



**GLWA**  
*Great Lakes Water Authority*

# Comprehensive Annual Financial Report

*Fiscal Year Ended June 30, 2017*



We are  
***One water.***

*Striving to be the preferred provider of water and wastewater services in southeast Michigan.*

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# GREAT LAKES WATER AUTHORITY

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## CHIEF EXECUTIVE OFFICER'S TRANSMITTAL LETTER

MONTH XX, 2018

Board of Directors  
Great Lakes Water Authority

Dear Members of the Board,

I am pleased to present the Comprehensive Annual Financial Report (CAFR) of the Great Lakes Water Authority ("GLWA" or "Authority") for the fiscal year ended June 30, 2017. These financial statements were prepared in accordance with U.S. generally accepted accounting principles (GAAP) and audited by a firm of independent certified public accountants.

Our regional water system is one of the largest in the United States, both in terms of water produced and population served. The system currently serves an area of 981 square miles located in eight Southeastern Michigan counties and an estimated population of nearly 3.8 million or approximately 38 percent of Michigan's population.

Our regional wastewater system is also one of the largest in the United States, both in terms of treatment capacity and population served. The wastewater system currently serves an area of 850 square miles located in three Southeastern Michigan counties and an estimated population of nearly 2.8 million or approximately 28 percent of Michigan's population.

### GLWA as a Model of Regional Collaboration

GLWA was incorporated by the City of Detroit (the "City") and the counties of Macomb, Oakland and Wayne on November 26, 2014 pursuant to Act 233, Public Acts of Michigan, 1955, as amended. At the time of GLWA's incorporation, the City, through its Detroit Water and Sewerage Department ("DWSD"), was providing water supply services within and outside of the city through a water supply system and drainage and sewage disposal services within and outside of the city through a sewage disposal system.

On June 12, 2015, the City and GLWA executed Regional Water Supply and Sewerage Disposal System Leases (the "Leases"), transferring the regional water and sewer facilities from the City to GLWA for an initial term of 40 years, as well as a Water and Sewer Services Agreement, pursuant to which GLWA provides water and sewer services to the City; the City then supplies these services to Detroit retail customers.

The above agreements required the satisfaction of several conditions before becoming effective. By January 1, 2016 (the "Effective Date"), those conditions were met and GLWA, under the terms of the Leases, became responsible for the assets, all bonded indebtedness as well as other obligations, and operations for the regional water and wastewater systems.

GLWA leases the regional water and sewer facilities from the City for an allocation of \$50 million per year to fund capital improvements for the City's retail system and/or for servicing the debt obligations. GLWA also funds a Water Residential Assistance Program to assist low-income residential households in enrolled member partner communities.

## Financial Highlights

GLWA is committed to ensuring the long-term sustainability of the water and sewer systems. Below are three key financial highlights:

1. Strong liquidity with 959 days cash on hand for the water system and 495 days for the sewer system as shown on the Schedule of Days Cash on page 85.
2. Excellent debt service coverage for all bonds at 1.64 times for the water system and 1.51 times for the sewer system as described in the Debt Service Coverage schedule on page 115.
3. Sound operational results with an overall positive budget variance of \$10.1 million, or 9.1%, for the water system and \$24.5 million, or 14.1%, for the sewer system as shown on the Schedule of Operations and Maintenance Expense (Budget to Actual) for each system on pages 80 to 83. The positive budget variances support subsequent year pay-as-you go capital investment.

## Commitment to Excellence

Every month, I highlight the many accomplishments of our valued member partners and talented team working together to benefit the region in the CEO Report. Here are some highlights for FY 2017.<sup>1</sup>

### July 2016 - Water Operations Receives Water Quality Recognition

GLWA has received the "10-Year Directors Award" from the Partnership for Safe Water, a program developed by the EPA, American Water Works Association (AWWA), and associated partner organizations to guide water systems towards improving water quality by optimizing system operations. GLWA was part of a select group of utilities honored by the Partnership at the annual AWWA conference, the largest and oldest worldwide organization dedicated to safe water.

### August 2016 - Security & Integrity Sponsors Regional Emergency Planning

GLWA's Security & Integrity Group hosted a table top exercise utilizing its recently updated emergency response plan. Participants included the City of Detroit, Wayne County, the State of Michigan, the Michigan Department of Environmental Quality and GLWA staff.

### September 2016 - Rating Agencies Recognize Steady Progress

GLWA received positive ratings actions from all three ratings agencies - Fitch Ratings, Moody's Investors Service and S&P Global Ratings, and became an "A" rated utility after nine months of operation as an independent regional water and sewer authority.

Fitch Ratings provided a substantial upgrade in ratings for senior and second lien debt, moving GLWA's outstanding bonds up three notches from "BBB" to an "A" rating with a stable outlook for its senior lien, and from "BBB-" to "A-" for its second lien.

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<sup>1</sup> Available online at: <http://www.glwater.org/executive-management/ceo-reports/>

Moody's Investors Service upgraded GLWA's credit rating to A3 and its second lien debt to Baa1 (the second upgrade in nine months).

S&P Global Ratings revised the stable outlook to positive for both senior lien and second lien bonds.

#### October 2016 - Thank You to Our Investors

GLWA's inaugural bond transaction priced which included nearly \$1.1 billion for refunding of outstanding debt and \$251.8 million for new capital projects for the regional and Detroit local water systems. As a result of the favorable interest rates on the bonds, GLWA will realize a net cash flow savings of \$309.1 million over the life of the refinanced bonds.

#### November 2016 - Systems Planning Presents New Capital Improvement Plan

The Asset Management/Capital Planning team presented a new business case evaluation and criteria to the Board's Capital Improvement Planning Committee. The in-depth capital analysis and business case for each capital project supports improved decision making and financial metrics and is based upon best practices in the water and sewer sectors.

#### December 2016 - Public Affairs Prepares 2016 "Year in Review"

GLWA Public Affairs Group prepares for the launch of our inaugural "Year in Review" (YIR) for 2016 where we annually highlight the accomplishments achieved during the previous year. The YIR is presented to our team members via Town Hall-style meetings at each GLWA location where I get a chance to thank each team member (across all shifts) for their service and hear firsthand what is on their mind.<sup>2</sup>

#### January 2017 - System Analytics Water Audit Consultant Selected

GLWA strives to achieve equity and stability for its customers. For this reason, the System Analytics and Meter Operations Group engaged a consultant to perform a "Water Units of Service for Non-Master Metered Customers and System Water Audit". This project followed the American Water Works Association standard water audit compilation and review process. Results from phase 1 of the study will be used in setting the FY 2019 customer charges.

#### February 2017 - Information Technology Security Updates

GLWA continues to invest in technology and the security of its systems. The Information Technology Group implemented a Distributed Denial of Services protection for GLWA and for our shared service partner, DWSD. In addition, the Barracuda web filter was upgraded to provide further protections as well as other enhanced security measures.

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<sup>2</sup> Year in Review online at <http://www.glwater.org/wp-content/uploads/2017/03/2016-Year-End-Review.pdf>.

### March 2017 - Organizational Development Launches Apprenticeship Program

Seeking innovative ways to approach hard-to-fill jobs, GLWA launches a three-year apprenticeship program to hire and train Electrical Instrument Control Technicians (EICTs) in partnership with Focus: HOPE and Henry Ford College. This program will develop a workforce to fill a GLWA or our customers' skill gap in the employment market. Upon successful completion of the program, individuals will have obtained their EICT-I certification from Henry Ford College, receive a U.S. Department of Labor journeyman card, and full-time employment at a starting wage of \$25 per hour.

### April 2017 - Regional Collaboration Expands - City of Flint Selects GLWA Water

An historic collaboration among GLWA, City of Flint, Genesee County Drain Commissioner, Karegnondi Water Authority, and the State of Michigan resulted in the signing of a Statement of Principles for Long Term Water Delivery to the City of Flint. GLWA has become the primary water source for the City of Flint and now also provides backup service for Flint, GLWA and Genesee County customers utilizing the public investments already made by the parties with minimal new investments. This ended a 17-year timeframe in which Flint considered other water supply options. All agreements were finalized in December 2017.

### May 2017 - Systems Planning Group Wastewater Master Plan Study Underway

Beginning in April, the Wastewater Master Plan Steering Committee launched monthly meetings with engaged stakeholders. The collaboration opportunities are significant not only for GLWA, but other similar sewage treatment operations in the region as a whole. The master plan is a long-term project which would ultimately develop a roadmap to go from "clean to green" as we are on a trajectory of being a clean system to a Utility of the Future.

### June 2017 - GLWA Board Approves Budget and Charges for FY 2018

Due to excellent financial performance as we neared the end of FY 2017, the GLWA Board adopted drinking water charges at 2 percent overall and limited sewer charges to an overall 1.9 percent increase for FY 2018.

These are a few of the examples of how the good work that is done every day at GLWA leads to excellence that supports a financially sustainable system for many generations to come.

### Overview of the Financial Report

This report consists of management's representations concerning the finances of GLWA. Consequently, management assumes full responsibility for the completeness and reliability of all the information presented in this report. To provide a reasonable basis for making these representations, GLWA management has established a comprehensive internal control framework that is designed both to protect the entity's assets from loss, theft, or misuse and to compile sufficient reliable information for the preparation of the Authority's financial statements in conformity with GAAP. Because the cost of internal controls should not outweigh their benefits, GLWA's comprehensive framework of internal controls has been designed to provide reasonable rather than absolute assurance that the financial statements will be free from material misstatement. As management, we assert that, to the best of our knowledge and belief, this financial report is complete and reliable in all material respects.



The Authority's financial statements have been audited by Rehmann Robson LLC, a firm of licensed certified public accountants. The goal of the independent audit was to provide reasonable assurance that the financial statements of the Authority for the fiscal year ended June 30, 2017 are free of material misstatement. The independent audit involved examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements; assessing the accounting principles used and significant estimates made by management; and evaluating the overall financial statement presentation. The independent auditor concluded, based upon the audit, that there was a reasonable basis for rendering an unmodified opinion that GLWA's financial statements for the fiscal year ended June 30, 2017 are fairly presented in conformity with GAAP. The independent auditor's report is presented as the first component of the financial section of this report.

GAAP requires that management provide a narrative introduction, overview, and analysis to accompany the basic financial statements in the form of Management's Discussion and Analysis (MD&A). This letter of transmittal is designed to complement the MD&A and should be read in conjunction with the basic financial statements. GLWA's MD&A can be found immediately following the report of the independent auditors.

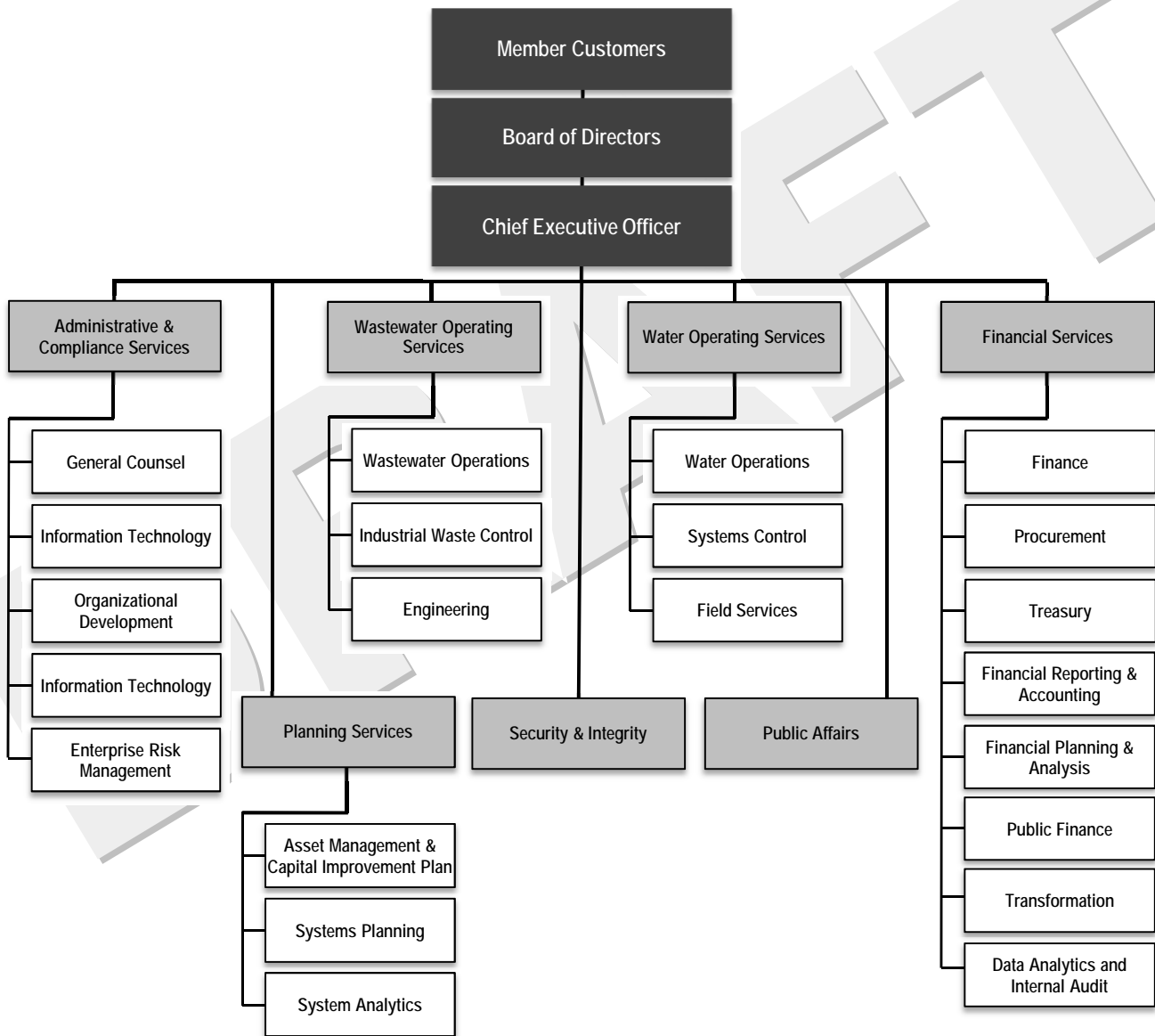
#### Acknowledgements

When we say "our" system, it is "our" system that we mutually support and foster with our member partners, team members, vendor community, Board of Directors, other stakeholders and the public. Thank you for your continued engaged participation and interest.

Sue McCormick  
Chief Executive Officer



## Organizational Line of Reporting Chart



## Great Lakes Water Authority Board of Directors

Robert J. Daddow ..... GLWA Board Chairman; Representative for Oakland County  
Freman Hendrix ..... GLWA Board Vice Chair; Representative for the City of Detroit  
Brian Baker..... GLWA Board Secretary; Representative for Macomb County  
Gary A. Brown ..... GLWA Board Representative for City of Detroit  
Craig Hupy ..... GLWA Board Representative for the State of Michigan  
Abe Munfakh, PE ..... GLWA Board Representative for Wayne County

## Great Lakes Water Authority Executive Leadership Team

Sue F. McCormick ..... Chief Executive Officer  
William M. Wolfson ..... Chief Administrative and Compliance Officer/General Counsel  
Nicolette N. Bateson, CPA ..... Chief Financial Officer/Treasurer, Financial Services  
Cheryl D. Porter ..... Chief Operating Officer - Water & Field Services  
Terri Tabor Conerway ..... Chief Organizational Development Officer  
Suzanne R. Coffey, PE... Chief Planning Officer/Interim Chief Operating Officer - Wastewater  
Michelle A. Zrodowski..... Chief Public Affairs Officer  
Jeffrey E. Small ..... Chief Information Officer  
W. Barnett Jones..... Chief Security and Integrity Officer

## Mission Statement

To exceed our customers' expectations by utilizing best practices in the treatment and transmission of water and wastewater, while promoting healthy communities and economic growth.

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## INDEPENDENT AUDITORS' REPORT

MONTH XX, 2017

To the Board of Directors of the  
Great Lakes Water Authority  
Detroit, Michigan

### Report on the Financial Statements

We have audited the accompanying financial statements of the business-type activities and each major fund of the *Great Lakes Water Authority* (the "Authority") as of and for the year ended June 30, 2017, and the related notes to the financial statements, which collectively comprise the Authority's basic financial statements as listed in the table of contents.

#### *Management's Responsibility for the Financial Statements*

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

#### *Independent Auditors' Responsibility*

Our responsibility is to express opinions on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on auditor judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Authority's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

### *Opinions*

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the business-type activities and each major fund of the Great Lakes Water Authority as of June 30, 2017, and the respective changes in financial position and cash flows thereof for the year then ended in conformity with accounting principles generally accepted in the United States of America.

### *Required Supplementary Information*

Accounting principles generally accepted in the United States of America require that management's discussion and analysis and the schedules for the pension plan, as listed in the table of contents, be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the required supplementary information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

### *Other Information*

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the Authority's basic financial statements. The introductory section, combining and individual fund schedules, and statistical section are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The introductory section, statistical section and the combining and individual fund schedules are the responsibility of management and have not been subjected to the auditing procedures applied in the audit of the basic financial statements and, accordingly, we do not express an opinion or provide any assurance on them.

**Other Reporting Required by *Government Auditing Standards***

In accordance with *Government Auditing Standards*, we have also issued, under separate cover, our report dated MONTH XX, 2017 on our consideration of the Authority’s internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Authority’s internal control over financial reporting and compliance.

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**MANAGEMENT'S DISCUSSION AND ANALYSIS**

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# GREAT LAKES WATER AUTHORITY

## Management's Discussion and Analysis

June 30, 2017

The management of the Great Lakes Water Authority (GLWA or Authority) presents this discussion and analysis of GLWA's financial position and changes in financial position as of and for the fiscal year ended June 30, 2017. The Management's Discussion and Analysis (MD&A) should be read in conjunction with GLWA's basic financial statements and the related notes to the financial statements. Capitalized terms not otherwise defined in the MD&A shall have the meaning given such terms in the transmittal letter from the Chief Executive Officer of GLWA that accompanies the financial statements and the MD&A.

### Introduction to the Great Lakes Water Authority

*Our regional water system* is one of the largest in the United States, both in terms of water produced and population served. The Water System currently serves an area of 981 square miles located in eight Michigan counties and an estimated population of nearly 3.8 million or approximately 38% of Michigan's population. Suburban wholesale customers comprise approximately 82% of the population served by the Authority while the retail water customers served by the City of Detroit Water and Sewerage Department (DWSD) comprise the remaining 18%.

*Our regional sewer system* is one of the largest in the United States, both in terms of treatment capacity and population served. The Sewer System currently serves an area of 850 square miles located in three Michigan counties and an estimated population of nearly 2.8 million or approximately 28% of Michigan's population. Suburban wholesale customers comprise approximately 75% of the population served by the Authority, while retail sewer customers served by the City of Detroit Water and Sewerage Department comprise the remaining 25%.

GLWA began operations on January 1, 2016. This fiscal year ended June 30, 2017 report represents the first twelve-month report for GLWA.

