



## *2024 Non-Core Asset Management*

Prepared for:

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**The Municipality of Stirling-Rawdon**

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## Ontario Regulation 588/17

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Objectives as defined by the Ontario reg. 588/17

A municipality's asset management plan must include for each asset category, the current levels of service being provided, determined in accordance with qualitative descriptions and technical metrics based on data from at most the two calendar years prior to the year in which all information required under this section is included in the asset management plan.

For each asset category, a summary of the assets in the category, the replacement cost of the assets in the category, the average age of the assets in the category, determined by assessing the average age of the components of the assets, the information available on the condition of the assets in the category, and a description of the municipality's approach to assessing the condition of the assets in the category, based on recognized and generally accepted good engineering practices where appropriate.

For each asset category, the lifecycle activities that would need to be undertaken to maintain the current levels of service for each of the 10 years following the year for which the current levels of service are determined and the costs of providing those activities based on an assessment of the following: The full lifecycle of the assets, the options for which lifecycle activities could potentially be undertaken to maintain the current levels of service and the risks associated with the options.

### Phase-in schedule

July 1, 2019: Date for municipalities to have a finalized strategic asset management policy that promotes best practices and links asset management planning with budgeting, operations, maintenance, and other municipal planning activities.

July 1, 2022: Date for municipalities to have an approved asset management plan for core assets (roads, bridges and culverts, water, wastewater, and stormwater management systems) that identifies current levels of service and the cost of maintaining those levels of service.

July 1, 2023: Date for municipalities to have an approved asset management plan for all municipal infrastructure assets that identifies current levels of service and the cost of maintaining those levels of service.

July 1, 2024: Date for municipalities to have an approved asset management plan for all municipal infrastructure assets that builds upon the requirements set out in 2023. This includes an identification of proposed levels of service, what activities will be required to meet proposed levels of service, and a strategy to fund these activities

## Council Responsibility

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- Member of council play an important role in validating municipal level of service. Not only through the policies that they adopt, the yearly review and the ongoing involvement when levels are adversely affected.
- The frequency of these reviews should be established and followed by staff as part of the Asset Management Policy
- Council must be educated on the asset management strategies which comprise of an accurate inventory, required inspections, lifecycle events, risk mitigations, citizen engagement and financial sustainability.
- Council's responsibility is to provide direction to staff while supporting qualified staff in their decisions.
- Validate and support the amount of time it will take to reach expected Levels of Service

## Societal Trends

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- Upcoming Governmental trends
- Changes in society
- Technology changes
- Cyber security
- Environmental sustainability

## Accessibility for Ontarians with Disability Act (AODA)

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According to the legislation, the AODA aims to develop, implement and enforce standards related to goods, services, accommodation, employment and buildings before Jan. 1, 2025. The legislation applies to every person in both the public and private sector

The [Accessibility for Ontarians with Disabilities Act, 2005](#) (AODA) is intended to reduce and remove barriers for people with disabilities so that Ontario can become more accessible and inclusive for everyone. Collaboration among businesses, organizations, communities and all levels of government is key to reaching this goal.

The O. Reg. 191/11, [AODA](#) is the law that sets out a process for developing, implementing and enforcing accessibility standards that government, businesses, non-profits and public sector organizations must follow to become more accessible. These laws and standards are intended to make Ontario open to everyone by helping to reduce and remove barriers.

## Asset Management Components

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### Accurate and detailed asset inventory

- a summary of the assets in the category
- condition of the assets in the category
- the average age of the assets in the category
- condition ratings
- collection of minimum data per asset category
- operations, such as increased maintenance schedules

### Lifecycle Management

- When to remediate
- What to remediate
- How to remediate
- When to replace rather than remediate
- The options for which lifecycle activities could potentially be undertaken to maintain the current levels of service.
- The lifecycle activities undertaken for the lowest cost to maintain the current levels of service
- Lifecycle management and financial strategy that sets out the following information with respect to the assets in each asset category for the 10-year period.

### Level of Service

- Establishment and Adoption of Technical Level of service
- Establishment and Adoption of end user Level of service
- Adoption of provincial standards
- Establishment and Adoption of Probability of Failure (PoF)
- Establishment and Adoption of Consequence of Failure (CoF)
- Establishment and Adoption of the risks associated with PoF and CoF

### Financial Controls

- An estimate of the annual costs for each of the 10 years of undertaking the lifecycle activities separated into capital expenditures and significant operating costs.
- The replacement cost of the assets in the category
- If based on the funding projected to be available, the municipality identifies a funding shortfall for the lifecycle activities
- An identification of the annual funding projected to be available to undertake lifecycle activities and an explanation of the options examined by the municipality to maximize the funding projected to be available.

## Climate change

- Energy efficiency
- Climate change adaption
- Climate change mitigation

## Citizen Engagement

- Municipal residents and other interested parties to provide input
- Service request associated to location, deficiency type, and actions required. Input deficiency, create work orders, and manage the repairing, the deadlines and follow up comments.

## Corporate Policy

- Adoption of risk matrix
- Adoption of financial strategy
- Create multiple scenarios
- Regular update of plan
- Establish an asset replacement policy
- Enact a municipal bylaw

Fig 1.0



## Time frames

The AM initiative comprises of several updates which are required at specific intervals.

Tasks	Timelines	Description
Update AM plan	Biannual	Edit the updated document
Update asset repository	Ongoing	Continuously update the inventory repository
Capital plan	Yearly	Create annual capital plans establishing a link between capital, operational and corporate strategic plan
Level of Service/financial	Yearly	Define individual inspection which culminates with LoS.
Financial capabilities	Yearly	Link LoS to financial capabilities. Integrate tax increases, levy's, and user fees
Building Condition Index (BCI)	5 – 10 years	Request BCI for buildings and associated inventory assets

## Non-Core assets

The municipality has established the following non-core assets.

- Land
- Buildings
- Fleet

Additionally over time the municipality will based on its capacity choose to expand the list to include,

- Information Technology
- Data Electronic (electronic, paper, documents)
- Purchasing procedures (green compliancy)
- Human Resources (Staffing, recruiting, retention)

The municipality will over time and as financial feasible, expand non-core assets to include

- Treatment lagoons (Storm, Sewer)
- Street furniture (street lights, traffic lights, benches)
- Office furniture (computers, desk, chairs, printers)

Hierarchy	Category	Subtype
Land (roll number)	administration public works/ Recreation/	<ul style="list-style-type: none"> <li>• Easements, Right of ways,</li> <li>• Parking lots</li> <li>• Vacant properties</li> <li>• Cemeteries</li> <li>• Community hall; ice rink</li> <li>• Emergency; fire, ambulance</li> <li>• Library, medical, municipal</li> <li>• Salt / Storm shed.</li> <li>• Washrooms</li> <li>• Lagoons/ponds</li> <li>• Pumping stations</li> <li>• Trees</li> <li>• Ditches</li> <li>• Luminaries</li> </ul>
Building	Building structure/Outer shell	<ul style="list-style-type: none"> <li>• Interior/exterior</li> <li>• Roof/shell structure/walls</li> <li>• Foundations/footings/slabs</li> <li>•</li> </ul>
Inventory	Capital assets within building	<ul style="list-style-type: none"> <li>• Electrical/</li> <li>• Mechanical/</li> <li>• Structural</li> <li>• Electronic</li> <li>• Emergency</li> <li>• Miscellaneous</li> <li>•</li> </ul>
Fleet/Equipment		<ul style="list-style-type: none"> <li>• Heavy duty</li> <li>• Medium duty</li> <li>• Light duty</li> <li>• Recreational</li> <li>• Emergency</li> <li>•</li> </ul>





RFAM is built on industry standards through an ecosystem of collaborative municipalities which can share best practices. One such standard is the ASTM UNIFORMAT II level 3 Standard E1557 classification.



