



**CITY OF THUNDER BAY
ENVIRONMENT DIVISION -
WATER AUTHORITY**

FINANCIAL PLAN 2023

FINANCIAL PLAN # 024-301



This Financial Plan was approved by City Council on January 8, 2024 and ratified on January 22, 2024.

This Financial Plan was prepared for:



City of Thunder Bay
Environment Division - Water Authority
P.O. Box 800, 111 Syndicate Avenue S
Thunder Bay, ON P7E 6S4

Prepared by:



bain smith business valuation + consulting inc.
595 Arthur St. W., Unit 200C
Thunder Bay, ON P7E 5R5

Date:

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**CITY OF THUNDER BAY
ENVIRONMENT DIVISION - WATER AUTHORITY
FINANCIAL PLAN**

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EXECUTIVE SUMMARY

In 2007, the Ministry of Environment released an updated version of Regulation 453/07 requiring all municipalities to complete a Financial Plan for their drinking water system. The City of Thunder Bay Environment Division - Water Authority encloses its updated Financial Plan herein. It is prepared in accordance with the MOE Financial Plans Regulation (O. Reg. 453/07).

In preparing this Financial Plan, the financial impacts of the drinking water system have been considered. Based on the Projected Financial Statements and the assumptions herein, the Water Authority will be financially viable and will provide safe drinking water for both the short term and long term.

Expected Achievements

Through the process of developing this Financial Plan, the Water Authority set out to achieve the following:

- ✓ Achieves financial viability
- ✓ Limits overall water costs to consumers
- ✓ Provides safe drinking water in short term and long term
- ✓ Funds the long term capital plan
- ✓ Achieves full cost recovery over the long term
- ✓ Maintains current service levels

Historic Operations

Since the development of 2018 Financial Plan, there were external and internal factors that impacted the financial results of the Water Authority. Significant changes in the operations from 2018 to 2022 included:

- ✓ Consumption fluctuated from 2018 to 2022, averaging 10.9 million cubic meters over the five years;
- ✓ Overall, total expenses incurred by Water Authority in 2022 were 19% higher than those incurred in 2018;
- ✓ The larger increases in expenses were insurance, purchased services, fleet rental costs and restoration of utility cuts of 61%, 121%, 47% and 82% respectively over the five year period;
- ✓ Interdepartmental charges increased at a faster rate than projected; and
- ✓ Municipal taxes only increased by 1.9%, while interest costs declined by 14.8%.

When comparing actual results with the projections in the 2018 Financial Plan, the Water Authority achieved higher revenues due to higher water consumption. Personnel costs were lower than projected but purchased services were higher. Investment in infrastructure renewal was carried out consistent with the plan and no infrastructure



deficit exists within the Water Authority. Over the past fourteen years, the Water Authority has continued to provide safe drinking water, while finding efficiencies to achieve full cost recovery over the long term.

Operating Plan

The operating plan includes its day to day operations maintaining and administering the drinking water system; the capital investments it will incur to renew and replace its existing capital infrastructure; and debt management, being debt repayments and interest charges that are incurred to achieve the above. Key highlights from the operating plan include:

- ✓ Operating costs are projected to increase by 3.0% in 2025 and 2026, and then 1.9% each year thereafter;
- ✓ Total capital infrastructure investment for the drinking water system is expected to be \$394 million from 2023 to 2042. This includes \$25 million investment in lead service line replacement over next 20 years;
- ✓ Debt will continue to be secured to finance a portion of the capital requirements; and
- ✓ Total projected cash expenditures, including operating expenses, capital costs, debt repayment and interest charges will be \$40 million by 2024 and will fluctuate depending on significant capital projects, increasing to over \$60 million in 2042.

Funding Plan

The funding plan was developed to determine the most appropriate balance of operating revenues and new debt financing. The achievements of the funding plan include:

- ✓ Operating revenues will be sufficient to cover operating, capital and debt and interest costs over the long term;
- ✓ Water rates will continue to be affordable over the long term;
- ✓ Water consumption is forecasted to increase by 0.8% each year from 2025 to 2027, and then remain stable from 2028 to 2042;
- ✓ This plan does not rely on the use of municipal tax dollars to operate the Water Authority;
- ✓ Additional debt of \$116 million will be required over the long term, financing approximately 29% of total capital investments over the projected period; and
- ✓ Using operating revenues, cash reserves and new debt, it is projected that the Water Authority will achieve sufficient cash receipts to cover its average annual cash expenditures.



Financial Plan

Shown on Appendix One of this Financial Plan, the projected financial statements include a projected statement of financial position, projected statement of operations and projected statement of cash flow for the periods ending from January 1, 2023 to December 31, 2042. As required, these statements are in accordance with Public Sector Accounting Standards. Actual results will vary from the projections herein and the differences may be material.

Performance against this plan will be measured annually through the budget process.



INTRODUCTION

This Financial Plan of the Thunder Bay's Environment Division – Water Authority (“Water Authority”) was prepared in accordance with Regulation 453/07 as approved by the Ontario Ministry of Environment on August 14, 2007. The process in developing this plan was focused on the achievement on maintaining the water system in a safe and effective manner, while limiting water rates to projected inflationary increases. Through discipline and effective operations, the Water Authority has been able to limit its reliance on debt to support all future capital expenditures.

Twenty-year financial projections to the year 2042 were prepared, demonstrating that the Water Authority will achieve financial viability, while providing safe drinking water over the short and long term.

Ministry of Environment Financial Plans Regulation 453/07

Drinking water system owners are required to prepare a Financial Plan for their drinking water system as part of the Municipal Drinking Water Licensing Program as set out in Part V of the Safe Drinking Water Act (SDWA). The Financial Plan must be prepared in accordance with the Ministry of Environment Financial Plans Regulation 453/07.

Regulation 453/07 requires the following:

- ✓ the Financial Plan be approved by resolution of Council that specifies that the drinking water system is financially viable;
- ✓ full-cost accounting to be utilized to determine the true cost of the drinking water system; and
- ✓ projections be at least six years but recommends a long-term plan.

Thunder Bay Water Authority

The Environment Division – Water Authority operates and maintains the water system infrastructure within the Infrastructure and Operations Department of the City of Thunder Bay. The Water Authority's top priority is to provide a safe, sustainable supply of water, providing public health protection, fire protection and support for the local economy, all contributing to a high quality of life. Through the Quality Management System, the Water Authority is able to better manage risks, identify operational efficiencies, enhance staff knowledge and create public awareness of its commitment to provide safe drinking water.

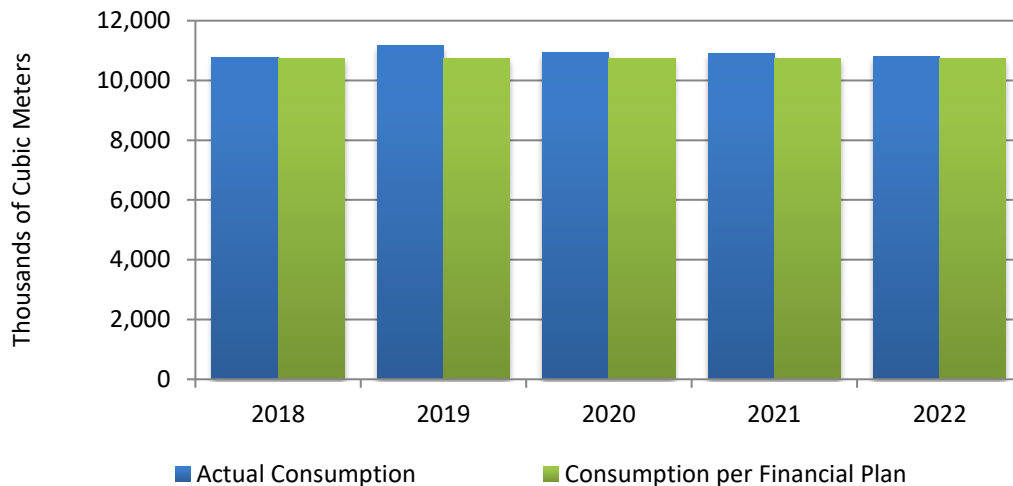


Historic Operations

The City of Thunder Bay Water Authority's third Financial Plan was approved in July 2018. As expected, there were internal and external factors which had an impact on the financial operations of the Water Authority. A comparison of the previous Financial Plan to the actual results, and a broad review of significant changes in operations from 2018 to 2022 are highlighted below.

- ✓ Consumption increased by 3.8% from 2018 to 2019 to 11.1 million cubic meters and then declined to 10.8 million cubic meters in 2022 compared to 10.7 million cubic meters which as originally projected;

Actual Consumption vs 2018 Projected Consumption



- ✓ Total revenue increased gradually from \$30.2 million in 2018 to \$34.0 million in 2022;
- ✓ The larger increases in expenses were insurance, purchased services, fleet rental costs and restoration of utility cuts of 61%, 121%, 47% and 82% respectively over the five year period;
- ✓ Total interdepartmental charges were projected to increase by 11% over the five years, however these charges increased by 17% due to greater facilities and fleet utilities and fleet rental costs;
- ✓ Personnel services were lower than originally projected. In 2022, personnel services were projected to be \$8.2 million but the actual expense was \$7.7 million; and
- ✓ Overall, the Water Authority has a cash reserve fund balance of \$20.5 million in 2022, an increase of \$13 million since 2018. This additional cash reserve will support the Water Authority to continue to meet its infrastructure renewal plan.

Key assumptions in this Financial Plan include:



- ✓ Water consumption is expected to increase by 0.8% each year from 2025 to 2027, then remain stable for the remaining projected period;
- ✓ Operating costs are projected to increase by 3.0% in 2025 and 2026, and then 1.9% each year thereafter;
- ✓ Debt will be used to fund approximately 29% of total capital expenditures each year; and
- ✓ The projected annual rate increases in operating revenues will be 3.0% for the years from 2025 to 2028; 2.5% for the years from 2029 to 2037; and 1.9% thereafter.

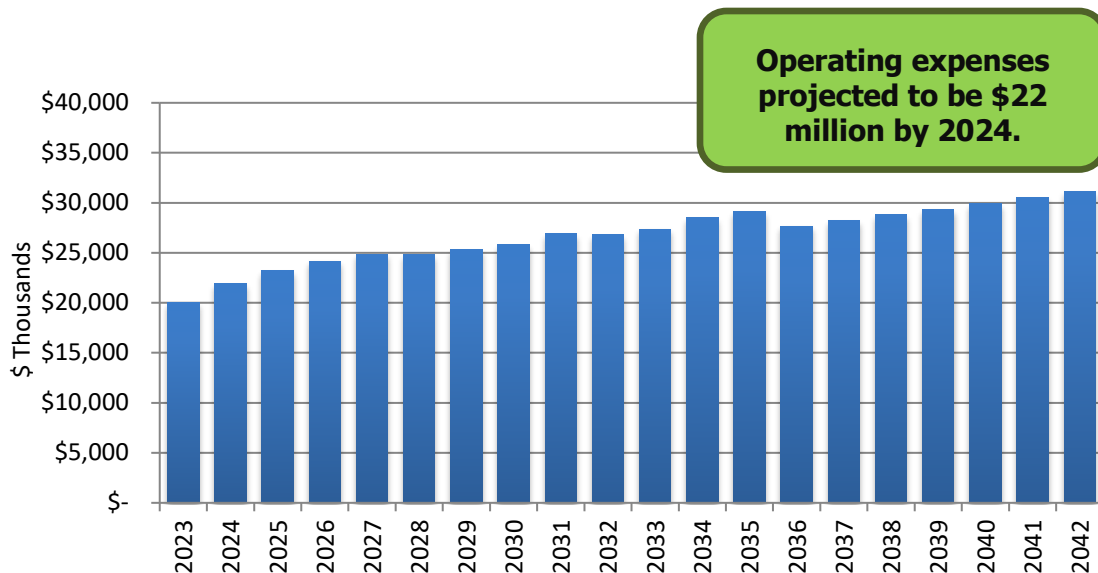


OPERATING PLAN

Through the achievement of its operating plan, the Water Authority will provide safe drinking water in the short term and long term. The Water Authority's operating plan includes its day to day operations maintaining and administering the drinking water system; the capital investments that it will incur to renew and replace its existing capital infrastructure; and debt management, being the resulting debt repayments and interest charges that are incurred to achieve the above.

Operations

The Water Authority's key operating expenses include personnel costs, utilities, materials and supplies, and administrative costs. Certain capital budget items are also recorded as operating expenses, including professional fees, technical costs, and purchased services. Overall, annual operating expenses are projected to be \$22 million by 2024 and will continue to increase modestly over the projected period.



Key Assumptions in Projections

The detailed operating expenses are outlined in the projected statement of operations, included as part of Appendix One. In these projections, it is assumed that operating expenses will increase at a rate of 3.0% from 2025 to 2027, and then 1.9% from 2028 to 2042. Utility costs are projected to increase at an annual rate of 3.0% throughout the 20 year plan.



Capital Costs

To enable the delivery of safe drinking water to all, the water system holds significant assets, including: Bare Point Water Treatment Plant; one lab; one standpipe; four reservoirs; seven water pumping stations; eight water pressure zones; three water fill stations; 723 kilometres of watermains; and, thousands of connections, fire hydrants, access chambers and valves. These water system assets are referred to as capital with a replacement value of \$622 million in 2021 dollars.¹

Through updating this financial plan every five years, the City aims to achieve a sustainable level of funding for Water Services to achieve full cost recovery over the long term and maintain current service levels while limiting overall water costs to consumers.

The capital asset management plans in place identify annual infrastructure investment to maintain, renew and replace as required.

Capital Asset Management

The City of Thunder Bay Environment Division has long term planning studies, which address the water treatment facilities and water distribution linear assets, providing rehabilitation and replacement recommendations used for forecasting capital requirements and ongoing maintenance. The Engineering Division schedules capital replacement for its linear assets based on prioritization calculated using the following characteristics: break history, soil condition, age, material type, criticality as well as the integration of the lead replacement connection program, road resurfacing, road reconstruction work and other utilities' underground efforts.

