

# Municipality of Port Hope

## Capital Projects

<b>Project</b>	4010 Chemical Dosing Panels Replacement		
<b>Department</b>	Wastewater		
<b>Version</b>	04 Approved by Council	<b>Year</b>	2021

### Description

#### Project Description

Wastewater Treatment Plant (WWTP) chemical dosing panel replacements:  
 2020 - Sodium Hypochlorite panel requirements piping and pump accessories replaced; 2021 - Alum Sulfate panel full replacement

#### Project Justification

Panels comprised of PVC piping have degraded and often leak. Require weekly repairs, presents health and safety risk to operators and high risk of disinfection failure.

Proper operation of these chemical systems are essential to process operation and Ministry of Environment Conversation and Parks (MECP) compliance. The Unistrut mounting for panels and Alum dosing panel needs to be replaced at the same time. Full replacement will include upgrading pipe from PVC to materials with a longer useful life (i.e. Chem-flare or teflon); new technology for enclosed valve assemblies (i.e. DICE) and chemical resistant mounting.

New design will require engineering drawings to be generated and the design will focus on reduced maintenance needs, maintenance friendly, and chemical contact reduction.

Components of chemical disinfection system to be relocated and reallocated for an automated back-up disinfection system. Back-up system to include same betterments included in replacement of the alum dosing panel.

### Budget

	Total	Prior Years	2021	2022	2023	2024	2025
<b>Expenditures</b>	<b>66,850</b>	<b>15,000</b>	<b>51,850</b>				
<b>Funding</b>							
<b>Utility Rates &amp; Reserves</b>							
Contrib fr Wastewater R/F	66,850	15,000	51,850				
<b>Funding Total</b>	<b>66,850</b>	<b>15,000</b>	<b>51,850</b>				

# Municipality of Port Hope

## Capital Projects

<b>Project</b>	4010 Chemical Dosing Panels Replacement		
<b>Department</b>	Wastewater		
<b>Version</b>	04 Approved by Council	<b>Year</b>	2021

Attributes		
Attribute	Value	Comment
Attributes		
Department	Wastewater	
Project Type	Replacement	
Replacement Type	Replacement - Upgrade	
Tax Levy Allocation	Utilities	
Physical Boundary Location	Urban Port Hope	
Identified in any Council Approved Plan?	Yes	
Identify Council Approved Plan(s)	2020 Water and Wastewater Rate Study	Project WWTP-8 & WWTP-16
Asset Management Plan (AMP)		
Existing Asset ID #	Project comprised of numerous assets	
Replacement Value Identified in AMP (\$)	\$51,850	
Replacement Year Identified in AMP	2021	
Estimated Useful Life (in years)	10	
Future Annual Impact on AMP (Cost per year)	\$6,000	
Date		
Start Date	2-Mar-2020	
Completion Date	18-Jun-2021	
To be Completed by Finance		
Approval Status	Approved by Council	
GL Account Number	410-000-4010-6900	

# Municipality of Port Hope

## Capital Projects

<b>Project</b>	4011 Chemical Room Ventilation Improvement		
<b>Department</b>	Wastewater		
<b>Version</b>	04 Approved by Council	<b>Year</b>	2021

### Description

#### Project Description

Upgrade WWTP Chemical room HVAC system to eliminate chemical fume hazards currently present and separate chemical storage atmosphere from the Drinking Water supply.

#### Project Justification

RFP will determine total specifications of the project needed to:

1. Eliminate health and safety hazard to employees
  - Chemical fumes are present in work space
  - Different chemicals bulk storage in the same room
2. During cold winter months ventilation operations must be reduced to ensure chemicals don't freeze, as occurred in 2010.
  - Each chemical has a different freezing point

Reduce or eliminate the corrosion to the Drinking Water valves and piping currently in the same room as chemical storage.

### Budget

	Total	Prior Years	2021	2022	2023	2024	2025
<b>Expenditures</b>	<b>74,664</b>		<b>74,664</b>				
<b>Funding</b>							
<b>Utility Rates &amp; Reserves</b>							
Contrib fr Wastewater R/F	74,664		74,664				
	74,664		74,664				
<b>Funding Total</b>	<b>74,664</b>		<b>74,664</b>				

# Municipality of Port Hope

## Capital Projects

<b>Project</b>	4011 Chemical Room Ventilation Improvement		
<b>Department</b>	Wastewater		
<b>Version</b>	04 Approved by Council	<b>Year</b>	2021

Attributes		
Attribute	Value	Comment
Attributes		
Department	Wastewater	
Project Type	Betterment	
Replacement Type	N/A	
Tax Levy Allocation	Utilities	
Physical Boundary Location	Urban Port Hope	
Identified in any Council Approved Plan?	No	
Identify Council Approved Plan(s)	2020 Water and Wastewater Rate Study	WWTP-5
Asset Management Plan (AMP)		
Existing Asset ID #	Various	Consist of various assets (duct work, actuators, temperature controls, instrumentation, electrical and SCADA programming) and new asset of separation barriers
Replacement Value Identified in AMP (\$)	\$74,664	
Replacement Year Identified in AMP		
Estimated Useful Life (in years)	15	
Future Annual Impact on AMP (Cost per year)	\$4,977	
Date		
Start Date	16-Mar-2021	
Completion Date	28-Aug-2021	
To be Completed by Finance		
Approval Status	Approved by Council	
GL Account Number	410-000-4011-6900	