## Asset attributes

Collection of all mandatory fields is necessary in order to produce valid reports

Community Centre / Municipal Office - Equipment Inventory

Equipment Category: Finishes (C) | Department: Select... | Installation Year: [ ]

Equipment Type: Doors | Space Category: Main Entrance | Warranty End Date: [ ]

Equipment Detail: Door Hardware | Floor: --- | Proposed Replacement Date: [ ]

Equipment Item: Select... | Room #: [ ] | Lifespan: [ ]

Name: Automatic Door Arm #1 | Location Served: [ ] | Actual Replacement Date: [ ]

Asset Relationship: [ ] | Map: Map [ ] | Usage (Hours): [ ]

ID: Automatic Door Arm\_001 | TCA: [ ] | Capacity (Hours): [ ]

Make: Ditec | Purchase Price: 1500 | Condition: \* Very Good (80-100% Rema... |

Model: Auto Swing HA. 8 | Replacement Cost: 1500 | Comments: [ ]

Serial Number: 28473 | Quantity: [ ] | Status: \* Capital |

Energy Equipment:

Save Cancel

## Asset breakdown

Asset category	Asset Categories	Asset Attributes
Land	Administration, Green space, Public Works	Roll Number
Buildings	Envelope Foundations Roof	Uniformat II
Building Inventory	Plumbing HVAC Electrical	Make, model, SN, dates
Fleet	Heavy duty Medium duty Light duty	Make, model, Vin, dates
Equipment	Recreation, Emergency, Public Works	Make, model, dates

# Land Inventory

ASSET TYPE	ASSET SUB TYPE	ASSET NAME	CLASS TYPE	SURFACE TYPE	MATERIAL	TYPE	CATEGORY	ROLL NUMBER	DEPARTMENT	URBAN/RURAL	LEGAL DESCRIPTION	CIVIC ADDRESS	COASTAL/REGULATED	AREA
Land	Municipal Land	100-Vacant Residential Land not on water - Right of Way	Residential	Aggregate	Aggregate	Right of Way	Inventory	122011905313630	Corporate	Rural	CON 14 S PT LOT 20 RP 21R716 PART 4	Cosgrove Lane		0.12 acres
Land	Municipal Land	103 - Municipal park (excludes Provincial parks, Federal parks,	Residential	Grass	Grass	Occupied Land	Inventory	122021801007375	Parks	Urban	PLAN 149 PT BLK B & C RP 21R16163 PART 1			24.45 acres
Land	Municipal Land	100 - Vacant residential land not on water - Right of Way	Residential	Aggregate	Aggregate	Right of Way	Inventory	122011905313150	Corporate	Rural	CON 14 PT LOT 19 RP 21R15770 PART 2	Harmony Lane		0.41 acres
Land	Municipal Land	100-Vacant Residential Land not on water	Residential	Grass	Grass	Vacant Land	Inventory	122011902001050	Corporate	Rural	CON 5 PT LOT 12			0.5 acres
Land	Municipal Land	590-Water Treatment/Filtration Water Towers/Pumping Station	Industrial	Grass	Grass	Vacant Land	Inventory	122011901003875	Environmental	Urban	PLAN 38 PT PARK LOT 15	237 Baker Street		0.21 acres
Land	Municipal Land	130 - Non-buildable land (walkways, buffer/bem, storm water man	Industrial	Grass	Grass	Occupied Land	Inventory	122021801506867	Corporate	Urban	PLAN 21M308 BLK 18	Barley Trail		0.03 acres
Land	Municipal Land	100-Vacant Residential Land not on water	Residential	Grass	Grass	Vacant Land	Inventory	122021801000407	Corporate	Urban	SIDNEY CON 9 PT LOT 24 PLAN 16 PT PARK LOT 3 E HENRY ST PLAN 95 PT LOT 24 W JOHN ST RP 21R24020 PART	Belleville Road		34.5 acres
Land	Municipal Land	134 - Land designated and zoned for open space	Residential	Grass	Grass	Vacant Land	Inventory	122021801000453	Corporate	Urban	PLAN 21M258 BLK 17	Berwick Street		3.9 acres
Land	Municipal Land	598 - Railway buildings and lands described as assessable in the	Industrial	Aggregate	Aggregate	Vacant Land	Inventory	122011905500000	Corporate	Rural	Campbellford			8.14 acres
Land	Municipal Land	130 - Non-buildable land (walkways, buffer/bem, storm water man	Industrial	Grass	Grass	Occupied Land	Others	122021801025735	Corporate	Urban	PLAN 149 PT BLK E S FRONT ST RP 21R24240 PART 6	Creekside Drive		0.05 acres
Land	Municipal Land	100-Vacant Residential Land not on water	Residential	Grass	Grass	Vacant Land	Inventory	122021801025733	Corporate	Urban	PLAN 21M265 BLK 8	Creekside Drive		0.1 acres
Land	Municipal Land	100-Vacant Residential Land not on water	Residential	Asphalt	Asphalt	Occupied Land	Inventory	122021802000605	Corporate	Urban	PLAN 149 LOT 10 LOT 11	East Front Street		0.36 acres
Land	Park (Open Space)	100-Vacant Residential Land not on water	Leisure	Grass	Grass	Occupied Land	Inventory	122021802017200	Parks	Urban	PLAN 59 LOT 48 PLAN 149 PT UNNAMED LANE AND RP 21R7049 PART 2	Victoria Street & Edward Street Corner		0.61 acres
Land	Municipal Land	105 - Vacant commercial land	Commercial	Grass	Grass	Vacant Land	Inventory	122021801000210	Corporate	Urban	CON 9 PT LOT 24 RP 21R732 PART 1	26 Elaine Crescent		1.1 acres
Land	Municipal Land	590 - Water treatment/filtration/water towers/pumping station	Industrial	Grass	Grass	Occupied Land	Inventory	122021801015850	Environmental	Urban	PLAN 95 LOTS 1 TO 3	93 Elizabeth Street	1986-01-01	0.73 acres
Land	Municipal Land	100-Vacant Residential Land not on water	Residential	Grass	Grass	Vacant Land	Inventory	122021801023750	Corporate	Urban	PLAN 149 PT BLK G RP 21R2646 PART 2 UNOPENED ROAD ALLOWANCE	75 Frankford Road		0.23 acres
Land	Municipal Land	100 - Vacant residential land not on water	Residential	Asphalt	Asphalt	Vacant Land	Inventory	122021801023560	Corporate	Urban	PLAN 149 PT LOT 15	51 Frankford Road		0.09 acres
Land	Buildings and Facilities	590 - Water treatment/filtration/water towers/pumping station, 5	Industrial	Brick	Brick	Occupied Land	Building Envelope	122021801018410	Environmental	Urban	PLAN 95 PT LOTS 1 TO 3 RP 21R6449 PARTS 1 TO 3	1 George Street	2000-01-01	1.01 acres
Land	Municipal Land	100 - Vacant residential land not on water	Residential	Asphalt	Asphalt	Occupied Land	Inventory	122021801018420	Corporate	Urban	PLAN 149 PT LOT 4	32 Henry Street		0.05 acres
Land	Municipal Land	110 - Vacant residential/recreational land on water	Residential	Grass	Grass	Vacant Land	Inventory	122021801016400	Corporate	Urban	PLAN 95 LOTS 1 2 3 5 PT LOTS 4 8 9 HENRY AND ROBERT PLANS	85 Henry Street		3.75 acres
Land	Municipal Land	100-Vacant Residential Land not on water	Commercial	Asphalt	Asphalt	Occupied Land	Inventory	122021802003400	Corporate	Urban	PLAN 149 LOTS 2 AND 3	Mill Street		0.06 acres
Land	Municipal Land	542-Office Industrial	Industrial	Asphalt	Asphalt	Occupied Land	Building Envelope	122011901500275	Corporate	Urban	RAWDON CON 1 PT LOT 11 PLAN 38 PT PARK LOT 6 RP 21R26021 PARTS 2 TO 4	2529 Stirling-Marmora Road	2010-01-01	6.13 acres
Land	Municipal Land	100-Vacant Residential Land not on water	Residential	Grass	Grass	Occupied Land	Inventory	122021801516701	Corporate	Urban	PLAN 149 PT BLKS D AND E RP 21R16134 PART 1	North Street		1.67 acres
Land	Municipal Land	100-Vacant Residential Land not on water	Residential	Asphalt	Asphalt	Occupied Land	Inventory	122021801506900	Corporate	Urban	PLAN 59 PT LOT 4	North Street		0.08 acres
Land	Municipal Land	100-Vacant Residential Land not on water	Residential	Grass	Grass	Vacant Land	Inventory	122021801011450	Corporate	Urban	PLAN 1492 BLK A	35 Rodgers Drive		1.16 acres
Land	Municipal Land	810 - FIREHALL, 472 - OFFICE COMMERCIAL, 514 - DOME (SAND SALT),	Industrial	Asphalt	Asphalt	Occupied Land	Building Envelope	122011903007000	Public Works	Rural	CON 10 PT LOT 12 RP 21R8749 PART 1	2508 Springbrook Road	1987-01-01	4.99 acres
Land	Buildings and Facilities	598 - Railway buildings and lands described as assessable in the	Industrial	Wood Frame	Wood Frame	Occupied Land	Inventory	1220218020159000	Corporate	Urban	CAMPBELLFORD RAILROAD ROADWAY & STATION GROUNDS PT PK LOT 13 PLAN 38 RP 21R11168 PART 5	90 Station Street		7.25 acres
Land	Municipal Land	302 - More than one structure used for residential purposes with	Residential	Asphalt	Asphalt	Vacant Land	Building Envelope	122021801516702	Corporate	Urban	PLAN 149PT BLKS D AND E PLAN 37 PT LOTS 1 TO 4 RP 21R16134 PARTS 3 TO 6	Station Street	1900-01-00	2.44 acres
Land	Municipal Land	105 - Vacant commercial land	Commercial	Grass	Grass	Historical	Inventory	122011902009250	Environmental	Rural	CON 8 PT LOT 12 RP 21R11853 PART 1	4285 Stirling-Marmora Road		0.26 acres
Land	Municipal Land	100-Vacant Residential Land not on water	Residential	Aggregate	Aggregate	Vacant Land	Inventory	122011902009275	Corporate	Rural	CON 8 PT LOT 12 QUARRY	4397 Stirling-Marmora Road		3.33 acres
Land	Municipal Land	540 - Other industrial (all other types not specifically defined	Industrial	Grass	Grass	Vacant Land	Inventory	122011903011700	Corporate	Rural	PLAN 259 BLK A PT LOT 20 RP 21R20857 PART 1	4872 Stirling-Marmora Road		0.23 acres
Land	Municipal Land	100-Vacant Residential Land not on water	Residential	Grass	Grass	Vacant Land	Inventory	122021801006385	Corporate	Urban	PLAN 59 RESERVE	323 West Front Street		0.25 acres
Land	Municipal Land	100-Vacant Residential Land not on water	Residential	Grass	Grass	Vacant Land	Inventory	122011903035550	Corporate	Rural	CON 12 PT LOT 13 HWY 14	Stirling-Marmora Road		0.17 acres
Land	Municipal Land	100-Vacant Residential Land not on water	Residential	Grass	Grass	Vacant Land	Inventory	122021801005550	Corporate	Urban	PLAN 149 PT LOT 3 RP 21R12895 PARTS 1 & 2	West Front Street		0.06 acres
Land	Municipal Land	103 - Municipal park (excludes Provincial parks, Federal parks,	Commercial	Grass	Grass	Occupied Land	Building Envelope	122011903012350	Parks	Rural	PLAN 259 BLK C PT LOTS 34-35 BLK D PT LOT 55 LOTS 48-54 RP 21R9623 PART 1	4895 Stirling-Marmora Road	2011-01-01	6.04 acres
Land	Buildings and Facilities	731 - Library and/or literary institutions; 732-Library	Institutional	Brick	Brick	Occupied Land	Inventory	122021801002760	Corporate	Urban	PLAN 15 PT LOT 3	49 West Front Street	1989-01-01	0.08 acres
Land	Park (Open Space)	100 - Vacant residential land not on water	Leisure	Grass	Grass	Occupied Land	Inventory	122021802009441	Parks	Urban	PLAN 21M-104 BLK 27 PARKLAND	Tanner Drive		0.25 acres
Land	Buildings and Facilities	731 - Library and/or literary institutions	Institutional	Brick	Brick	Occupied Land	Inventory	122021801002755	Corporate	Urban	PLAN 95 PT LOT 4	43 West Front Street		0.09 acres
Land	Buildings and Facilities	415 - Cinema/movie house/drive-in; 463 - Cinema	Commercial	Wood Frame	Wood Frame	Occupied Land	Inventory	122021801002750	Corporate	Urban	PLAN 15 PT LOTS 4 & 5 PLAN 15 LOT 1	39-41 West Front Street	1927-01-01	
Land	Buildings and Facilities	720 - Commercial sport complex	Leisure	Metal Frame	Metal Frame	Occupied Land	Inventory	122021801007365	Corporate	Urban	PLAN 149 PT BLK B RP 21R2585 PART 1	433-435 West Front Street	1967-01-01	
Land	Municipal Land	581 - Active Public Landfill/Waste Disposal Site	Industrial	Aggregate	Aggregate	Vacant Land	Inventory	122021801007368	Environmental	Urban	PLAN 149 PT BLK A RP 21R13261 PART 1	1 Boundary Road		14.77 acres
Land	Municipal Land	100-Vacant Residential Land not on water	Residential	Grass	Grass	Vacant Land	Inventory	122021801025449	Corporate	Urban	PLAN 21M-83 BLKS 35 TO 45	Woods Drive		0.34 acres
Land	Municipal Land	100-Vacant Residential Land not on water	Residential	Grass	Grass	Vacant Land	Inventory	122011903056975	Corporate	Rural	CON 13 W12 LOT 6 RP 21R1820 PART 1	Spry Road		0.02 acres
Land	Municipal Land	100-Vacant Residential Land not on water	Residential	Grass	Grass	Vacant Land	Inventory	122011903053310	Corporate	Rural	CON 12 PT LOT 13 HWY 14	Station Road		0.16 acres
Land	Municipal Land	702 - Cemetery	Industrial	Grass	Grass	Occupied Land	Site	122011901503025	Corporate	Rural	RAWDON CON 1 PT LOT 22 RP 21R24030 PART 2	139 Brooks Road		1.01 acres
Land	Municipal Land	100-Vacant Residential Land not on water	Residential	Grass	Grass	Vacant Land	Inventory	122011902005300	Corporate	Rural	CON 6 E PT LOT 19	Maple Road		0.03 acres
Land	Municipal Land	581 - Active Public Landfill/Waste Disposal Site	Residential	Aggregate	Aggregate	Vacant Land	Inventory	122011903004025	Corporate	Rural	CON 9 PT LOT 17 RP 21R15682 PARTS 1 TO 9	3091 Springbrook Road		27.37 acres