Ongoing Capital Costs

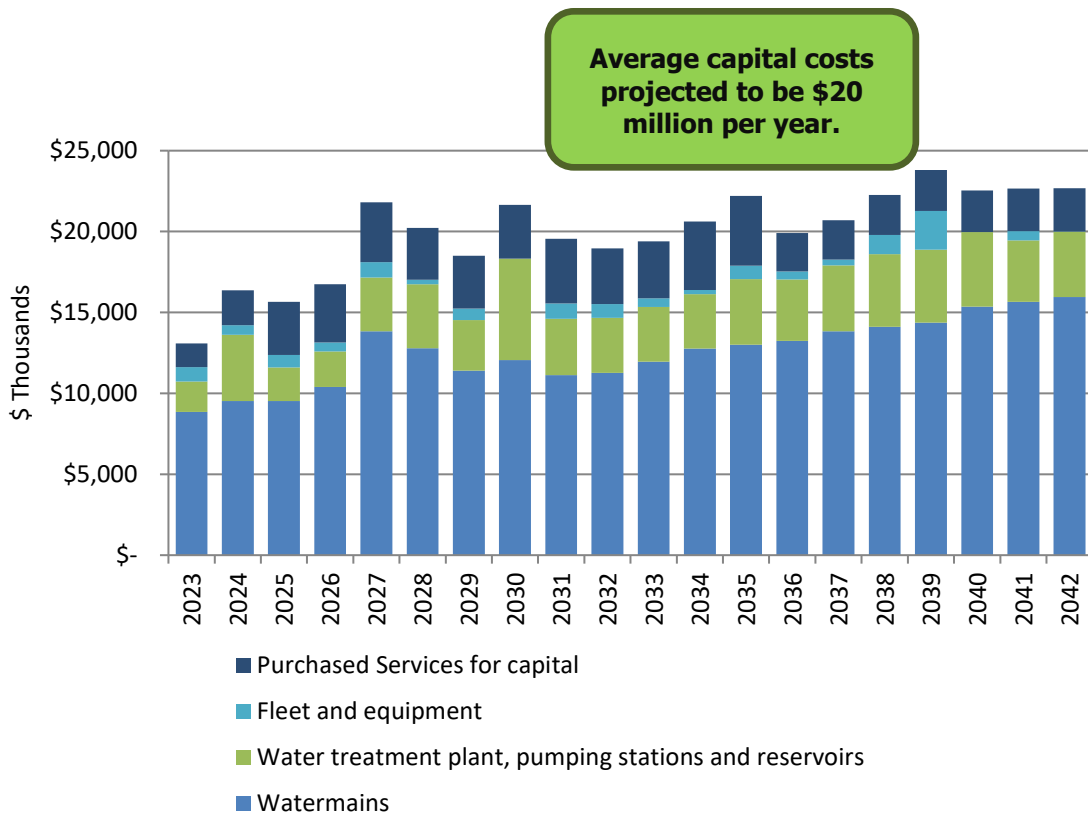
Over the next twenty years, there are significant capital costs required to upgrade and maintain the City's water system. On average, approximately \$20 million of capital investments will be incurred each year, including purchased services for capital that are expensed in the year incurred. These expenditures will allow for the delivery of safe drinking water to Thunder Bay residents in the short term and the long term and will be performed in a cost-effective manner through priority planning and integration with other City department upgrades.

WATER SYSTEM ASSETS

AT A GLANCE

- 1 water treatment plant
- 1 lab
- 1 standpipe
- 723 km watermains
- 4 reservoirs
- 7 pump stations
- 3 water fill stations
- 37,649 service connections
- 9,456 valves
- 3,629 hydrants





Over the projected period, approximately \$394 million will be spent on capital infrastructure.

Future Significant Capital Costs

Looking beyond twenty years from now, this plan, which will be reviewed annually, will allow the Water Authority to have funds available to pay for items such as, unexpected expenditures, network expansion if there is population growth, and/or significant upgrades to the water treatment plant, if determined to be needed.

Key Assumptions in Projections

Capital costs will be incurred as set out on Schedule Two of these projections (Appendix One). While there is sometimes a delay between capital being approved by Council and the actual expenditure, it is assumed that capital will be incurred in the year that the expenditure will be approved in this plan.

Debt Management

Debt management is the ability to repay debt over time, including both principal payments and interest charges. The debt owed by the Water Authority was incurred to fund capital costs. In 2022, \$61 million of debt was owed by the Water Authority.

The annual principal payments and interest costs on debt are estimated to be an average of \$8 million over the projected period.



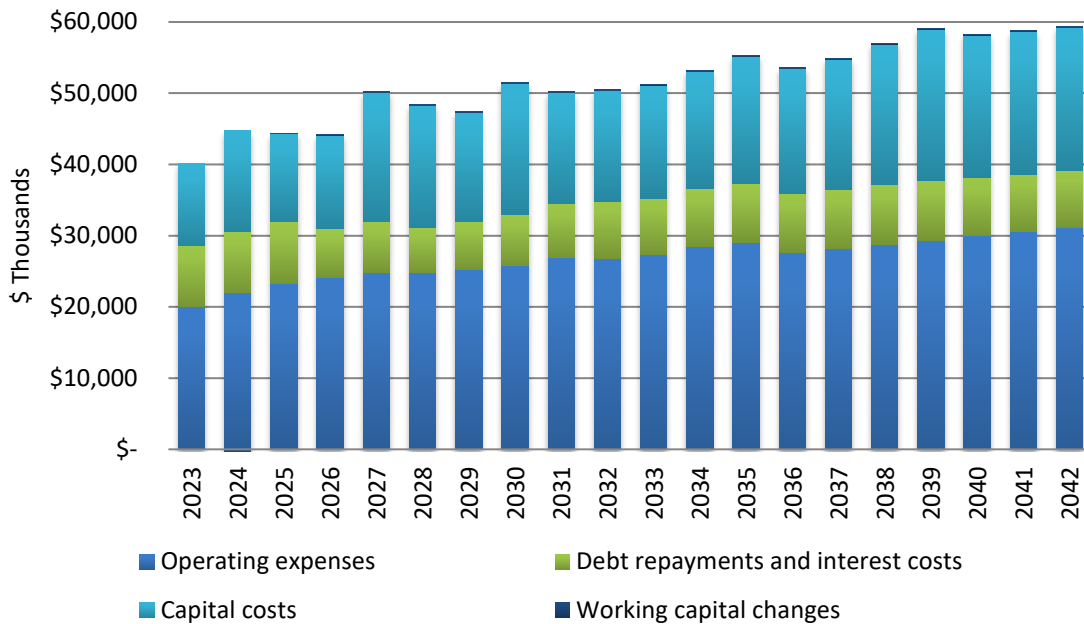
Key Assumptions in Projections

Schedule One, or the projected statement of liabilities and accumulated surplus, included as part of Appendix One, provides the detailed debt levels and repayments over the projected period, as well as assumptions. It is assumed that external debt, referred to as debentures, will be repaid semi-annually over twenty years and interest will be charged at 5.0% compounded semi-annually. Should interest rates increase, the cash expenditures would also increase.

Total Cash Expenditures

The City of Thunder Bay Water Authority has significant cash expenditures, including operating expenses, debt repayments and interest charges, and capital costs. These expenditures are projected to increase over the projected period from \$40 million in 2023 to \$60 million in 2042. Capital investments account for over 30% of these costs.

From 2023, cash expenditures incurred to operate the Water Authority were projected to be between \$40 and \$60 million through to 2042.



Note that the aggregate cash expenditures cannot be found on any of the projected financial statements attached in Appendix One. Rather, these cash expenditures are gathered from the various statements to illustrate the cash required to sustain a safe drinking water system.



FUNDING PLAN

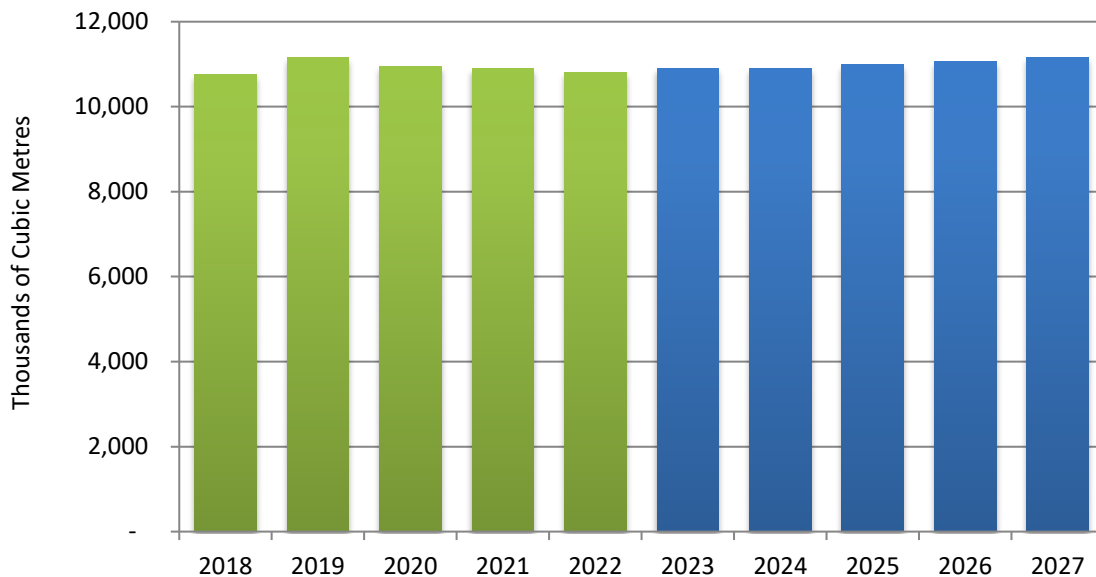
Cash expenditures are projected to be an average of \$51 million per year. To fund these critical expenditures, the Water Authority will rely on a blend of operating revenues, its cash reserves along with new debt financing.

Operating Revenues

Operating revenues include water, access and other charges or receipts. The majority of the operating revenues are achieved as a result of two variables: consumption and water rates.

Consumption

Between 2018 to 2022, water consumption fluctuated from 11.2 million cubic metres to 10.8 million cubic metres, averaging 10.9 million cubic meters over the five year period. Based on this consumption, it is projected that water consumption will remain at 10.9 million cubic metres in 2024, then increases by 0.8% each year from 2025 to 2027, then stabilizing at 11.2 million cubic metres for the remaining projected period.



Water Rates

The current water rate structure is an equitable user rate system. There is a fixed and variable component to the water rates. Based on a residential 200 m³, the approximate fixed charges represent 45% of the total water charges². Thunder Bay's fixed to variable ratio is comparable or lower than other Northern Ontario communities where fixed charges represent 43% and 69% of the total water charges in Greater Sudbury and Sault Ste. Marie respectively. The average and median fixed charges as a percent of total residential charges are 41% and 42% respectively for the 115 municipalities across Ontario.

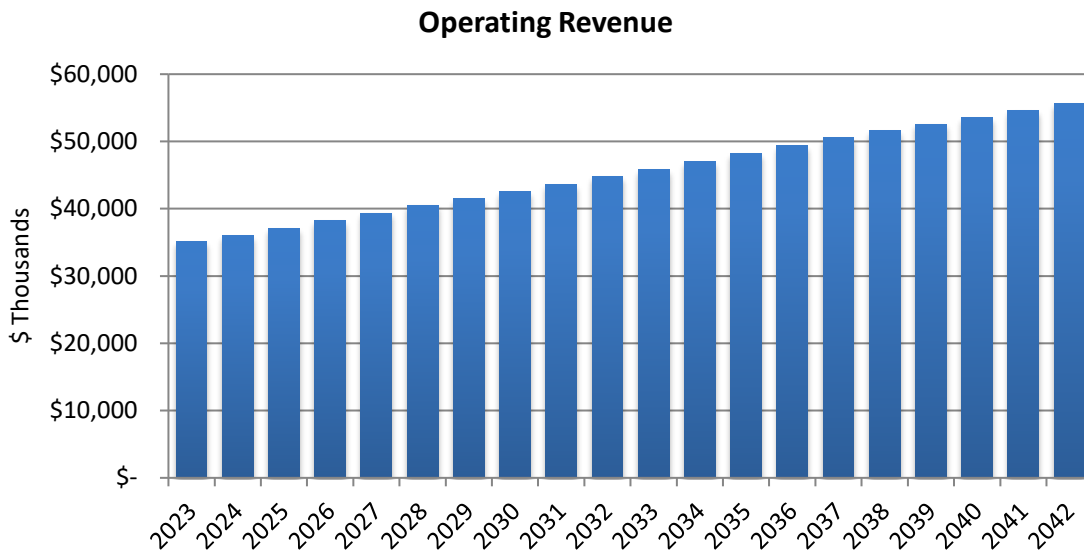


Summary of Operating Revenues

Over the projected period, operating revenues are expected to gradually increase to \$56 million in 2042. To support the capital renewal program, the revenues are projected to increase as follows:

	2024 to 2028	2029 to 2037	2038 to 2042
Annual Rate Increase	3.0%	2.5%	1.9%

See the graph below for an illustration of the projected operating revenues. They are also summarized on the Projected Statement of Operations in Appendix One.



New Debt

While it is planned to gradually increase operating revenues, there is still monies required to cover capital expenditures. In this Financial Plan, through careful consideration for rising debt levels and costs, the City’s Debt Management Strategy as well as rate increases charged to customers, it is projected that new debt will continue to be required.

Over the long term, new debt of \$116 million is projected to be required in order to finance capital costs of \$394 million.

Key Assumptions in Projections

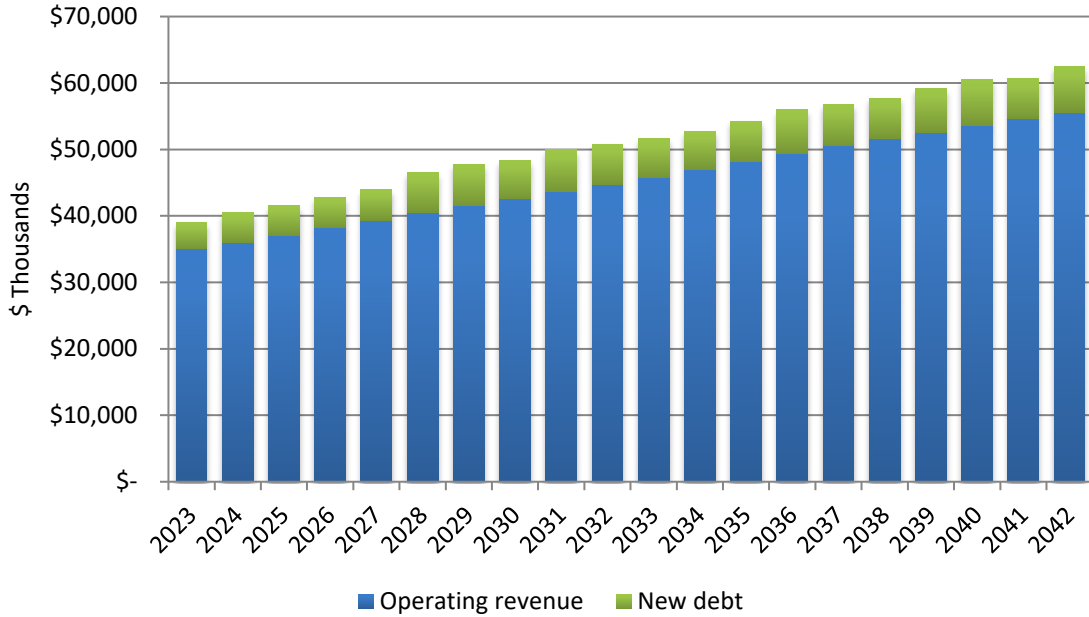
The existing and new debt is outlined on Schedule One in Appendix One. To arrive at the projections herein, it is assumed that new debt of \$116 million will be incurred over a



long-term period, and debt will be repaid semi-annually over twenty years, interest charged at 5.0% compounded semi-annually.

