Appendix 2 to Report PW 45-2023

Niagara Region Water and Wastewater 10-year Financial Plan

Section 1 – Introduction

Section 2 – Recommended Financial Plan and summary relative to guiding principles of:

i. Smooth the rate increases over the 10-year period
ii. Consider the water and wastewater asset renewal requirements in accordance with the approved Asset Management Plan
iii. Support growth related capital in accordance with the approved Water and Wastewater Master Servicing Plan
iv. Understand the impacts of investment on asset condition and asset level of service.
v. Maintain capital reserve balances to manage asset risk.
vi. Use of debt and reserves/pay-as-you-go for assets in accordance with the Capital Financing Strategy

Section 1 Introduction

Niagara Region's ten-year Water and Wastewater Financial Plan was developed to recommend a plan for sustainability of water and wastewater systems over the next ten years while respecting the Region's Budget Planning By-law and other policies as well. The Financial Plan is a requirement every five years in order to renew Niagara Region's license to treat water, mandated by the Safe Drinking Water Act, O.Reg. 453/07.

O.Reg. 453/07 requires the Water and Wastewater Financial Plan only cover water operations; however, information for wastewater operations has also been included in the same format in order to show a more complete picture and in accordance with the Ministry of the Environment Principle #2 in Appendix 1 to Report PW 45-2023. This is particularly important for the Region since it is experiencing greater fiscal challenges in wastewater operations related to both sustainability and growth. These regulations also only require a 6-year plan; however, this plan covers a period of 10 years to coincide with the Region's capital budget and forecast planning horizon.

Another important principle is the utilization of both the 2021 Asset Management Plan (AMP) for the sustainment of $5,458 million in assets and 2021 Water and Wastewater Master Servicing Plan (MSP) to guide growth related infrastructure as key inputs into the Financial Plan. This Financial Plan will serve as a basis for future budget forecast recommendations, to guide the Region towards long-term sustainability while considering affordability for both water and wastewater operations.

Section 2 Recommended Financial Sustainability Plan

i. Smooth the rate increases over the 10-year period

The Water and Wastewater Financial Plan provides for an average annual increase to both the water and wastewater requisition from local area municipalities of 7.15% per year. This provides better cost certainty to the LAMs for their budgeting and rate setting requirements. The water plan provides for an average annual increase of 4.3% per year, and wastewater of 8.48% per year for a combined increase of 7.15%.

The largest driver for this increase is the 5.15% annual increase for capital in addition to an average operating cost estimate of 2% per year. While recent rates of inflation have exceeded 2%, the plan proposes that over the long term that the Bank of Canada target inflation of 2% be used for planning purposes. As the Region compiles its operating budget every year this assumption will be evaluated, and when inflation exceeds 2% as is projected for 2023/2024, the budget recommendations will consider real inflation and identify the risks of not budgeting appropriately for the real cost of service. Additionally, as asset growth occurs this will also put pressure on operating costs and budgets that will be addressed annually.