## Municipal owned facilities

Asset Class	Asset Type	Asset Detail	Asset Name	Asset ID	Asset Purpose
Parks	Open Spaces / Parks		Cenotaph	Mill Street	
Facility	Environmental		Constructed Wetland Cell		
Parks	Open Spaces / Parks		Covered Bridge	Mill Street	Covered Bridge
Facility	Environmental	Wastewater Treatment	Final Effluent		
Facility	UNIFORMAT II (English)	Fire Hall	Fire Hall Station # 2	2508 Springbrook Road	Fire Hall
Facility	UNIFORMAT II (English)	Fire Hall	Fire Hall Station #1	2529 Stirling-Marmora Road	Fire Hall
Facility	Recreation	Community Hall	Former Train Station	122 North Street	Community Hall
Facility	UNIFORMAT II (English)	Community Hall	Harold Hall	4285 Stirling-Marmora Road	Cenotaph Hall demolition
Parks	Open Spaces / Parks		Henry Street Park	85 Henry Street	Park
Facility	Environmental		Lagoon Blower Building		
Facility	Environmental		Lagoon Chemical Building		
Facility	UNIFORMAT II (English)	Library	Library	43 West Front Street	Library
Facility	Environmental		Main Well House Building		
Facility	UNIFORMAT II (English)	Administration Building	Municipal Building	2529 Stirling-Marmora Rd	Municipal Government
Facility	Environmental		North Lagoon Wastewater		
Facility	UNIFORMAT II (English)	Public Works Garage	Public Works Garage - Springbrook	2508 Springbrook Road	Garage
Facility	UNIFORMAT II (English)	Public Works Garage	Public Works Garage - Stirling	2529 Stirling-Marmora Road	Garage
Facility	Environmental	Pump Station	Pump Station - Frankford Road		
Facility	Environmental	Pump Station	Pump Station - George Street (1)		Generator Building
Facility	Environmental	Pump Station	Pump Station - George Street (2)		Aluminum Building
Facility	Environmental	Pump Station	Pump Station - Henry Street		
Facility	Environmental	Pump Station	Pump Station - Rodgers Drive		
Facility	Environmental	Pump Station	Pump Station -Annis Street		
Parks	Open Spaces / Parks		Quarry	4397 Stirling-Marmora Road	
Facility	UNIFORMAT II (English)	Air Structure/Dome	Sand Dome - Springbrook	2508 Springbrook Road	Sand Dome
Facility	UNIFORMAT II (English)	Air Structure/Dome	Sand Dome - Stirling	2529 Stirling-Marmora Road	Sand Dome
Facility	Environmental	Wastewater Treatment	South Lagoon Wastewater		
Facility	Environmental		Springbrook Landfill Site		
Parks	Open Spaces / Parks		Springbrook Park	4895 Stirling-Marmora Road	Park
Facility	Environmental		Stand Pipe		
Parks	Open Spaces / Parks		Station Park - Fitness Park		Fitness Equipment
Facility	UNIFORMAT II (English)	Community Hall	Stirling Fire Hall	2508 Springbrook Road	Community Hall
Facility	Environmental		Stirling Landfill Site		
Facility	Environmental	Wastewater Treatment	Stirling Wastewater Facility		
Facility	Environmental	Water Treatment Plant	Stirling Water Treatment Plant		
Facility	Recreation	Community Centre	Stirling-Rawdon & District Recreation	435 West Front Street	Arena/Curling Club
Facility	Recreation	Theatre	Theatre	41 West Front Street	Theatre
Facility	Environmental		Water Standpipe		
Facility	Environmental		Water Well #001		Dug Well
Facility	Environmental		Water Well #003		Drilled Well
Facility	Environmental		Water Well #004		
Facility	Environmental		Water Well #005		
Facility	Environmental		Water Well #006		