Funding to Meet Cash Requirements

Recapping, the funds required to pay for the Water Authority’s cash expenditures will be derived from operating revenues and new debt incurred, as shown below. Where its operating revenues and new debt were not sufficient, the Water Authority is projected to rely on its cash reserves to support the capital expenditure requirements.



Through accessing these sources along with its cash reserves, it is projected that the Water Authority will achieve sufficient available cash to meet its annual expenditures.



FINANCIAL PLAN

The financial impacts of the drinking water system have been considered through the projected financial statements for years ending December 31, 2023 to 2042, included as Appendix One, and summarized below. These financial statements are required to include a full-cost accounting, meaning that all costs, whether operating, financial or capital, related to operating the drinking water system, must be included³.

“Financial sustainability is needed to ensure that Ontarians continue to enjoy clean and safe drinking water, that water...services are reliable in the long term, and that environmental protection is maintained.”
Ministry of the Environment⁶

The projected financial statements include the following:

Projected Statement of Financial Position

- Financial assets and liabilities; and
- Other non-financial assets, including inventory and capital assets.
- See Schedule One and Two for supporting detail

Projected Statement of Operations

- Revenues;
- Operating expenses, and interest on long term debt; and
- Amortization.

Projected Statement of Cash Flow

- Operating transactions;
- Financing (new debt and debt repayments) transactions;
- Capital transactions (capital costs).
- All of which will increase or decrease cash held by the Water Authority

These projected financial statements are prepared to conform to Public Sector Accounting Standards. These statements reflect the City of Thunder Bay’s accounting policies, along with estimates and assumptions related to the operations of Water Authority, and are based on 2022 actual results, as derived from Environment Division - Water Authority internal financial statements of the City of Thunder Bay.

Actual results will vary from these projections and the differences may be material. Any future changes to accounting policies or key assumptions will impact these projected financial statements and should be updated to reflect such changes.

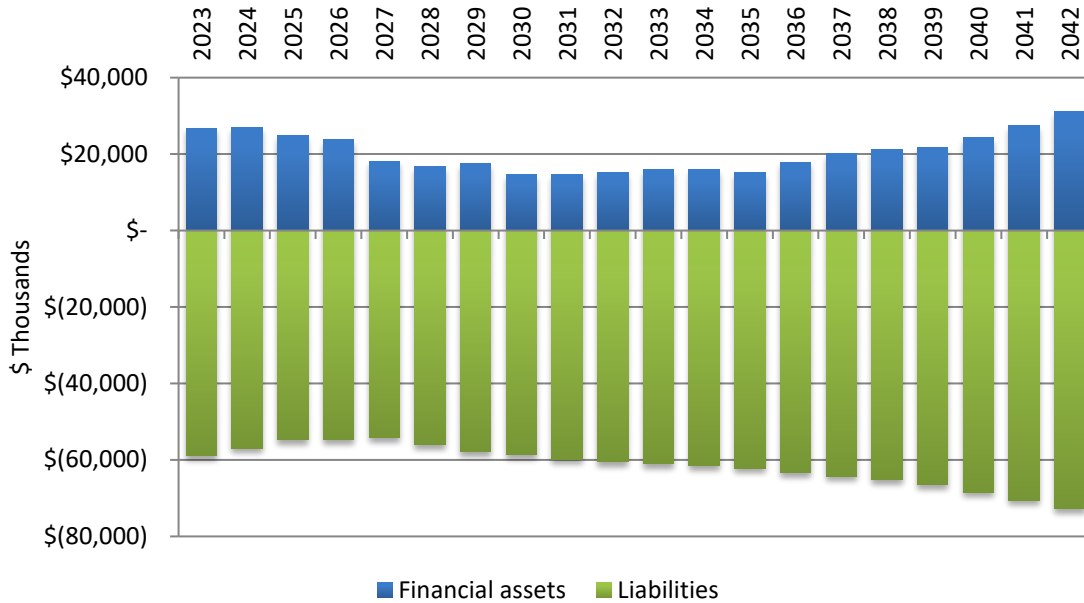
Projected Statement of Financial Position

The projected statement of financial position reflects both the financial and non-financial assets of the Water Authority.



Net Financial assets

Net financial assets are the financial assets, including cash and accounts receivable, offset by the liabilities (debt) of the Water Authority. Net financial assets are projected to be as follows:



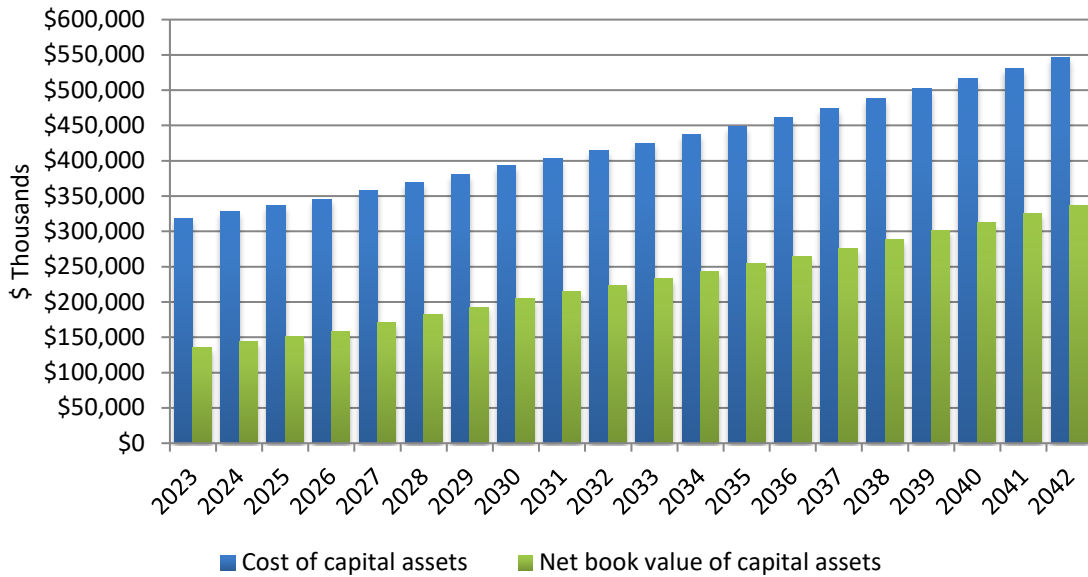
In this Financial Plan, the Water Authority has made efforts to maintain water rates at inflationary increases, as much as possible. To accomplish this, debt continues to be required to support the capital renewal program.

Non-Financial Assets

Non-financial assets include inventory and capital assets. The capital assets represent the infrastructure required to provide safe drinking water to the community. Capital assets are broken down as water treatment plant; pumping stations, reservoirs and tap houses, watermains and fleet (vehicles).

Below, the cost and net book value of the capital assets has been illustrated. It is projected that in 2023, the original cost of the capital assets required to provide safe drinking water is approximately \$319 million. The net book value or the net cost remaining in the useful life, of those same assets is \$135 million.





Accumulated Surplus

The accumulated surplus is the accumulation of the Water Authority’s excess of revenues over expenses over time.

Projected Statement of Operations

The projected statement of operations includes the revenues less the expenses, arriving at the excess or net revenues over expenses.

Revenues

Revenues include operating revenues, such as waterworks fees, access charges, fire protection fees and other customer and miscellaneous charges. A chart illustrating the revenues earned over time is shown on page 12.

Expenses

Expenses include a list of detailed projected expenses, including operating expenses, interest on long term debt, purchased services related to capital budget items and amortization. Amortization is the write off of the capital assets or the water system infrastructure over their useful life. It does not represent a cash expenditure.

Projected Statement of Cash Flow

The projected statement of cash flow is a very useful statement for a capital-intensive organization such as the Water Authority. This projected statement of cash flow summarizes the key transactions that either increase or decrease the organization’s cash balance. It is set out in three sections: operating transactions; capital transactions and financing transactions.

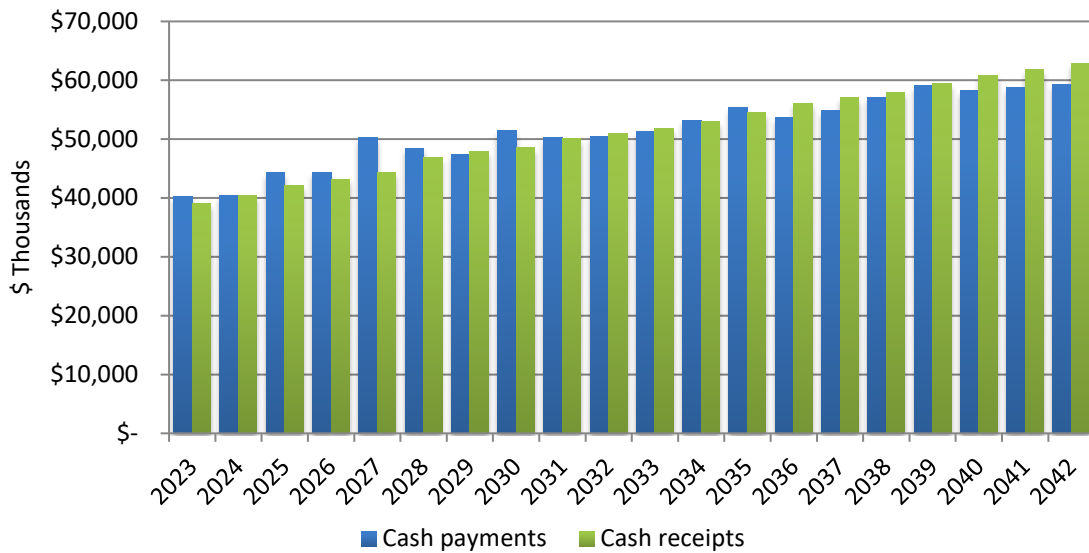


Projected operating transactions section is a summary of the projected net revenues over expenses, adjusted for any non-cash items. Projected capital transactions show the capital additions and sale of assets, if any, while the projected financing transactions reveal if any new debt will be incurred and the amount of debt that will be repaid.

In the Operating Plan section of this Financial Plan, the cash expenditures, such as operating expenses, debt repayments and capital costs, were identified. In the Funding Plan section of this Financial Plan, the cash receipts, or funds required to cover the cash expenditures were discussed. These funds include operating revenues and new debt.

This next chart below is a summary of those cash expenditures and receipts, which is essentially a summary of the Projected Statement of Cash Flow.

Cash Receipts > Cash Expenditures
Through the projected period, the Water Authority will save money for future significant capital expenditures.



Since the 2018 Financial Plan, the Water Authority has built a cash reserve, in excess of \$20 million. Over the next twelve years, it will use some of its cash reserve to invest in capital, while maintaining affordable water rates. Beyond 2035, it is projected that the Water Authority will rebuild its cash reserves to ensure that it is at an appropriate level to manage future capital expenditures.



AFFORDABILITY OF WATER

While the financial viability and the provision of safe drinking water are key priorities for the Water Authority, the overall affordability of water to its consumers is also a key objective. Industry standards indicate that rates are affordable when a combined water/sewer bill is less than 4.5% of median household income. According to the 2022 BMA Municipal Study, Thunder Bay's estimated average household income was \$93,040⁵. The residential water and sewer user costs for 200m³ were \$1,315, which is equal to 1.4% of household income.

The Global Organization of Economic Cooperation and Development created and acknowledges an "imperfect" rule of thumb to be less than 5% of the low income household after tax income, also referred to as low income cut off (LICO)⁶. Assuming an average 3-person household earning after tax income of \$29,200, the residential water and sewer costs for 200m³ represent 4.5% of that income level⁷.

In comparing the City of Thunder Bay rates to those in Ontario, it is noted that in 2022, Thunder Bay's residential cost for 200m³ is \$1,315. The same average costs in Northern Region and across Ontario are \$1,336 and at \$1,237 respectively. At the same time however, Thunder Bay's water rates are lower in the industrial, institutional and commercial categories for water and sewer user costs than the Provincial and Northern Region averages. As an example, commercial costs for 10,000m³ is \$28,681 in Thunder Bay, while the average in the North region and across Ontario are \$36,077 and \$40,904 respectively.

The City of Thunder Bay continues to offer a water credit program for low-income seniors and low-income persons with disabilities.

SUMMARY

This Financial Plan has been prepared in accordance with the MOE Financial Plans Regulation (O. Reg. 453/07). The process in developing this plan has focused on the achievement of a balance between maintaining the water system in a safe and effective manner, while limiting expenditure and water rate increases. A flexible and gradual approach has been utilized to achieve long term financial viability.

This Financial Plan must be approved by a City Council resolution, indicating that as a result of this plan, Thunder Bay Water Authority is financially viable.

- ✓ Achieves financial viability
- ✓ Limits overall water costs to consumers
- ✓ Provides safe drinking water in short term and long term
- ✓ Develops a long term plan for capital renewal
- ✓ Achieves full cost recovery over the long term
- ✓ Maintains current service levels



ENDNOTES

¹ 2021 Asset Management Plan, Phase One: Future Ready Roadmap, City of Thunder Bay

² Source: BMA Management Consulting Inc. Municipal Study – 2022

³ Environmental Commissioner of Ontario. 2008. “MOE’s Financial Plans Regulation for Municipal Drinking Water Systems.” *Getting to K(N)ow, Eco Annual Report, 2007-08*. Toronto: The Queen’s Printer for Ontario. 90-94. Retrieved from http://www.ecoissues.ca/wiki/index.php?title=MOES%E2%80%99s_Financial_Plans_Regulation_for_Municipal_Drinking_Water_Systems

⁴ Ministry of the Environment Report, Toward Financially Sustainable Drinking-Water and Wastewater Systems, retrieved from: <http://www.ontla.on.ca/library/repository/mon/18000/275984.pdf>

⁵ Source: BMA Management Consulting Inc. Municipal Study – 2022

⁶ OECD’s affordability % of LICO, derived from the Fall 2019 issue of the Western Canada Water magazine, extracted from <https://www.kelmanonline.com/httpdocs/files/WCW/westerncanadawaterfall2019/index.html>

⁷ Assuming a three person family/household and a community size between 100,000 and 500,000, derived from Statistics Canada table 11-10-0241-01, titled “Low Income Cut-Offs (LICOs) before and after taxes by community size and family size”.