Figure 1 Proposed Annual Rate Requisition Percentage Increases

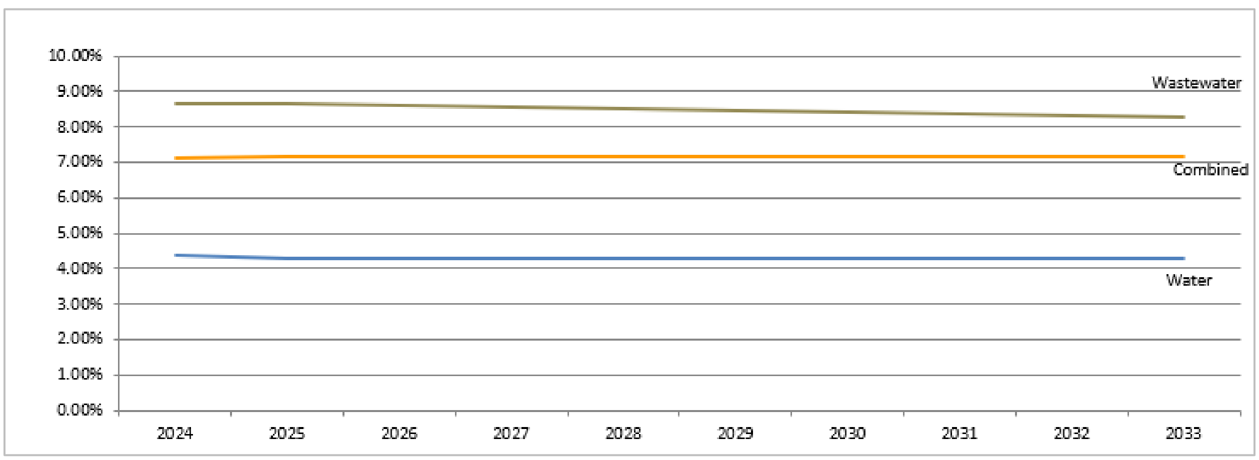
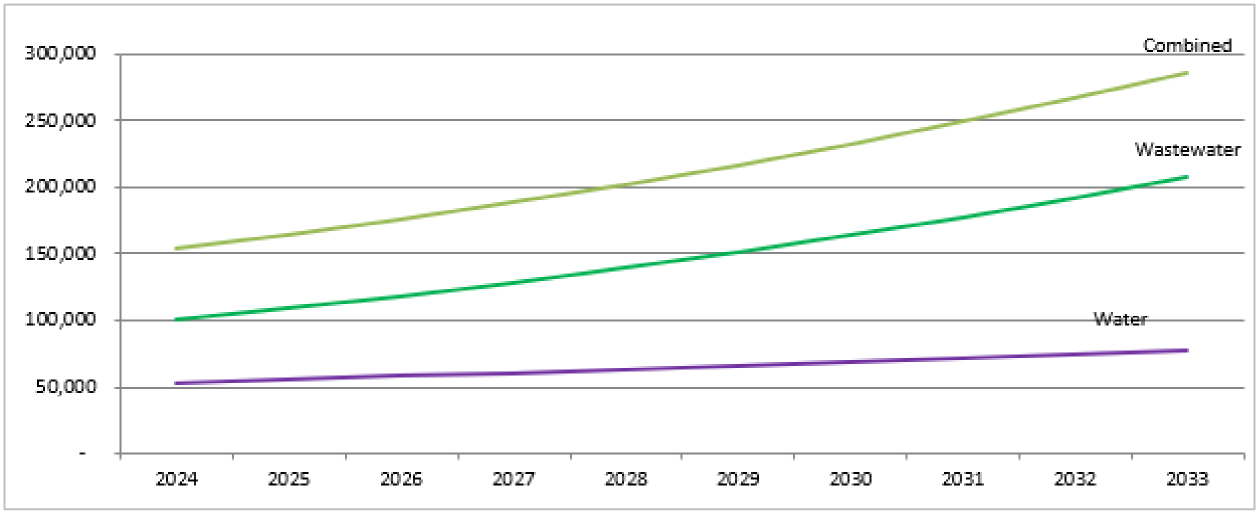


Figure 2 Proposed Annual Rate Requisition in Thousands of Dollars



Niagara Region is not the only jurisdiction faced with water and wastewater rate pressures to operate and maintain aging infrastructure. Table 1 below provides a summary of other municipalities rate increases in recent years. For context Niagara's increases are also provided which show that Niagara strayed from the financial sustainability plan in 2021 during the COVID-19 pandemic.

Table 1 Annual Water & Wastewater Requisition Rate Increases of Comparable Municipalities

Municipality	2021 rate increase	2022 rate increase	2023 rate increase
Hamilton	4.28%	4.98%	6.49%
Toronto	1.50%	3.00%	3.00%
Sudbury	4.40%(W), 5.20% (WW)	4.80% (W) 4.80% (WW)	4.80% (W) 4.80% (WW)
Peel	5.50%	5.80%	7.90%
York	No change	5.80%(W), 1.60%(WW)	5.70%(W), 1.70%(WW)
Niagara	2.00%	5.15%	8.59%

The Region's budget presentations include data from the BMA Municipal Study which looks at the average cost of Water/Wastewater services per household among surveyed Municipalities. Table 2 below shows that Niagara is within 2% of the average in 2022 and is general aligned with other municipalities in Ontario.

