THE CORPORATION OF THE TOWN OF COBALT

BY-LAW NO. 2022-17

Being a By-Law to adopt an Asset Management Plan

WHEREAS under Section 8. (1) of the Municipal Act, 2001, S.O., 2001, c.25, as amended, the powers of a municipality under this or any other Act shall be interpreted broadly so as to confer broad authority on the municipality to enable the municipality to govern its affairs as it considers appropriate and to enhance the municipality's ability to respond to municipal issues;

AND WHEREAS under Section 9 of the Municipal Act, 2001, S.O., 2001, c.25, as amended, a municipality has the capacity, rights, powers and privileges of a natural person for the purpose of exercising its authority under this or any other act;

AND WHEREAS under Section 10 (1) of the Municipal Act, 2001, S.O. 2001, c.25 as amended, a single tier municipality may provide any service or thing that the Municipality considers necessary or desirable for the public;

AND WHEREAS the Council of the Town of Cobalt deems it desirable to have an Asset Management Plan;

NOW THEREFORE BE IT RESOLVED THAT the Council of the Corporation of the Town of Cobalt hereby enacts as follows**:**

1 That By-Law 2022-17 being an Asset Management Plan for the Town of Cobalt and Appendix "A" be adopted as presented;

2 That the Clerk of the Town of Cobalt is hereby authorized to make any minor modifications or corrections of an administrative, numerical, grammatical, semantically or descriptive nature or kind to the By-law and schedules as may be deemed necessary after the passage of this By-Law;

TAKEN AS READ a first, second and third time and finally passed this 18th day of October 2022;

AND FURTHER THAT the said By-Law be signed and sealed by the Mayor and Clerk.

Mayor

Clerk

APPENDIX "A"

Asset Management Plan

Prepared for:

The Corporation of the Town of Cobalt

Glossary of Terms

Level of Service	Technical Level of Service (TLoS) is measured through a performance condition indexes, remaining useful life, inspections or various asset attributes including number of deficiencies.
Baseline weight	Baseline Weight is a numeric value assigned to each asset category as a starting position or handicapping. Baseline weight enables the municipality to prioritize the asset category with relationship to other municipal assets
PoF	Probability of failure (POF) is a rationalized value for level of service, derived from several factors including, the condition rating of an asset, the remaining useful life, the priority and network value of the asset.
CoF	Consequence of failure (COF) is rationalized from 5 key attributes associated to risk. These are; environmental, financial, Health and safety, Legal and Operational conditions. These conditions, descriptions and details outline the severity of the consequence associated with each attribute
Risk	Risk is a combination as PoF and CoF which identifies the ramifications associated with a lack of action
Risk Matrix	Risk matrix corresponds to conditions ranging from negligible to serious • **Very High Risk:** Maximum risk mitigation measures should be in place, together with recovery plans, and availability of critical spares. • **High Risk:** risk mitigation measures should be in place providing layers of deterrence, high probability of detection, and rapid effective response. Insurance coverage is essential but may not be able to provide adequate coverage to prevent significant liability. • **Moderate Risk:** Risk should be managed by the introduction of mitigation strategies and operational procedures. • **Low Risk:** Minimal risk mitigation measures necessary. Risk should be managed through operational procedures, or accepted as a low business risk.
MMS O.Reg. 239/02	Minimum maintenance standards were developed to provide municipalities with a defence against liability from actions arising with regard to levels of care on roads and bridges. Regulation 239/02, which came into force on November 1, 2002, contains the minimum maintenance standards
O.Reg. 588/17	On January 1, 2018, Ontario Regulation 588/17: Asset Management Planning for Municipal Infrastructure came into effect. The regulation sets out requirements for municipal asset management planning to help municipalities better understand their infrastructure needs and inform infrastructure planning and investment decisions

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

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.

Council Responsibility

- 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.
- Council must be educated on the asset management strategies which comprise of lifecycle events in order to reduce risk impact.
- Council's responsibility is to provide direction to staff while supporting qualified staff in their choices.
- The frequency of these reviews should be established and followed by staff as part of the Asset Management Policy
- Validate and support the amount of time it will take to reach expected Levels of Service

Asset Management Components

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
- operations, such as increased maintenance schedules

Lifecycle Management

- 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

- Establishing Level of services
- The risks associated with the options

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.

Municipal Engagement

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

Level of Service Policies

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

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

Level of Service Overview

LoS is a balance between user expectations for overall quality, performance, availability, and safety versus affordability.

Level of Service 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

Financial investment

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. LoS typically comprise of theoretical models which need to be vetted against practical realities. 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.

