIS	Data management, records retention. Development and use of systems to collect and store data and to provide spatial geographical representations of data.	1	CA Act 20		

	Program/Service and Subservices	Description	Category (1,2,3)	Category Rationale Act/Regs	Program Cost Estimate (\$)	Funding mechanism and percentage of costs
<b>Natural Hazard Management Program</b> Program Description: Conservation Authorities (CAs) are the lead provincial agencies on Natural Hazard issues. The goal is to protect life and property from flooding and erosion. This watershed-wide, comprehensive program includes development applications and permits, municipal plan input and review, environmental planning and policy, flood forecast and warning, flood and erosion control infrastructure, technical studies, ice management, education, and public awareness.						
	Section 28 Permit Administration	Reviewing and processing permit applications, associated technical reports, site inspections, communication with applicants, agents, and consultants and legal costs.	1	CA Act 21.1(1)	\$358, 104	Municipal Levy – 69%  Self-Generated – 31%
	Enforcement and Compliance	Under Part VII of the Conservation Authorities Act – enforcement and compliance to Part VI Section 28 permits	1	CA Act 21.1(1), 28		Municipal Levy – 100%
	Municipal Plan Input and Review	Technical information and advice to municipalities on circulated municipal land use planning applications (Official Plan and Zoning By-law Amendments, Subdivisions, Consents, Minor Variances). Input to municipal land-use planning documents (OP, Comprehensive ZB, Secondary plans) related to natural hazards, on behalf of Ministry of Northern Development, Mines, Natural Resources and Forestry (MNDMNR), delegated to CAs (1983). Input to the review and approval processes under other applicable law, with comments principally related to natural hazards, wetlands, watercourses, and Sec. 28 permit requirements.	1	CA Act 21.1(1)		Municipal Levy – 100%
	Plan Review Not Related to Natural Hazards (i.e., stormwater, hydro-g)	Technical information and advice to municipalities on circulated municipal land use planning applications (Oak Ridges Moraine, Official Plan and Zoning By-law Amendments, Subdivisions, Consents, Minor Variances).	2	CA Act 21.1.1	\$130,043	Municipal Agreements  Self-Generated – 100%
	Flood Forecasting and Warning	Daily data collection and monitoring of weather forecasts, provincial and local water level forecasts, watershed conditions, snow surveys, flood event forecasting, flood warning, communications and response and equipment maintenance. Annual meeting with municipal flood emergency coordinator.	1	CA Act 21.1(1)	\$49,988	Provincial Transfer Payment – 100%

	Program/Service and Subservices	Description	Category (1,2,3)	Category Rationale Act/Regs	Program Cost Estimate (\$)	Funding mechanism and percentage of costs
	LTC Owned Flood and Erosion Control Infrastructure Operation and Management	Water and erosion control infrastructure operations and management. Includes all water management structures (flood control, dams and channels, berms, erosion control, etc.) that are annually inspected, and routine maintenance work completed. These structures are included in the asset management plan.	1	CA Act 21.1(1)	\$54,707	Municipal Levy – 66%  Provincial Transfer Payment – 34%
	Non-LTC Owned Flood and Erosion Control Infrastructure Operation and Management	Water and erosion control infrastructure operations and management. Includes all water management structures (flood control, dams and channels, berms, weirs, erosion control, etc.) that are annually inspected, and routine maintenance work completed.	2	CA Act 21.1.1		Municipal Levy – 100%  Special Benefitting Levy – when required
	Flood and Erosion Control Infrastructure Major Maintenance	Major maintenance on flood and erosion control structures as required. Projects are dependent on Water and Erosion Control Infrastructure (WECI) funding from the province and support from our municipal partners.	1	CA Act 21.1(1)	Varies from year to year	Provincial WECl– 50%  Special Benefitting Municipal Levy – 50%
NEW	Low water response	Conditions monitoring and analysis. Technical and administrative support to the Water Response Team representing major water users and decision makers, who recommend drought response actions.	1	CA Act 21.1(1)	Currently included under FFW	Municipal Levy – 100%
	Information Management	Data collection, mapping, data sets, watershed photography. Development and use of systems to collect and store data and to provide spatial geographical representations of data. This includes our geographical information systems and support.	1	CA Act 21.1(1)	\$33,057	Municipal Levy - 100%
	Technical Studies and Policy Review	Studies and projects to inform natural hazards management programs including floodplain management, watershed hydrology, regulations areas mapping update, flood forecasting system assessment, floodplain policy, Lake Ontario shoreline management. These projects often last one to two years and are distributed over time as human resources and funding is available.	1	CA Act 21.1(1)	Varies from year to year	Municipal Levy – 100%  Province – unknown% Alternate grant funding when available
	Natural Hazards Communications,	Promoting public awareness of natural hazards including flooding, drought, and erosion. Attending public events, supplying materials. Social media services. Media	1	CA Act 21.1(1)	\$22,798	Municipal Levy – 100%  Provincial – 0%

	Outreach and Education	relations. Educate elementary school students and the public about the danger of floodwaters, dangers of dams, etc.				
--	------------------------	---	--	--	--	--

	Program/Service and Subservices	Description	Category (1,2,3)	Category Rationale Act/Regs	Program Cost Estimate (\$)	Funding mechanism and percentage of costs
<b>Provincial Water Quality &amp; Quantity Monitoring</b>						
Program Description: Lower Trent Conservation, in partnership with Ministry of Environment, Climate Change and Parks (MECP), has established long term sites to monitor surface and ground water conditions as well as an investment into long-term monitoring of climate change trends.						
	Provincial Water Quality Monitoring Network (PWQMN)	CA/MECP partnership for stream water quality monitoring at 9 sites. LTC staff take water samples and MECP does lab analysis and data management. Information is used for watershed report cards and watershed project prioritization.	1	CA Act 21.1(1) O. Reg. 686/21 12 (1) 2	\$15,243	Municipal Levy – 100%
	Provincial Groundwater Monitoring Network (PGMN)	A long-standing CA/MECP partnership for groundwater level and quality monitoring at 11 stations. Costs include equipment, data collection, analysis, data management and reporting. MECP funded network installation and continues to fund equipment replacements. Data collected supports flood forecast and warning, low water response, and water quality monitoring and watershed report cards.	1	CA Act 21.1(1) O. Reg. 686/21 12 (1) 1		Municipal Levy – 100%
<b>Local Water Quality Monitoring</b>						
Program Description: Lower Trent Conservation, in partnership with community organizations, municipalities, and federal and provincial agencies has established sites to monitor surface water quality and quantity as well as many other parameters to support a healthy ecosystem.						
	Surface Water Quality Monitoring Program	Surface water quality monitoring at 29 baseflow sites, (in addition to PWQMN), 9 additional surface water quality monitoring locations, Lake Ontario nearshore water monitoring at area beaches, benthic monitoring at 26 OBBN sites across the watersheds. Costs include equipment and calibration, sampling, analysis, and reporting. Information is used for watershed report cards and watershed project prioritization.	2	CA Act 21.1.2	\$39,000	Municipal Levy – 80% (to date)  Self-Generated – 20%