Table 2 BMA Study – Average Cost of Water/Wastewater Services per Household

BMA Study Average (Includes Region & Local)

Cost per Household	2015	2016	2017	2018	2019	2020	2021	2022
BMA Survey Average	$922	$976	$1,028	$1,074	$1,103	$1,151	1,174	1,237
Niagara Average	$953	$975	$1,037	$1,069	$1,123	$1,164	1,202	1,251
Variance $	$31	-$1	$9	-$5	$19.6	$13.4	28.2	24.0
Variance %	3%	0%	1%	0%	2%	1%	2%	2%

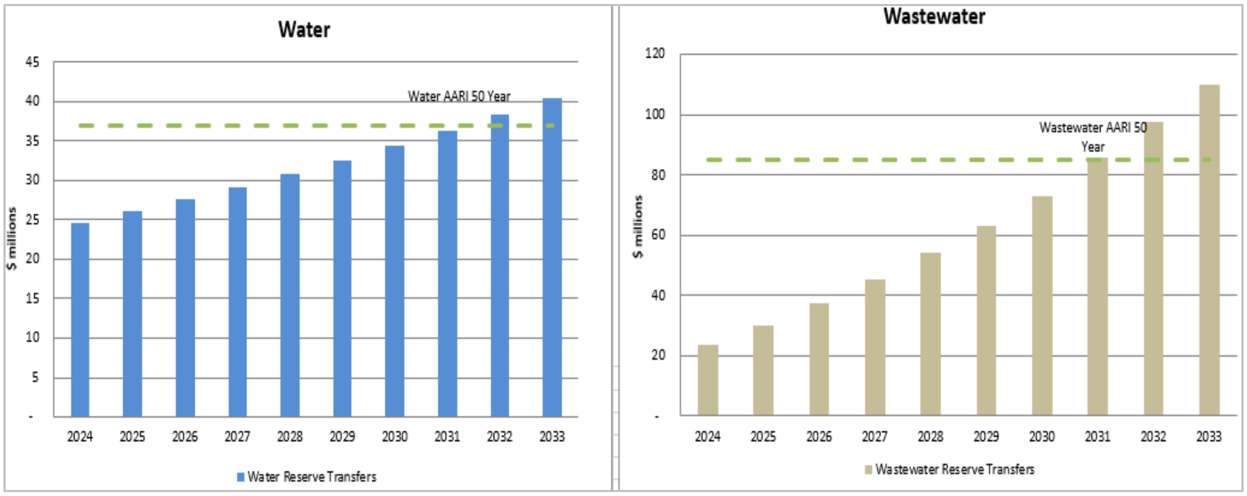
ii. Consider the water and wastewater asset renewal requirements in accordance with the approved Asset Management Plan

Another principle of a sustainable Financial Plan for Water and Wastewater includes annual capital contributions based on an asset management plan. The Region's Asset Management Plan (AMP) has identified that in order to properly sustain these assets, a total of $164 million in capital renewal is required annually for the next 10 years which also addresses the backlog within these 10 years. This is referred to as the Average Annual Renewal Investment (AARI). This AARI would require an annual operating budget increase of 7.22% per year. Understanding that presents challenges to rate payers, staffing and supply chain issues, the Budget Strategy proposed a more modest annual increase for capital of 5.15% per year to target a 50-year AARI of $122 million ($37 million for Water and $85 million for Wastewater). The 2016 AMP had proposed a 3.15% increase per year be dedicated to the infrastructure funding gap. The new plan of 5.15% increase per year therefore represents the 2.0% increase over the prior financial plan. Water will achieve the 2021 AARI target by 2032 and Wastewater by 2031. As we continue to navigate capital requirements until the targets are met, capital projects will be prioritized annually to align with available funding.

While it appears that Water and Wastewater AARI will exceed the target in the latter years of the plan, we recognize that this will provide for inflationary pressures, existing backlog and service the lifecycle replacement costs of growth related infrastructure.

The annual contributions are collected through Transfers to Reserve, which are shown in Figure 3 below.

