

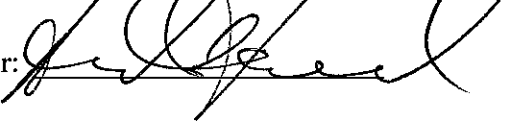
MUNICIPALITY OF GREENSTONE

Motion

Meeting Held: **MONDAY, DECEMBER 14, 2015**
REGULAR COUNCIL

15-321

Moved by Councillor: ;

Seconded by Councillor: 

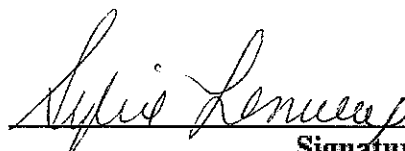
THAT Council approve the 10 years (2015 to 2024) Water and Wastewater Financial Plan as attached hereto and forming part of this resolution.

Carried



Defeated





Signature of Mayor

RECORDED VOTE				REQUESTED BY
Assad	Yes	No	No Vote (Negative)	
Beaulieu	Yes	No	No Vote (Negative)	
Blanchard	Yes	No	No Vote (Negative)	
Donovan	Yes	No	No Vote (Negative)	
Giguere	Yes	No	No Vote (Negative)	
Lemieux	Yes	No	No Vote (Negative)	
McPherson	Yes	No	No Vote (Negative)	
Pietsch	Yes	No	No Vote (Negative)	
Trottier	Yes	No	No Vote (Negative)	

Reference Report No. _____

Certified that this copy is a true copy of the original document which has not been altered in any way.

Clerk, Corporation of the Municipality of Greenstone



INFRASTRUCTURE
SOLUTIONS INC.

WATER AND WASTEWATER FINANCIAL PLAN

Financial Plan # 225-301A



Municipality of Greenstone

December 2015

Project No. 15-154

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December 10, 2015

Infrastructure Solutions Inc.

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Mr. Jack Kuzminski
Deputy CAO / Director of Corporate Services / Treasurer
Municipality of Greenstone
P.O Box 70, 1800 Main Street
Geraldton, ON
P0T 1M0

Re: Water and Wastewater Financial Plan

Dear Mr. Kuzminski:

We are pleased to submit our report for the above captioned report.

We appreciate the opportunity to be of assistance to the Municipality of Greenstone with this undertaking and look forward to working again with you and your staff in the future.

Please call if you have any questions.

Yours truly,



Neil Roberts
President
ISI Infrastructure Solutions Inc.

TABLE OF CONTENTS

1. INTRODUCTION AND PROJECT SCOPE	6
1.1 OBJECTIVES.....	6
1.2 STUDY AREA.....	7
1.3 WATER SYSTEM	7
1.4 WASTEWATER SYSTEMS	11
2. PROVINCIAL REQUIREMENTS.....	15
2.1 FINANCIAL PLAN REQUIREMENTS – GENERAL.....	15
2.2 FINANCIAL PLAN REQUIREMENTS – EXISTING SYSTEM	15
2.3 SUSTAINABLE FINANCIAL PLANNING.....	16
2.4 WATER AND WASTEWATER RATE STUDY	17
3. KEY CONSIDERATIONS	18
3.1 CUSTOMER GROWTH & CONSUMPTION.....	18
3.2 PRICE ELASTICITY OF WATER DEMAND.....	19
3.3 OPERATING AND MAINTENANCE (O&M) EXPENDITURES PROJECTIONS	21
3.4 CAPITAL BUDGET FORECASTS	25
3.5 REVENUE PROJECTIONS	25
3.6 WATER/WASTEWATER BILL COMPARISONS WITH OTHER COMMUNITIES	27
3.7 DEBT REPAYMENT	28
3.8 RESERVES	29
3.9 TANGIBLE CAPITAL ASSETS (TCA) ANALYSIS.....	29
3.10 LEAD PIPE REPLACEMENT	30
4. WATER AND WASTEWATER FINANCIAL PLAN.....	31
4.1 STATEMENT OF FINANCIAL POSITION	31
4.2 STATEMENT OF OPERATIONS	32
4.3 STATEMENT OF CHANGE IN NET FINANCIAL ASSETS/DEBT	32
4.4 STATEMENT OF CASH FLOW	33
5. NOTES TO FINANCIAL PLAN.....	33
5.1 CASH, RECEIVABLES AND PAYABLES	33
5.2 DEBT	33
5.3 DEFERRED REVENUE	34
5.4 TANGIBLE CAPITAL ASSETS (TCA).....	34
5.5 INTEREST EARNED.....	34
5.6 OPERATING EXPENSES	34
5.7 OTHER REVENUE	34
6. RECOMMENDATIONS.....	35
7. PROCESS FOR APPROVAL AND SUBMISSION	35
APPENDIX A: STATEMENT OF FINANCIAL POSITION	36
APPENDIX B: STATEMENT OF OPERATIONS.....	38
APPENDIX C: STATEMENT OF CHANGE IN NET FINANCIAL POSITION	40
APPENDIX D: STATEMENT OF CASH FLOW.....	42
APPENDIX E: MUNICIPAL COST INDEX	44
APPENDIX F: CAPITAL PROJECTS (WATER SYSTEM).....	45
APPENDIX G: CAPITAL PROJECTS (WASTEWATER SYSTEM).....	50
APPENDIX H: ANNUAL DEBT REPAYMENT LIMIT	53
APPENDIX I: UNOFFICIAL FINANCIAL BUDGET (2015)	54

LIST OF FIGURES:

Figure 1 - Study Area	7
Figure 2 - Beardmore Water Treatment Plant	8
Figure 3 - Caramat Water Treatment Plant	8
Figure 4 - Geraldton Water Treatment Plant	9
Figure 5 - Longlac Water Treatment Plant	10
Figure 6 - Nakina WTP (Pumps & Generator)	11
Figure 7 - Nakina Wastewater Treatment Plant	12
Figure 8 - Geraldton Wastewater Treatment Plant	13
Figure 9 - Beardmore Hauled Sewage Disposal Site	14
Figure 10 - Water/Wastewater Rate Calculation Methodology	17
Figure 11 - Water Treatment Levels	19
Figure 12 - Individual Household's Demand for Water	19
Figure 13 - Water and Wastewater Annual Charges	27

LIST OF TABLES:

Table 1 - Customer Growth & Consumption*	18
Table 2 - Price Elasticity of Water Demand	20
Table 3 - O&M Cost Projections (Water Only)	22
Table 4 - O&M Cost Projections (Wastewater Only)	24
Table 5 - Capital Expenditures and Funding Program (Water System)	25
Table 6 - Capital Expenditures and Funding Program (Wastewater System)	25
Table 7 - Water Rate Structure (2015-2024)	26
Table 8 - Wastewater Rate Structure (2015-2024)	26
Table 9 - Water/Wastewater Bill Comparisons	27
Table 10 - Debentures	28
Table 11 - Projected Schedule Debenture Payments	28
Table 12 - Lender Rates for Municipalities	29
Table 13 - Existing Reserves	29
Table 14 - TCA (Water Only)	30
Table 15 - TCA (Wastewater Only)	30

1. INTRODUCTION AND PROJECT SCOPE

1.1 OBJECTIVES

Infrastructure Solutions Inc. (ISI) was retained by the Municipality of Greenstone (the Municipality) to prepare a Water and Wastewater Financial Plan for the communal water system. The Financial Plan has been developed and prepared with a forward looking approach at the financial position of the Municipality's water and wastewater systems. The Plan is not audited, and it does contain various estimates and assumptions as explained in Section 5: "Notes to the Financial Plan".

The Water Financial Plan fulfills one of the five submission requirements for the purposes of obtaining a municipal drinking water license as per the Safe Drinking Water Act 2002 (SDWA). The Financial Plan also includes the calculations for the wastewater system, as is encouraged under the SDWA. The prescribed reporting requirements for a financial plan are defined by Ontario Regulation 453/07 (O. Reg.453/07). In general, a financial plan requires an in-depth analysis of capital and operating needs, a review of current and future demand versus supply, and consideration of available funding sources. This detailed financial planning and forecasting in regards to the Municipality's water and wastewater systems has already been completed and documented by Infrastructure Solutions within the 2015 Water and Wastewater Rate Study. The purpose of the report provided herein is to convert the findings of the 2015 Rate Study into the recommended reporting requirements for a financial plan as defined under O. Reg. 453/07.

The Municipality has undertaken this Water and Wastewater Financial Plan in order to ensure that sufficient funds will be in place to cover the short-term water and wastewater system operating costs and full water and wastewater system life-cycle asset renewal and replacement costs over a 10-year time period.

This Water and Wastewater Financial Plan completes the following requirements:

- Compilation of the current and projected operating costs for the 2015-2024 period
- Projections of capital renewal and replacement costs to 2024
- Revenue projections
- Debt requirements and projections
- Tangible Capital Asset projections
- Statement of Financial Position, Statement of Operations, Statement of Change in Net Financial Assets/Debt, and Statement of Cash Flow

The intent of the project is to develop a sustainable financing plan that will fully meet the current financial needs, as well as make full provision for renewing all water system financial assets. The cost of renewing financial assets has been identified for the 2015 to 2024 period. For each year, from 2015-2024, user fees have been set such that funds will be available when needed to meet future projected capital renewal and replacement needs.

The costs of the identified short-term capital renewal needs have been combined with projections of the operating costs to produce an overall projection of the system costs. Various methods have been utilized to supply the necessary financial resources to pay for the operations & maintenance (O&M) and the capital projects. User fees are the key component of the financial plan as they pay down any loan and build up reserves.

1.2 STUDY AREA

The Municipality of Greenstone is a municipality with a population of approximately 4,724 according to the 2011 Canadian census. The Municipality was created in January 1, 2001 by the amalgamation of the former municipalities of the Town of Geraldton, the Town of Longlac, the Township of Nakina and the Township of Beardmore, as well as an extensive area of unincorporated territory. It stretches along Highway 11 from Lake Nipigon to Longlac and covers 2,767.76 km². The Municipality is responsible for the water supply, treatment and distribution within the Municipality's site. Municipal services, including water and wastewater are supplied to 2,086 accounts.

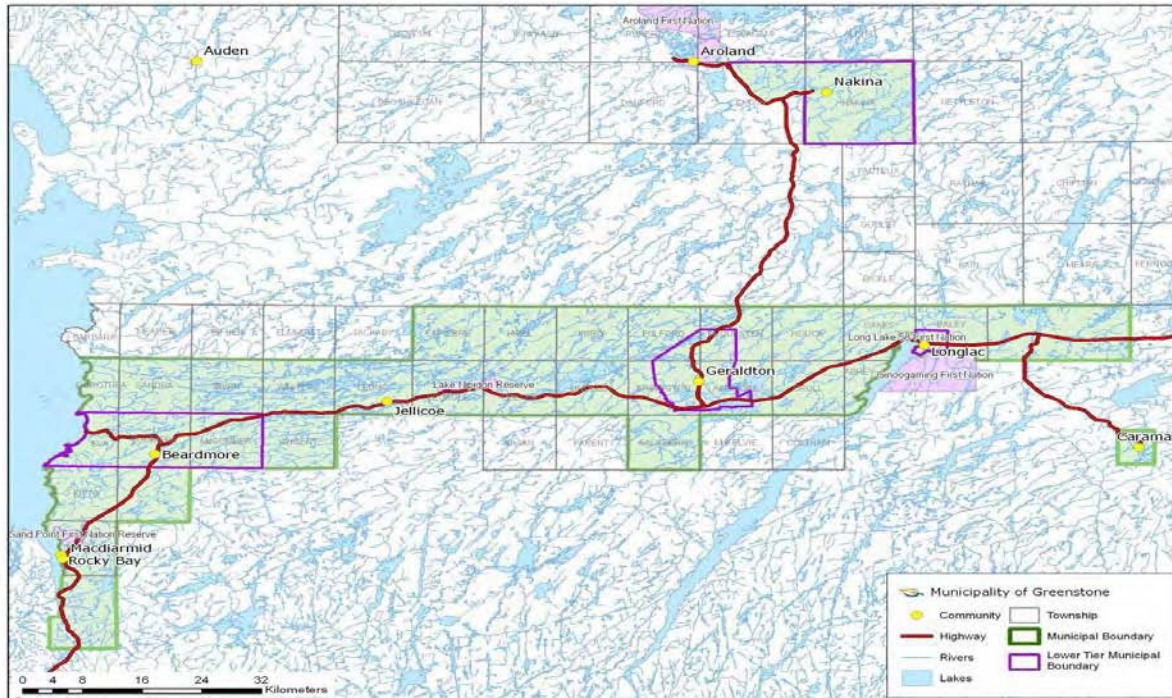


Figure 1 - Study Area

1.3 WATER SYSTEM

The Municipality is comprised of six (6) wards, five (5) of which have municipal drinking water systems; Beardmore, Caramat, Geraldton, Longlac and Nakina. The five (5) drinking water systems are not connected and each system consists of water treatment plant and a distribution system. A description of each of the systems is given below.

Beardmore

The Beardmore Drinking Water System consists of a surface water source package treatment plant, including intake, Supervisory Control and Data Acquisition (SCADA) system, backwash system, low and high lift works, on-site storage, emergency power and chemical addition. The intake consists of an intake crib with a capacity of 1,360 m³/day and an intake pipe. The low lift works consists of two (2), 10 HP, 4 stage vertical turbine pumps, each rated at 15.8 L/s at a total dynamic head (TDH) of 26.5 m.

The pumps deliver raw water to a package plant with a capacity of 1,363 m³/day. The plant consists of a draft tube flocculator, solids contact clarifier with tube settlers and a two (2)

compartment dual media rapid sand filter. The plant is accompanied by an automatic backwash system with a total volume of 12 m³. The backwash system also has a 27 m³ waste water storage tank that pumps waste water with a 1.5 HP sewage pump to the sanitary sewer system.

The SCADA system includes monitoring of two (2) turbidity meters, one (1) pH monitor, one (1) chlorine analyzer and one (1) chlorine residual recorder.

The distribution system is comprised of 100 mm and 150 mm diameter Polyvinyl Chloride (PVC) pipes.



Figure 2 - Beardmore Water Treatment Plant

Caramat

The Caramat Drinking Water System consists of a 61 m intake pipe from inlet bell to wet well drawing water from Caramat Lake. There are two (2) low lift pumps that are each rated at 0.87 L/s at a TDH of 40.5 m.



Figure 3 - Caramat Water Treatment Plant

The low lift pumps provide water to a filtration system of two trains each equipped with a roughing filter, slow sand filter and Granular Activated Carbon contactor. Each filter is rated at 0.43 L/s. The primary chlorination of water is made of two (2) sodium hypochlorite metering pumps, with 0.4 L/hr pumping rate. There are six (6) ozone generators in two ozone contactors each with a volume of 145 L. The treated water enters the clearwell which is comprised of two concrete tanks with a total volume of 57 m³. There are two (2) high lift pumps (duty/standby) each rated at 2.48 L/s that pump water to the distribution system.

The SCADA system consists of the monitoring of an online chlorine analyzer, a magnetic flow meter, and oxygen sensors.

The distribution system is comprised of 150 mm diameter PVC pipes.

Geraldton

The Geraldton water treatment plant draws water from an intake structure in Cecile Lake. There are three (3) high lift pumps each rated at 34.7 L/s at a total dynamic head of 12.95 m, each equipped with a 10 HP motor.

The raw water is treated in two treatment units in parallel with flocculation tanks, chambers equipped with tube settlers, and a mixed media filter tank. The plant is also equipped with backwash pumps and a backwash storage tank.

Two (2) gas chlorinators with 22.7 kg/day capacity rotameters are in charge of disinfection. Water is stored in a 556 m³ reservoir consisting of two clearwell compartments. In there, three (3) high lift pumps distribute the water to the distribution system. Each pump is rated at 34.7 L/s at a TDH of 52.43 m with 40 HP motors.

The monitoring equipment is made up of two (2) continuous turbidimeters, one (1) continuous online free chlorine residual analyzer, and three (3) flow meters.



Figure 4 - Geraldton Water Treatment Plant

The distribution system is comprised of about 19 km of Cast Iron pipes, 5 to 6 km of Ductile Iron pipes, and a small amount of PVC pipes.

Longlac

The Longlac Drinking Water System consists of an intake crib, containing a 2.4 m pre-cast concrete pipe with a capacity of 6,050 m³/day. There are three (3) single stage vertical turbine pumps, each rated at 34 L/s at a TDH of 12.92 m and 10 HP motors pump the raw water to the water treatment plant. Alum and orthophosphate are added to the stream to aid in the filtration and coagulation processes.



Figure 5 - Longlac Water Treatment Plant

The Longlac water treatment plant contains a package plant with a capacity of 4,050 m³/day, with flocculation, a solids clarifier with tube settlers, and two (2) compartment dual media rapid sand filter. The plant is equipped with a 16 m³ backwash storage tank along with a wastewater tank that stores the process waste until it is pumped by waste transfer pumps to the sanitary sewer system.

The monitoring equipment consists of two (2) continuous online turbidimeters, a chlorine analyzer, a phosphate analyzer and three (3) flow meters.

The distribution system comprises of approximately 5 km of PVC and 11 km of Ductile Iron pipes.

Nakina

The Nakina WTP draws its raw water from one of two wells, each capable of 18.9 L/s at a TDH of 27.4 m. The wells are equipped with 15 HP vertical turbine pumps. Sodium hypochlorite is added as the primary and secondary disinfectant, each one comprising of a 0.59 L/hr duty metering pump and 3.6 L/hr standby metering pump.

Water is stored in a 1,592 m³ twin celled reservoir. Four (4) high lift pumps pump the water from the clearwell to the distribution system. Three (3) of the pumps are rated at 18.9 L/s at a TDH of 52.43 m with a 75 HP motor.



Figure 6 - Nakina WTP (Pumps & Generator)

The Nakina water treatment plant is also equipped with turbidity meter, chlorine residual analyzer and flow meters.

The distribution system consists approximately of 10 km of PVC pipes.

Source: Financial Plan # 225-301A, (October 2013); The Municipality of Greenstone, Drinking Water Systems.

1.4 WASTEWATER SYSTEMS

Nakina

The municipal sewage treatment works performs the collection, transmission, treatment and disposal of domestic sewage with rated capacity of 1,703 m³/day for dry weather flow and 5,030 m³/day for wet weather flow.

The Nakina sewage collection system is composed of three (3) lift stations which collect the raw sewage from the existing network of sewer lines and forcemain as follows: KC Sewage Lift Station pumping into the River Road Sewage Lift Station; River Road Sewage Lift Station pumping into the headworks of Nakina Sewage Treatment Plant; and Centre & Warren Street Sewage Lift Station pumping into the headworks of Nakina Sewage Treatment Plant. All lift stations are equipped with emergency power supply and also have capabilities of by-passing raw sewage, if required in case of extreme wet weather events.

The Nakina Sewage Treatment Plant operates on an extended aeration mode capable of achieving the level of treatment equivalent to secondary treatment. STP has a headwork unit composed of two (2) grit removal channels with a combined maximum hydraulic capacity of 6,700 m³/day, bar screens and comminutors. The headwork also has an emergency bypass line (overflow) which directs any incoming excessive raw sewage flow by gravity into the existing rectangular contact chamber where disinfection takes place year round. The final treated effluent is discharged into Balkam Cree.



Figure 7 - Nakina Wastewater Treatment Plant

The Nakina STP main process treatment components are composed of one (1) aeration tank of 514 m³; one (1) sludge holding tank of 195 m³; three (3) blowers with a capacity of 18 m³ of air per minute for each blower; and one (1) 150 KW stand-by-diesel generator.

The disinfection system consists of one sodium hypochlorite system with one 1.1 L/hr capacity metering pump with a day tank, associated piping, total chlorine analyzer and connections to a SCADA system.

Source: Ministry of the Environment, (October 2011); The Corporation of the Municipality of Greenstone, Amended Certificate of Approval – Municipal and Private Sewage Works.

Geraldton

The municipal sewage treatment works performs the collection, transmission, treatment and disposal of domestic sewage with a rated capacity of 2,500 m³/day and peak flow rate of 7,500 m³/day. The existing sewage works includes one (1) Sewage Treatment plant, and two (2) sewage pumping stations: the Edith Street Sewage Pumping Station on Edith and Main Street; and the Mackenzie Avenue Sewage Pumping Station on Mckenzie and Main Street.

The Edith Street Sewage Pumping Station is composed of two (2) existing pumps in the wet well with two (20) submersible pumps (one duty, one standby), each with a rated capacity of 12.0 litres per second at a total dynamic head (TDH) of 14.0 m; and one (1) 25 KW diesel engine generator set.

The McKenzie Avenue Sewage Pumping Station consist of one (1) pumping station and control building housing the meters, valves, pumping assembly, with a separate room for the motor control center, local programmable logic controller and instrumentation SCADA panel, and storm bypass chlorination facilities; one (1) inlet chamber/wet well to house new retractable manual coarse basket screen; three (3) equal-sized-priming pumps (two duty, one standby) with a rated capacity of 185 litres per second at a TDH of 16.5 m to the Sewage Treatment Plant (STP); a ultrasonic level control system; and one (1) diesel generator set.



Figure 8 - Geraldton Wastewater Treatment Plant

The STP includes one (1) valver chamber; one (1) building, two (2) parallel screen channels, with one the channels containing one mechanically cleaned screen with 13 mm bar spacing and the second channel containing one manually cleaned screen with 25 mm bar spacing; one (1) screening, washing and conveying system; one (1) vortex-type grit removal unit; and one (1) flow diversion chamber.

The STP aeration system consists of three (3) blowers; four (4) positive displacement rotatory lobe blowers (three duty, one standby), each rated with a capacity of 818 m³/hr at minimum discharge pressure of 52 kilopascals; one (1) blower with a capacity of 102 m³/hr at a discharge pressure of 55 kilopascals. The activated sludge pumping system includes three (3) submersible pumps (two duty, one standby) each rated with a capacity of 29 litres per second at a TDH of 6 m; two (2) RAS line pipes, one dedicated to each aeration tank.