### A New Organization with a Long History of Quality Service

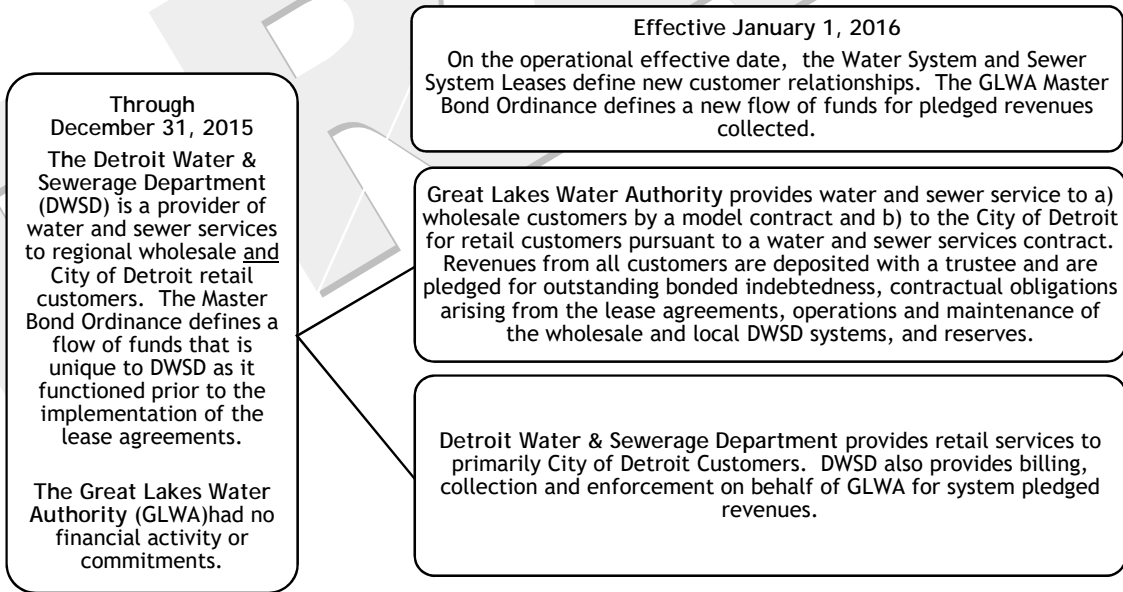
The creation of a regional water authority was an outcome of the City of Detroit's Chapter 9 Bankruptcy. Collaboration among regional stakeholders, supported by mediation proceedings, resulted in a "Memorandum of Understanding Regarding the Formation of the Great Lakes Water Authority" signed on September 9, 2014 by the Mayor of the City of Detroit, the Chief Executives of Wayne, Oakland, and Macomb counties, and the Governor of the State of Michigan. The agreement established a framework for a regional water and sewer authority to be established pursuant to Act 233, Public Acts of Michigan, 1955, as amended. The purpose of GLWA is to operate, control, and improve the regional assets of both the Water System and Sewer System owned by the City and which were operated by DWSD. The purpose of DWSD is to be the service provider for the retail system which is largely the City of Detroit customer base.

# GREAT LAKES WATER AUTHORITY

## Management's Discussion and Analysis

Subsequently, on June 12, 2015, the City of Detroit and GLWA entered into a Regional Water Supply Lease, a Regional Sewage Disposal Lease (collectively the “Leases”) and a Water and Sewer Services Agreement (“WSSA”). Prior to implementation of the Leases, several conditions precedent were necessary to establish the financial and legal parameters before the GLWA could assume control of the Regional Systems. Those conditions precedent included execution of the Leases, WSSA, a Shared Services Agreement, and a Detroit General Retirement pension agreement; adoption of a Master Bond Ordinance (“MBO”) for both the Water System and the Sewer System; confirmation from the Michigan Department of Environmental Quality that all permits were secured for the Leased Facilities; certification from the bond trustee that no less than 51% of bondholders of the outstanding DWSD Water Bonds and DWSD Sewer Bonds, respectively, consented to the adoption by GLWA of the MBO for the Water System and the Sewer System and to the assumption by GLWA of the outstanding DWSD Water Bonds and DWSD Sewer Bonds on the Effective Date; certification from the feasibility consultant that GLWA had the ability to issue at least one dollar of additional indebtedness at each level of lien priority pursuant to the Additional Bonds Test set forth in the Master Bond Ordinance for each system; legal opinions that each Lease is valid, binding, and enforceable and that the rates adopted by DWSD for fiscal year 2016 for the wholesale and City customers were binding and effective; and all necessary consents to the assignment of the wholesale customer contracts. On December 17, 2015, the GLWA Board determined that all conditions precedent were satisfied to commence operations on January 1, 2016.

Activity for the Leases was recorded based upon GASB 69, *Government Combinations and Disposals of Government Operations*. Equally important to the accounting treatment is the requirement of the flow of funds in the related MBO. Since GLWA assumed the outstanding bonded indebtedness, retail customer revenues are pledged for payment of outstanding bonded indebtedness assumed by GLWA. For this reason, pursuant to the terms of the Leases, DWSD is GLWA’s agent for retail billing, collections and enforcement. The chart below depicts the DWSD and GLWA customer relationship and the impact of the MBO flow of funds.



# GREAT LAKES WATER AUTHORITY

## Management's Discussion and Analysis

### Leases Accounting Treatment

Key Statement of Net Assets implications include the following:

**Capital Assets:** Capital assets subject to the Leases were recorded at “acquisition value” based upon an inventory valuation performed by a certified appraisal firm as of January 1, 2016. This resulted in an overall increase in capital asset value from the predecessor entity’s historical cost. Accordingly, the depreciable lives were reviewed and, in several cases shortened, which has increased annual depreciation expense.

**Bonded Indebtedness:** The outstanding bonded indebtedness of the predecessor entity was assumed in its entirety by GLWA. GASB 69 also required debt to be recorded at acquisition value.

**Net Pension Liability:** The net pension liability represents the Regional Systems’ share of the frozen, defined benefit City of Detroit General Retirement (GRS) pension assigned to DWSD in the City of Detroit’s Chapter 9 Bankruptcy Plan of Adjustment. On January 24, 2017, the parties agreed that 70.3% of the liability was allocable to the GLWA regional operations and 29.7% to DWSD and is the basis of allocation for future pension contributions. That net pension liability is further subdivided between the Water System and the Sewer System for each entity.

**Obligation Payable:** The obligation payable represents the Regional Systems’ share of the B and C Note Obligations assigned to DWSD in the City of Detroit’s Chapter 9 Bankruptcy Plan of Adjustment. The B and C Note Obligations refers to the debt service on City of Detroit Financial Recovery Bonds dated December 10, 2014. Those bonds were issued to satisfy claims relating to the City’s pension obligation certificates and postemployment healthcare benefits. GLWA’s portion of the liability was estimated at 70.3% of the total liability consistent with the allocation applied to the net pension liability.

**Beginning Net Position:** The acquisition value of assets acquired exceeded the liabilities assumed by \$736.5 million in total with \$457.9 million attributable to the Water System and \$278.6 million attributable to the Sewer System. In accordance with GASB 69, the opening capital assets were adjusted by an amount to establish a total net position of zero as of January 1, 2016.

**Contractual Obligation Receivable:** This represents DWSD’s allocable portion of the long-term bonded indebtedness assumed by GLWA on January 1, 2016. This receivable is amortized annually in an agreed upon amount that approximates debt service. If new debt is issued on behalf of DWSD, the receivable is increased.

**Lease Payable:** The lease payable is the net present value of the lease payment of \$50 million per year for 40 years payable to the DWSD with \$22.5 million paid to the DWSD local water system and \$27.5 million paid to the DWSD local sewer system based on a 4.17% borrowing rate for both systems.

### 2018 Memorandum of Understanding Term Sheet

In the course of operations, GLWA and DWSD determined that it would be in their mutual interest to clarify certain matters pertaining to the operation of the Leases and WSSA. Discussions began in 2016 regarding creation of a Memorandum of Understanding (“MOU”) to accomplish that goal. This led to the drafting of a Term Sheet, and ultimately an MOU, with the intent to (a) provide clarification of specific sections of the Leases, WSSA and the MBO, (b) make adjustments contemplated by the Leases and the WSSA and (c) address the liquidation of specific liabilities. On April 3, 2018, the Board of Directors for the Great Lakes Water Authority approved the MOU Term Sheet (“Term Sheet”). On April 4, 2018, the Board of Water Commissioners for DWSD approved the same Term Sheet. The final MOU agreement is expected to be completed within the subsequent 90 days.

# GREAT LAKES WATER AUTHORITY

## Management's Discussion and Analysis

The 2018 MOU Term Sheet resulted in a special item of \$94.3 million with \$32.8 million attributable to the water system and \$61.5 million attributable to the sewer system which increased the deficit. Despite the special item, the clarifications provided by the Term Sheet provide other long-term benefits for both parties which largely negate the impact over time.

### Financial Highlights

Total business-type current assets of \$834.8 million exceed current liabilities of \$318.1 million by \$516.7 million in total or 2.6 times. For the Water System, current assets of \$426.4 million exceed current liabilities of \$136.4 million by \$290.0 million in total or 3.1 times. For the Sewer System, current assets of \$408.3 million exceed current liabilities of \$181.8 million by \$226.5 million in total or 2.2 times.

The liabilities and deferred inflows of resources of the business-type activities exceeded the assets and deferred outflows of resources as of June 30, 2017 by \$102.8 million (a net deficit). The net deficit for the water fund was \$36.5 million and \$66.3 million for the sewage disposal fund.

The largest category of expense is depreciation at \$329.8 million in total with \$144.2 million for the water fund and \$185.6 million for the sewage disposal fund. The depreciation is based upon the assets that were recorded at acquisition value on January 1, 2016 as previously noted. The second largest category of expense is interest expense at \$291.6 million in total with \$132.4 million for the water fund and \$159.2 million for the sewage disposal fund.

### Overview of the Financial Statements

This discussion and analysis is intended to serve as an introduction to the Authority's basic financial statements. The basic financial statements are comprised of the following:

The *statement of net position* presents information on all of the Authority's assets, deferred outflows of resources, liabilities, and deferred inflows of resources, with the residual reported as net position.

The *statement of revenues, expenses and changes in net position* presents information showing how the Authority's net position changed during the year. All changes in net position are reported as soon as the underlying event giving rise to the change occurs, *regardless of the timing of related cash flows*. Thus, revenues and expenses are reported for some items that will only result in cash flows in future fiscal periods.

The *statement of cash flows* provides information about the Authority's cash receipts, cash payments and net changes in cash and cash equivalents resulting from operating, investing and capital and non-capital financing activities for the fiscal year.

The *notes to the financial statements* provide additional information that is essential to a full understanding of the data provided in the basic financial statements.

This report also contains other supplementary information in addition to the basic financial statements themselves. These schedules provide additional financial, budgetary, statistical, trend, and economic information that may be helpful to the readers of these financial statements.

# GREAT LAKES WATER AUTHORITY

## Management's Discussion and Analysis

The Authority presents a combining statement for each system in the supplementary financial information classified into three categories that align with the Authority's strategic and budgetary focus of managing capital investment for both the Regional Water System and Regional Sewer System: 1) operation and maintenance (low capital investment), 2) improvement and extension (moderate capital investment and financial mechanism to lower the cost of capital over the long term), and 3) construction projects (high capital investment). The water and sewage disposal funds together comprise the activity of these three categories of the Authority in total. The separate water and sewage disposal funds are required by the MBO, a separate credit rating is established for each fund, and the customers and services provided by each system are separate and distinct.

### Financial Analysis

Summaries of the basic financial statements and related commentaries are presented below.

#### Net Position

Net position is defined by the accounting standards as the residual of all other elements presented in a statement of financial position. It is the difference between (a) assets and deferred outflows of resources and (b) liabilities and deferred inflows of resources. A net deficit occurs when the liabilities and deferred inflows exceed assets and deferred outflows. Deferred inflows and deferred outflows generally relate to financing activity and GLWA's share of the GRS pension obligation. In total, GLWA ended June 30, 2017 with a \$102.8 million net deficit. The net deficit for the water fund was \$36.5 million and \$66.3 million for the sewage disposal fund.

	Net Position		
	Water Fund	Sewage Disposal Fund	Total
Current and other assets	\$ 873,202,483	\$ 683,922,878	\$ 1,557,125,361
Restricted assets	260,680,701	313,142,232	573,822,933
Capital assets	2,039,477,277	2,869,309,560	4,908,786,837
<b>Total assets</b>	<b>3,173,360,461</b>	<b>3,866,374,670</b>	<b>7,039,735,131</b>
Deferred outflows of resources	120,786,005	236,814,914	357,600,919
Long-term debt	2,629,859,336	3,301,937,037	5,931,796,373
Net pension liability	69,569,044	124,506,503	194,075,547
Other liabilities	561,718,746	681,884,056	1,243,602,802
<b>Total liabilities</b>	<b>3,261,147,126</b>	<b>4,108,327,596</b>	<b>7,369,474,722</b>
Deferred inflows of resources	69,473,490	61,222,831	130,696,321
<b>Net position</b>			
Net investment in capital assets	134,919,107	393,956,399	528,875,506
Restricted for debt service	26,194,280	107,931,677	134,125,957
Restricted for capital acquisition	172,974,994	150,930,508	323,905,502
Restricted for payment assistance program	2,218,373	3,117,744	5,336,117
Unrestricted (deficit)	(372,780,904)	(722,297,171)	(1,095,078,075)
<b>Total net position</b>	<b>\$ (36,474,150)</b>	<b>\$ (66,360,843)</b>	<b>\$ (102,834,993)</b>

# GREAT LAKES WATER AUTHORITY

## Management's Discussion and Analysis

There are three general components of a net position or deficit: 1) net investment in capital assets (in its simplest form, capital assets acquired less debt incurred to acquire those assets); 2) restricted (such as legally required bond reserves or net proceeds from bonds restricted for capital spending); and 3) unrestricted.

Net investments in capital assets is the largest component of the net position with a total balance of \$528.9 million (\$134.9 million the water fund and \$394.0 for the sewage disposal fund). Increases during the year were attributable to the acquisition of assets and repayment of debt which were both largely offset by depreciation expense.

Net position restricted for debt service represents amounts that are required by the related MBO or other third-party agreements to be used for the repayment of debt. The total amount restricted at year end was \$134.1 million with \$26.2 million in the water fund and \$107.9 million for the sewage disposal fund.

Net position restricted for capital acquisition primarily represents unspent bond proceeds of \$323.9 million in total with \$173.0 million in the water fund and \$150.9 million in the sewage disposal fund.

The remaining unrestricted deficit is significant: a total of \$1.1 billion with \$372.8 million for the water fund and \$722.3 for the sewage disposal fund. Unrestricted net position (deficit) is generally defined as the net result of the other components of net position. This unrestricted deficit is representative of numerous cumulative historical financial activities over many years through the predecessor entity. The largest dollar amounts were driven by swap termination fees paid by debt and capital financed assets that were subsequently written off. Addressing this deficit is a top priority for the GLWA Board and management but recognizes that it will take time. GLWA continues to optimize its operations, focus on financial planning with a biennial budget, annually update the five-year capital and financial plan, and expand its expertise in asset management.

### Change in Net Position

#### Water Fund

As shown in the table below, wholesale water customer charges of \$331.1 million account for 94.1% of Water System revenues from 88 customers. Revenue and charge stability are important goals for GLWA and its member partners. Working within a collaborative process, the water charge structure is based on the following:

1. 40% is based on the average annual sales for each customer from their 36 prior months of usage ending September 30th each year.
2. 60% is based on fixed monthly charges.
3. Fiscal year 2017 revenue billed was 106% of budget meeting the goal of revenue stability.

Local system revenues of \$15.5 million account for 4.4% of the total operating revenue. Pursuant to the terms of the WSSA with DWSD, a \$20.7 million credit is applied against water purchases in the charge methodology. This credit replaces a previous ownership benefit that was in place prior to the Effective Date of the Regional System.

# GREAT LAKES WATER AUTHORITY

## Management's Discussion and Analysis

The remaining 1.5% of revenue is mainly due to the bad debt recovery. Collections on the retail customers prior balances has resulted in a positive adjustment to the allowance for doubtful accounts.

	Amount	Percent of Operating Revenues
Wholesale customer charges	\$ 331,115,131	94.1%
Local system charges	15,490,300	4.4%
Bad debt recovery	5,107,125	1.5%
Other revenues	37,388	0.0%
	<u>37,388</u>	
Total operating revenues	<u>\$ 351,749,944</u>	

Operating expenses of \$245.9 million represent 69.9% of total operating revenue. Depreciation is the largest operating expense at \$144.1 million or 58.6% of operating expense. The remaining 41.4% of operating expenses is as follows:

	Amount	Percent of Operating Expenses
Personnel	\$ 38,261,393	15.6%
Contractual services	34,257,419	13.9%
Utilities	28,469,603	11.6%
Chemicals	5,340,753	2.2%
Supplies and other expenses	7,982,562	3.2%
Capital program allocation	(977,762)	-0.4%
Shared services allocation	(11,603,019)	-4.7%
	<u>(11,603,019)</u>	
Total operating expenses before depreciation	<u>\$ 101,730,949</u>	

The largest category of nonoperating activities is interest expense of \$132.4 million which is net of capitalized interest on construction work in progress. Interest expense before capitalization is largely attributable to debt service (\$119.4 million) with the remainder related to the Water Lease and obligation payable.

Operating income after operating expenses (including depreciation) equals \$105.9 million or 30.1% of operating revenue.

### Sewage Disposal Fund

As shown in the table below, wholesale customer charges of \$263.3 million account for 52.1% of Sewer System revenues from 18 customers. Wholesale customer charges are based on a "share" percentage of the annual budget billed one-twelfth each month. The shares are established based upon historical flows and are formally revisited every three years. The result is no revenue shortfall or overestimation.



# GREAT LAKES WATER AUTHORITY

## Management's Discussion and Analysis

Local system revenues of \$187.3 million account for 37.0% of total operating revenues. Pursuant to the terms of the WSSA with DWSD, a \$5.516 million credit is applied against sewer charges in the charge methodology. This credit replaces a previous ownership benefit that was in place prior to the Effective Date of the Regional System.

The remaining 10.9% of revenue is due to other charges such as industrial waste charges, pollutant surcharges which are charged to non-residential users. This also includes a bad debt recovery as collections on the retail customers prior balances has resulted in a positive adjustment to the allowance for doubtful accounts.

	Amount	Percent of Operating Revenues
Wholesale customer charges	\$ 263,311,745	52.1%
Industrial waste charges	14,381,106	2.8%
Pollutant surcharges	5,206,294	1.0%
Local system charges	187,304,100	37.0%
Bad debt recovery	35,065,030	6.9%
Other revenues	538,807	0.1%
	<u>538,807</u>	
Total operating revenues	<u>\$ 505,807,082</u>	

Operating expenses of \$336.9 million represent 66.6% of total operating revenue. Depreciation is the largest operating expense at \$185.6 million or 55.1% of operating expense. The remaining 44.9% of operating expenses is as follows:

	Amount	Percent of Operating Expenses
Personnel	\$ 47,894,911	14.2%
Contractual services	55,878,440	16.5%
Utilities	27,191,866	8.1%
Chemicals	9,424,428	2.8%
Supplies and other expenses	12,180,128	3.6%
Capital program allocation	(1,150,316)	-0.3%
Shared services allocation	(101,191)	0.0%
	<u>(101,191)</u>	
Total operating expenses before depreciation	<u>\$ 151,318,266</u>	

The largest category of nonoperating activities is interest expense of \$159.2 million which is net of capitalized interest on construction work in progress. Interest expense before capitalization is largely attributable to debt service (\$141.1 million) with the remainder related to the Sewer Lease and obligation payable.

# GREAT LAKES WATER AUTHORITY

## Management's Discussion and Analysis

Operating income after operating expenses (including depreciation) equals \$168.9 million or 33.4% of operating revenue.

	Change in Net Position		
	Water Fund	Sewage Disposal Fund	Total
Operating revenues	\$ 351,749,944	\$ 505,807,082	\$ 857,557,026
Operating expenses	245,868,861	336,946,731	582,815,592
Operating income	105,881,083	168,860,351	274,741,434
Nonoperating expenses	(105,452,057)	(163,470,934)	(268,922,991)
Income before contributions and special item	429,026	5,389,417	5,818,443
Capital contributions	-	320,707	320,707
Special item - MOU with DWSD	(32,811,581)	(61,478,682)	(94,290,263)
Change in net position	(32,382,555)	(55,768,558)	(88,151,113)
Net position, beginning	(4,091,595)	(10,592,285)	(14,683,880)
Net position, end of year	\$ (36,474,150)	\$ (66,360,843)	\$ (102,834,993)

### Capital Assets and Debt Administration

GLWA's investment in capital assets as of June 30, 2017 is \$4.9 billion (net of accumulated depreciation) with \$2.0 billion assigned to the Water System and \$2.9 billion assigned to the Sewer System. This investment in capital assets includes land, buildings, plants, transmission lines, vehicles and other equipment. Total net capital assets decreased by \$230.6 million or 4.5% when compared to the prior year. The net decrease is primarily attributable to depreciation in excess of current year additions.