Figure 3 Annual Capital Contributions from Operating – Transfer to Reserves



iii. Support growth related capital in accordance with the approved Water and Wastewater Master Servicing Plan

In addition to requirements to sustain existing infrastructure, the Region's Water and Wastewater Master Serving Plan has also identified a significant amount of new infrastructure that is required to support growth. A total of $493 million in growth related capital is included in the water and wastewater capital budget and forecast. While the majority of growth related capital is funded externally from the collection of development charges in the amount of $348 million, there is a total of $145 million of the new infrastructure that is considered a "benefit to existing" and therefore must be funded from regional funds.

iv. Understand the impacts of investment on asset condition and asset level of service.

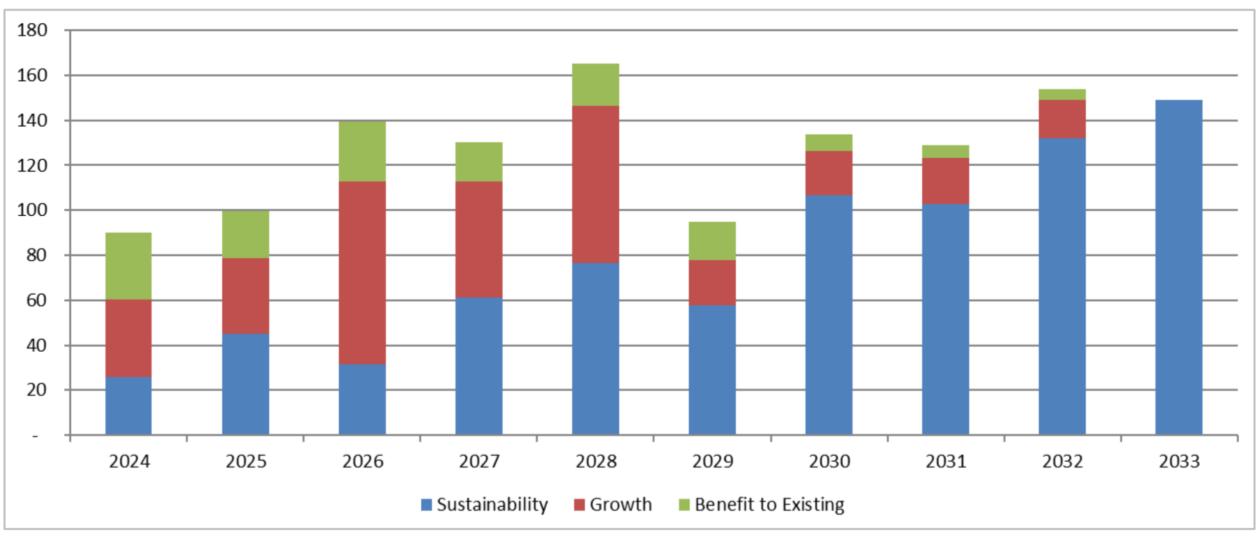
The proposed 10-year Capital Budget, net of deferrals, which can be accommodated in the recommended financial plan is $792 million for Sustainability and $493 million for Growth, of which $145 million is "benefit to existing" infrastructure, for a combined total Capital Program of $1,285 million as shown in Figure 4 below. The 10-year Capital Forecast per the Asset Management Plan and Water and Wastewater Master Servicing Plan Update recommends $754 million for Water with $1,179 million for Wastewater for a combined total Capital Program of $1,933 million. The recommended plan therefore requires a deferral of $273 million for Water and $375 million for Wastewater for a total of $648 million or 34% of the capital proposed in the Asset Management Plan.

Included in the $648 million of deferrals are a number of significantly large projects that will have to be considered as the financial plan is executed in the annual budgets. Two plants, Welland Water Treatment Plant and Welland Wastewater Treatment Plant, require significant investment currently estimated at $360 million in total.

The Region has implemented a three-pronged investment strategy. Firstly, to renew very poor condition asset in priority of high operational risk to low operational risks. Secondly, the Water and Wastewater Financial Plan includes budgets for growth projects which assists the Local Area Municipalities (LAMs) to implement their growth strategies. Thirdly, to co-finance “benefit to existing” in growth projects without any conditionality on asset condition.