APPENDIX ONE CASH FLOW PROJECTIONS

**THE CORPORATION OF THE CITY OF THUNDER BAY
ENVIRONMENT DIVISION - WATER AUTHORITY
PROJECTED STATEMENT OF FINANCIAL POSITION**

AS AT DECEMBER 31, 2022 TO 2042

(\$ THOUSANDS)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	
	(Note 1)																					
FINANCIAL ASSETS																						
Cash and cash equivalents	2	\$ 20,511	\$ 22,032	\$ 22,046	\$ 19,748	\$ 18,698	\$ 12,815	\$ 11,238	\$ 11,796	\$ 8,883	\$ 8,757	\$ 9,249	\$ 9,749	\$ 9,556	\$ 8,694	\$ 11,237	\$ 13,326	\$ 14,280	\$ 14,564	\$ 17,123	\$ 20,092	\$ 23,602
Accounts receivable	3	5,007	4,772	4,899	5,046	5,197	5,353	5,513	5,651	5,792	5,937	6,085	6,238	6,393	6,553	6,717	6,885	7,016	7,150	7,286	7,425	7,567
		<u>25,518</u>	<u>26,804</u>	<u>26,945</u>	<u>24,794</u>	<u>23,895</u>	<u>18,168</u>	<u>16,751</u>	<u>17,447</u>	<u>14,675</u>	<u>14,694</u>	<u>15,334</u>	<u>15,987</u>	<u>15,949</u>	<u>15,247</u>	<u>17,954</u>	<u>20,211</u>	<u>21,296</u>	<u>21,714</u>	<u>24,409</u>	<u>27,517</u>	<u>31,169</u>
LIABILITIES (SCHEDULE ONE)																						
Long term debt		56,816	54,896	52,661	50,216	50,061	49,676	50,021	52,036	53,326	53,811	54,916	55,573	55,951	56,387	57,277	58,702	59,433	60,403	62,073	64,378	66,593
Short term construction debt		4,224	3,882	4,127	4,427	4,427	4,427	5,852	5,552	5,177	5,852	5,402	5,252	5,327	5,627	6,002	5,477	5,627	6,002	6,302	6,077	6,077
		<u>61,040</u>	<u>58,778</u>	<u>56,788</u>	<u>54,643</u>	<u>54,488</u>	<u>54,103</u>	<u>55,873</u>	<u>57,588</u>	<u>58,503</u>	<u>59,663</u>	<u>60,318</u>	<u>60,825</u>	<u>61,278</u>	<u>62,014</u>	<u>63,279</u>	<u>64,179</u>	<u>65,060</u>	<u>66,405</u>	<u>68,375</u>	<u>70,455</u>	<u>72,670</u>
NET FINANCIAL ASSETS (DEBT)		<u>(35,522)</u>	<u>(31,974)</u>	<u>(29,843)</u>	<u>(29,849)</u>	<u>(30,593)</u>	<u>(35,935)</u>	<u>(39,122)</u>	<u>(40,141)</u>	<u>(43,828)</u>	<u>(44,969)</u>	<u>(44,984)</u>	<u>(44,838)</u>	<u>(45,329)</u>	<u>(46,767)</u>	<u>(45,325)</u>	<u>(43,968)</u>	<u>(43,764)</u>	<u>(44,691)</u>	<u>(43,966)</u>	<u>(42,938)</u>	<u>(41,501)</u>
NON-FINANCIAL ASSETS																						
Inventory of materials	4	558	648	480	494	509	525	534	545	555	566	576	587	598	610	621	633	645	657	670	683	696
Capital work in progress	5	8,836	6,321	2,080	1,940	1,940	1,940	1,940	1,940	1,940	1,940	1,940	1,940	1,940	1,940	1,940	1,940	1,940	1,940	1,940	1,940	1,940
		<u>9,394</u>	<u>6,969</u>	<u>2,560</u>	<u>2,434</u>	<u>2,449</u>	<u>2,465</u>	<u>2,474</u>	<u>2,485</u>	<u>2,495</u>	<u>2,506</u>	<u>2,516</u>	<u>2,527</u>	<u>2,538</u>	<u>2,550</u>	<u>2,561</u>	<u>2,573</u>	<u>2,585</u>	<u>2,597</u>	<u>2,610</u>	<u>2,623</u>	<u>2,636</u>
Capital assets (Schedule Two)																						
Water treatment plant		39,329	39,249	39,431	40,139	40,979	42,865	44,791	46,333	47,915	49,691	51,247	52,859	54,375	56,471	58,112	60,023	62,178	64,325	66,472	67,763	69,195
Pumping stations		14,777	14,977	17,096	16,629	16,106	15,623	15,647	15,156	17,680	17,114	16,622	16,002	15,496	15,046	14,704	14,294	13,992	13,610	13,228	12,822	12,418
Watermains		73,974	79,658	85,893	92,014	98,970	109,727	119,711	128,148	137,077	144,927	152,836	161,362	170,540	179,788	189,109	198,841	208,675	218,654	229,482	240,452	251,542
Fleet		719	1,351	1,687	2,156	2,381	2,930	2,776	3,003	2,485	2,910	3,166	3,053	2,735	2,708	2,603	2,381	2,992	4,687	3,947	3,752	3,050
		<u>128,799</u>	<u>135,235</u>	<u>144,107</u>	<u>150,938</u>	<u>158,436</u>	<u>171,145</u>	<u>182,925</u>	<u>192,640</u>	<u>205,157</u>	<u>214,642</u>	<u>223,871</u>	<u>233,276</u>	<u>243,146</u>	<u>254,013</u>	<u>264,528</u>	<u>275,539</u>	<u>287,837</u>	<u>301,276</u>	<u>313,129</u>	<u>324,789</u>	<u>336,205</u>
Total non-financial assets		<u>138,193</u>	<u>142,204</u>	<u>146,667</u>	<u>153,372</u>	<u>160,885</u>	<u>173,610</u>	<u>185,399</u>	<u>195,125</u>	<u>207,652</u>	<u>217,148</u>	<u>226,387</u>	<u>235,803</u>	<u>245,684</u>	<u>256,563</u>	<u>267,089</u>	<u>278,112</u>	<u>290,422</u>	<u>303,873</u>	<u>315,739</u>	<u>327,412</u>	<u>338,841</u>
ACCUMULATED SURPLUS (SCHEDULE ONE)		<u>\$102,671</u>	<u>\$ 110,230</u>	<u>\$ 116,824</u>	<u>\$ 123,523</u>	<u>\$ 130,292</u>	<u>\$ 137,675</u>	<u>\$ 146,277</u>	<u>\$ 154,984</u>	<u>\$ 163,824</u>	<u>\$ 172,179</u>	<u>\$ 181,403</u>	<u>\$ 190,965</u>	<u>\$ 200,355</u>	<u>\$ 209,796</u>	<u>\$ 221,764</u>	<u>\$ 234,144</u>	<u>\$ 246,658</u>	<u>\$ 259,182</u>	<u>\$ 271,773</u>	<u>\$ 284,474</u>	<u>\$ 297,340</u>

See accompanying notes and assumptions to these projected financial statements.

**THE CORPORATION OF THE CITY OF THUNDER BAY
ENVIRONMENT DIVISION - WATER AUTHORITY
PROJECTED STATEMENT OF FINANCIAL POSITION**

AS AT DECEMBER 31, 2022 TO 2042

Notes and Assumptions:

Actual results achieved for the period covered will vary from this information presented. The differences may be material.

See City of Thunder Bay Annual Reports for the Year ended December 31, 2021 and 2022 (when available) for the City's accounting policies.

1. The assets and liabilities for 2022 are derived from internal financial information of the City of Thunder Bay.
2. Derived from the Projected Statement of Cash Flows.
3. Accounts receivable has been calculated based on the average historic sales turnover rate (operating revenue/accounts receivable=sales turnover rate). The two year normalized average rate was calculated to be 5.2 times.
4. Inventory of materials has been calculated based on the average historic inventory turnover rate (material purchases/inventory=turnover). The two year average inventory rate was calculated to be 1.8 times.
5. Capital work in progress represents capital projects which were started prior to the year end, but not completed. In the year in which the asset will be put into service, it will be capitalized to the appropriate capital asset account.

**THE CORPORATION OF THE CITY OF THUNDER BAY
ENVIRONMENT DIVISION - WATER AUTHORITY
PROJECTED STATEMENT OF OPERATIONS**

FOR THE YEARS ENDING DECEMBER 31, 2022 TO 2042

(\$ THOUSANDS)		2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
		(Note 1)	(Estimated Actual)	(Budget)																		
REVENUES																						
Operating revenues	2	\$ 34,012	\$ 35,081	\$ 36,017	\$ 37,096	\$ 38,207	\$ 39,351	\$ 40,530	\$ 41,543	\$ 42,581	\$ 43,646	\$ 44,737	\$ 45,855	\$ 47,001	\$ 48,176	\$ 49,380	\$ 50,614	\$ 51,579	\$ 52,562	\$ 53,564	\$ 54,586	\$ 55,627
Interest revenue on cash balance	3	-	-	-	441	395	374	256	225	236	178	175	185	195	191	174	225	267	286	291	342	402
		<u>34,012</u>	<u>35,081</u>	<u>36,017</u>	<u>37,537</u>	<u>38,602</u>	<u>39,725</u>	<u>40,786</u>	<u>41,768</u>	<u>42,817</u>	<u>43,824</u>	<u>44,912</u>	<u>46,040</u>	<u>47,196</u>	<u>48,367</u>	<u>49,554</u>	<u>50,839</u>	<u>51,846</u>	<u>52,848</u>	<u>53,855</u>	<u>54,928</u>	<u>56,029</u>
EXPENSES																						
Amortization	4	4,990	5,184	5,343	5,551	5,651	5,392	5,250	5,530	5,811	6,069	6,283	6,467	6,521	7,025	7,016	7,256	7,484	7,838	8,109	8,373	8,586
Personnel services	5	7,707	8,527	9,073	9,545	9,831	10,126	10,318	10,514	10,714	10,918	11,125	11,336	11,551	11,770	11,994	12,222	12,454	12,691	12,932	13,178	13,428
Purchased services	5	1,897	1,204	1,304	1,343	1,383	1,424	1,451	1,479	1,507	1,536	1,565	1,595	1,625	1,656	1,687	1,719	1,752	1,785	1,819	1,854	1,889
Purchased services - capital carryforward	7	-	914	637	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Purchased services related to capital projects	10	979	995	1,462	2,222	2,445	2,518	2,176	2,217	2,259	2,715	2,346	2,391	2,873	2,927	1,623	1,654	1,685	1,717	1,750	1,783	1,817
Interdepartmental charges																						
Administrative	5	996	999	1,281	1,319	1,359	1,400	1,427	1,454	1,482	1,510	1,539	1,568	1,598	1,628	1,659	1,691	1,723	1,756	1,789	1,823	1,858
Facilities and fleet (utilities)	6	1,402	1,211	1,282	1,320	1,360	1,401	1,443	1,486	1,531	1,577	1,624	1,673	1,723	1,775	1,828	1,883	1,939	1,997	2,057	2,119	2,183
Other interdepartmental charges & recoveries	5	1,326	1,507	1,857	1,913	1,970	2,029	2,068	2,107	2,147	2,188	2,230	2,272	2,315	2,359	2,404	2,450	2,497	2,544	2,592	2,641	2,691
Fleet rental	5	960	777	756	779	802	826	842	858	874	891	908	925	943	961	979	998	1,017	1,036	1,056	1,076	1,096
Interest on long term debt	8	2,003	1,971	1,938	1,881	1,841	1,885	1,931	1,998	2,148	2,263	2,340	2,447	2,524	2,586	2,646	2,723	2,821	2,877	2,945	3,041	3,162
Other interest charges	9	169	313	164	172	182	182	201	242	227	225	240	207	220	210	241	245	231	241	257	263	256
Materials and supplies																						
Utilities	5	260	287	296	305	314	323	333	343	353	364	375	386	398	410	422	435	448	461	475	489	504
Building insurance and maintenance	5	734	589	576	593	611	629	641	653	665	678	691	704	717	731	745	759	773	788	803	818	834
Materials, parts and supplies	5	1,764	1,179	1,214	1,250	1,288	1,327	1,352	1,378	1,404	1,431	1,458	1,486	1,514	1,543	1,572	1,602	1,632	1,663	1,695	1,727	1,760
Municipal taxes	5	515	466	527	543	559	576	587	598	609	621	633	645	657	669	682	695	708	721	735	749	763
Other	5	341	211	202	208	214	220	224	228	232	236	240	245	250	255	260	265	270	275	280	285	290
Utility cuts	5	1,025	720	823	848	873	899	916	933	951	969	987	1,006	1,025	1,044	1,064	1,084	1,105	1,126	1,147	1,169	1,191
Other																						
Innovations, professional and technical	10	461	468	688	1,046	1,150	1,185	1,024	1,043	1,063	1,278	1,104	1,125	1,352	1,377	764	778	793	808	823	839	855
		<u>27,529</u>	<u>27,522</u>	<u>29,423</u>	<u>30,838</u>	<u>31,833</u>	<u>32,342</u>	<u>32,184</u>	<u>33,061</u>	<u>33,977</u>	<u>35,469</u>	<u>35,688</u>	<u>36,478</u>	<u>37,806</u>	<u>38,926</u>	<u>37,586</u>	<u>38,459</u>	<u>39,332</u>	<u>40,324</u>	<u>41,264</u>	<u>42,227</u>	<u>43,163</u>
EXCESS OF REVENUES OVER EXPENSES		<u>\$ 6,483</u>	<u>\$ 7,559</u>	<u>\$ 6,594</u>	<u>\$ 6,699</u>	<u>\$ 6,769</u>	<u>\$ 7,383</u>	<u>\$ 8,602</u>	<u>\$ 8,707</u>	<u>\$ 8,840</u>	<u>\$ 8,355</u>	<u>\$ 9,224</u>	<u>\$ 9,562</u>	<u>\$ 9,390</u>	<u>\$ 9,441</u>	<u>\$ 11,968</u>	<u>\$ 12,380</u>	<u>\$ 12,514</u>	<u>\$ 12,524</u>	<u>\$ 12,591</u>	<u>\$ 12,701</u>	<u>\$ 12,866</u>

See accompanying notes and assumptions to these projected financial statements.