# Municipality of Port Hope

## Capital Projects

<b>Project</b>	4012 Aeration Tanks Diffuser Replacement		
<b>Department</b>	Wastewater		
<b>Version</b>	04 Approved by Council	<b>Year</b>	2021

Description
Project Description
Replacement of expired Aeration Tank Diffusers (2400 in total) requiring Contractor cleaning of Aeration Tanks #1 and #2 at the WWTP.
Project Justification
<p>Aeration Diffusers are to be replaced every 5 years as per manufacturers recommendations and industry standards. The diffusers are currently 10 years old.</p> <p>Wastewater staff have replaced the diffusers in 3 tanks in 2019, leaving these 2 tanks for 2020.</p> <p>The Aeration tanks require several days of Vacuum Truck operation provided by contractor to clean the tank (removal of sludge) to allow access to the diffusers and provide a safe work environment.</p>

Budget							
	Total	Prior Years	2021	2022	2023	2024	2025
<b>Expenditures</b>	70,258		70,258				
<b>Funding</b>							
<b>Utility Rates &amp; Reserves</b>							
Contrib fr Wastewater R/F	70,258		70,258				
<b>Funding Total</b>	<b>70,258</b>		<b>70,258</b>				

# Municipality of Port Hope

## Capital Projects

<b>Project</b>	4012 Aeration Tanks Diffuser Replacement		
<b>Department</b>	Wastewater		
<b>Version</b>	04 Approved by Council	<b>Year</b>	2021

Attributes		
Attribute	Value	Comment
<b>Attributes</b>		
Department	Wastewater	
Project Type	Replacement	
Replacement Type	Replacement - Similar	
Tax Levy Allocation	Utilities	
Physical Boundary Location	Urban Port Hope	
Identified in any Council Approved Plan?	Yes	
Identify Council Approved Plan(s)	2020 Water and Wastewater Rate Study	WWTP-3 & WWTP-4
<b>Asset Management Plan (AMP)</b>		
Existing Asset ID #	11081, 11082	
Replacement Value Identified in AMP (\$)	\$70,516	
Replacement Year Identified in AMP		
Estimated Useful Life (in years)	5.5	
Future Annual Impact on AMP (Cost per year)	\$6,910	
<b>Date</b>		
Start Date	13-Jun-2021	
Completion Date	20-Aug-2021	
<b>To be Completed by Finance</b>		
Approval Status	Approved by Council	
GL Account Number	410-000-4012-6900	

# Municipality of Port Hope

## Capital Projects

<b>Project</b>	4013 Clarifier Systems Replacement		
<b>Department</b>	Wastewater		
<b>Version</b>	04 Approved by Council	<b>Year</b>	2021

Description
Project Description
Replacement of Clarifier Flights, Chains, Mechanical and Electrical equipment.
Project Justification
<p>Clarifiers are settling tanks built with mechanical means for continuous removal of solids being deposited by sedimentation. A clarifier is generally used to remove solid particulates or suspended solids from liquid for clarification and/or thickening. Concentrated impurities, discharged from the bottom of the tank are known as sludge, while the particles that float to the surface of the liquid are called scum.</p> <p>The Port Hope sewage treatment plant consists of 3 clarifiers. The 2019 Wastewater Treatment Plant Needs Assessment identified these assets as beyond their useful life and complete replacement is required. Advancements in clarifier technology may be an option and will be investigated as part of this project. (i.e. Variable Frequency Drives) has occurred since the facility was built in 2010.</p> <p>This project includes three (3) Clarifiers and will be phased over three (3) years i.e. one tank per year.</p>

Budget							
	Total	Prior Years	2021	2022	2023	2024	2025
<b>Expenditures</b>	645,506		207,400	215,074	223,032		
<b>Funding</b>							
<b>Utility Rates &amp; Reserves</b>							
Contrib fr Wastewater R/F	645,506		207,400	215,074	223,032		
<b>Funding Total</b>	<b>645,506</b>		<b>207,400</b>	<b>215,074</b>	<b>223,032</b>		

# Municipality of Port Hope

## Capital Projects

<b>Project</b>	4013 Clarifier Systems Replacement		
<b>Department</b>	Wastewater		
<b>Version</b>	04 Approved by Council	<b>Year</b>	2021