The first strategy aims to reduce (or at least maintain) the magnitude of assets reported in very poor condition as a primary investment focus. Sustainability projects are specifically targeting assets in very poor condition that are at the end or beyond the end of their useful life. The Water and Wastewater Financial Plan includes budgets for growth projects which assists the LAMs in implementing their growth strategies. The growth strategy will increase the combined asset base for Water and Wastewater from $5,680 million (2024) to $7,613 million (2033). The model assumes that $145 million of rate generated funds will fund the Region’s share of growth projects (i.e. “benefit to existing”) in Water and Wastewater over the next 10 years. This often results in non-essential improvements of the asset base and does not strictly target the improvement of assets in very poor condition.

Figure 4 10-Year Capital Budget & Forecast



As reported in the 2021 Asset Management Plan, the Water and Wastewater operates a significantly large asset base. In Water Services, 80% of assets are in fair condition or better condition (by current replacement value) and 20% of assets were reported in poor or very poor condition. This is shown in Table 3 below. In this financial plan, the percentage of water assets (by value) in very poor condition, relative to the overall value of the entire water asset base, will increase from 8.7% in 2021 to 18.1% in 2026. From

2027 onwards, the percentage of water assets in very poor condition will reduce to 14.0% in 2033, thus showing improvement (see Figure 5 below).

Table 3 2022 Asset Condition Rating – Water

		Total Water	Facility (WTW, PS, Reservoirs, ET)	Linear Network (Transmission)
	Replacement value (2022)	$1.8 billion	$1. Billion	$0.8 billion
Condition rating (percentage by replacement value)	Very good	33.00%	8.10%	65.10%
	Good	34.10%	42.00%	23.90%
	Fair	12.90%	15.90%	8.90%
	Poor	11.30%	20.00%	0.20%
	Very poor	8.70%	14.00%	1.90%

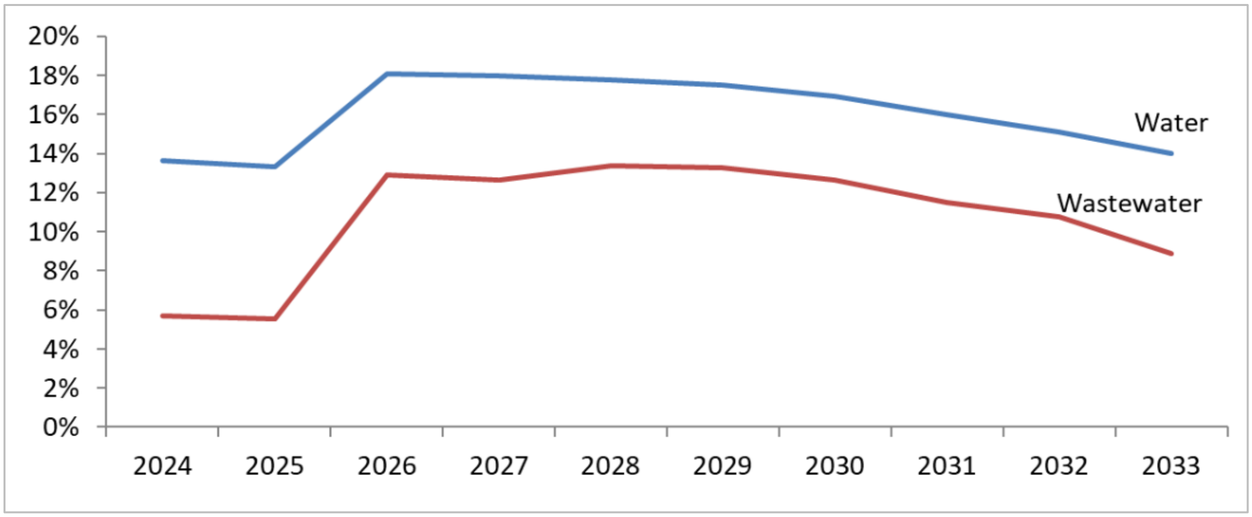
In the Wastewater section, 72% of all assets were reported to be fair or better condition (by current replacement value) and 28% of all assets (WWTP, Pumping Station including sewers and forcemains, etc.) were reported in very poor or poor condition. However, nearly 40% of all Wastewater facilities (WWTP, Pumping Station) are in either very poor or poor condition which is of increasing concern for the safety and reliability of their operation as per Table 4 below. In this financial plan, the percentage of wastewater assets (by value) in very poor condition, relative to the overall value of the entire wastewater asset base, will reduce from 14.0% in 2021to 13.4% in 2028. From 2029 onwards, the percentage of wastewater assets in very poor condition will reduce to 8.9% in 2033. This reduction is primarily the result of a significantly growing asset base which increases from $3,700 million in 2024 to over $5,000 million in 2033. The total value of assets in very poor condition will increase from currently $210 million (unfunded) to $600 million in 2029. From 2030 onwards, the value of assets in very poor condition will reduce to $447 million, thus showing improvement (see Figure 5 below).