The disinfection system consists of a chlorine contact tank with one (1) 240 m³ capacity chlorine contact chamber with baffles providing a serpentine flow arrangement; two (2) gas chlorinators, each rated with a capacity of 3.8 kg/hr and equipped with automatic switchover; one (1) gas chlorinator in the chlorine room to treat screened bypass sewage, with a capacity of 9.5 kg/hr; and two (2) vacuum regulators (one duty, one standby).

The sludge digestion includes one (1) digestion tank in plant No.1 with a capacity of 240 m³, comprising 135 m³ in the primary cell, 70 m³ in the secondary cell and 35 m³ in the decant chamber, equipped with a diffused aeration system in each cell. Also, there is one (1) temporary sludge with a holding capacity of 100 m³; one (1) submersible sludge pump rated at 12 litres per

second at a TDH of 10 m; one (1) submersible sump pump, rated at 5.0 litres per second at a TDH of 10m.

The STP has a 200 kilowatt diesel generator set, two (2) 1,000 litre double-walled fuel storage tanks; and one (1) SCADA system.

Source: Ministry of the Environment, (January 2006); The Corporation of the Municipality of Greenstone, Amended Certificate of Approval – Municipal and Private Sewage Works.

Longlac

The municipal sewage treatment works performs the collection, transmission, treatment and disposal of domestic sewage with a rated capacity of 2,454 m³/day and an average daily flow of 1,598.07 m³/day. The existing sewage works includes one (1) Sewage Treatment plant, and seven (7) sewage pumping stations: the Centennial Sewage Pumping Station; the Riverview Lift Pump station; the Bayview Lift Pump Station; the Picnic Point Lift Pump Station; the Kegongami Lift Pump Station; the Frando Lift Pump Station and the CN Lift Pump Station.

Beardmore

The municipal sewage treatment consists of a “Hauled Sewage” disposal site in connection with the collection, handling, treatment, transportation, storage and disposal of hauled sewage, as regulated under MOE. It is a submersible type sewage pumping station, located on the south side of John Street approximately 46 m west of Walker Street, equipped with two (2) 2,320 m³/d submersible raw sewage pumps.

The exfiltration lagoon is made of three (3) 0.81 hectare cells, located approximately 305 m north west of the intersection of John Street and Walker Street, having interconnecting structures between cells and emergency outfall works and other controls, piping, valves, drains, and appurtenances essential for the proper operation of the aforementioned sewage works.



Figure 9 - Beardmore Hauled Sewage Disposal Site

2. PROVINCIAL REQUIREMENTS

The Safe Drinking Water Act (SDWA) was passed in December, 2002 in order to address some of the recommendations made by the Walkerton Inquiry Part II report. One of the main requirements of the Act is the mandatory licensing of municipal water providers. Section 31 (1) specifically states,

“No person shall,

- a) establish a new municipal drinking water system or replace or carry out an alteration to a municipal drinking water system except under the authority of and in accordance with an approval under this Part or a drinking water works permit; or
- b) use or operate a municipal drinking water system that was established before or after this section comes into force except under the authority of and in accordance with an approval under this Part or municipal drinking water license.”

One of the main requirements of the SDWA is the mandatory licensing of municipal water providers, as per section 31 (1). In order to become licensed, a Municipality must satisfy five key requirements as per section 44 (1):

1. Obtain a drinking water works permit.
2. Acceptance of the operational plan for the system based on the Drinking Water Quality Management Standard.
3. Accreditation of the Operating Authority.
4. Prepare and provide a financial plan.
5. Obtain a permit to take water.

The preparation of a financial plan is a key requirement for licensing and as such must be undertaken by all water providers.

2.1 FINANCIAL PLAN REQUIREMENTS – GENERAL

Under the SDWA, a financial plan is mandatory for water systems and encouraged for wastewater systems. The financial plans shall be for a period of at least six years, but longer planning horizons are encouraged. The financial plan is to be completed and approved by the later of July 1, 2010 and the date that is six months after the first license is issued. Once a water system is licensed, the City's Water Financial Plan is required to be updated every five (5) years, in conjunction with the application for license renewal. Financial plans may be amended, and additional information beyond what is prescribed can be included if deemed necessary.

2.2 FINANCIAL PLAN REQUIREMENTS – EXISTING SYSTEM

O. Reg. 453/07 provides details with regards to s.30 (1) part b of the SDWA for existing water systems:

- Financial plans must be approved by Council resolution (or governing body).
- Financial plans must include a statement that the financial impacts have been considered and apply for a minimum six year period (commencing when the system first serves the public, or at renewal starting with the year in which the license expires).

- Financial plans must include detail regarding proposed or projected financial operations itemized by total revenues, total expenses, annual surplus/deficit and accumulated surplus/deficit (i.e. the components of a “Statement of Operations” as per Public Sector Accounting Board (PSAB)) for each year in which the financial plans apply.
- Financial plans must present financial position itemized by total financial assets, total liabilities, net debt, non-financial assets, and tangible capital assets (i.e. the components of a “Statement of Financial Position” as per PSAB) for each year in which the financial plans apply.
- Gross cash receipts/payments itemized by operating transactions, capital transactions, investing transactions and financial transactions (i.e. the components of a “Statement of Cash Flow” as per PSAB) for each year in which the financial plans apply.
- Financial plans applicable to two or more solely-owned drinking water systems can be prepared as if they are for one drinking water system.
- Financial plans are to be made available to the public upon request and at no charge.
- If a website is maintained, financial plans are to be made available to the public through publication on the Internet at no charge.
- Notice of the availability of the financial plans is to be given to the public.
- Financial Plans are to be submitted to the Ministry of Municipal Affairs and Housing.

2.3 SUSTAINABLE FINANCIAL PLANNING

In general, sustainability refers to the ability to maintain a certain position over time. While the SDWA (Safe Drinking Water Act) requires a declaration of the financial plan’s sustainability, it does not give a clear definition of what would be considered sustainable. Instead, the Ministry of the Environment released a guideline (“Towards Financially Sustainable Drinking-Water and Wastewater Systems”) that provides possible approaches to achieving sustainability. The Province’s Principles of Financially Sustainable Water and Wastewater Services are provided below:

- Principle #1:* Ongoing public engagement and transparency can build support for, and confidence in, financial plans and the system(s) to which they relate.
- Principle #2:* An integrated approach to planning among water, wastewater, and storm water systems is desirable given the inherent relationship among these services.
- Principle #3:* Revenues collected for the provision of water and wastewater services should ultimately be used to meet the needs of those services.
- Principle #4:* Life-cycle planning with mid-course corrections is preferable to planning over the short-term, or not planning at all.
- Principle #5:* An asset management plan is a key input to the development of a financial plan.
- Principle #6:* A sustainable level of revenue allows for reliable service that meets or exceeds environmental protection standards, while providing sufficient resources for future rehabilitation and replacement needs.
- Principle #7:* Ensuring that users pay for the services they are provided leads to equitable outcomes and can improve conservation. In general, metering and the use of rates can help ensure users pay for services received.
- Principle #8:* Financial plans are “living” documents that require continuous improvement. Comparing the accuracy of financial projections with actual results can lead to improved planning in the future.
- Principle #9:* Financial plans benefit from the close collaboration of various groups, including engineers, accountants, auditors, utility staff, and municipal council.

The principles help form the framework for a sustainable financial plan. The substance of the financial plan may be derived from SWSSA (Sustainable Water and Sewage Systems Act) which will require, once in force, municipalities to assess the “full cost” of providing water and wastewater services. Full cost as defined in subsections 3(7) and 4(7), and includes:

“source protection, operating costs, financing costs, renewal and replacement costs and improvement costs associated with extracting, treating or distributing water to the public and collecting, treating or discharging waste water, and such other costs which may be specified by regulation.”

Furthermore, municipalities will be required to inventory and report their current infrastructure and how it will be maintained and managed going forward. Municipalities will then be required to report on the full cost of services and how these costs will be recovered and paid for. The principles of SWSSA ensure that a long-term plan for sustainable asset management is developed and that all costs for providing water and wastewater services are assessed so that there is sufficient funding for system needs.

Although SWSSA has not yet come into force, the Financial Plan has been prepared such that the City will be both SDWA and SWSSA compliant.

2.4 WATER AND WASTEWATER RATE STUDY

As noted before, Infrastructure Solutions completed an extensive 50-year financial forecast conducted on behalf of the Municipality. The rate calculations process was designed to address the “full cost recovery” principles within SWSSA. Figure below summarizes the process.

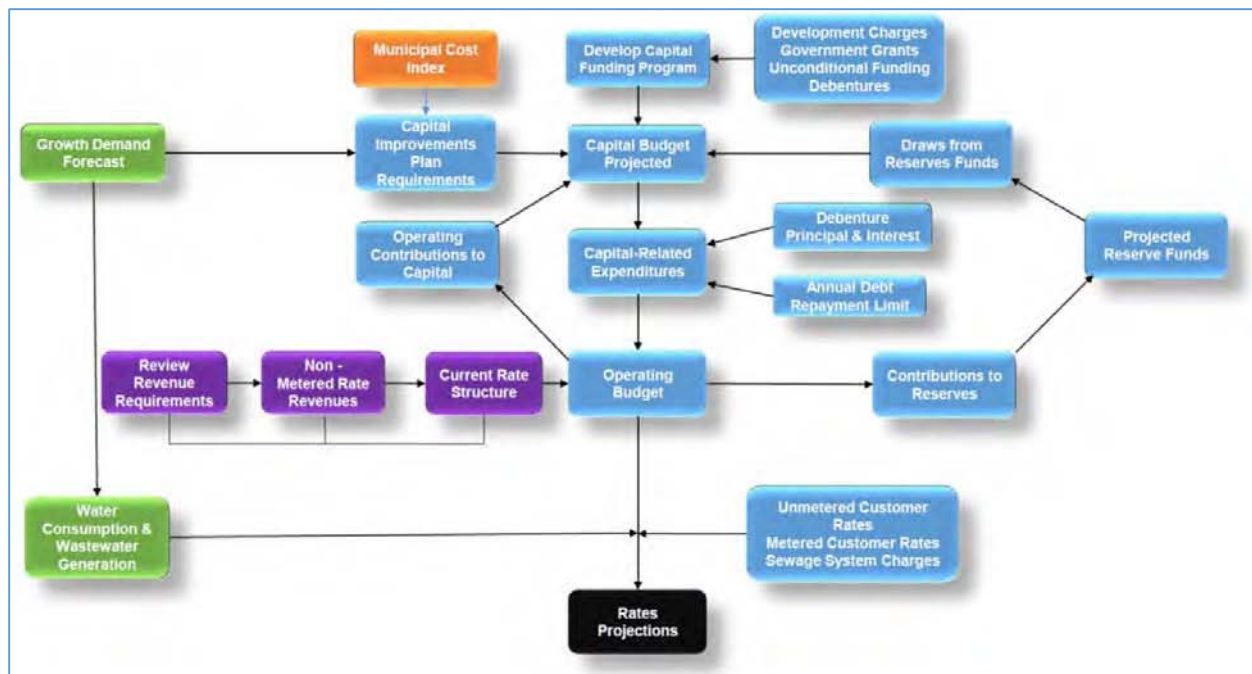


Figure 10 - Water/Wastewater Rate Calculation Methodology

3. KEY CONSIDERATIONS

This section presents the projections settled for key items over the ten (10) year period and the assumptions made in order to prepare this Financial Plan. These include:

- Customer growth & consumption
- Price elasticity of water demand
- Operations & Maintenance (O&M)
- Capital budget forecasts
- Revenue projections
- Debt requirements and repayment
- Capital reserves and operating reserve projections
- Tangible Capital Asset (TCA) projections

It should be noted that the Municipality does not have a current Water/Wastewater Rate Study from which forecasted rates and other relevant information could be obtained. While this Financial Plan meets O. Reg. 453/7 requirements, to fully assess water and wastewater infrastructure it is necessary to undertake a comprehensive Rate Study to determine future rates. This Rate Study that considers factors such as estimated useful life, asset replacement requirements, conservation, equity, and so on. These factors would influence the full cost recovery and allow sustainable long-term water and wastewater infrastructure.

3.1 CUSTOMER GROWTH & CONSUMPTION

The Municipality currently measure water consumption for ICI users as all residential customers are charged a flat rate. Data on water consumption volume were available for consideration.

The total number of customers increased from 2,034 in 2012 to 2,617 in 2013. By 2014, the total number of customers decrease to 2,086. It is assumed that there is no growth over the next years and that the number of customers will remain steady at 2,086, as summarized in Table 1.

Table 1 - Customer Growth & Consumption*

Description	2012	2013	2014	2015	2016	2017	2018	2019	2020 - 2024
No. of Customers	2,034	2,617	2,086	2,086	2,086	2,086	2,086	2,086	2,086
Consumption (m ³)	1,016,667	848,725	972,508	945,966	945,966	945,966	945,966	945,966	945,966
Consumption (m ³)/ Customer	500	324	466	430	430	430	430	430	430
Consumption Increase		-35.2%	143.8%	-7.7%	0%	0%	0%	0%	0%

* (Beardmore, Caramat, Geraldton, Longlac, and Nakina Drinking Water Flows in cubic meters)

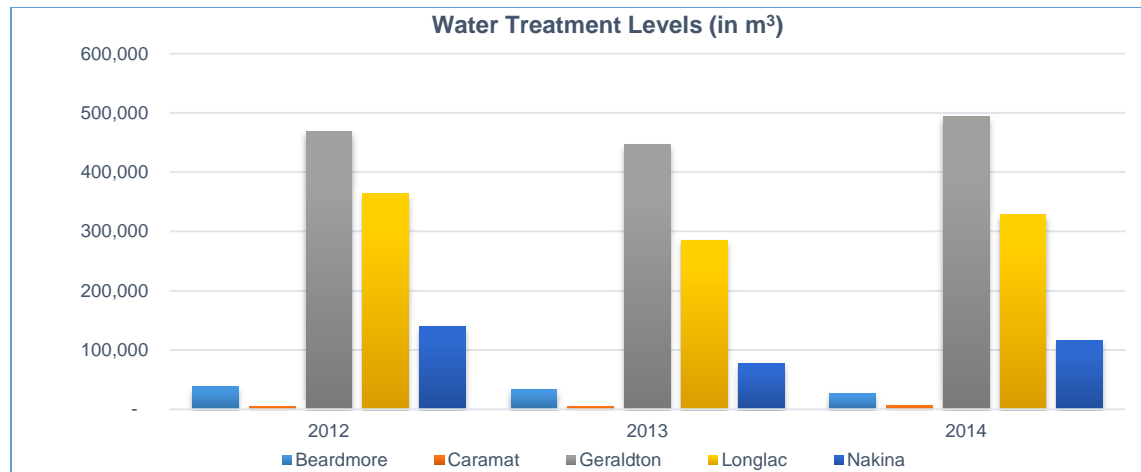


Figure 11 - Water Treatment Levels

During 2014, the Municipality produced a total of 972,508 m³ of treated water, representing an increase about 2013 levels (848,725 m³) but only 60% of Geraldton's production capacity and 20% of Beardmore capacity, which reflects the fact that the water treatment systems were originally designed for a community greater than 5,000 residents. Since 2012, the Geraldton and Caramat volumes of treated water have slightly increase by 5%. Likewise, the Beardmore, Longlac, and Nakina volumes of treated water have decrease 30%, 10%, 17%, respectively.

3.2 PRICE ELASTICITY OF WATER DEMAND

The basic premise of conservation water rates is that the demand for water falls as the volumetric price of water increase. The volumetric price is used to give the water customer an incentive to conserve water. The strength of the relationship between the price of water and the demand for water is measure using a valued called the price elasticity of demand or just elasticity.

Figure below illustrates the probable response of an individual household to successive increases in the price of water.

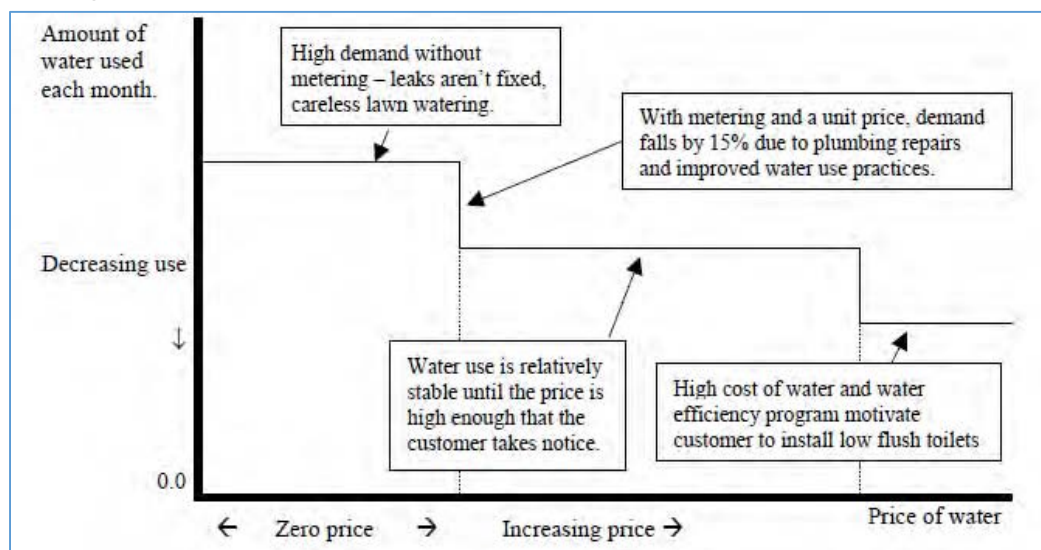


Figure 12 - Individual Household's Demand for Water

Economists use a statistical analysis of demand and price data to estimate the price elasticity of demand. The price used in this analysis is the total volumetric price including the water rate plus any wastewater rate or surcharge. Estimates of price elasticity lie in the range of -0.05 to -1.0. This number is a ratio of the percentage change in demand and the percentage change in price that causes the change in demand. The mathematical expression for elasticity is:

$$\text{Price elasticity} = \frac{(\text{Change in water demand after the price change}) \div (\text{Water demand before the price change})}{(\text{Change in price}) \div (\text{Original price})}$$

The calculation using elasticity to estimate a change in demand when price changes is therefore:

$$(\text{Percentage change in demand}) = (\text{Price elasticity of demand}) \times (\text{Percentage change in price})$$

If the coefficient is less than -1.0, then demand is inelastic. The smaller the absolute value of this coefficient, the more inelastic is the demand – the more insensitive is a change in quantity demanded to a price change. For example, if price elasticity is -0.7 and the price of water increases by 10%, then the quantity demanded will fall by 8%. If the price elasticity is -0.1 (even more inelastic), a 10% increase in the price will lead to a reduction in quantity demanded of only 1%. If, on the other hand, the absolute value of the coefficient is greater than 1.0, the demand is elastic. Once again, the higher the value, the greater the responsiveness in quantity demanded to price changes. A coefficient of -1.5, for example, means that 10% increase in price will lead to a 15% reduction in quantity demanded, a relatively significant response.

When water rates are raised significantly (beyond an inflationary response, in this case more than Cost Price Index (CPI) or Municipal Cost Index (MCI), water use often declines. The amount of the decline in demand is called price elasticity, which is the percentage change in consumption per percentage change in price.

In the Municipality of Greenstone where residents pay a flat rate, and not a price that is based on volume, the elasticity coefficient is 0.

To select a value for elasticity for the commercial metered users, it was necessary to evaluate the mix of customer types receiving water service, the existing price levels and the history of water rate adjustments.

Table 2 - Price Elasticity of Water Demand

Metered Consumption Description	2012	2013	2014	2015 (Forecast)
Reserve 58	25,641	26,841	26,656	26,379
Ginoogaming	14,108	16,154	22,633	22,407
Others	48,370	58,871	57,925	57,346
Total Volume (m³)	88,119	101,865	107,213	107,489
Number of Customers	174	172	166	163
Water Metered (\$/m ³)	2.04	2.24	2.57	2.65
Price Elasticity of Demand		1.59	0.36	0.08
Percentage Change in Price/m ³		10%	15%	5%
Percentage Change in Demand		15.6%	5.3%	0.4%
Total Revenue Metered (in dollars)	\$179,762	\$228,177	\$275,538	\$281,248

Estimates of water price elasticity usually lie in the range of -0.05 to -1.0 (Baumann, Boland, and Hanemann, 1998). This range summarizes findings from dozens of water demand studies spanning 50 years). From 2016 onwards, a steady 0.4% change in demand per annum is applied for the

Municipality's projections, meaning that 3% increase in price will lead to a 0.4% increase in quantity demanded, a slow response from the community.

3.3 OPERATING AND MAINTENANCE (O&M) EXPENDITURES PROJECTIONS

The Municipality's annual operating budget for water/wastewater includes costs related to the following:

- Water and wastewater system operations and maintenance.
- Water and wastewater capital expenditures.
- Transfers to the water/wastewater capital reserve.
- Transfers to capital to undertake the annual capital improvement projects. The Municipality primarily follows a pay-as-you-go approach to capital financing, as capital levies are funded from the user rate revenues each year.

The following assumptions were made for projecting the gross costs and rate revenues over the ten (10)-year period from 2015 to 2024 using 2015 as the base budget year (see Appendix I):

- The annual water operating & maintenance costs would increase by 2.0%; utilities by 3%, contractors by 5% and Insurance by 5% per year, respectively.
- There is debt financing for the 2015-2024 period.
- Any year-end surplus would be transferred to the operating reserve at the end of the year and returned to the operating budget as revenue in the subsequent year.
- Interest earned by the reserve funds would remain in the reserve fund.
- Non-metered rate revenues are composed of grants, levies, transfers from last year surplus, penalties and operating contributions;
- Capital projects for the water and wastewater systems in the 2015-2024 period are shown in Appendices F and G, respectively.

Tables 3 and 4 condense the operating and expenditure costs to be recovered from the annual fixed charge for institution, commercial and industrial (ICI) connections with a volumetric charge for commercial users, in which, water consumption is billed per cubic meter and wastewater collection is a surcharge of 92% of water amount.