#### Water Fund

Water System additions were largely due to construction work-in-progress of \$39.7 million.

Approximately one-half of that amount, \$18.9 million, is due to construction related to the following projects:

- Project # 114001: 1958 Filter Rehabilitation at the Springwells Water Treatment Plant (Contracts CS-1425, CS-200, SP-563). Fiscal year 2017 expenditures were \$11.4 million. Life to date costs through June 30, 2017 total \$82.9 million. The project is expected to be completed in fiscal year 2019.
- Project # 122012: 36-Inch Water Main in Telegraph Road (Contract WS-648A). Fiscal year 2017 expenditures were \$7.5 million. Life to date costs through June 30, 2017 total \$8.1 million. Project is expected to be substantially completed in fiscal year 2018.

# GREAT LAKES WATER AUTHORITY

## Management's Discussion and Analysis

- The remaining \$20.7 million is attributable to the 55 projects that are either near closeout in fiscal year 2018 or are design and study contracts related to larger projects.

### Sewage Disposal Fund

Sewer System additions were also largely due to construction work-in-progress of \$57.3 million.

Slightly more than one-half of that amount, \$33.1 million, is due to construction related to the following projects:

- Project # 260113: Remediation at the Water Resource Recovery Facility (WRRF)-Complex II. Fiscal year 2017 expenditures and life to date costs through June 30, 2017 total \$17.0 million. Work performed represents capital remediation related to a March 2016 WRRF fire and capital improvements and enhancements prioritized by the event. It is expected to be completed in fiscal year 2018.
- Project # 211001: Rehabilitation of Primary Clarifiers, Rectangular Tanks, Drain Lines, Electrical/Mechanical Building and Pipe Gallery (Contract PC-757). Fiscal year 2017 expenditures and life to date costs through June 30, 2017 total \$10.2 million. The project is expected to be completed in fiscal year 2020.
- Project # 212006: Rouge River Outfall Project (Contracts PC-797, CS-1781). Fiscal year 2017 expenditures were \$5.9 million. Life to date costs through June 30, 2017 total \$6.8 million. Project is expected to be completed in fiscal year 2019.
- The remaining \$24.2 million is attributable to the 35 projects that are either near closeout in fiscal year 2018 or are design and study contracts related to larger projects.

	GLWA's Capital Assets, Net		
	Water Fund	Sewage Disposal Fund	Total
Land	\$ 34,166,736	\$ 28,733,333	\$ 62,900,069
Easements	258,632,397	96,211,323	354,843,720
Construction in progress	159,386,541	153,341,462	312,728,003
Site improvements	44,469,705	26,085,887	70,555,592
Buildings and structures	502,131,859	997,629,533	1,499,761,392
Infrastructure	529,833,717	576,465,804	1,106,299,521
Machinery and equipment	509,861,713	989,666,708	1,499,528,421
Vehicles	994,609	1,175,510	2,170,119
<b>Total</b>	<b>\$ 2,039,477,277</b>	<b>\$ 2,869,309,560</b>	<b>\$ 4,908,786,837</b>

Additional information on the Authority's capital assets can be found in Note 5.

**Long-term Debt.** At year-end, the Authority had \$5.5 billion of long-term debt. All the outstanding bonds are revenue bonds, including capital appreciation bonds and state revolving fund loans.

# GREAT LAKES WATER AUTHORITY

## Management's Discussion and Analysis

### Water Fund

The total outstanding bonds for the Water System is \$2.4 billion, increasing by \$80.1 million from the prior year.

In October 2016, new revenue and refunding bonds in the amount of \$917,805,000 were issued for GLWA system improvements (\$201,090,000), refunding (\$665,975,000) and pass-thru of DWSD system improvements of (\$50,740,000). Repayment of GLWA bonds issued are funded by charges to all customers. Repayment of the DWSD specific bonds are paid by DWSD from retail customer collections.

Less than 1% of the total indebtedness is issued through the State of Michigan revolving fund loan program for the benefit of the Water System. The Water System received \$2.44 million in new state revolving fund loans and received a \$1.17 million in loan forgiveness. The state revolving fund loan activity for the year was a pass-through to DWSD for system improvements.

### Sewage Disposal Fund

The total outstanding bonds for the Sewer System is \$3.1 billion, decreasing by \$125.7 million from the prior year.

In October 2016, new revenue and refunding bonds in the amount of \$421,295,000 were issued. Repayment of GLWA bonds issued are funded by charges to all customers.

Approximately 15.4% of the total indebtedness is issued through the State of Michigan revolving fund loan program for the benefit of the Sewer System. The Sewer System received \$22.2 million in new state revolving fund loans.

	GLWA's Outstanding Debt		
	Water Fund	Sewage Disposal Fund	Total
Revenue bonds	\$ 2,340,885,000	\$ 2,636,510,000	\$ 4,977,395,000
Capital appreciation bonds	-	22,815,000	22,815,000
State revolving loans	17,252,235	485,267,036	502,519,271
<b>Total</b>	<b>\$ 2,358,137,235</b>	<b>\$ 3,144,592,036</b>	<b>\$ 5,502,729,271</b>

### Credit Ratings

The ratings for the Water and Sewer Systems are at the same level. GLWA received positive ratings action from all three rating agencies in its first nine months of operations. Presently, Fitch Ratings has rated senior lien debt at A and second lien at A-; Standard & Poor's has rated senior lien debt at A- and second lien at BBB+; and Moody's has rated senior lien debt at A3 and second lien at Baa1.

Additional information on the Authority's long-term debt can be found in Note 6.

### Economic Factors Affecting Next Year's Operations and Rates

On June 7, 2017, the GLWA Board adopted the biennial budget for the Authority for fiscal years 2018 and 2019. That two-year financial plan remains true to a foundational commitment to control the budget within a revenue 4% cap.

### Water Fund

# GREAT LAKES WATER AUTHORITY

## Management's Discussion and Analysis

Due to favorable Water System financial performance the budget decreased by one percent for FY 2018. This translated into a system average charge increase of 2% depending on each customer's usage in relation to other customers. An additional consideration was that an agreement was likely for the City of Flint to enter a 30-year model contract in FY 2018 which has a positive revenue impact.

### Sewage Disposal Fund

Due to favorable Sewer System financial performance the budget increased by only 0.3 percent for FY 2018. This translated into a system average charge increase of 1.9%. This average increase reflects an amended sewer shares allocation, based on a strength of flow study that will be phased-in over a two-year period (FY 2018 and FY 2019). This outcome, which shifted shares among customers, was the result of a year-long data collection and research study by a technical team comprised of GLWA and its sewer customers.

### Requests for Information

This financial report is designed to provide a general overview of GLWA's finances for all those with an interest in the Authority's finances. Questions concerning any of the information provided in this report or requests for additional financial information should be addressed to Great Lakes Water Authority, Office of the Chief Financial Officer, 735 Randolph, Detroit, Michigan 48226. This report is also available on the Authority's website at [www.glwater.org](http://www.glwater.org).

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**BASIC FINANCIAL STATEMENTS**

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# GREAT LAKES WATER AUTHORITY

## Statement of Net Position

June 30, 2017

	Enterprise Funds		Total Business-type Activities
	Water Fund	Sewage Disposal Fund	
<b>Assets</b>			
Current assets:			
Cash and cash equivalents	\$ 266,483,138	\$ 203,748,704	\$ 470,231,842
Restricted cash and cash equivalents	60,753,268	72,213,813	132,967,081
Restricted cash for the benefit of DWSD	288,378	-	288,378
Investments	852,420	1,430,608	2,283,028
Restricted investments	1,169,187	31,371,834	32,541,021
Receivables:			
Billed	36,459,563	52,234,778	88,694,341
Unbilled	29,539,433	24,279,170	53,818,603
Other	1,300	3,157,050	3,158,350
Allowance for doubtful accounts	(4,941,777)	(30,410,232)	(35,352,009)
Due from other governments	21,327,713	29,461,328	50,789,041
Contractual obligation receivable	12,076,942	11,262,300	23,339,242
Prepaid items and other assets	2,437,047	1,089,521	3,526,568
Inventories	-	8,509,454	8,509,454
<b>Total current assets</b>	<b>426,446,612</b>	<b>408,348,328</b>	<b>834,794,940</b>
Noncurrent assets:			
Restricted cash and cash equivalents	177,939,494	128,378,837	306,318,331
Restricted investments	20,530,374	81,177,748	101,708,122
Contractual obligation receivable	483,604,380	346,828,300	830,432,680
Prepaid lease	11,250,000	13,750,000	25,000,000
Assets not subject to depreciation	452,185,674	278,286,118	730,471,792
Capital assets being depreciated, net	1,587,291,603	2,591,023,442	4,178,315,045
Prepaid insurance on debt	14,112,324	18,581,897	32,694,221
<b>Total noncurrent assets</b>	<b>2,746,913,849</b>	<b>3,458,026,342</b>	<b>6,204,940,191</b>
<b>Total assets</b>	<b>3,173,360,461</b>	<b>3,866,374,670</b>	<b>7,039,735,131</b>
Deferred outflows of resources			
Deferred loss on refunding	99,294,499	198,351,942	297,646,441
Deferred pension amounts	21,491,506	38,462,972	59,954,478
<b>Total deferred outflows of resources</b>	<b>120,786,005</b>	<b>236,814,914</b>	<b>357,600,919</b>

continued...



# GREAT LAKES WATER AUTHORITY

## Statement of Net Position

June 30, 2017

	Enterprise Funds		Total Business-type Activities
	Water Fund	Sewage Disposal Fund	
<b>Liabilities</b>			
Current liabilities:			
Accounts and contracts payable	\$ 36,751,842	\$ 27,546,558	\$ 64,298,400
Accrued salaries, wages and benefits	3,190,038	-	3,190,038
Other accrued liabilities	1,353,816	898,800	2,252,616
Due to other governments	25,393,813	35,848,573	61,242,386
Interest payable	39,329,322	41,011,198	80,340,520
Current portion of:			
Long-term debt	23,393,905	65,920,307	89,314,212
Leases payable	4,618,174	5,644,435	10,262,609
Obligation payable	159,803	359,448	519,251
Accrued compensated absences	2,157,888	679,260	2,837,148
Accrued workers' compensation	25,000	-	25,000
Claims and judgments	-	3,852,062	3,852,062
<b>Total current liabilities</b>	<b>136,373,601</b>	<b>181,760,641</b>	<b>318,134,242</b>
Noncurrent liabilities:			
Other noncurrent liabilities	2,582,076	5,983,201	8,565,277
Long-term debt	2,606,465,431	3,236,016,730	5,842,482,161
Long-term leases payable	426,303,346	521,037,424	947,340,770
Obligation payable	17,265,503	38,835,597	56,101,100
Accrued compensated absences	2,288,125	-	2,288,125
Accrued workers' compensation	225,000	-	225,000
Claims and judgments	75,000	187,500	262,500
Net pension liability	69,569,044	124,506,503	194,075,547
<b>Total noncurrent liabilities</b>	<b>3,124,773,525</b>	<b>3,926,566,955</b>	<b>7,051,340,480</b>
<b>Total liabilities</b>	<b>3,261,147,126</b>	<b>4,108,327,596</b>	<b>7,369,474,722</b>
Deferred inflows of resources			
Deferred amounts for swap terminations	85,068	214,393	299,461
Deferred gain on refunding	62,822,646	49,257,784	112,080,430
Deferred pension amounts	6,565,776	11,750,654	18,316,430
<b>Total deferred inflows of resources</b>	<b>69,473,490</b>	<b>61,222,831</b>	<b>130,696,321</b>
Net position			
Net investment in capital assets	134,919,107	393,956,399	528,875,506
Restricted for debt service	26,194,280	107,931,677	134,125,957
Restricted for capital acquisition	172,974,994	150,930,508	323,905,502
Restricted for payment assistance program	2,218,373	3,117,744	5,336,117
Unrestricted (deficit)	(372,780,904)	(722,297,171)	(1,095,078,075)
<b>Total net position</b>	<b>\$ (36,474,150)</b>	<b>\$ (66,360,843)</b>	<b>\$ (102,834,993)</b>

concluded.

The accompanying notes are an integral part of these financial statements.

# GREAT LAKES WATER AUTHORITY

## Statement of Revenues, Expenses and Changes in Net Position For the Year Ended June 30, 2017

	Enterprise Funds		Total Business-type Activities
	Water Fund	Sewage Disposal Fund	
<b>Operating revenues</b>			
Wholesale customer charges	\$ 331,115,131	\$ 263,311,745	\$ 594,426,876
Industrial waste charges	-	14,381,106	14,381,106
Pollutant surcharges	-	5,206,294	5,206,294
Local system charges	15,490,300	187,304,100	202,794,400
Bad debt recovery	5,107,125	35,065,030	40,172,155
Other revenues	37,388	538,807	576,195
<b>Total operating revenues</b>	<b>351,749,944</b>	<b>505,807,082</b>	<b>857,557,026</b>
<b>Operating expenses</b>			
Operating before depreciation:			
Personnel	38,261,393	47,894,911	86,156,304
Contractual services	34,257,419	55,878,440	90,135,859
Utilities	28,469,603	27,191,866	55,661,469
Chemicals	5,340,753	9,424,428	14,765,181
Supplies and other expenses	7,982,562	12,180,128	20,162,690
Capital program allocation	(977,762)	(1,150,316)	(2,128,078)
Shared services allocation	(11,603,019)	(101,191)	(11,704,210)
<b>Total operating before depreciation</b>	<b>101,730,949</b>	<b>151,318,266</b>	<b>253,049,215</b>
Depreciation	144,137,912	185,628,465	329,766,377
<b>Total operating expenses</b>	<b>245,868,861</b>	<b>336,946,731</b>	<b>582,815,592</b>
<b>Operating income</b>	<b>105,881,083</b>	<b>168,860,351</b>	<b>274,741,434</b>
<b>Nonoperating revenues (expenses)</b>			
Earnings on investments	1,832,918	2,209,872	4,042,790
Interest on obligations receivable	25,269,750	17,062,678	42,332,428
Interest expense, net of capitalized interest	(132,434,945)	(159,157,152)	(291,592,097)
Amortization of debt related items and costs of issuance	2,403,018	(17,340,200)	(14,937,182)
Other	(2,283,399)	(6,203,206)	(8,486,605)
Loss on disposal of capital assets	(207,900)	(42,926)	(250,826)
Loss on impairment of capital assets	(31,499)	-	(31,499)
<b>Total nonoperating expenses</b>	<b>(105,452,057)</b>	<b>(163,470,934)</b>	<b>(268,922,991)</b>
<b>Income before contributions and special item</b>	<b>429,026</b>	<b>5,389,417</b>	<b>5,818,443</b>
Capital contributions	-	320,707	320,707
Special item - memorandum of understanding with DWSD	(32,811,581)	(61,478,682)	(94,290,263)
<b>Change in net position</b>	<b>(32,382,555)</b>	<b>(55,768,558)</b>	<b>(88,151,113)</b>
Net position (deficit), beginning of year	(4,091,595)	(10,592,285)	(14,683,880)
<b>Net position (deficit), end of year</b>	<b>\$ (36,474,150)</b>	<b>\$ (66,360,843)</b>	<b>\$ (102,834,993)</b>

The accompanying notes are an integral part of these financial statements.

# GREAT LAKES WATER AUTHORITY

## Statement of Cash Flows

For the Year Ended June 30, 2017

	Enterprise Funds		Total Business-type Activities
	Water Fund	Sewage Disposal Fund	
<b>Cash flows from operating activities</b>			
Cash received from customers	\$ 371,376,130	\$ 469,715,953	\$ 841,092,083
Cash payments to suppliers for goods and services	(58,059,394)	(88,808,269)	(146,867,663)
Cash payments for employee services	(65,550,769)	(85,935,607)	(151,486,376)
Cash received (paid) from interfund services provided	(65,971)	65,971	-
Cash received for DWSD budget stabilization	369,109	2,680,092	3,049,201
Cash received (net) for DWSD nonoperating pension	622,642	522,683	1,145,325
Cash payments (net) from miscellaneous nonoperating income (expense)	(2,283,399)	(6,203,206)	(8,486,605)
Other receipts	477,474	-	477,474
Principal payments received on obligation receivable	9,139,470	4,288,922	13,428,392
Interest received on obligation receivable	25,355,136	17,062,678	42,417,814
Payment of long-term debt proceeds to DWSD	(56,995,800)	-	(56,995,800)
Payments for bond issuance costs on DWSD debt	(222,234)	-	(222,234)
Proceeds to DWSD from issuance of state revolving fund loans	(2,032,280)	-	(2,032,280)
Transfer affordability bank account to DWSD	(977,278)	-	(977,278)
<b>Net cash provided by operating activities</b>	<b>221,152,836</b>	<b>313,389,217</b>	<b>534,542,053</b>
<b>Cash flows from noncapital financing activities</b>			
Proceeds from issuance of long-term debt for DWSD	57,218,034	-	57,218,034
Proceeds from state revolving fund loans for DWSD	2,436,781	-	2,436,781
Interest payments	(451,022)	-	(451,022)
<b>Net cash provided by noncapital financing activities</b>	<b>59,203,793</b>	<b>-</b>	<b>59,203,793</b>
<b>Cash flows from capital and related financing activities</b>			
Proceeds from fire remediation	-	5,000,000	5,000,000
Proceeds from issuance of long-term refunding debt	999,700,247	482,467,729	1,482,167,976
Proceeds from state revolving fund loans	-	22,216,294	22,216,294
Payment to bond refunding escrow agent	(797,926,349)	(505,629,823)	(1,303,556,172)
Payments for bond issuance costs	(4,167,889)	(2,520,484)	(6,688,373)
Principal payments on bonds	(65,195,000)	(89,045,000)	(154,240,000)
Principal payments on lease	(4,429,876)	(5,414,293)	(9,844,169)
Interest payments	(134,868,353)	(164,865,242)	(299,733,595)
Purchase of capital assets	(43,750,490)	(55,206,526)	(98,957,016)
<b>Net cash used in capital and related financing activities</b>	<b>(50,637,710)</b>	<b>(312,997,345)</b>	<b>(363,635,055)</b>

continued...

# GREAT LAKES WATER AUTHORITY

## Statement of Cash Flows

For the Year Ended June 30, 2017

	Enterprise Funds		Total Business-type Activities
	Water Fund	Sewage Disposal Fund	
Cash flows from investing activities			
Investment purchases	\$ (210,263,613)	\$ (290,767,815)	\$ (501,031,428)
Investment maturities	270,263,564	300,005,179	570,268,743
Interest received	1,532,301	1,967,971	3,500,272
Net cash provided by investing activities	<u>61,532,252</u>	<u>11,205,335</u>	<u>72,737,587</u>
Net change in cash and cash equivalents	291,251,171	11,597,207	302,848,378
Cash and cash equivalents, beginning of year	<u>214,213,107</u>	<u>392,744,147</u>	<u>606,957,254</u>
Cash and cash equivalents, end of year	<u>\$ 505,464,278</u>	<u>\$ 404,341,354</u>	<u>\$ 909,805,632</u>
Statement of net position classification of cash			
Cash and cash equivalents	\$ 266,483,138	\$ 203,748,704	\$ 470,231,842
Restricted cash and cash equivalents	61,041,646	72,213,813	133,255,459
Noncurrent restricted cash and cash equivalents	177,939,494	128,378,837	306,318,331
	<u>\$ 505,464,278</u>	<u>\$ 404,341,354</u>	<u>\$ 909,805,632</u>

continued...