**THE CORPORATION OF THE CITY OF THUNDER BAY
ENVIRONMENT DIVISION - WATER AUTHORITY
PROJECTED STATEMENT OF OPERATIONS**

FOR THE YEARS ENDING DECEMBER 31, 2023 to 2042

(\$ THOUSANDS)

Notes and Assumptions:

Actual results achieved for the period covered will vary from this information presented. The differences may be material.

See City of Thunder Bay Annual Reports for the Year ended December 31, 2021 and 2022 (when available) for the City's accounting policies.

1. The revenue and expenses for 2022 are derived from internal financial information from the City of Thunder Bay. They have been restated to conform with generally accepted accounting principles.

2. Operating revenues include waterworks fees, access charges and fire protection fees, other customer and miscellaneous charges. Water rates are increased at an average rate herein, but specific rates may have different percentage increases.

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
<i>Annual increase (decrease)</i>		1.0%	0.0%	0.8%	0.8%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Projected water consumption (m ³)	10,795	10,900	10,900	10,987	11,075	11,164	11,164	11,164	11,164	11,164	11,164	11,164	11,164	11,164	11,164	11,164	11,164	11,164	11,164	11,164	11,164
<i>Percentage increase in average water rates</i>				3.0%	3.0%	3.0%	3.0%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	1.9%	1.9%	1.9%	1.9%	1.9%
Water consumption charges	\$ 33,632	\$ 34,679	\$ 35,620	\$ 36,689	\$ 37,790	\$ 38,924	\$ 40,092	\$ 41,094	\$ 42,121	\$ 43,174	\$ 44,253	\$ 45,359	\$ 46,493	\$ 47,655	\$ 48,846	\$ 50,067	\$ 51,018	\$ 51,987	\$ 52,975	\$ 53,982	\$ 55,008
Late payment charges and other	380	402	397	407	417	427	438	449	460	472	484	496	508	521	534	547	561	575	589	604	619
Projected operating revenues	\$ 34,012	\$ 35,081	\$ 36,017	\$ 37,096	\$ 38,207	\$ 39,351	\$ 40,530	\$ 41,543	\$ 42,581	\$ 43,646	\$ 44,737	\$ 45,855	\$ 47,001	\$ 48,176	\$ 49,380	\$ 50,614	\$ 51,579	\$ 52,562	\$ 53,564	\$ 54,586	\$ 55,627

Other customer charges will increase annually at a rate of: 2.5%

3. Interest will be earned on the cash balance held by the Water Authority. The interest rate will be earned on the cash opening balance of that particular year. The rate is assumed to be 2.0%

4. Amortization is calculated on a straight-line basis at rates which reflect the estimated useful life of the asset. In the year in which the asset was purchased or disposed of, one half of the amortization will be charged. Betterments, defined as costs incurred to enhance the service potential of an already existing tangible asset, will not be subject to the half year rule. The useful life of each category of capital asset is shown on Schedule Two of these projected statements.

5. Operating expenditures will increase annually as follows:

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
			3.0%	3.0%	3.0%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%

6. Utility expenses are estimated based on market conditions as follows:

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
			3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%

7. In the past, City Council has approved an annual capital budget. If the monies are not spent in that year, it would be carried forward and spent in subsequent years. These amounts reflect costs approved in previous capital budgets that will be incurred and charged to operations in 2023 and 2024.

8. Interest on long-term debt, includes interest on the existing debentures as well as any new debentures purchased during the projected period.

Existing debentures	\$ 1,971	\$ 1,726	\$ 1,472	\$ 1,246	\$ 1,095	\$ 957	\$ 851	\$ 747	\$ 643	\$ 541	\$ 439	\$ 353	\$ 276	\$ 207	\$ 149	\$ 103	\$ 67	\$ 43	\$ 23	\$ 8	
New debentures	5.00%	-	212	409	595	790	974	1,147	1,401	1,620	1,799	2,008	2,171	2,310	2,439	2,574	2,718	2,810	2,902	3,018	3,154
		\$ 1,971	\$ 1,938	\$ 1,881	\$ 1,841	\$ 1,885	\$ 1,931	\$ 1,998	\$ 2,148	\$ 2,263	\$ 2,340	\$ 2,447	\$ 2,524	\$ 2,586	\$ 2,646	\$ 2,723	\$ 2,821	\$ 2,877	\$ 2,945	\$ 3,041	\$ 3,162

See Schedule Two for the detailed terms of the existing debentures and the assumptions related to any new debentures received.

9. Other interest charges will be incurred on the short term construction debt for capital projects which will be converted to new debentures. This is external debt that we are projecting at a rate of 5.04% in 2023 and 2.75% 2024 onwards.

Short term construction debt to finance capital	\$ 313	\$ 164	\$ 172	\$ 182	\$ 182	\$ 201	\$ 242	\$ 227	\$ 225	\$ 240	\$ 207	\$ 220	\$ 210	\$ 241	\$ 245	\$ 231	\$ 241	\$ 257	\$ 263	\$ 256
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10. Based on previous years' data, purchased services related to capital projects and Innovations, professional and technical were both derived from the capital plan, allocated at the rate of 68% and 32% respectively and increased by inflation of afhd annually.

**THE CORPORATION OF THE CITY OF THUNDER BAY
ENVIRONMENT DIVISION - WATER AUTHORITY
PROJECTED STATEMENT OF CASH FLOWS**

FOR THE YEARS ENDING DECEMBER 31, 2023 TO 2042

(\$ THOUSANDS)	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
OPERATING TRANSACTIONS																				
Projected excess of revenues over expenses	\$ 7,559	\$ 6,594	\$ 6,699	\$ 6,769	\$ 7,383	\$ 8,602	\$ 8,707	\$ 8,840	\$ 8,355	\$ 9,224	\$ 9,562	\$ 9,390	\$ 9,441	\$ 11,968	\$ 12,380	\$ 12,514	\$ 12,524	\$ 12,591	\$ 12,701	\$ 12,866
Deduct non-cash items:																				
Amortization	5,184	5,343	5,551	5,651	5,392	5,250	5,530	5,811	6,069	6,283	6,467	6,521	7,025	7,016	7,256	7,484	7,838	8,109	8,373	8,586
Add (deduct) working capital items																				
Accounts receivable	235	(127)	(147)	(151)	(156)	(160)	(138)	(141)	(145)	(148)	(153)	(155)	(160)	(164)	(168)	(131)	(134)	(136)	(139)	(142)
Inventory	(90)	168	(14)	(15)	(16)	(9)	(11)	(10)	(11)	(10)	(11)	(11)	(12)	(11)	(12)	(12)	(12)	(13)	(13)	(13)
Capital work in progress	2,515	4,241	140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cash provided by operating transactions	15,403	16,219	12,229	12,254	12,603	13,683	14,088	14,500	14,268	15,349	15,865	15,745	16,294	18,809	19,456	19,855	20,216	20,551	20,922	21,297
FINANCING TRANSACTIONS																				
Financing to purchase capital	3,958	4,445	4,500	4,600	4,600	6,025	6,200	5,725	6,275	6,050	5,750	5,775	6,100	6,575	6,175	6,150	6,575	7,000	6,875	6,800
Repayment of long-term debt	(6,220)	(6,435)	(6,645)	(4,755)	(4,985)	(4,255)	(4,485)	(4,810)	(5,115)	(5,395)	(5,243)	(5,322)	(5,364)	(5,310)	(5,275)	(5,269)	(5,230)	(5,030)	(4,795)	(4,585)
Cash provided (used) by financing transactions	(2,262)	(1,990)	(2,145)	(155)	(385)	1,770	1,715	915	1,160	655	507	453	736	1,265	900	881	1,345	1,970	2,080	2,215
CAPITAL TRANSACTIONS																				
Capital assets purchases, net of disposals																				
Water treatment plant	(1,084)	(1,371)	(1,931)	(2,105)	(3,205)	(3,312)	(2,993)	(3,096)	(3,357)	(3,204)	(3,327)	(3,300)	(3,955)	(3,577)	(3,924)	(4,253)	(4,339)	(4,426)	(3,656)	(3,873)
Pumping stations and reservoirs	(796)	(2,721)	(140)	(86)	(128)	(641)	(133)	(3,178)	(120)	(197)	(68)	(64)	(109)	(220)	(147)	(253)	(174)	(170)	(148)	(152)
Watermain replacement and rehabilitation	(8,849)	(9,522)	(9,535)	(10,399)	(13,828)	(12,791)	(11,406)	(12,054)	(11,130)	(11,258)	(11,950)	(12,762)	(13,004)	(13,251)	(13,843)	(14,106)	(14,374)	(15,366)	(15,658)	(15,955)
Fleet and equipment	(891)	(601)	(776)	(559)	(940)	(286)	(713)	-	(947)	(853)	(527)	(265)	(824)	(483)	(353)	(1,170)	(2,390)	-	(571)	(22)
Cash used for capital transactions	(11,620)	(14,215)	(12,382)	(13,149)	(18,101)	(17,030)	(15,245)	(18,328)	(15,554)	(15,512)	(15,872)	(16,391)	(17,892)	(17,531)	(18,267)	(19,782)	(21,277)	(19,962)	(20,033)	(20,002)
PROJECTED INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	1,521	14	(2,298)	(1,050)	(5,883)	(1,577)	558	(2,913)	(126)	492	500	(193)	(862)	2,543	2,089	954	284	2,559	2,969	3,510
Cash and cash equivalents, beginning of the year	20,511	22,032	22,046	19,748	18,698	12,815	11,238	11,796	8,883	8,757	9,249	9,749	9,556	8,694	11,237	13,326	14,280	14,564	17,123	20,092
Cash and cash equivalents, end of the year	\$ 22,032	\$ 22,046	\$ 19,748	\$ 18,698	\$ 12,815	\$ 11,238	\$ 11,796	\$ 8,883	\$ 8,757	\$ 9,249	\$ 9,749	\$ 9,556	\$ 8,694	\$ 11,237	\$ 13,326	\$ 14,280	\$ 14,564	\$ 17,123	\$ 20,092	\$ 23,602

See accompanying notes and assumptions to these projected financial statements.

**THE CORPORATION OF THE CITY OF THUNDER BAY
ENVIRONMENT DIVISION - WATER AUTHORITY
PROJECTED STATEMENT OF CASH FLOWS**

FOR THE YEARS ENDING DECEMBER 31, 2023 TO 2042

Notes and Assumptions:

Actual results achieved for the period covered will vary from this information presented. The differences may be material.

See City of Thunder Bay Annual Reports for the Year ended December 31, 2021 and 2022 (when available) for the City's accounting policies.

1. See Schedule One for the details of the financing transactions.
2. See Schedule Two for the details of the capital transactions.
3. The balance of the cash and cash equivalents at the end of each year reflects the monies available for the future capital expenditures. Interest earned on this balance has not been calculated.

**THE CORPORATION OF THE CITY OF THUNDER BAY
ENVIRONMENT DIVISION - WATER AUTHORITY
SCHEDULE OF PROJECTED LIABILITIES AND ACCUMULATED SURPLUS**