LOS Matrix

Determining the desired levels of service for core asset type 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.

LoS is a balance between user expectations for overall quality, performance, availability, and safety, versus affordability. 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. LoS is a balance between user expectations for overall quality, performance, availability and safety versus affordability

Technical levels of service (TLS) outline the operating, maintenance, rehabilitation, and renewal strategies. Technical levels of service outline the operating, maintenance, rehabilitation, renewal and upgrade activities expected to occur. Technical levels of service 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.

Risk

Prioritization Matrix

Assigning a base line value from 10 – 50 for each municipal asset category will enable to prioritize and compare various asset categories. Is a road more important than a waterline, more important than a firetruck?

Probability of Failure (PoF)

Begin by establishing a desired level of service. For road assets it may be a PCI rating of 75.

Not all assets deteriorate at the same level. For certain road assets PoF may be associated to PCI rating of 75, for other assets such as water it may be remaining useful life. In some cases the deterioration may be quantitative as 2 pci per year while others may be based on asset longevity. As the assets deteriorate the probability of failure increases. POF for an asset category such as roads 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 are including percentage weight produce a PoF rating from 1-5

PoF Matrix

PoF	Rating	Age Based	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)

Not all assets pose the same level of risk. Even within the same category a road in front of a hospital, over a body of water, or a main road versus a cottage road 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

Environmental conditions; Values from 1- 10 with associated description and details outlining the severity of the consequence associated to the environment
Financial conditions; Values from 1- 10 with associated description and details outlining the severity of the consequence associated to the financial
Health and safety conditions; Values from 1- 10 with associated description and details outlining the severity of the consequence associated to the Health and safety
Legal; Values from 1- 10 with associated description and details outlining the severity of the consequence associated to the Legal
Operational conditions; Values from 1- 10 with associated description and details outlining the severity of the consequence associated to the Operational

Data Validation and visualization

Accurate inventory

- Accurate inventory
  - Sufficient fields of information
  - Proper structure
  - Dates such as installation, replacement, useful life
- Current condition ratings utilizing any criteria such as PCI or percentage of Remaining Useful Life
- Calculating Total km of infrastructure broken down into major categories
- Connecting Components to standards
  - Road assets connected to MMS standards; Gravel, HCB, LCB ……
- Establishing and Validated lifecycle event strategies
  - such as maintenance, rehabilitation, reconstruction
- Consistent Condition evaluation methodology
  - Piped linear to include flushing, camera inspections, relining
- Financial constraints, validate replacement costs
  - square meter costs per unit of roads
  - linear meter costs for piped infrastructure
- Data Visualization
  - Utilizing a variety of tools to visualize location of assets.
  - This may include photos, videos, integration to corporate GIS solution as well as links into Google Maps.
- 10 year capital plan

Asset Matrix

Category	Type	Confidence
Roads	Roads	High
	Sidewalks	Medium
	Gutters	Medium
	Point furniture	High
Bridges and culverts	Bridges	High
	Culverts >3	Medium
	Culverts <3	Medium
Water	Mains	High
	Hydrants	High
	Valves	Medium
Storm water	Storm lines	High
	Catch basins	High
	Manholes	High
	Culverts	Medium
Wastewater	Sewer lines	High
	Manholes	High

Asset Condition Information

Category	Type	Current Condition rating	Optimal condition rating
Roads	roads	Estimated useful life	PCI
	Sidewalks	Estimated useful life	inspections
	gutters	Estimated useful life	inspections
	Point furniture	Estimated useful life	inspections
Bridges and culverts	bridges	Estimated useful life	OSIM
	Culverts >3	Estimated useful life	OSIM
	Culverts <3	Estimated useful life	inspections
Water	Mains	Estimated useful life	inspections
	hydrants	Estimated useful life	inspections
	valves	Estimated useful life	inspections
Storm water	Storm lines	Estimated useful life	inspections
	Catch basins	Estimated useful life	inspections
	manholes	Estimated useful life	inspections
	culverts	Estimated useful life	inspections
Waste water	Sewer lines	Estimated useful life	inspections
	Manholes	Estimated useful life	inspections

Asset attributes

Asset category	Asset attributes	Data collection
Road	Area square	90% Completed
	Road class	90% Completed
	Surface material	90% Completed
Water	Length	90% Completed
	Diameter	90% Completed
	Material	80% Completed
	Classification	90% Completed
Storm	Length	90% Completed
	Diameter	90% Completed
	Material	80% Completed
	Classification	90% Completed
Sanitary	Length	90% Completed
	Diameter	90% Completed
	Material	80% Completed
	Classification	90% Completed
Bridges	Length	90% Completed
	Span	80% Completed
	Classification	80% Completed

Applicable legislation

The risk matrix is to be vetted against the financial costs associated in mitigating the municipal risks as well as the legislative requirements.