Table 3 - O&M Cost Projections (Water Only)

Description	Actuals			Budget	Forecast								
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
General Operating Fund													
OCWA - Beardmore													
Contractors	-	10,840	-	-	-	-	-	-	-	-	-	-	-
OCWA Water Operating Charges	283,463	226,964	244,514	268,590	273,962	279,441	285,030	290,730	296,545	302,476	308,525	314,696	320,990
OCWA Water Maintenance/Repairs	3,892	1,647	620	7,000	7,140	7,283	7,428	7,577	7,729	7,883	8,041	8,202	8,366
Repairs & Maintenance - Bldg./Grounds	-	1,167	-	5,000	5,100	5,202	5,306	5,412	5,520	5,631	5,743	5,858	5,975
Total OCWA - Beardmore	287,355	240,617	245,133	280,590	286,202	291,926	297,764	303,720	309,794	315,990	322,310	328,756	335,331
OCWA - Geraldton													
Contractors	27,686	9,006	1,526	2,000	2,040	2,081	2,122	2,165	2,208	2,252	2,297	2,343	2,390
OCWA Water Operating Charges	335,175	343,151	350,550	331,953	338,592	345,364	352,271	359,317	366,503	373,833	381,310	388,936	396,715
OCWA Water Maintenance/Repairs	6,060	14,779	30,584	10,000	10,200	10,404	10,612	10,824	11,041	11,262	11,487	11,717	11,951
Repairs & Maintenance - Bldg./Grounds	3,857	8,762	10,599	10,000	10,200	10,404	10,612	10,824	11,041	11,262	11,487	11,717	11,951
Utilities	13,511	17,237	20,720	17,000	17,510	18,035	18,576	19,134	19,708	20,299	20,908	21,535	22,181
Total OCWA - Geraldton	386,289	392,936	413,979	370,953	378,542	386,288	394,194	402,264	410,500	418,907	427,489	436,247	445,188
OCWA - Longlac													
Contractors	2,868	-	-	1,000	1,050	1,103	1,158	1,216	1,276	1,340	1,407	1,477	1,551
OCWA Water Operating Charges	315,801	352,544	320,245	294,684	300,578	306,589	312,721	318,975	325,355	331,862	338,499	345,269	352,175
OCWA Water Maintenance/Repairs	17,856	7,847	21,278	27,314	27,860	28,417	28,986	29,566	30,157	30,760	31,375	32,003	32,643
Repairs & Maintenance - Bldg./Grounds	2,807	5,022	9,997	10,000	10,200	10,404	10,612	10,824	11,041	11,262	11,487	11,717	11,951
Total OCWA - Longlac	339,333	365,414	351,520	332,998	339,688	346,513	353,477	360,581	367,829	375,224	382,768	390,466	398,320
OCWA - Nakina													
OCWA Water Operating Charges	193,153	190,277	186,083	170,886	174,304	177,790	181,346	184,973	188,672	192,445	196,294	200,220	204,225
OCWA Water Maintenance/Repairs	19,521	17,983	5,651	9,744	9,939	10,138	10,340	10,547	10,758	10,973	11,193	11,417	11,645
Repairs & Maintenance - Bldg./Grounds	-	464	-	500	510	520	531	541	552	563	574	586	598
Total OCWA - Nakina	212,674	208,725	191,734	181,130	184,753	188,448	192,217	196,061	199,982	203,982	208,061	212,223	216,467
OCWA - Greenstone													
Insurance	3,707	4,112	5,031	5,683	5,967	6,266	6,579	6,908	7,253	7,616	7,997	8,396	8,816
OCWA Misc. Oper. Charges/Boat Rental	5,700	2,155	2,680	2,500	2,550	2,601	2,653	2,706	2,760	2,815	2,872	2,929	2,988
Lead Sampling Program	3,000	-	-	-	-	-	-	-	-	-	-	-	-
Total OCWA - Greenstone	12,407	6,267	7,711	8,183	8,517	8,867	9,232	9,614	10,013	10,431	10,868	11,326	11,804
OCWA - Caramat													
OCWA Water Operating Charges	79,607	101,567	83,917	91,336	93,163	95,026	96,926	98,865	100,842	102,859	104,916	107,015	109,155
OCWA Water Maintenance/Repairs	20,049	766	725	25,460	25,969	26,489	27,018	27,559	28,110	28,672	29,246	29,830	30,427
Repairs & Maintenance - Bldg./Grounds	-	677	-	1,000	1,020	1,040	1,061	1,082	1,104	1,126	1,149	1,172	1,195
Utilities	14,565	12,657	11,751	15,000	15,450	15,914	16,391	16,883	17,389	17,911	18,448	19,002	19,572
Total OCWA - Caramat	114,221	115,665	96,394	132,796	135,602	138,468	141,397	144,389	147,445	150,568	153,759	157,018	160,349
Waterworks - Beardmore													
Contractors	857	-	-	-	-	-	-	-	-	-	-	-	-
Repairs & Maintenance - Equipment	20	328	11	500	510	520	531	541	552	563	574	586	598
Total Waterworks - Beardmore	877	328	11	500	510	520	531	541	552	563	574	586	598
Waterworks - Geraldton													
Contractors	27,688	32,694	23,675	25,000	26,250	27,563	28,941	30,388	31,907	33,502	35,178	36,936	38,783
Repairs & Maintenance - Equipment	33,937	38,888	31,181	30,000	30,600	31,212	31,836	32,473	33,122	33,785	34,461	35,150	35,853
Total Waterworks - Geraldton	61,624	71,582	54,856	55,000	56,850	58,775	60,777	62,861	65,029	67,287	69,638	72,086	74,636
Waterworks - Longlac													
Contractors	14,832	7,123	4,815	10,000	10,500	11,025	11,576	12,155	12,763	13,401	14,071	14,775	15,513
Repairs & Maintenance - Equipment	10,194	8,024	10,886	10,000	10,200	10,404	10,612	10,824	11,041	11,262	11,487	11,717	11,951
Telephone	420	474	474	500	510	520	531	541	552	563	574	586	598
Utilities	2,900	2,394	1,891	2,800	2,884	2,971	3,060	3,151	3,246	3,343	3,444	3,547	3,653
Total Waterworks - Longlac	28,346	18,016	18,066	23,300	24,094	24,920	25,779	26,672	27,602	28,569	29,576	30,624	31,715
Waterworks - Nakina													
Contractors	10,746	3,550	4,650	5,000	5,250	5,513	5,788	6,078	6,381	6,700	7,036	7,387	7,757
Repairs & Maintenance - Equipment	7,440	5,977	4,154	7,000	7,140	7,283	7,428	7,577	7,729	7,883	8,041	8,202	8,366
Total Waterworks - Nakina	18,186	9,527	8,805	12,000	12,390	12,795	13,217	13,655	14,110	14,584	15,076	15,589	16,122
Waterworks - Greenstone													

Water and Wastewater Financial Plan
Municipality of Greenstone

Amortization Expense - Water Works	211,583	263,537	-	-	-	-	-	-	-	-	-	-	-
Equipment Rentals	216	-	-	-	-	-	-	-	-	-	-	-	-
Insurance	3,707	4,112	5,031	5,683	5,967	6,266	6,579	6,908	7,253	7,616	7,997	8,396	8,816
Licenses/Permits	6,491	4,220	50	4,500	4,590	4,682	4,775	4,871	4,968	5,068	5,169	5,272	5,378
Environmental Compliance Costs	122	-	-	-	-	-	-	-	-	-	-	-	-
Total Waterworks - Greenstone	222,119	271,869	5,081	10,183	10,557	10,947	11,354	11,779	12,221	12,683	13,166	13,669	14,194
Waterworks - Caramat													
Telephone	1,423	1,755	1,193	1,000	1,020	1,040	1,061	1,082	1,104	1,126	1,149	1,172	1,195
Utilities	1,808	619	-	1,000	1,030	1,061	1,093	1,126	1,159	1,194	1,230	1,267	1,305
Total Waterworks - Caramat	3,231	2,374	1,193	2,000	2,050	2,101	2,154	2,208	2,263	2,320	2,379	2,438	2,500
Total Operating Expenditures	1,686,662	1,703,320	1,394,482	1,409,633	1,439,755	1,470,568	1,502,091	1,534,343	1,567,342	1,601,109	1,635,664	1,671,028	1,707,223
Capital Related													
Debtenture #1 (Principal + Interest)	27,643	27,643	27,643	27,643	27,643	27,643	27,643	27,643	27,643	27,643	27,643	27,643	27,643
Debtenture #2 (Principal + Interest)	9,627	9,627	9,627	9,627	9,627	9,627	9,627	9,627	9,627	9,627	9,627	9,627	9,627
Debtenture #3 (Principal + Interest)	39,245	39,245	39,245	39,245	39,245	39,245	39,245	39,245	39,245	39,245	39,245	39,245	39,245
Debtenture #4 (Principal + Interest)				35,346	35,346	35,346	35,346	35,346	35,346	35,346	35,346	35,346	35,346
Debtenture #5 (Principal + Interest)						93,784	93,784	93,784	93,784	93,784	93,784	93,784	93,784
Debtenture #6 (Principal + Interest)												68,876	68,876
Transfers to Capital Reserve				226,126	272,931	232,927	290,217	351,209	416,107	485,121	558,477	567,532	650,287
Total Capital Related	76,515	76,515	76,515	337,987	384,792	438,572	495,862	556,855	621,752	690,766	764,122	842,053	924,808
Total Expenditures	1,763,177	1,779,835	1,686,887	1,747,620	1,824,547	1,909,140	1,997,953	2,091,197	2,189,094	2,291,875	2,399,786	2,513,081	2,632,031
Revenues													
Water													
W/S Interest/Penalties	61,331	67,383	80,407	80,520	80,601	80,681	80,762	80,843	80,923	81,004	81,085	81,166	81,248
Ginoogaming/Res. #58 W/S Agreement	48,000	48,000	48,000	48,000	48,000	48,000	48,000	48,000	48,000	48,000	48,000	48,000	48,000
Water User Charges	1,053,140	1,102,457	1,241,782	1,289,900	1,354,395	1,422,115	1,493,220	1,567,882	1,646,276	1,728,589	1,815,019	1,905,770	2,001,058
Water Metered User Charges	125,052	167,121	184,207	191,500	197,245	207,107	217,463	228,336	239,753	251,740	264,327	277,544	291,421
Ginoogaming Metered Water Charges	28,202	35,376	56,922	59,300	62,265	65,378	68,647	72,080	75,683	79,468	83,441	87,613	91,994
Reserve #58 Metered Water Charges	51,228	58,822	66,470	69,100	72,555	76,183	79,992	83,991	88,191	92,601	97,231	102,092	107,197
Water Dis./Connect Charges	7,267	8,950	9,100	9,300	9,486	9,676	9,869	10,067	10,268	10,473	10,683	10,896	11,114
Water Frontage	1,566	1,566	-	-	-	-	-	-	-	-	-	-	-
Contributions from Reserves													
Total Operating Revenue - Water	1,375,786	1,489,675	1,686,887	1,747,620	1,824,547	1,909,140	1,997,953	2,091,197	2,189,094	2,291,875	2,399,786	2,513,081	2,632,031
Surplus/(Deficit)	(387,391)	(290,160)	215,890	-	-	-	-	-	-	-	-	-	-

Table 4 - O&M Cost Projections (Wastewater Only)

Description	Actuals			Budget	Forecast								
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Sanitary Sewers													
Licences/Permits	-	-	5,785	8,000	8,160	8,323	8,490	8,659	8,833	9,009	9,189	9,373	9,561
Repairs & Maintenance - Equipment	3,183	31	-	1,000	1,020	1,040	1,061	1,082	1,104	1,126	1,149	1,172	1,195
Sewage Water Alleviation Program	6,723	6,079	8,993	5,000	5,100	5,202	5,306	5,412	5,520	5,631	5,743	5,858	5,975
Sewer/Gas Problem	-	-	3,901	5,000	5,100	5,202	5,306	5,412	5,520	5,631	5,743	5,858	5,975
Septic Tank Pumping	28,596	25,610	26,105	25,000	25,500	26,010	26,530	27,061	27,602	28,154	28,717	29,291	29,877
Total Sanitary Sewers	38,503	31,719	44,784	44,000	44,880	45,778	46,693	47,627	48,580	49,551	50,542	51,553	52,584
OCWA - Beardmore													
Contractors	-	10,840	-	-	-	-	-	-	-	-	-	-	-
OCWA Sewer (Lagoon) Operating Charges	-	64,833	72,762	20,000	20,400	20,808	21,224	21,649	22,082	22,523	22,974	23,433	23,902
OCWA Sewer Maintenance/Repairs	7,735	3,097	800	11,000	11,220	11,444	11,673	11,907	12,145	12,388	12,636	12,888	13,146
Total OCWA - Beardmore	7,735	78,769	73,563	31,000	31,620	32,252	32,897	33,555	34,227	34,911	35,609	36,321	37,048
OCWA - Geraldton													
OCWA Sewer Operating Charges	353,563	358,413	341,440	336,430	343,159	350,022	357,022	364,163	371,446	378,875	386,452	394,181	402,065
OCWA Sewer Maintenance/Repairs	55,435	63,477	29,610	19,584	19,976	20,375	20,783	21,198	21,622	22,055	22,496	22,946	23,405
Total OCWA - Geraldton	408,998	421,890	371,049	356,014	363,134	370,397	377,805	385,361	393,068	400,930	408,948	417,127	425,470
OCWA - Longlac													
OCWA Sewer Operating Charges	272,918	276,703	273,088	271,823	277,259	282,805	288,461	294,230	300,115	306,117	312,239	318,484	324,854
OCWA Sewer Maintenance/Repairs	37,295	39,337	11,180	32,654	33,307	33,973	34,653	35,346	36,053	36,774	37,509	38,259	39,025
Total OCWA - Longlac	310,213	316,040	284,268	304,477	310,567	316,778	323,113	329,576	336,167	342,891	349,748	356,743	363,878
OCWA - Nakina													
OCWA Sewer Operating Charges	91,040	86,597	79,401	90,660	92,473	94,323	96,209	98,133	100,096	102,098	104,140	106,223	108,347
OCWA Sewer Maintenance/Repairs	23,787	13,000	14,216	7,564	7,715	7,870	8,027	8,188	8,351	8,518	8,689	8,862	9,040
Total OCWA - Nakina	114,827	99,597	93,617	98,224	100,188	102,192	104,236	106,321	108,447	110,616	112,829	115,085	117,387
OCWA - Greenstone													
OCWA Sludge Bed Billings	51,591	53,547	35,020	35,000	35,700	36,414	37,142	37,885	38,643	39,416	40,204	41,008	41,828
Total OCWA - Greenstone	51,591	53,547	35,020	35,000	35,700	36,414	37,142	37,885	38,643	39,416	40,204	41,008	41,828
OCWA - Caramat													
OCWA Sewer Operating Charges	16,976	24,543	9,501	25,232	25,737	26,251	26,776	27,312	27,858	28,415	28,984	29,563	30,155
OCWA Sewer Maintenance/Repairs	1,840	3,364	-	3,700	3,774	3,849	3,926	4,005	4,085	4,167	4,250	4,335	4,422
Total OCWA - Caramat	18,816	27,906	9,501	28,932	29,511	30,101	30,703	31,317	31,943	32,582	33,234	33,898	34,576
Sludge Beds - Greenstone													
Contractors	9,188	-	2,454	3,000	3,150	3,308	3,473	3,647	3,829	4,020	4,221	4,432	4,654
Licenses/Permits	61	7,271	1,282	1,000	1,020	1,040	1,061	1,082	1,104	1,126	1,149	1,172	1,195
Well Monitoring	3,027	-	-	5,000	5,100	5,202	5,306	5,412	5,520	5,631	5,743	5,858	5,975
Total Sludge Beds - Greenstone	12,276	7,271	3,736	9,000	9,270	9,550	9,840	10,141	10,453	10,777	11,113	11,462	11,825
Total Operating Expenditures	962,960	1,036,740	915,538	906,647	924,870	943,462	962,430	981,783	1,001,528	1,021,674	1,042,228	1,063,199	1,084,596
Capital Related													
Debtenture #1 (Principal + Interest)	169,807	169,807	169,807	169,807	169,807	169,807	169,807	169,807	169,807	169,807	169,807	169,807	169,807
Debtenture #2 (Principal + Interest)	311,280	311,280	311,280	311,280	311,280	311,280	311,280	311,280	311,280	311,280	311,280	311,280	311,280
Debtenture #3 (Principal + Interest)	96,081	96,081	96,081	96,081	96,081	96,081	96,081	96,081	96,081	96,081	96,081	96,081	96,081
Debtenture #4 (Principal + Interest)	-	-	-	17,585	17,585	17,585	17,585	17,585	17,585	17,585	17,585	17,585	17,585
Debtenture #5 (Principal + Interest)	-	-	-	-	-	7,620	7,620	7,620	7,620	7,620	7,620	7,620	7,620
Debtenture #6 (Principal + Interest)	-	-	-	-	-	-	-	-	-	-	-	-	-
Transfers to Capital Reserve	-	-	-	(69,801)	(20,829)	23,412	78,316	136,421	197,897	262,920	331,676	354,537	431,354
Total Capital Related	577,169	577,169	577,169	524,953	573,925	625,786	680,689	738,795	800,271	865,294	934,050	1,006,733	1,083,550
Total Expenditures	1,540,129	1,613,909	1,377,977	1,431,600	1,498,795	1,569,248	1,643,120	1,720,578	1,801,799	1,886,967	1,976,277	2,069,932	2,168,146
Revenues													
Sewer User Charges	905,650	953,900	1,083,165	1,125,300	1,181,565	1,240,643	1,302,675	1,367,809	1,436,200	1,508,010	1,583,410	1,662,581	1,745,710
Sewer Metered User Charges	113,569	146,149	160,204	166,600	171,598	176,746	182,048	187,510	193,135	198,929	204,897	211,044	217,375
Ginoogaming Sewer Charges	25,946	32,546	52,368	54,600	57,330	60,197	63,206	66,367	69,685	73,169	76,828	80,669	84,703
Reserve #58 Sewer Charges	47,130	54,116	61,152	63,600	66,780	70,119	73,625	77,306	81,172	85,230	89,492	93,966	98,664
Sewer Frontage	27,851	21,088	21,088	21,500	21,522	21,543	21,565	21,586	21,608	21,629	21,651	21,673	21,694
Total Revenue Sewer	1,120,146	1,207,799	1,377,977	1,431,600	1,498,795	1,569,248	1,643,120	1,720,578	1,801,799	1,886,967	1,976,277	2,069,932	2,168,146
Surplus/(Deficit)	(419,984)	(406,109)	(114,731)	-	-	-	-	-	-	-	-	-	-

3.4 CAPITAL BUDGET FORECASTS

The capital program includes amounts required for life cycle asset replacement or renewal. For the 2015-2024 period the TCA projects have been incorporated into the capital improvement plan. The capital needs have been inflated using the MCI of 2.99% (Appendix E).

Tables 12 and 13 provide for the (2015-2024) full capital expenditures and funding program by year for water and wastewater respectively.

Table 5 - Capital Expenditures and Funding Program (Water System)

Description	Total	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Capital Expenditures											
<i>Lifecycle Replacement</i>											
Water Treatment Plant Facilities	4,942,797	199,597	489,828	692,047	375,414	205,092	355,256	217,805	743,688	1,277,194	386,876
Watermains	2,302,265	-	2,280,492	-	-	-	21,772	-	-	-	-
Water Valves	-	-	-	-	-	-	-	-	-	-	-
Commercial Water Meters	77,243	77,243	-	-	-	-	-	-	-	-	-
Hydrants	513,556	-	-	-	-	-	-	506,487	-	7,069	-
Water Towers	25,672	-	-	25,672	-	-	-	-	-	-	-
Total Capital Expenditures	7,861,533	276,840	2,770,321	717,719	375,414	205,092	377,028	724,292	743,688	1,284,263	386,876
Capital Financing											
Grants	2,550,000	-	1,650,000	-	-	-	-	-	-	900,000	-
Development Charges	-	-	-	-	-	-	-	-	-	-	-
Debtenture Requirements	1,387,530	-	800,000	-	-	-	-	-	587,530	-	-
Levy	597,160	276,840	320,321	-	-	-	-	-	-	-	-
Reserves	3,326,841	0	(0)	717,719	375,414	205,092	377,028	724,292	156,158	384,263	386,876
Total Capital Financing	7,861,533	276,840	2,770,321	717,719	375,414	205,092	377,028	724,292	743,688	1,284,263	386,876

Table 6 - Capital Expenditures and Funding Program (Wastewater System)

Description	Total	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Capital Expenditures											
<i>Lifecycle Replacement</i>											
Wastewater Treatment Plant Facilities	4,007,270	76,475	1,442,489	348,710	320,983	101,156	73,042	352,816	708,966	582,634	-
Sewage Lift Pump Stations	644,209	-	57,277	82,477	30,602	38,054	238,671	38,418	-	19,959	138,751
Sanitary Sewer Mains	-	-	-	-	-	-	-	-	-	-	-
Sanitary Sewer Manholes	329,748	-	-	-	-	-	-	-	-	-	329,748
Total Capital Expenditures	4,981,227	76,475	1,499,766	431,187	351,585	139,209	311,713	391,234	708,966	602,593	468,499
Capital Financing											
Grants	1,430,000	-	990,000	-	-	-	-	-	-	440,000	-
Development Charges	-	-	-	-	-	-	-	-	-	-	-
Debtenture Requirements	490,000	-	65,000	-	-	-	-	-	425,000	-	-
Levy	1,695,247	76,475	444,766	431,187	351,585	-	-	391,234	-	-	-
Operating Contributions	-	-	-	-	-	-	-	-	-	-	-
Reserves	1,365,980	(0)	0	0	(0)	139,209	311,713	(0)	283,966	162,593	468,499
Total Capital Financing	4,981,227	76,475	1,499,766	431,187	351,585	139,209	311,713	391,234	708,966	602,593	468,499

3.5 REVENUE PROJECTIONS

The Municipality currently has in place a fixed charge for institution, commercial and industrial (ICI) connections with a volumetric charge for commercial users, in which, water consumption is billed per cubic meter and wastewater collection is a surcharge of 92% of water amount.