FOR THE YEARS ENDING DECEMBER 31, 2023 TO 2042

(\$ THOUSANDS)	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
LIABILITIES	1																			
Existing debentures	2																			
Opening	\$ 56,816	\$ 50,597	\$ 44,378	\$ 38,158	\$ 34,038	\$ 29,919	\$ 26,760	\$ 23,601	\$ 20,440	\$ 17,282	\$ 14,121	\$ 11,439	\$ 8,973	\$ 6,750	\$ 4,870	\$ 3,335	\$ 2,140	\$ 1,285	\$ 630	\$ 210
Repayments on existing debt	(6,220)	(6,220)	(6,220)	(4,120)	(4,120)	(3,160)	(3,160)	(3,160)	(3,160)	(3,160)	(2,683)	(2,467)	(2,224)	(1,880)	(1,535)	(1,194)	(855)	(655)	(420)	(210)
	<u>\$ 50,596</u>	<u>\$ 44,377</u>	<u>\$ 38,158</u>	<u>\$ 34,038</u>	<u>\$ 29,918</u>	<u>\$ 26,759</u>	<u>\$ 23,600</u>	<u>\$ 20,441</u>	<u>\$ 17,280</u>	<u>\$ 14,122</u>	<u>\$ 11,438</u>	<u>\$ 8,972</u>	<u>\$ 6,749</u>	<u>\$ 4,870</u>	<u>\$ 3,335</u>	<u>\$ 2,141</u>	<u>\$ 1,285</u>	<u>\$ 630</u>	<u>\$ 210</u>	<u>\$ -</u>
New debentures	3																			
Opening	\$ -	\$ 4,300	\$ 8,285	\$ 12,060	\$ 16,025	\$ 19,760	\$ 23,265	\$ 28,440	\$ 32,890	\$ 36,535	\$ 40,800	\$ 44,140	\$ 46,985	\$ 49,645	\$ 52,415	\$ 55,375	\$ 57,300	\$ 59,125	\$ 61,450	\$ 64,175
Repayments	-	(215)	(425)	(635)	(865)	(1,095)	(1,325)	(1,650)	(1,955)	(2,235)	(2,560)	(2,855)	(3,140)	(3,430)	(3,740)	(4,075)	(4,375)	(4,375)	(4,375)	(4,375)
New debentures	4,300	4,200	4,200	4,600	4,600	4,600	6,500	6,100	5,600	6,500	5,900	5,700	5,800	6,200	6,700	6,000	6,200	6,700	7,100	6,800
	<u>\$ 4,300</u>	<u>\$ 8,285</u>	<u>\$ 12,060</u>	<u>\$ 16,025</u>	<u>\$ 19,760</u>	<u>\$ 23,265</u>	<u>\$ 28,440</u>	<u>\$ 32,890</u>	<u>\$ 36,535</u>	<u>\$ 40,800</u>	<u>\$ 44,140</u>	<u>\$ 46,985</u>	<u>\$ 49,645</u>	<u>\$ 52,415</u>	<u>\$ 55,375</u>	<u>\$ 57,300</u>	<u>\$ 59,125</u>	<u>\$ 61,450</u>	<u>\$ 64,175</u>	<u>\$ 66,600</u>
Total																				
Opening	\$ 56,816	\$ 54,896	\$ 52,661	\$ 50,216	\$ 50,061	\$ 49,676	\$ 50,021	\$ 52,036	\$ 53,326	\$ 53,811	\$ 54,916	\$ 55,573	\$ 55,951	\$ 56,387	\$ 57,277	\$ 58,702	\$ 59,433	\$ 60,403	\$ 62,073	\$ 64,378
Repayments	(6,220)	(6,435)	(6,645)	(4,755)	(4,985)	(4,255)	(4,485)	(4,810)	(5,115)	(5,395)	(5,243)	(5,322)	(5,364)	(5,310)	(5,275)	(5,269)	(5,230)	(5,030)	(4,795)	(4,585)
New debentures	4,300	4,200	4,200	4,600	4,600	4,600	6,500	6,100	5,600	6,500	5,900	5,700	5,800	6,200	6,700	6,000	6,200	6,700	7,100	6,800
	<u>\$ 54,896</u>	<u>\$ 52,661</u>	<u>\$ 50,216</u>	<u>\$ 50,061</u>	<u>\$ 49,676</u>	<u>\$ 50,021</u>	<u>\$ 52,036</u>	<u>\$ 53,326</u>	<u>\$ 53,811</u>	<u>\$ 54,916</u>	<u>\$ 55,573</u>	<u>\$ 55,951</u>	<u>\$ 56,387</u>	<u>\$ 57,277</u>	<u>\$ 58,702</u>	<u>\$ 59,433</u>	<u>\$ 60,403</u>	<u>\$ 62,073</u>	<u>\$ 64,378</u>	<u>\$ 66,593</u>
Short-term construction debt																				
<i>Debt temporarily financed</i>																				
Opening	\$ 4,224	\$ 3,882	\$ 4,127	\$ 4,427	\$ 4,427	\$ 4,427	\$ 5,852	\$ 5,552	\$ 5,177	\$ 5,852	\$ 5,402	\$ 5,252	\$ 5,327	\$ 5,627	\$ 6,002	\$ 5,477	\$ 5,627	\$ 6,002	\$ 6,302	\$ 6,077
Debt to finance new capital on interim basis	3,958	4,445	4,500	4,600	4,600	6,025	6,200	5,725	6,275	6,050	5,750	5,775	6,100	6,575	6,175	6,150	6,575	7,000	6,875	6,800
Transfer to new debenture	(4,300)	(4,200)	(4,200)	(4,600)	(4,600)	(4,600)	(6,500)	(6,100)	(5,600)	(6,500)	(5,900)	(5,700)	(5,800)	(6,200)	(6,700)	(6,000)	(6,200)	(6,700)	(7,100)	(6,800)
Closing	<u>\$ 3,882</u>	<u>\$ 4,127</u>	<u>\$ 4,427</u>	<u>\$ 4,427</u>	<u>\$ 4,427</u>	<u>\$ 5,852</u>	<u>\$ 5,552</u>	<u>\$ 5,177</u>	<u>\$ 5,852</u>	<u>\$ 5,402</u>	<u>\$ 5,252</u>	<u>\$ 5,327</u>	<u>\$ 5,627</u>	<u>\$ 6,002</u>	<u>\$ 5,477</u>	<u>\$ 5,627</u>	<u>\$ 6,002</u>	<u>\$ 6,302</u>	<u>\$ 6,077</u>	<u>\$ 6,077</u>
ACCUMULATED SURPLUS																				
Opening	\$ 102,671	\$ 110,230	\$ 116,824	\$ 123,523	\$ 130,292	\$ 137,675	\$ 146,277	\$ 154,984	\$ 163,824	\$ 172,179	\$ 181,403	\$ 190,965	\$ 200,355	\$ 209,796	\$ 221,764	\$ 234,144	\$ 246,658	\$ 259,182	\$ 271,773	\$ 284,474
Excess revenues over expenses	7,559	6,594	6,699	6,769	7,383	8,602	8,707	8,840	8,355	9,224	9,562	9,390	9,441	11,968	12,380	12,514	12,524	12,591	12,701	12,866
Closing	<u>\$ 110,230</u>	<u>\$ 116,824</u>	<u>\$ 123,523</u>	<u>\$ 130,292</u>	<u>\$ 137,675</u>	<u>\$ 146,277</u>	<u>\$ 154,984</u>	<u>\$ 163,824</u>	<u>\$ 172,179</u>	<u>\$ 181,403</u>	<u>\$ 190,965</u>	<u>\$ 200,355</u>	<u>\$ 209,796</u>	<u>\$ 221,764</u>	<u>\$ 234,144</u>	<u>\$ 246,658</u>	<u>\$ 259,182</u>	<u>\$ 271,773</u>	<u>\$ 284,474</u>	<u>\$ 297,340</u>

See accompanying notes and assumptions to these projected financial statements.

**THE CORPORATION OF THE CITY OF THUNDER BAY
ENVIRONMENT DIVISION - WATER AUTHORITY
SCHEDULE OF PROJECTED LIABILITIES AND ACCUMULATED SURPLUS
FOR THE YEARS ENDING DECEMBER 31, 2023 TO 2042**

(\$ THOUSANDS)

Notes and Assumptions :

Actual results achieved for the period covered will vary from this information presented. The differences may be material.

See City of Thunder Bay Annual Reports for the Year ended December 31, 2021 and 2022 (when available) for the City's accounting policies.

1 Accounts payable and accrued liabilities related directly to the Water Authority are integrated into the City's accounts payable system and can not be easily identified. For the purposes of these projections, it is assumed that expenses are paid immediately.

2 Currently, the Waterworks division holds thirteen debentures with the following principal payments owing from 2015 to 2042:

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
<i>Financed in 2015, maturity 2027</i>	\$ 4,800	\$ 3,840	\$ 2,880	\$ 1,920	\$ 960	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	960	960	960	960	960	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	<u>\$ 3,840</u>	<u>\$ 2,880</u>	<u>\$ 1,920</u>	<u>\$ 960</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>

The terms of this debenture include: interest rate of 5.06%, compounded semi-annually, principal payment of \$480 plus interest payable semi-annually over thirteen years.

<i>Financed in 2015, maturity 2034</i>	\$ 2,912	\$ 2,670	\$ 2,427	\$ 2,184	\$ 1,942	\$ 1,699	\$ 1,456	\$ 1,213	\$ 971	\$ 728	\$ 485	\$ 243	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	243	243	243	243	243	243	243	243	243	243	243	243	-	-	-	-	-	-	-	-
	<u>\$ 2,669</u>	<u>\$ 2,427</u>	<u>\$ 2,184</u>	<u>\$ 1,941</u>	<u>\$ 1,699</u>	<u>\$ 1,456</u>	<u>\$ 1,213</u>	<u>\$ 970</u>	<u>\$ 728</u>	<u>\$ 485</u>	<u>\$ 242</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>

The terms of this debenture include: interest rate of 3.13%, compounded semi-annually, principal payment of \$121 plus interest payable semi-annually over twenty years.

<i>Financed in 2015, maturity 2033</i>	\$ 2,381	\$ 2,164	\$ 1,948	\$ 1,731	\$ 1,515	\$ 1,299	\$ 1,082	\$ 866	\$ 649	\$ 433	\$ 216	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	216	216	216	216	216	216	216	216	216	216	216	-	-	-	-	-	-	-	-	-
	<u>\$ 2,165</u>	<u>\$ 1,948</u>	<u>\$ 1,732</u>	<u>\$ 1,515</u>	<u>\$ 1,299</u>	<u>\$ 1,083</u>	<u>\$ 866</u>	<u>\$ 650</u>	<u>\$ 433</u>	<u>\$ 217</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>

The terms of this debenture include: interest rate of 3.94%, compounded semi-annually, principal payment of \$108 plus interest payable semi-annually over nineteen years.

<i>Financed in 2015, maturity 2032</i>	\$ 4,766	\$ 4,290	\$ 3,813	\$ 3,337	\$ 2,860	\$ 2,383	\$ 1,907	\$ 1,430	\$ 953	\$ 477	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	477	477	477	477	477	477	477	477	477	477	-	-	-	-	-	-	-	-	-	-
	<u>\$ 4,289</u>	<u>\$ 3,813</u>	<u>\$ 3,336</u>	<u>\$ 2,860</u>	<u>\$ 2,383</u>	<u>\$ 1,906</u>	<u>\$ 1,430</u>	<u>\$ 953</u>	<u>\$ 476</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>

The terms of this debenture include: interest rate of 3.3%, compounded semi-annually, annual principal payment of \$238 plus interest, payable semi-annually over thirteen years.

<i>Financed in 2015, maturity 2025</i>	\$ 6,300	\$ 4,200	\$ 2,100	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	2,100	2,100	2,100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	<u>\$ 4,200</u>	<u>\$ 2,100</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>

The terms of this debenture include: interest rate of 4.61%, compounded semi-annually, annual principal payment of \$1,050 plus interest, payable semi-annually over eleven years.

<i>Financed in 2016, maturity 2035</i>	\$ 4,468	\$ 4,124	\$ 3,781	\$ 3,437	\$ 3,093	\$ 2,750	\$ 2,406	\$ 2,062	\$ 1,718	\$ 1,375	\$ 1,031	\$ 687	\$ 344	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	344	344	344	344	344	344	344	344	344	344	344	344	344	-	-	-	-	-	-	-
	<u>\$ 4,124</u>	<u>\$ 3,780</u>	<u>\$ 3,437</u>	<u>\$ 3,093</u>	<u>\$ 2,749</u>	<u>\$ 2,406</u>	<u>\$ 2,062</u>	<u>\$ 1,718</u>	<u>\$ 1,374</u>	<u>\$ 1,031</u>	<u>\$ 687</u>	<u>\$ 343</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>

The terms of this debenture include: interest rate of 3.39%, compounded semi-annually, annual principal payment of \$172 plus interest, payable semi-annually over twenty years.

<i>Financed in 2017, maturity 2036</i>	\$ 4,830	\$ 4,485	\$ 4,140	\$ 3,795	\$ 3,450	\$ 3,105	\$ 2,760	\$ 2,415	\$ 2,070	\$ 1,725	\$ 1,380	\$ 1,035	\$ 690	\$ 345	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	345	345	345	345	345	345	345	345	345	345	345	345	345	345	-	-	-	-	-	-
	<u>\$ 4,485</u>	<u>\$ 4,140</u>	<u>\$ 3,795</u>	<u>\$ 3,450</u>	<u>\$ 3,105</u>	<u>\$ 2,760</u>	<u>\$ 2,415</u>	<u>\$ 2,070</u>	<u>\$ 1,725</u>	<u>\$ 1,380</u>	<u>\$ 1,035</u>	<u>\$ 690</u>	<u>\$ 345</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>

The terms of this debenture include: interest rate of 3.23%, compounded semi-annually, annual principal payment of \$172 plus interest, payable semi-annually over twenty years.

**THE CORPORATION OF THE CITY OF THUNDER BAY
ENVIRONMENT DIVISION - WATER AUTHORITY
SCHEDULE OF PROJECTED LIABILITIES AND ACCUMULATED SURPLUS**

FOR THE YEARS ENDING DECEMBER 31, 2023 TO 2042

(\$ THOUSANDS)

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
<i>Financed in 2018, maturity 2037</i>	\$ 5,113	\$ 4,772	\$ 4,431	\$ 4,090	\$ 3,749	\$ 3,408	\$ 3,068	\$ 2,727	\$ 2,386	\$ 2,045	\$ 1,704	\$ 1,363	\$ 1,023	\$ 682	\$ 341	\$ -	\$ -	\$ -	\$ -	\$ -
	341	341	341	341	341	341	341	341	341	341	341	341	341	341	341	-	-	-	-	-
	<u>\$ 4,772</u>	<u>\$ 4,431</u>	<u>\$ 4,090</u>	<u>\$ 3,749</u>	<u>\$ 3,408</u>	<u>\$ 3,067</u>	<u>\$ 2,727</u>	<u>\$ 2,386</u>	<u>\$ 2,045</u>	<u>\$ 1,704</u>	<u>\$ 1,363</u>	<u>\$ 1,022</u>	<u>\$ 682</u>	<u>\$ 341</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>

The terms of this debenture include: interest rate of 3.21%, compounded semi-annually, annual principal payment of \$170 plus interest, payable semi-annually over twenty years.

<i>Financed in 2019, maturity 2038</i>	\$ 5,422	\$ 5,083	\$ 4,744	\$ 4,405	\$ 4,066	\$ 3,727	\$ 3,388	\$ 3,050	\$ 2,711	\$ 2,372	\$ 2,033	\$ 1,694	\$ 1,355	\$ 1,017	\$ 678	\$ 339	\$ -	\$ -	\$ -	\$ -
	339	339	339	339	339	339	339	339	339	339	339	339	339	339	339	339	-	-	-	-
	<u>\$ 5,083</u>	<u>\$ 4,744</u>	<u>\$ 4,405</u>	<u>\$ 4,066</u>	<u>\$ 3,727</u>	<u>\$ 3,388</u>	<u>\$ 3,049</u>	<u>\$ 2,711</u>	<u>\$ 2,372</u>	<u>\$ 2,033</u>	<u>\$ 1,694</u>	<u>\$ 1,355</u>	<u>\$ 1,016</u>	<u>\$ 678</u>	<u>\$ 339</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>

The terms of this debenture include: interest rate of 3.53%, compounded semi-annually, annual principal payment of \$169 plus interest, payable semi-annually over twenty years.

<i>Financed in 2020, maturity 2039</i>	\$ 3,404	\$ 3,204	\$ 3,004	\$ 2,804	\$ 2,603	\$ 2,403	\$ 2,203	\$ 2,003	\$ 1,802	\$ 1,602	\$ 1,402	\$ 1,202	\$ 1,001	\$ 801	\$ 601	\$ 401	\$ 200	\$ -	\$ -	\$ -
	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	-	-	-
	<u>\$ 3,204</u>	<u>\$ 3,004</u>	<u>\$ 2,804</u>	<u>\$ 2,604</u>	<u>\$ 2,403</u>	<u>\$ 2,203</u>	<u>\$ 2,003</u>	<u>\$ 1,803</u>	<u>\$ 1,602</u>	<u>\$ 1,402</u>	<u>\$ 1,202</u>	<u>\$ 1,002</u>	<u>\$ 801</u>	<u>\$ 601</u>	<u>\$ 401</u>	<u>\$ 201</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>

The terms of this debenture include: interest rate of 2.59%, compounded semi-annually, annual principal payment of \$100 plus interest, payable semi-annually over twenty years.

<i>Financed in 2021, maturity 2040</i>	\$ 4,230	\$ 3,995	\$ 3,760	\$ 3,525	\$ 3,290	\$ 3,055	\$ 2,820	\$ 2,585	\$ 2,350	\$ 2,115	\$ 1,880	\$ 1,645	\$ 1,410	\$ 1,175	\$ 940	\$ 705	\$ 470	\$ 235	\$ -	\$ -
	235	235	235	235	235	235	235	235	235	235	235	235	235	235	235	235	235	235	-	-
	<u>\$ 3,995</u>	<u>\$ 3,760</u>	<u>\$ 3,525</u>	<u>\$ 3,290</u>	<u>\$ 3,055</u>	<u>\$ 2,820</u>	<u>\$ 2,585</u>	<u>\$ 2,350</u>	<u>\$ 2,115</u>	<u>\$ 1,880</u>	<u>\$ 1,645</u>	<u>\$ 1,410</u>	<u>\$ 1,175</u>	<u>\$ 940</u>	<u>\$ 705</u>	<u>\$ 470</u>	<u>\$ 235</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>

The terms of this debenture include: interest rate of 2.07%, compounded semi-annually, annual principal payment of \$117 plus interest, payable semi-annually over twenty years.