Legislation	Compliancy
Municipal Act, 2001	Compliant
MMS O.Reg, 239/02	Compliant
Standards for bridges O.Reg, 104/97	Compliant
Ontario Traffic Manual	Compliant
Water act 2010	Compliant
Environmental assessment act	Compliant
Environmental protection act	Compliant

Roads

Service attribute	**Community levels of service (qualitative descriptions)**		**Technical levels of service (technical metrics)**	

Scope	**Description, which may include maps, of the road network in the municipality and its level of connectivity.**	Refer to Appendix A	**Number of lane-kilometers of each of arterial roads, collector roads and local roads as a proportion of square kilometers of land area of the municipality.**	Arterial: 2209.9 Km Collector: 1478.7 Km Local: 12619.8 Km
Quality	**Description or images that illustrate the different levels of road class pavement condition.**	Refer to Appendix A	**1. For paved roads in the municipality, the average pavement condition index value.** **2. For unpaved roads in the municipality, the average surface condition (e.g. excellent, good, fair or poor).**	1. The average PCI for paved roads in Cobalt is 67. 2. The average surface condition for roads in the municipality is fair.

O. Reg. 588/17

Requirements

Key Performance Indicators (KPI)

Road Performance Measurements may include:

- Riding comfort Index (RCI)
- Surface distress Index (SDI)
- Structural Adequacy Index (SAI)
- Pavement Condition Index (PCI)
- Pavement Quality Index (PQI)

The LOS Target

The Municipality has established a PCI rating for the target level of service for roads by classifying road segments based on surface types and the Minimum maintenance standard 389 (traffic and speed) others. The desired level of service for Municipal roads is to maintain an average weighted condition rating of for the entire road network based on each asset category such as HCB, LCB, and gravel. The municipal road network should be evaluated through completion of the 10 Year Roads Improvement Plan. The rating system consists of a number 1 through 100. For the purposes of this LOS, the following assumptions were made for road deterioration rates:

- Gravel Roads - Condition rating is maintained with regular maintenance
- Low Class Bituminous Roads - Condition rating reduced by 1 PCI per year
- High Class Bituminous Roads - Condition rating reduced by 2 PCI per year

Technical level of service

Water	Estimated Useful Life	Existing Rating	Target Rating	Approximate Cost
H.C.B (Asphalt)	25 Years	67	70	$14,946,000.00
L.C.B (Surface Treatment)	20 Years	73	75	$1,130,000.00
Gravel >50 AADT	20 Years	Fair	Good	$1,620,000.00

O. Reg. 588/17 Requirements

Service attribute	Community levels of service (qualitative descriptions)		Technical levels of service (technical metrics)	
Scope	**1. Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal water system.** **2. Description, which may include maps, of the user groups or areas of the municipality that have fire flow.**	1. Refer to Appendix B. Nearly all user groups and areas are connected to the municipal water system. 2. All user groups and areas in the Town have fire flow.	**1. Percentage of properties connected to the municipal water system.** **2. Percentage of properties where fire flow is available.**	1. Approximately 98% of properties in the Town of Cobalt are connected to the municipal water system. 2. Fire flow is available to 100% of properties in the Town of Cobalt.
Reliability	**Description of boil water advisories and service interruptions.**	Examples of boiled water advisories and service interruptions include watermain breaks and unexpected water sampling results.	**1. The number of connection-days per year where a boil water advisory notice is in place compared to the total number of properties connected to the municipal water system.** ***2.*** **The number of connection-days per year due to water main breaks compared to the total number of properties connected to the municipal water system.**	1. On average, there are between 2-3 days per year where a boil water advisory is in place. 2. On average there are 2 connection days per year with a watermain break.