	Program/Service and Subservices	Description	Category (1,2,3)	Category Rationale Act/Regs	Program Cost Estimate (\$)	Funding mechanism and percentage of costs
<b>Drinking Water Source Protection</b> Program Description: The protection of municipal drinking water supplies in the Trent Conservation Coalition (TCC) Region and the Lower Trent Conservation Source Protection Area through the development and implementation of TCC Source Protection Plans. The TCC is a complex regional grouping of five Source Protection Areas including Lower Trent, Crowe, Otonabee, Kawartha and Ganaraska Conservation Authorities						
	Regional Drinking Water Source Protection Program (DWSP)	Coordination of the Trent Conservation Coalition Source Protection Region. Governance support of the Source Protection Committee, administration, technical support. Section 34, 35 and 51 amendments, Section 36 reviews of the Source Protection Plans and Assessment Reports. Activities required by the Clean Water Act and regulations.	1	CA Act 21.1(1)  Clean Water Act	\$302,324	Provincial Transfer Payment– 100 %
	Local Source Protection Area DWSP	Source Protection Authority reports, meetings and governance. Delivery of the Activities required by the Clean Water Act and regulations.	1	CA Act 21.1(1) Clean Water Act	\$58,992	Provincial Transfer Payment – 100%
	DWSP Risk Management Official	Carrying out Part IV duties of the Clean Water Act on behalf of municipalities through service agreements.	2	CA Act 21.1.1	\$104,000	Municipal Agreements – 100 %
	DWSP Education and Outreach	Carrying out Source Protection Plan policy G5: Education and Outreach specified action responsibilities on behalf of municipalities through service agreements.	2	CA Act 21.1.1	\$18,120	Municipal Agreements – 100 %
<b>Core Watershed-based Resource Management Strategy</b> Program Description: The purpose of a watershed plan is to understand the current conditions of the watershed, and identify measures to protect, enhance, and restore the health of the watershed. Watershed strategies provide a management framework to provide recommendations which consists of goals, objectives, indicators, and management recommendations. This addresses existing issues in the watershed and mitigate impacts from potential future land uses, while recommending appropriate actions to protect, enhance, and restore the watershed.						
New	Strategy Development	<b>New Project:</b> Collate/compile existing resource management plans, watershed plans, studies, and data. Strategy development, implementation, and annual reporting. This project builds on previous Watershed Management Strategies.	1	CA Act 21.1(1) O. Reg. 686/21 12 (1) 3	unknown	Municipal Levy – 100%



	Program/Service and Subservices	Description	Category (1,2,3)	Category Rationale Act/Regs	Program Cost Estimate (\$)	Funding mechanism and percentage of costs
<b>Conservation Authority Lands and Conservation Areas</b> Program Description: Lower Trent Conservation owns over 3,707 acres (1,500 ha) of land which includes conservation areas, management areas, forests, farmland and flood control structures and surrounding land. Lower Trent Conservation, property is essential to watershed management, environmental protection, helps implement the Watershed Management Strategy and provides areas for passive recreation.						
	Section 29 Enforcement and Compliance	Conservation Areas regulation enforcement and compliance.	1	CA Act 21.1(1) CA Act 29	\$281,701	Municipal Levy – 100 %
	Conservation Areas	Management and maintenance of 10 conservation areas and 7 natural heritage areas with over 20 kilometers of recreational trails. Includes passive recreation, forest management, risk management program, hazard tree management, gates, fencing, signage, brochures, communications, pedestrian bridges, trails, parking lots, pavilions, roadways, stewardship, restoration, ecological monitoring, carrying costs such as taxes and insurance.	1	CA Act 21.1(1)		Municipal Levy – 80%,  Self-Generated – 20%  Costs greater than \$5,000 in capital budget
	Conservation Area Major Maintenance	Major maintenance and capital improvements to support public access, safety, and environmental protection such as pedestrian bridges, boardwalks, pavilions, trails.	1	CA Act 21.1(1)		Municipal Levy – 100%  Major works greater than \$5,000 in capital budget
	Land acquisition	Strategic acquisition of environmentally significant properties.	2/ 3	CA Act 21.1	varies	Municipal - % Self-Generated – %
	Vehicle and Equipment	Vehicles and equipment to support the work of LTC, including, fuel, licenses, repairs, and maintenance. Programs and projects are charged for the use of the vehicles and equipment.	1	CA Act 20	\$15,000	Municipal Levy - 100% Costs greater than \$5,000 in capital budget
New	Inventory of Conservation Authority lands	<b>New Project:</b> The land inventory will include the following information: location, date obtained, method and purpose of acquisition, land use. Project updates as inventory changes.	1	CA Act 21.1(1) O. Reg. 686/21 9 (3)	unknown	Municipal Levy – 100%
New	Strategy for CA owned or controlled lands	<b>New Project:</b> A strategy to guide the management and use of CA-owned or controlled properties including	1	CA Act 21.1(1)	unknown	Municipal Levy – 100%

	and management plans	guiding principles, objectives, land use, natural heritage, classifications of lands, mapping, identification of programs and services on the lands, public consultation, publish on website. Updates of existing conservation area management plans.		O. Reg. 686/21 9 (1)		
New	Land Acquisition and Disposition Strategy	<b>Update:</b> Update current policy to guide the acquisition and disposition of land to fulfill the objects of the authority.	1	CA Act 21.1(1) O. Reg. 686/21 9 (2) vi	unknown	Municipal Levy – 100 %

	Program/Service and Subservices	Description	Category (1,2,3)	Category Rationale Act/Regs	Program Cost Estimate (\$)	Funding mechanism and percentage of costs
<b>Special Projects</b> Program Description: Lower Trent Conservation delivers other programs that are not part of the mandatory programs and services as outlined in O. Reg. 686/21. Most of these programs are funded without municipal levy but occasionally there are opportunities for municipal participation based on special benefitting funding. All of the programs influence and enhance the health and watershed management of the LTC. They are part of a larger integrated watershed management model.						
	Bay of Quinte Remedial Action Plan Office	To fulfil the delisting criteria for the Bay of Quinte Area of Concern under the Great Lakes Water Quality Agreement. Includes governance, administration, stakeholder and public outreach, First Nation engagement, communications, stewardship programs, data compilation and analysis, science coordination and review, strategic planning and reporting	3	Great Lakes Water Quality Agreement  CA Act 21.1.2	\$192,000	Provincial funding - 50%  Federal Funding - 50%
	Youth Education	The portion of the education program not directed to mandated programs primarily centered on watershed and natural environment curriculum	3	CA Act 21.1.2	\$66,717	Self-Generated – 100%
	Community Outreach	Programs that include stewardship and community outreach. Examples include the annual native plant and wildflower sales, private land stewardship including tree planting, guided conservation area field trips, webinars, etc.	3	CA Act 21.1.2	\$26,500	Self-Generated – 100%
	Technical Projects	1) OMAFRA Collaborative Project	3	CA Act 21.1.2	\$31,367	Provincial Funding - 100%

		2) OMAFRA Remote Sensing Project	3	CA Act 21.1.2	\$36,700	Provincial Funding - 100%
NEW	NEW	Placeholder Opportunities for new projects that benefit the watershed and its municipal partners can occur anytime and can have varying durations. These projects may require matching funding or be self-sustaining. New projects may require municipal participation and/or funding.	3	CA Act 21.1.2		

## **Appendix 1**

### **Caveats –**

1) All of the financial information provided is based on estimates, including the percentage of the total annual fund contributions of the various funding providers.