<i>Financed in 2022, maturity 2041</i>	\$ 3,990	\$ 3,780	\$ 3,570	\$ 3,360	\$ 3,150	\$ 2,940	\$ 2,730	\$ 2,520	\$ 2,310	\$ 2,100	\$ 1,890	\$ 1,680	\$ 1,470	\$ 1,260	\$ 1,050	\$ 840	\$ 630	\$ 420	\$ 210	\$ -
	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	-
	<u>\$ 3,780</u>	<u>\$ 3,570</u>	<u>\$ 3,360</u>	<u>\$ 3,150</u>	<u>\$ 2,940</u>	<u>\$ 2,730</u>	<u>\$ 2,520</u>	<u>\$ 2,310</u>	<u>\$ 2,100</u>	<u>\$ 1,890</u>	<u>\$ 1,680</u>	<u>\$ 1,470</u>	<u>\$ 1,260</u>	<u>\$ 1,050</u>	<u>\$ 840</u>	<u>\$ 630</u>	<u>\$ 420</u>	<u>\$ 210</u>	<u>\$ -</u>	<u>\$ -</u>

The terms of this debenture include: interest rate of 2.75%, compounded semi-annually, annual principal payment of \$105 plus interest, payable semi-annually over twenty years.

<i>Financed in 2023, maturity 2042</i>	\$ 4,200	\$ 3,990	\$ 3,780	\$ 3,570	\$ 3,360	\$ 3,150	\$ 2,940	\$ 2,730	\$ 2,520	\$ 2,310	\$ 2,100	\$ 1,890	\$ 1,680	\$ 1,470	\$ 1,260	\$ 1,050	\$ 840	\$ 630	\$ 420	\$ 210
	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210
	<u>\$ 3,990</u>	<u>\$ 3,780</u>	<u>\$ 3,570</u>	<u>\$ 3,360</u>	<u>\$ 3,150</u>	<u>\$ 2,940</u>	<u>\$ 2,730</u>	<u>\$ 2,520</u>	<u>\$ 2,310</u>	<u>\$ 2,100</u>	<u>\$ 1,890</u>	<u>\$ 1,680</u>	<u>\$ 1,470</u>	<u>\$ 1,260</u>	<u>\$ 1,050</u>	<u>\$ 840</u>	<u>\$ 630</u>	<u>\$ 420</u>	<u>\$ 210</u>	<u>\$ -</u>

The terms of this debenture include: interest rate of 4.98%, compounded semi-annually, annual principal payment of \$105 plus interest, payable semi-annually over twenty years.

<i>Total</i>	\$ 56,816	\$ 50,597	\$ 44,378	\$ 38,158	\$ 34,038	\$ 29,919	\$ 26,760	\$ 23,601	\$ 20,440	\$ 17,282	\$ 14,121	\$ 11,439	\$ 8,973	\$ 6,750	\$ 4,870	\$ 3,335	\$ 2,140	\$ 1,285	\$ 630	\$ 210
	6,220	6,220	6,220	4,120	4,120	3,160	3,160	3,160	3,160	3,160	2,683	2,467	2,224	1,880	1,535	1,194	855	655	420	210
	<u>\$ 50,596</u>	<u>\$ 44,377</u>	<u>\$ 38,158</u>	<u>\$ 34,038</u>	<u>\$ 29,918</u>	<u>\$ 26,759</u>	<u>\$ 23,600</u>	<u>\$ 20,441</u>	<u>\$ 17,280</u>	<u>\$ 14,122</u>	<u>\$ 11,438</u>	<u>\$ 8,972</u>	<u>\$ 6,749</u>	<u>\$ 4,870</u>	<u>\$ 3,335</u>	<u>\$ 2,141</u>	<u>\$ 1,285</u>	<u>\$ 630</u>	<u>\$ 210</u>	<u>\$ -</u>

³ The Waterworks division will require new debt to pay for certain future capital costs. While the City may temporarily finance this debt, it will be transitioned to debentures within three years of the capital investment. All new debt will be sought in the form of debentures from external sources. The interest rate on the debentures is projected to be 5.0%.

The terms of the new debentures will be payable semi-annually over twenty years, interest compounded semi-annually.

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
Cumulative new debenture ^s	\$ 4,300	\$ 8,500	\$ 12,700	\$ 17,300	\$ 21,900	\$ 26,500	\$ 33,000	\$ 39,100	\$ 44,700	\$ 51,200	\$ 57,100	\$ 62,800	\$ 68,600	\$ 74,800	\$ 81,500	\$ 87,500	\$ 87,500	\$ 87,500	\$ 87,500	\$ 87,500

**THE CORPORATION OF THE CITY OF THUNDER BAY
ENVIRONMENT DIVISION - WATER AUTHORITY
SCHEDULE OF PROJECTED CAPITAL ASSET ACQUISITIONS, DISPOSALS AND ACCUMULATED AMORTIZATION**

FOR THE YEARS ENDING DECEMBER 31, 2022 TO 2042

(\$ THOUSANDS)	2022 (Actual- Note 1)	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
Capital assets - Cost (Page 2)																					
Water treatment plant	\$ 64,433	\$ 64,769	\$ 65,193	\$ 65,791	\$ 66,443	\$ 67,435	\$ 68,460	\$ 69,386	\$ 70,344	\$ 71,383	\$ 72,375	\$ 73,405	\$ 74,426	\$ 75,650	\$ 76,757	\$ 77,972	\$ 79,288	\$ 80,631	\$ 82,001	\$ 83,133	\$ 84,332
Pumping stations and reservoirs	31,502	32,029	33,832	33,925	33,982	34,067	34,492	34,580	36,686	36,766	36,897	36,942	36,984	37,056	37,202	37,299	37,467	37,582	37,695	37,793	37,894
Watermains	211,533	218,247	225,523	232,952	241,106	252,157	262,470	271,765	281,546	290,654	299,908	309,754	320,226	330,940	341,901	353,454	365,270	377,354	390,430	403,798	417,463
Fleet	3,440	3,635	3,766	3,936	4,058	4,264	4,327	4,483	4,483	4,690	4,877	4,992	5,050	5,230	5,336	5,413	5,669	6,192	6,192	6,317	6,322
	\$ 310,908	\$ 318,680	\$ 328,314	\$ 336,604	\$ 345,589	\$ 357,923	\$ 369,749	\$ 380,214	\$ 393,059	\$ 403,493	\$ 414,057	\$ 425,093	\$ 436,686	\$ 448,876	\$ 461,196	\$ 474,138	\$ 487,694	\$ 501,759	\$ 516,318	\$ 531,041	\$ 546,011
Capital assets - Accumulated amortization (Page 3)																					
Water treatment plant	\$ 25,104	\$ 25,520	\$ 25,762	\$ 25,652	\$ 25,464	\$ 24,570	\$ 23,669	\$ 23,053	\$ 22,429	\$ 21,692	\$ 21,128	\$ 20,546	\$ 20,051	\$ 19,179	\$ 18,645	\$ 17,949	\$ 17,110	\$ 16,306	\$ 15,529	\$ 15,370	\$ 15,137
Pumping stations and reservoirs	16,725	17,052	16,736	17,296	17,876	18,444	18,845	19,424	19,006	19,652	20,275	20,940	21,488	22,010	22,498	23,005	23,475	23,972	24,467	24,971	25,476
Watermains	137,559	138,589	139,630	140,938	142,136	142,430	142,759	143,617	144,469	145,727	147,072	148,392	149,686	151,152	152,792	154,613	156,595	158,700	160,948	163,346	165,921
Fleet	2,721	2,284	2,079	1,780	1,677	1,334	1,551	1,480	1,998	1,780	1,711	1,939	2,315	2,522	2,733	3,032	2,677	1,505	2,245	2,565	3,272
	\$ 182,109	\$ 183,445	\$ 184,207	\$ 185,666	\$ 187,153	\$ 186,778	\$ 186,824	\$ 187,574	\$ 187,902	\$ 188,851	\$ 190,186	\$ 191,817	\$ 193,540	\$ 194,863	\$ 196,668	\$ 198,599	\$ 199,857	\$ 200,483	\$ 203,189	\$ 206,252	\$ 209,806
Capital assets - Net book value																					
Water treatment plant	\$ 39,329	\$ 39,249	\$ 39,431	\$ 40,139	\$ 40,979	\$ 42,865	\$ 44,791	\$ 46,333	\$ 47,915	\$ 49,691	\$ 51,247	\$ 52,859	\$ 54,375	\$ 56,471	\$ 58,112	\$ 60,023	\$ 62,178	\$ 64,325	\$ 66,472	\$ 67,763	\$ 69,195
Pumping stations and reservoirs	14,777	14,977	17,096	16,629	16,106	15,623	15,647	15,156	17,680	17,114	16,622	16,002	15,496	15,046	14,704	14,294	13,992	13,610	13,228	12,822	12,418
Watermains	73,974	79,658	85,893	92,014	98,970	109,727	119,711	128,148	137,077	144,927	152,836	161,362	170,540	179,788	189,109	198,841	208,675	218,654	229,482	240,452	251,542
Fleet	719	1,351	1,687	2,156	2,381	2,930	2,776	3,003	2,485	2,910	3,166	3,053	2,735	2,708	2,603	2,381	2,992	4,687	3,947	3,752	3,050
	\$ 128,799	\$ 135,235	\$ 144,107	\$ 150,938	\$ 158,436	\$ 171,145	\$ 182,925	\$ 192,640	\$ 205,157	\$ 214,642	\$ 223,871	\$ 233,276	\$ 243,146	\$ 254,013	\$ 264,528	\$ 275,539	\$ 287,837	\$ 301,276	\$ 313,129	\$ 324,789	\$ 336,205

Capital Cost																					
(\$ THOUSANDS)	2022 (Actual)	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
Water Treatment Plant																					
Opening	\$ 64,433	\$ 64,433	\$ 64,769	\$ 65,193	\$ 65,791	\$ 66,443	\$ 67,435	\$ 68,460	\$ 69,386	\$ 70,344	\$ 71,383	\$ 72,375	\$ 73,405	\$ 74,426	\$ 75,650	\$ 76,757	\$ 77,972	\$ 79,288	\$ 80,631	\$ 82,001	\$ 83,133
Betterments	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Additions - capital carryforward	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Additions	3	-	1,084	1,371	1,931	2,105	3,205	3,312	2,993	3,096	3,357	3,204	3,327	3,300	3,955	3,577	3,924	4,253	4,339	4,426	3,656
Disposals	4	-	(748)	(947)	(1,333)	(1,453)	(2,213)	(2,287)	(2,067)	(2,138)	(2,318)	(2,212)	(2,297)	(2,731)	(2,470)	(2,709)	(2,937)	(2,996)	(3,056)	(2,524)	(2,674)
Closing	\$ 64,433	\$ 64,769	\$ 65,193	\$ 65,791	\$ 66,443	\$ 67,435	\$ 68,460	\$ 69,386	\$ 70,344	\$ 71,383	\$ 72,375	\$ 73,405	\$ 74,426	\$ 75,650	\$ 76,757	\$ 77,972	\$ 79,288	\$ 80,631	\$ 82,001	\$ 83,133	\$ 84,332
Pumping stations and reservoirs																					
Opening	\$ 31,502	\$ 31,502	\$ 32,029	\$ 33,832	\$ 33,925	\$ 33,982	\$ 34,067	\$ 34,492	\$ 34,580	\$ 36,686	\$ 36,766	\$ 36,897	\$ 36,942	\$ 36,984	\$ 37,056	\$ 37,202	\$ 37,299	\$ 37,467	\$ 37,582	\$ 37,695	\$ 37,793
Betterments	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Additions - capital carryforward	3	-	588	2,273	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Additions	3	-	208	448	40	86	128	641	133	3,178	120	197	68	109	220	147	253	174	170	148	152
Disposals	4	-	(269)	(918)	(47)	(29)	(43)	(216)	(45)	(1,072)	(40)	(66)	(23)	(22)	(37)	(74)	(85)	(59)	(57)	(50)	(51)
Closing	\$ 31,502	\$ 32,029	\$ 33,832	\$ 33,925	\$ 33,982	\$ 34,067	\$ 34,492	\$ 34,580	\$ 36,686	\$ 36,766	\$ 36,897	\$ 36,942	\$ 36,984	\$ 37,056	\$ 37,202	\$ 37,299	\$ 37,467	\$ 37,582	\$ 37,695	\$ 37,793	\$ 37,894
Watermains																					
Opening	\$ 206,327	\$ 211,533	\$ 218,247	\$ 225,523	\$ 232,952	\$ 241,106	\$ 252,157	\$ 262,470	\$ 271,765	\$ 281,546	\$ 290,654	\$ 299,908	\$ 309,754	\$ 320,226	\$ 330,940	\$ 341,901	\$ 353,454	\$ 365,270	\$ 377,354	\$ 390,430	\$ 403,798
Betterments	2	249	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Additions - capital carryforward	3	-	606	1,122	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Additions	3	5,217	8,243	8,400	9,495	10,399	13,828	12,791	11,406	12,054	11,130	11,258	11,950	12,762	13,004	13,251	13,843	14,106	14,374	15,366	15,658
Disposals	4	(260)	(2,135)	(2,246)	(2,106)	(2,245)	(2,777)	(2,478)	(2,111)	(2,273)	(2,022)	(2,004)	(2,104)	(2,290)	(2,290)	(2,290)	(2,290)	(2,290)	(2,290)	(2,290)	(2,290)
Closing	\$ 211,533	\$ 218,247	\$ 225,523	\$ 232,952	\$ 241,106	\$ 252,157	\$ 262,470	\$ 271,765	\$ 281,546	\$ 290,654	\$ 299,908	\$ 309,754	\$ 320,226	\$ 330,940	\$ 341,901	\$ 353,454	\$ 365,270	\$ 377,354	\$ 390,430	\$ 403,798	\$ 417,463
Fleet and equipment																					
Opening	\$ 3,440	\$ 3,440	\$ 3,635	\$ 3,766	\$ 3,936	\$ 4,058	\$ 4,264	\$ 4,327	\$ 4,483	\$ 4,483	\$ 4,690	\$ 4,877	\$ 4,992	\$ 5,050	\$ 5,230	\$ 5,336	\$ 5,413	\$ 5,669	\$ 6,192	\$ 6,192	\$ 6,317
Additions - capital carryforward	3	-	407	209	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Additions	3	26	484	392	776	559	940	286	713	947	853	527	265	824	483	353	1,170	2,390	-	571	22
Disposals	4	-	(696)	(470)	(606)	(437)	(734)	(223)	(557)	(740)	(666)	(412)	(207)	(644)	(377)	(276)	(914)	(1,867)	-	(446)	(17)
Closing	\$ 3,440	\$ 3,635	\$ 3,766	\$ 3,936	\$ 4,058	\$ 4,264	\$ 4,327	\$ 4,483	\$ 4,483	\$ 4,690	\$ 4,877	\$ 4,992	\$ 5,050	\$ 5,230	\$ 5,336	\$ 5,413	\$ 5,669	\$ 6,192	\$ 6,192	\$ 6,317	\$ 6,322
Total																					
Opening	\$ 305,676	\$ 310,908	\$ 318,680	\$ 328,314	\$ 336,604	\$ 345,589	\$ 357,923	\$ 369,749	\$ 380,214	\$ 393,059	\$ 403,493	\$ 414,057	\$ 425,093	\$ 436,686	\$ 448,876	\$ 461,196	\$ 474,138	\$ 487,694	\$ 501,759	\$ 516,318	\$ 531,041
Betterments	2	249	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Additions - capital carryforward	3	-	1,601	3,604	140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Additions	3	5,243	10,019	10,611	12,242	13,149	18,101	17,030	15,245	18,328	15,554	15,512	15,872	16,391	17,892	17,531	18,267	19,782	21,277	19,962	20,002
Disposals	4	(260)	(3,848)	(4,581)	(4,092)	(4,164)	(5,767)	(5,204)	(4,780)	(5,483)	(5,120)	(4,948)	(4,836)	(4,798)	(5,702)	(5,211)	(5,325)	(6,226)	(7,212)	(5,403)	(5,310)
TOTAL	\$ 310,908	\$ 318,680	\$ 328,314	\$ 336,604	\$ 345,589	\$ 357,923	\$ 369,749	\$ 380,214	\$ 393,059	\$ 403,493	\$ 414,057	\$ 425,093	\$ 436,686	\$ 448,876	\$ 461,196	\$ 474					