# Fleet and Equipment

ASSET SUB TYPE	ASSET ID	ASSET NAME	CLASSIFICATION	DEPARTMENT	DESCRIPTION	VEHICLE MAKE	VIN SERIAL #	LICENSE PLATE #	VEHICLE MODEL	VEHICLE COLOR	PURCHASE DATE	PURCHASE PRICE	CONDITION	LICENSED	EMISSION	
Miscellaneous	FL_054	Culvert Steamer	Attachments	Public Works	1990 Culvert Steamer						2024-04-11	\$13,006.00			NO	
Heavy Duty Vehicle	FL_017	John Deere Loader	Loaders / Backhoes	Public Works		John Deere	923706	NO PLATE		YELLOW	2024-04-11	\$140,677.00			NO	
Light Duty Vehicle	FL_018	2016 Public Works Manager (Patrol)	Utility Vehicle	Public Works	SUV	Ford	1FM5K8AR2GGA16290	BXMF069	Explorer	Blue	2024-04-11	\$34,000.00		YES	YES	
Light Duty Vehicle	FL_023	2023 GMC Sierra	Pickup	Environmental	Regular Cab	Chev	3GTNUAER4PG159099	BV81939	Sierra	White	2023-03-09	\$52,213.00		YES	YES	
Light Duty Vehicle	FL_015	2013 Environmental Manager Vehicle	Utility Vehicle	Environmental	SUV	Ford	1FM5K8AR3DGB72625	CHDD302	Explorer	Blue	2024-04-11	\$40,000.00		YES	YES	
Heavy Duty Vehicle	FL_004	2009 Sterling	Heavy-Duty Vehicle	Public Works	Plow Truck	Sterling	2FZHJAZCV09AA86522	BA95777	19500 SERIES	RED	2024-04-11	\$95,667.00	FAIR (3)	YES	YES	
Miscellaneous	FL_036	Grass Fire Trailer 5 x 8	Trailers	Emergency	2005 - Custom Trailer 4 x 8	Custom Trailer								YES	NO	
Miscellaneous	FL_053	Hotbox	Trailers	Public Works	Hotbox					Yellow	2024-04-11	\$52,002.00		YES	NO	
Miscellaneous	FL_048	HaveLock Hauler Trailer -2001	Trailers	Public Works	HaveLock hauler		H0M09T06650329798			Yellow	2024-04-11	\$4,500.00		YES	NO	
Light Duty Vehicle	FL_040	2021 BISSB Truck	Pickup	Corporate	2021 BISSB Truck - White	Chrysler	1C6447GG0M8546775	BK 64098	Dodge RAM	White	2024-04-11	\$37,651.00		YES	NO	
Heavy Duty Vehicle	FL_025	Dozer-2011	Excavators	Environmental	Dozer		NBDC60021	NO PLATE			2024-04-11	\$97,180.00			NO	
Heavy Duty Vehicle	FL_016	Excavator/Brusher-2005	Excavators	Public Works		Komatsu	K40045	NO PLATE		Yellow	2024-04-11	\$200,299.00			NO	
Garden Equipment	FL_055	Kabota Roadside Mower	Mowers	Public Works	2022 Kabota Roadside Mower	Kabota					2024-04-11	\$18,137.00		NO	NO	
Heavy Duty Vehicle	FL_006	2010 Massey Ferguson	Tractors	Public Works			J2194ASAES519	NO PLATE		Red				NO	NO	
Heavy Duty Vehicle	FL_012	2020 International Single Axle	Heavy-Duty Vehicle	Public Works	Plow Truck	International	3HAJETAR8LL84768	AR37716		Red	2024-04-11	\$275,258.00		YES	YES	
Heavy Duty Vehicle	FL_014	Backhoe 3106l	Loaders / Backhoes	Public Works			1T0310SLCJD330928	NO PLATE		Yellow	2024-04-11	\$101,553.00			NO	
Miscellaneous	FL_035	ATV Trailer	Trailers	Emergency	2005 North Trail 6 x 14	North Trail		F21 51A			2024-04-11	\$7,000.00		YES	NO	
Light Duty Vehicle	FL_001	2021 Dodge 1/2 ton	Pickup	Public Works	Regular Cab	Chrysler	3C6JR7DF3M6615511	BK64099	RAM 1500 REGULAR CAB	RED	2021-01-01	\$43,320.00	EXCELLENT (1)	YES	YES	
Miscellaneous	FL_052	Western 2.8 Yard Sander	Attachments	Public Works	Western 2.8 Yard Sander	Western					2025-01-01	\$14,000.00		NO	NO	
Medium Duty Vehicle	FL_032	404 Quick Response Vehicle - 2023	Medium-Duty Vehicle	Emergency	Fire Truck - #404 Quick Response Vehicle 3500 4x4	Chrysler	3C63R3CT4P6S53936	JE1 683	Dodge 3500 4x4		2024-04-11	\$81,219.00		YES	NO	
Medium Duty Vehicle	FL_037	Rugby	Medium-Duty Vehicle	Emergency	1931 Rugby Fire Truck	Rugby	1283	EM 008		Red	2024-04-11	\$0.00		YES	NO	
Miscellaneous	FL_034	Air Trailer	Trailers	Emergency	2015 Air Trailer	Stealth	52LBE12XGE044237	M27 48T	Stealth Enclosed Trail 7 x 12		2024-04-11	\$7,500.00		YES	NO	
Medium Duty Vehicle	FL_027	402 Pumper Tanker - 2007	Medium-Duty Vehicle	Emergency	Fire Truck #402 Pumper Tanker	Kenworth	2NKMHZBX7M17055	851 1TR	Pumper Tanker	Red	2024-04-11	\$229,988.00		YES	NO	
Heavy Duty Vehicle	FL_003	2008 Freightliner	Heavy-Duty Vehicle	Public Works	Plow Truck	Freightliner	1FVHC7CV3H1Z71196	AV36008	M2 112 Heavy	White	2024-04-11	\$191,293.00		YES	YES	
Light Duty Vehicle	FL_024	2023 Chev Extended Cab	Pickup	Environmental	Crew Cab	Chev	1GCRDAE82PZ221239	BV 38800	Silverado 1500	White	2023-03-22	\$64,882.00		YES	YES	
Miscellaneous	FL_033	Water Source Rehab Trailer	Trailers	Emergency	2023 Water Source Rehab Trailer	Stealth Trailer	7G1BE1221PE019268	X80 87E	Enclosed Trailer 7 x 12 w-mose		2024-04-11	\$20,100.00		YES	NO	
Medium Duty Vehicle	FL_028	Rescue Van # 303 - 2010	Medium-Duty Vehicle	Emergency	Fire Truck #303 Rescue Van	Chrysler	3D6WC7EL2AG117390	BV 20906	Dodge 5500	Red	2024-04-11	\$85,856.00		YES	NO	
Miscellaneous	FL_049	North - Trailer	Trailers	Public Works	Public Works Fire North Trailer					SilverBlack	2024-04-11	\$37,000.00		YES	NO	
Miscellaneous	FL_050	Vermeer Chipper	Attachments	Public Works	Vermeer Chipper			BC1000XL		Yellow	2024-04-11	\$23,824.00		YES	NO	
Miscellaneous	FL_056	Water Tank & Flusher Nozzle	Attachments	Public Works							2024-04-11	\$41,491.00		NO	NO	
Light Duty Vehicle	FL_038	2022 Ford F150 - Chief's Truck	Pickup	Emergency	2022 Ford F150 - Chief's Truck	Ford	1FTFW1E52NKD75905	AS 70262	F150 4X4	White	2024-04-11	\$60,500.00		YES	NO	
Light Duty Vehicle	FL_007	2012 CHEV SILVERADO	Pickup	Environmental		Chevrolet	1GCNCPA8C2127506	AK90073	Silverado	Black	2024-04-11	\$18,396.00		YES	YES	
Light Duty Vehicle	FL_043	2021 By-Law Truck	Pickup	Corporate	2021 By-Law Truck	Chrysler	1C6RR7G0M5S46616	BK 64056	Dodge Ram	Red	2024-04-11	\$54,890.00		YES	NO	
Medium Duty Vehicle	FL_029	304 Pumper - 2017	Medium-Duty Vehicle	Emergency	Fire Truck - 304 Pumper - Grass fire off road unit	Chrysler	1C6RR7F7H1SS58007	AP 57894	Dodge 1500 4 x 4		2024-04-11	\$32,805.00		YES	NO	
Heavy Duty Vehicle	FL_013	427 Loader	Loaders / Backhoes	Public Works		Jimmy's Custom Build	JC842702LH2407416	NO PLATE		Yellow	2024-04-11	\$428,000.00			NO	
Heavy Duty Vehicle	FL_010	2018 International	Heavy-Duty Vehicle	Public Works	Plow Truck	International	3HTGRSNTJIN541203	AZ49885	WorkStar 7600	Red	2024-04-11	\$242,000.00		YES	YES	
Heavy Duty Vehicle	FL_020	Mahindra	Tractors	Public Works	2022 Mahindra 3400 tractor with a broom/snow blower blade, salt and	Mahindra	25HR085587	NO PLATE		Red	2024-04-11	\$55,524.00			NO	
Light Duty Vehicle	FL_045	2024 BISSB Truck	Pickup	Corporate	2024 BISSB - Truck White	DODGE	1C6RR7ST1P5S91460	BV 66644	RAM 1500	WHITE			EXCELLENT (1)	YES	YES	
Light Duty Vehicle	FL_041	2021 BISSB Truck	Pickup	Corporate	2021 BISSB Truck - Blue	Chrysler	1C6RR7GG8M5S54087	AW 13200	Dodge Ram	Blue	2024-04-11	\$37,651.00		YES	NO	
Heavy Duty Vehicle	FL_019	Sidewalk MT7	Tractors	Public Works	Trackless Sidewalk machine		1109	NO PLATE			2024-04-11	\$264,207.00			NO	
Light Duty Vehicle	FL_046	2023 BISSB - FORD ESCAPE	Utility Vehicle	Corporate	2023 - BISSB - FORD ESCAPE	FORD	1FMCU9M7PUB08707	CZTP961	ESCAPE	BLACK	2024-04-11	\$43,966.00		EXCELLENT (1)	YES	
Medium Duty Vehicle	FL_030	401 Pumper - 2013	Medium-Duty Vehicle	Emergency	Fire Truck - 401 Pumper Tanker 2000 Gallon	International	1HTWCAZRD4H16734	AF 15463	PUMPER	Red	2024-04-11	\$250,000.00		YES	NO	
Medium Duty Vehicle	FL_031	403 Rescue - 2005	Medium-Duty Vehicle	Emergency	Fire Truck #403 Rescue Cube Van	GMC	1GDJG31U851177802	985 4TH		Red	2024-04-11	\$27,809.00		YES	NO	
Heavy Duty Vehicle	FL_022	John Deere Grader - 2022	Graders	Public Works	Grader	John Deere	IDW770GPNCF714313	NO PLATE	770GP	Yellow				NO	NO	
Light Duty Vehicle	FL_011	2020 3/4 Ton Chev	Pickup	Public Works		Chevrolet	1GC5YLE7L2F211286	BC47930	SILVERADO 2500	Red	2024-04-11	\$46,587.54		YES	YES	
Miscellaneous	FL_051	Handy Hitch Packer	Attachments	Public Works	Handy Hitch	Handy Hitch				Yellow	2024-04-11	\$38,322.00		YES		
Heavy Duty Vehicle	FL_044	JOHN DEERE GRADER - 2024	Graders	Public Works	2024 - John Deere Grader	JOHN DEERE	IDW770GPPRF719159			YELLOW			EXCELLENT (1)	YES		
Light Duty Vehicle	FL_039	2021 Dodge Ram - FPO Truck	Pickup	Emergency	2021 Dodge Ram 1500 4 x 4	Chrysler	1C6RR7GT0M5S12252	851 3TR	1500 4 X 4	RED	2024-04-11	\$41,106.97		YES	NO	
Light Duty Vehicle	FL_009	2014 Dodge	Pickup	Public Works		Chrysler	1C6RR7F8E382030	AV87197	RAM 1500 4 x4	Red	2024-04-11	\$28,080.00		YES	YES	
Garden Equipment	FL_057	2020 Massey Ferguson	Mowers	Parks	2020 Massey Ferguson	Massey Ferguson				Red	2024-04-11	\$14,878.00	EXCELLENT (1)	NO	NO	
Light Duty Vehicle	FL_005	2010 DODGE 5500	Pickup	Public Works		Chrysler	3D6WD7EL7AG102963	AY57728	DODGERAM	Red	2024-04-11	\$66,652.00		YES	YES	
Medium Duty Vehicle	FL_026	301 Pumper - 2022	Medium-Duty Vehicle	Emergency	Fire Truck # 301 Pumper	Freightliner	1FVHC5FE6HNFX261		Pumper Tanker 2500 Gallon	Red	2024-04-11	\$529,916.55		YES	NO	
Light Duty Vehicle	FL_002	2021 MANAGER - CREW CAB	Pickup	Public Works	Crew cab 1500	Chrysler	1C6RR7GT3M5S54088	AR 37719	RAM 1500 CREW CAB	RED	2021-01-01	\$42,288.00		EXCELLENT (1)	YES	YES
Heavy Duty Vehicle	FL_008	2013 INTERNATIONAL	Heavy-Duty Vehicle	Public Works	Plow Truck	International	1HTGRSHITD2J152377	AR37717	WORK STAR 7600	Red	2024-04-11	\$191,293.00		YES	YES	