Table 4 2022 Asset Condition Rating - Wastewater

		Total Wastewater (Facilities and Linear network)	Facilities (WWTP, SPS, etc.)	Linear Network (Sewers, Forcemains)
	Replacement value (2022)	$3.3 billion	$2.3 billion	$1. billion
Condition rating (percentage by replacement value)	Very good	12.30%	3.80%	31.10%
	Good	32.70%	34.50%	28.70%
	Fair	27.00%	23.30%	35.10%
	Poor	14.00%	19.70%	1.50%
	Very poor	14.00%	18.70%	3.60%

Assets in very poor condition are considered beyond their useful expected life and represent a significantly increased asset failure risk with potential impact on the safety and reliability of the services they provide for public health and the environment. These elevated risks also represent a direct operational cost for the Division for increased operational maintenance, repair and consequential cost if assets fail.

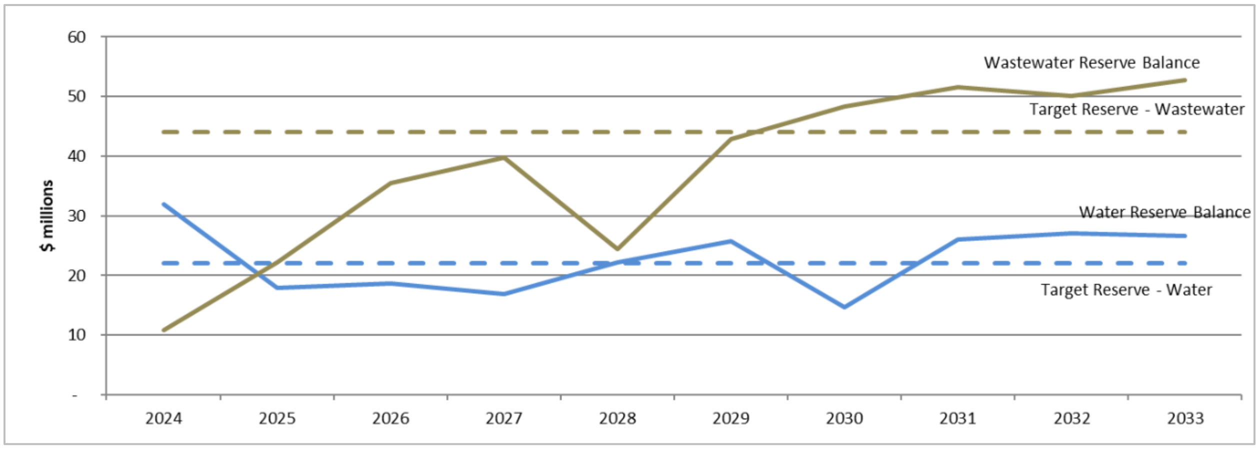
Figure 5 Percentage of Assets in Very Poor Condition



v. Maintain Capital reserve balances to manage asset risk

The Water and Wastewater Financial Plan has been created with the guideline of maintaining minimum reserve balances at 1% of the replacement value of assets. In previous financial plans, we had targeted a minimum reserve balance of 2% of the asset replacement value which was based on one-year average life cycle investment of assets with average useful life of 50 years. The main reason for the lowering of the reserve target was to address critically needed investments. Maintaining a reserve balance of 1% still provides an appropriate level of funding to manage in-year risks and annual budget fluctuations while allowing for critical capital investments to prioritize each year. This provides a Water target balance of $22 million, and a Wastewater target balance of $44 million. When the backlog of required asset investment reduces, the Region can then again prioritize reserve target balance at the optimal 2% of asset value in the future.