2) Under O. Reg. 687/21 Section 6. (2)(c)(i)(D) if the authority is of the opinion that the average annual cost determined under sub-subclause (A) or (B) does not reflect the average annual cost to provide the program or service in the future, adjust the average annual cost and provide an explanation for this adjustment

The costs associated with each program and service are estimated based on the 2022 approved budget for Lower Trent Conservation. Due to the COVID pandemic affecting costs for the past two years, a five-year estimate is not reflective of current and future costs. The costs for programs and services increase annually due to increases in wages and benefits and the increased operational costs due to inflation. As well program operations are often modified based on best management practices.

3) The financial information included in the tables are associated with operational costs only. Capital asset management is found under the current Capital Asset Management Plan (attached). The current Asset Management Plan includes one structure that does not fall under Category 1 expenses and will be withdrawn from the Capital levy charged to the municipal partners for the 2024 budget.

## **Appendix 2**

### Category 2 Summary Information

New or Existing	Category 2 Service	Participating Municipalities	Date of agreement (most recent version)
Existing	Plan Review Not Related to Natural Hazards	Alnwick-Haldimand Brighton Centre Hastings Quinte West Cramahe Stirling-Rawdon Trent Hills Northumberland County	March 2018
Existing	DWSP Risk Management Official	Alnwick-Haldimand Brighton Cramahe Stirling-Rawdon Trent Hills	January 2020
Existing	DWSP Education and Outreach	Alnwick-Haldimand Brighton Cramahe Stirling-Rawdon Trent Hills	January 2020
NEW	Surface Water Quality Monitoring Program	All municipalities	No agreement in place, Board directive
NEW	DWSP Education and Outreach	Quinte West	No agreement in place, invoice for service Intention to develop an agreement
NEW	Non-LTC Owned Flood and Erosion Control Infrastructure Operation and Management	Quinte West Trent Hills Stirling-Rawdon Brighton Alnwick-Haldimand	Agreement to be developed, to date the service has been paid from municipal levy
NEW	PLACEHOLDER Opportunities for new programs or services that benefit the watershed and its municipal partners can occur at anytime. These programs and services may be requested by a municipality.		

### **Appendix 3**

#### Category 3 Summary Information

For existing Category 3 programs and services, there are no programs or services financed through any Lower Trent Conservation Authority partner municipality.

For future Category 3 programs and services, the potential exists to seek funding for projects from municipal partners. Future projects that are beneficial to the watershed as a whole or that are benefitting to a particular municipality are variable and generally dependent on other funding sources and their funding criteria.

Lower Trent Conservation will continue to actively search for alternate funding for beneficial watershed and research projects.

Lower Trent Conservation intends to enter into cost apportioning agreements with municipalities as projects are developed and executed, when necessary.



**LOWER TRENT**  
CONSERVATION

## Capital Asset Management Plan 2020



Approved by Board of Directors:  
Effective Date:

RES: #G81/20  
July 9, 2020



## Introduction

Conservation Authorities are responsible for the management of a diverse range of capital assets. In addition to significant holdings of land, the below collage illustrates some of the major classes of tangible capital assets (TCA) that support basic authority services related to conservation, restoration, development and management of natural resources.

This plan will explain and determine how the Lower Trent Region Conservation Authority (LTC) will move forward in managing these assets.



## Background – Asset Management at Lower Trent Conservation

Lower Trent Conservation's infrastructure is aging while demand for better public services is growing in response to higher standards of safety, health, environmental protection, and growth.

Due to changes to **Public Sector Accounting Board (PSAB)** standards that came into effect in 2009, Conservation Authorities are required to report on their tangible capital assets in their audited Financial Statements.

Under the new standards, the full cost of acquisition or construction of an asset is no longer recognized as expenditure in the year in which it occurs. Instead, the cost of the asset is spread over the asset's estimated useful life as amortization expense.

In order to comply with PSAB standards, LTC gathered information on the assets they owned. Tangible capital assets were recorded in a spreadsheet for financial reporting and not used for asset management planning. In 2016, a database using MS SharePoint was created to begin tracking of current assets beginning with computers. In late 2017, vehicles were added and in 2020 buildings and structures and properties are being added. The database provides a foundation for improving asset management practices at LTC.

The information required to be PSAB compliant at the end of 2009 was primarily backward looking. It took into account historical cost (or reasonable estimate where necessary), annual amortization, accumulated amortization and the resultant current net book value of assets. The Capital Asset Management Plan on the other hand, takes the PSAB information and looks forward introducing life expectancy based on actual asset condition, expected rates of deterioration, future required service levels, and estimated future replacement costs.

The development of a capital asset management plan is an essential part of LTC's ongoing fiscal responsibility framework, as it guides the purchase, use, maintenance, and disposal of every asset LTC needs in order to conduct business. The goal of every capital asset management plan is to define the use of assets in order to streamline productivity and delivery with minimal loss of capital.

The capital asset management plan will support LTC's budgeting, planning, and forecasting processes – all of which will bring benefits in speeding the budgeting process, improving collaboration between user groups, and enhancing data quality and reliability. This plan seeks to identify what we have, what condition it is in, and what the anticipated needs are to maintain our infrastructure as we move forward. It will also discuss estimates regarding future needs both from the perspective of preserving existing infrastructure and also anticipated future new asset acquisitions and capacity enhancements.



The capital asset management plan was coordinated and developed with input from senior staff of the Authority in regards to their applicable assets. A determination was made of which assets need to be managed and replaced based on a number of years cycle respective to the assets' lifespan.

### Reserves

The Authority currently holds restricted reserve balances that requires motions from the Board of Directors to put funds into these reserves and to draw upon them.

The following table provides the current amounts held in reserves and those accounts that may be applied for tangible capital assets:

<b>RESERVE ACCOUNTS</b>	<b>2019</b>	<b>TANGIBLE CAPITAL ASSET</b>
Special Projects	\$47,675	
Legal Fees	\$50,000	
Vehicle & Equipment	\$101,556	Yes
Administration Facility	\$35,480	Yes
Workshop Facility	\$30,000	Yes
Conservation Lands	\$15,000	Yes
Youth Education	\$43,113	
<b>TOTAL</b>	<b>\$322,825</b>	<b>\$182,036</b>

In addition, a special restricted reserve from Shell Canada Funding in the amount of \$15,798 for Goodrich Loomis Conservation Centre capital improvements is held.

Reserve funds from the identified tangible capital assets would be transferred to opening balances and may be used to offset funding shortages for purchasing assets that have not accumulated enough funds as a result of the annual average funds calculated.

Any part of the capital budget that is unspent in the current fiscal year would be carried over as part of the following year's capital funds available to ensure we have the necessary financial resource to support major asset replacements needs.

## ASSET VALUATIONS & CAPITALIZATION

Thresholds need to be established to determine the value above which assets are capitalized and reported in the financial statements. Any acquisition below this amount would be expensed in the year of acquisition.

Lower thresholds should be considered for items that have a lower value per unit but have a material value when grouped. Examples of these items include computers, furniture and fixtures and office equipment. Capitalization thresholds will be determined as required by the CAO/Secretary-Treasurer in consultation with the senior management staff.