## Lifecycle Activities

Asset lifecycle activities consist of the following components.

Rehab	lifecycle events which may extend the life of the asset
Replace	activities once the asset has reach its end of life
Disposal	accounting and engineering activities which may have ongoing activities
Climate Change	Impact and access to renewable technologies

## Accurate lifecycle

Accurate lifecycle for each asset category is fundamental to establishing proper AM plan. Each lifecycle event is directly attributed to the proper inventory data collection. Each building comprises of various asset categories. Each asset category has a defined life expectancy. Each life expectancy is further defined by the amount of usage. The amount of usage is directly proportional to the efficiency of the unit and overall building.

Category	Life Expectancy (years)	Usage /Consumption
Land		
Parks	50	Remaining useful life
Parking lots	25	Remaining useful life
Cemeteries	50	Remaining useful life
Lagoons	25	Remaining useful life
Building		
Structural	50	Remaining useful life
Shell	40	Remaining useful life
Electrical	15	Condition rating / Run Hours
Mechanical	20	Condition rating / Run Hours
Inventory	10-20	Condition rating / Run Hours
Fleet / Equipment		
Emergency services	20	Condition rating / Run Hours / Km
Public Works	20	Condition rating / Run Hours / Km
Recreation	20	Condition rating / Run Hours / Km

## Asset Condition Information

Category	Current Condition rating	Optimal condition rating
Land	Estimated remaining useful life	Estimated remaining useful life
Buildings	Estimated remaining useful life	BCI
Inventory	Estimated remaining useful life	Condition rating
Fleet /Equipment	Estimated remaining useful life	inspections

## Inspections

The Municipality should take a proactive approach to measuring Level of service, by adopting the ORFA RFAM solution and cataloging each piece of inventory as well as the associated inspections. Inspections are classified as Predictive, Preventative and Reactive. These typical Inspections are categorized as regulatory, mandatory, health and safety and occurs daily, weekly, quarterly and annually. Sample of these inspections are;

Fleet	MTO inspections, Fire truck inspections
Building	subject to internal building inspections
Land	staff inspection, CSA, for play structures
Inventory	subject to regulatory Inspections
	Personal Preventative Equipment sent to manufacturer
	Fire suppression and extinguishers

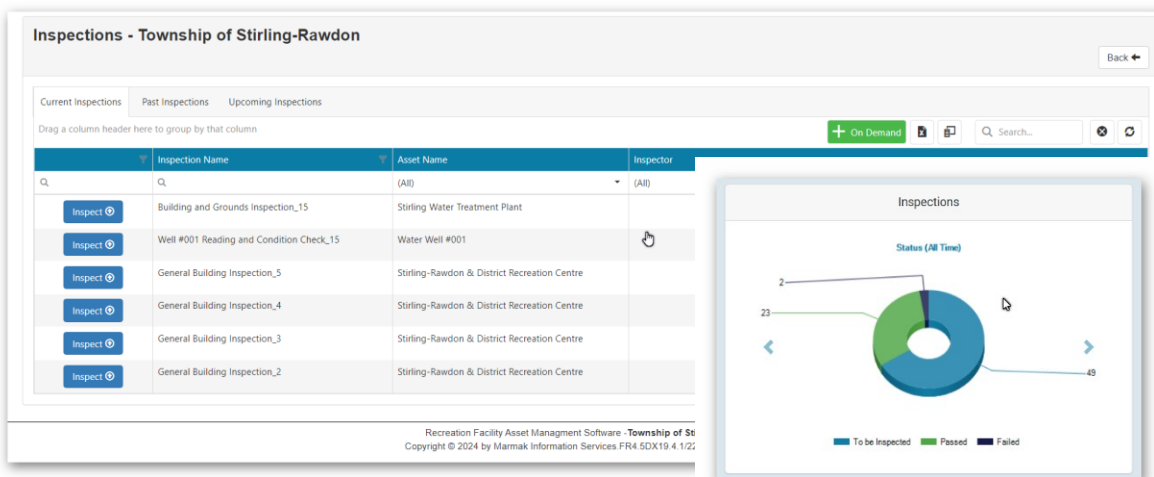
### Routine inspection

When properly monitored, inspections will provide analytically data which can be translated to proper Level of Service and their associated financial requirements. Not all annual inspections are always the same, and costs vary. In the case of a compressor

Number of Run Hours	Routine inspection	cost
4,000	Oil Change	\$ 2,000
8,000	Top end inspection	
12,000	Oil Change	\$ 2,000
16,000	Major Overhaul	\$10,000

### Routine inspections

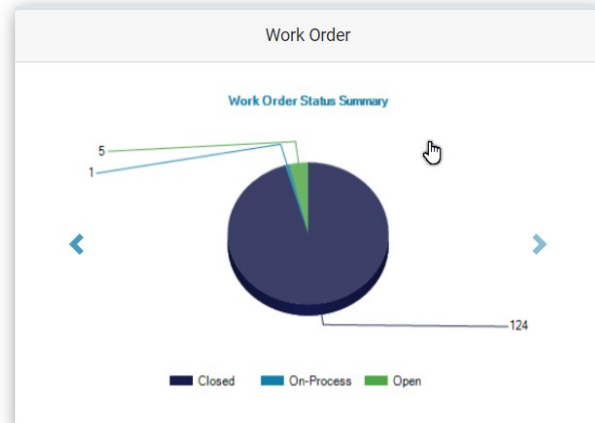
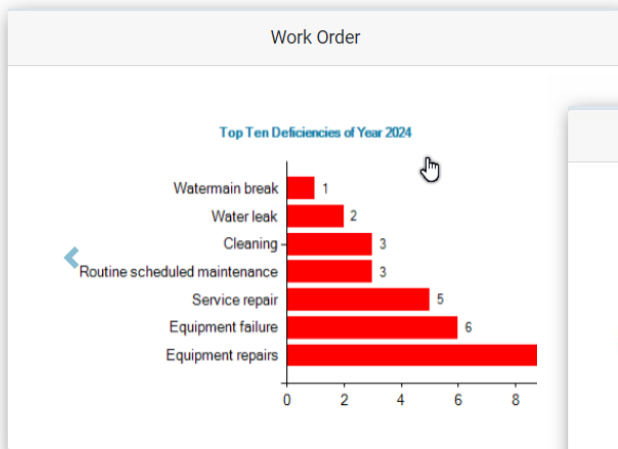
As an integral part of level of service, the municipality has begun to electronically collect and manage inspections to both facilities and individual assets. The municipality will overtime increase and customize the inspection which will translate to proposed level of service and the municipality's ability to financially afford the established levels of service.