Technical level of service

Water	Estimated Useful Life	Existing Rating	Target Rating	Approximate Cost
Watermain	100 years	Average UL of 74 Years	UL > 50 years/Good condition	$7,641,000.00
hydrant	50 Years	Hydrants are in good working condition	Good Condition	$704,000.00
Structures (valves)	40 Years	Valves are in good working condition	Good Condition	$318,000.00

WASTEWATER

O. Reg. 588/17 Requirements

Service attribute	Community levels of service (qualitative descriptions)		Technical levels of service (technical metrics)	
Scope	**Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal wastewater system.**	Refer to Appendix C. Nearly all user groups and areas are connected to the municipal wastewater system.	**Percentage of properties connected to the municipal wastewater system.**	Approximately 95% of properties in the Town of Cobalt are connected to the municipal wastewater system.
Reliability	**1. Description of how combined sewers in the municipal wastewater system are designed with overflow structures in place which allow overflow during storm events to prevent backups into homes.** **2. Description of the frequency and volume of overflows in combined sewers in the municipal wastewater system that occur in habitable areas or beaches.** **3. Description of how stormwater can get into sanitary sewers in the municipal wastewater system, causing sewage to overflow into streets or backup into homes.** **4. Description of how sanitary sewers in the municipal wastewater system are designed to be resilient to avoid events described in paragraph 3.**	1. There are no overflow structures in place. 2. There are no frequent overflows that occur in habitable areas or beaches. 3. There are no known cross-connections between stormwater and wastewater. 4. All new construction must be in compliance with by-laws.	**1. The number of events per year where combined sewer flow in the municipal wastewater system exceeds system capacity compared to the total number of properties connected to the municipal wastewater system.** **2. The number of connection-days per year due to wastewater backups compared to the total number of properties connected to the municipal wastewater system.**	1. There are 0 events per year on average where combined sewer flow in the municipal wastewater system exceeds system capacity compared to the total number of properties connected to the municipal wastewater system. 2. There are 0 connection-days per year on average due to wastewater backups compared to the total number of properties connected to the municipal wastewater system.

	5. Description of the effluent that is discharged from sewage treatment plants in the municipal wastewater system.	5. The Town of Cobalt has a standard wastewater collection system with a non-traditional wastewater wetlands treatment system.	**3. The number of effluent violations per year due to wastewater discharge compared to the total number of properties connected to the municipal wastewater system.**	3. The Town of Cobalt uses a unique wetlands wastewater treatment system. The town currently is working with MOE to bring the system back into compliance.

Technical level of service

Wastewater	Estimated Useful Life	Existing Rating	Target Rating	Approximate Cost
Sewer line	100 years	Average UL of 21 Years	UL > 50 years/Good condition	$5,972,000.00
Manhole	75 Years	Manholes are in good working condition	Good Condition	$934,200.00

STORMWATER

O. Reg. 588/17 Requirements

Service attribute	Community levels of service (qualitative descriptions)		Technical levels of service (technical metrics)	
Scope	**Description, which may include maps, of the user groups or areas of the municipality that are protected from flooding, including the extent of the protection provided by the municipal stormwater management system.**	Refer to Appendix D for a map of the Town's stormwater system. All areas of the municipality are protected from flooding. The Town of Cobalt has no history of flooding.	**1. Percentage of properties in municipality resilient to a 100-year storm.** **2. Percentage of the municipal stormwater management system resilient to a 5-year storm.**	1. 100% of properties in the Town of Cobalt are resilient to a 100-year storm 2. 100% of municipal stormwater management system in the Town of Cobalt is resilient to a 5-year storm

Technical level of service

Stormwater	Estimated Useful Life	Existing Rating	Target Rating	Approximate Cost
Storm Main	75 years	Average UL of 57 years	UL > 50 years/Good condition	$2,294,000.00
Manhole	50 Years	Manholes are in good condition	Good Condition	$329,400

Bridges

O. Reg. 588/17 Requirements

Service Attribute	Community levels of service (qualitative descriptions)		Technical levels of service (technical metrics)	
Scope	**Description of the traffic that is supported by municipal bridges (e.g., heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists).**	The municipal bridge is a connecting link with Highway 11B, and supports all types of traffic.	**Percentage of bridges in the municipality with loading or dimensional restrictions.**	There are no bridges in the municipality with loading or dimensional restrictions.
Quality	**1. Description or images of the condition of bridges and how this would affect use of the bridges.**	**1.** The Town of Cobalt recently completed an engineering review of our one bridge, and minor deficiencies have been rectified. The bridge is in good working condition.	**1. For bridges in the municipality, the average bridge condition index value.**	1. The Town's only bridge on Lang Street is in good condition based on our 2021 OSIM inspection

Bridges and structural culverts of greater than 3-meter spans consist of many different components with varying life expectancies, generally ranging from 50 to 75 years. The condition of a bridge is evaluated by completing mandatory biennial OSIM inspections which provide detailed condition ratings of all the components of each structure. The condition of the various components is described by one of four ratings, being Excellent, Good, Fair or

- No Load Posting of Structure
- Two lane crossing
- Guiderail protected with proper end treatments
- Good sight lines on the approaches to the water crossing