Figure 6 Forecasted Reserve Balances



vi. Use of debt and reserves/pay-as-you-go for assets in accordance with the Capital Financing Strategy

The Water and Wastewater Financial Plan ensures that debt remains sustainable and affordable within the operating budget. In the recommended plan of 7.15% increase to the net requisition, debt costs remain stable throughout the 10-year plan with Water averaging $2.2 million and Wastewater $13.8 million per year related to past approved debt including that of the South Niagara Falls Wastewater Plant (SNFWWTP). There is no new debt considered for Water and Wastewater capital in the recommended financial plan.

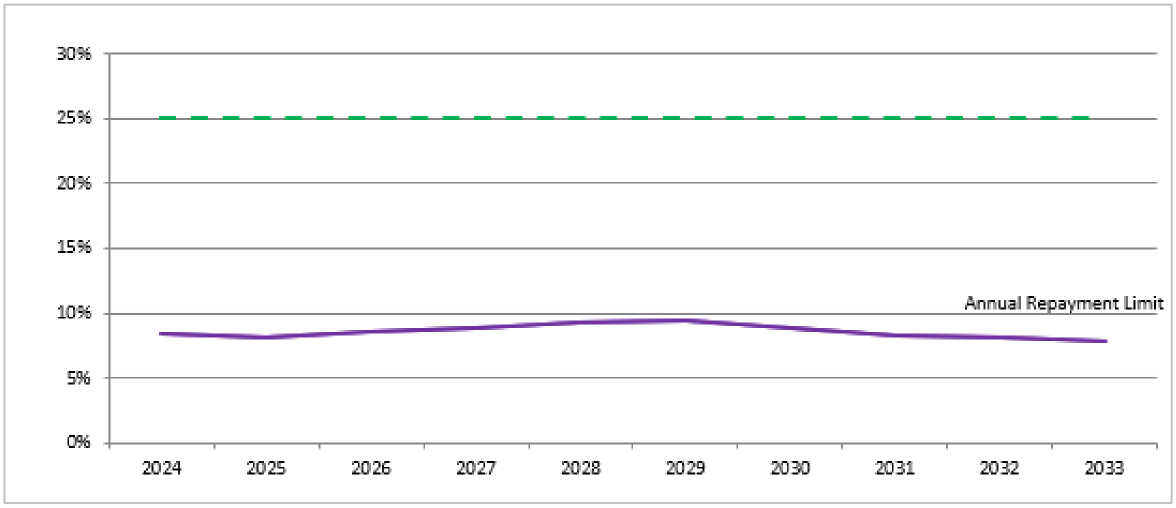
These debt servicing costs are estimates using interest rates ranging from 4.0% to 4.45% over the 10-year plan and assume that the approved SNFWWTP debt will be issued in 2028 upon completion of the project.

There are two key limits that are considered when evaluating debt levels.

1. The Provincial Annual Repayment Limit (ARL)

   The ARL is a limit imposed by the Province to ensure municipalities are issuing debt responsibly and are able to service future debt charges. The limit says that debt charges (principle and interest) cannot exceed 25% of own source revenues. The ARL looks at the Region's consolidated position, both Levy and Rate for this calculation. As shown in Figure 7 below, the Region is well below the 25% provincial limit. Even with increasing levels of debt for water and wastewater, the ratio grows only slightly in the middle of the forecast period and then declines in future years.

Figure 7 Annual Repayment Limit (Debt Charges as a Percentage of Revenue)



2. Standard & Poor’s (S&P) Credit Rating Debt Limit

Niagara Region currently has a Standard & Poor’s credit rating of AA+. The rating incorporates S&P's opinion of Niagara's exceptional liquidity, strong budgetary performance and financial management, and moderate debt burden. Niagara continually strives to improve our credit rating, as it sends a strong, positive message to investors, and directly impacts our cost of borrowing in the capital markets.

One of the S&P measures is the total outstanding debt principle compared to revenue. Debt principle from local area municipalities is included in this calculation since the Region is legislatively required to issue debt on behalf of the LAMs. The S&P limit is debt principle at 120% of revenue. Exceeding this amount could jeopardize the Region’s credit rating. Figure 8 below shows that that the Region stays below the S&P limit for the forecast where it peaks at 115.7% in 2029 based on current estimates of Regional and local area municipality debt requirements.

Figure 8 Standard & Poor's Debt Limit