Attributes		
Attribute	Value	Comment
<b>Attributes</b>		
Department	Wastewater	
Project Type	Replacement	
Replacement Type	Replacement - Similar	
Tax Levy Allocation	Utilities	
Physical Boundary Location	Urban Port Hope	
Identified in any Council Approved Plan?	Yes	
Identify Council Approved Plan(s)	2020 Water and Wastewater Rate Study	WWTP-21
<b>Asset Management Plan (AMP)</b>		
Existing Asset ID #	11084, 11085, 11086	Clarifier #1,2,3
Replacement Value Identified in AMP (\$)	\$645,506	
Replacement Year Identified in AMP	2021, 2022, 2023	
Estimated Useful Life (in years)	10	
Future Annual Impact on AMP (Cost per year)	\$65,000	
<b>Date</b>		
Start Date	11-Jan-2021	
Completion Date	29-Oct-2023	
<b>To be Completed by Finance</b>		
Approval Status	Approved by Council	
GL Account Number	410-000-4013-6900	



# Municipality of Port Hope

## Capital Projects

<b>Project</b>	4014 Reline On-shore Effluent Outfall Pipe		
<b>Department</b>	Wastewater		
<b>Version</b>	04 Approved by Council	<b>Year</b>	2021

### Description

#### Project Description

Reline on-shore portion of treatment effluent outfall pipe at the Wastewater treatment plant (WWTP)

#### Project Justification

- Pipe is the original pipe from the 1956 Sewage Treatment Plant.
- Camera inspections completed in 2020 identify significant deterioration. One section has broken pieces. Failure mode has been achieved resulting in a high level of concern for collapse.
- Failure of this pipe produces a certainty of an environmental spill in the protected marsh which it runs under.
- Relining of this infrastructure provides a significant cost reduction versus replacement. Replacement would be necessary if collapse occurs.
- Adjacent collection chamber at Lake Ontario shoreline collapsed in 2017 resulting in an emergency capital project. This pipe was constructed at the same time as the inspection chamber.

### Budget

	Total	Prior Years	2021	2022	2023	2024	2025
<b>Expenditures</b>	<b>546,520</b>		<b>51,850</b>	<b>494,670</b>			
<b>Funding</b>							
<b>Utility Rates &amp; Reserves</b>							
Contrib fr Wastewater R/F	546,520		51,850	494,670			
	546,520		51,850	494,670			
<b>Funding Total</b>	<b>546,520</b>		<b>51,850</b>	<b>494,670</b>			

# Municipality of Port Hope

## Capital Projects

<b>Project</b>	4014 Reline On-shore Effluent Outfall Pipe		
<b>Department</b>	Wastewater		
<b>Version</b>	04 Approved by Council	<b>Year</b>	2021

Attributes		
Attribute	Value	Comment
Attributes		
Department	Wastewater	
Project Type	Betterment	
Replacement Type		
Tax Levy Allocation	Common	
Physical Boundary Location	Urban Port Hope	
Identified in any Council Approved Plan?	Yes	
Identify Council Approved Plan(s)	2020 Water and Wastewater Rate Study	Project WWTP-11
Asset Management Plan (AMP)		
Existing Asset ID #	N/A	
Replacement Value Identified in AMP (\$)	N/A	
Replacement Year Identified in AMP	N/A	
Estimated Useful Life (in years)	N/A	
Future Annual Impact on AMP (Cost per year)		
Date		
Start Date	31-Jan-2021	
Completion Date	31-Dec-2022	
To be Completed by Finance		
Approval Status	Approved by Council	
GL Account Number	410-000-4014-6900	

# Municipality of Port Hope

## Capital Projects

<b>Project</b>	4015 Mill St. Pumping Station Conveyance		
<b>Department</b>	Wastewater		
<b>Version</b>	04 Approved by Council	<b>Year</b>	2021

**Description**
**Project Description**

Rehabilitate the wastewater conveyance system including the Mill St. pumping station, the original Shuter St. forcemain and Lake St. trunk sewers that were constructed in 1956. The forcemain and trunk sewers included in the project form half of twin system that is necessary to convey flows from the Mill Street Pumping Station to the Port Hope WWTP without overflows during wet weather events.

**Project Justification**

A substantial portion of the Port Hope wastewater collection system flows to the Mill Street Pumping Station (PS). From the Mill Street PS flows are conveyed to the wastewater treatment plant (WWTP) by twin (2) 350mm forcemains on Shuter Street discharging to twin 600mm trunk sewers on Lake St. The original forcemain was installed in 1956 and the second was installed in 2000 when the Mill St PS was upgraded. Similarly, the original Lake Street trunk sewer was installed in 1956 and twinned in 2019.

During wet weather events the Mill Street PS is operated at full pumping capacity to keep-up with inflows and limit the potential for sewage overflows at the pumping station. For the Mill Street PS to operate at full capacity flow must be discharged to both forcemains and both trunk sewers on Lake Street must be in service to convey forcemain discharge to the WWTP without overflows from the maintenance holes along Lake Street. The project involves replacement and rehabilitation of the original infrastructure connecting the Mill Street PS to the WWTP. In total, 605 m of existing 350 mm diameter cast iron forcemain on Shuter Street will be replaced with a new (larger) 450 mm diameter PVC forcemain on the same alignment. The road above the existing forcemain will be restored to meet municipal standards for a local roadway.