## Work orders

The municipality has adopted an electronic work order system which it intends to deploy during the 2024 calendar year. Failed inspection lead to the creation of work orders. Work orders status is monitored to validate established Level of Services.

Edit Work Order	Case ID	Complaint	Subject	Lead Support	Service Category	Equipment Type	Deficiency	Priority	Address	Status	Created_Date	Expected_Date	Print	QR Code
	SR-C6ADSBE3-REC	JT		ROXANNE HEARNS	Recreation	ARENA COLD FLOOR	Cleaning	Immediate	36 Church Stirling	On-Process	May 29, 2024	June 3, 2024		





## Level of Service Overview

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Level of Service (LoS) is a balance between user expectations for overall quality, performance, availability, and safety versus affordability.

LoS requires asset category, performance measurement, a current measurement, a target measurement, an achievement date, an approximate cost, and a priority assigned to each performance measurement.

AMPs typically comprise of theoretical models which need to be vetted against operational models concluding with practical realities. LoS can be considered the practical component of an AMP. Operational and practical data is used to establish and validate LoS which in turn will feed into the financial component. This closed-loop approach will either validate the AMP or indicate required changes to the financial strategy. LoS is a key driver which influences asset management decisions, and depending on asset type can be either condition or age based.

LoS outlines the overall quality, performance, availability and safety of the service being provided. LoS contains a number of distinct categories:

- Service Identification
- Financial
- Municipal risk
- Community Expectations
- Technical component
- Strategic component

## Level of Service Policies

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The core purpose of a Municipality is to provide services to residents and other stakeholders. Physical assets are simply a portion of what is required to deliver the various levels of service as determined by the municipality. The Municipality needs to ensure that the infrastructure performs to meet the level of service goals at an affordable and sustainable cost. An objective of Levels of Service analysis is to find a balance between the expected levels of service and the cost of providing that level of service. Determining municipal level of service policies requires first developing a baseline for acceptable and affordable levels of service. This is done by first examining present-day service levels, community needs, regulatory or legal obligations and the cost-of-service delivery. Once present-day service levels have been examined, this baseline can be compared against level of service expectations.

## The Process

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**Levels of Service analysis may involve:**

1. Developing
  - Customer vs. Technical Levels of Service
  - Current vs. Expected Levels of Service
  - Use of performance measures
  - Financial validation

2. Communication
  - Receive input from staff
  - Receive input from citizens
  - Communicate the Levels of Service to stakeholders
  - Council approval of Levels of Service strategies
3. Update
  - Updating the Levels of Service Analysis on a yearly basis

## Financial investment

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The management of physical assets, their **selection, maintenance, inspection and renewal** plays a key role in determining the operational performance and viability of organizations that operate assets as part of their core business. Operational data is used to establish and validate LoS which in turn will feed into the financial component. This closed-loop approach will either validate the LoS strategies or indicates required changes to the financial strategy.

## Level of Service Matrix

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Determining the desired levels of service for asset is achieved with consideration of a number of factors including costs, user expectations and government mandated and minimum requirements. LOS outlines the overall quality, performance, availability, and safety associated to municipal assets and services. Each asset category can have its own Key Performance Indicator, current measurements, target measurements, achievement date, approximate costs associated to each component and a priority listing based on staff and council consensus. There are three (3) distinct categories of LoS:

- Municipal risk
- Asset life cycle cost implications
- Financial options

LoS outlines the overall quality, performance, availability and safety of the service being provided. Technical levels of service (TLS) outline the operating, maintenance, rehabilitation, and renewal strategies.

TLS outline the operating, maintenance, rehabilitation, renewal and upgrade activities expected to occur. TLS must be considered that also look at the risk associated with providing the service. Proposed targets for customer and technical levels of service must be included as part of the asset management strategy. Performance measures should be developed, and the actual results achieved reported and updated annually.

The target levels of service must be reviewed on a regular basis to determine if they are appropriate and achievable. Consideration should be given to risk and cost in the development of target levels of service.

All assets carry a level of risk for their users. Generally, when conducting risk assessment, two key factors that come into consideration are frequency of use and cost of improvement. Acceptable levels of risk may vary depending on their frequency of use.

Asset category	LEVEL OF SERVICE	Compliance
land	landscape maintenance	
	Blue/gray recycling	
	Landfill monitor report	
	Geographic Information System	
Buildings	Safe buildings	Building Inspections
	Meet legislative requirements	AODA Compliant
	Emergency accessibility	Distance from fire hall
	Building Condition Index (BCI)	UNIFORMAT II STANDARD
	Inventory	TSSA, CSA
	Energy Efficiency	O.Reg. 507/18 broader public Sector energy reporting
Fleet/Equipment	Routine inspections	MTO regulations
	Routine maintenance	

Asset category	LEVEL OF SERVICE	RESPONSE TIME	Tracking Methodology
Buildings	Foundation	1 Day	BCI
	Structure	1 Day	BCI
	Roof	1 Day	BCI
	Bylaw infractions	1 Day	COMTRACK
	Safety	½ Day	RFAM Inspections
	Electrical	1 Day	RFAM Inspections
	HVAC	1 Day	RFAM Inspections
	Plumbing	1 Day	RFAM Inspections
Fleet/Equipment	Maintenance	1 Day	RFAM Inspections

# Risk

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## Prioritization Matrix

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Assigning a base line value from 10 – 100 for each municipal asset category will enable to prioritize and compare various asset categories.

## Probability of Failure (PoF)

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Not all assets deteriorate at the same level. In some cases the deterioration may be quantitative as 2 Building Condition Index (BCI) per year while others may be based on asset longevity. As the assets deteriorate the probability of failure increases. PoF for an asset category requires a combination of attributes including baseline weight, material, classification, condition rating and useful life. These values are normalized to a value from 1-5. The condition rating and useful life are matched against a desired level of service for a visual representation. The results including percentage weight, produce a PoF rating from 1-5

## PoF Matrix

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PoF	Rating	Remaining useful life	Condition Index
1	Very Good	0-10% of UL	90 – 100
2	Good	11-30 % of UL	75 - 89
3	Fair	31-50 % of UL	50 - 74
4	Poor	51-65 % of UL	35 - 50
5	Very Poor	66 > % of UL	<34

## Consequence of Failure (CoF)

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Not all assets pose the same Consequence of Failure level. Even within the same category various pieces of equipment pose different risk or consequence of failure. CoF can be derived for each asset category from the calculation of an asset category baseline weight, and 5 criteria including; safety, operational, environment, finance, and legal.

## Risk lookup

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**Environmental conditions;** Values from 1- 5 with associated description and details outlining the severity of the consequence associated to the environment

**Financial conditions;** Values from 1- 5 with associated description and details outlining the severity of the consequence associated to the financial

**Health and safety conditions;** Values from 1- 5 with associated description and details outlining the severity of the consequence associated to the Health and safety

**Legal;** Values from 1- 5 with associated description and details outlining the severity of the consequence associated to the Legal

**Operational conditions;** Values from 1- 5 with associated description and details outlining the severity of the consequence associated to the Operational