Capitalization thresholds currently established and proposed changes are:

ASSET CATEGORIES	CURRENT THRESHOLDS	PROPOSED THRESHOLDS
Lands	All values	
Buildings, Structures and Bridges	\$10,000	
Flood and Erosion Control Infrastructure	\$10,000	
Land Infrastructure - Parking Lots, Roads, Kiosks, and Trails	\$10,000	\$5,000
Furniture and Fixtures	\$2,500	
Vehicles and Heavy Equipment	\$5,000	\$7,500
Flood and Watershed Monitoring & Other Equipment	\$2,500	
Information Technology Infrastructure	\$2,500	\$3,000

Capitalization thresholds are based on single assets. Major assets need not be broken down into components. Similarly, minor assets need not be pooled.

The threshold limits identified for the capital asset management plan may not necessarily be the same as the financial capital asset reporting for amortization.

### Amortization:

PS 3150 states the cost of a tangibles capital asset with a limited life, less any residual value, be amortized over its useful life in a rational and systematic manner appropriate to its nature and use by an organization.

The method of asset amortization and established useful life should be reviewed on a regular basis. The amortization method should reflect the pattern in which an organization consumes the tangible capital asset's economic benefits or service potential in the provision of services.

Amortization rates will be determined as required by the CAO/Secretary Treasurer and in consultation with the Manager, Corporate Services.

Amortization rates established at the present time are:

<b>ASSET CATEGORIES</b>	<b>AMORTIZATION RATES</b>
Lands	Not applicable
Buildings and Structures	2.5% declining balance
Parking Lots, Roads and Trails	2.5% declining balance
Furniture and Fixtures	20% declining balance
Equipment – Heavy	20% declining balance
Equipment – Office	30% declining balance
Vehicles	30% declining balance
IT – Software	30% declining balance
IT – Hardware	45% declining balance

## INFORMATION TECHNOLOGY INFRASTRUCTURE

The Lower Trent Region Conservation Authority has a heavy operational dependency on Information Technology (IT), including Wide and Local Area Networks (WAN's and LAN's), database servers, intranet, internet and e-mail. The potential loss of operational control of essential services and impact upon stakeholders (e.g., clients or personnel – any person or organization with a *stake* in LTC), that may occur in the event of an interruption in information technology services necessitates the need for continued preparation, implementation and maintenance of a comprehensive part of the organization's Disaster Recovery/Business Continuity Plan.

Currently the Authority maintains a network utilizing VMware coupled with an ESXi host to maintain the high availability of its day to day operations. The VMware server host currently houses 4 virtual machines running the following applications: MS SharePoint, MS SQL Server, File Servers, Active Directory, Domain Controllers, WSUS Server, ArcGIS License Server, and VEEAM Server. All of these applications are critical to the day to day operations of the Authority and play a vital role in key program areas such as flood forecasting and warning.

With the effects of the COVID-19 pandemic, LTC's operations required a shift from local onsite connectivity to remote access for information and communications. The MS Office 2013 system was upgraded to MS Office 365 (cloud based) to improve the use of emails, calendars, and virtual meetings. Further analysis of the information management and the technology infrastructure is to be explored for cost savings and process improvements.

### Network Infrastructure Replacement Initiative

In order to maintain the high availability of LTC's infrastructure, critical components must be replaced within the predicted lifespan of the hardware. The initiative will see the renewal of network infrastructure actively planned and renewed on a regular basis to ensure the Authority is on pace to meet the expectations of its users and clients. The set schedule of renewal will ensure towards a more sustainable work environment that reduces the risk from disruption and failure.

The risks associated with not renewing network infrastructure include:

- Unplanned downtime leading to disruption of Authority business;
- Unplanned expenses related to unexpected server, switch and storage renewal;
- Loss of data and/or security breaches; and
- Compatibility issues with new technologies.

The network server was purchased in 2018 for \$20,234.

### **Server Room Maintenance Initiative**

In order to maintain the business continuity of our network infrastructure and communication systems the maintenance and repairs for the server needs to be reviewed on an annual basis. The maintenance and repairs include the following:

- Checking room temperatures are maintained for server room at main office.
- Checking that excessive dust is not accumulated in server room at main office.
- Regular monitoring of Backup power systems for server at main office.

When server rooms are not maintained correctly they present risks related to:

- Early failure of equipment due to inadequate cooling.
- Disruption of service or loss of data due to power failures for power conditioning.

The maintenance of these systems will ensure the longevity of the hardware and ensure sustainability and high tolerance.

The Authority accommodates for the replacement of the battery backups in the operations annual budget.

### **Workstation Replacement Initiative**

Currently there are 11 workstations from 2012 to 2015 exceeding their anticipated lifespan; thereby increasing the risk for failure. The Authority has recognized a need to budget the replacement of workstations in order to maintain business continuity. The initiative will see the renewal of workstations actively planned and executed on an annual basis. The set schedule of renewal will ensure towards a more sustainable work environment that reduces the risk from disruption and failure. The risks associated with not renewing workstations include:

- Unplanned for downtime leading to disruption of Authority business;
- Unplanned expenses related to unexpected computer renewal;
- Loss of data; and
- Increased negative perception of technology due to aging infrastructure.

Workstations and server have been budgeted for a five year replacement cycle. The workstations required by users at the Authority are dictated by their software and hardware requirements. Several resource intensive client side applications are in use at the Authority and various according to user needs. Examples are as follows: ESRI ArcGIS Suite of Software, Adobe InDesign, and AutoCAD. At minimal, users that do not rely on resource intensive client side applications are by default given the server based applications.

The implementation of this strategy will be phased in since workstation requirements from various groups cannot be completely fulfilled at present time. Workstations coming out of full time staff use will be set aside and reassigned to students or employment programs.

### **Phone System Replacement Initiative**

The majority of the current phone sets (Meridian) are sixteen years old and system (Norstar & Call Pilot for voice mail) is thirteen years old. The phone system is now antiquated to near obsolete should the system breakdown. The replacement of the phone sets and system should be planned for replacement within the 2021 Budget year. The scope of this initiative is to renew our current phone system and to replace the sets currently being utilized by our end users. Not planning for replacement of aging infrastructure will cause a higher likelihood of server disruption.

The risks associated with not upgrading our phone system at end of expected life span include:

- Unplanned downtime leading to disruption of administrative and Authority functions;
- Unplanned expenses related to unexpected equipment failure;
- Loss of voicemail data; and
- Increased negative perception of technology due to aging equipment.

The phone system has been budgeted for a replacement cycle of 15 years and to be incorporated into the 2021 budget as capital expenditure.

### **Office Equipment**

The Administrative office operates 2 business centres, one on each floor, for staff use. The business centre located on the main floor is the largest and centrally used by all for postage, laminating, mass printing and photocopying. There is one piece of equipment, Kyocera Multi-function printer owned by Lower Trent Conservation and serviced by a third party for repairs and maintenance. It was purchased in November 2016 for \$10,032.00 and has an anticipated lifespan of approximately seven to ten years.

The multifunction printer/photocopier has been budgeted for a replacement cycle of 10 years to be replaced in 2026 as a capital expenditure.

## Information Technology Infrastructure Financial Implications

The Authority's network infrastructure is at 79% amortized as at December 31, 2019.