Downstream of the forcemain discharge, 1,100 m of existing 600 mm diameter vitrified clay trunk sewer on Lake Street will be relined with a Class IV fully structural cured-in-place liner or otherwise repaired as necessary to ensure longevity of its service life. The final 400 m of the original Lake Street trunk sewer is a 600 mm diameter steel pipe supported above grade on concrete pylons that are failing and require replacement to provide adequate support for the pipe. The above grade pipe will be replaced with a 600 mm PVC sewer direct buried in an earth berm.

This project has been split into 2 phases to mitigate costs. The inspection of the flow meter chamber has been included as part of this work.

**Budget**

	Total	Prior Years	2021	2022	2023	2024	2025
<b>Expenditures</b>	<b>2,948,416</b>		<b>72,590</b>	<b>1,039,984</b>	<b>1,835,842</b>		
<b>Funding</b>							
<b>Utility Rates &amp; Reserves</b>							
Contrib fr Wastewater R/F	2,948,416		72,590	1,039,984	1,835,842		
	2,948,416		72,590	1,039,984	1,835,842		
<b>Funding Total</b>	<b>2,948,416</b>		<b>72,590</b>	<b>1,039,984</b>	<b>1,835,842</b>		

# Municipality of Port Hope

## Capital Projects

<b>Project</b>	4015 Mill St. Pumping Station Conveyance		
<b>Department</b>	Wastewater		
<b>Version</b>	04 Approved by Council	<b>Year</b>	2021

Attributes		
Attribute	Value	Comment
Attributes		
Department	Wastewater	
Project Type	Replacement	
Replacement Type	Replacement - Similar	
Tax Levy Allocation	Utilities	
Physical Boundary Location	Urban Port Hope	
Identified in any Council Approved Plan?	Yes	
Identify Council Approved Plan(s)	2020 Water and Wastewater Rate Study	
Asset Management Plan (AMP)		
Existing Asset ID #	Various	See attached file in the Gallery
Replacement Value Identified in AMP (\$)	Various	See attached file in the Gallery
Replacement Year Identified in AMP		
Estimated Useful Life (in years)	Various	See attached file in the Gallery
Future Annual Impact on AMP (Cost per year)		
Date		
Start Date	31-Jan-2021	
Completion Date	31-Dec-2023	
To be Completed by Finance		
Approval Status	Approved by Council	
GL Account Number	410-000-4015-6900	

# Municipality of Port Hope

## Capital Projects

<b>Project</b>	5004 WTP PVC Pipe Replacement		
<b>Department</b>	Water		
<b>Version</b>	04 Approved by Council	<b>Year</b>	2021

### Description

#### Project Description

Replace remaining 6" Schedule 40 PVC non potable pipe with 6" stainless steel.

#### Project Justification

The Schedule 40 PCV was originally installed by North American Construction (NAC) in 2004-05. The original design was to install 6" stainless steel (SS) but under the reasonably implied agreement between MPH and NAC, PVC was used as a cost savings to NAC. As a minimum, Schedule 80 PVC should have been used for this type of application with proper support on bends (ie thrust blocking) to prevent pipe bursts caused by water hammer. We have had 2 major breaks of this pipe causing massive flooding within minutes. Over the years we have provided "band aid" type repairs (plastic welding) on almost every existing Schedule 40 PVC fitting and some continue to leak. Over the past 3 years, we have been replacing small critical sections of the PVC pipe with SS pipe. Our goal is to replace the remaining areas with SS pipe in the near future in hopes of preventing a catastrophic failure resulting in the Water Treatment Plant (WTP) being flooded with a high potential to ruin expensive equipment and contaminate our water storage.

This pipe is the main water supply source throughout the WTP and supplies water to the following major systems:

- 1) Generator cooling system - no water = no back up power
- 2) Chlorination system - no water = no water production/disinfection
- 3) Micro stainers - no water = no back washing = limited filtering capabilities
- 4) Limited Capabilities to perform recovery cleans on membranes
- 5) Water source for 90% of our WTP needs (other than domestic use for washrooms, sinks etc.)

Phase 1 2020: Complete up to \$75,000 in upgrades

Phase 2 2021: Complete up to \$52,000 in upgrades

### Budget

	Total	Prior Years	2021	2022	2023	2024	2025
<b>Expenditures</b>	127,000	75,000	52,000				
<b>Funding</b>							
<b>Utility Rates &amp; Reserves</b>							
Contrib fr Water R/F	127,000	75,000	52,000				
<b>Funding Total</b>	<b>127,000</b>	<b>75,000</b>	<b>52,000</b>				

# Municipality of Port Hope

## Capital Projects

<b>Project</b>	5004 WTP PVC Pipe Replacement		
<b>Department</b>	Water		
<b>Version</b>	04 Approved by Council	<b>Year</b>	2021