The rates for 2015 to 2024 were developed by applying the required percentage increase to each year, as compared to the previous year. The projected rate increases start in 2015, and continue to 2024.

The tables below show an annual water and wastewater fixed charge increase of 5.0%. Also, there is an annual increase of 5% in the minimum bill for commercial water and sewer metered customers for the period 2015-2024. The annual revenue for each was projected by increasing prior year's rate user fees to offset the annual costs plus annual surplus each year.

Table 7 - Water Rate Structure (2015-2024)

User Rates	2014 Actual	2015 Budget	2016 Projected	2017 Projected	2018 Projected	2019 Projected	2020 Projected	2021 Projected	2022 Projected	2023 Projected	2024 Projected
A) Residential Charge - Annual Fee											
Residential Flat Rate	713.16	748.80	786.24	825.55	866.83	910.17	955.68	1,003.46	1,053.64	1,106.32	1,161.63
Senior Flat Rate	641.88	673.92	707.62	743.00	780.15	819.15	860.11	903.12	948.27	995.69	1,045.47
Residential Flat Rate Water Only	713.16	748.80	786.24	825.55	866.83	910.17	955.68	1,003.46	1,053.64	1,106.32	1,161.63
Senior Flat Rate Water Only	641.88	673.92	707.62	743.00	780.15	819.15	860.11	903.12	948.27	995.69	1,045.47
Increase (%)		5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
B) Commercial Flat Rate - Annual Charge											
Bakery, Pizza House, Offices	1,136.76	1,193.60	1,253.28	1,315.94	1,381.74	1,450.83	1,523.37	1,599.54	1,679.52	1,763.49	1,851.67
Retail Stores/Offices	908.92	954.36	1,002.08	1,052.18	1,104.79	1,160.03	1,218.03	1,278.93	1,342.88	1,410.02	1,480.53
Service Station No Car Wash			-	-	-	-	-	-	-	-	-
Drycleaner-Laundromat Combined Restaurant			-	-	-	-	-	-	-	-	-
Geraldton Post Office/Gym	1,817.88	1,908.76	2,004.20	2,104.41	2,209.63	2,320.11	2,436.12	2,557.92	2,685.82	2,820.11	2,961.11
Nurse's Residence	2,075.96		-	-	-	-	-	-	-	-	-
Ontario Realty Corporation/Service Canada	3,295.92	3,460.72	3,633.76	3,815.44	4,006.22	4,206.53	4,416.85	4,637.70	4,869.58	5,113.06	5,368.71
Clarkim Enterprises/Silver Nugget	2,083.72	2,187.92	2,297.32	2,412.18	2,532.79	2,659.43	2,792.40	2,932.02	3,078.62	3,232.55	3,394.18
Legion/Canada Post	713.16	748.80	786.24	825.55	866.83	910.17	955.68	1,003.46	1,053.64	1,106.32	1,161.63
Martian Properties Ltd.	874.24	917.96	963.86	1,012.05	1,062.65	1,115.79	1,171.58	1,230.15	1,291.66	1,356.24	1,424.06
Havilah Holdings Ltd.	1,803.00	473.29	496.95	521.80	547.89	575.29	604.05	634.25	665.97	699.26	734.23
Hydro One, MTO			-	-	-	-	-	-	-	-	-
Dan's Business (no sewer)			-	-	-	-	-	-	-	-	-
Carwash (no sewer)			-	-	-	-	-	-	-	-	-
Eagle Logging Inc.	2,500.28	2,625.28	2,756.54	2,894.37	3,039.09	3,191.04	3,350.60	3,518.13	3,694.03	3,878.73	4,072.67
Long Lake Forest Products	3,272.00	3,436.36	3,608.18	3,788.59	3,978.02	4,176.92	4,385.76	4,605.05	4,835.30	5,077.07	5,330.92
Beardmore/Bank/Health Centre/LCBO Offices	865.72	909.00	954.45	1,002.17	1,052.28	1,104.90	1,160.14	1,218.15	1,279.05	1,343.01	1,410.16
Beardmore Superior Greenstone Dist.	5,527.04	5,803.40	6,093.57	6,398.25	6,718.16	7,054.07	7,406.77	7,777.11	8,165.97	8,574.26	9,002.98
Beardmore Commercial	1,242.00	1,304.12	1,369.33	1,437.79	1,509.68	1,585.17	1,664.42	1,747.65	1,835.03	1,926.78	2,023.12
Crest-Wind Hotel - Roxy 1	1,410.68	1,481.20	1,555.26	1,633.02	1,714.67	1,800.41	1,890.43	1,984.95	2,084.20	2,188.41	2,297.83
Crest-Wind Hotel - Roxy 2	2,824.44	2,965.68	3,113.96	3,269.66	3,433.15	3,604.80	3,785.04	3,974.29	4,173.01	4,381.66	4,600.74
Beardmore Shell Station	1,731.36	1,817.92	1,908.82	2,004.26	2,104.47	2,209.69	2,320.18	2,436.19	2,558.00	2,685.90	2,820.19
Nakina Tavern	1,357.32	1,425.20	1,496.46	1,571.28	1,649.85	1,732.34	1,818.96	1,909.90	2,005.40	2,105.67	2,210.95
Nakina Bed & Breakfast	1,131.16	1,187.72	1,247.11	1,309.46	1,374.93	1,443.68	1,515.87	1,591.66	1,671.24	1,754.80	1,842.54
Commercial/Retail - Flat Rate	713.16	748.80	786.24	825.55	866.83	910.17	955.68	1,003.46	1,053.64	1,106.32	1,161.63
Northwest Company	1,583.36		-	-	-	-	-	-	-	-	-
Laundromat/Variety Store	1,583.36	1,662.52	1,745.65	1,832.93	1,924.57	2,020.80	2,121.84	2,227.94	2,339.33	2,456.30	2,579.11
Nakina Ambulance 42% Actual			-	-	-	-	-	-	-	-	-
Increase (%)		5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
C) Commercial Metered - Annual Charge											
Metered Rate - Water (\$/m³)	2.57	2.65	2.73	2.81	2.90	2.98	3.07	3.16	3.26	3.36	3.46
Minimum Bill	713.16	748.80	786.24	825.55	866.83	910.17	955.68	1,003.46	1,053.64	1,106.32	1,161.63
Increase (%)		5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%

Table 8 - Wastewater Rate Structure (2015-2024)

User Rates	2014 Actual	2015 Budget	2016 Projected	2017 Projected	2018 Projected	2019 Projected	2020 Projected	2021 Projected	2022 Projected	2023 Projected	2024 Projected
A) Residential Charge - Annual Fee											
Residential Flat Sewer	656.04	688.92	723.37	759.53	797.51	837.39	879.26	923.22	969.38	1,017.85	1,068.74
Senior Flat Sewer	590.64	620.16	651.17	683.73	717.91	753.81	791.50	831.07	872.63	916.26	962.07
Residential Flat Rate Sewer Only	656.04	688.92	723.37	759.53	797.51	837.39	879.26	923.22	969.38	1,017.85	1,068.74
Senior Flat Rate Sewer Only	590.64	620.16	651.17	683.73	717.91	753.81	791.50	831.07	872.63	916.26	962.07
Increase (%)	15.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
B) Commercial Flat Rate - Annual Charge											
Bakery, Pizza House, Offices	1,045.76	1,098.04	1,152.94	1,210.59	1,271.12	1,334.67	1,401.41	1,471.48	1,545.05	1,622.31	1,703.42
Retail Stores/Offices	836.28	878.08	921.98	968.08	1,016.49	1,067.31	1,120.68	1,176.71	1,235.55	1,297.32	1,362.19
Service Station No Car Wash			-	-	-	-	-	-	-	-	-
Drycleaner-Laundromat Combined Restaurant	1,724.85		-	-	-	-	-	-	-	-	-
Geraldton Post Office/Gym	1,672.44	1,756.08	1,843.88	1,936.08	2,032.88	2,134.53	2,241.25	2,353.32	2,470.98	2,594.53	2,724.26
Nurse's Residence	2,196.37		-	-	-	-	-	-	-	-	-
Ontario Realty Corporation/Service Canada	3,032.24	3,183.84	3,343.03	3,510.18	3,685.69	3,869.98	4,063.48	4,266.65	4,479.98	4,703.98	4,939.18
Clarkim Enterprises/Silver Nugget	1,917.04	2,012.88	2,113.52	2,219.20	2,330.16	2,446.67	2,569.00	2,697.45	2,832.32	2,973.94	3,122.64
Legion/Canada Post	656.04	688.92	723.37	759.53	797.51	837.39	879.26	923.22	969.38	1,017.85	1,068.74
Hydro One, MTO			-	-	-	-	-	-	-	-	-
Eagle Logging Inc.	2,300.24	2,415.24	2,536.00	2,662.80	2,795.94	2,935.74	3,082.53	3,236.65	3,398.49	3,568.41	3,746.83
Long Lake Forest Products	3,010.92	3,161.48	3,319.55	3,485.53	3,659.81	3,842.80	4,034.94	4,236.69	4,448.52	4,670.95	4,904.49
Beardmore/Bank/Health Centre/LCBO Offices	796.52	836.36	878.18	922.09	968.19	1,016.60	1,067.43	1,120.80	1,176.84	1,235.68	1,297.47
Beardmore Superior Greenstone Dist.	5,084.88	5,339.13	5,606.08	5,886.39	6,180.71	6,489.74	6,814.23	7,154.94	7,512.69	7,888.32	8,282.74
Beardmore Commercial	1,142.64	1,199.79	1,259.78	1,322.77	1,388.91	1,458.35	1,531.27	1,607.83	1,688.23	1,772.64	1,861.27
Crest-Wind Hotel - Roxy 1	1,297.83	1,362.70	1,430.84	1,502.38	1,577.50	1,656.38	1,739.19	1,826.15	1,917.46	2,013.33	2,114.00
Crest-Wind Hotel - Roxy 2	2,598.48	2,728.43	2,864.85	3,008.09	3,158.49	3,316.42	3,482.24	3,656.35	3,839.17	4,031.13	4,232.68
Beardmore Shell Station	1,592.85	1,672.49	1,756.11	1,843.92	1,936.11	2,032.92	2,134.56	2,241.29	2,353.36	2,471.02	2,594.58
Nakina Tavern	1,248.73	1,311.18	1,376.74	1,445.58	1,517.86	1,593.75	1,673.44	1,757.11	1,844.97	1,937.22	2,034.08
Nakina Bed & Breakfast	1,040.67	1,092.70	1,147.34	1,204.70	1,264.94	1,328.19	1,394.60	1,464.33	1,537.54	1,614.42	1,695.14
Commercial/Retail - Flat Rate	656.11	688.90	723.34	759.51	797.48	837.36	879.23	923.19	969.35	1,017.81	1,068.70
Northwest Company	2,032.28		-	-	-	-	-	-	-	-	-
Laundromat/Variety Store	1,456.69	1,529.52	1,605.99	1,686.29	1,770.61	1,859.14	1,952.10	2,049.70	2,152.19	2,259.80	2,372.79
Nakina Ambulance 42% Actual			-	-	-	-	-	-	-	-	-
C) Commercial Metered - Annual Charge											
Metered Rate - sewer % of water amount	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%
Minimum Bill	656.04	688.92	723.37	759.53	797.51	837.39	879.26	923.22	969.38	1,017.85	1,068.74
Increase (%)		5.01%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%

3.6 WATER/WASTEWATER BILL COMPARISONS WITH OTHER COMMUNITIES

The projected water/wastewater bills for Greenstone are compared with bills for a number of communities in the vicinity, and to water/wastewater systems further away. The bill comparisons are set out in Table 7. The data show water bills based on 2014 and 2015 rates with different rate systems. It is possible that many of those with relatively low 2014 rates listed below, will also be forced to raise rates in the near future. Greenstone's rates are for January 1st 2015, and they are the most expensive in the table. Overall, the condition of the water/wastewater system is fairly good. Large capital investments are needed for the waterlines and sewerlines. Many communities, that have less expensive water now, may have to make major investments in new capital soon, and this will then move them to a more expensive placing in the table.

Table 9 - Water/Wastewater Bill Comparisons

Bill Comparisons in the North Region of Ontario, based on different rate structures		
Water/Wastewater (Residential)	Rate Structures (Only Residential)	Water/Wastewater Bill (Annual)
Elliot Lake	Flat Rate	\$ 564.00
Gore Bay	Flat Rate	\$ 715.00
Marathon	Flat Rate	\$ 617.40
Sault Ste. Marie (2015)	Metered	\$ 795.60
Timmins (2014)	Flat Rate	\$ 835.42
Red Rock (2015)	Two-Part Rate	\$ 863.55
North Bay (2015)	Flat Rate	\$ 922.42
Manitouwadge (2015)	Two-Part Rate	\$ 938.00
Schreiber (2014)	Flat Rate	\$ 962.76
Sudbury (2015)	Metered	\$ 1,023.17
Thunder Bay (2015)	Two-Part Rate	\$ 1,047.54
Kenora (2014)	Two-Part Rate	\$ 1,121.00
Greenstone (2015)	Flat Rate	\$ 1,437.72

Note: Based on Water Rate bylaw for each Municipality

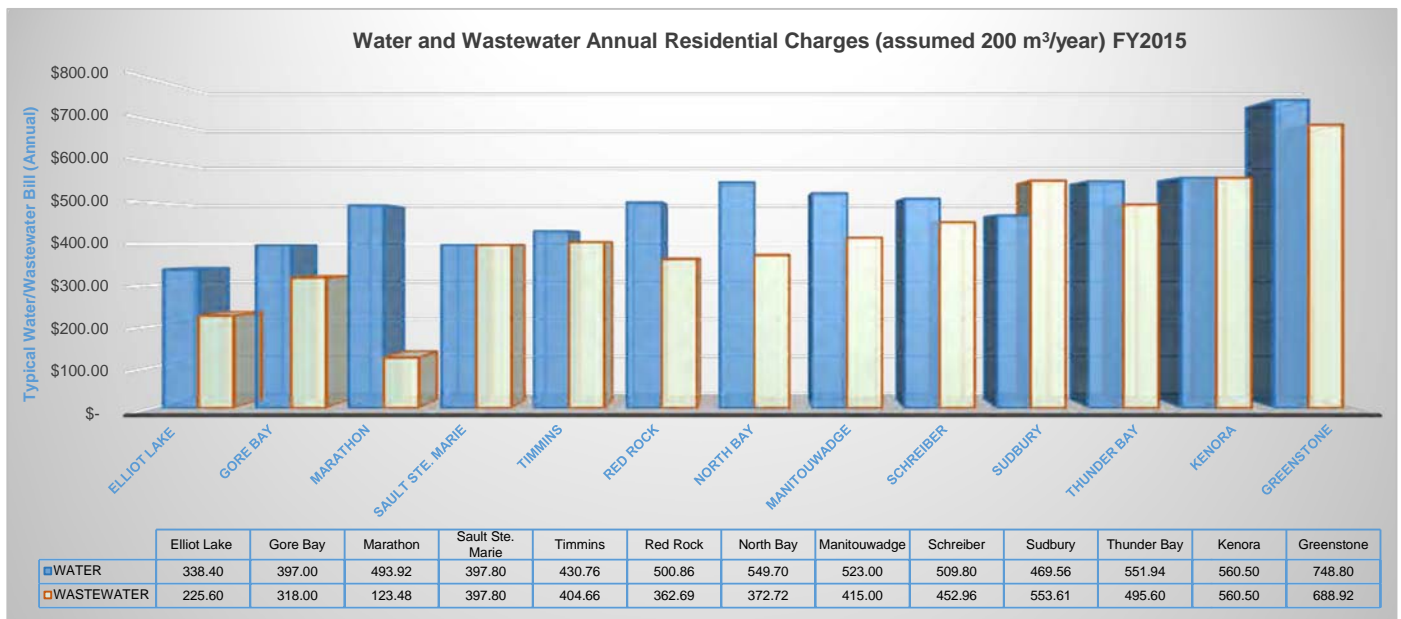


Figure 13 - Water and Wastewater Annual Charges

3.7 DEBT REPAYMENT

In many Ontario water systems, money has traditionally been borrowed in the form of debentures to provide upgrades. Utilizing debentures and loans allows principal and interest to be recovered over a period of time spread over a large number of future water users, rather than having the full cost burden fall on one group of water users at one time.

The Ministry of Municipal Affairs is the governing body that regulates the level of debt incurred by municipalities in Ontario. Ontario Regulations 403/02 establishes rules about Municipality's debt capacity, with a limit of 25% of the Municipality's revenue that to be allotted for servicing the debt.

The Municipality has three debentures acquired in December 15, 2009, November 1, 2006, and December 17, 2007, respectively. The table below summarized the debentures with the interest rates, payment frequency and length.

Table 10 - Debentures

Name	Description	Total	Principal	Interest
Debenture #1				
OMEIFA Geraldton/Caramat Upgrade	Caramat Water Treatment Plant Geraldton Sewer System Upgrade		391,700.00 2,400,000.00	
Total Borrowed Debt. 1	Annual Interest Rate 5.03%, Semi-Annual Payments, 25-year term	\$ 4,936,259.73	\$ 2791,700.00	\$ 2,144,559.73
Debenture #2				
OSIFA Geraldton Sewer Upgrade	Geraldton Sewage System Upgrade Caramat Water Treatment Plant and Distribution Upgrade Geraldton Sewage System Upgrade		2,655,000.00 145,000.00 1,782,837.00	
Total Borrowed Debt. 2	Annual Interest Rate 4.93%, Semi-Annual Payments, 25-year term	\$ 8,022,683.99	\$ 3,655,050.14	\$ 3,439,846.99
Debenture #3				
Geraldton Sewer Upgrade	Caramat Water Treatment Plant and Distribution Upgrade Geraldton Sewage System Upgrade Caramat Water Treatment Plant and Distribution Upgrade		255,000.00 1,362,163.00 300,000.00	
Total Borrowed Debt. 3	Annual Interest Rate 5.01%, Semi-Annual Payments, 25-year term	\$ 3,383,150.09	\$ 1,917,163.00	\$ 1,465,987.09

As of December 31, 2014, the Municipality has an outstanding debt balance on water and wastewater systems of \$7,729,731.16. During the period from 2015-2024, the projected renewal and replacement capital costs are proposed to be financed by contributions from user fees, the Municipality's current and future water and wastewater reserves, and projected loans. In addition to this, there are six (6) debentures projected in 2015-2024 period as follows:

Table 11 - Projected Schedule Debenture Payments

Debenture Year	System	Total	Debenture Payments	Duration (yrs.)	Time Frame	Percentage Rate
2014	water	301,508	35,346	10	2015 - 2024	3%
2016	water	800,000	93,784	10	2017 - 2026	3%
2022	water	587,530	68,876	10	2023 - 2032	3%
Subtotal		1,689,038				
2014	wastewater	150,000	17,585	10	2015 - 2024	3%
2016	wastewater	65,000	7,620	10	2017 - 2026	3%
2022	wastewater	425,000	49,823	10	2023 - 2032	3%
Subtotal		640,000				
Total Capital Financing		2,329,038				

It is noted that interest rates will vary from time to time. The following interest rates were available for the following term, based on a serial repayment schedule as of September 3, 2015 (Infrastructure Ontario). For this report, a 3.0% interest lending rate is used for the projected debentures starting in 2014.

Table 12 - Lender Rates for Municipalities

Indicative Lending Rates as of September 9, 2015	
Term	Serial
5 Year	1.50%
10 Year	2.24%
15 Year	2.75%
20 Year	3.08%
25 Year	3.29%

3.8 RESERVES

Reserves are quantities of funds, drawn from user fees and set aside to deal with unexpected and scheduled equipment repairs, and with the renewal of ageing water system components. Increasingly, municipalities are carrying out studies with a 30 to 100 year time frame to identify capital renewal or replacement projects that need to be sustainably funded, in large part, by reserves. The Municipality had water and wastewater system reserves of \$120,225.29 as of December, 2014. These reserves will be used to fund non-growth-related future water and wastewater capital renewal projects. The following table breaks down the existing reserves for 2014 carry forward:

Table 13 - Existing Reserves

From 2013 Reserve and Reserve Funds	
W/S Capital 3-2-32200-2380	\$ 16,145.17
Water Treatment 3-2-32200-2410	1,613.12
Plus 2014 capital accounts not spent charged to reserves	
2-5-20143-9344 Replacement 2" Galvanized Water Line in Trailer Park	30,000.00
2-5-20143-9346 Loop Waterline Olde Rd to 6" Main	33,467.00
2-5-20143-9508 Commercial Water Meters	15,000.00
2-5-20145-9513 Water Tower Refurbishing	24,000.00
Total 2014 Carry Forward	\$ 120,225.29

Note: For the eligible investments and related financial agreements (O.Reg 438/97 under Municipal Act, 2001), it was assumed a return of 1.20% on the closing balance using Canada Saving Bonds (CSB).

Appendix H provides for the Municipality of Greenstone's 2013 calculation on debt capacity, which is Schedule 81 of the Municipality's 2013 Financial Information Return (FIR). In Appendix H, the Municipality's maximum borrowing levels are in the \$25,694,587 - \$29,819,830 range, depending on the terms of the debenture. For illustration purposes at a rate of 7% interest, the Municipality would reach its debt repayment limit with issuance of \$29 million on additional debt (based on 20 year repayment terms).

3.9 TANGIBLE CAPITAL ASSETS (TCA) ANALYSIS

The Municipality's PSAB 3150 TCA data was used to develop the financial material related to the water and wastewater assets which include the following:

- Water and wastewater treatment plant assets including the land, buildings and equipment. In terms of the equipment, a breakdown of the water treatment plant is necessary to determine the depreciation expense of every component instead of taking one historical cost. For example, in the TCA policy, a pump house for the water category has a useful life of 20 years. Therefore, it is not right to depreciate this asset in its useful life when there are other components that have less remaining useful years.
- Also, linear assets such as watermains, valves, hydrants and service connections were taken into consideration.
- The useful life of the assets was taken from the TCA policy and corroborated with engineering experience.
- TCA policy was followed for the amortization of new assets and straight line depreciation was used at the beginning of the year of acquisition.
- Fully depreciated assets are being used with no asset removals.
- New assets were acquired for the water system in 2015-2020 period.
- Some future projects are deemed to be operational because they do not meet the definition of the TCA. Therefore, they are considered as operational expense in the financial statements.