The financial implications to replace the aging IT infrastructure are as follows:

2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
\$25K	\$9K	\$9K	\$9K	\$9K	\$23K	\$9K	\$9K	\$9K	\$9K

Total	Average
\$120K	\$12,000

For budgeting purposes, the average annual 10 year replacement cost of \$12,000 will be incorporated into the 2021 budget onwards as a capital expenditure.

## VEHICLES AND HEAVY EQUIPMENT

### Vehicles

LTC owns and maintains a small fleet of vehicles (7) to enable our work programs. Prior to 2019, one vehicle was used for administrative business, committee and board meetings but due to high demand for use of vehicles it was added to full fleet to accommodate all needs.

Four vehicles are provided for staff use for attending meetings, field work programs including carrying out site inspections and investigations, stewardship services, special education and outreach events, invasive species programs, surveying and surface/groundwater monitoring. These vehicles are used to carry equipment including surveying equipment, coolers, pumps, sampling equipment, augmented sand box, and large display panels. The vehicles are also used for roadside work, construction site visits, and regulatory work. During peaks months, vehicles are fully utilized, and staff are occasionally required to use personal vehicles as necessary.

As a result of all vehicles being used by field staff they are often not suitable for administrative business, committee and board meetings; such as, the Conservation Ontario Council meetings, banking, insurance meetings, etc. The Authority would like to resume a vehicle for administrative use only.

At the LTC Workshop, one pick-up truck, one one-ton truck, and one additional vehicle are used exclusively for the Conservation Lands staff. The one-ton truck is used for heavy trailering of tractor and mowers and for maintenance of Conservation Areas.

The below table is a list of the current vehicles and trucks operated by LTC:

ASSET NAME	YEAR OF ACQUISITION	MILEAGE TOTAL AS AT NOV. 25, 2019	INITIAL COST OF THE ASSET
Ford F350	2006	119,178	\$43,000
Chevy ½ ton Silverado	2014	78,902	\$25,056
Ford Ranger 4x2	2009	154,501	\$18,344
Pontiac Wave	2007	204,844	\$14,706
Chevrolet HHR	2008	184,864	\$14,956
Chevrolet Malibu	2008	138,491	\$14,311
Nissan Rogue	2018	42,343	\$25,309



The risks associated with not replacing vehicles include:

- High maintenance and repair costs;
- Disruption in service required for site visits; and
- Health and safety concern for staff and public.

## Vehicle Financial Implications

LTC's fleet of vehicles are considered to be in poor to good condition and is at 83% amortized as at December 31, 2019.

With increased public pressures to set the environmental example for addressing climate change, conservation authorities should be supporting the reduction of carbon dioxide. LTC in principle supports this action but financial implications for budgeting costs to obtain these types of vehicles are costly.

The financial implications to replace the current vehicle fleet are as follows:

2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
\$30K	\$60K	\$30K	\$30K				\$30K		\$60K

Total	Average
\$240K	\$24,000

For budgeting purposes, vehicles have been budgeted with an average annual 10 year cycle replacement with a total annual cost of \$24,000 that will be incorporated into the 2021 budget onwards as a capital expenditure. Shortfall of funding required for next two to three years may be drawn from the current vehicles and equipment reserve balance.

## Heavy Equipment

LTC manages and maintains ten public Conservation Areas and seven Natural Habitat Areas. LTC makes steady use of the one utility tractor and loader, and various tractor attachments for everyday maintenance work. LTC also relies on two grass mowers, various trailers and smaller grass maintenance equipment to maintain the public picnic and entrance areas of the Conservation Areas. Chainsaws are used for trail maintenance and hazard tree removal and are classified as tools used and is included under annual operations.

The below table lists the heavy equipment used by the Conservation Lands staff:

ASSET NAME	YEAR OF ACQUISITION	INITIAL COST	REPLACEMENT COST	TO BE REPLACED IN
Gravelly Mower*	2006	\$12,310	N/A	N/A
MF-11604 & MF-232 Tractor & Loader	1993	\$24,297	\$75,000 **	2024
John Deere Gator	1996	\$8,880	\$16,000	2021
Red Trailer 10' x 81'	2005	\$2,000	\$2,500	2039
Galv. Trailer 10' x 75'	2005	\$2,000	\$2,500	2039
20" X 80" Tandem Trailer	2009	\$10,174	\$15,000	2035
260H FX Gravelly Pro-Master	2019	\$15,264	\$20,000	2034

\*Has been replaced by the 260H FX Gravelly Pro-Master

\*\* For a Massey Ferguson 5700 with loader

The risks associated with not replacing equipment include:

- High maintenance and repair costs;
- Disruption for accessibility for visitors to conservation areas not maintained;
- Health and safety concern for staff and public; and
- Liability concern.

### Heavy Equipment Financial Implications

LTC's heavy equipment are considered to be in poor to good condition and is at 76% amortized as at December 31, 2019.

The financial implications to replace the current vehicle and heavy equipment fleet are as follows:

2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
\$16K			\$75K						

2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
			\$20K	\$15K				\$5K	

Total	Average
\$131K	\$6,550

For budgeting purposes, heavy equipment has been budgeted with an average annual 20 year cycle replacement total cost of \$6,550 that will be incorporated into the 2021 budget onwards as a capital expenditure. Shortfall of funding required for next four years may be drawn from the current vehicles and equipment reserve balance.

## BUILDINGS AND STRUCTURES

Lower Trent Conservation owns and maintains various buildings on its properties throughout the watershed.

The following buildings and structures will require capital improvements in the next 10 - 20 years:

- Administrative Office: 714 Murray Street, Trenton
- Workshop: 39 Wall Street, Trenton
- Goodrich-Loomis Conservation Centre: 1331 Pinewood School Road, Codrington
- Kings Mill Building and Dam: 1119 Wellmans Road, Stirling
- Sager Tower: 30 Golf Course Road, Stirling

### Workshop at 39 Wall Street, Trenton

Quantity	Asset	Installed (~)	To Be Replaced	Total Replacement Cost*
1	Furnace	2005	2030	\$7,000
1	Electrical Panel and System	1987	2037	\$15,000
1	Roof	1987	2039	\$20,000
3	Garage Doors	Unknown	2040	\$15,000

\*Prices include installation labour but do not include taxes or inflation.

Other repairs and replacements that are too small to be considered assets include ductwork, baseboard heaters, hot water tank, lighting, security system, doors, windows, appliances, plumbing, parking lot, and compound fence. These items will need to be budgeted for in the operations maintenance budget.

### Administrative Office at 714 Murray Street, Trenton

Quantity	Asset	Installed (~)	To Be Replaced	Total Replacement Cost*
2	Furnace	Unknown	2030	\$20,000
1	Roof	2011	2030	\$30,000
1	Electrical Panel and System	Unknown	2039	\$15,000
4	Air Conditioner Units @\$4,500	2011	2031	\$18,000
Various	Windows	Various	2039	\$25,000
1	Septic Bed and Tank	Unknown	2029	\$25,000
1	Electrical Panel and System	Various	2038	\$25,000
2	Parking Lots	Unknown	2039	\$50,000
Various	Flooring	2017	2039	\$30,000

Various	Miscellaneous Plumbing Infrastructure **	Various	2029 ~ every 10 years	\$7,250
---------	--	---------	-----------------------	---------

\*Prices include installation labour but do not include taxes or inflation.