The following is recommended to meet desired levels of service for structures:

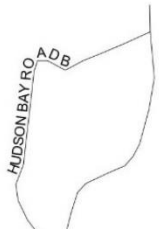
- Complete OSIM inspections as mandated by Ontario Regulation 104/97 Standards for Bridges
- Implement studies and repairs as outlined in OSIM reports

Technical level of service

Bridges	Estimated Useful Life	Existing Rating	Target Rating	Approximate Cost

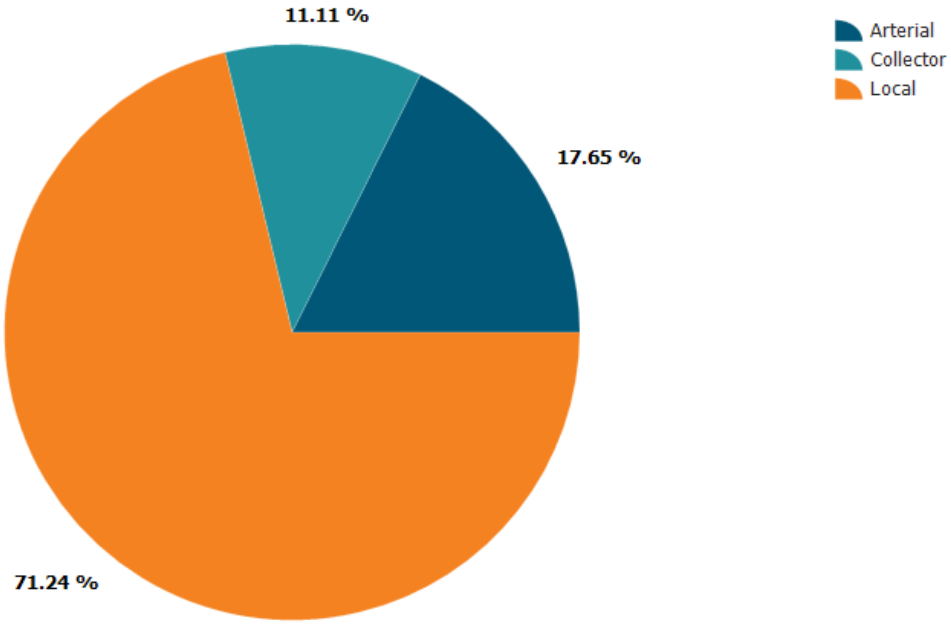
Bridges	75 years	Lang Street Bridge is in good condition	Good condition	$2,800,000

Appendix A



LINEAR ASSETS BY CLASS TYPES

Road Section



CLASS TYPE	SURFACE TYPE	No. OF ASSETS	LENGTH (In Meters)
Local		7	1067.8
Arterial	High Class Bituminous (HCB)	21	1883
Collector	High Class Bituminous (HCB)	17	1478.7
Local	High Class Bituminous (HCB)	76	8951.5
Arterial	Low Class Bituminous (LCB)	6	326.9
Local	Low Class Bituminous (LCB)	15	1017
Local	Gravel	10	1489.9
Local	Earth	1	93.6