Attributes		
Attribute	Value	Comment
Attributes		
Department	Water	
Project Type	Replacement	
Replacement Type	Replacement - Upgrade	
Tax Levy Allocation	Utilities	
Physical Boundary Location	Urban Port Hope	
Identified in any Council Approved Plan?	Yes	
Identify Council Approved Plan(s)	2020 Water and Wastewater Rate Study	
Asset Management Plan (AMP)		
Existing Asset ID #		
Replacement Value Identified in AMP (\$)		
Replacement Year Identified in AMP		
Estimated Useful Life (in years)	50	
Future Annual Impact on AMP (Cost per year)		
Date		
Start Date	1-Feb-2021	
Completion Date	1-Jun-2021	
To be Completed by Finance		
Approval Status	Approved by Council	
GL Account Number	510-000-5004-6900	

# Municipality of Port Hope

## Capital Projects

<b>Project</b>	5005 Zone 2 Emergency Pumping Study		
<b>Department</b>	Water		
<b>Version</b>	04 Approved by Council	<b>Year</b>	2021

### Description

#### Project Description

Investigate emergency Zone 2 pumping options for the Victoria St Booster Station, followed by implementing a recommendation.

#### Project Justification

The Victoria St Booster Pumping Station is the main "hub" for Zone 2 (West end of the Municipality). If this facility were to fail (Fire), Zone 2 would be out of water within 24hrs. A failure of this pumping station would also restrict Fire Fighting needs in Zone 2. This is identified in our Drinking Water Quality Management System (DWQMS) emergency response review and was identified as a priority in mitigating water loss to Zone 2.

### Budget

	Total	Prior Years	2021	2022	2023	2024	2025
<b>Expenditures</b>	73,000		73,000				
<b>Funding</b>							
<b>Utility Rates &amp; Reserves</b>							
Contrib fr Water R/F	73,000		73,000				
	73,000		73,000				
<b>Funding Total</b>	<b>73,000</b>		<b>73,000</b>				

# Municipality of Port Hope

## Capital Projects

<b>Project</b>	5005 Zone 2 Emergency Pumping Study		
<b>Department</b>	Water		
<b>Version</b>	04 Approved by Council	<b>Year</b>	2021

Attributes		
Attribute	Value	Comment
Attributes		
Department	Water	
Project Type	Betterment	
Replacement Type	N/A	
Tax Levy Allocation	Utilities	
Physical Boundary Location	Urban Port Hope	
Identified in any Council Approved Plan?	Yes	
Identify Council Approved Plan(s)	2020 Water and Wastewater Rate Study	includes WF-7 (20K) and WF-8 (50K)
Asset Management Plan (AMP)		
Existing Asset ID #	Victoria St Booster Pumping Station	
Replacement Value Identified in AMP (\$)		
Replacement Year Identified in AMP		
Estimated Useful Life (in years)	50	
Future Annual Impact on AMP (Cost per year)	pending Engineers report findings	
Date		
Start Date	1-Feb-2021	
Completion Date	30-Nov-2021	
To be Completed by Finance		
Approval Status	Approved by Council	
GL Account Number	510-000-5005-6900	



# Municipality of Port Hope

## Capital Projects

<b>Project</b>	5006 Generator Trailer Overhaul		
<b>Department</b>	Water		
<b>Version</b>	04 Approved by Council	<b>Year</b>	2021

**Description**

**Project Description**

Overhaul the trailer for the 550 KW portable Generator

**Project Justification**

The Generator and Trailer were purchased in 2007 and the trailer is do for an overhaul including replacement of wooden platform, structural assessment and possible axle/suspension/air brake and tire replacement. This Generator is used as a backup generator for the Water Division and can be relocated to any facility. It can be distributed to the EOC and Emergency shelter (Rec Centre) in the event of an emergency during prolonger power outages.

**Budget**

	Total	Prior Years	2021	2022	2023	2024	2025
<b>Expenditures</b>	<b>26,000</b>		<b>26,000</b>				
<b>Funding</b>							
<b>Utility Rates &amp; Reserves</b>							
Contrib fr Water R/F	26,000		26,000				
	26,000		26,000				
<b>Funding Total</b>	<b>26,000</b>		<b>26,000</b>				

# Municipality of Port Hope

## Capital Projects

<b>Project</b>	5006 Generator Trailer Overhaul		
<b>Department</b>	Water		
<b>Version</b>	04 Approved by Council	<b>Year</b>	2021

Attributes		
Attribute	Value	Comment
Attributes		
Department	Water	
Project Type	Betterment	
Replacement Type	N/A	
Tax Levy Allocation	Utilities	
Physical Boundary Location	Urban Port Hope	
Identified in any Council Approved Plan?	Yes	
Identify Council Approved Plan(s)	2020 Water and Wastewater Rate Study	WTP-5
Asset Management Plan (AMP)		
Existing Asset ID #	VE088	
Replacement Value Identified in AMP (\$)		
Replacement Year Identified in AMP	2027	
Estimated Useful Life (in years)		
Future Annual Impact on AMP (Cost per year)	15	
Date		
Start Date	1-Apr-2021	
Completion Date	1-Oct-2021	
To be Completed by Finance		
Approval Status	Approved by Council	
GL Account Number	510-000-5006-6900	

# Municipality of Port Hope

## Capital Projects

<b>Project</b>	5007 Scrubber Media Replacement		
<b>Department</b>	Water		
<b>Version</b>	04 Approved by Council	<b>Year</b>	2021

**Description**
**Project Description**

Replace Scrubber Media for Chlorine Gas Leak System

**Project Justification**

The scrubber media has not been replaced since the WTP was built in 2005 and is beyond it's useful life. Scrubber composite samples are sent to a lab annually for evaluation. The latest samples results found that only 60% of the media is in decent condition and therefore could only remove/scrub 60% of a full chlorine cylinder leak (if a large leak occurred). Under the current scenario, If a full cylinder completely failed, it would result in 40% of the untreated chlorine being dispersed (air borne) to the Municipality with the potential for mass evacuation of Cameco, beach goers and various residents pending wind direction.