# GREAT LAKES WATER AUTHORITY

## Statement of Cash Flows

For the Year Ended June 30, 2017

	Enterprise Funds		Total Business-type Activities
	Water Fund	Sewage Disposal Fund	
Reconciliation of operating income to net cash provided by operating activities:			
Operating income	\$ 105,881,083	\$ 168,860,351	\$ 274,741,434
Adjustments to reconcile operating income to net cash provided by operating activities:			
Depreciation	144,137,912	185,628,465	329,766,377
Miscellaneous nonoperating income (expense)	(2,283,399)	(6,203,206)	(8,486,605)
Loan forgiveness pass through to DWSD	(1,168,307)	-	(1,168,307)
Interest income on contractual obligation receivable	25,269,750	17,062,678	42,332,428
Interest expense on obligation payable	(717,819)	(1,614,602)	(2,332,421)
Adjustment of special item	(32,811,581)	(61,478,682)	(94,290,263)
Changes in:			
Receivables:			
Billed	1,169,607	(4,187,844)	(3,018,237)
Unbilled	2,768,512	(1,241,779)	1,526,733
Other (excludes capital item)	21,897,746	84,591,939	106,489,685
Allowance for doubtful accounts	(20,098,835)	(68,558,398)	(88,657,233)
Due from other governments	20,158,444	36,740,815	56,899,259
Contractual obligation receivable	(22,512,072)	13,241,150	(9,270,922)
Due from other funds	-	65,971	65,971
Prepaid lease	(11,250,000)	(13,750,000)	(25,000,000)
Other assets (excludes investing item)	(265,646)	(587,000)	(852,646)
Inventories	-	1,474,609	1,474,609
Accounts payable (excludes capital items)	(3,641,398)	(6,781,318)	(10,422,716)
Accrued salaries, wages and benefits	302,758	-	302,758
Other accrued liabilities (excludes capital items)	210,047	318,512	528,559
Due to other governments (excludes non-capital financing)	11,724,923	11,623,560	23,348,483
Due to other funds	(65,971)	-	(65,971)
Other noncurrent liabilities	(128,016)	70,508	(57,508)
Obligation payable	(152,193)	(342,331)	(494,524)
Accrued compensated absences	(850,667)	224,630	(626,037)
Accrued workers' compensation	(3,708,324)	(4,781,103)	(8,489,427)
Claims and judgments	(4,419,694)	(22,144,038)	(26,563,732)
Net pension liability and deferred items	(8,294,024)	(14,843,670)	(23,137,694)
<b>Net cash provided by operating activities</b>	<b>\$ 221,152,836</b>	<b>\$ 313,389,217</b>	<b>\$ 534,542,053</b>

concluded.

The accompanying notes are an integral part of these financial statements.

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**NOTES TO FINANCIAL STATEMENTS**

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# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

### 1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The Great Lakes Water Authority ("GLWA" or the "Authority") is the regional wholesale provider of water and sewer services in southeast Michigan. The Authority was incorporated by the counties of Macomb, Oakland, Wayne and the City of Detroit (the "City") on November 26, 2014 pursuant to Act 233, Public Acts of Michigan, 1955, as amended ("Act 233"). Pursuant to Leases that became effective on January 1, 2016, the Authority assumed possession and control of the regional assets of both the water supply and sewage disposal systems owned by the City, which were previously operated by the Detroit Water and Sewerage Department ("DWSD" or the "Department"). The City, acting through DWSD, will continue to manage and operate its own local retail water and sewer system infrastructure. The leases assigned all revenues of both systems to the Authority for an initial term of 40 years and substituted GLWA for the City as the obligor on all outstanding debt obligations of the City related to the systems.

The Authority's water system is one of the largest in the United States, both in terms of water produced and population served. The water system currently serves an area of 981 square miles located in eight Michigan counties and an estimated population of nearly 3.8 million or approximately 38% of Michigan's population. Suburban wholesale customers comprise approximately 82% of the population served by the Authority, and the retail water customers comprise the remainder served by the Authority.

The Authority's sewer system is one of the largest in the United States, both in terms of treatment capacity and population served. The sewer system currently serves an area of 850 square miles located in three Michigan counties and an estimated population of nearly 2.8 million or approximately 28% of Michigan's population. Suburban customers comprise approximately 75% of the population served by the Authority, and the retail sewer customers comprise the remainder served by the Authority.

The Authority is authorized to establish rates, fees and charges for its water supply and sewage disposal services. Under the Water and Sewer Services Agreement, the City is appointed as agent of the Authority for setting retail rates and for billing, collecting and enforcing the collection of charges from retail water and sewer customers. As an agent of the Authority, the City, through the Board of Water Commissioners and without further approval by the City Council, is required to set retail rates to meet the revenue requirements for the City retail portion of the water and sewer systems. Under certain conditions, the Authority may terminate the City's appointment.

The financial statements of the Authority have been prepared in conformity with generally accepted accounting principles (GAAP) as applied to government units. The Governmental Accounting Standards Board (GASB) is the accepted standard setting body for establishing governmental accounting and financial reporting principles. The more significant of the Authority's accounting policies are described below.

#### Reporting Entity

The GLWA Board is composed of six voting members. Two members are residents of the City of Detroit and are appointed by the Mayor of the City of Detroit. The counties of Macomb, Oakland and Wayne each appoint one member who is a resident of the county from which appointed and the Governor of the State of Michigan appoints one member who is a resident of an area served by the Authority outside of the counties. All members of the GLWA Board must have at least seven years of experience in a regulated industry, such as a utility, engineering, finance, accounting or law firm. After the initial term specified in its Articles of Incorporation, each GLWA Board member is appointed for a four-year term and serves at the pleasure of the appointing government.

The GLWA Board has adopted a committee structure. Four committees have been established: Audit, Capital Improvement Planning, Operations and Resources, and Legal.

The Authority has a water enterprise fund and a sewage disposal enterprise fund, both of which are presented as major funds.



# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

### *Basis of Accounting*

The accounting policies of the Authority conform to GAAP as applicable to governmental entities. The accounts of the Authority are used to account for its activities, which are financed and operated in a manner similar to a private business enterprise. Accordingly, the Authority maintains its records on the accrual basis of accounting. Revenues from operations, investments and other sources are recorded when earned. Expenses (including depreciation) of providing services to the public are accrued when incurred.

Nonexchange transactions, in which the Authority receives value without directly giving equal value in return, include contributions and grants. On an accrual basis, revenue from contributions and grants is recognized in the fiscal year in which all eligibility requirements have been satisfied, including timing and expense requirements. Timing requirements specify the year when the resources are required to be used or the fiscal year when use is first permitted. Expense requirements specify the year in which the resources are provided to the Authority on a reimbursement basis.

### *Assets, Deferred Outflows of Resources, Liabilities, Deferred Inflows of Resources, and Equity*

#### *Cash Deposits and Investments*

The Authority's cash and cash equivalents are considered to be cash on hand, demand deposits and short-term investments with original maturities of three months or less from the date of acquisition.

Investments are stated at fair value. Short-term investments are reported at cost, which approximates fair value. Securities traded on a national or international exchange are valued at the last reported sales price at current exchange rates. Mortgages are valued on the basis of future principal and interest payments, and are discounted at prevailing interest rates for similar instruments. Investments that do not have established market values are reported at estimated fair value. Cash deposits are reported at carrying amounts, which reasonably approximates fair value.

State statutes authorize the Authority to deposit in the accounts of federally insured banks, credit unions and savings and loan associations and to invest in obligations of the U.S. Treasury, certain commercial paper, repurchase agreements, bankers' acceptances and mutual funds composed of otherwise legal investments. The Authority also maintains and adheres to a formal investment policy in accordance with Michigan Public Act 20 of 1943 *Investment Surplus Funds of Political Subdivisions*.

#### *Restricted Cash and Cash Equivalents*

Restricted assets are those assets set aside as required by the Authority's Master Bond Ordinance ("MBO"). See Note 4 for further details.

#### *Unbilled Revenue*

The Authority records unbilled revenues for services provided prior to year-end by accruing actual revenues billed in the subsequent month.

#### *Contractual Obligation Receivable*

Pursuant to the Water and Sewer Services Agreement between the City and Authority, the City is responsible for paying the portion of debt service on the bonds assumed by the Authority that were issued to finance the cost of improvements to the Detroit local facilities. Hence, the "receivable" recorded by the Authority on the "contractual obligation" of the City to the Authority. Any new debt issued on behalf of DWSD is also included in the contractual obligation receivable.

# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

### *Prepaid Items and Other Assets*

Inventories consist of operating, maintenance and repair parts for sewage assets and are valued at the lower of cost or market, with cost being determined on an average cost method. Inventory is recorded as expense when consumed rather than when purchased. The water fund does not report inventory because the amounts are insignificant and for efficiency are recorded in the sewage disposal fund. Any inventory usage by the water fund is charged through an interfund payable to the sewage disposal fund.

Certain payments to vendors reflect costs applicable to future accounting periods and are recorded as prepaid items in the financial statements.

### *Prepaid Lease*

As described in Note 7, the Authority has recorded a prepaid lease for cash paid to DWSD on the date GLWA began operations equivalent to six months of lease payments. As described in Note 12, based on a Memorandum of Understanding (MOU) Term Sheet with DWSD, dated April 2018, this will be applied at the end of the 40 year term and, hence it is classified as noncurrent.

### *Capital Assets*

Capital assets are recorded at historical cost, together with interest capitalized during construction. All acquisitions of land and land improvements are capitalized regardless of cost.

The costs of normal maintenance and repairs that do not add to the value of the asset or materially extend assets' lives are not capitalized.

Major outlays for capital assets and improvements are capitalized as projects are constructed. Interest incurred during the construction phase of capital assets of business-type activities is included as part of the capitalized value of the assets constructed.

Capital assets acquired after January 1, 2016 are depreciated on the straight line basis over the useful life of the assets as follows:

	Useful Lives (in years)
Site improvements	15
Buildings and structures	20-50
Infrastructure	80
Machinery and equipment	3-20
Vehicles	5-7

Capital assets acquired from the bifurcation at January 1, 2016 are depreciated over their estimated remaining useful lives at that time as determined by a third-party valuation. These remaining lives differ from the years cited above for newly acquired capital assets and, in most instances, are significantly shorter.

# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

### *Deferred Outflows of Resources*

In addition to assets, the statement of net position reports a separate section for deferred outflows of resources. This separate financial statement element represents a consumption of net position that applies to future periods and so will not be recognized as an outflow of resources (or expense) until then. The Authority reports deferred outflows of resources for two items: deferred charges on refunding and pension amounts. Deferred charges on refunding results from the difference in the carrying value of refunded debt and its reacquisition price; these amounts are deferred and amortized over the shorter of the life of the refunded or refunding debt. Deferred outflows of resources from pension amounts relate to the net pension liability. A portion of these costs represent contributions to the plan subsequent to the plan measurement date. More detailed information on pension amounts can be found in Note 10.

### *Long-term Obligations*

In the financial statements, long-term debt and other long-term obligations are reported as liabilities in the statement of net position. Bond premiums and discounts are deferred and amortized over the life of the bonds using the effective interest method. Bonds payable are reported net of the applicable bond premium or discount.

### *Obligation Payable*

Under the terms of the lease agreements with the City, the Authority is required to pay a portion of the City's B and C notes allocated to the regional water and sewer systems. See "Obligation Payable-City of Detroit 2014 Financial Recovery Bonds" in Note 6.

### *Leases Payable*

The effective date of the leases by the City to the Authority for the leased water and sewer facilities was January 1, 2016. See Note 7 for the detail of the leases.

### *Compensated Absences*

The Authority has a paid time off (PTO) policy which has an annual accrual period ending September 30 each year. Employees are allowed to carry over a maximum bank of 80 hours to the next accrual period. Balances greater than 80 hours up to a maximum of 160 hours shall be converted to the retiree health saving program at 50% of the value of the PTO time. Hours in excess of 160 hours are forfeited if unused by September 30 of each accrual period. The accrued compensated absences for PTO accrual are approximately \$1,456,000 for the water fund and \$679,000 for the sewage disposal fund on June 30, 2017.

The Authority also has an accrued compensated absence liability assumed on January 1, 2016 relating to the accumulated unpaid vacation and sick leave balances for those employees who retired from the City or resigned from the City and accepted employment with the Authority on January 1, 2016. The June 30, 2017 balance of the accrued compensated absences for the liability assumed on January 1, 2016 is approximately \$2,990,000. This liability is recorded in the water fund as the disbursements for payment will be processed from the water fund with reimbursement from the sewer fund. The accrued compensated absences includes the employers' share of Social Security and Medicare taxes.

### *Bond Premiums, Discounts, and Deferred Amounts on Refunding*

Bond premiums, discounts, and gains or losses on refunding are deferred and amortized over the life of the bonds. Bond premiums and discounts are amortized using the effective interest method, and deferred amounts on refunding are amortized using the straight-line method. Bonds payable are reported net of the applicable bond premium and discounts. Deferred amounts on refunding are reported as deferred outflows and deferred inflows of resources.

# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

### *Deferred Inflows of Resources*

In addition to liabilities, the statement of net position includes a separate section for deferred inflows of resources. This separate financial statement element represents an acquisition of net position that applies to future periods and so will not be recognized as an inflow of resources (or revenues) until that time. The Authority has included the deferred amounts on swap terminations, deferred gain on refunding and pension inflows in this reporting category. The deferred amounts on swap terminations were assumed as part of the lease agreements with the City. The amounts will be fully amortized for both funds by fiscal 2036. Deferred gain on refunding results from the difference in the carrying value of refunded debt and its reacquisition price; these amounts are deferred and amortized over the shorter of the life of the refunded or refunding debt. Deferred pension inflows result when there is a change in total pension liability due to benefit changes, differences between expected and actual experience, changes in actuarial assumptions, or differences between expected and actual investment returns. The amount for the changes in actuarial assumptions is deferred and amortized over the estimated remaining service life. The amount for the difference between actual and projected assumptions in investment earnings is deferred and amortized over five years.

### *Net Position*

Net position, which represents the difference between assets, deferred outflows of resources, liabilities and deferred inflows of resources, is reported in three components as follows:

*Net Investment in Capital Assets* - consists of capital assets, net of accumulated depreciation, and related debt.

*Restricted* - consists of amounts that are legally restricted by outside parties or by law through constitutional provisions or enabling legislation.

*Unrestricted* - is the residual balance of net position after *net investment in capital assets* and *restricted*.

When both restricted and unrestricted resources are available for use, generally it is the Authority's policy to use restricted resources first and then unrestricted resources when they are needed.

### *Classification of Revenues and Expenses*

The Authority classifies its revenues and expenses as either operating or nonoperating.

Operating revenues are those revenues generated from providing services in connection with the Authority's principal ongoing operations. The principal operating revenues of the Authority are wholesale charges for providing water and wastewater treatment. The local system charges are the wholesale charges to the City of Detroit under the Water and Sewer Services Agreement. Wholesale customer charges are shown net of bad debt expense of \$1,252,465 for the water fund and \$3,165,055 for the sewage disposal fund.

Operating expenses include the costs of operating the water and sewer utilities, administrative expenses and depreciation on capital assets. Costs related to shared facilities and personnel are allocated to the water and sewer funds on a basis that relates costs incurred to the system benefited. By agreement, the Authority provides shared services to DWSD; accordingly, operating expenses for personnel and contractual services have been reported net of the charges for shared services to DWSD.

All revenue and expenses not meeting these definitions are reported as nonoperating revenues and expenses.

### *Taxes*

The Authority pays no direct federal, state or local taxes, except local taxes on excess property and federal Social Security taxes.

# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

### *Interest Income*

Interest income is the interest earned on the contractual obligation receivable.

### *Interest Expense*

Interest expense in the statement of revenues, expenses and changes in fund net position includes amounts related to the accretion of capital appreciation bonds. Interest expense is reported net of capitalized interest.

### *Capital Contributions*

Contributed capital represents the acquisition value of sewer lines received from a wholesale customer.

### *Central Services and Administrative Services*

Various common costs incurred by the Authority are allocated proratably between the water and sewer funds. The allocations are based on management's best estimate and may change from year to year depending on the activities incurred by each fund and the information available. The following table shows the allocation of these common costs for the year ended June 30, 2017:

Common Costs	Water % Allocation	Water Allocation	Sewer % Allocation	Sewer Allocation	Total Common Costs
Centralized services	52.4%	\$ 35,379,657	47.6%	\$ 32,171,959	\$ 67,551,616
Administrative services	30.3%	7,241,024	69.7%	16,656,631	23,897,655

Centralized services include security, systems operations control, field engineering and service operations, information technology, planning, energy management, and system analytics service costs.

Administrative services includes executive, public affairs, general counsel, organizational development, risk management, finance, procurement, and other service costs.

### *Use of Estimates*

The preparation of basic financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the basic financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

### 2. BUDGETARY INFORMATION

The financial activity of the Authority is presented in two enterprise funds, which are not required under State statutes to adopt appropriated budgets. Budget to actual schedules for revenues and expenses is presented in the other information section of this report. This schedule is not required by GAAP or subject to audit procedures. It is presented strictly for informational purposes.

#### *Budget Process*

GLWA is required to adopt a two-year budget for the regional water and sewer systems. The budgeted expenses shall equal the sum of the revenue requirement, including the following for both the regional water and sewer systems: a) operation and maintenance expenses; b) amounts necessary to pay the principal of and interest on all bonds and to restore any reserves therefor established in the Master Bond Ordinance; c) the lease payment, which shall be a common-to-all charge; d) GLWA portions of the net pension liability and the B&C obligation payable; e) the amount necessary to be deposited to the Water Residential Assistance Program (WRAP) Fund, which shall be a common-to-all charge equal to 0.5% of the base budgeted operating revenues for the regional water and sewer systems for each fiscal year; f) the amounts needed to make the required deposits to the regional Extraordinary Repair and Replacement Reserve Fund and the regional Improvement and Extension Fund as defined in the Master Bond Ordinance; and g) the amount necessary to satisfy the coverage ratios required by the rate covenant in the Master Bond Ordinance.

As provided in the leases, through the fiscal year ending June 30, 2025, the water and sewer systems are assumed to experience annual increases in the regional revenue requirement of not more than 4%. This limitation shall not be applicable, however, if the regional revenue requirement must increase beyond the 4% assumption in order to satisfy the rate covenant or to pay the cost of improvements to the leased water and/or sewer facilities that are required to be made by applicable laws.

In the leases, the City acknowledges that all local water and sewer system revenues received from customers in the City are the property of the GLWA and will be deposited as received in the Receiving Fund as defined in the Master Bond Ordinance and applied as provided in the Bond Ordinance. As a result, the City agrees to provide the Authority with a budget for the local water and sewer system as provided in the Water and Sewer Services Agreement.

#### *Schedule of Charges Process*

The GLWA Wholesale Customer Model Water Contract requires that the GLWA provide wholesale customers with written notice of a proposed charge, meet to review the proposed charges, and the underlying data used to calculate the charge not less than 30 calendar days prior to a public hearing. Further, the contract requires that a public hearing be held no less than 120 days prior to the date that a proposed charge increase is to take effect.

The Water and Sewer Services agreement between GLWA and DWSD requires that GLWA provides the City with written notice of the proposed charges and the underlying data used to calculate the charge not less than 120 calendar days prior to the effective date of any new charges.

# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

### 3. CASH DEPOSITS AND INVESTMENTS

The deposits and investments of the Authority at June 30, 2017 are reported in the basic financial statements as follows:

	Water Fund	Sewage Disposal Fund	Total
<b>Statement of Net Position</b>			
Cash and cash equivalents	\$ 266,483,138	\$ 203,748,704	\$ 470,231,842
Restricted cash and cash equivalents	60,753,268	72,213,813	132,967,081
Restricted cash for the benefit of DWSD	288,378	-	288,378
Investments	852,420	1,430,608	2,283,028
Restricted investments	1,169,187	31,371,834	32,541,021
Noncurrent restricted cash and cash equivalents	177,939,494	128,378,837	306,318,331
Noncurrent restricted investments	20,530,374	81,177,748	101,708,122
<b>Total</b>	<b>\$ 528,016,259</b>	<b>\$ 518,321,544</b>	<b>\$ 1,046,337,803</b>
<b>Cash deposits and investments</b>			
Bank deposits -			
Checking/savings accounts	\$ 27,089,413	\$ 8,078,374	\$ 35,167,787
Investments in securities	22,551,981	113,980,189	136,532,170
Money market accounts	478,374,865	396,262,981	874,637,846
<b>Total</b>	<b>\$ 528,016,259</b>	<b>\$ 518,321,544</b>	<b>\$ 1,046,337,803</b>

Restricted cash of the Authority primarily consists of amounts held in reserve for construction retainage and for future debt service payments.