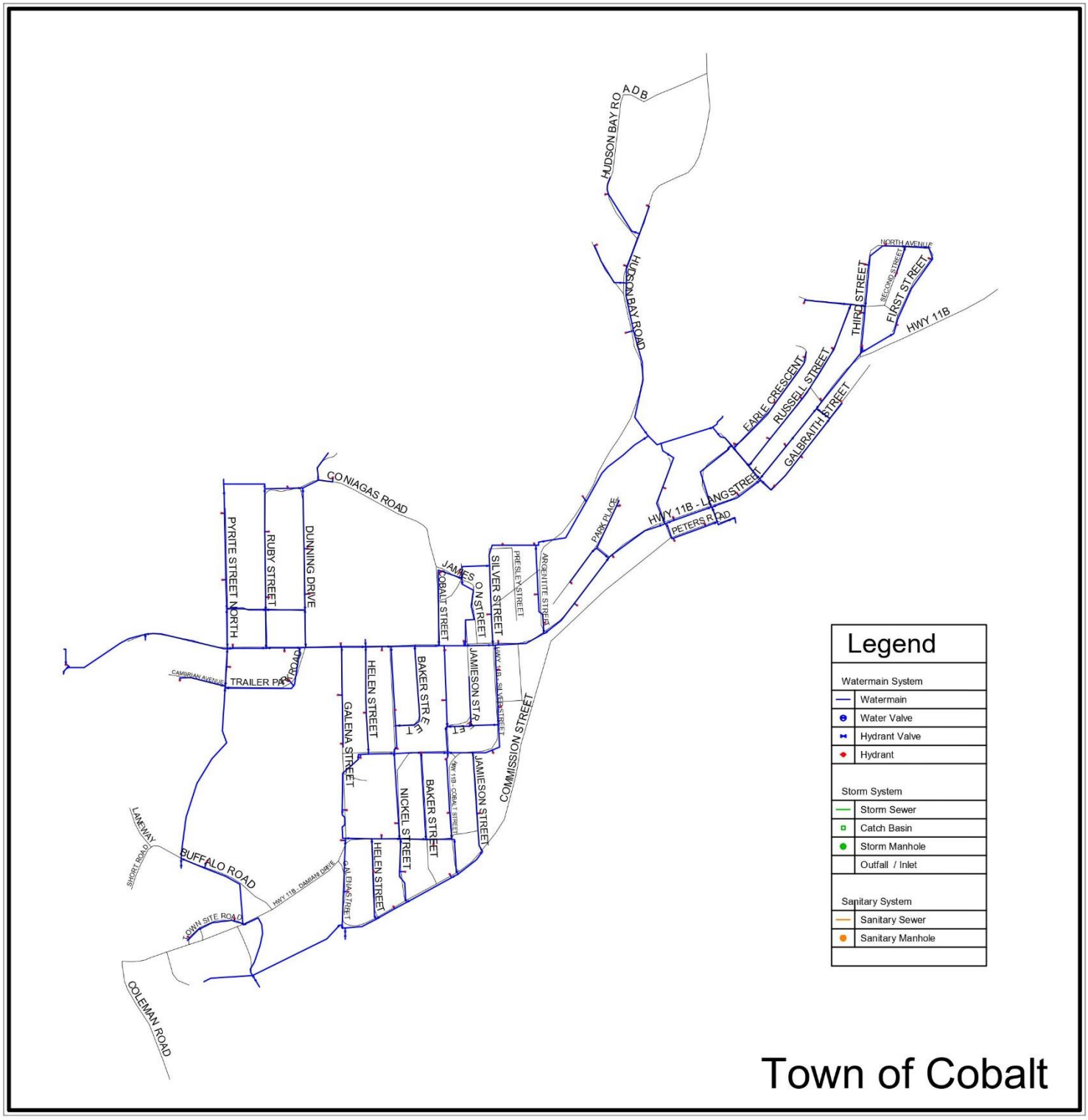
Sum Assets: 153 Sum Length: 16308.4 Meters