Other repairs and replacements that are too small to be considered assets include ductwork, the emergency lighting system, security system, doors, appliances, well, elevator, building brickwork, and HVAC compound fence. These items will need to be budgeted for in the operations maintenance budget.

\*\* Misc. Plumbing Infrastructure include hot water (X2) tanks (\$2,500), submersible well pump (\$1,000), water pressure tank (\$1,000), ultraviolet purification system (\$2,000), plumbing upgrades (\$4000), toilet and sink fixtures (\$4,000). This installation will be split over the next 19 years.

#### **Goodrich-Loomis Conservation Centre at 1331 Pinewood School Road, Codrington**

Quantity	Asset	Installed (~)	To be Replaced	Cost*
1	Hot Water Tank and fuel storage	2014	2030	\$8,000
1	Roof	1997	2049	\$20,000
1	Electrical Panel and System	1997	2037	\$15,000
Assorted	Lighting	2018	2037	\$5,000
1	Air Conditioner	1997	2025	\$5,000
15	Windows	1997	2035	\$15,000
Various	Misc. Plumbing and Air Infrastructure **	Various	2029 ~ every 10 years	\$7,500
1	Septic System	1997	2027	\$25,000
1	Parking Lot Grading and Gravel	1970s	2024 ~ every 5 years	\$5,000
1	Oil Tank			

\*Prices include installation labour but do not include taxes or inflation.

\*\* Miscellaneous Plumbing and Air Infrastructure include air exchanger (\$2,000), submersible well pump (\$1,000), water pressure tank (\$1,000), ultraviolet purification system (\$2,000), heating water pump (\$300), radiant heating manifold (X2) replacement (\$2,000), plumbing upgrades (\$4,000), toilets and sink fixtures (\$3,000). This installation will be split over the next 19 years.

Other repairs and replacements that are too small to be considered assets include doors, appliances, flooring, cabinets, tables, and chairs. These items will need to be budgeted for in the operating maintenance budget.

The closed loop floor heating system represents a substantial asset but is expected to last the life of the building.

### **Kings Mill Building and Dam at 1119 Wellmans Rd, Stirling**

The Kings Mill building was built in the latter half of the 1850s and was acquired by LTC in 1970. The Kings Mill building has not had significant repairs occur for a number of years and requires attention. There is evidence of the walls buckling and the building may be slowly shifting. A structural evaluation was completed by Timothy J. Krahn, P.Eng. in 2016 and proposed various elements of maintenance.

The brick masonry chimney at the west end of the building is showing signs of distress and should be addressed in 2021. The eavestrough and downspouts also require attention in 2021. Some masonry repointing will be required regularly (e.g. every ten years) and is likely overdue now. The roof will likely require replacement sometime between 2026 and 2036. The sill timbers will soon be in need of repair on the north-east and north-west corners. This should be planned for approximately 2025. The buildings' wooden timbers will not last forever and will eventually need to be replaced. This will be a costly endeavor but may not be required before 2039.

The building will require minor repairs such as staining, window replacement, and other minor repairs. This will be undertaken by LTC conservation lands staff and will be funded by the annual Conservation Lands operation budget.

Crowd funding is popular for heritage building and should be considered for the Kings Mill building. However, the Kings Mill building is not well-known, is not a heritage building, and is not used by the public. Therefore, it is not a great candidate for this funding and budgets will need to be required for its repair.

The Kings Mill Dam is a collaboration between LTC and Ducks Unlimited (DU) through a 40-year Conservation Agreement that expires in 2029. Though DU maintains *"The right to operate, manage and maintain the project..."* LTC is to *"assume all future maintenance costs associated with the project and to maintain the project in good operating repair for the life of the agreement."* Therefore, LTC will need to obtain an appropriate budget for upcoming repairs.

In 2010, maintenance and upgrades occurred on the Kings Mill Dam. This work included major infrastructural work (concrete and steel frame access upgrades) as well as routine maintenance (repair of stop logs and berm). Those costs included approximately \$30,000 in repairs and \$15,000 in consultant and permitting fees. The concrete work and steel infrastructure completed in 2010 is expected to last 50-100 years from that time. Budgeting for this work will need to be assessed and

incorporated into future Capital Asset Management Plans. In the meantime, minor repairs (relative to previous costs) will be required on the stop logs, on the berm, cleaning out sediment from around the dam, etc. This work may require permits but is not likely to require consultants. Much of the costs associated with the work will require an excavator. This work will be required every 5-15 years.

Quantity	Asset	Installed (~)	To Be Restored	Cost*
1	Building Upgrades	Late 1800s	2021 2025 2035	\$15,000 \$50,000 \$50,000
1	Dam and berm general repair	2010	2025 ~ every 15 years	\$5,000

\*Prices include installation labour but do not include taxes or inflation.

#### **Sager Tower at 30 Golf Course Road, Stirling**

Quantity	Asset	Installed (~)	To Be Restored	Cost*
1	Tower Structure	2011	2061	\$250,000
Various	Tower Etrex (decking)	2011	2039	\$20,000
Various	Stairs	2011	2039	\$20,000

#### **Other Assets**

Proctor House and Proctor Theatre Barn are owned by Lower Trent Conservation and therefore considered an LTC asset. However, they are maintained by Save Our Heritage Organization and therefore do not represent a financial obligation to LTC.

The risks associated with not maintaining the buildings/structures include:

- Disruption of service;
- Increased maintenance and repair costs; and
- Health and safety concern for staff and public.

#### **Buildings and Structures Financial Implications**

The amortization rate for LTC's inventory of Buildings and Structures is 65% as at December 31, 2019. LTC's inventory of building and structures is considered to be in good condition.

The financial implications for Buildings and Structures are as follows:

2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
\$20K			\$5K	\$85K	\$5K	\$25K	\$5K	\$44.75K	\$65K

2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
\$18K		\$5K	\$5K	\$65K	\$5K	\$35K	\$30K	\$192.25K	\$30K

Total	Average
\$640K	\$32,000

Year values include projected replacement asset in year 2040 for the Goodrich-Loomis Conservation Centre roof and deferred the Sager Tower 2061 projection for further review:

- \$20,000 in 2049 for the Goodrich-Loomis Conservation Centre roof - added \$10K in 2040
- \$250,000 in 2061 for the Sager Tower frame (though this may be a very conservative estimate and it may last an additional 50 years). To be further assessed for future capital plan schedules.

For budgeting purposes, the average annual 20 year replacement cost of \$32,000 will be incorporated into the 2021 budget onwards as a capital expenditure. Shortfall of funding required may be drawn from the current facilities and Goodrich-Loomis Centre reserve balances.

## FURNITURE AND FIXTURES

LTC's inventory of furniture and fixtures at the Administrative Office, Workshop, and Goodrich-Loomis Conservation Centre are considered to be in good condition at the end of 2019. Scheduling for repairs and replacements (e.g. mill work, appliances, cabinets, sinks, chairs, desks, tables, etc.) will be included in annual operating maintenance budgets.