*Custodial Credit Risk - Deposits and Money Market Accounts.* Deposits and money market accounts are exposed to custodial credit risk if they are not covered by depository insurance. At year-end, the carrying amount of the Authority's deposits and money market accounts was \$505,464,278 for the water fund and \$404,341,355 for the sewage disposal fund. The bank balance of the water fund deposits and money markets was \$535,773,864 of which \$518,863,338 was uninsured and uncollateralized. The bank balance of the sewage disposal fund deposits and money markets was \$379,931,554 of which \$379,593,521 was uninsured and uncollateralized.

In accordance with the Authority's investment policy and State law, all deposits are uncollateralized, held in the Authority's name, and evidenced by a safekeeping receipt. Also, due to the dollar amounts of cash deposits and the limits of FDIC insurance, the Authority believes it is impractical to insure all bank deposits. As a result, the Authority evaluates each financial institution and assesses the level of risk of each institution; only those institutions with an acceptable estimated risk level are used as depositories.

# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

*Custodial Credit Risk - Investments.* Following is a summary of the Authority's investments as of June 30, 2017:

	Water Fund	Sewage Disposal Fund	Total
U.S. treasury notes	\$ 11,415,294	\$ 65,805,779	\$ 77,221,073
U.S. government agencies	11,136,687	48,174,410	59,311,097
<b>Total</b>	<b>\$ 22,551,981</b>	<b>\$ 113,980,189</b>	<b>\$ 136,532,170</b>

Investments are exposed to custodial credit risk if the securities are uninsured, unregistered or held by a counterparty or its agent but not in the government's name. In accordance with the Authority's investment policy, all investments are held in the name of the Authority and are evidenced by a safekeeping receipt confirmation, and thus not exposed to custodial credit risk.

*Credit Risk.* Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. The Authority's investment policy and State law require that commercial paper be rated in the top two ratings by at least two nationally recognized statistical rating organizations.

As of June 30, 2017, all of the Authority's investments in securities of U.S. agencies were rated AA+ by Standard & Poor's and Aaa by Moody's. U.S treasury securities are explicitly guaranteed by the U.S. government and not considered to have credit risk. The Authority's money market accounts were not rated.

*Concentration of Credit Risk.* Concentration of credit risk is the risk of loss attributed to the magnitude of a government's investment in a single issuer. The Authority's investment policy requires diversification by security type and institution, but does not place a fixed percentage limit for any one issuer.

At June 30, 2017, the Authority had greater than 5% of its total investment portfolio concentrated as follows:

Investment Type	Issuer	% of Portfolio
<b>Water fund</b>		
U.S. government agencies	Federal Home Loan Bank	10.5%
U.S. government agencies	Federal National Mortgage Association	89.5%
<b>Sewage disposal fund</b>		
U.S. government agencies	Federal Home Loan Bank	64.75%
U.S. government agencies	Federal National Mortgage Association	10.36%
U.S. government agencies	Federal Farm Credit Banks	24.89%

*Interest Rate Risk.* Interest rate risk is the risk that changes in market interest rates will adversely affect the fair value of investments. The Authority's investment policy does not limit investment maturities as a means of managing its exposure to fair value losses arising from increasing interest rates.



# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

As of June 30, 2017, the Authority's fixed income investments had the following maturities:

	< 1 year	1 - 5 years	6 - 10 years	Total
<b>Water fund</b>				
U.S. treasury notes	\$ 9,783,063	\$ 1,632,231	\$ -	\$ 11,415,294
U.S. government agencies	1,169,187	9,967,500	-	11,136,687
	<u>10,952,250</u>	<u>11,599,731</u>	<u>-</u>	<u>22,551,981</u>
<b>Sewage disposal fund</b>				
U.S. treasury notes	36,244,899	29,560,880	-	65,805,779
U.S. government agencies	48,174,410	-	-	48,174,410
	<u>84,419,309</u>	<u>29,560,880</u>	<u>-</u>	<u>113,980,189</u>
<b>Total</b>	<u>\$ 95,371,559</u>	<u>\$ 41,160,611</u>	<u>\$ -</u>	<u>\$ 136,532,170</u>

*Fair Value Measurements* - The Authority categorizes investments measured at fair value within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the assets. Level 1 inputs are quoted at prices in active markets for identical assets; Level 2 inputs are observable for the asset or liability, such as interest rates and yield curves observable at commonly quoted intervals; and Level 3 inputs are unobservable in the market and are the least reliable. The Authority had the following fair value measurements as of June 30, 2017:

	Level 1	Level 2	Level 3	Total
<b>Water fund</b>				
Investments by fair value level:				
U.S. treasury notes	\$ 11,415,294	\$ -	\$ -	\$ 11,415,294
U.S. government agencies	-	11,136,687	-	11,136,687
	<u>11,415,294</u>	<u>11,136,687</u>	<u>-</u>	<u>22,551,981</u>
<b>Sewage disposal fund</b>				
Investments by fair value level:				
U.S. treasury notes	65,805,779	-	-	65,805,779
U.S. government agencies	-	48,174,410	-	48,174,410
	<u>65,805,779</u>	<u>48,174,410</u>	<u>-</u>	<u>113,980,189</u>
<b>Total</b>	<u>\$ 77,221,073</u>	<u>\$ 59,311,097</u>	<u>\$ -</u>	<u>\$ 136,532,170</u>

## 4. RESTRICTED ASSETS

Restricted assets, comprised of cash and investments, are available for debt service on revenue bonds and to provide funds for improvements, enlargements, extensions and construction. In accordance with the provisions of the Master Bond Ordinance and Board guidance, the Authority follows a detailed and sequential flow of funds concept and set of procedures that establishes various physically segregated accounts through which monies flow and are maintained at certain levels in satisfaction of all borrowing and other legal requirements.

# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

The following schedules provide, in the order of the flow of funds per the Master Bond Ordinance, the distribution of water and sewage disposal fund cash and investments between restricted and unrestricted assets based on the source of the monies as of June 30, 2017:

	Funded from Revenue		Funded from	Total
	Unrestricted	Restricted	Debt Issuance	
			Restricted	
<b>Water fund</b>				
Operations and maintenance	\$ 62,578,684	\$ 989,627	\$ -	\$ 63,568,311
Senior lien debt service	-	29,065,663	-	29,065,663
Senior lien bond reserve	-	-	122,034,996	122,034,996
Second & Junior lien debt service	-	15,763,514	-	15,763,514
Second & Junior lien debt reserve	-	-	52,267,696	52,267,696
Pension Obligation	-	2,371,431	-	2,371,431
Water Residential Assistance Program (WRAP)	-	2,800,449	-	2,800,449
Budget Stabilization	-	2,000,000	-	2,000,000
Extraordinary Repair and Replacement	27,500,000	-	-	27,500,000
Improvement and Extension-Regional	177,256,874	-	-	177,256,874
Subtotal - reserves defined by ordinance	267,335,558	52,990,684	174,302,692	494,628,934
Less: funded by surety (non-cash)	-	-	(153,608,267)	(153,608,267)
Total - reserves defined by ordinance (net of surety coverage)	267,335,558	52,990,684	20,694,425	341,020,667
Cash held for the benefit of DWSD	-	288,378	-	288,378
Unspent construction bond proceeds	-	-	186,707,214	186,707,214
<b>Total cash, cash equivalents and investments</b>	<b>267,335,558</b>	<b>53,279,062</b>	<b>207,401,639</b>	<b>528,016,259</b>
<b>Sewage disposal fund</b>				
Operations and Maintenance	99,335,780	-	-	99,335,780
Senior Lien Debt Service	-	46,822,343	-	46,822,343
Senior Lien Bond Reserve	-	-	142,860,146	142,860,146
Second & Junior lien debt service	-	37,576,233	-	37,576,233
Second & Junior lien debt reserve	-	-	70,106,077	70,106,077
Pension Obligation	-	4,167,903	-	4,167,903
Water Residential Assistance Program (WRAP)	-	3,600,945	-	3,600,945
Budget Stabilization	-	5,500,000	-	5,500,000
Extraordinary Repair and Replacement	44,000,000	-	-	44,000,000
Improvement and Extension-Regional	61,843,532	-	-	61,843,532
Subtotal - reserves defined by ordinance	205,179,312	97,667,424	212,966,223	515,812,959
Less: funded by surety (non-cash)	-	-	(148,421,923)	(148,421,923)
Total - reserves defined by ordinance (net of surety coverage)	205,179,312	97,667,424	64,544,300	367,391,036
Unspent construction bond proceeds	-	-	150,930,508	150,930,508
<b>Total cash, cash equivalents and investments</b>	<b>205,179,312</b>	<b>97,667,424</b>	<b>215,474,808</b>	<b>518,321,544</b>
<b>Total cash, cash equivalents and investments - business-type activities</b>	<b>\$ 472,514,870</b>	<b>\$ 150,946,486</b>	<b>\$ 422,876,447</b>	<b>\$ 1,046,337,803</b>

# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

The following summary reconciles the above cash and investment balances with the balances per the Statement of Net Position. The allocation of restricted balances to current and noncurrent categories is not intended to directly align with the funding source allocation included in the schedule.

	Unrestricted	Restricted Current	Restricted Noncurrent	Total
<b>Water</b>				
Cash and cash equivalents	\$ 266,483,138	\$ 60,753,268	\$ 177,939,494	\$ 505,175,900
Cash held for the benefit of DWSD	-	288,378	-	288,378
Investments	852,420	1,169,187	20,530,374	22,551,981
	<u>267,335,558</u>	<u>62,210,833</u>	<u>198,469,868</u>	<u>528,016,259</u>
<b>Sewage disposal</b>				
Cash and cash equivalents	203,748,704	72,213,813	128,378,837	404,341,354
Investments	1,430,608	31,371,834	81,177,748	113,980,190
	<u>205,179,312</u>	<u>103,585,647</u>	<u>209,556,585</u>	<u>518,321,544</u>
<b>Total</b>	<u>\$ 472,514,870</u>	<u>\$ 165,796,480</u>	<u>\$ 408,026,453</u>	<u>\$ 1,046,337,803</u>

Surety coverage includes series specific policies; therefore, this represents the lesser of the maximum amount of the policy or amount of reserve requirement allocated to the specific series covered by such policy.

## 5. CAPITAL ASSETS

Capital assets activity for the year ended June 30, 2017 was as follows:

	Beginning Balance	Additions	Disposals	Transfers	Ending Balance
<b>Water fund</b>					
<b>Nondepreciable capital assets:</b>					
Land	\$ 34,244,101	\$ -	\$ (77,365)	\$ -	\$ 34,166,736
Easements	258,632,397	-	-	-	258,632,397
Construction in progress	122,681,592	39,662,580	-	(2,957,631)	159,386,541
<b>Total nondepreciable assets</b>	<u>415,558,090</u>	<u>39,662,580</u>	<u>(77,365)</u>	<u>(2,957,631)</u>	<u>452,185,674</u>
<b>Depreciated capital assets:</b>					
Site improvements	57,687,528	-	-	494,399	58,181,927
Buildings and structures	555,265,762	-	-	-	555,265,762
Infrastructure	586,102,646	-	-	330,348	586,432,994
Machinery and equipment	598,755,988	475,561	(350,877)	2,132,884	601,013,556
Vehicles	1,538,031	203,948	-	-	1,741,979
<b>Total depreciable assets</b>	<u>1,799,349,955</u>	<u>679,509</u>	<u>(350,877)</u>	<u>2,957,631</u>	<u>1,802,636,218</u>
<b>Less accumulated depreciation:</b>					
Site improvements	(4,570,741)	(9,141,481)	-	-	(13,712,222)
Buildings and structures	(17,711,187)	(35,422,716)	-	-	(53,133,903)
Infrastructure	(18,866,429)	(37,732,848)	-	-	(56,599,277)
Machinery and equipment	(29,898,877)	(61,341,808)	88,842	-	(91,151,843)
Vehicles	(248,311)	(499,059)	-	-	(747,370)
<b>Total accumulated depreciation</b>	<u>(71,295,545)</u>	<u>(144,137,912)</u>	<u>88,842</u>	<u>-</u>	<u>(215,344,615)</u>
<b>Total capital assets being depreciated, net</b>	<u>1,728,054,410</u>	<u>(143,458,403)</u>	<u>(262,035)</u>	<u>2,957,631</u>	<u>1,587,291,603</u>
<b>Water fund net capital assets</b>	<u>2,143,612,500</u>	<u>(103,795,823)</u>	<u>(339,400)</u>	<u>-</u>	<u>2,039,477,277</u>

# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

	Beginning Balance	Additions	Disposals	Transfers	Ending Balance
<b>Sewage disposal fund</b>					
Nondepreciable capital assets:					
Land	\$ 28,733,333	\$ -	\$ -	\$ -	\$ 28,733,333
Easements	96,211,323	-	-	-	96,211,323
Construction in progress	170,931,602	57,328,097	-	(74,918,237)	153,341,462
Total nondepreciable assets	<u>295,876,258</u>	<u>57,328,097</u>	<u>-</u>	<u>(74,918,237)</u>	<u>278,286,118</u>
Depreciated capital assets:					
Site improvements	36,280,397	12,981	(14,467)	-	36,278,911
Buildings and structures	1,059,318,822	19,050	-	18,135,132	1,077,473,004
Infrastructure	596,856,313	320,707	-	-	597,177,020
Machinery and equipment	1,091,711,217	920,875	(26,105)	56,783,105	1,149,389,092
Vehicles	1,426,261	611,843	(12,140)	-	2,025,964
Total depreciable assets	<u>2,785,593,010</u>	<u>1,885,456</u>	<u>(52,712)</u>	<u>74,918,237</u>	<u>2,862,343,991</u>
Less accumulated depreciation:					
Site improvements	(3,398,076)	(6,796,224)	1,276	-	(10,193,024)
Buildings and structures	(26,554,348)	(53,289,123)	-	-	(79,843,471)
Infrastructure	(6,903,182)	(13,808,034)	-	-	(20,711,216)
Machinery and equipment	(48,575,116)	(111,151,221)	3,953	-	(159,722,384)
Vehicles	(271,143)	(583,863)	4,552	-	(850,454)
Total accumulated depreciation	<u>(85,701,865)</u>	<u>(185,628,465)</u>	<u>9,781</u>	<u>-</u>	<u>(271,320,549)</u>
Total capital assets being depreciated, net	<u>2,699,891,145</u>	<u>(183,743,009)</u>	<u>(42,931)</u>	<u>74,918,237</u>	<u>2,591,023,442</u>
Sewage disposal fund net capital assets	<u>2,995,767,403</u>	<u>(126,414,912)</u>	<u>(42,931)</u>	<u>-</u>	<u>2,869,309,560</u>
Business-type activities capital assets, net	<u>\$ 5,139,379,903</u>	<u>\$ (230,210,735)</u>	<u>\$ (382,331)</u>	<u>\$ -</u>	<u>\$ 4,908,786,837</u>

Capital assets were evaluated during the year to determine if any asset impairments exist, defined as a significant, unexpected decline in the service utility of a capital asset. The Authority did not have any significant impairments for the year.

# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

### 6. LONG-TERM DEBT

Changes in long-term debt and accrued compensated absences for the year ended June 30, 2017 were as follows:

	Beginning Balance	Increase	Decrease	Refunding	Ending Balance	Amount due within one
<b>Water fund</b>						
Revenue bonds	\$2,260,675,000	\$ 917,805,000	\$ (63,795,000)	\$ (773,800,000)	\$2,340,885,000	\$ 6,075,000
State revolving loans	17,383,761	1,268,474	(1,400,000)	-	17,252,235	1,435,000
Deferred amounts for:						
Unamortized premiums	264,672,431	-	(116,095,392)	139,113,281	287,690,320	19,119,372
Unamortized discounts	(18,256,393)	-	2,288,174	-	(15,968,219)	(3,235,467)
Total debt, net	2,524,474,799	919,073,474	(179,002,218)	(634,686,719)	2,629,859,336	23,393,905
Compensated absences	5,296,680	1,668,823	(2,519,490)	-	4,446,013	2,157,888
<b>Total water fund</b>	<b>2,529,771,479</b>	<b>920,742,297</b>	<b>(181,521,708)</b>	<b>(634,686,719)</b>	<b>2,634,305,349</b>	<b>25,551,793</b>
<b>Sewage disposal fund</b>						
Revenue bonds	2,739,665,000	421,295,000	(44,310,000)	(480,140,000)	2,636,510,000	11,430,000
Capital appreciation bonds	24,165,000	-	(1,350,000)	-	22,815,000	5,565,000
Discount on capital appreciation bonds	(4,496,962)	-	1,183,699	-	(3,313,263)	(1,047,305)
State revolving loans	506,435,742	22,216,294	(43,385,000)	-	485,267,036	44,340,000
Deferred amounts for:						
Unamortized premiums	308,918,380	-	(97,287,469)	61,172,729	272,803,640	17,944,003
Unamortized discounts	(126,493,781)	-	14,348,405	-	(112,145,376)	(12,311,391)
Total debt, net	3,448,193,379	443,511,294	(170,800,365)	(418,967,271)	3,301,937,037	65,920,307
Compensated absences	454,630	1,325,402	(1,100,772)	-	679,260	679,260
<b>Total sewage disposal fund</b>	<b>3,448,648,009</b>	<b>444,836,696</b>	<b>(171,901,137)</b>	<b>(418,967,271)</b>	<b>3,302,616,297</b>	<b>66,599,567</b>
<b>Total business-type activities</b>	<b>\$5,978,419,488</b>	<b>\$1,365,578,993</b>	<b>\$ (353,422,845)</b>	<b>\$ (1,053,653,990)</b>	<b>\$5,936,921,646</b>	<b>\$ 92,151,360</b>

# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

As of June 30, 2017, aggregate debt service requirements of the Authority's debt (fixed and variable-rate) instruments were as follows. These amounts assume that current interest rates on variable-rate bonds will remain the same for their respective terms. As these rates vary, interest payments on variable-rate bonds will vary.

	Year Ended June 30,	Principal	Interest	Total
<b>Water fund</b>				
	2018	\$ 7,510,000	\$ 96,828,481	\$ 104,338,481
	2019	54,325,000	116,777,608	171,102,608
	2020	54,710,000	114,146,149	168,856,149
	2021	63,620,000	111,236,502	174,856,502
	2022	70,985,000	107,815,846	178,800,846
	2023-2027	409,967,820	480,324,881	890,292,701
	2028-2032	520,334,415	362,731,733	883,066,148
	2033-2037	615,160,000	220,803,756	835,963,756
	2038-2042	309,905,000	105,305,700	415,210,700
	2043-2047	251,620,000	32,679,000	284,299,000
		<u>\$2,358,137,235</u>	<u>\$1,748,649,656</u>	<u>\$ 4,106,786,891</u>
<b>Sewage disposal fund</b>				
	2018	\$ 61,335,000	\$ 110,240,488	\$ 171,575,488
	2019	97,210,000	133,554,997	230,764,997
	2020	107,670,000	129,866,991	237,536,991
	2021	112,280,000	125,861,663	238,141,663
	2022	110,582,370	121,782,125	232,364,495
	2023-2027	603,930,293	535,302,905	1,139,233,198
	2028-2032	739,471,085	396,865,059	1,136,336,144
	2033-2037	823,313,288	231,254,093	1,054,567,381
	2038-2042	394,230,000	61,911,756	456,141,756
	2043-2045	94,570,000	7,236,250	101,806,250
		<u>\$3,144,592,036</u>	<u>\$1,853,876,326</u>	<u>\$ 4,998,468,362</u>

For bonds issued through the Michigan Finance Authority (MFA) in 2014 and 2015, the Authority is required to make payment on these obligations to the MFA depository account five business days prior to the actual due date of the bond principal and interest payments. Therefore, the payments for principal and interest due on July 1, 2017 are not included in the debt service requirements amounts above as they were paid on June 26, 2017.

# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

### Revenue Bonds Payable

Net revenues of the Authority are pledged to repayment of bonds. The following is a schedule of the revenue bonds payable at June 30, 2017:

Issue	Bond Date	Original Issue Amount	Range of Interest Rates	Maturity Dates	Outstanding Ending Balance	Callable
Water fund						
Series 2001-C	5/14/08	\$ 4,055,000	4.25%	7/01/17-18	\$ 705,000	
Series 2001-C	5/14/08	186,350,000	4.50-5.75%	7/01/19-29	178,735,000	c
Series 2003-A	1/30/03	234,805,000	5.00%	7/01/34	100,000	c
Series 2003-B	1/30/03	172,945,000	5.00%	7/01/34	100,000	c
Series 2005-B	5/14/08	19,070,000	4.00-5.50%	7/01/17-18	3,185,000	
Series 2005-B	5/14/08	175,830,000	4.75-5.25%	7/01/35	100,000	c
Series 2006-A	8/16/06	237,205,000	5.00%	7/01/34	100,000	c
Series 2006-B	4/01/09	900,000	4.60-5.00%	7/01/17-19	250,000	
Series 2006-B	4/01/09	119,100,000	6.25%	7/01/36	100,000	c
Series 2011-A	12/22/11	37,880,000	5.00%	7/01/17-20	8,210,000	
Series 2011-A	12/22/11	341,710,000	5.00-5.75%	7/01/27-41	289,605,000	c
Series 2011-B	12/22/11	7,455,000	5.00%	7/01/17-21	2,630,000	
Series 2011-B	12/22/11	9,740,000	6.00%	7/01/23-33	2,295,000	c
Series 2011-C	12/22/11	3,925,000	5.00%	7/01/21	1,020,000	
Series 2011-C	12/22/11	99,965,000	4.50-5.25%	7/01/23-41	74,125,000	c
Series 2014-A (D-1)	9/04/14	162,350,000	5.00%	7/01/17-23	147,960,000	
Series 2014-A (D-1)	9/04/14	44,190,000	5.00%	7/01/35-37	44,190,000	c
Series 2014-B (D-2)	9/04/14	51,530,000	5.00%	7/01/23-24	51,530,000	
Series 2014-B (D-2)	9/04/14	136,925,000	5.00%	7/01/25-28	136,925,000	c
Series 2014-C (D-3)	9/04/14	62,700,000	5.00%	7/01/18-20	62,700,000	
Series 2014-D (D-4)	9/04/14	209,360,000	5.00%	7/01/29-34	209,360,000	c
Series 2014-E (D-5)	9/04/14	9,270,000	2.85%	7/01/19	9,270,000	
Series 2014-F (D-6)	9/04/14	21,735,000	5.00%	7/01/19-24	21,735,000	
Series 2014-F (D-6)	9/04/14	43,690,000	5.00%	7/01/25-36	43,690,000	c
Series 2014-G (D-7)	9/04/14	14,815,000	5.00%	7/01/17-18	8,300,000	
Series 2015-A (D-1)	12/15/15	20,155,000	3.00-5.00%	7/01/17-22	19,650,000	
Series 2015-A (D-1)	12/15/15	69,275,000	5.00%	7/01/27-35	69,275,000	c
Series 2015 (D-2)	12/15/15	37,235,000	5.00%	7/01/34	37,235,000	c
Series 2016-A	10/27/16	30,000	5.00%	7/01/21-26	30,000	
Series 2016-A	10/27/16	87,970,000	5.00%	7/01/27-46	87,970,000	c
Series 2016-B	10/27/16	30,000	5.00%	7/01/21-26	30,000	
Series 2016-B	10/27/16	163,800,000	5.00%	7/01/27-46	163,800,000	c
Series 2016-C	10/27/16	76,245,000	5.00%	7/01/22-26	76,245,000	
Series 2016-C	10/27/16	367,685,000	5.00-5.25%	7/01/27-35	367,685,000	c
Series 2016-D	10/27/16	4,665,000	5.00%	7/01/24-26	4,665,000	
Series 2016-D	10/27/16	217,380,000	4.00-5.00%	7/01/27-36	217,380,000	c
Total water fund revenue bonds payable					<u>2,340,885,000</u>	

# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

Issue	Bond Date	Original Issue Amount	Range of Interest Rates	Maturity Dates	Outstanding Ending Balance	Callable
Sewage disposal fund						
Series 1998-A	12/14/06	\$ 18,540,000	5.50%	7/1/17	\$ 2,265,000	
Series 1998-A	12/14/06	49,075,000	5.25%	7/01/18-23	18,485,000	c
Series 1998-B	12/14/06	18,750,000	5.50%	7/1/17	3,390,000	
Series 1998-B	12/14/06	48,770,000	5.25%	7/01/18-23	18,260,000	c
Series 1999-A **	12/01/99	33,510,118	—	7/01/17-21	19,501,737	
Series 2001-B	9/15/01	110,550,000	5.50%	7/01/23-29	78,895,000	
Series 2001-C-1	6/17/09	6,360,000	5.25%	7/01/17-19	1,095,000	
Series 2001-C-1	6/17/09	148,510,000	6.50-7.00%	7/01/20-27	40,705,000	c
Series 2001-C-2	5/08/08	3,275,000	4.00%	7/01/17-18	705,000	
Series 2001-C-2	5/08/08	119,630,000	4.00-5.25%	7/01/19-29	107,045,000	c
Series 2003-A	5/15/03	213,395,000	5.50%	7/01/17-18	3,150,000	
Series 2003-B	6/17/09	150,000,000	7.50%	7/1/33	100,000	c
Series 2004-A	2/12/04	101,435,000	5.25%	7/01/19-24	35,010,000	
Series 2005-A	3/17/05	237,805,000	4.50%	7/1/35	100,000	c
Series 2005-A	3/17/05	31,785,000	5.00%	7/01/34-35	31,785,000	c
Series 2005-B	3/17/05	40,215,000	5.50%	7/01/21-22	17,115,000	
Series 2005-C	4/05/05	41,095,000	5.00%	7/1/25	100,000	c
Series 2006-B	8/10/06	183,150,000	5.00%	7/1/36	100,000	c
Series 2006-B	8/10/06	55,000,000	5.00%	7/01/34-36	55,000,000	c
Series 2006-D	12/14/06	370,000,000	Variable (*)	7/01/26-32	239,475,000	c
Series 2012-A	6/26/12	95,445,000	5.00%	7/01/17-22	64,545,000	
Series 2012-A	6/26/12	564,335,000	5.00 - 5.50	7/01/23-39	462,810,000	c
Series 2014-A (C-1)	9/04/14	20,000	5.00%	7/01/19-22	20,000	
Series 2014-A (C-1)	9/04/14	123,200,000	5.00%	7/01/23-44	123,200,000	c
Series 2014-B (C-2)	9/04/14	20,000	5.00%	7/01/19-22	20,000	
Series 2014-B (C-2)	9/04/14	27,450,000	5.00%	7/01/23-44	27,450,000	c
Series 2014-C (C-3)	9/04/14	142,600,000	5.00%	7/01/21-24	142,600,000	
Series 2014-C (C-3)	9/04/14	303,570,000	5.00%	7/01/25-33	303,570,000	c
Series 2014-D (C-5)	9/04/14	95,165,000	5.00%	7/01/18-20	69,595,000	
Series 2014-E (C-6)	9/04/14	88,900,000	5.00%	7/01/32-33	88,900,000	c
Series 2014-F (C-7)	9/04/14	32,650,000	5.00%	7/01/19-24	32,650,000	
Series 2014-F (C-7)	9/04/14	44,065,000	5.00%	7/01/25-36	44,065,000	c
Series 2014-G (C-8)	9/04/14	23,240,000	5.00%	7/01/17-18	5,850,000	
Series 2015 (C-1)	12/15/15	197,160,000	5.00%	7/01/26-35	197,160,000	c
Series 2016-B	10/27/16	14,445,000	5.00%	7/01/24-26	14,445,000	
Series 2016-B	10/27/16	111,660,000	5.00%	7/01/27-34	111,660,000	c
Series 2016-C	10/27/16	295,190,000	4.00-5.00%	7/01/27-36	295,190,000	c
Total sewage disposal fund revenue and capital appreciation bonds payable					<u>2,656,011,737</u>	
Total business-type activities					<u>\$4,996,896,737</u>	

Maturity dates reflect the final pricing of each series of bonds. Multiple maturity date ranges for a series of bonds differentiate between those bonds which are callable prior to maturity and those which are not callable prior to maturity.

\* Interest rates are reset periodically at the stated current market interest rate.

\*\* Bonds are capital appreciation bonds. The outstanding balance represents the discounted present value.

c Indicates bonds are callable under terms specified in the indenture; all other bonds are noncallable.



# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

### Revenue Bonds - Pledges of Future Revenue

The Authority has pledged assets to secure the repayment of the revenue bonds and State of Michigan revolving fund loans. The Water System bonds and loans are paid solely from the net revenues of the Water System and the Sewer System bonds and loans are paid solely from the net revenues of the Sewer System. Net revenues are defined in the Great Lakes Water Authority Water and Sewer Master Bond Ordinances as all revenues except those transferred to the Operation and Maintenance funds. These revenues are further defined to include the revenues from the Retail Customers who are serviced under the Water and Sewer Services Agreement with the City of Detroit which are reported in the financial statements of the City of Detroit Water and Sewerage Department. The pledged revenues calculation for the fiscal year ending June 30, 2017 includes revenues reported by the Great Lakes Water Authority and the City of Detroit Water and Sewerage Department as this revenue is pledged for payment of the bonds and loans of the Great Lakes Water Authority.

The general purpose of the Water System bonds is to provide funding for various water treatment and transmission capital improvements, refund certain water revenue bonds, pay termination amounts for interest rate swap agreements and fund reserve requirements. The general purpose of the Sewer System bonds is to provide funding for various wastewater treatment and collection activities, capital improvements, refund certain sewage disposal revenue bonds, pay termination amounts for interest rate swap agreements and fund reserve requirements. The term of pledge commitment for the Water Fund is through 2047 and through 2045 for the Sewage Disposal Fund.

See table below for pledged revenue requirements as of June 30, 2017:

	Water Fund	Sewage Disposal Fund
Remaining principal and interest requirement	\$ 4,106,786,891	\$4,998,468,362
Principal and interest funding requirement for the year ending June 30, 2017 (Computed consistent with rate Covenant basis for rate determination purposes. Not applicable for purposes of additional bond test.)	\$ 175,010,012	\$ 234,554,814
Pledged revenue for the year ending June 30, 2017	\$ 286,317,089	\$ 354,290,815
Pledged revenue collected as a percentage of funding requirement	163.6%	151.0%
Approximate amount in restricted cash investments related to various bond indentures at June 30, 2017	\$ 186,700,000	\$ 150,900,000

# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

### State Revolving Loans Payable

Net revenues of the Authority are pledged to repayment of bonds. The following is a schedule of the state revolving loans payable at June 30, 2017:

Issue	Bond Date	Amount Issued	Range of Interest Rates	Maturity Dates	Outstanding Ending Balance
<b>Water fund</b>					
Series 2005 SRF-1	9/22/05	\$ 13,805,164	2.125%	10/01/17-26	\$ 7,385,164
Series 2005 SRF-2	9/22/05	8,891,730	2.125%	10/01/17-26	4,641,730
Series 2006 SRF-1	9/21/06	5,180,926	2.125%	10/01/17-26	2,750,926
Series 2008 SRF-1	9/29/08	2,590,941	2.50%	10/01/17-28	1,205,941
Series 2016B SRF	9/16/16	4,180,000	2.50%	4/1/19-28	1,268,474
Total water fund state revolving loans payable					<u>17,252,235</u>
<b>Sewage disposal fund</b>					
Series 1997-B-SRF	9/30/97	5,430,174	2.25%	10/01/17-18	650,000
Series 1999-SRF-1	6/24/99	21,475,000	2.50%	4/01/18-20	3,930,000
Series 1999-SRF-2	9/30/99	46,000,000	2.50%	10/01/17-22	16,280,000
Series 1999-SRF-3	9/30/99	31,030,000	2.50%	10/01/17-20	7,505,000
Series 1999-SRF-4	9/30/99	40,655,000	2.50%	10/01/17-20	9,830,000
Series 2000-SRF-1	3/30/00	44,197,995	2.50%	10/01/17-22	13,947,995
Series 2000-SRF-2	9/28/00	64,401,066	2.50%	10/01/17-22	22,691,066
Series 2001-SRF-1	6/28/01	82,200,000	2.50%	10/01/17-24	37,865,000
Series 2001-SRF-2	12/20/01	59,850,000	2.50%	10/01/17-24	27,575,000
Series 2002 SRF-1	6/27/02	18,985,000	2.50%	4/01/18-23	6,710,000
Series 2002-SRF-2	6/27/02	1,545,369	2.50%	4/01/18-23	545,369
Series 2002-SRF-3	12/19/02	31,549,466	2.50%	10/01/17-24	13,399,466
Series 2003-SRF-1	6/26/03	48,520,000	2.50%	10/01/17-25	24,845,000
Series 2003-SRF-2	9/25/03	25,055,370	2.50%	4/01/18-25	11,460,370
Series 2004 SRF-1	6/24/04	2,910,000	2.125%	10/01/17-24	1,310,000
Series 2004 SRF-2	6/24/04	18,353,459	2.125%	4/01/18-25	8,258,459
Series 2004 SRF-3	6/24/04	12,722,575	2.125%	4/01/18-25	5,707,575
Series 2007 SRF-1	9/20/07	167,540,598	1.625%	10/01/17-29	114,950,598
Series 2009 SRF-1	4/17/09	13,970,062	2.50%	4/01/18-30	9,545,062
Series 2010 SRF-1	1/22/10	4,214,763	2.50%	4/01/18-31	3,115,763
Series 2012 SRF-1	8/30/12	14,950,000	2.50%	10/01/17-34	13,765,000
Series 2015 SRF-1	3/20/15	79,500,000	2.50%	4/01/18-36	76,390,000
Series 2015 SRF-2	3/20/15	33,030,000	2.50%	10/01/17-35	24,814,000
Series 2015 SRF-3	12/11/15	19,485,000	2.50%	10/01/17-35	14,399,288
Series 2016 SRF-1	9/16/16	19,305,000	2.50%	4/01/19-38	2,602,370
Series 2016 SRF-2	9/16/16	51,310,000	2.50%	4/01/20-39	8,384,993
Series 2016 SAW	5/25/16	10,000,000	2.50%	10/01/19-38	4,789,662
Total sewage disposal fund state revolving loans payable					<u>485,267,036</u>
Total business-type activities					<u>\$ 502,519,271</u>

The state revolving loans are issued as part of the State of Michigan's Revolving Fund Loan Program. As GLWA draws additional amounts from time to time hereafter, the outstanding principal amounts of such bonds will correspondingly increase. All loans are callable under terms specified in the loan agreements.

# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

### *Refunded Debt - Water Fund*

In October 2016 the Authority issued \$88,000,000 in Series 2016A senior lien revenue bonds, \$163,830,000 in Series 2016B second lien revenue bonds, \$443,930,000 in Series 2016C senior lien revenue refunding bonds and \$224,045,000 in Series 2016D second lien revenue refunding bonds. The net proceeds of the Series 2016A and Series 2016B will be used to pay certain costs of improvements, enlargements and extensions and repairs to the Regional Water System and Local Water System. The net proceeds of the Series 2016C and Series 2016D were used to purchase securities that were placed in an irrevocable trust with an escrow agent to refund \$116,645,000 of Series 2003D revenue bonds, \$30,335,000 of Series 2004A revenue bonds, \$15,725,000 of Series 2004B revenue bonds, \$147,985,000 of Series 2005B revenue bonds, \$119,345,000 of Series 2006A revenue bonds, \$85,250,000 of Series 2006B revenue bonds, \$198,700,000 of Series 2006C revenue bonds and \$59,815,000 of Series 2006D revenue bonds. As a result, the bonds are considered to be defeased and the liability for these bonds has been removed from the financial statements. The refunding bonds resulted in a savings of \$185,424,383 over the next 20 years and an economic gain of \$120,780,483.

### *Refunded Debt - Sewage Disposal Fund*

In October 2016, the Authority issued \$126,105,000 in Series 2016B senior lien revenue refunding bonds and \$295,190,000 in Series 2016C second lien revenue refunding bonds. The net proceeds were used to purchase securities that were placed in an irrevocable trust with an escrow agent to refund \$134,745,000 of Series 2001E revenue bonds, \$25,550,000 of Series 2003B revenue bonds, \$123,185,000 of Series 2006A revenue bonds, \$174,565,000 of Series 2006B revenue bonds, \$9,740,000 of Series 2006C revenue bonds and \$12,355,000 of Series 2012A revenue bonds. As a result, the bonds are considered to be defeased and the liability for these bonds has been removed from the financial statements. The refunding bonds resulted in a savings of \$123,710,549 over the next 20 years and an economic gain of \$71,155,202.

### *Issuance of State Revolving Loans*

The Authority's water fund received loans from the State of Michigan Revolving Loan Fund totaling \$2,436,781, of which \$1,168,307 has been forgiven, and the sewage disposal fund received \$22,216,294 during the year ended June 30, 2017. The proceeds of the sewage disposal fund loans were used to pay costs of acquiring, constructing extensions, and making certain repairs and improvements to the Systems. The water fund loans were for DWSD, the subrecipient of the loans. At June 30, 2017, \$19,191,526 for the water fund and \$114,539,687 for the sewage disposal fund was authorized and unissued.

### *Debt Ratings*

As of September 30, 2016, Standard & Poor's Ratings Services ratings on the senior and second lien debt was A-/BBB+; Moody's rating was A3/Baa1 and Fitch's rating was A/A-.

### *Contractual Obligation Receivable - Debt Allocation for DWSD Retail Operations*

As part of the lease transaction in which GLWA leased the regional water and sewer system from the City of Detroit, all DWSD revenue bonds outstanding as of December 31, 2015, including those purchased by the Michigan Finance Authority under its state revolving loan program, were assumed by GLWA with the consent of bondholders. Total bonds assumed by GLWA totaled \$2,313,683,761 for the water fund and \$3,291,282,050 for the sewage disposal fund.

Per the Water and Sewer Services Agreement between the DWSD and GLWA dated June 12, 2015 and the Master Bond Ordinance dated October 7, 2015, as amended, the Detroit retail class continues to pay its common-to-all share of debt service revenue requirements and its allocated share of debt service revenue requirements associated with improvements to the local water and sewer systems. Payments on the debt service incurred by GLWA on the outstanding revenue bonds assumed as of December 31, 2015 are to be allocated using an agreed-upon percentage of total debt service associated with bond-financed local improvements over the life of such bonds, though the bonds themselves continue to be secured by the net revenue of GLWA, and the revenues of the Detroit retail class. A Memorandum of Understanding (MOU) Term Sheet was entered into with DWSD dated April 2018 with an agreed upon allocation and amortization schedule. The June 30, 2017 balance has been adjusted to the revised allocation. The total obligation receivable at June 30, 2017, including the additional water fund debt issued during the year, is \$495,681,322 for the water fund and \$358,090,600 for the sewage disposal fund.

# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

### Obligation Payable - City of Detroit 2014 Financial Recovery Bonds

The Financial Recovery Bonds, Series 2014-B are federally taxable. The Series 2014-B bonds have two components B(1) which has a 4.0 percent per annum interest rate and B(2) which has a variable interest rate until the maturity date of April 1, 2044. The bonds were delivered to classes of creditors in satisfaction of: (1) Class 12 OPEB claims the bonds were distributed to the new Voluntary Employee Beneficiary Associations (VEBA) for the general retirees and police and fire retirees; (2) Class 9 Pension Obligation Certificate (POC) claims; and (3) other unsecured bankruptcy claims. GLWA has a contractual obligation to pay a portion of the bonds based on an agreed-upon allocation percentage.

The Financial Recovery Bonds, Series 2014-C bear interest at 5.0 percent per annum. The bonds mature on December 10, 2026. The 2014-C bonds were issued as part of the Syncora Settlement and FGIC/POC Settlement in the bankruptcy plan. GLWA has a contractual obligation to pay a portion of the bonds based on an agreed upon allocation percentage.