The TCA consolidated information is summarized in Tables 14 and 15 respectively. In 2014, the current book value of the water assets is about \$6,756,532 increasing to \$8,037,994 by 2024. Therefore, the water system would be 36% depreciated by 2024. This suggests the assets are approaching to half of their useful life expectancies.

Table 14 - TCA (Water Only)

TCA	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Historical Cost	14,450,584	14,450,584	14,727,423	17,497,744	18,215,463	18,590,877	18,795,968	19,172,997	19,897,289	20,640,976	21,925,240
Acquisitions		276,839	2,770,321	717,719	375,414	205,092	377,028	724,292	743,688	1,284,263	386,876
Disposals											
Closing TCA balance (HC)	14,450,584	14,727,423	17,497,744	18,215,463	18,590,877	18,795,968	19,172,997	19,897,289	20,640,976	21,925,240	22,312,115
Accumulated Amortization (Beginning)	7,358,054	7,694,052	8,194,424	8,705,870	9,328,128	9,979,095	10,645,079	11,319,266	12,008,535	12,726,775	13,474,763
Amortization Expense	335,998	500,372	511,446	622,258	650,967	665,984	674,187	689,268	718,240	747,988	799,358
Amortization on Disposal	-										
Accumulated Amortization (Ending)	7,694,052	8,194,424	8,705,870	9,328,128	9,979,095	10,645,079	11,319,266	12,008,535	12,726,775	13,474,763	14,274,121
Net Book Value	6,756,532	6,532,999	8,791,874	8,887,335	8,611,781	8,150,890	7,853,730	7,888,754	7,914,201	8,450,477	8,037,994

Similarly, the current book value of the wastewater assets is about \$8,622,682 increasing to \$8,641,501 by 2024. Therefore, the water system would be 41.35% depreciated by 2024. This suggests the assets are approaching to half of their useful life expectancies.

Table 15 - TCA (Wastewater Only)

TCA	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Historical Cost	14,236,293	15,914,428	15,990,903	17,490,669	17,921,856	18,273,441	18,412,650	18,724,363	19,115,597	19,824,563	20,427,156
Acquisitions	1,678,135	76,475	1,499,766	431,187	351,585	139,209	311,713	391,234	708,966	602,593	468,499
Disposals											
Closing TCA balance (HC)	15,914,428	15,990,903	17,490,669	17,921,856	18,273,441	18,412,650	18,724,363	19,115,597	19,824,563	20,427,156	20,895,655
Accumulated Amortization (Beginning)	6,954,436	7,291,746	7,696,181	8,103,676	8,571,161	9,055,893	9,544,689	10,059,054	10,575,886	11,108,369	11,669,209
Amortization Expense	337,310	404,435	407,494	467,485	484,733	498,796	504,364	516,833	532,482	560,841	584,945
Amortization on Disposal	-	-	-	-	-	-	-	-	-	-	-
Accumulated Amortization (Ending)	7,291,746	7,696,181	8,103,676	8,571,161	9,055,893	9,554,689	10,059,054	10,575,886	11,108,369	11,669,209	12,254,154
Net Book Value	8,622,682	8,294,721	9,386,993	9,350,695	9,217,548	8,857,961	8,665,309	8,539,711	8,716,194	8,757,947	8,641,501

3.10 LEAD PIPE REPLACEMENT

The Municipality water supply system has no lead pipes. The water system is constantly tested for lead and other impurities and tests results show no lead contamination exists in the system.

However, if the test results indicate lead levels in your water, water service connections will be replaced at the earliest convenience with other-water-related repairs. Therefore, there are no noteworthy financial costs linked to lead pipe replacement.

4. WATER AND WASTEWATER FINANCIAL PLAN

The financial plan guidelines were used to select the method for preparing the Municipality of Greenstone Drinking Water. These steps include the determination of the current period expenses and forecast future period expense; determination and forecasting capital expenditure needs; the identification of all current revenue sources and forecast revenues; and the preparation of the financial statements.

For the current expenses, three categories were included for the purpose of this financial plan: operating costs, interest, and amortization. The current period operating expenses were determined from the Municipality's 2015 unofficial budget, which also included expense details for the years 2012, 2013 and 2014. Further information relating to the assumed rates of increase for future operating expenses can be found in the Notes to the Financial Plan.

In the event that the Municipality should determine that there is a need to incur new debt, then the forecasted interest expense will require revision. The annual amortization expenses were calculated using the straight-line method and were based on PSAB information provided by the Municipality, as well as the estimated useful lives and historic costs of the assets. Last but not least, the capital expenditures and the useful lives of all the assets included in the projections were provided by the Municipality.

4.1 STATEMENT OF FINANCIAL POSITION

The Statement of Financial Position shows the assets, liabilities, and accumulated surplus of the Municipality's water and wastewater systems. The net financial assets/debt is defined as the difference between financial assets and liabilities; which provides an indication of the system's future revenue requirement. Appendix A indicates that from 2014 to 2024, the net financial asset position of the Municipality's water system is expected to increase from \$189,265 in 2014 to a net financial asset position of \$942,173 in 2024. In addition to this, the total change in net financial asset has an asset position of \$46,990. A net financial asset position means that the financial assets are greater than liabilities, and it implies that enough resources exist in the system to finance future operations within the time period of these projections.

The tangible capital asset balance is another important indicator. Generally, an increase in the tangible capital asset balance indicates the acquisition of assets either through purchase by the Municipality or contribution/donation by a third party. A decrease in the tangible capital asset balance can indicate a disposal, write down, or use of assets. A use of assets usually results in an increase in accumulated amortization where annual amortization expenses arise as a result of allocating the cost of the asset to operations over the asset's useful life. Also, in Appendix A, the net financial asset position of the Municipality's wastewater system is expected to increase from a debt position of \$8,604,692 in 2014 to a net financial debt position of \$5,419,974 in 2024. In addition to this, the total change in net financial assets has debt position of \$198,772. Finally, Appendix A shows that tangible capital assets for the wastewater system are expected to increase by \$1,576,104 over the 10-year forecasted period.

4.2 STATEMENT OF OPERATIONS

The Statement of Operations is a summary of the revenues and expenses generated by the water and wastewater systems for a given period. The annual surplus/deficit determines whether the revenues generated were enough to meet the expenses incurred and in turn, whether net financial assets have been maintained or depleted. The Statement of Operations (Appendix B) shows an annual deficit in 2014 of \$ 90,662 increasing to an annual surplus in 2024 of \$72,108. Similarly, accumulated end of year surplus is projected to increase from 2014 to 2024. An annual surplus provides sufficient funding to manage non-expense costs such as tangible capital asset acquisitions, reserve/reserve fund transfers and debt principal payments.

The accumulated surplus/deficit is a significant indicator that measures whether the available net resources are enough to provide future water services. An accumulated deficit means that resources are insufficient to provide for such services. As a result, borrowing or rate increases are needed to finance annual deficits. From Appendix B, it can be seen that the water financial plan proposes to add \$1,105,349 to a 2014 accumulated surplus of \$7,036,458 over the forecasted period. This accumulated surplus, as indicated in Appendix B, primarily comprises reserve and reserve fund balances as well as historic investments in tangible capital assets.

In addition to this, the wastewater system in Appendix B provides an annual deficit forecasted to increase from an annual deficit of \$222,294 in 2014 to an annual surplus of \$283,863 in 2024. The accumulated surplus/deficit is a significant indicator that measures whether the available net resources are enough to provide future water services. An accumulated deficit means that resources are insufficient to provide for such services. As a result, borrowing or rate increases are needed to finance annual deficits. From Appendix B, it can be seen that the wastewater financial plan proposes to increase \$1,377,331 to a 2014 accumulated surplus of \$240,284 over the forecasted period.

4.3 STATEMENT OF CHANGE IN NET FINANCIAL ASSETS/DEBT

The Statement of Change in Net Financial Assets/Debt indicates whether the revenue generated was sufficient to provide for operating and non-financial asset costs such as prepaid expenses, inventory supplies, tangible capital assets, etc. This Statement explains the variance between the annual surplus/deficit and the change in net financial assets/debt for the period. The Statement of Change in Net Financial Position (Appendix C) indicates that tangible capital asset acquisitions (net of amortization) exceeds the forecasted accumulated annual surplus for 2014 through 2024, resulting in a decrease in net financial assets. A decrease in the net financial assets decreases the opportunity for a long term plan of funding tangible capital asset acquisitions through accumulated surplus (i.e. reserves and reserve funds). As noted in the Statement of Financial Position, the total change in net financial asset has a net debt position of \$198,772. This implies that not enough resources exist in the system to finance future operations through an accumulated surplus such as revenues or reserve funds.

Equally, in Appendix C for the wastewater system, it indicates that tangible capital asset acquisitions (net of amortization) exceeds the forecasted accumulated annual surplus for 2014. In each of the other forecast years, forecasted annual surplus exceed forecasted tangible capital asset acquisitions resulting in a decrease in net financial assets.

4.4 STATEMENT OF CASH FLOW

The Statement of Cash Flow is a summary of the way in which the water system is projected to generate and use cash resources during the planning period. The transactions that provide/use cash are categorized such as operating, capital, investing, and financing activities as shown in Appendix D. Since this statement focuses on the cash aspect of these transactions it is the linkage between cash and accrual based reporting. Appendix D illustrates that cash from operations will fund capital transactions (i.e. tangible capital asset acquisitions), pay down any debt, and build enough reserve funds over 2015-2024. The financial plan projects the cash position of the Municipality's water system to increase from a balance of \$120,225 at the beginning of 2014, to a surplus position just under \$1,273,300 by the end of 2024.

Similarly, in Appendix D for the wastewater system, the Statement of Cash Flow illustrates that cash from operations will not fund capital transactions (i.e. tangible capital asset acquisitions), pay down any debt, and not build enough reserve funds over 2014-2024 period. The financial plan, projects the cash position of the Municipality's wastewater system to increase from a balance of \$0 at the beginning of 2014 to a deficit balance of \$1,282,941 by the end of 2024.

5. NOTES TO FINANCIAL PLAN

Opening cash balances are necessary to complete the Statement of Cash Flows and balance the Statement of Financial Position. Actual information of cash balances in the water and wastewater systems may not be fully found in the Municipality's ledgers. Therefore, one possibility is to assume opening cash balances equal ending reserves and cash funds from previous year.

5.1 CASH, RECEIVABLES AND PAYABLES

It is assumed that the opening cash balances required to complete the financial plan are equal to the ending water and wastewater system reserves of \$120,225.29 as of December, 2014 (See Table 13).

Historical water account receivables were identified by the Municipality's staff, which were used to project system cash, receivable and payable balances throughout the forecast period. The account receivable for water and wastewater at the end of 2014 was \$771,054.

5.2 DEBT

As of December 31, 2014, the Municipality has an outstanding debt balance on water and wastewater systems of \$7,729,731.16. During the period from 2015-2024, the projected renewal and replacement capital costs are proposed to be financed by contributions from user fees, the Municipality's current and future water and wastewater reserves, and projected loans. In addition to the existing debentures, there are six (6) debentures projected in 2015-2024 period with the corresponding schedule of debenture payments that can be found in Table 11.

5.3 DEFERRED REVENUE

Deferred revenue is made up of gas tax reserve and water development charge reserve fund balances which are considered to be a liability for financial reporting purposes until the funds are used to emplace the works for which they have been collected.

5.4 TANGIBLE CAPITAL ASSETS (TCA)

The amortization of existing assets is a non-cash annual cost that mirrors the annual use of assets until the end of their respective useful lives. It should be distinguished that since amortization is based on the historical cost at the time the asset was placed in service, it does not account for inflation since the year of installation. Therefore replacement cost estimates based on indexing historical costs to the replacement year are used for projecting future asset replacement costs.

The Municipality's PSAB 3150 TCA data was used to develop the financial information an asset replacement forecasts related to the Water system. The TCA projections are based on the following:

- Amortization is calculated based on using the straight-line approach with no amortization in the year amortization in the year of acquisition or construction.
- The Municipality staff provided the useful life on acquisitions.
- Write-offs are assumed to equal \$0 for each year in the forecast period.
- Tangible capital assets are shown on a net basis. It is assumed that disposal occur when the asset is being replaced.
- Gains/losses on disposal are assumed to be \$0.
- Residual value is assumed to be \$0 for all assets contained within the forecast period.
- Contributed Assets, are deemed to be insignificant or unknown during the forecast period and are therefore assumed to be \$0.
- The summary of balance of tangible capital assets are presented in presented in Tables 14 and 15.

5.5 INTEREST EARNED

Interest earned, represents the interest earned on the Municipality's bank account.

5.6 OPERATING EXPENSES

Capital expenditures not meeting the definition of tangible capital assets are classified as operating expenses and are expensed in the year in which they occur.

5.7 OTHER REVENUE

Other revenue includes interest, service, charges, connection fees, penalties and other non-operating general revenues.

6. RECOMMENDATIONS

As presented in this report, capital and operating expenditures have been identified and forecasted over a ten-year period for the water/wastewater rate service consistent with the requirements of O. Reg. 453/07 and SWSSA. While a financial plan is mandatory, the Municipality should rely on the information contained in the 2015 Water/Wastewater Rate Study because it establishes the Municipality's requirements in the long-term.

Our recommendations are as follows:

- The Municipality approve this Water and Wastewater Financial Plan to provide a self-sustainable water/wastewater infrastructure consistent with O.Reg 453/07 and SWSSA.
- The Municipality continue to revise the Water Rate By-Law every five years as per the provincial requirements.
- The Municipality apply the projected debentures, levies, grants and reserves at different capital renewal points within the Financial Plan.

7. PROCESS FOR APPROVAL AND SUBMISSION

The requirement to prepare the Financial Plan is provided in Section 32 (5) 2 ii of the SDWA. Proof of the preparation of a financial plan is one of the submission requirements for municipal drinking water licensing, and upon completion must be submitted to the Ministry of the Environment. As part of O. Reg. 453/07. The process established for approval of the plan, public circulation, and filing is provided as follows:

1. The financial plan must be approved by resolution of the municipality who owns the drinking water system, or the governing body of the owner (O. Reg. 453/07, Section 3 (1) 1).
2. The owner of the drinking water system must provide a notice advertising the availability of the financial plan. The plan must be made available to the public upon request and free of charge. The plan must also be made available to the public on the municipality's website (O. Reg. 453/07, Section 3 (1) 5).
3. The owner of the drinking water system must provide a copy of the financial plan to the Director of Policy Branch, Ministry of Municipal Affairs and Housing (O. Reg. 453/07, Section 3 (1) 6).
4. The Council Resolution approving the financial plan shall be submitted to the Ministry of the Environment as part of the application for a municipal drinking water license (SDWA, Section 32 (5) 2 ii).

All of which is respectfully submitted,

Infrastructure Solutions Inc. Per:



Neil Roberts
President
Infrastructure Solutions Inc

APPENDIX A: STATEMENT OF FINANCIAL POSITION

Municipality of Greenstone
Statement of Financial Position (Water)
Unaudited: For Financial Planning Purposes Only
2014-2024

Water System	Notes	Forecast										
		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Financial Assets												
Cash	5.1	629,913	848,252	1,113,318	620,581	527,361	665,374	696,268	448,830	842,800	1,017,636	1,272,529
Accounts Receivable	5.1	778,765	786,552	794,418	802,362	810,386	818,489	826,674	834,941	843,290	851,723	860,241
Due from Federal Government - GST		-	-	-	-	-	-	-	-	-	-	-
Due from Municipality		-	-	-	-	-	-	-	-	-	-	-
Investments		-	-	-	-	-	-	-	-	-	-	-
Inventory for resale		-	-	-	-	-	-	-	-	-	-	-
Total Financial Assets		1,408,678	1,634,804	1,907,735	1,422,943	1,337,746	1,483,864	1,522,942	1,283,771	1,686,090	1,869,359	2,132,770
Liabilities												
Accounts Payable		-	-	-	-	-	-	-	-	-	-	-
Long-Term Liabilities (principal only)	5.2	1,219,413	1,162,184	1,902,598	1,770,767	1,634,273	1,492,945	1,346,598	1,195,041	1,625,603	1,411,777	1,190,597
Deferred revenue - obligatory reserves	5.3	-	-	-	-	-	-	-	-	-	-	-
Deferred revenue - other		-	-	-	-	-	-	-	-	-	-	-
Other (Development Charge Reserves-Deferred Revenue)		-	-	-	-	-	-	-	-	-	-	-
Total Financial Liabilities		1,219,413	1,162,184	1,902,598	1,770,767	1,634,273	1,492,945	1,346,598	1,195,041	1,625,603	1,411,777	1,190,597
Net Financial Assets/(Net Debt)		189,265	472,620	5,138	(347,824)	(296,527)	(9,082)	176,344	88,730	60,487	457,582	942,173
Non-Financial Assets												
Tangible Capital Assets	5.4	14,450,584	14,727,423	17,497,744	18,215,463	18,590,877	18,795,968	19,172,997	19,897,289	20,640,976	21,925,240	22,312,115
Accumulated Amortization		(7,694,052)	(8,194,424)	(8,705,870)	(9,328,128)	(9,979,095)	(10,645,079)	(11,319,266)	(12,008,535)	(12,726,775)	(13,474,763)	(14,274,121)
Total Non-Financial Assets		6,756,532	6,532,999	8,791,874	8,887,335	8,611,781	8,150,890	7,853,730	7,888,754	7,914,201	8,450,477	8,037,994
Accumulated Surplus / (Deficit)		6,945,797	7,005,619	8,797,012	8,539,510	8,315,254	8,141,808	8,030,075	7,977,484	7,974,688	8,908,059	8,980,167

Financial Indicators	Total Change	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
1) Increase/(Decrease) in Net Financial Assets	46,990	245,336	283,356	(467,482)	(352,962)	51,296	287,446	185,426	(87,614)	(28,243)	397,095	484,591
2) Increase/(Decrease) in Tangible Capital Assets	1,058,360	(335,998)	(223,533)	2,258,875	95,460	(275,553)	(460,892)	(297,159)	35,024	25,447	536,276	(412,483)
3) Increase/(Decrease) in Accumulated Surplus	1,105,349	(90,662)	59,823	1,791,393	(257,502)	(224,257)	(173,446)	(111,733)	(52,591)	(2,796)	933,371	72,108

Net Financial Assets /(Debt) for 2014	(56,072)
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Accounts Receivable, ending 2014	771,054
Accounts Payable & Accrued Liabilities, ending 2014	-

Municipality of Greenstone
Statement of Financial Position (Wastewater)
Unaudited: For Financial Planning Purposes Only
2014-2024

Wastewater System	Notes	Forecast										
		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Financial Assets												
Cash		(1,642,866)	(1,712,666)	(1,733,495)	(1,710,083)	(1,631,767)	(1,634,555)	(1,748,371)	(1,485,450)	(1,437,740)	(1,245,796)	(1,282,941)
Accounts Receivable		-	-	-	-	-	-	-	-	-	-	-
Due from Federal Government - GST		-	-	-	-	-	-	-	-	-	-	-
Due from Municipality		-	-	-	-	-	-	-	-	-	-	-
Investments		-	-	-	-	-	-	-	-	-	-	-
Inventory for resale		-	-	-	-	-	-	-	-	-	-	-
Total Financial Assets		(1,642,866)	(1,712,666)	(1,733,495)	(1,710,083)	(1,631,767)	(1,634,555)	(1,748,371)	(1,485,450)	(1,437,740)	(1,245,796)	(1,282,941)
Liabilities												
Accounts Payable		-	-	-	-	-	-	-	-	-	-	-
Long-Term Liabilities (principal only)	5.2	6,961,826	6,707,466	6,505,573	6,219,855	5,920,159	5,605,794	5,276,032	4,930,113	4,992,235	4,574,487	4,137,033
Deferred revenue - obligatory reserves	5.3	-	-	-	-	-	-	-	-	-	-	-
Deferred revenue - other		-	-	-	-	-	-	-	-	-	-	-
Other (Development Charge Reserves-Deferred Revenue)		-	-	-	-	-	-	-	-	-	-	-
Total Financial Liabilities		6,961,826	6,707,466	6,505,573	6,219,855	5,920,159	5,605,794	5,276,032	4,930,113	4,992,235	4,574,487	4,137,033
Net Financial Assets/(Net Debt)		(8,604,692)	(8,420,132)	(8,239,068)	(7,929,938)	(7,551,927)	(7,240,348)	(7,024,403)	(6,415,563)	(6,429,975)	(5,820,283)	(5,419,974)
Non-Financial Assets												
Tangible Capital Assets	5.4	15,914,428	15,990,903	17,490,669	17,921,856	18,273,441	18,412,650	18,724,363	19,115,597	19,824,563	20,427,156	20,895,655
Accumulated Amortization		(7,291,746)	(7,696,181)	(8,103,676)	(8,571,161)	(9,055,893)	(9,554,689)	(10,059,054)	(10,575,886)	(11,108,369)	(11,669,209)	(12,254,154)
Total Non-Financial Assets		8,622,682	8,294,721	9,386,993	9,350,695	9,217,548	8,857,961	8,665,309	8,539,711	8,716,194	8,757,947	8,641,501
Accumulated Surplus / (Deficit)		17,990	(125,410)	1,147,925	1,420,757	1,665,621	1,617,612	1,640,907	2,124,148	2,286,219	2,937,664	3,221,527

Financial Indicators	Total Change	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
1) Increase/(Decrease) in Net Financial Assets	(198,772)	(1,563,119)	184,562	181,064	309,130	378,013	311,578	215,946	608,840	(14,413)	609,693	400,309
2) Increase/(Decrease) in Tangible Capital Assets	1,576,104	1,340,825	(327,961)	1,092,272	(36,298)	(133,148)	(359,587)	(192,651)	(125,599)	176,484	41,753	(116,446)
3) Increase/(Decrease) in Accumulated Surplus	1,377,331	(222,294)	(143,399)	1,273,336	272,832	244,865	(48,009)	23,295	483,241	162,071	651,445	283,863