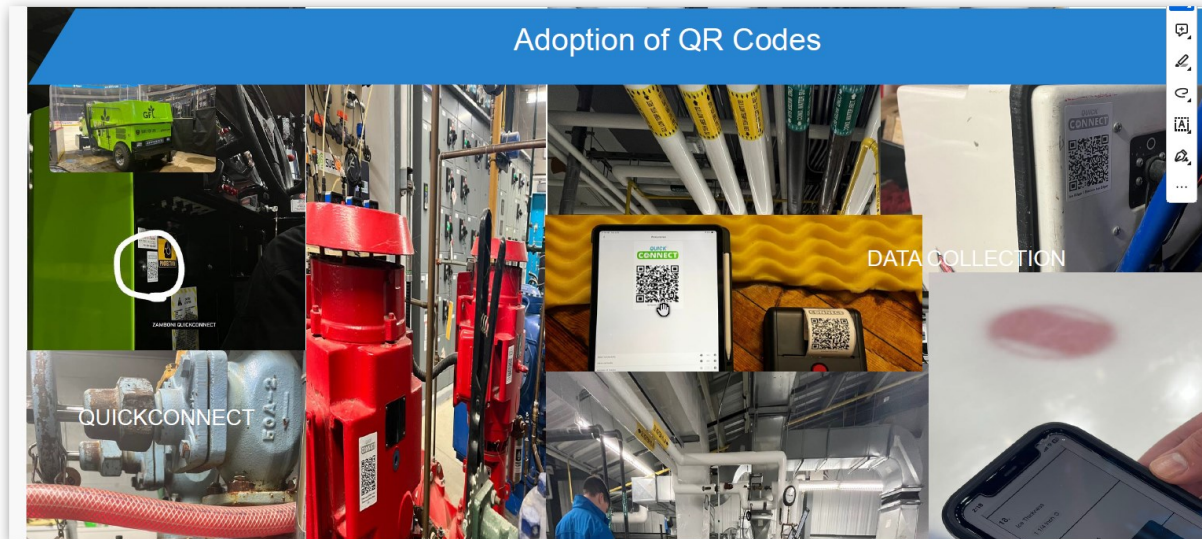
## Asset Risk

Category	Type	Data Confidence	PoF	CoF	RISK
Land	Municipal owned land	good	1	1	low
Buildings	Envelopes, Roof, foundations	good	2	3	Medium
Inventory	A collection of all capitalized inventory	good	2	2	Medium
fleet	Vehicles	good	2	3	Medium
Equipment	Various machinery	good	2	2	Medium

## Adoption of technologies

Adoption of various form of technologies may become useful in extending the life of the assets. Complex things like equipment automation or simple things like utilizing QR codes on inventory can eliminate costly mistakes by operators and service providers.

Building management technologies provides managers and operators with centralized control, monitoring and reporting. Building managers can remotely monitor and control status and health of the various components including, electrical, mechanical, and plumbing. By monitoring building's energy consumption in real time, managers can effectively manage their energy consumptions thereby eliminating unnecessary energy usage and reduce costs



## Climate change

### Energy Demands

The municipality should begin collecting energy consumption as part of future AM requirements.

- Meter each individual building
- Identify inventory assets which consume energy
- Collect water usage by building and associated various assets

O.Reg. 507/18 broader public Sector energy reporting and conservation and demand management plans include the summary for a year must include the following information for each of the public agency's prescribed operations:

1. The name of the building or facility.
2. The address of the building or facility.
3. The total floor area of the indoor space of the building or facility.
4. The type of the building or facility such as,
  1. Administrative offices and related facilities, including municipal council chambers.
  2. Public libraries.
  3. Cultural facilities, indoor recreational facilities and community centers,
  4. Ambulance stations and associated offices and facilities.
  5. Fire stations and associated offices and facilities.
  6. Police stations and associated offices and facilities.
  7. Storage facilities where equipment or vehicles are maintained, repaired or stored.
  8. Buildings or facilities related to the treatment of water or sewage.
  9. Parking garages.
5. A description of the days and hours in the year during which the building or facility is operated and, if the building or facility is operated on a seasonal basis, the period or periods during the year when it is operated.
7. The total amount of each type of energy that was consumed in the year to operate the building or facility and that was purchased by the public agency, regardless of when it was purchased.

Reporting Period: January 1st, 2021 to December 31st, 2021

Portfolio Manager Property ID	Property Name	Year Ending	Address 1	City	Postal Code	Property Area - Self Reported (m <sup>2</sup> )	Primary Property Type Self Selected	Custom Property ID 3 - ID	Custom Property ID 3 - Name	Natural Gas Use (therms)	Natural Gas Use (GJ)	Site Energy Use (GJ)	Source Energy Use (GJ)	Site EUI (GJ/m <sup>2</sup> )	Source EUI (GJ/m <sup>2</sup> )	Total (Location-Based) GHG Emissions (Metric Tons CO <sub>2</sub> e)	Total (Location-Based) GHG Emissions Intensity (kgCO <sub>2</sub> e/m <sup>2</sup> )	Electricity Use - Grid Purchase (kWh)	Electricity Use - Grid Purchase (GJ)
24330545	Colchester Harbour	En	100 Jackson Street	Colchester South	NOR 1G0	405.2	Social/Meeting Hall	80.0	Weekly Average Hours	2333.1	248.3	492.6	741.4	1.23	1.83	14.5	35.8	69744	250.3
24330546	Colchester Lagoons	12/31/2021	115 Cornwall	Colchester	NOR 1G0	185.8	Wastewater Treatment Plant	168.0	Weekly Average Hours	Not Available	Not Available	1638.1	3210.8	8.82	17.28	18.2	71	455040	1688.1
24330547	Essex Train Station	12/31/2021	87 Station St	Essex	NEM 2S6	213.7	Indoor Arena	10.0	Weekly Average Hours	20.4	2.2	71.2	137.5	0.33	0.64	0.7	3.1	19186	69.1
24330548	South Arena	12/31/2021	249 McKee Street	Harrow	NOR 1G0	4547.9	Ice/Curling Rink	80.0	Weekly Average Hours	10327.9	1089.7	2586	4038.4	0.57	0.89	66.8	14.7	417669.9	1496.3

### Ice Maintenance Efficiencies

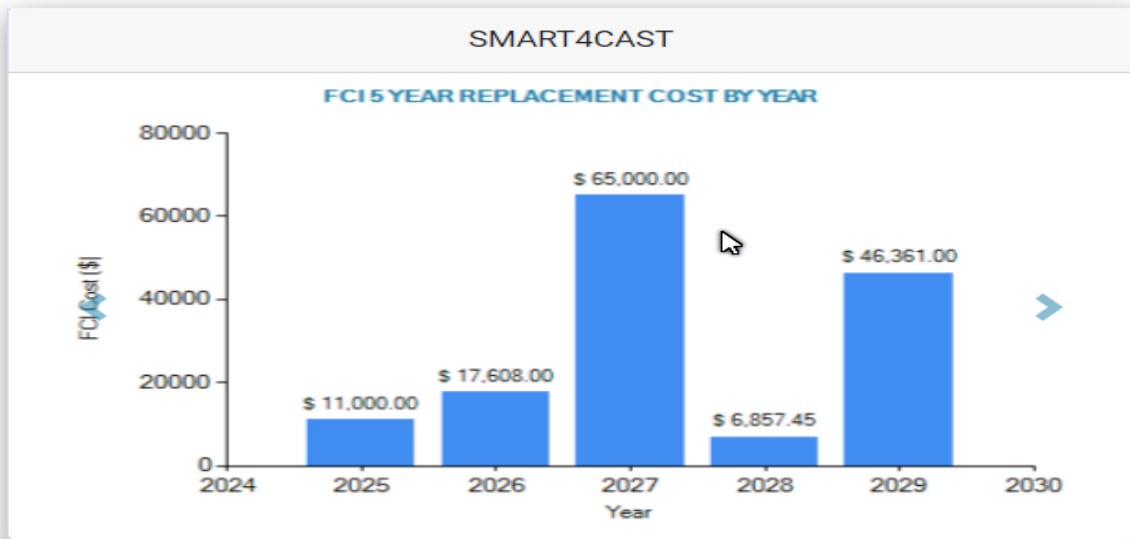
To maintain a quality sheet of ice the facility Operators need to schedule weekly maintenance of their ice surface to deliver the quality of product that their customers are accustomed to and at the same time to be mindful of the importance of Energy Efficiencies in their SOP.

Weekly ice depth checks need to be performed by the Operator to identify that they are maintaining the ice thickness that they expect. This could be anywhere from a 1.25" to 1.50". This is critical to maintain as the thickness of ice is a direct influence on the electrical consumption used to operate the facilities compressors in the refrigeration plant.

## Financial

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For every 0.50" of ice thickness the facility maintains the reflective cost per month of electricity used is +/- \$1000.00 per month per ice surface in the facility.





## Citizen engagement

The municipality has made citizen engagement a priority. It has adopted innovative technologies to collect and analyze citizen satisfaction.

The municipality is measuring 5 key indicators including, operational, security, amenities, professionalism, accessibility

## Occupiers liability act

The municipality will review its property assets to insure that premises are reasonably free of hazards. That entrants are reasonably safe, and establish and maintain a “standard of care”

### Occupiers' Liability Act

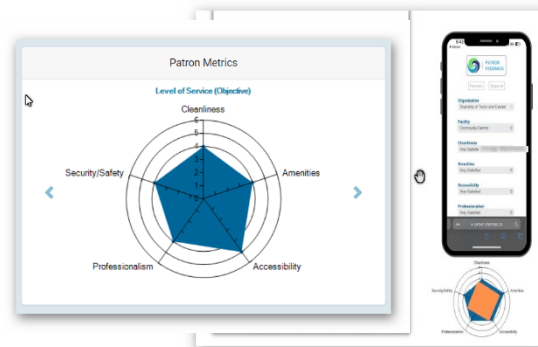
#### Legislation for Premises Liability

- This important legislation compels the Occupier, often the owner of the property (but not always!), to keep their premises reasonably free of hazards.
- Entrants to the property should expect a reasonably safe premises.
- Creates an important “standard of care.”