## FLOOD AND EROSION CONTROL INFRASTRUCTURE

Lower Trent Region Conservation Authority (LTC) inspects, operates and maintains a number of flood and erosion control structures. Some of these facilities are owned by LTC and some are owned by our municipal partners and/or private landowners but are operated and maintained by LTC. The LTC owns and maintains one dam within its watershed, Warkworth Dam. Other facilities that are owned by LTC include the Warkworth Flood Channel, the Frankford Pipe, Barry Heights Flood Channel and a small portion of the Trout Creek Flood Channel. The Frankford Pipe is located along the north bank at the mouth of Cold Creek in Frankford and is considered an Erosion Control Structure. The three flood channels mentioned above have all been designed to convey flood waters safely in the event of a large flooding event. The LTC will set aside funds for the properties that we own to coincide with special benefitting monies from municipalities and Water Erosion Control Infrastructure (WECI) funding.



### **Warkworth Dam and Flood Channel – Trent Hills**

The Warkworth Dam is currently operated for the purpose of regulating up and downstream levels for flood control during the spring freshet. As such six of the eleven logs are removed from each of the two bays each fall and these logs are replaced in the spring after the freshet.

There has been a dam in Warkworth for much of the recorded history of this area. The original mill pond was constructed to provide a water source for powering the former mill, which is located directly adjacent to the dam. The current dam is approximately 50 years old (with the earthen berm portions much older) as it was constructed in 1971/72 and can be expected to have a life span of another 30 to 40 years with proper maintenance and investment.

The head pond for this dam is quite small and in the event of a large flood when the logs are in (April to October) the earthen berm could be breached and therefore actual flood control during this time is limited. The pond is highly valued by the community for its aesthetic value. Towards the end of life for this structure, the purpose and ownership of the dam should be investigated to see if this structure should remain and be repaired or should be removed and the natural stream re-instated.

The downstream Flood Channel, which is owned by LTC as a separate parcel of land, is capable of conveying the 100-year flood event without damages to adjacent or downstream properties. It was constructed in the mid-1980's and is expected to have a long lifespan. This infrastructure should remain in place and properly maintained in perpetuity.

The risks associated with not upgrading the dam infrastructure include:

- Liability concern;
- Increased maintenance and repair costs; and
- Health and safety concern for staff and public.

### **Frankford Pipe – Frankford, City of Quinte West**

The golf course currently located in Frankford at the mouth of Cold Creek used to be a mill pond for a mill located on Mill Street in downtown Frankford. As part of the flood control works completed in 1982 for Cold Creek, the pond was drained, the dam removed, berms around the former pond were increased in height and a spillway to the Trent River was constructed. The flume that used to supply the water from the upstream side of the dam to the Mill was left in place to provide bank stabilization and erosion control measures around the last bend of Cold Creek. Lower Trent Conservation owns this small portion of land where the pipe is located. There are no records of any structural assessments of the pipe or the hydro-geomorphologic impacts over time. The pipe is inspected for visible structural damage, shifting or noticeable erosion around it.

These visual inspections should be continued by LTC staff. It is also recommended that an engineering inspection of the pipe be conducted to confirm the integrity of the pipe to act as bank stabilization in this location.

**Barry Heights Flood Channel – Trenton**

The Barry Heights Flood Reduction Channel was constructed between 1981 and 1983 to prevent further flooding of Barry Heights Subdivision that was due to inadequate drainage. Flooding in the Barry Heights Subdivision resulted in damage to residential properties and contaminating ground water wells.

This channel is inspected by LTC staff on a regular basis and occasionally requires cleaning out of sediment and debris. The last cleanout occurred in August 2014.

**Trout Creek Flood Channel – Campbellford**

The Flood Control Channel on Trout Creek in Campbellford was constructed in 1986 as a flood reduction measure. The construction of the channel included a concrete block retaining wall system along Inkerman Street and a widening of the creek and bank stabilization on the north side of the stream. Lower Trent Conservation owns the property at the very east end of the channel where it turns from flowing eastward to flowing southward. The majority of the creek bank on the LTC property does not have the concrete retaining wall. The property owned by LTC includes the bed of the creek from Inkerman Street to the Balaclava Street Bridge.

Approximately 10 years after installation there was significant spalling of the concrete blocks used to construct the retaining wall. A significant portion of the wall rehabilitated with new blocks in 1997. Additional work on the wall was required in 2005 as well.

This channel is inspected by LTC staff on a regular basis. Occasionally the creek requires clean out but not typically in the section owned by LTC. The last clean out of the creek between Simpson and Pellisier Streets was in 2018.

**Other Water and Erosion Control Infrastructure Not Owned by LTC**

Other infrastructure that LTC inspects and maintains on behalf of our municipal partners include the remaining portion of the Trout Creek Flood Channel in Campbellford, the Killoran Creek Flood Channel in the Village of Hastings, Flood Control works on Mayhew Creek in Trenton (includes one berm, a two-level weir, a flat weir and two flood control channels connected by a large double arch culvert); Flood Control Channel on DND Creek in Trenton; Flood Control Channel and Berm on Glen Miller Creek in Trenton; Peterson Road Crossing of Glen Miller Creek in Glen Miller; Flood Control Berm and Spillways for Cold Creek in Frankford; Trent River Berm on the east bank of the Trent River just upstream of Dam 2 and Lock 2; and the Stirling Flood and Erosion Control Channel and Weir on Rawdon Creek in Stirling.

Funding for the inspection and maintenance of these structures is partially through the Section 39 funding received from the Province.

### **Flood and Erosion Control Infrastructure Financial Implications**

The amortization rate for LTC's inventory of our dam, pipe, berms and channels is 62% as at December 31, 2019. Lower Trent Conservation undertook a Dam Safety Study for the Warkworth Dam in 2018/2019. As a result of the Warkworth Dam Safety Review, recommendations for upgrades and repairs are planned during 2020 and 2021 years with Municipality of Trent Hills and provincial funding. LTC's inventory of flood and erosion control infrastructure is considered to be in good condition.

The financial implications are as follows:

<b>Total</b>	<b>Average</b>
<b>\$100K</b>	<b>\$2,500</b>

For budgeting purposes, the average annual 40 year replacement cost of \$2,500 will be incorporated into the 2021 budget onwards as a capital expenditure.

## FLOOD AND WATERSHED MONITORING AND OTHER EQUIPMENT

### LTC's Hydrometric Monitoring Network

LTC owns peripheral equipment on Environment Canada's Water Survey monitoring stations to collect weather and hydrologic data that is used in flood and drought monitoring as well as supporting other programs (e.g. watershed planning and climate change).

LTC relies on Environment Canada's hydrometric network of nine stations where some LTC owned sensors such as rain gauges, air and water temperature probes have been installed to provide additional information. In addition, LTC collects data from Parks Canada water level gauges located on the Trent River system. We have access to four gauges that monitor water levels at 5 locations in our watershed. Some data is also collected from the Provincial Groundwater Monitoring Network sites, while these sites are operated and maintained by LTC, the equipment is fully owned by the province.

The equipment that LTC owns and relies on for timely flood and drought monitoring must be maintained to a high standard to ensure data accuracy. Lower Trent Conservation participates in a Third party agreement between Water Survey of Canada and the Province (Ministry of Natural Resources and Forestry) where we can provide limited maintenance on the Water Survey of Canada's monitoring stations. Most monitoring stations consist of a data logger, sensors and equipment shelters.