Net Financial Assets /(Debt) for 2014	(7,041,573)
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Accounts Receivable, ending 2014	112,394
Accounts Payable & Accrued Liabilities, ending 2014	-

APPENDIX B: STATEMENT OF OPERATIONS

**Municipality of Greenstone
Statement of Operations (Water)
Unaudited: For Financial Planning Purposes Only
2014-2024**

Water System	Notes	Forecast										
		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Revenue												
Base Charge Revenue		1,686,887	1,747,620	1,824,547	1,909,140	1,997,953	2,091,197	2,189,094	2,291,875	2,399,786	2,513,081	2,632,031
Rate Base Revenue		-	-	-	-	-	-	-	-	-	-	-
Earned Deferred Revenue		-	-	-	-	-	-	-	-	-	-	-
Other Revenue	5.7		276,839	1,970,321	-	-	-	-	-	-	900,000	-
Total Revenues		1,686,887	2,024,459	3,794,868	1,909,140	1,997,953	2,091,197	2,189,094	2,291,875	2,399,786	3,413,081	2,632,031
Expenses												
Operating Expenses	(See Table3)	1,394,482	1,409,633	1,439,755	1,470,568	1,502,091	1,534,343	1,567,342	1,601,109	1,635,664	1,671,028	1,707,223
Interest on Debt		47,069	54,631	52,275	73,815	69,152	64,317	59,298	54,089	48,678	60,695	53,342
Amortization		335,998	500,372	511,446	622,258	650,967	665,984	674,187	689,268	718,240	747,988	799,358
Loss on Sale of Tangible Capital Assets		-	-	-	-	-	-	-	-	-	-	-
Other		-	-	-	-	-	-	-	-	-	-	-
Total Expenses		1,777,549	1,964,636	2,003,475	2,166,641	2,222,210	2,264,643	2,300,827	2,344,466	2,402,582	2,479,711	2,559,923
Annual Surplus / (Deficit)		(90,662)	59,823	1,791,393	(257,502)	(224,257)	(173,446)	(111,733)	(52,591)	(2,796)	933,371	72,108
Accumulated Surplus/ (Deficit), beg. of year		7,036,458	6,945,797	7,005,619	8,797,012	8,539,510	8,315,254	8,141,808	8,030,075	7,977,484	7,974,688	8,908,059
Accumulated Surplus / (Deficit), end of year		6,945,797	7,005,619	8,797,012	8,539,510	8,315,254	8,141,808	8,030,075	7,977,484	7,974,688	8,908,059	8,980,167

Financial Indicator	Total Change	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Increase/(decrease) in Accumulated Surplus	1,105,349	(90,662)	59,823	1,791,393	(257,502)	(224,257)	(173,446)	(111,733)	(52,591)	(2,796)	933,371	72,108

**Municipality of Greenstone
Statement of Operations (Wastewater)
Unaudited: For Financial Planning Purposes Only
2014-2024**

Wastewater System	Notes	Forecast										
		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Revenue												
Base Charge Revenue		1,377,977	1,431,600	1,498,795	1,569,248	1,643,120	1,720,578	1,801,799	1,886,967	1,976,277	2,069,932	2,168,146
Rate Base Revenue		-	-	-	-	-	-	-	-	-	-	-
Earned Deferred Revenue		-	-	-	-	-	-	-	-	-	-	-
Other Revenue	5.7		76,475	1,434,766	431,187	351,585	-	-	391,234	-	440,000	-
Total Revenues		1,377,977	1,508,075	2,933,561	2,000,435	1,994,705	1,720,578	1,801,799	2,278,201	1,976,277	2,509,932	2,168,146
Expenses												
Operating Expenses	(See Table4)	915,538	906,647	924,870	943,462	962,430	981,783	1,001,528	1,021,674	1,042,228	1,063,199	1,084,596
Interest on Debt		347,422	340,392	327,860	316,656	302,677	288,007	272,612	256,454	239,497	234,448	214,742
Amortization		337,310	404,435	407,494	467,485	484,733	498,796	504,364	516,833	532,482	560,841	584,945
Loss on Sale of Tangible Capital Assets		-	-	-	-	-	-	-	-	-	-	-
Other		-	-	-	-	-	-	-	-	-	-	-
Total Expenses		1,600,271	1,651,474	1,660,224	1,727,603	1,749,839	1,768,586	1,778,504	1,794,960	1,814,207	1,858,487	1,884,283
Annual Surplus / (Deficit)		(222,294)	(143,399)	1,273,336	272,832	244,865	(48,009)	23,295	483,241	162,071	651,445	283,863
Accumulated Surplus / (Deficit), beg. of year		240,284	17,990	(125,410)	1,147,925	1,420,757	1,665,621	1,617,612	1,640,907	2,124,148	2,286,219	2,937,664
Accumulated Surplus / (Deficit), end of year		17,990	(125,410)	1,147,925	1,420,757	1,665,621	1,617,612	1,640,907	2,124,148	2,286,219	2,937,664	3,221,527

Financial Indicator	Total Change	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Increase/(decrease) in Accumulated Surplus	1,377,331	(222,294)	(143,399)	1,273,336	272,832	244,865	(48,009)	23,295	483,241	162,071	651,445	283,863

APPENDIX C: STATEMENT OF CHANGE IN NET FINANCIAL POSITION

Municipality of Greenstone
Statement of Change in Net Financial Position (Water)
Unaudited: For Financial Planning Purposes Only
2014-2024

Water System	Notes	Forecast										
		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Annual Surplus/(Deficit)		(90,662)	59,823	1,791,393	(257,502)	(224,257)	(173,446)	(111,733)	(52,591)	(2,796)	933,371	72,108
Less: Acquisition of Tangible Capital Assets	(See Table 14)	-	(276,839)	(2,770,321)	(717,719)	(375,414)	(205,092)	(377,028)	(724,292)	(743,688)	(1,284,263)	(386,876)
Add: Amortization of Tangible Capital Assets	(See Table 14)	335,998	500,372	511,446	622,258	650,967	665,984	674,187	689,268	718,240	747,988	799,358
(Gain)/Loss on disposal of Tangible Capital Assets (exceptions provided by staff)		-	-	-	-	-	-	-	-	-	-	-
Add: Proceeds on sale of Tangible Capital Assets		-	-	-	-	-	-	-	-	-	-	-
Add: Write-downs of Tangible Capital Assets		-	-	-	-	-	-	-	-	-	-	-
Subtotal		245,336	283,356	(467,482)	(352,962)	51,296	287,446	185,426	(87,614)	(28,243)	397,095	484,591
Less: Acquisition of supplies inventory		-	-	-	-	-	-	-	-	-	-	-
Less: Acquisition of prepaid expenses		-	-	-	-	-	-	-	-	-	-	-
Add: Consumption of supplies inventory		-	-	-	-	-	-	-	-	-	-	-
Add: Use of prepaid expenses		-	-	-	-	-	-	-	-	-	-	-
Subtotal		-	-	-	-	-	-	-	-	-	-	-
Increase/(Decrease) in Net Financial Assets/(Net Debt)		245,336	283,356	(467,482)	(352,962)	51,296	287,446	185,426	(87,614)	(28,243)	397,095	484,591
Net Financial Assets/(Net Debt), beginning of year		(56,072)	189,265	472,620	5,138	(347,824)	(296,527)	(9,082)	176,344	88,730	60,487	457,582
Net Financial Assets/(Net Debt), end of year		189,265	472,620	5,138	(347,824)	(296,527)	(9,082)	176,344	88,730	60,487	457,582	942,173

Net Financial Assets/(Net Debt), end of year for 2014	(56,072)
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Municipality of Greenstone
Statement of Change in Net Financial Position (Wastewater)
Unaudited: For Financial Planning Purposes Only
2014-2024

Wastewater System	Notes	Forecast										
		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Annual Surplus/(Deficit)		(222,294)	(143,399)	1,273,336	272,832	244,865	(48,009)	23,295	483,241	162,071	651,445	283,863
Less: Acquisition of Tangible Capital Assets	(See Table 15)	(1,678,135)	(76,475)	(1,499,766)	(431,187)	(351,585)	(139,209)	(311,713)	(391,234)	(708,966)	(602,593)	(468,499)
Add: Amortization of Tangible Capital Assets	(See Table 15)	337,310	404,435	407,494	467,485	484,733	498,796	504,364	516,833	532,482	560,841	584,945
(Gain)/Loss on disposal of Tangible Capital Assets (exceptions provided by staff)		-	-	-	-	-	-	-	-	-	-	-
Add: Proceeds on sale of Tangible Capital Assets		-	-	-	-	-	-	-	-	-	-	-
Add: Write-downs of Tangible Capital Assets		-	-	-	-	-	-	-	-	-	-	-
Subtotal		(1,563,119)	184,562	181,064	309,130	378,013	311,578	215,946	608,840	(14,413)	609,693	400,309
Less: Acquisition of supplies inventory		-	-	-	-	-	-	-	-	-	-	-
Less: Acquisition of prepaid expenses		-	-	-	-	-	-	-	-	-	-	-
Add: Consumption of supplies inventory		-	-	-	-	-	-	-	-	-	-	-
Add: Use of prepaid expenses		-	-	-	-	-	-	-	-	-	-	-
Subtotal		-	-	-	-	-	-	-	-	-	-	-
Increase/(Decrease) in Net Financial Assets/(Net Debt)		(1,563,119)	184,562	181,064	309,130	378,013	311,578	215,946	608,840	(14,413)	609,693	400,309
Net Financial Assets/(Net Debt), beginning of year		(7,041,573)	(8,604,692)	(8,420,132)	(8,239,068)	(7,929,938)	(7,551,927)	(7,240,348)	(7,024,403)	(6,415,563)	(6,429,975)	(5,820,283)
Net Financial Assets/(Net Debt), end of year		(8,604,692)	(8,420,132)	(8,239,068)	(7,929,938)	(7,551,927)	(7,240,348)	(7,024,403)	(6,415,563)	(6,429,975)	(5,820,283)	(5,419,974)
Net Financial Assets/(Net Debt), end of year for 2014		(7,041,573)										

APPENDIX D: STATEMENT OF CASH FLOW

**Municipality of Greenstone
Statement of Cash Flow (Water)
Unaudited: For Financial Planning Purposes Only
2014-2024**

Water System	Notes	Forecast										
		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Cash provided by:												
Operating Activities												
Annual Surplus/Deficit		(90,662)	59,823	1,791,393	(257,502)	(224,257)	(173,446)	(111,733)	(52,591)	(2,796)	933,371	72,108
Non-Cash Items												
Add: Amortization of TCA's	(See Table 14)	335,998	500,372	511,446	622,258	650,967	665,984	674,187	689,268	718,240	747,988	799,358
Change in A/R (Increase)/(Decrease)		(7,710)	(7,788)	(7,866)	(7,944)	(8,024)	(8,104)	(8,185)	(8,267)	(8,349)	(8,433)	(8,517)
Less: Interest Proceeds												
Net Change in Cash Provided by Operating Activities		237,626	552,407	2,294,973	356,813	418,687	484,434	554,269	628,411	707,095	1,672,925	862,949
Capital Activities												
Proceeds on sale of Tangible Capital Assets		-	-	-	-	-	-	-	-	-	-	-
Less: Cash used to acquire Tangible Capital Assets	(See Table 14)	-	(276,839)	(2,770,321)	(717,719)	(375,414)	(205,092)	(377,028)	(724,292)	(743,688)	(1,284,263)	(386,876)
Net Change in Cash Used in Capital Activities		-	(276,839)	(2,770,321)	(717,719)	(375,414)	(205,092)	(377,028)	(724,292)	(743,688)	(1,284,263)	(386,876)
Investing Activities												
Proceeds from investments												
Less: Cash used to acquire investments												
Net Change in Cash Used in Investing Activities												
Financing Activities												
Proceeds from Debt Issue	(See Tables 10 & 11)	301,509		800,000	-	-	-	-	-	587,530	-	-
Less: Debt Repayment (principal only)		(29,446)	(57,230)	(59,586)	(131,830)	(136,494)	(141,328)	(146,348)	(151,557)	(156,968)	(213,827)	(221,180)
Net Change in Cash Used in Financing Activities		272,062	(57,230)	740,414	(131,830)	(136,494)	(141,328)	(146,348)	(151,557)	430,562	(213,827)	(221,180)
Net Change in Cash and Cash Equivalents		509,688	218,338	265,066	(492,736)	(93,221)	138,014	30,894	(247,438)	393,970	174,836	254,894
Cash and Cash Equivalents, beginning of year	5.1	120,225	629,913	848,252	1,113,318	620,581	527,361	665,374	696,268	448,830	842,800	1,017,636
Cash and Cash Equivalents, end of year	5.1	629,913	848,252	1,113,318	620,581	527,361	665,374	696,268	448,830	842,800	1,017,636	1,272,529

Cash and Cash Equivalents, end of year 2014	120,225
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**Municipality of Greenstone
Statement of Cash Flow (Wastewater)
Unaudited: For Financial Planning Purposes Only
2014-2024**

Wastewater System	Notes	Forecast										
		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Cash provided by:												
Operating Activities												
Annual Surplus/Deficit		(222,294)	(143,399)	1,273,336	272,832	244,865	(48,009)	23,295	483,241	162,071	651,445	283,863
Non-Cash Items												
Add: Amortization of TCA's	(See Table 15)	337,310	404,435	407,494	467,485	484,733	498,796	504,364	516,833	532,482	560,841	584,945
Change on A/R (Increase)/(Decrease)		-	-	-	-	-	-	-	-	-	-	-
Net Change in Cash Provided by Operating Activities		115,016	261,036	1,680,830	740,317	729,598	450,787	527,659	1,000,074	694,553	1,212,286	868,808
Capital Activities												
Proceeds on sale of Tangible Capital Assets		-	-	-	-	-	-	-	-	-	-	-
Less: Cash used to acquire Tangible Capital Assets	(See Table 15)	(1,678,135)	(76,475)	(1,499,766)	(431,187)	(351,585)	(139,209)	(311,713)	(391,234)	(708,966)	(602,593)	(468,499)
Net Change in Cash Used in Capital Activities		(1,678,135)	(76,475)	(1,499,766)	(431,187)	(351,585)	(139,209)	(311,713)	(391,234)	(708,966)	(602,593)	(468,499)
Investing Activities												
Proceeds from investments		-	-	-	-	-	-	-	-	-	-	-
Less: Cash used to acquire investments		-	-	-	-	-	-	-	-	-	-	-
Net Change in Cash Used in Investing Activities		-	-	-	-	-	-	-	-	-	-	-
Financing Activities												
Proceeds from Debt Issue	(See Tables 10 & 11)	150,000	-	65,000	-	-	-	-	-	425,000	-	-
Less: Debt Repayment (principal only)		(229,747)	(254,362)	(266,893)	(285,718)	(299,697)	(314,366)	(329,762)	(345,920)	(362,877)	(417,749)	(437,454)
Net Change in Cash Used in Financing Activities		(79,747)	(254,362)	(201,893)	(285,718)	(299,697)	(314,366)	(329,762)	(345,920)	62,123	(417,749)	(437,454)
Net Change in Cash and Cash Equivalents		(1,642,866)	(69,800)	(20,829)	23,412	78,316	(2,788)	(113,816)	262,920	47,710	191,944	(37,145)
Cash and Cash Equivalents, beginning of year	5.1	-	(1,642,866)	(1,712,666)	(1,733,495)	(1,710,083)	(1,631,767)	(1,634,555)	(1,748,371)	(1,485,450)	(1,437,740)	(1,245,796)
Cash and Cash Equivalents, end of year	5.1	(1,642,866)	(1,712,666)	(1,733,495)	(1,710,083)	(1,631,767)	(1,634,555)	(1,748,371)	(1,485,450)	(1,437,740)	(1,245,796)	(1,282,941)

Cash and Cash Equivalents, end of year 2014	-
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APPENDIX E: MUNICIPAL COST INDEX

MCI(Region 5)								
COMPONENTS	Weights	Inflators for Each Component						
		2007	2008	2009	2010	2011	2012	2013
Wages and Salaries and Benefits	32%		2%	-2%	2%	-4%	6%	
Interest on Long Term Debt	2%		5%		19%	4%	1%	
Materials	28%		18%	-2%		12%	7%	
Contracted Services	22%	9%	2%		5%	2%	2%	
Rents and Financial Expenses	2%			-9%			3%	
External Transfers	6%						9%	
Amortization	8%							
Average MCI		2.99%						

Notes:

- Municipal Cost Index, is calculated to better represent the municipal purchasing power and cost experience, so ISI will use 2.99% as the compounding/inflationary factor up until 2013;
- Municipal Cost Index represents the basket of goods and services which is consumed/used by Municipalities and represents the operational/working capital needs on an on-going basis;
- Assigned weights represents the percentage of services/goods consumed out of total spending;
- Inflators represent the year to year changes in the components;
- Components' weight and inflators, sum of all represents the overall cost experience for the Cities/region as compared to CPI;
- MCI is created as to minimize the variation/deviations of cost/purchasing experience in the region;
- The source of Municipal Cost Index are the Financial Statements for your specific region;
- Outliers have been removed from the data for Municipal Cost Index calculation to average out/standardize data.

APPENDIX F: CAPITAL PROJECTS (WATER SYSTEM)

Asset ID	Asset Name	Material	Installed	RC (2014)	UL	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
C1004	Analyzer, Chlorine W/Probe		2007	5,103	25	-	-	-	-	-	-	-	-	-	-	-
C1006	Chemical Feed Panel		2002	15,948	25	-	-	-	-	-	-	-	-	-	-	-
C1009	Control Panel		1977	14,417	20	14,417	-	-	-	-	-	-	-	-	-	-
C1010	Control Panel		1977	23,986	20	23,986	-	-	-	-	-	-	-	-	-	-
C1011	Control Panel		1977	37,127	20	37,127	-	-	-	-	-	-	-	-	-	-
C1012	Control Panel, MCC		1977	178,237	20	178,237	-	-	-	-	-	-	-	-	-	-
C1013	Control, Level		2002	2,679	25	-	-	-	-	-	-	-	-	-	-	-
C1014	Filter		1977	382,756	25	382,756	-	-	-	-	-	-	-	-	-	-
C1016	Generator, Diesel, 6 Cylinder		1977	382,756	20	382,756	-	-	-	-	-	-	-	-	-	-
C1019	Lab Equipment, Group of		1990	18,627	25	-	18,627	-	-	-	-	-	-	-	-	-
C1020	Magnetometer		2002	9,314	25	-	-	-	-	-	-	-	-	-	-	-
C1021	Mixer, Chemical, Group of 2		1977	12,248	25	12,248	-	-	-	-	-	-	-	-	-	-
C1022	Module, Integrated Signal Output		2007	2,424	25	-	-	-	-	-	-	-	-	-	-	-
OCWA (5-year Capital)	Replace Isolation Valve in Clearwell			12,500			-	12,500	-	-	-	-	-	-	-	-
OCWA (5-year Capital)	Low Lift Pump			35,000			-	35,000	-	-	-	-	-	-	-	-
OCWA (5-year Capital)	Emergency Generator Replacement			95,000			-	95,000	-	-	-	-	-	-	-	-
OCWA (5-year Capital)	Valve Replace (TBD) - Leaking and not Seating			6,500			-	6,500	-	-	-	-	-	-	-	-
OCWA (5-year Capital)	Reseal Roof			7,500					7,500							
OCWA (5-year Capital)	High Lift #106 Replacement			35,000					35,000							
OCWA (5-year Capital)	Curb Stop Parts Inventory			1,800					1,800							
OCWA (5-year Capital)	Chemical Feed Pump Replacement CL2			4,800						4,800						
OCWA (5-year Capital)	Low Lift #102 Replacement			25,000						25,000						
OCWA (5-year Capital)	Lab Equipment			2,500						2,500						
OCWA (5-year Capital)	Replace Piping in Clearwells			18,000							18,000					
OCWA (5-year Capital)	Chemical Mixer Replacement			5,000							5,000					
OCWA (5-year Capital)	Replace Fire Pump Valve			6,500								6,500				
OCWA (5-year Capital)	Process Tank Refinishing			65,000								65,000				
C1025	Process Piping, Group of, With Fittings And Valves		1977	138,175	45	-	-	-	-	-	-	-	-	138,175	-	-
C1026	Process Piping, Group of, With Fittings And Valves		1977	105,513	45	-	-	-	-	-	-	-	-	105,513	-	-
C1027	Process Piping, Group of, With Fittings And Valves		1977	168,157	45	-	-	-	-	-	-	-	-	168,157	-	-
C1028	Process Piping, Group of, With Fittings And Valves		1977	175,685	45	-	-	-	-	-	-	-	-	175,685	-	-
C1029	Pump, Chemical Feed, Group of 5		1977	12,759	25	12,759	-	-	-	-	-	-	-	-	-	-
C1030	Pump, Vertical Turbine, Submersible (High Lift)		1977	18,500	25	18,500	-	-	-	-	-	-	-	-	-	-
C1032	Pump, Vertical Turbine, Submersible (High Lift)		1977	23,412	25	23,412	-	-	-	-	-	-	-	-	-	-
C1034	Pump, Vertical Turbine, Submersible (Fire Pump)		1977	57,413	25	57,413	-	-	-	-	-	-	-	-	-	-
C1036	Tank, Plastic, Group of 6		1977	5,359	25	5,359	-	-	-	-	-	-	-	-	-	-
Not in MDW	Fuel Tank (Diesel ROTH 1000L)		1977	1,200	25	1,200	-	-	-	-	-	-	-	-	-	-
Water Treatment Plant Facility - Beardmore				4,313,860		1,150,169	18,627	149,000	44,300	32,300	23,000	71,500	-	587,530	-	-
C1051	Turbidimeter		1999	1,850	25	-	-	-	-	-	-	-	-	-	-	1,850
OCWA (5-year Capital)	Electrical Work for Compressors			3,500		-	-	3,500	-	-	-	-	-	-	-	-
OCWA (5-year Capital)	Chlorine Metering Pump			3,600					3,600							
OCWA (5-year Capital)	High Lift Pump			35,000					35,000							
OCWA (5-year Capital)	Replace Ozone Generator			18,000						18,000						
OCWA (5-year Capital)	Replace O2 Generator Media			12,000						12,000						
OCWA (5-year Capital)	Chlorine Metering Pump			3,600						3,600						
OCWA (5-year Capital)	SCADA PC System			7,500							7,500					
OCWA (5-year Capital)	Chlorine Metering Pump			3,600							3,600					
OCWA (5-year Capital)	Valve Replacement (TBD)			8,000							8,000					
Water Treatment Plant Facility - Caramat				2,450,224		-	-	3,500	38,600	33,600	19,100	-	-	-	-	1,850
C1195	Generator, Diesel, 12 Cylinder		1980	318,963	20	318,963	-	-	-	-	-	-	-	-	-	-
C1198	Lab Equipment, Group (spectrophotometer, Turbidimeter, pH)		1995	9,569	28	-	-	-	-	-	-	-	-	-	9,569	-
C1201	Mixer, Chemical, Group of 3		1995	18,372	28	-	-	-	-	-	-	-	-	-	18,372	-
C1202	Mixer, Motionless		1980	10,845	25	10,845	-	-	-	-	-	-	-	-	-	-