**Budget**

	Total	Prior Years	2021	2022	2023	2024	2025
<b>Expenditures</b>	<b>26,000</b>		<b>26,000</b>				
<b>Funding</b>							
<b>Utility Rates &amp; Reserves</b>							
Contrib fr Water R/F	26,000		26,000				
	26,000		26,000				
<b>Funding Total</b>	<b>26,000</b>		<b>26,000</b>				

# Municipality of Port Hope

## Capital Projects

<b>Project</b>	5007 Scrubber Media Replacement		
<b>Department</b>	Water		
<b>Version</b>	04 Approved by Council	<b>Year</b>	2021

Attributes		
Attribute	Value	Comment
<b>Attributes</b>		
Department	Water	
Project Type	Replacement	
Replacement Type	Replacement - Similar	
Tax Levy Allocation	Utilities	
Physical Boundary Location	Urban Port Hope	
Identified in any Council Approved Plan?	Yes	
Identify Council Approved Plan(s)	2020 Water and Wastewater Rate Study	WTP-26
<b>Asset Management Plan (AMP)</b>		
Existing Asset ID #	Scrubber	
Replacement Value Identified in AMP (\$)	\$26,000	
Replacement Year Identified in AMP	2021	
Estimated Useful Life (in years)	based on annual sample results and number of chlorine leaks	
Future Annual Impact on AMP (Cost per year)		
<b>Date</b>		
Start Date	1-Mar-2021	
Completion Date	1-Sep-2021	
<b>To be Completed by Finance</b>		
Approval Status	Approved by Council	
GL Account Number	510-000-5007-6900	

# Municipality of Port Hope

## Capital Projects

<b>Project</b>	5008 Generator Fuel System Upgrades		
<b>Department</b>	Water		
<b>Version</b>	04 Approved by Council	<b>Year</b>	2021

Description
Project Description
Evaluate and replace Generator fuel system (2 diesel tanks) and upgrade/replace end of life components for Exhaust and Intake fans/Louvres.
Project Justification
The existing fuel system and exhaust system requires a few modest upgrades to meet existing code (TSSA and NFPA) and ULC requirements. Part of this work would include testing by a TSSA licenced OBT1 and the posting of the report.

Budget							
	Total	Prior Years	2021	2022	2023	2024	2025
<b>Expenditures</b>	37,000		37,000				
<b>Funding</b>							
<b>Utility Rates &amp; Reserves</b>							
Contrib fr Water R/F	37,000		37,000				
	37,000		37,000				
<b>Funding Total</b>	<b>37,000</b>		<b>37,000</b>				

# Municipality of Port Hope

## Capital Projects

<b>Project</b>	5008 Generator Fuel System Upgrades		
<b>Department</b>	Water		
<b>Version</b>	04 Approved by Council	<b>Year</b>	2021

Attributes		
Attribute	Value	Comment
Attributes		
Department	Water	
Project Type	Replacement	
Replacement Type	Replacement - Similar	
Tax Levy Allocation	Utilities	
Physical Boundary Location	Urban Port Hope	
Identified in any Council Approved Plan?	Yes	
Identify Council Approved Plan(s)	2020 Water and Wastewater Rate Study	
Asset Management Plan (AMP)		
Existing Asset ID #	1350KW Generator	
Replacement Value Identified in AMP (\$)	\$37,000	
Replacement Year Identified in AMP		
Estimated Useful Life (in years)	25	
Future Annual Impact on AMP (Cost per year)		
Date		
Start Date	22-Mar-2021	
Completion Date	22-Oct-2021	
To be Completed by Finance		
Approval Status	Approved by Council	
GL Account Number	510-000-5008-6900	

# Municipality of Port Hope

## Capital Projects

<b>Project</b>	5009 Fall Restraint Ladders Upgrade		
<b>Department</b>	Water		
<b>Version</b>	04 Approved by Council	<b>Year</b>	2021

**Description**

**Project Description**

Upgrade existing rotted submersed fall restraint rated ladders with ladders that are suitable for chlorinated water such as Fibreglass.

**Project Justification**

The existing aluminum ladders for the majority of the chambers at the WTP is in poor condition and poses immediate health and safety concerns moving. In order for staff to safely climb in and out of these 25 foot deep chambers, new chlorine resistant ladders such as fibreglass, need to be installed and utilized. This was identified as a H&S concern from the Consultant who performed the condition assessment in 2016.