**THE CORPORATION OF THE CITY OF THUNDER BAY
ENVIRONMENT DIVISION - WATER AUTHORITY
SCHEDULE OF PROJECTED CAPITAL ASSET ACQUISITIONS, DISPOSALS AND ACCUMULATED AMORTIZATION
FOR THE YEARS ENDING DECEMBER 31, 2022 TO 2042**

Planned Capital Expenditures, adjusted for Inflation and including Operating Expenses related to Capital Budget Items																				
Watermain																				
Additions	\$ 8,243	\$ 8,400	\$ 9,495	\$ 10,399	\$ 13,828	\$ 12,791	\$ 11,406	\$ 12,054	\$ 11,130	\$ 11,258	\$ 11,950	\$ 12,762	\$ 13,004	\$ 13,251	\$ 13,843	\$ 14,106	\$ 14,374	\$ 15,366	\$ 15,658	\$ 15,955
Purchased Services (expense for accounting purposes)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Watermain	8,243	8,400	9,495	10,399	13,828	12,791	11,406	12,054	11,130	11,258	11,950	12,762	13,004	13,251	13,843	14,106	14,374	15,366	15,658	15,955
Water treatment plant	1,084	1,371	1,931	2,105	3,205	3,312	2,993	3,096	3,357	3,204	3,327	3,300	3,955	3,577	3,924	4,253	4,339	4,426	3,656	3,873
Reservoir & Pumping Stations	208	448	40	86	128	641	133	3,178	120	197	68	64	109	220	147	253	174	170	148	152
Purchased services (expense for accounting purposes, includes professional fees and innovations)	1,463	2,150	3,268	3,595	3,703	3,200	3,261	3,323	3,992	3,450	3,516	4,224	4,305	2,387	2,432	2,478	2,525	2,573	2,622	2,672
Total Water Treatment Plant	2,755	3,969	5,239	5,786	7,036	7,153	6,387	9,597	7,469	6,851	6,911	7,588	8,369	6,184	6,503	6,984	7,038	7,169	6,426	6,697
Fleet	484	392	776	559	940	286	713	-	947	853	527	265	824	483	353	1,170	2,390	-	571	22
Total Planned Capital Expenditures	\$ 11,482	\$ 12,761	\$ 15,510	\$ 16,744	\$ 21,804	\$ 20,230	\$ 18,506	\$ 21,651	\$ 19,546	\$ 18,962	\$ 19,388	\$ 20,615	\$ 22,197	\$ 19,918	\$ 20,699	\$ 22,260	\$ 23,802	\$ 22,535	\$ 22,655	\$ 22,674
Capital Additions	\$ 10,019	\$ 10,611	\$ 12,242	\$ 13,149	\$ 18,101	\$ 17,030	\$ 15,245	\$ 18,328	\$ 15,554	\$ 15,512	\$ 15,872	\$ 16,391	\$ 17,892	\$ 17,531	\$ 18,267	\$ 19,782	\$ 21,277	\$ 19,962	\$ 20,033	\$ 20,002
Operating Expenses related to Capital Budget Items	1,463	2,150	3,268	3,595	3,703	3,200	3,261	3,323	3,992	3,450	3,516	4,224	4,305	2,387	2,432	2,478	2,525	2,573	2,622	2,672
	\$ 11,482	\$ 12,761	\$ 15,510	\$ 16,744	\$ 21,804	\$ 20,230	\$ 18,506	\$ 21,651	\$ 19,546	\$ 18,962	\$ 19,388	\$ 20,615	\$ 22,197	\$ 19,918	\$ 20,699	\$ 22,260	\$ 23,802	\$ 22,535	\$ 22,655	\$ 22,674
Allocation of Purchased Services																				
Purchased services related to capital projects	68%																			
Innovation, professional and technical	32%																			

Accumulated Amortization																						
(\$ THOUSANDS)																						
	Average Useful Life (Years)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
Water Treatment Plant																						
Opening	48.56	\$ 23,951	\$ 25,104	\$ 25,520	\$ 25,762	\$ 25,652	\$ 25,464	\$ 24,570	\$ 23,669	\$ 23,053	\$ 22,429	\$ 21,692	\$ 21,128	\$ 20,546	\$ 20,051	\$ 19,179	\$ 18,645	\$ 17,949	\$ 17,110	\$ 16,306	\$ 15,529	\$ 15,370
Amortization for the year	5	1,153	1,164	1,189	1,223	1,265	1,319	1,386	1,451	1,514	1,581	1,648	1,715	1,784	1,859	1,936	2,013	2,098	2,192	2,279	2,365	2,441
Disposals	6	-	(748)	(947)	(1,333)	(1,453)	(2,213)	(2,287)	(2,067)	(2,138)	(2,318)	(2,212)	(2,297)	(2,279)	(2,731)	(2,470)	(2,709)	(2,937)	(2,996)	(3,056)	(2,524)	(2,674)
Closing		\$ 25,104	\$ 25,520	\$ 25,762	\$ 25,652	\$ 25,464	\$ 24,570	\$ 23,669	\$ 23,053	\$ 22,429	\$ 21,692	\$ 21,128	\$ 20,546	\$ 20,051	\$ 19,179	\$ 18,645	\$ 17,949	\$ 17,110	\$ 16,306	\$ 15,529	\$ 15,370	\$ 15,137
Pumping stations and Reservoirs																						
Opening	51.07	\$ 16,131	\$ 16,725	\$ 17,052	\$ 16,736	\$ 17,296	\$ 17,876	\$ 18,444	\$ 18,845	\$ 19,424	\$ 19,006	\$ 19,652	\$ 20,275	\$ 20,940	\$ 21,488	\$ 22,010	\$ 22,498	\$ 23,005	\$ 23,475	\$ 23,972	\$ 24,467	\$ 24,971
Amortization for the year	5	594	596	602	607	609	611	617	624	654	686	688	688	570	559	562	557	555	556	552	554	556
Disposals	6	-	(269)	(918)	(47)	(29)	(43)	(216)	(45)	(1,072)	(40)	(66)	(23)	(22)	(37)	(74)	(50)	(85)	(59)	(57)	(50)	(51)
Closing		\$ 16,725	\$ 17,052	\$ 16,736	\$ 17,296	\$ 17,876	\$ 18,444	\$ 18,845	\$ 19,424	\$ 19,006	\$ 19,652	\$ 20,275	\$ 20,940	\$ 21,488	\$ 22,010	\$ 22,498	\$ 23,005	\$ 23,475	\$ 23,972	\$ 24,467	\$ 24,971	\$ 25,476
Watermains																						
Opening	75.00	\$ 134,744	\$ 137,559	\$ 138,589	\$ 139,630	\$ 140,938	\$ 142,136	\$ 142,430	\$ 142,759	\$ 143,617	\$ 144,469	\$ 145,727	\$ 147,072	\$ 148,392	\$ 149,686	\$ 151,152	\$ 152,792	\$ 154,613	\$ 156,595	\$ 158,700	\$ 160,948	\$ 163,346
Amortization for the year	5	3,033	3,165	3,287	3,414	3,443	3,071	2,807	2,969	3,125	3,280	3,349	3,424	3,584	3,756	3,930	4,111	4,272	4,395	4,538	4,688	4,865
Disposals	6	(218)	(2,135)	(2,246)	(2,106)	(2,245)	(2,777)	(2,478)	(2,111)	(2,273)	(2,022)	(2,004)	(2,104)	(2,290)	(2,290)	(2,290)	(2,290)	(2,290)	(2,290)	(2,290)	(2,290)	(2,290)
Closing		\$ 137,559	\$ 138,589	\$ 139,630	\$ 140,938	\$ 142,136	\$ 142,430	\$ 142,759	\$ 143,617	\$ 144,469	\$ 145,727	\$ 147,072	\$ 148,392	\$ 149,686	\$ 151,152	\$ 152,792	\$ 154,613	\$ 156,595	\$ 158,700	\$ 160,948	\$ 163,346	\$ 165,921
Fleet and equipment																						
Opening	10.92	\$ 2,511	\$ 2,721	\$ 2,284	\$ 2,079	\$ 1,780	\$ 1,677	\$ 1,334	\$ 1,551	\$ 1,480	\$ 1,998	\$ 1,780	\$ 1,711	\$ 1,939	\$ 2,315	\$ 2,522	\$ 2,733	\$ 3,032	\$ 2,677	\$ 1,505	\$ 2,245	\$ 2,565
Amortization for the year	5	210	259	265	307	334	391	440	486	518	522	597	640	583	851	588	575	559	695	740	766	724
Disposals	6	-	(696)	(470)	(606)	(437)	(734)	(223)	(557)	-	(740)	(666)	(412)	(207)	(644)	(377)	(276)	(914)	(1,867)	-	(446)	(17)
Closing		\$ 2,721	\$ 2,284	\$ 2,079	\$ 1,780	\$ 1,677	\$ 1,334	\$ 1,551	\$ 1,480	\$ 1,998	\$ 1,780	\$ 1,711	\$ 1,939	\$ 2,315	\$ 2,522	\$ 2,733	\$ 3,032	\$ 2,677	\$ 1,505	\$ 2,245	\$ 2,565	\$ 3,272
Total																						
Opening		\$ 177,337	\$ 182,109	\$ 183,445	\$ 184,207	\$ 185,666	\$ 187,153	\$ 186,778	\$ 186,824	\$ 187,574	\$ 187,902	\$ 188,851	\$ 190,186	\$ 191,817	\$ 193,540	\$ 194,863	\$ 196,668	\$ 198,599	\$ 199,857	\$ 200,483	\$ 203,189	\$ 206,252
Amortization for the year		4,990	5,184	5,343	5,551	5,651	5,392	5,250	5,530	5,811	6,069	6,283	6,467	6,521	7,025	7,016	7,256	7,484	7,838	8,109	8,373	8,586
Disposals	6	(218)	(3,848)	(4,581)	(4,092)	(4,164)	(5,767)	(5,204)	(4,780)	(5,483)	(5,120)	(4,948)	(4,836)	(4,798)	(5,702)	(5,211)	(5,325)	(6,226)	(7,212)	(5,403)	(5,310)	(5,032)
Closing		\$ 182,109	\$ 183,445	\$ 184,207	\$ 185,666	\$ 187,153	\$ 186,778	\$ 186,824	\$ 187,574	\$ 187,902	\$ 188,851	\$ 190,186	\$ 191,817	\$ 193,540	\$ 194,863	\$ 196,668	\$ 198,599	\$ 199,857	\$ 200,483	\$ 203,189	\$ 206,252	\$ 209,806

**THE CORPORATION OF THE CITY OF THUNDER BAY
ENVIRONMENT DIVISION - WATER AUTHORITY
SCHEDULE OF PROJECTED CAPITAL ASSET ACQUISITIONS, DISPOSALS AND ACCUMULATED AMORTIZATION
FOR THE YEARS ENDING DECEMBER 31, 2022 TO 2042**

Notes and Assumptions:

Actual results achieved for the period covered will vary from this information presented. The differences may be material.

See City of Thunder Bay Annual Reports for the Year ended December 31, 2021 and 2022 (when available) for the City's accounting policies.

1. The actual capital asset costs, additions, disposals and accumulated amortization have been provided by the City of Thunder Bay Financial Services Division.
2. Betterments are defined as those capital outlays incurred that will increase the future benefits for an existing capital asset beyond its previously assessed standard of performance.
3. Additions are defined as capital outlays, valued at cost, which have been put into service to provide future benefits.

The projected additions are based on the City's 2023 and 2024 Capital Budget and Forecast Summary, City of Thunder Bay Water System 20 Year Capital Plan, Environment 2024 Fleet Allocation and 2023 Ratings Data.

The additions - capital carryforwards reflect capital outlays which will be incurred but have already been approved by City Council in previous years' capital budget.

4. If a capital outlay is incurred, it is assumed that it will be replacing an existing asset. The cost of the disposed asset is based on the purchase price of the new asset, discounted at 2.5%, assuming it was purchased a number of years ago depending on the asset category, as follows:

	Purchased Years Ago
Water treatment plant	15
Pumping stations and reservoirs	44
Watermains	54
Fleet	10

5. Amortization is calculated on a straight-line basis at rates which reflect the estimated useful life of the asset. In the year in which the asset was purchased or disposed of, one half of the amortization will be charged. Betterments, defined as costs incurred to enhance the service potential of an already existing tangible asset, will not be subject to the half year rule. The useful life of each category of capital asset is set out on page 3, the Accumulated Amortization table.
6. It is assumed that any capital asset that has been replaced was fully amortized at the time of disposition.