*“An occupier of premises owes a duty to take such care as in all the circumstances of the case is reasonable to see that persons entering on the premises, and the property brought on the premises by those persons are reasonably safe while on the premises.”*

## Patron feedback

The same QR code technologies used for inventory can be implemented within the municipal facilities to gather pertinent user satisfaction.



## Incident reporting

From both a liability and level of service perspective, the municipality should begin to electronically collect and manage incident occurrences with municipal owned properties.

### Incident Reporting

Auto/Collision, Property Loss, Liability Forms & Attachments.

The figure shows a tablet displaying an incident reporting form. The form is titled 'Incident Reporting' and includes the following sections and fields:

- ADD Location:** Facility Location (dropdown), Incident Area (dropdown), Date of Incident (calendar), Time of Incident (clock).
- Reported By:** Reported By (text), Report Submitted To (text), Name (text), Driver ID/ID#/Phone (text).
- Emergency Services:** License Plate (text), Attachments (checkbox), Emergency Services (checkbox).

## When assets become liabilities

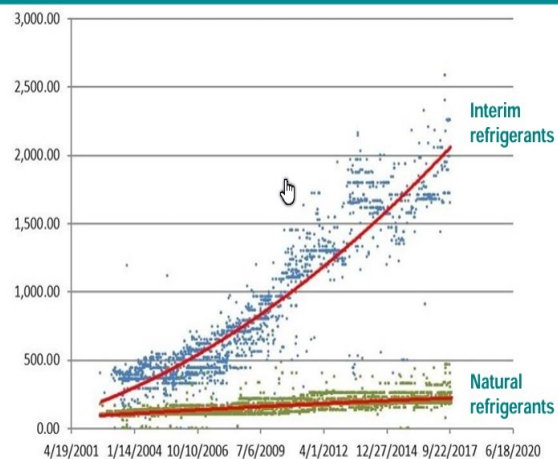
At the end of their natural life, assets will need to be disposed. Certain assets such as, old buildings, cemeteries, landfill sites, treatment laggons, water wells, ice rinks, ice resurfaces may require engineering decommissioning. At this point assets become liabilities with expenses associated to its decommissioning.

Further over time the cost of components needed to run facilities may become unmanageable. In some case due to federal laws become phased-out. Such is the case with regards to refrigerants.

## REFRIGERANTS PHASE-OUT

	REFRIGERANT	ODP	GWP	Phase out date
CFC	R-11	1	4000	1996
CFC	R-12	5	1300	1996
CFC	R-502	0.221	4500	1996
HCFC	R-22	0.05	1700	2010 & 2020
HFC	R-134a	0	1300	2025
HFC	R-404a			
HFC	R-407C			
HFC	R-507			
HFO/HFC	R-513a			
CO2	R-744			
AMMONIA	R-717			

## COST OF REFRIGERANTS

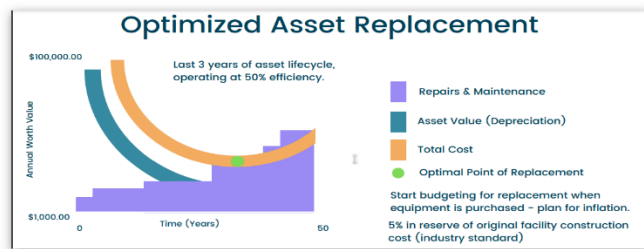


## Financial

Application for any OCIF funding, the municipality is required to provide Current Replacement Value. Where possible the municipality will record current replacement value on a per inventory record basis.

## Optimized Asset replacement

The municipality will begin to collect the financial investment for each asset, and establish a policy to determine cost remediation versus cost replacement



## Budget forecasting

Through the collection of proper inventory and appropriate data fields the municipality will begin the process of creating 10 - 50 years dynamic capital plan

## Equipment Utilization

The municipality has adopted an equipment Utilization index strategy to more accurately define assets which require immediate attention. This approach will indicate which similar assets have a shorter lifespan as a result of their daily usage, and thereby provide a more accurate replacement and lifecycle dates.

## Cost recovery

True replacement cost is best achieved through user defined accurate invoices and industry best practices. Costs derived by inflation calculation have not been found to be reliable. Costs include both Hard and Soft cost. The overall cost of the physical assets and the hourly wages. The municipality will review Funding opportunities including;

- Identify provincial or federal funding
- Raise taxes
- Reserves
- Establish user fees
- Debt



Appendix A building breakdown

Appendix B fleet breakdown

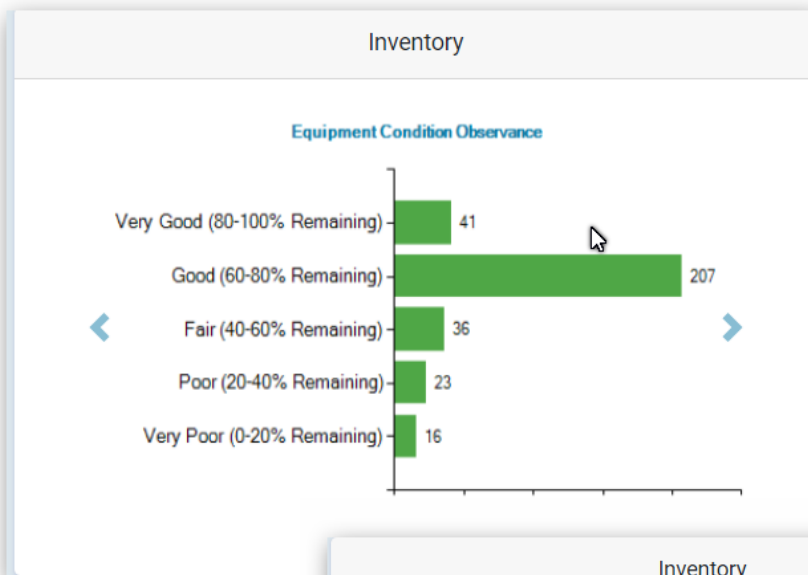
Appendix C land

Appendix D equipment

Appendix E Inspections

# Inventory

Administration, emergency, operational, community



Inventory

**SPOTLIGHT**  
RFAM MODULE HIGHLIGHTS

- Total Number of Assets: 53
- Total Number of Equipment: 323
- Total Value of Equipment: \$3,816,225.00

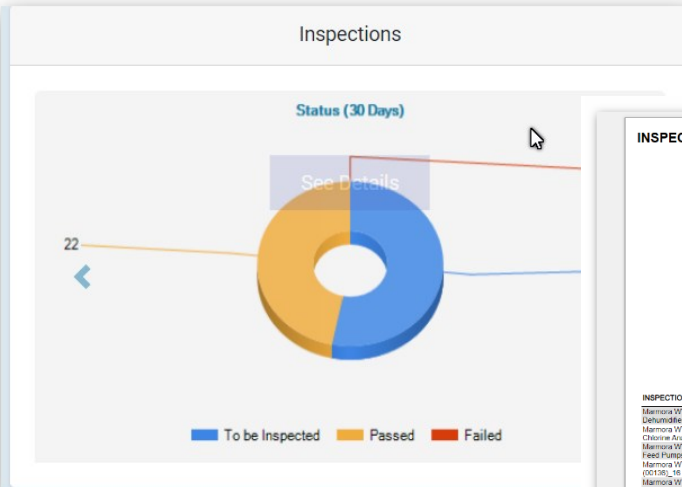
# Inspections

Inspections

SPOTLIGHT

RFAM MODULE HIGHLIGHTS

- Total Inspection: 1,200
- Average Daily Inspection: 1
- Today's Inspection: 0



INSPECTION SUMMARY CHART REPORT

No. of Inspections by Status

STATUS  
■ Passed

INSPECTION NAME	ASSET	ASSIGNED TO	INSPECTOR	ASSIGNED DATE	DATE INSPECTED	STATUS
Marmora WTP - Plant Scheduler (01/24)_16	Marmora Water Treatment Facility	Ethan Griffith	Paul Gordon	2024-05-01	2024-05-07	Passed
Marmora WTP - Monthly Pro Chlorine Analyzer (0006)_16	Marmora Water Treatment Facility	Ethan Griffith	Paul Gordon	2024-05-01	2024-05-07	Passed
Marmora WTP - Chemical Feed Pump (AU)_16	Marmora Water Treatment Facility	Ethan Griffith	Paul Gordon	2024-05-01	2024-05-07	Passed
Marmora WTP - Diesel Tank (01/16)_16	Marmora Water Treatment Facility	Ethan Griffith	Paul Gordon	2024-05-01	2024-05-07	Passed
Marmora WTP - Treated Filter Turbidity Analyzer #2 (00287)_16	Marmora Water Treatment Facility	Ethan Griffith	Paul Gordon	2024-05-01	2024-05-14	Passed
Marmora WTP - Treated Filter Turbidity Analyzer #1 (00006)_16	Marmora Water Treatment Facility	Ethan Griffith	Paul Gordon	2024-05-01	2024-05-14	Passed

# Risk