**The current LTC network consists of:****Replacement Price**

Two new Hobo U30 data loggers	\$700
Eight Tipping bucket rain gauges	\$1,500 each
Six water level sensors \$1000-\$2000/year	\$1,300
Six air temperature sensors	\$400
Eight water temperature sensors (two broken)	\$400
Miscellaneous weather station masts and conduits	\$200

**LTC also owns some water quality monitoring equipment including:**

One turbidimeter	\$600
Four broken and obsolete multi-parameter WQ probes	\$8,000

Some equipment is essential to the Flood and drought programs and should be maintained, while in a few cases, the cost of replacement does not match the value of the data obtained (e.g. wind monitoring). Also, LTC has often accepted generous donations of equipment from the MNRF and MOECC (e.g. new data logger and weighing precipitation gauge installed at GFC in 2015). Although, donations are a tremendous help in upgrading the hydrometric monitoring network, they cannot be expected and if stations are at risk of failing due to lack of maintenance / replacement, the Authority risks losing important data, dealing with more difficult repairs and increased repair costs.







### Natural Heritage Equipment

LTC's Natural Heritage monitoring program examines the biological components of the watershed and includes aquatic, wildlife, wetland and terrestrial monitoring. The monitoring program provides important information used by LTC, and many watershed stakeholders including municipalities and other government agencies, developers, consultants, academia,

ENGO's and residents. Overall watershed health is evaluated as well as assessment of important indicators and components of the watershed. The data and information collected provide point in time information and identifies trends and change over time in watershed health. The work we do not only informs LTC's management programs but also informs federal and provincial programs including species at risk, forest bird inventories, Great Lakes Wetland health, provincial biodiversity programs, and Ontario invasive species programs. The information collected through some of the monitoring programs is submitted to provincial and federal databases in accordance with agreements, collection permits and licenses.

In order to carry out the various monitoring programs, a variety of equipment is necessary. This equipment includes highly specialized items such as barologgers. Also required are safety equipment, water temperature loggers, water chemistry meters, and a variety of other equipment including scientific scales, microscopes, cameras, hip waders, storage and containment equipment for sample collections.

### Flood & Watershed Monitoring, Natural Heritage and Other Equipment Financial Implications

LTC's inventory of monitoring equipment is considered to be in fair condition. All items are averaged over 20 years due to expected longer life expectancy.

The financial implications are as follows:

Total	Average
\$23,600	\$1,180

For budgeting purposes, the average 20 year replacement cost of \$1,180 will be incorporated into the 2021 budget onwards as a capital expenditure.

## LAND INFRASTRUCTURE

Lower Trent Conservation maintains lands and infrastructure throughout its watershed. Examples of infrastructure includes signage, trails, bridges, fencing, parking lots, information kiosks, and gates on ten conservation areas and seven natural habitat areas.

The following general infrastructure at all conservation areas will require capital improvements over the next 30 years:

- Entrance Sign Replacements
- Fencing
- Parking Lots
- Outdoor Privies/Washrooms
- Bridges
- Gazebos
- Picnic Shelters
- Kiosks and Trailheads

Fencing represents the largest asset associated with lands owned by LTC not associated with buildings. No documentation or formal assessment of LTC's current fencing currently exists.

However, a preliminary desktop assessment using air photos suggests that approximately 20,000 m of fencing may exist on LTC's lands. Most of these fences are 3-4' high page wire fence with posts typically made from cedar. Ongoing repairs will be implemented by staff with funds from the annual operations budget. However, even with repairs the posts and wire will not last forever. It is estimated that all 20,000 m will require replacement within the next 100 years. Subsequently, an average of approximately 1,000 m will require replacement every five years. A formal assessment and mapping of LTC's fencing will occur during the 2020 or 2021 field season.

Locations	Quantity	Asset	Installed (~)	To Be Restored or Replaced	Cost*
10 CAs (one has 2) and 3 NHAs and Office and Shop	16+	Entrance Signs	Various	2030 2039	\$8,000 \$8,000



Locations	Quantity	Asset	Installed (~)	To Be Restored or Replaced	Cost*
BB, SAG, KH, SEY, MM, GL, PP, GB,	~20,000 m	Fences (\$50/m)	Various	2024 ~ every 5 years ***	\$50,000
SAG, SEY, and GL	6	Outdoor Privies -Plastic structure -Holding tank**		2029 2039	\$9,000 \$15,000
BB and GL	4	Bridges -wood -steel structure**	Various	2035 2070	\$6,000 \$34,000
SAG, SEY and PP	3	Gazebos**	1980s	2049	\$75,000
GM, SEY, and GL	6	Picnic Shelters**	Various	2049	\$90,000
BB(2), SAG(1), SEY(4), GL(2), PP(2)	11	Kiosks and trailheads	Various	2034	\$16,500

\*Prices include installation labour but do not include taxes or inflation.

\*\*Includes design and permit fees.

\*\*\*Assumes approximately 1,000 m of fencing will be replaced every tenth year. Assumes that the work would be completed by a fencing contractor (as has been done in the past). Also assumes that the fencing would require a complete replacement rather than ongoing maintenance. There is a supplementary 'Fencing at LTC Properties' document that breaks down these fencing length estimates.

Other repairs and replacements that are too small to be considered assets include boardwalks, gates, trails, docks, and signage (interpretive, regulatory, and trail).

The risks associated with not upgrading the lands and their infrastructure includes:

- Disruption of service;
- Increased maintenance and repair costs;
- Health and safety concern for staff and public; and
- Liability concern.

### Land Infrastructure Financial Implications

The amortization accumulated for LTC's inventory of its land and infrastructure is 71% as at December 31, 2019; LTC's inventory of land and infrastructure is considered to be in good condition.

The financial implications for the land and infrastructure are as follows:

2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
\$50K					\$50K			\$9K	\$8K

2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
\$50K			\$16.5K	\$6K	\$50K			\$23K	\$135K

Total	Average
\$397.5K	\$19,875

For budgeting purposes, the average annual 20 year replacement cost of \$19,875 will be incorporated into the 2021 budget onwards as a capital expenditure.

## SUMMARY

The Capital Asset Management Plan will be a systematic process that allows for LTC's physical assets to be maintained in a state of good repair in a cost effective manner and that by implementing the asset management plan, the Authority can meet operational demands within a fiscally responsible framework. The Capital Asset Management Plan will reflect work undertaken during the year, concurrently with the budget process.

For the annual capital budget required to support the next 20 years plan is summarized below:

<b>CAPITAL ASSET TYPE</b>	<b>PROPOSED ANNUAL CAPITAL PLAN</b>
Information Technology Infrastructure	\$12,000
Vehicles and Heavy Equipment	\$30,550
Buildings and Structures	\$32,000
Flood and Erosion Control Infrastructure	\$2,500
Flood and Watershed Monitoring and Other Equipment	\$1,180
Land Infrastructure – Parking Lots, Roads, Trails, Bridges	\$19,875
<b>TOTAL ANNUAL CAPITAL ASSET BUDGET</b>	<b>\$98,105</b>

## REVISIONS TO THE PLAN

The Capital Assets Management Plan will be reviewed annually and revised at least every five years, unless exceptional circumstances arise as a result of changes to the funding required for LTC's capital assets.