Total Assets: 153 Total Length: 16308.4 Meters

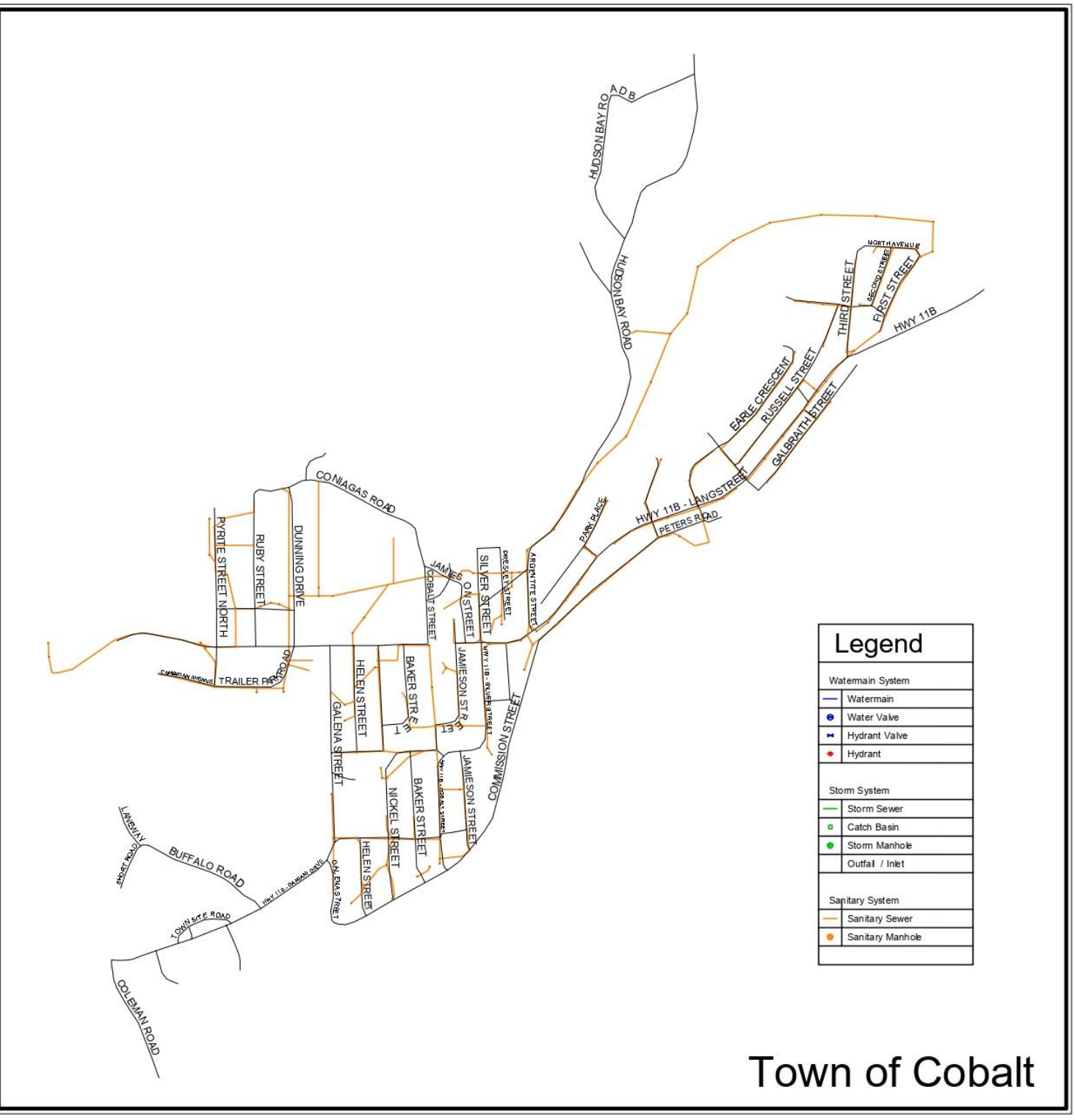
Assets with NULL Condition Rating does not appear on the report

1/1

Appendix B


HUDSON BAY ROAD
HUDSON BAY ROAD
NORTH AVENUE
SECOND STREET
THIRD STREET
FIRST STREET
HWY 11B
EARLE CRESCENT
RUSSELL STREET
GALBRAITH STREET
HWY 11B - LANG STREET
PETERS ROAD
PARK PLACE
CONIAGAS ROAD
PYRITE STREET NORTH
RUBY STREET
DUNNING DRIVE
JAMES
COBALT STREET
SILVER STREET
PRESLEY STREET
ARGENTITE STREET
CAMBRIAN AVENUE
TRAILER PARK ROAD
HELEN STREET
BAKER STREET
JAMIESON STREET
HWY 11B - SILVER STREET
COMMISSION STREET
GALENA STREET
NICKEL STREET
HWY 11B - COBALT STREET
LANEWAY
SHORT ROAD
BUFFALO ROAD
HWY 11B - DAMIAN DRIVE
GALENA STREET
TOWN SITE ROAD
COLEMAN ROAD
Legend
Watermain System
Watermain
Water Valve
Hydrant Valve
Hydrant
Storm System
Storm Sewer
Catch Basin
Storm Manhole
Outfall / Inlet
Sanitary System
Sanitary Sewer
Sanitary Manhole
Town of Cobalt