Water and Wastewater Rate Study
Municipality of Greenstone

C1207	Process Piping, Group of, With Fittings And Valves	1980	414,397	43	-	-	-	-	-	-	-	-	-	-	414,397	-
C1208	Process Piping, Group of, With Fittings And Valves	1980	38,403	43	-	-	-	-	-	-	-	-	-	-	38,403	-
C1209	Process Piping, Group of, With Fittings And Valves	1980	67,365	43	-	-	-	-	-	-	-	-	-	-	67,365	-
C1210	Pump, Chemical Metering, Group of 8	1995	20,413	28	-	-	-	-	-	-	-	-	-	-	20,413	-
OCWA (5-year Capital)	Insulating of Water Treatment Tanks		12,000		-	-	12,000	-	-	-	-	-	-	-	-	-
OCWA (5-year Capital)	Chemical Pump Upgrade (35-year old pumps (parts issue))		8,500		-	-	8,500	-	-	-	-	-	-	-	-	-
OCWA (5-year Capital)	Mixer in Water Tower (prevents stagnant water)		30,000		-	-	30,000	-	-	-	-	-	-	-	-	-
OCWA (5-year Capital)	Service Water Lines		20,000					20,000								
OCWA (5-year Capital)	Back Wash Pump		30,000					30,000								
OCWA (5-year Capital)	Chemical Metering Pumps		4,800					4,800								
OCWA (5-year Capital)	Back Wash Pump		30,000						30,000							
OCWA (5-year Capital)	Chemical Metering Pumps		4,800						4,800							
OCWA (5-year Capital)	Valve Replacement (TBD)		8,000						8,000							
OCWA (5-year Capital)	Explosion Proof Heater at Water Valve Chamber		3,500						3,500							
OCWA (5-year Capital)	Chemical Mixer Replacement (2)		8,500							8,500						
OCWA (5-year Capital)	SCADA programming and Upgrades		7,500								7,500					
OCWA (5-year Capital)	Chemical Metering Pumps		4,800								4,800					
OCWA (5-year Capital)	Valve Replacement (TBD)		8,000								8,000					
OCWA (5-year Capital)	Low Lift Pump		50,000									50,000				
OCWA (5-year Capital)	High Lift Pump		55,000										55,000			
OCWA (5-year Capital)	Chemical Metering Pumps		4,800										4,800			
OCWA (5-year Capital)	Valve Replacement (TBD)		8,000										8,000			
C1211	Pump, Vertical Turbine, Submersible (Low lift pump)	1980	15,821	25	15,821	-	-	-	-	-	-	-	-	-	-	-
C1212	Pump, Vertical Turbine, Submersible (Low lift pump)	1980	15,821	25	15,821	-	-	-	-	-	-	-	-	-	-	-
C1213	Pump, Vertical Turbine, Submersible (Low lift pump)	1980	15,821	25	15,821	-	-	-	-	-	-	-	-	-	-	-
C1214	Pump, Vertical Turbine, Submersible (High lift pump)	1980	34,703	25	34,703	-	-	-	-	-	-	-	-	-	-	-
C1215	Pump, Vertical Turbine, Submersible (High lift pump)	1980	34,703	25	34,703	-	-	-	-	-	-	-	-	-	-	-
C1216	Pump, Vertical Turbine, Submersible (High lift pump)	1980	34,703	25	34,703	-	-	-	-	-	-	-	-	-	-	-
C1217	Pump, Vertical Turbine, Submersible (Back wash)	1980	26,538	25	26,538	-	-	-	-	-	-	-	-	-	-	-
C1218	Pump, Vertical Turbine, Submersible (Back wash)	1980	26,538	25	26,538	-	-	-	-	-	-	-	-	-	-	-
C1221	Tank, Alum, Fiberglass	1980	18,627	25	18,627	-	-	-	-	-	-	-	-	-	-	-
Water Treatment Plant Facility - Geraldton			5,957,156		553,082	-	50,500	54,800	46,300	28,800	117,800	-	-	-	568,519	-
C1293	Clarifier Drive And Mechanism	1980	287,067	25	287,067	-	-	-	-	-	-	-	-	-	-	-
C1295	Computer Equipment	2002	11,594	3	11,594	-	-	11,594	-	-	11,594	-	-	-	11,594	-
C1303	Filter	1980	318,963	25	318,963	-	-	-	-	-	-	-	-	-	-	-
C1306	Generator, Diesel, 12 Cylinder	1980	318,963	20	318,963	-	-	-	-	-	-	-	-	-	-	-
C1309	Lab Equipment, Group (Turbidimeter, pH, Colourimeter)	1990	20,414	25	-	20,414	-	-	-	-	-	-	-	-	-	-
C1313	Mixer, Chemical, Group of 2	1990	12,248	25	-	12,248	-	-	-	-	-	-	-	-	-	-
C1317	Process Piping, Group of, With Fittings And Valves	1980	241,774	43	-	-	-	-	-	-	-	-	-	-	241,774	-
C1318	Process Piping, Group of, With Fittings And Valves	1980	76,806	43	-	-	-	-	-	-	-	-	-	-	76,806	-
C1319	Process Piping, Group of, With Fittings And Valves	1980	67,365	43	-	-	-	-	-	-	-	-	-	-	67,365	-
C1320	Pump, Centrifugal (wastewater)	1990	15,948	25	-	15,948	-	-	-	-	-	-	-	-	-	-
C1324	Pump, Vertical Turbine, Submersible	1990	15,821	25	-	15,821	-	-	-	-	-	-	-	-	-	-
OCWA (5-year Capital)	Low Lift Pump		55,000		-	-	55,000	-	-	-	-	-	-	-	-	-
OCWA (5-year Capital)	High Lift Pump		60,000		-	-	60,000	-	-	-	-	-	-	-	-	-
OCWA (5-year Capital)	Low Lift Pump (Stage Replacement)		50,000		-	-	-	50,000	-	-	-	-	-	-	-	-
OCWA (5-year Capital)	High Lift Pump		55,000		-	-	-	55,000	-	-	-	-	-	-	-	-
OCWA (5-year Capital)	Filter Three and four rebuild (Use staff as labour)		3,000		-	-	-	3,000	-	-	-	-	-	-	-	-
OCWA (5-year Capital)	Chemical Pumps		4,800		-	-	-	4,800	-	-	-	-	-	-	-	-
OCWA (5-year Capital)	Anthracite and Sand to Replace Stock		2,000		-	-	-	2,000	-	-	-	-	-	-	-	-
OCWA (5-year Capital)	New Generator and Transfer Switch (Staged Replacement)		80,000		-	-	-	80,000	-	-	-	-	-	-	-	-
OCWA (5-year Capital)	Electrical Upgrades		40,000						40,000							
OCWA (5-year Capital)	Chlorine Kits		400						400							
OCWA (5-year Capital)	Chemical Pumps		4,800						4,800							
OCWA (5-year Capital)	Valve Replacement (TBD)		8,000						8,000							
OCWA (5-year Capital)	Explosion Proof Heater Valve Chamber Tower		3,500						3,500							
OCWA (5-year Capital)	Back Wash Pump Replacement		30,000							30,000						
OCWA (5-year Capital)	Sump Pump Replacement		2,500								2,500					
OCWA (5-year Capital)	Valve Replacement (TBD)		8,000								8,000					

Water and Wastewater Rate Study
Municipality of Greenstone

OCWA (5-year Capital)	Chemical Pumps			4,800							4,800				
OCWA (5-year Capital)	Valve Replacement (TBD)			8,000							8,000				
C1330	Tank, Alum, Fiberglass	1980	18,627	25	18,627	-	-	-	-	-	-	-	-	-	-
C1331	Tank, Clarifier, 1.6mgd	1980	71,958	25	71,958	-	-	-	-	-	-	-	-	-	-
C1332	Tank, Clarifier, 1.6mgd	1980	71,958	25	71,958	-	-	-	-	-	-	-	-	-	-
C1333	Tank, Plastic, Group of 4	1990	3,572	25	-	3,572	-	-	-	-	-	-	-	-	-
C1336	Valve, Motorized	1995	11,483	26	-	-	-	-	-	-	-	11,483	-	-	-
C1337	Valve, Motorized	1995	11,483	26	-	-	-	-	-	-	-	11,483	-	-	-
C1338	Valve, Motorized	1990	15,310	25	-	15,310	-	-	-	-	-	-	-	-	-
C1339	Valve, Motorized	1990	15,310	25	-	15,310	-	-	-	-	-	-	-	-	-
C1340	Valve, Motorized	1990	15,310	25	-	15,310	-	-	-	-	-	-	-	-	-
C1341	Valve, Motorized	1990	15,310	25	-	15,310	-	-	-	-	-	-	-	-	-
C1342	Valve, Motorized	1990	11,483	25	-	11,483	-	-	-	-	-	-	-	-	-
C1343	Valve, Motorized	1990	11,483	25	-	11,483	-	-	-	-	-	-	-	-	-
New	Valve, Motorized	1990	11,483	25	-	11,483	-	-	-	-	-	-	-	-	-
New	Valve, Motorized	1990	11,483	25	-	11,483	-	-	-	-	-	-	-	-	-
Water Treatment Plant Facility - Longiac				6,472,842		1,990,569	175,175	115,000	206,394	56,700	40,500	24,394	22,965	-	397,540
C1372	Control Panel	1979	19,138	20	19,138	-	-	-	-	-	-	-	-	-	-
C1375	Generator, Diesel, 4 Cylinder (Well house)	1979	19,138	20	19,138	-	-	-	-	-	-	-	-	-	-
C1377	Process Piping, Group of, With Fittings And Valves	1979	36,107	42	-	-	-	-	-	-	-	36,107	-	-	-
C1378	Process Piping, Group of, With Fittings And Valves	1979	63,155	42	-	-	-	-	-	-	-	63,155	-	-	-
C1379	Pump, Vertical Turbine, Submersible (Well house)	1979	19,010	25	19,010	-	-	-	-	-	-	-	-	-	-
C1380	Pump, Vertical Turbine, Submersible (Well house)	1979	19,010	25	19,010	-	-	-	-	-	-	-	-	-	-
C1381	Well	1979	8,293	42	-	-	-	-	-	-	-	8,293	-	-	-
C1382	Well	1979	8,293	42	-	-	-	-	-	-	-	8,293	-	-	-
OCWA (5-year Capital)	Well Inspection (pump house)	2006	25,000	10	-	-	25,000	-	-	-	-	-	-	-	-
OCWA (5-year Capital)	Replace Generator		90,000		-	-	90,000	-	-	-	-	-	-	-	-
OCWA (5-year Capital)	Replace High Lift Pumps		28,800		-	-	28,800	-	-	-	-	-	-	-	-
OCWA (5-year Capital)	Electrical Upgrades		140,000					140,000							
OCWA (5-year Capital)	Replacement of PCV at Well House		720					720							
OCWA (5-year Capital)	Rebuild Plant Pressure Singer Valve		6,000					6,000							
OCWA (5-year Capital)	New Generator for Well House		72,000					72,000							
OCWA (5-year Capital)	Replacement of High Lift Pump		19,950					19,950							
OCWA (5-year Capital)	Upgrade to PLC Rack & Cabinet		45,000					45,000							
OCWA (5-year Capital)	Replacement of Singer PCV at WTP		780						780						
OCWA (5-year Capital)	Replace Well Pump		54,000						54,000						
OCWA (5-year Capital)	Purchase/Install New Generator		75,000						75,000						
OCWA (5-year Capital)	Well Inspection		35,000						35,000						
OCWA (5-year Capital)	Replace Well Pump		57,600							57,600					
OCWA (5-year Capital)	Valve Replacement (TBD)		8,000							8,000					
OCWA (5-year Capital)	Replace Well Pump		57,600								57,600				
OCWA (5-year Capital)	Replace High Lift Pump (4 HL pumps/3 four stage vertical turbine)		26,400								26,400				
C1388	Control Panel	1979	19,138	20	19,138	-	-	-	-	-	-	-	-	-	-
C1389	Control Panel	1979	16,841	20	16,841	-	-	-	-	-	-	-	-	-	-
C1390	Control Panel, Mcc	1979	55,882	20	55,882	-	-	-	-	-	-	-	-	-	-
C1393	Generator, Diesel, 6 Cylinder (WTP)	1979	55,882	20	55,882	-	-	-	-	-	-	-	-	-	-
C1394	Lab Equipment, (portable Ph, Chlorine Analyzer, Colourimeter)	1992	5,741	25	-	-	-	5,741	-	-	-	-	-	-	-
C1399	Process Piping, Group of, With Fittings And Valves	1979	207,198	45	-	-	-	-	-	-	-	-	-	-	207,198
C1400	Process Piping, Group of, With Fittings And Valves	1979	38,403	42	-	-	-	-	-	-	-	38,403	-	-	-
C1401	Pump, Vertical Turbine, Submersible	1979	24,369	25	24,369	-	-	-	-	-	-	-	-	-	-
C1402	Pump, Vertical Turbine, Submersible	1979	24,369	25	24,369	-	-	-	-	-	-	-	-	-	-
C1403	Pump, Vertical Turbine, Submersible	1979	24,369	25	24,369	-	-	-	-	-	-	-	-	-	-
C1404	Pump, Vertical Turbine, Submersible (Fire Pump)	1979	57,413	25	57,413	-	-	-	-	-	-	-	-	-	-
C2010	Waterworks Eq. - Geraldton - OCWA Capital Expenditures (WTP)	2013	13,660	10	-	-	-	-	-	-	-	-	-	-	13,660
B611 2-5	Wells #1 and #2	1979	57,143	20	57,143	-	-	-	-	-	-	-	-	-	-
B611	Wells #1 and #2	1979	79,103	45	-	-	-	-	-	-	-	-	-	-	79,103
Water Treatment Plant Facility - Nakina				3,973,116		411,702	-	143,800	289,411	164,780	65,600	84,000	154,251	-	13,660
															286,301
Total Water Treatment Plant Facilities				23,167,199		4,105,522	193,802	461,800	633,506	333,680	177,000	297,694	177,216	587,530	979,719
															288,151

Water and Wastewater Rate Study
Municipality of Greenstone

[illegible]

Water and Wastewater Rate Study
Municipality of Greenstone

WH3-037	Hydrant, B12		1963	5,422	60	-	-	-	-	-	-	-	-	-	5,422	-
Hydrants Subtotal				1,453,196		-	-	-	-	-	-	-	412,100	-	5,422	-
OCWA (5-year Capital)	Water Tower Inspection - Longlac			8,000					8,000							
OCWA (5-year Capital)	Water Tower Inspection - Geraldton			8,000					8,000							
OCWA (5-year Capital)	Replace Tower Level Indicator Control			7,500					7,500							
OCWA (5-year Capital)	Water Tower Exterior Painting (Epoxy Coating)		2012	675,000	17	-	-	-	-	-	-	-	-	-	-	-
OCWA (5-year Capital)	Water Tower Exterior Painting (Epoxy Coating)		2012	800,000	17	-	-	-	-	-	-	-	-	-	-	-
B322	Water Tower Control Building		2014	20,000	20	-	-	-	-	-	-	-	-	-	-	-
B515	Water Tower Control Building		1977	85,482	50	-	-	-	-	-	-	-	-	-	-	-
B322	Water Tower Dry Well		2014	4,000	20	-	-	-	-	-	-	-	-	-	-	-
B322B-1	Water Tower Dry Well		1977	35,724	50	-	-	-	-	-	-	-	-	-	-	-
Water Tower Subtotal				1,643,706		-	-	-	23,500	-	-	-	-	-	-	-
	Water Meters - Commercial		2015	75,000	30	-	75,000	-	-	-	-	-	-	-	-	-
Water Meters - Commercial Subtotal				75,000		-	75,000	-	-	-	-	-	-	-	-	-
Total Water Assets				75,996,882		4,109,350	268,802	2,611,800	657,006	333,680	177,000	297,694	607,561	587,530	985,141	288,151
Long Range Total Capital Expenditures for Water Assets (Inflated in dollars)				75,996,882		4,109,350	276,839	2,770,321	717,719	375,414	205,092	355,256	746,716	743,688	1,284,263	386,876

APPENDIX G: CAPITAL PROJECTS (WASTEWATER SYSTEM)

Asset ID	Asset Name	Material	Installed	RC (2014)	UL	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
B204-2	Field Bed		1969	8,931	20	8,931	-	-	-	-	-	-	-	-	-	-
B204-1	Field Bed		1969	47,207	45	47,207	-	-	-	-	-	-	-	-	-	-
OCWA (5-year Capital)	Engineer Study on Septic Field			7,500							7,500					
C1052	Piping, Filter Bed		1969	31,258	25	31,258	-	-	-	-	-	-	-	-	-	-
Wastewater Treatment Plant Facility - Caramat				94,896		87,396	-	-	-	-	7,500	-	-	-	-	-
C1110	Process Piping, Group Of, With Fittings And Valves		1979	13,907	43	-	-	-	-	-	-	-	-	13,907	-	-
C1118	Clarifier Drive And Mechanism		1979	229,653	25	229,653	-	-	-	-	-	-	-	-	-	-
C1121	Process Piping, Group Of, With Fittings And Valves		1979	170,709	44	-	-	-	-	-	-	-	-	-	170,709	-
C1151	Lab Equipment, (pH probe, handheld chlorinators, scale, ovens)		1992	16,586	30	-	-	-	-	-	-	-	-	16,586	-	-
C1170	Clarifier Drive And Mechanism		1992	287,067	29	-	-	-	-	-	-	-	287,067	-	-	-
C1172	Meter, Dissolved Oxygen		1992	5,103	25	-	-	-	5,103	-	-	-	-	-	-	-
C1173	Piping, Aeration		1992	6,762	25	-	-	-	6,762	-	-	-	-	-	-	-
OCWA (5-year Capital)	Generator Replacement			75,000		-	-	75,000	-	-	-	-	-	-	-	-
OCWA (5-year Capital)	Drain Clean Aeration Tanks Plant 1			20,000		-	-	20,000	-	-	-	-	-	-	-	-
OCWA (5-year Capital)	Headworks Water Line Replacement			3,000					3,000							
OCWA (5-year Capital)	Chlorine Regulator			2,500					2,500							
OCWA (5-year Capital)	Sulfur Dioxide Regulator			2,500					2,500							
OCWA (5-year Capital)	Turbo Blower Project			185,000						185,000						
OCWA (5-year Capital)	Header for Cl2 and SO2 Systems			9,000						9,000						
OCWA (5-year Capital)	Replace Flygt Pump (RAS)			10,800						10,800						
OCWA (5-year Capital)	Drain Clean Aeration Tanks Plant 2			15,000						15,000						
OCWA (5-year Capital)	Install Permanent Lifting Device McKenzie LS			10,000						10,000						
OCWA (5-year Capital)	Kenogami Lift Station Gorman Rupp Maintenance			25,000						25,000						
OCWA (5-year Capital)	Replace RAS Pump			10,800							10,800					
OCWA (5-year Capital)	DO Probe Replacement (2)			5,500							5,500					
OCWA (5-year Capital)	HVAC Service			5,000							5,000					
OCWA (5-year Capital)	Lab Equipment			3,500								3,500				
OCWA (5-year Capital)	Replace Clarifier Covers			7,500								7,500				
OCWA (5-year Capital)	Rebuild Mechanical Bar Screen			35,000								35,000				
Wastewater Treatment Plant Facility - Geraldton				10,248,295		229,653	-	95,000	19,865	254,800	21,300	46,000	287,067	30,493	170,709	-
C1233	Pump, Centrifugal		1992	5,103	25	-	-	-	5,103	-	-	-	-	-	-	-
C1234	Pump, Centrifugal		1992	5,103	25	-	-	-	5,103	-	-	-	-	-	-	-
C1243	Generator, Diesel, 6 Cylinder		2015	74,255	20	-	74,255	-	-	-	-	-	-	-	-	-
C1244	Process Piping, Group Of, With Fittings And Valves		1979	29,600	43	-	-	-	-	-	-	-	-	29,600	-	-
C1245	Process Piping, Group Of, With Fittings And Valves		1979	34,448	43	-	-	-	-	-	-	-	-	34,448	-	-
C1250	Process Piping, Group Of, With Fittings And Valves		1979	18,883	43	-	-	-	-	-	-	-	-	18,883	-	-
C1264	Blower, Rotary Lobe		1971	19,776	25	19,776	-	-	-	-	-	-	-	-	-	-
Missed	Blower, Rotary Lobe		1971	19,776	25	19,776	-	-	-	-	-	-	-	-	-	-
OCWA (5-year Capital)	Replace Third Blower if no turbo blower installed			12,000		-	-	12,000	-	-	-	-	-	-	-	-
OCWA (5-year Capital)	Emergency Generator Replacement			75,000		-	-	75,000	-	-	-	-	-	-	-	-
OCWA (5-year Capital)	Concrete Repairs			5,000					5,000							
OCWA (5-year Capital)	New Scale for Chlorine Cylinders			6,000					6,000							
OCWA (5-year Capital)	Flygt Pump Replacement Program			7,500					7,500							
OCWA (5-year Capital)	Lining of Pipes (Infiltration problems)			250,000					250,000							
OCWA (5-year Capital)	Lab Equipment			2,500						2,500						
OCWA (5-year Capital)	Chlorine Kits			400						400						
OCWA (5-year Capital)	Clarifier Drive Rebuild (both Plants)			13,000							13,000					
OCWA (5-year Capital)	Reducer Motor Replacement			3,500								3,500				
OCWA (5-year Capital)	Blower Replacement (or rebuild)			12,000								12,000				
OCWA (5-year Capital)	Engineer Study to Upgrade Kenogami LS			10,000							10,000					
OCWA (5-year Capital)	Flygt Pump Replacement Program			7,500							7,500					