The current means of entry is to use an extension ladder and tripod system for fall arrest.

**Budget**

	Total	Prior Years	2021	2022	2023	2024	2025
<b>Expenditures</b>	75,000		75,000				
<b>Funding</b>							
<b>Utility Rates &amp; Reserves</b>							
Contrib fr Water R/F	75,000		75,000				
	75,000		75,000				
<b>Funding Total</b>	<b>75,000</b>		<b>75,000</b>				

# Municipality of Port Hope

## Capital Projects

<b>Project</b>	5009 Fall Restraint Ladders Upgrade		
<b>Department</b>	Water		
<b>Version</b>	04 Approved by Council	<b>Year</b>	2021

Attributes		
Attribute	Value	Comment
Attributes		
Department	Water	
Project Type	Replacement	
Replacement Type	Replacement - Upgrade	
Tax Levy Allocation	Utilities	
Physical Boundary Location	Urban Port Hope	
Identified in any Council Approved Plan?	Yes	
Identify Council Approved Plan(s)	2020 Water and Wastewater Rate Study	
Asset Management Plan (AMP)		
Existing Asset ID #	All chamber ladders	
Replacement Value Identified in AMP (\$)	\$75,000	
Replacement Year Identified in AMP		
Estimated Useful Life (in years)	25	
Future Annual Impact on AMP (Cost per year)		
Date		
Start Date	1-Feb-2021	
Completion Date	22-Oct-2021	
To be Completed by Finance		
Approval Status	Approved by Council	
GL Account Number	510-000-5009-6900	



# Municipality of Port Hope

## Capital Projects

<b>Project</b>	5010 1/2 Ton 4x4 Extended Cab Truck Replacement		
<b>Department</b>	Water		
<b>Version</b>	04 Approved by Council	<b>Year</b>	2021

### Description

#### Project Description

Replace 2008 Water Truck 3 (VE0094) with a new 1/2 Ton 4WD extended cab truck

#### Project Justification

This truck is well beyond its' useful life of 7 years as per MPH Tangible Capital Asset Classes, Thresholds and Useful Life document. Half tons are identified as having a useful life of 7 years. Truck 3 has been in operation for 13 years and is showing significant signs of rust and wear. The cost of body work would not be justifiable.

An extended cab is recommended to accommodate the various supplies, materials, health and safety equipment etc that is required to be kept dry and warm on a daily basis.

### Budget

	Total	Prior Years	2021	2022	2023	2024	2025
<b>Expenditures</b>	52,000		52,000				
<b>Funding</b>							
<b>Utility Rates &amp; Reserves</b>							
Contrib fr Water R/F	52,000		52,000				
	52,000		52,000				
<b>Funding Total</b>	<b>52,000</b>		<b>52,000</b>				

# Municipality of Port Hope

## Capital Projects

<b>Project</b>	5010 1/2 Ton 4x4 Extended Cab Truck Replacement		
<b>Department</b>	Water		
<b>Version</b>	04 Approved by Council	<b>Year</b>	2021

Attributes		
Attribute	Value	Comment
Attributes		
Department	Water	
Project Type	Replacement	
Replacement Type	Replacement - Similar	
Tax Levy Allocation	Utilities	
Physical Boundary Location	Urban Port Hope	
Identified in any Council Approved Plan?	Yes	
Identify Council Approved Plan(s)	2020 Water and Wastewater Rate Study	
Asset Management Plan (AMP)		
Existing Asset ID #	Water Truck 3 VE0094	
Replacement Value Identified in AMP (\$)	\$52,000	
Replacement Year Identified in AMP		
Estimated Useful Life (in years)	7	
Future Annual Impact on AMP (Cost per year)	\$1,000	
Date		
Start Date	18-Jan-2021	
Completion Date	31-Oct-2021	
To be Completed by Finance		
Approval Status	Approved by Council	
GL Account Number	510-000-5010-6900	

# Municipality of Port Hope

## Capital Projects

<b>Project</b>	5011 Water Meter System Upgrades		
<b>Department</b>	Water		
<b>Version</b>	04 Approved by Council	<b>Year</b>	2021

**Description**
**Project Description**

Water Meter System Upgrades for the purpose of Radio Read Water Meters

**Project Justification**

Radio read water meters are being installed in all new subdivision type developments in the MPH. This allows staff the ability to drive by homes and gather the reads from a moving vehicle rather than hiring a contractor (Olameter) to walk house to house to take the meters reads. Radio read water meters act similar to "smart" meters and can provide daily detailed consumption and usage data as required which can help in the customer complaint process when justification of high consumption as required.