Appendix C


HUDSON BAY ROAD
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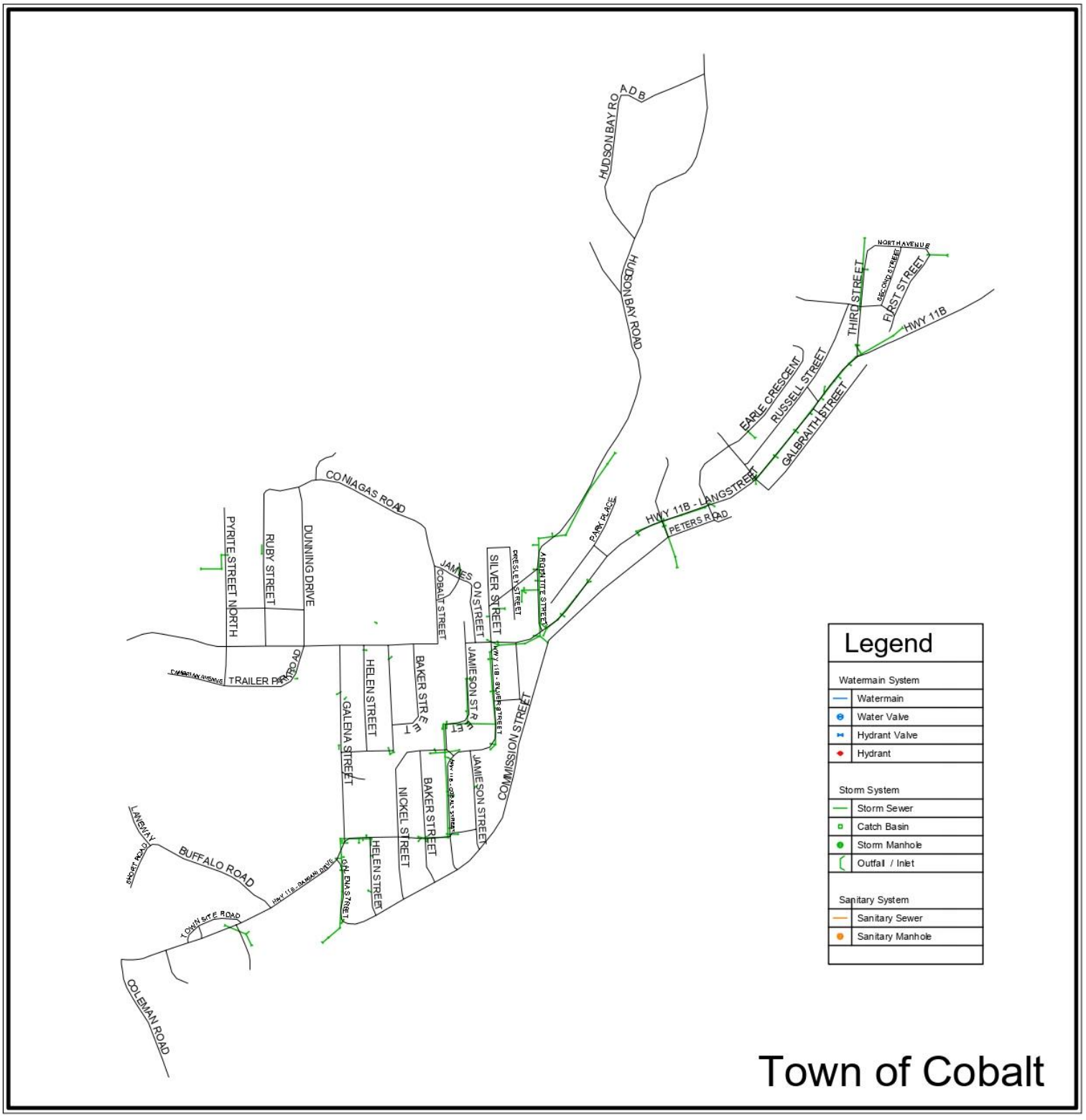
CONIAGAS ROAD
PYRITE STREET NORTH
RUBY STREET
DUNNING DRIVE
JAMES
COBALT STREET
ON STREET
TRAILER PARK ROAD
HELEN STREET
BAKER STREET
JAMIESON STREET
HWY 11B - SILVER STREET
GALENA STREET
NICKEL STREET
COMMISSION STREET
LANEWAY
BUFFALO ROAD
HWY 11B - DAIMAN DRIVE
TOWN SITE ROAD
COLEMAN ROAD
Legend
Watermain System
Watermain
Water Valve
Hydrant Valve
Hydrant
Storm System
Storm Sewer
Catch Basin
Storm Manhole
Outfall / Inlet
Sanitary System
Sanitary Sewer
Sanitary Manhole
Town of Cobalt

Appendix D


HUDSON BAY ROAD
HUDSON BAY ROAD
CONIAGAS ROAD
PYRITE STREET NORTH
RUBY STREET
DUNNING DRIVE
COBALT STREET
JAMESON STREET
SILVER STREET
PRESLEY STREET
ARGENTITE STREET
PARK PLACE
HWY 11B - LANGSTREET
PETERS ROAD
EARLE CRESCENT
RUSSELL STREET
GALBRAITH STREET
THIRD STREET
SECOND STREET
FIRST STREET
NORTH AVENUE
HWY 11B
TRAILER PARK ROAD
HELEN STREET
BAKER STREET
GALENA STREET
NICKEL STREET
JAMIESON STREET
COMMISSION STREET
HWY 11B - SILVER STREET
LANEWAY
SHORT ROAD
BUFFALO ROAD
HWY 11B - DUNDAS DRIVE
TOWN SITE ROAD
COLEMAN ROAD
Legend
Watermain System
Watermain
Water Valve
Hydrant Valve
Hydrant
Storm System
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