Water and Wastewater Rate Study
Municipality of Greenstone

OCWA (5-year Capital)	Replace Clarifier Covers (weathered and unsafe)			5,000							5,000				
OCWA (5-year Capital)	Wastewater Enhancement			1,100,000				1,100,000							
C1265	Chlorinator		2012	17,224	25	-	-	-	-	-	-	-	-	-	-
C1267	Control Panel		1971	148,509	20	148,509	-	-	-	-	-	-	-	-	-
C1268	Control Panel, Generator		1971	25,517	20	25,517	-	-	-	-	-	-	-	-	-
C1272	Lab Equipment, Group Of		1995	10,207	25	-	-	-	-	-	10,207	-	-	-	-
C1278	Clarifier Drive And Mechanism		1971	165,861	25	165,861	-	-	-	-	-	-	-	-	-
C1279	Comminutor		1971	43,889	25	43,889	-	-	-	-	-	-	-	-	-
C1280	Piping, Aeration		1971	43,634	25	43,634	-	-	-	-	-	-	-	-	-
C1281	Process Piping, Group Of, With Fittings And Valves		2014	27,814	40	-	-	-	-	-	-	-	-	-	-
C1282	Valve, Sluice Gate, Group Of 4		1971	86,758	25	86,758	-	-	-	-	-	-	-	-	-
C1283	Clarifier Drive And Mechanism		2014	223,274	25	-	-	-	-	-	-	-	-	-	-
C1284	Comminutor		1982	43,889	25	43,889	-	-	-	-	-	-	-	-	-
C1285	Piping, Aeration		1982	56,520	25	56,520	-	-	-	-	-	-	-	-	-
C1286	Process Piping, Group Of, With Fittings And Valves		1982	22,200	40	-	-	-	-	-	-	-	-	22,200	-
B514B	WWTP - Grit Channel		1971	34,448	45	-	-	34,448	-	-	-	-	-	-	-
Wastewater Treatment Plant Facility - Longlac				5,266,112		654,130	74,255	1,221,448	278,707	2,900	46,000	15,207	-	105,130	-
C1359	Blower		1981	26,793	25	26,793	-	-	-	-	-	-	-	-	-
Missed	Blower		1981	26,793	25	26,793	-	-	-	-	-	-	-	-	-
C1360	Control Panel		1981	100,537	20	100,537	-	-	-	-	-	-	-	-	-
C1364	Process Piping, Group Of, With Fittings And Valves		1981	175,685	41	-	-	-	-	-	-	-	-	175,685	-
C1365	Process Piping, Group Of, With Fittings And Valves		1981	248,791	41	-	-	-	-	-	-	-	-	248,791	-
C1366	Pump, Chemical		2003	2,552	25	-	-	-	-	-	-	-	-	-	-
C1368	Process Piping, Group Of, With Fittings And Valves		1981	276,222	42	-	-	-	-	-	-	-	-	276,222	-
C1369	Clarifier Drive And Mechanism		1981	229,653	25	229,653	-	-	-	-	-	-	-	-	-
OCWA (5-year Capital)	Replace Clarifier Covers			2,500		-	-	2,500	-	-	-	-	-	-	-
OCWA (5-year Capital)	Aeration Tank Cleaning and Repairs to diffusers			35,000		-	-	35,000	-	-	-	-	-	-	-
OCWA (5-year Capital)	Pump Repairs (rebuild)			6,000		-	-	6,000	-	-	-	-	-	-	-
OCWA (5-year Capital)	Replace Chlorine Pump			3,840		-	-	-	3,840	-	-	-	-	-	-
OCWA (5-year Capital)	Diffuser Parts			6,000		-	-	-	6,000	-	-	-	-	-	-
OCWA (5-year Capital)	Sludge Lift Pump			10,800		-	-	-	10,800	-	-	-	-	-	-
OCWA (5-year Capital)	Replace Door Knives and Cranks			3,600		-	-	-	-	3,600	-	-	-	-	-
OCWA (5-year Capital)	Rebuild Clarifier Sweep arm			24,000		-	-	-	-	24,000	-	-	-	-	-
OCWA (5-year Capital)	Rebuild Clarifier Drive			5,500		-	-	-	-	-	5,500	-	-	-	-
OCWA (5-year Capital)	Concrete Repairs			2,500		-	-	-	-	-	2,500	-	-	-	-
OCWA (5-year Capital)	New Hoist Pump Removal			4,500		-	-	-	-	-	4,500	-	-	-	-
C1370	Piping, Aeration		1981	17,862	25	17,862	-	-	-	-	-	-	-	-	-
C1371	Pump, Centrifugal		1981	5,741	25	5,741	-	-	-	-	-	-	-	-	-
Wastewater Treatment Plant Facility - Nakina				1,277,514		407,380	-	43,500	20,640	27,600	12,500	-	-	424,476	276,222
Total Wastewater Treatment Plant Facilities				16,886,816		1,378,559	74,255	1,359,948	319,212	285,300	87,300	61,207	287,067	560,099	446,931
C1001	Control Panel		1976	34,703	20	34,703	-	-	-	-	-	-	-	-	-
C1002	Pump, Centrifugal		2015	12,631	25	-	-	-	-	-	-	-	-	-	-
C1003	Pump, Centrifugal		2003	12,631	25	-	-	-	-	-	-	-	-	-	-
OCWA (5-year Capital)	Fence Maintenance			1,000		-	-	1,000	-	-	-	-	-	-	-
OCWA (5-year Capital)	Programming for LS Flows (More accurate than pump curves)			1,500		-	-	1,500	-	-	-	-	-	-	-
OCWA (5-year Capital)	Inspect Forcemain to Lagoon			3,500		-	-	-	-	3,500	-	-	-	-	-
OCWA (5-year Capital)	Lagoon Cleaning			12,500		-	-	-	-	-	12,500	-	-	-	-
OCWA (5-year Capital)	Replace Lift Station Pump			10,000		-	-	-	-	-	-	10,000	-	-	-
B117A	Sewage Lift Station - Building at John Street			172,240	75	172,240	-	-	-	-	-	-	-	-	-
Sewage Lift Pump Station - Beardmore				260,705		206,943	-	2,500	-	3,500	12,500	10,000	-	-	-
OCWA (5-year Capital)	Lift Station Pump Replacement - Staged Replacement			7,500		-	-	7,500	-	-	-	-	-	-	-
OCWA (5-year Capital)	Replace VFD (3) Kenogami LS			15,000		-	-	-	-	15,000	-	-	-	-	-
OCWA (5-year Capital)	Flygt Pump Replacement Program			7,500		-	-	-	-	7,500	-	-	-	-	-
OCWA (5-year Capital)	Kenogami LS Pump Rebuild			175,000		-	-	-	-	-	-	175,000	-	-	-
OCWA (5-year Capital)	Flygt Pump Replacement Program			7,500		-	-	-	-	-	7,500	-	-	-	-
Sewage Lift Pump Station - Longlac				1,456,074		-	-	7,500	-	22,500	-	182,500	-	-	-

Water and Wastewater Rate Study
Municipality of Greenstone

C1039	Control Panel	1991	21,434	20	21,434	-	-	-	-	-	-	-	-	-	-	-
C1040	Pump, Centrifugal	1994	8,421	25	-	-	-	-	-	8,421	-	-	-	-	-	-
C1041	Pump, Centrifugal	1994	8,421	25	-	-	-	-	-	8,421	-	-	-	-	-	-
OCWA (5-year Capital)	Rebuild Lift Station Pumps		5,500					5,500								
OCWA (5-year Capital)	Clean and Repair Splitter Box		1,200					1,200								
C1042	Control Panel	1991	3,572	20	3,572	-	-	-	-	-	-	-	-	-	-	-
C1043	Pump, Centrifugal	1955	8,421	25	8,421	-	-	-	-	-	-	-	-	-	-	-
C1044	Pump, Centrifugal	1955	8,421	25	8,421	-	-	-	-	-	-	-	-	-	-	-
B204A	Packaged Lift Station #1	1955	91,861	75	-	-	-	-	-	-	-	-	-	-	-	-
B204B	Packaged Lift Station #2	1955	91,861	75	-	-	-	-	-	-	-	-	-	-	-	-
Sewage Lift Pump Station - Caramat			249,112		41,848	-	-	5,500	1,200	16,841	-	-	-	-	-	-
B324	Edith Lift Station (4-cylinder generator, 2 pumps 7HP, Flowmeter)	1979	103,344	45	-	-	-	-	-	-	-	-	-	-	-	103,344
OCWA (5-year Capital)	Rebuild Gorman Rupp Pumps		18,000			-	18,000	-	-	-	-	-	-	-	-	-
OCWA (5-year Capital)	Replace Hoist for Pump Removal		26,000			-	26,000	-	-	-	-	-	-	-	-	-
OCWA (5-year Capital)	New Generator		70,000					70,000								
OCWA (5-year Capital)	Replace Basket McKenzie LS (Rag Removal)		3,500						3,500							
OCWA (5-year Capital)	McKenzie LS Pump Maintenance		7,500						7,500							
Sewage Lift Pump Station - Geraldton			768,668		-	-	44,000	70,000	-	3,500	7,500	-	-	-	-	103,344
C1344	Control Panel	1981	37,510	20	37,510	-	-	-	-	-	-	-	-	-	-	-
C1345	Pump, Centrifugal	1981	7,655	25	7,655	-	-	-	-	-	-	-	-	-	-	-
C1346	Pump, Centrifugal	1981	7,655	25	7,655	-	-	-	-	-	-	-	-	-	-	-
C1347	Control Panel	1998	31,258	23	-	-	-	-	-	-	31,258	-	-	-	-	-
C1348	Pump, Centrifugal	1998	7,655	25	-	-	-	-	-	-	-	-	-	-	7,655	-
C1349	Pump, Centrifugal	1998	7,655	25	-	-	-	-	-	-	-	-	-	-	7,655	-
C1350	Control Panel	1981	19,138	20	19,138	-	-	-	-	-	-	-	-	-	-	-
C1351	Control Panel	1981	32,151	20	32,151	-	-	-	-	-	-	-	-	-	-	-
C1354	Pump, Centrifugal	1981	9,250	25	9,250	-	-	-	-	-	-	-	-	-	-	-
C1356	Generator, Diesel, 4 Cylinder	1981	9,250	20	9,250	-	-	-	-	-	-	-	-	-	-	-
B613C-2	Sewage Treatment Plant - Chlorine Bin	1981	5,103	20	5,103	-	-	-	-	-	-	-	-	-	-	-
Sewage Lift Pump Station - Nakina			2,005,768		127,713	-	-	-	-	-	-	31,258	-	-	15,310	-
Total Sewage Lift Pump Stations			4,740,326		376,504	-	54,000	75,500	27,200	32,841	200,000	31,258	-	-	15,310	103,344
Sanitary Sewer Mains Subtotal			48,574,232		-	-	-	-	-	-	-	-	-	-	-	-
SMH5-01	Sanitary Sewer Manholes	1960	245,602	64	-	-	-	-	-	-	-	-	-	-	-	245,602
Sanitary Sewer Manholes Subtotal			3,122,649		-	-	-	-	-	-	-	-	-	-	-	245,602
Total Wastewater Assets			73,324,023		1,755,063	74,255	1,413,948	394,712	312,500	120,141	261,207	318,325	560,099	462,241	348,946	
Long Range Total Capital Expenditures for Wastewater Assets (Inflated in dollars)			73,324,023		1,755,063	76,475	1,499,766	431,187	351,585	139,209	311,713	391,234	708,966	602,593	468,499	

APPENDIX H: ANNUAL DEBT REPAYMENT LIMIT

(Based on 2013 FIR)

GROSS DEBT CHARGES	
Principal	1,124,700
interest	915,051
Subtotal	2,039,751
DEBT CHARGES ON OCWA PROVINCIAL PROJECT	
Water Projects - For this Municipality only	-
Water Projects - Share of integrated project(s)	-
Sewer Projects - For this Municipality only	-
Sewer Projects - Share of integrated project(s)	-
Subtotal	-
Payments for long term commitments and liabilities financed from revenue fund and approved by the OMB or Council	-
Subtotal - Debt Charges	2,039,751
AMOUNTS RECOVERED FROM UNCONSOLIDATED ENTITIES	
Electricity (principal)	-
Electricity (interest)	-
Gas and Telephone (principal)	-
Gas and Telephone (interest)	-
Subtotal	-
PAYMENTS TO PROVINCE FOR DOWNTOWN REVITALIZATION PROGRAMS LOANS	
DEBT CHARGES FOR TILE DRAINAGE AND SHORELINE ASSISTANCE	-
Subtotal - Debt Charges to be Excluded	-
NET DEBT CHARGES	2,039,751
TOTAL REVENUE FUND REVENUES	24,222,627
FEES FOR TILE DRAINAGE AND SHORELINE ASSISTANCE	-
GRANT FROM GOVERNMENT OF ONTARIO, GOVERNMENT OF CANADA AND OTHER MUNICIPALITIES	
Ontario Grants	4,652,896
Canada Grants	133,579
Deferred Revenue earned (Canada Gas Tax)	-
Other Municipalities	75,623
Gain/Loss on sale of land & capital assets	(57,599)
Deferred revenue earned (Development Charges)	-
Subtotal	4,804,499
FEES AND REVENUES FOR JOINT LOCAL BOARDS, FOR HOMES FOR THE AGED	-
NET REVENUE FUND REVENUES	19,418,128
25% OF NET REVENUE FUND REVENUE	4,854,532
ANNUAL REPAYMENT LIMIT - 25% of Net Revenue Fund Revenues less Net Debt Charges	2,814,781

Debt Capacity Ratio	11%
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For illustration Purposes Debt Availability

If the Municipality could borrow at 7% or 9% annually, the annual repayment limit shown on annual repayment limit would allow it to undertake additional long-term borrowing as follows:

7% Debenture Rate for:	
20 years	29,819,830
15 years	25,636,783
5 years	11,541,158
9% Debenture Rate for:	
20 years	25,694,857
15 years	22,689,073
5 years	10,948,516

APPENDIX I: UNOFFICIAL FINANCIAL BUDGET (2015)

Description	Actuals			Budget
	2012	2013	2014	2015
General Operating Fund				
Sanitary Sewers				
Licences/Permits	-	-	5,785	8,000
Repairs & Maintenance - Equipment	3,183	31	-	1,000
Sewage Water Alleviation Program	6,723	6,079	8,993	5,000
Sewer/Gas Problem	-	-	3,901	5,000
Septic Tank Pumping	28,596	25,610	26,105	25,000
Total Sanitary Sewers	38,503	31,719	44,784	44,000
OCWA - Beardmore				
Contractors	-	10,840	-	-
OCWA Water Operating Charges	283,463	226,964	244,514	268,590
OCWA Sewer (Lagoon) Operating Charges	-	64,833	72,762	20,000
OCWA Water Maintenance/Repairs	3,892	1,647	620	7,000
OCWA Sewer Maintenance/Repairs	7,735	3,097	800	11,000
Repairs & Maintenance - Bldg./Grounds	-	1,167	-	5,000
Total OCWA - Beardmore	295,090	308,547	318,696	311,590
OCWA - Geraldton				
Contractors	27,686	9,006	1,526	2,000
OCWA Water Operating Charges	335,175	343,151	350,550	331,953
OCWA Sewer Operating Charges	353,563	358,413	341,440	336,430
OCWA Water Maintenance/Repairs	6,060	14,779	30,584	10,000
OCWA Sewer Maintenance/Repairs	55,435	63,477	29,610	19,584
Repairs & Maintenance - Bldg./Grounds	3,857	8,762	10,599	10,000
Utilities	13,511	17,237	20,720	17,000
Total OCWA - Geraldton	795,288	814,826	785,029	726,967
OCWA - Longlac				
Contractors	2,868	-	-	1,000
OCWA Water Operating Charges	315,801	352,544	320,245	294,684
OCWA Sewer Operating Charges	272,918	276,703	273,088	271,823
OCWA Water Maintenance/Repairs	17,856	7,847	21,278	27,314
OCWA Sewer Maintenance/Repairs	37,295	39,337	11,180	32,654
Repairs & Maintenance - Bldg./Grounds	2,807	5,022	9,997	10,000
Total OCWA - Longlac	649,546	681,454	635,788	637,475
OCWA - Nakina				
OCWA Water Operating Charges	193,153	190,277	186,083	170,886
OCWA Sewer Operating Charges	91,040	86,597	79,401	90,660
OCWA Water Maintenance/Repairs	19,521	17,983	5,651	9,744
OCWA Sewer Maintenance/Repairs	23,787	13,000	14,216	7,564
Repairs & Maintenance - Bldg./Grounds	-	464	-	500
Total OCWA - Longlac	327,502	308,321	285,350	279,354
OCWA - Greenstone				
Insurance	3,707	4,112	5,031	5,683
OCWA Misc. Oper. Charges/Boat Rental	5,700	2,155	2,680	2,500
OCWA Sludge Bed Billings	51,591	53,547	35,020	35,000
Lead Sampling Program	3,000	-	-	-
Total OCWA - Greenstone	63,998	59,814	42,731	43,183
OCWA - Caramat				
OCWA Water Operating Charges	79,607	101,567	83,917	91,336
OCWA Sewer Operating Charges	16,976	24,543	9,501	25,232
OCWA Water Maintenance/Repairs	20,049	766	725	25,460
OCWA Sewer Maintenance/Repairs	1,840	3,364	-	3,700
Repairs & Maintenance - Bldg./Grounds	-	677	-	1,000
Utilities	14,565	12,657	11,751	15,000
Total OCWA - Caramat	133,037	143,572	105,895	161,728

Description	Actuals			Budget
	2012	2013	2014	2015
Sludge Beds - Greenstone				
Contractors	9,188	-	2,454	3,000
Licenses/Permits	61	7,271	1,282	1,000
Repairs & Maintenance - Grounds	-	-	1,306	5,000
Well Monitoring	3,027	-	-	5,000
Total Sludge Beds - Greenstone	12,276	7,271	5,042	14,000
Waterworks - Beardmore				
Contractors	857	-	-	-
Repairs & Maintenance - Equipment	20	328	11	500
Total Waterworks - Beardmore	877	328	11	500
Waterworks - Geraldton				
Contractors	27,688	32,694	23,675	25,000
Repairs & Maintenance - Equipment	33,937	38,888	31,181	30,000
Total Waterworks - Beardmore	61,624	71,582	54,856	55,000
Waterworks - Longlac				
Contractors	14,832	7,123	4,815	10,000
Repairs & Maintenance - Equipment	10,194	8,024	10,886	10,000
Telephone	420	474	474	500
Utilities	2,900	2,394	1,891	2,800
Total Waterworks - Longlac	28,346	18,016	18,066	23,300
Waterworks - Nakina				
Contractors	10,746	3,550	4,650	5,000
Repairs & Maintenance - Equipment	7,440	5,977	4,154	7,000
Total Waterworks - Nakina	18,186	9,527	8,805	12,000
Waterworks - Greenstone				
Amortization Expense - Water Works	211,583	263,537	-	-
Equipment Rentals	216	-	-	-
Insurance	3,707	4,112	5,031	5,683
Licenses/Permits	6,491	4,220	50	4,500
Environmental Compliance Costs	122	-	-	-
Total Waterworks - Greenstone	222,119	271,869	5,081	10,183
Waterworks - Caramat				
Telephone	1,423	1,755	1,193	1,000
Utilities	1,808	619	-	1,000
Total Waterworks - Caramat	3,231	2,374	1,193	2,000
Total Operating Expenditures	2,649,622	2,729,220	2,311,326	2,321,280
Capital Related				
Debenture #1 (Principal + Interest)	197,450	197,450	197,450	197,450
Debenture #2 (Principal + Interest)	320,907	320,907	320,907	320,907
Debenture #3 (Principal + Interest)	135,326	135,326	135,326	135,326
Transfers to Reserves Fund				
Total Capital Related	653,684	653,684	653,684	653,684
Total Expenditures	3,303,306	3,382,904	2,965,010	2,974,964
Revenues				
Water				
W/S Interest/Penalties	61,331	67,383	80,407	80,520
Ginoogaming/Res. #58 W/S Agreement	48,000	48,000	48,000	48,000
Water User Charges	1,053,140	1,102,457	1,241,782	1,289,900
Water Metered User Charges	125,052	167,121	184,207	191,500
Ginoogaming Metered Water Charges	28,202	35,376	56,922	59,300
Reserve #58 Metered Water Charges	51,228	58,822	66,470	69,100
Water Dis./Connect Charges	7,267	8,950	9,100	9,300
Water Frontage	1,566	1,566	-	-
Total Water	1,375,786	1,489,675	1,686,887	1,747,620

Description	Actuals			Budget
	2012	2013	2014	2015
Sewer				
Sewer User Charges	905,650	953,900	1,083,165	1,125,300
Sewer Metered User Charges	113,569	146,149	160,204	166,600
Ginoogaming Sewer Charges	25,946	32,546	52,368	54,600
Reserve #58 Sewer Charges	47,130	54,116	61,152	63,600
Sewer Frontage	27,581	21,088	21,088	21,500
Total Sewer	1,119,876	1,207,799	1,377,977	1,431,600
Total Operating Revenues	2,495,661	2,697,474	3,064,864	3,179,220
Total Generating Operating Fund	\$ (807,645)	\$ (685,430)	\$ 99,854	\$ 204,256