**Budget**

	Total	Prior Years	2021	2022	2023	2024	2025
<b>Expenditures</b>	<b>25,000</b>		<b>25,000</b>				
<b>Funding</b>							
<b>D/C</b>							
Contrib fr Water Services D/C	5,875		5,875				
	5,875		5,875				
<b>Utility Rates &amp; Reserves</b>							
Contrib fr Water R/F	19,125		19,125				
	19,125		19,125				
<b>Funding Total</b>	<b>25,000</b>		<b>25,000</b>				

# Municipality of Port Hope

## Capital Projects

<b>Project</b>	5011 Water Meter System Upgrades		
<b>Department</b>	Water		
<b>Version</b>	04 Approved by Council	<b>Year</b>	2021

Attributes		
Attribute	Value	Comment
Attributes		
Department	Water	
Project Type	Replacement	
Replacement Type	Replacement - Upgrade	
Tax Levy Allocation	Utilities	
Physical Boundary Location	Urban Port Hope	
Identified in any Council Approved Plan?	Yes	
Identify Council Approved Plan(s)	2020 Water and Wastewater Rate Study and 2019 Development Charge Study	
Asset Management Plan (AMP)		
Existing Asset ID #	Water Meter Radio Read Program	
Replacement Value Identified in AMP (\$)	\$25,000	
Replacement Year Identified in AMP		
Estimated Useful Life (in years)	15-20	
Future Annual Impact on AMP (Cost per year)		
Date		
Start Date	3-Feb-2020	
Completion Date	31-Oct-2020	
To be Completed by Finance		
Approval Status	Approved by Council	
GL Account Number	510-000-5011-6900	

# Municipality of Port Hope

## Capital Projects

<b>Project</b>	5012 Zone 1 Floating Storage		
<b>Department</b>	Water		
<b>Version</b>	04 Approved by Council	<b>Year</b>	2021

Description
Project Description
Review of Zone 1 Floating Storage requirements for the replacement of the Dorset Street West Standpipe.
Project Justification
<p>The existing Dorset Street Standpipe, which provides floating storage for Zone 1 of the Port Hope Drinking Water System (DWS) will require rehabilitation (including interior and exterior coating replacement) in the near future at an approximate cost of \$1,500,000. Given the limited useable capacity of the existing standpipe and the estimated cost of rehabilitation, it is recommended that some consideration be given to replacing the existing standpipe with a Zone 1 elevated tank, similar to the Fox Road Elevated Tank serving Zone 2 of the Port Hope DWS. The Zone 1 elevated tank is an ideal project to put forward for any future rounds of funding as it addresses a definite asset management need re: condition of the Dorset Street Stand Pipe and underground piping, resolves health and safety issues related to access to the below grade areas at Dorset Street and improves security of water supply for Zone 1. A total of \$16,000 has been included in 2021 for a Options and Concept report, followed by \$108,000 in 2022 for the MCEA and \$167,000 for detailed design in 2023. The estimated total cost of a new water tower is \$3,469,000 in 2024.</p> <p>Several factors should be considered in selecting the optimum location for a gravity based (floating) storage tank including property ownership, ground elevations (topography), geotechnical conditions, available site area and access, site security, aesthetic impacts, natural impacts, social impacts, heritage or cultural impacts, proximity to existing infrastructure (in particular trunk water mains) and distribution system hydraulics.</p> <p>A general location plan for the potential elevated tank locations has been attached.</p>

Budget							
	Total	Prior Years	2021	2022	2023	2024	2025
<b>Expenditures</b>	3,760,000		16,000	108,000	167,000	3,469,000	
<b>Funding</b>							
<b>Utility Rates &amp; Reserves</b>							
Contrib fr Water R/F	3,760,000		16,000	108,000	167,000	3,469,000	
	3,760,000		16,000	108,000	167,000	3,469,000	
<b>Funding Total</b>	<b>3,760,000</b>		<b>16,000</b>	<b>108,000</b>	<b>167,000</b>	<b>3,469,000</b>	

# Municipality of Port Hope

## Capital Projects

<b>Project</b>	5012 Zone 1 Floating Storage		
<b>Department</b>	Water		
<b>Version</b>	04 Approved by Council	<b>Year</b>	2021

Attributes		
Attribute	Value	Comment
Attributes		
Department	Water	
Project Type	Replacement	
Replacement Type	Replacement - Upgrade	
Tax Levy Allocation	Utilities	
Physical Boundary Location	Urban Port Hope	
Identified in any Council Approved Plan?	Yes	
Identify Council Approved Plan(s)	2020 Water and Wastewater Rate Study	Project number W-1 and W-2
Asset Management Plan (AMP)		
Existing Asset ID #	8268	
Replacement Value Identified in AMP (\$)	\$3,000,000	
Replacement Year Identified in AMP		
Estimated Useful Life (in years)	50	
Future Annual Impact on AMP (Cost per year)	\$60,000	
Date		
Start Date	31-Jan-2021	
Completion Date	31-Dec-2024	
To be Completed by Finance		
Approval Status	Approved by Council	
GL Account Number	510-000-5012-6900	

# Municipality of Port Hope

## Capital Projects

<b>Project</b>	5012 Zone 1 Floating Storage		
<b>Department</b>	Water		
<b>Version</b>	04 Approved by Council	<b>Year</b>	2021

### Gallery

S:\Resource Information\PSAB3150 Tangible Capital Assets\Pictures for FMW\Zone 1 Floating Storage.jpg