The following is a schedule of the obligation payable for the Financial Recovery Bonds at June 30, 2017:

	Bond Issue	Original Issue Amount	Range of Interest Rates	Maturity Date	Outstanding Ending Balance
Water fund	Series 2014-B	\$ 26,540,080	4.00% and variable	4/1/2044	\$ 15,556,025
	Series 2014-C	3,829,794	5.00%	12/10/2026	1,869,281
	Total water fund				<u>17,425,306</u>
Sewage disposal fund	Series 2014-B	44,233,463	4.00% and variable	4/1/2044	34,990,438
	Series 2014-C	6,382,990	5.00%	12/10/2026	4,204,607
	Total sewage disposal fund				<u>39,195,045</u>
	Total business-type activities				<u>\$ 56,620,351</u>

As of June 30, 2017, debt service requirements of the Financial Recovery Bonds were as follows:

	Year Ended June 30,	Principal	Interest	Total
Water fund	2018	\$ 159,803	\$ 715,705	\$ 875,508
	2019	167,793	707,715	875,508
	2020	176,183	699,326	875,509
	2021	184,992	690,516	875,508
	2022	194,242	681,266	875,508
	2023-2027	3,319,672	3,154,254	6,473,926
	2028-2032	3,889,006	2,333,403	6,222,409
	2033-2037	3,889,006	1,975,615	5,864,621
	2038-2042	3,889,006	1,166,702	5,055,708
	2043-2044	1,555,603	140,004	1,695,607
		<u>17,425,306</u>	<u>12,264,506</u>	<u>29,689,812</u>

GREAT LAKES WATER AUTHORITY

Notes To Financial Statements

	Year Ended June 30,	Principal	Interest	Total
Sewage disposal fund				
2018	\$	359,448	\$ 1,609,848	\$ 1,969,296
2019		377,420	1,591,876	1,969,296
2020		396,291	1,573,005	1,969,296
2021		416,106	1,553,190	1,969,296
2022		436,911	1,532,384	1,969,295
2023-2027		7,466,997	7,094,919	14,561,916
2028-2032		8,747,610	5,248,565	13,996,175
2033-2037		8,747,610	4,443,786	13,191,396
2038-2042		8,747,609	2,624,283	11,371,892
2043-2044		3,499,043	314,914	3,813,957
		<u>39,195,045</u>	<u>27,586,770</u>	<u>66,781,815</u>
Total business-type activities	\$	<u>56,620,351</u>	<u>\$ 39,851,276</u>	<u>\$ 96,471,627</u>

*Interest expense*

The following represents the amounts recorded as interest expense for the year ended June 30, 2017:

	Water Fund	Sewage Disposal Fund	Total
Bonded debt	\$ 119,367,849	\$ 141,080,363	\$ 260,448,212
Obligation payable	717,819	1,614,602	2,332,421
Lease payable	18,054,730	22,066,892	40,121,622
Less: amounts capitalized	<u>(5,705,453)</u>	<u>(5,604,705)</u>	<u>(11,310,158)</u>
	<u>\$ 132,434,945</u>	<u>\$ 159,157,152</u>	<u>\$ 291,592,097</u>

# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

### 7. LONG-TERM LEASES PAYABLE AND RELATED PREPAID

On January 1, 2016, the Great Lakes Water Authority effectuated lease agreements with the City of Detroit, Michigan for the regional water system and regional sewer system for a term of 40 years, to be extended automatically to coincide with the final maturity of any bonds issued to finance improvements to the regional or local sewer systems. The agreements collectively provide for an annual lease payment of \$50 million. Currently, \$22,500,000 is allocated to the water fund and \$27,500,000 is allocated to the sewage disposal fund. The lease for the water system provides service to the wholesale customers and the retail water customers of the City up to the point of connection to the local water system facilities of the City. The lease for the sewer system provides service to the wholesale customers and the retail sewer customers of the City up to the point of connection to the local sewer system facilities of the City. In addition, both leases provide that certain other assets including cash and investments held by DWSD as of December 31, 2015 are transferred to GLWA, all revenues of the regional and local water and sewer systems are assigned to GLWA, and that GLWA assumes all DWSD bonded debt and certain other liabilities. The long-term leases are recorded as the present value of all future debt payments.

Amounts reported as a liability at year-end represent the net present value of all future lease payments. Changes in long-term leases payable for the year ended June 30, 2017 were as follows:

	Beginning Balance	Increase	Decrease	Ending Balance	Amount Due Within One Year *
Water fund	\$ 435,351,396	\$ -	\$ (4,429,876)	\$ 430,921,520	\$ 4,618,174
Sewage disposal fund	532,096,152	-	(5,414,293)	526,681,859	5,644,435
<b>Total business-type activities</b>	<b>\$ 967,447,548</b>	<b>\$ -</b>	<b>\$ (9,844,169)</b>	<b>\$ 957,603,379</b>	<b>\$ 10,262,609</b>

\* The current portion of the long-term leases payable represents the 12 monthly payments required from July 1, 2017 through June 30, 2018. Future revenues are intended to cover these payments.

Principal and interest portions of the lease payable for the year ended June 30, 2017 were as follows:

	Water	Sewage Disposal	Total
Gross future payments	\$ 866,250,000	\$ 1,058,750,000	\$1,925,000,000
Less: interest	(435,328,480)	(532,068,141)	(967,396,621)
<b>Total principal remaining</b>	<b>\$ 430,921,520</b>	<b>\$ 526,681,859</b>	<b>\$ 957,603,379</b>

As part of the Memorandum of Understanding (MOU) Term Sheet with DWSD dated April 2018, the MBO requirement for six months of lease payments made to DWSD on January 1, 2016 will be treated as prepaid lease payments. The initial term of the leases began on the effective date and ends on December 31, 2055. GLWA's last monthly payment shall be June 1, 2055 and GLWA's \$25 million lease pre-payment on January 1, 2016 shall be applied to the period of July 1, 2055 through December 31, 2055. Of the \$25 million recorded as a prepaid on the statement of net position, \$11,250,000 is recorded in the water fund and \$13,750,000 in the sewage disposal fund.

# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

### 8. RISK MANAGEMENT / SELF-INSURANCE PROGRAMS

The Authority is exposed to various types of risk of loss including torts; theft of, damage to, or destruction of assets; errors or omissions; job related illnesses or injuries to employees; natural disasters; and environmental occurrences. Also included are risk of loss associated with providing medical benefits to employees.

The Authority purchases a variety of insurance policies including: public official's and employment practices liability insurance, property insurance, pollution legal liability insurance and casualty insurance for workers' compensation, general liability, and automobile liability. The Authority purchases excess liability insurance for its casualty program which provides per occurrence and aggregate protection for up to \$8 million. The Authority's retention is \$1,250,000 for workers' compensation and \$250,000 for general liability and automobile. The Authority also has coverage under a pollution legal liability policy with limits of \$50 million, a property insurance policy with limits of \$750 million and a public officials policy with limits of \$25 million.

Settled claims relating to commercial insurance have not exceeded the amount of insurance coverage in any of the past two fiscal years.

A liability for claims is reported when it is probable that a loss has occurred and the amount of the loss can be reasonably estimated. Liabilities include an amount for claims that have been incurred but not reported. Claim liabilities are calculated considering the effects of recent claim settlement trends including frequency and amount of payouts and other economic and social factors. The claim liabilities also include estimated costs for claim administration fees and outside legal and medical assistance costs. The liabilities for workers' compensation current year claims is based on estimates and payments are based on actuals.

Under most circumstances, the Authority's maximum loss retention per occurrence was as follows:

Type of Risk	Maximum Retention Per Occurrence
Workers' compensation	\$1,250,000 per occurrence
General and automobile liability	\$250,000 per occurrence
Motor vehicle physical damage	Authority assumes all risk
Property damage	\$1,000,000 per occurrence
Public officials	\$250,000 per occurrence
Pollution legal liability	\$500,000 per occurrence

The Authority estimates the liability for medical and worker's compensation claims that have been incurred through the end of the fiscal year, including claims that have been reported as well as those that have not yet been reported, which includes estimates of both future payments of losses and related claim adjustments expense. The liability is based on individual claims and management's evaluation of experience with respect to the probable number and nature of claims. Any adjustments resulting from settlement of losses will be reflected in earnings at the time the adjustments are determined.

# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

*Medical insurance.* The Authority provides medical benefits to a significant number of employees through a self-insured health plan that is administered by third party administrators. The Authority purchased stop loss insurance for its self-insured health plan with terms of \$300,000 per contract to reduce risk exposure for the group. The self-insured program is administered by a third-party administrator who provides claims review and processing services as well as illustrated premium rates, which are anticipated, over time, to approximate the actual cost of benefits.

	2017	2016
Unpaid claims, beginning of year	\$ 933,567	\$ -
Incurred claims (including change in IBNR provisions)	8,986,780	4,565,983
Claims payments	(8,894,169)	(3,632,416)
	<u>\$ 1,026,178</u>	<u>\$ 933,567</u>

*Workers' compensation.* The Authority maintains a self insurance program for workers' compensation coverage up to the amount of its retention. The program is administered by a third-party who provides claim review and medical bill review services.

Changes in the balances of claims liabilities during the past two years are as follows:

	2017	2016
Unpaid claims, beginning of year	\$ 351,231	\$ -
Incurred claims	238,483	533,897
Claims payments	(339,714)	(182,666)
	<u>\$ 250,000</u>	<u>\$ 351,231</u>

## 9. DEFINED CONTRIBUTION PENSION PLAN

### *Defined Contribution Plans*

The Great Lakes Water Authority Defined Contribution Retirement Plan is a 401(a) governmental money purchase plan administered by ICMA Retirement Corporation (the "Administrator") to provide benefits at retirement to all full-time employees of the Authority. The Authority contributes 6.0% of earnings to the plan. The Authority will make an additional contribution to the 401(a) plan to match employee pre-tax contributions under the Great Lakes Water Authority 457 Plan up to 3% of compensation. Employees are 100% vested after three years of service (cliff vesting). Employees who transferred to the Authority on or around January 1, 2016 from DWSD retain their years of service for vesting purposes. Employer contributions totaled \$3,986,841 million for the year ended June 30, 2017. At June 30, 2017, there were 893 plan members.



# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

The Great Lakes Water Authority Defined Contribution Plan Make-Up Benefit Plan is a 401(a) governmental money purchase plan administered by ICMA Retirement Corporation (the "Administrator") to provide benefits at retirement to all employees who terminated employment with DWSD on or around January 1, 2016 and were not vested in the City of Detroit General Retirement System (GRS). Eligible employees are required to roll over to the Authority's Section 457 Deferred Compensation Plan their refunded employee mandatory contribution from GRS. The amount of the make-up benefit will be determined by an actuary based on the present value of the lost GRS benefit. Employees are 100% vested after one year of service.

The Authority has also adopted a Section 457 Deferred Compensation Plan which employees can make pre-tax contributions which are immediately 100% vested. At June 30, 2017, there were 729 plan members.

### *Retirement Health Savings Plan*

The Authority also provides a Retirement Health Savings Program for full-time employees. Employees are required to contribute \$10 per pay period and the Authority contributes \$80 per pay period. Employees are 100% vested after three years of service (cliff vesting). Employees who transferred to the Authority on or around January 1, 2016 from DWSD retain their years of service for vesting purposes. Employer contributions were \$1,661,440 and employee contributions were \$207,670 for the year ended June 30, 2017. At June 30, 2017, there were 975 plan members.

## 10. NET PENSION LIABILITY (SPECIAL FUNDING SITUATION)

As part of the City of Detroit bankruptcy plan of adjustment (POA) and the Leases (Section 4.3), the City, the City of Detroit General Employees' Retirement system (GRS or the "System") and the Authority entered into an agreement on December 1, 2015 that set forth the terms for contributions and reporting of the DWSD share of the GRS pension pool. GRS provides the information necessary for the Authority and DWSD to report the proportionate share separately in their respective statements. On January 24, 2017, DWSD and the Authority provided a supplement to the agreement whereby GRS is directed to allocate investments and pension liabilities of the DWSD division on the basis of 70.3% to the Authority and 29.7% to DWSD effective January 1, 2016. This information is available in a separate audit report for the "Legacy Pension Plan (Component II) of the General Retirement System of the City of Detroit Statement of Changes in Fiduciary Net Position by Division with Supplemental Information as of June 30, 2017" and is available by contacting the Authority's management. This agreement constitutes a special funding situation pursuant to the provisions of GASB 68, *Accounting and Financial Reporting for Pensions*. As such, while no Authority employees earn service credit in the legacy or hybrid plans, GLWA is legally responsible for making substantial contributions to a legacy pension plan of another entity and, accordingly, must record a net pension liability for its proportion and make the following disclosures regarding the plan as required by the standard.

*Plan Administration.* The Authority contributes to (and DWSD participates in) the System. The System is a single employer plan composed of a defined benefit plan component and a defined contribution annuity plan component. The plan provides retirement, disability, and survivor benefits to plan members and beneficiaries. The plan is administered by its own board of trustees. Plan members include active employees, retirees and beneficiaries from various departments within the City. Benefit terms have been established by contractual agreements between the City and the employees' collective bargaining units; amendments are subject to the same process.

# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

The System issues publicly available financial reports that include financial statements and the required supplementary information. The reports can be obtained from City of Detroit Retirement Systems, One Detroit Center, 500 Woodward Avenue, Suite 3000, Detroit, MI 48226 or obtained from the Systems' website ([www.rscd.org](http://www.rscd.org)). Detailed information about the pension plan's fiduciary net position is available in the separately issued financial reports.

*Benefits Provided.* Plan members may retire at age 55 or 60 with 5, 8, 10 or 25 years of credited service depending on which group the employee is in. Members are vested after completing 5, 8 or 10 years of credited service. Retirement options that provide for survivor benefits are available to members. The Plan also provides death and disability benefits. If a member leaves employment or dies before vesting, accumulated member contributions plus interest are refunded to the member or designated beneficiary.

Component II - Component II is the legacy plan, the original defined benefit plan, which includes a defined benefit component and a defined contribution component. Component II generally applies to benefits accrued by members prior to July 1, 2014. The plan provides retirement, disability, and survivor benefits to plan members and beneficiaries. Except as specifically provided in the combined plan, benefits provided under Component II are frozen effective June 30, 2014. Component II also includes the income stabilization fund. The fund, a part of Component II and established as a provision of the POA, was established for the sole purpose of paying the income stabilization benefits to eligible pensioners. Complete details regarding the Component II benefits and changes in those benefits by virtue of the POA are presented in the System financial statements.

*Employer Contributions.* Employer contributions, including the Authority's nonemployer contribution, for the respective components are as follows:

Component II - Employer contributions to the GRS were determined by the provisions of the POA. Included within contributions in Component II are amounts sourced from the one-time sale of City-owned artwork with proceeds from the Foundation for Detroit's Future in the amount of \$32,886,827 along with \$4,005,830 from unlimited tax general obligation bonds and \$67,900,000 of contributions from the City and related entities, of which \$45,400,000 of contributions were from GLWA and DWSD. Employer contributions were also made into the income stabilization fund in the amount of \$1,689,857 from the bond proceeds.

The POA obligates DWSD to pay \$2,500,000 per year towards administrative costs and annual plan contributions of \$42,900,000 per year in total for both water and sewer employees, until 2023. Pursuant to the leases, the Authority is obligated to pay its allocable share of such liability. The portion allocated to the Authority is \$31,916,200 for fiscal year 2017. Subsequent to 2023, DWSD and the Authority will be responsible for paying their allocable share of any additional amounts that are actuarially determined to be payable.

The information below represents the Authority's share of pension liability activity. DWSD separately reports its prorata share of activity in its separate financial statements.

*DWSD Employee Contributions.* Contribution requirements of plan members are established and may be amended by the board of trustees in accordance with the City Charter, union contracts, and plan provisions. For the year ended June 30, 2017, there were minimal employee contributions into Component II, only related to military service credit, as the plan was frozen as of June 30, 2014; contributions into Component I began thereafter.

*Net Pension Liability.* The net pension liability was measured as of June 30, 2016, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of that date.

# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

*Actuarial Assumptions.* The total pension liability in the June 30, 2016 actuarial valuation was determined using the following actuarial assumptions.

Inflation	NA
Salary increases	NA
Investment rate of return	7.23%, net of investment expense and including inflation

The actuarial assumptions were based on an experience study from 2008-2013 issued in February 2015; the mortality table assumption was based on RP-2014 Blue Collar Annuitant Table for males and females. The tables are projected to be fully generational, based on two-dimensional sex distinct mortality scale MP-2014.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimates of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each asset class. These real ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. For each asset class that is included in the pension plan's target asset allocation as of June 30, 2016, these best estimates are summarized in the following table:

Asset Class	Target Allocation	Long-term Expected Real Rate of Return	Expected Money-Weighted Rate of Return
Global equity	43.0%	6.22%	2.67%
Fixed income	12.0%	2.95%	0.35%
Private equity	8.0%	7.35%	0.59%
Cash	1.0%	0.98%	0.01%
Real estate	10.0%	3.92%	0.39%
Global asset allocation/risk parity/real assets	21.0%	5.02%	1.05%
Hedge funds	5.0%	4.41%	0.22%
	<u>100.0%</u>		<u>5.28%</u>
Inflation			<u>1.95%</u>
Investment rate of return			<u><u>7.23%</u></u>

*Discount Rate.* The discount rate used to measure the total pension liability was 7.23%. The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the current contribution rate and that Authority contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current active and inactive employees. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

*Changes in the Net Pension Liability.* The components of the change in the Authority's share of the net pension liability are summarized as follows:

	Water	Sewage Disposal	Total
Total pension liability	\$ 196,712,089	\$ 352,052,192	\$ 548,764,281
Plan fiduciary net position	(127,143,045)	(227,545,689)	(354,688,734)
Authority's net pension liability	<u>\$ 69,569,044</u>	<u>\$ 124,506,503</u>	<u>\$ 194,075,547</u>
	<b>Total Pension Liability (a)</b>	<b>Plan Fiduciary Net Position (b)</b>	<b>Net Pension Liability (a) - (b)</b>
<b>Water</b>			
Balances at June 30, 2016	<u>\$ 202,696,454</u>	<u>\$ 141,675,375</u>	<u>\$ 61,021,079</u>
Changes for the year:			
Interest	14,475,348	-	14,475,348
Differences between expected and actual experience	(1,815,233)	-	(1,815,233)
Changes in assumptions	6,318,782	-	6,318,782
Employer contributions	-	10,810,800	(10,810,800)
Net investment loss	-	(470,295)	470,295
Benefit payments, including refunds of employee contributions	(24,963,262)	(24,963,262)	-
Other changes	-	90,427	(90,427)
Net changes	<u>(5,984,365)</u>	<u>(14,532,330)</u>	<u>8,547,965</u>
Balances at June 30, 2017	<u>\$ 196,712,089</u>	<u>\$ 127,143,045</u>	<u>\$ 69,569,044</u>

# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) - (b)
Sewer			
Balances at June 30, 2016	\$ 362,762,305	\$ 253,553,946	\$ 109,208,359
Changes for the year:			
Interest	25,906,278	-	25,906,278
Differences between expected and actual experience	(3,248,690)	-	(3,248,690)
Changes in assumptions	11,308,613	-	11,308,613
Employer contributions	-	19,347,900	(19,347,900)
Net investment loss	-	(841,679)	841,679
Benefit payments, including refunds of employee contributions	(44,676,314)	(44,676,314)	-
Other changes	-	161,836	(161,836)
Net changes	(10,710,113)	(26,008,257)	15,298,144
Balances at June 30, 2017	\$ 352,052,192	\$ 227,545,689	\$ 124,506,503

*Sensitivity of the Net Pension Liability to Changes in the Discount Rate.* The following presents the net pension liability of the Authority, calculated using the discount rate of 7.23%, as well as what the Authority's net pension liability would be if it were calculated using a discount rate that is 1% lower (6.23%) or 1% higher (8.23%) than the current rate:

	1% Decrease (6.23%)	Current Discount Rate (7.23%)	1% Increase (8.23%)
Water	\$ 88,176,626	\$ 69,569,044	\$ 53,745,695
Sewage disposal	157,808,168	124,506,503	96,187,732
Authority's net pension liability	\$ 245,984,794	\$ 194,075,547	\$ 149,933,427

*Pension Plan Fiduciary Net Position.* Detailed information about the pension plan's fiduciary net position is available in the separately issued plan financial statements.

# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

*Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions.* For the year ended June 30, 2017, the Authority recognized pension expense of \$2,516,776 and \$4,504,230 for the water and sewage disposal funds, respectively. At June 30, 2017, the Authority reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows (Inflows) of Resources
<i>Water</i>			
Net difference between projected and actual earnings on pension plan investments	\$ 10,680,706	\$ 6,565,776	\$ 4,114,930
Employer contributions to the plan subsequent to the measurement date	10,810,800	-	10,810,800
	<u>21,491,506</u>	<u>6,565,776</u>	<u>14,925,730</u>
<i>Sewage disposal</i>			
Net difference between projected and actual earnings on pension plan investments	19,115,072	11,750,654	7,364,418
Employer contributions to the plan subsequent to the measurement date	19,347,900	-	19,347,900
	<u>38,462,972</u>	<u>11,750,654</u>	<u>26,712,318</u>
Total business-type activities	<u>\$ 59,954,478</u>	<u>\$ 18,316,430</u>	<u>\$ 41,638,048</u>

The amount reported as deferred outflows of resources resulting from contributions subsequent to the measurement date will be recognized as a reduction in the net pension liability for the year ending June 30, 2018. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pension will be recognized in pension expense as follows:

Year Ended June 30,	Water	Sewage Disposal	Total
2018	\$ (437,101)	\$ (782,272)	\$ (1,219,373)
2019	(437,101)	(782,272)	(1,219,373)
2020	2,845,786	5,093,054	7,938,840
2021	2,143,346	3,835,908	5,979,254
Total	<u>\$ 4,114,930</u>	<u>\$ 7,364,418</u>	<u>\$ 11,479,348</u>

*Payable to the Pension Plan.* At June 30, 2017, the Authority did not have any outstanding contributions payable to the pension plan for the year then ended.

# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

### 11. COMMITMENTS AND CONTINGENCIES

#### *Capital Improvement Program*

The Authority is engaged in a variety of projects that are part of its five-year capital improvement program (the "Program"). The total cost of this Program is anticipated to be approximately \$800.6 million for the water fund and \$752.7 million for the sewage disposal fund through fiscal year 2022. The Program is being financed primarily from revenue bond proceeds in addition to customer charges revenue. The latter is accounted for in the Improvement & Extension Fund as defined in the MBO. As of June 30, 2017, the water fund has unspent bond proceeds of \$173.0 million in addition to the Improvement & Extension funds of \$177.3 million available for use in funding these commitments. Similarly, the sewage disposal fund has unspent bond proceeds of \$150.9 million in addition to Improvement & Extension funds of \$61.8 million available for use in funding these commitments.

The total amount of construction contract commitments outstanding at June 30, 2017 was approximately \$34.5 million for the water fund and \$139.0 million for the sewage disposal fund.

#### *Contingencies*

The Authority is subject to various government environmental laws and regulations. GASB Statement No. 49, *Accounting and Financial Reporting for Pollution Remediation Obligations*, established accounting and financial reporting standards for pollution (including contamination) remediation obligations, which are obligations to address the current or potential detrimental effects of existing pollution by participating in pollution remedial activities such as site assessments and cleanups. The standard excludes pollution prevention or control obligations with respect to current operations, and future pollution remediation activities that are required upon retirement of an asset, such as landfill closure and post-closure care. The Authority determined that there were no estimated pollution remediation obligations to be recorded at June 30, 2017.

The sewage disposal fund's operations are subject to regulation pursuant to the Federal Water Pollution Control Act, as amended by the Clean Water Act of 1977 and the Water Quality Act of 1987 (collectively, the Clean Water Act). Included in the regulatory framework established by the Clean Water Act is the National Pollutant Discharge Elimination System (NPDES) permit program, which requires operation of wastewater system facilities according to discharge limitations and other requirements as set forth in permits issued to each facility. The Environmental Protection Agency (EPA) has authorized the Michigan Department of Environmental Quality (MDEQ) to implement and enforce the federal NPDES permit program. The sewage disposal fund operates pursuant to an NPDES permit that is in effect through October 1, 2017.

The Authority is a defendant in numerous alleged claims, lawsuits, billing disputes, and other stated and pending demands. The Authority's Legal Department has estimated a reserve of \$75,000 for the water fund and \$4,039,562 for the sewage disposal fund, which are included in the accompanying financial statements, for the potential outcome of such claims or the amount of potential damages in the event of an unfavorable outcome for each of the above contingencies. The Authority's management believes that any differences in reserved amounts and final settlement, after consideration of claims covered by insurance, resulting from such litigation will not materially impact the Authority's financial position or results of operations.

The Authority holds various commercial insurance policies to cover other potential loss exposures.

# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

### 12. SPECIAL ITEM

On April 3, 2018, the Board of Directors for the Great Lakes Water Authority approved a Memorandum of Understanding (MOU) Term Sheet. On April 4, 2018, the Board of Water Commissioners for the DWSD approved the same Term Sheet. The Term Sheet was not intended to impose any legal obligation on the parties. A final MOU that will make the provisions of the Term Sheet binding on GLWA and DWSD is expected to be completed and approved by both Boards by July 1, 2018. The Leases and the Water and Sewer Services Agreement (“WSSA”) between the City and GLWA and the MBO, govern the relationship between DWSD and GLWA, which began on January 1, 2016 (the “Effective Date”). The intent of the MOU is to (a) provide clarification of specific sections of the Leases, WSSA and MBO; (b) make adjustments contemplated by the Leases and the WSSA; and (c) address the liquidation of specific liabilities. The transactions associated with this MOU Term Sheet resulted in a special item on the statement of activities for the year ended June 30, 2017, comprised of the following:

	Water	Sewage Disposal
Consideration for assumption of pre-bifurcation liabilities	\$ (17,759,200)	\$ (51,675,100)
Reduction of claims and judgements for pre-bifurcation retail cases	294,199	11,417,600
Sewer lookback adjustment	-	(1,333,900)
Recognize prepayment on leases	11,250,000	13,750,000
Change in obligation receivable for DWSD share of debt	(26,749,580)	(8,952,228)
Transfer of retail receivables and related amounts	153,000	(9,510,854)
Allocation of sewage disposal fund capital funds to DWSD	-	(15,174,200)
	<u>                    </u>	<u>                    </u>
Total special item	<u>\$ (32,811,581)</u>	<u>\$ (61,478,682)</u>

### 13. SUBSEQUENT EVENTS

*Partnership between the Great Lakes Water Authority, City of Flint, Karegnondi Water Authority, Genesee County Drain Commission and State of Michigan*

Effective December 1, 2017, the Authority, the City of Flint (the City), Karegnondi Water Authority (KWA), Genesee County Drain Commission (GCDC) and State of Michigan entered into a long-term partnership agreement to satisfy a number of critical water service needs across the region. Key provisions of a master agreement comprised of seven separate exhibits includes: 1) a 30-year water service contract with the City that establishes GLWA as the long-term water source for the City and credits the City of its debt service payment obligations on existing KWA bonds for the building of its water plant; 2) a long-term lease to GLWA of the 72-inch line serving the City; and 3) a 30-year contract for reciprocal, emergency water services between GLWA and GCDC.





**REQUIRED SUPPLEMENTARY INFORMATION**

**DRAFT**

# GREAT LAKES WATER AUTHORITY

## Required Supplementary Information

### Nonemployer Contributing Entity Share of City of Detroit General Employees' Retirement System - Component II Schedule of Changes in Net Pension Liability and Related Ratios - Water Fund

	Fiscal Year Based on Measurement Date	
	2016*	2015**
Share of total pension liability		
Interest	\$ 14,475,348	\$ 18,422,673
Differences between expected and actual experience	(1,815,233)	(153,112)
Changes in assumptions	6,318,782	(7,093,982)
Benefit changes	-	(54,618,440)
Benefit payments, including refunds of employee contributions	(24,963,262)	(19,462,302)
Net change	(5,984,365)	(62,905,163)
Share of total pension liability, beginning of year	202,696,454	265,601,617
Share of total pension liability, end of year	196,712,089	202,696,454
Share of plan fiduciary net position		
Employer contributions	10,810,800	10,808,000
Employee contributions	-	46,941
Net investment income (loss)	(470,295)	6,194,355
Benefit payments, including refunds of employee contributions	(24,963,262)	(19,462,302)
Administrative expense	-	(7,633)
Other changes	90,427	9,950,436
Net change	(14,532,330)	7,529,797
Share of plan fiduciary net position, beginning of year	141,675,375	134,145,578
Share of plan fiduciary net position, end of year	127,143,045	141,675,375
Share of net pension liability	\$ 69,569,044	\$ 61,021,079
Nonemployer contributing entity share of collective net pension liability - Water Fund	7.0%	7.4%
Plan fiduciary net position as a percentage of total pension liability	64.6%	69.9%

\*As described in Notes 1 and 10 GLWA was established on January 1, 2016, and GLWA assumed a portion of the net position and liabilities of the City of Detroit Water and Sewerage Department. 2016 reflects only the portion allocated to GLWA.

\*\*The 2015 information is presented based on City of Detroit Water and Sewerage Department (DWSD) prior to the establishment of GLWA. The amounts shown represent GLWA's allocation, fiduciary net position and net pension liability. The actual employer contributions made by DWSD were \$18,440,222.

Note: This schedule is being built prospectively; ultimately, 10 years of data will be presented.

# GREAT LAKES WATER AUTHORITY

## Required Supplementary Information

Nonemployer Contributing Entity Share of City of Detroit General Employees' Retirement System - Component II  
Schedule of Changes in Net Pension Liability and Related Ratios - Sewage Disposal Fund

	Fiscal Year Based on Measurement Date	
	2016*	2015**
Share of total pension liability		
Interest	\$ 25,906,278	\$ 32,970,738
Differences between expected and actual experience	(3,248,690)	(274,022)
Changes in assumptions	11,308,613	(12,695,976)
Benefit changes	-	(97,749,668)
Benefit payments, including refunds of employee contributions	(44,676,314)	(34,831,342)
Net change	(10,710,113)	(112,580,270)
Share of total pension liability, beginning of year	362,762,305	475,342,575
Share of total pension liability, end of year	352,052,192	362,762,305
Share of plan fiduciary net position		
Employer contributions	19,347,900	19,342,889
Employee contributions	-	84,010
Net investment income (loss)	(841,679)	11,085,930
Benefit payments, including refunds of employee contributions	(44,676,314)	(34,831,342)
Administrative expense	-	(13,661)
Other changes	161,836	17,808,122
Net change	(26,008,257)	13,475,948
Share of plan fiduciary net position, beginning of year	253,553,946	240,077,998
Share of plan fiduciary net position, end of year	227,545,689	253,553,946
Share of net pension liability	\$ 124,506,503	\$ 109,208,359
Nonemployer contributing entity share of collective net pension liability - Sewage Disposal Fund	12.5%	13.2%
Plan fiduciary net position as a percentage of total pension liability	64.6%	69.9%

\*As described in Notes 1 and 10 GLWA was established on January 1, 2016, and GLWA assumed a portion of the net position and liabilities of the City of Detroit Water and Sewerage Department. 2016 reflects only the portion allocated to GLWA.

\*\*The 2015 information is presented based on City of Detroit Water and Sewerage Department (DWSD) prior to the establishment of GLWA. The amounts shown represent GLWA's allocation, fiduciary net position and net pension liability. The actual employer contributions made by DWSD were \$24,448,667.

Note: This schedule is being built prospectively; ultimately, 10 years of data will be presented.

# GREAT LAKES WATER AUTHORITY

## Required Supplementary Information

Nonemployer Contributing Entity Share of City of Detroit General Employees' Retirement System - Component II  
 Schedule of Contributions

	Fiscal Year Based on Measurement Date
	2016*
<b>Water Fund</b>	
Contractually required contribution**	\$ 10,810,800
Actual contribution	10,810,800
Contribution deficiency (excess)	<u>\$ -</u>
<b>Sewage disposal fund</b>	
Contractually required contribution**	\$ 19,347,900
Actual contribution	19,347,900
Contribution deficiency (excess)	<u>\$ -</u>

\*As described in Notes 1 and 10 GLWA was established on January 1, 2016, and GLWA assumed a portion of the net position and liabilities of the City of Detroit Water and Sewerage Department. 2016 reflects only the portion allocated to GLWA.

\*\*Contributions are determined by the provisions of the Plan of Adjustment and are not actuarially determined.

Note: This schedule is being built prospectively; ultimately, 10 years of data will be presented.

**COMBINING AND INDIVIDUAL FUND  
SCHEDULES**

**DRAFT**

**Combining Schedule of Net Position**

 Water Fund  
 June 30, 2017

	Water Operations	Water Improvement and Extension	Water Construction Projects	Total
<b>Assets</b>				
Current assets:				
Cash and cash equivalents	\$ 90,581,675	\$ 175,901,463	\$ -	\$ 266,483,138
Restricted cash and cash equivalents	47,021,048	-	13,732,220	60,753,268
Restricted cash for the benefit of DWSD	288,378	-	-	288,378
Investments	852,420	-	-	852,420
Restricted investments	1,169,187	-	-	1,169,187
Receivables:				
Billed	36,459,563	-	-	36,459,563
Unbilled	29,539,433	-	-	29,539,433
Other	1,300	-	-	1,300
Allowance for doubtful accounts	(4,941,777)	-	-	(4,941,777)
Due from other governments	21,327,713	-	-	21,327,713
Contractual obligation receivable	12,076,942	-	-	12,076,942
Due from other funds	-	-	-	-
Prepaid items and other assets	2,437,047	-	-	2,437,047
<b>Total current assets</b>	<b>236,812,929</b>	<b>175,901,463</b>	<b>13,732,220</b>	<b>426,446,612</b>
Noncurrent assets:				
Restricted cash and cash equivalents	4,964,501	-	172,974,993	177,939,494
Restricted investments	20,530,374	-	-	20,530,374
Contractual obligation receivable	483,604,380	-	-	483,604,380
Prepaid lease	11,250,000	-	-	11,250,000
Assets not subject to depreciation	452,185,674	-	-	452,185,674
Capital assets being depreciated, net	1,587,291,603	-	-	1,587,291,603
Prepaid insurance on debt	14,112,324	-	-	14,112,324
<b>Total noncurrent assets</b>	<b>2,573,938,856</b>	<b>-</b>	<b>172,974,993</b>	<b>2,746,913,849</b>
<b>Total assets</b>	<b>2,810,751,785</b>	<b>175,901,463</b>	<b>186,707,213</b>	<b>3,173,360,461</b>
Deferred outflows of resources				
Deferred loss on refunding	99,294,499	-	-	99,294,499
Deferred pension amounts	21,491,506	-	-	21,491,506
<b>Total deferred outflows of resources</b>	<b>120,786,005</b>	<b>-</b>	<b>-</b>	<b>120,786,005</b>

continued...

### Combining Schedule of Net Position

Water Fund  
June 30, 2017

	Water Operations	Water Improvement and Extension	Water Construction Projects	Total
<b>Liabilities</b>				
Current liabilities:				
Accounts and contracts payable	\$ 22,838,286	\$ 181,337	\$ 13,732,219	\$ 36,751,842
Accrued salaries, wages and benefits	3,190,038	-	-	3,190,038
Other accrued liabilities	1,353,816	-	-	1,353,816
Due to other governments	25,393,813	-	-	25,393,813
Interest payable	39,329,322	-	-	39,329,322
Current portion of:				
Long-term debt	23,393,905	-	-	23,393,905
Lease payable	4,618,174	-	-	4,618,174
Obligation payable	159,803	-	-	159,803
Accrued compensated absences	2,157,888	-	-	2,157,888
Accrued workers' compensation	25,000	-	-	25,000
Total current liabilities	<u>122,460,045</u>	<u>181,337</u>	<u>13,732,219</u>	<u>136,373,601</u>
Noncurrent liabilities:				
Other noncurrent liabilities	2,582,076	-	-	2,582,076
Long-term debt	2,606,465,431	-	-	2,606,465,431
Long-term lease payable	426,303,346	-	-	426,303,346
Obligation payable	17,265,503	-	-	17,265,503
Accrued compensated absences	2,288,125	-	-	2,288,125
Accrued workers' compensation	225,000	-	-	225,000
Claims and judgments	75,000	-	-	75,000
Net pension liability	69,569,044	-	-	69,569,044
Total noncurrent liabilities	<u>3,124,773,525</u>	<u>-</u>	<u>-</u>	<u>3,124,773,525</u>
Total liabilities	<u>3,247,233,570</u>	<u>181,337</u>	<u>13,732,219</u>	<u>3,261,147,126</u>
Deferred inflows of resources				
Deferred amounts for swap terminations	85,068	-	-	85,068
Deferred gain on refunding	62,822,646	-	-	62,822,646
Deferred pension amounts	6,565,776	-	-	6,565,776
Total deferred inflows of resources	<u>69,473,490</u>	<u>-</u>	<u>-</u>	<u>69,473,490</u>
Net position				
Net investment in capital assets	134,919,107	-	-	134,919,107
Restricted for debt service	26,194,280	-	-	26,194,280
Restricted for capital acquisition	-	-	172,974,994	172,974,994
Restricted for payment assistance program	2,218,373	-	-	2,218,373
Unrestricted (deficit)	(548,501,030)	175,720,126	-	(372,780,904)
Total net position	<u>\$ (385,169,270)</u>	<u>\$ 175,720,126</u>	<u>\$ 172,974,994</u>	<u>\$ (36,474,150)</u>

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## GREAT LAKES WATER AUTHORITY

UNAUDITED

<b>Combining Schedule of Revenues, Expenses and Changes in Fund Net Position</b>
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Water Fund

For the Year Ended June 30, 2017

	Water Operations	Water Improvement and Extension	Water Construction Projects	Total
<b>Operating revenues</b>				
Wholesale customer charges	\$ 331,115,131	\$ -	\$ -	\$ 331,115,131
Local system charges	15,490,300	-	-	15,490,300
Bad debt recovery	5,107,125	-	-	5,107,125
Other revenues	37,388	-	-	37,388
<b>Total operating revenues</b>	<b>351,749,944</b>	<b>-</b>	<b>-</b>	<b>351,749,944</b>
<b>Operating expenses</b>				
Operating before depreciation:				
Personnel	38,261,393	-	-	38,261,393
Contractual services	34,257,419	-	-	34,257,419
Utilities - Gas	952,285	-	-	952,285
Utilities - Electric	26,942,016	-	-	26,942,016
Utilities - Sewage	574,267	-	-	574,267
Utilities - Water	1,035	-	-	1,035
Chemicals	5,340,753	-	-	5,340,753
Supplies and other expenses	7,834,678	147,884	-	7,982,562
Capital program allocation	(977,762)	-	-	(977,762)
Shared services allocation	(11,603,019)	-	-	(11,603,019)
<b>Total operating before depreciation</b>	<b>101,583,065</b>	<b>147,884</b>	<b>-</b>	<b>101,730,949</b>
Depreciation	144,137,912	-	-	144,137,912
<b>Total operating expenses</b>	<b>245,720,977</b>	<b>147,884</b>	<b>-</b>	<b>245,868,861</b>
<b>Operating income (loss)</b>	<b>106,028,967</b>	<b>(147,884)</b>	<b>-</b>	<b>105,881,083</b>
<b>Nonoperating revenues (expenses)</b>				
Earnings on investments	1,342,272	6,626	484,020	1,832,918
Interest on obligations receivable	25,269,750	-	-	25,269,750
Interest expense, net of capitalized interest	(132,434,945)	-	-	(132,434,945)
Amortization of debt related items and costs of issuance	2,733,535	-	(330,517)	2,403,018
Other	(2,283,399)	-	-	(2,283,399)
Capital outlay	40,342,148	(858,305)	(39,483,843)	-
Loss on disposal of capital assets	(207,900)	-	-	(207,900)
Loss on impairment of capital assets	(31,499)	-	-	(31,499)
<b>Total nonoperating revenues (expenses)</b>	<b>(65,270,038)</b>	<b>(851,679)</b>	<b>(39,330,340)</b>	<b>(105,452,057)</b>
<b>Income (loss) before special item and transfers</b>	<b>40,758,929</b>	<b>(999,563)</b>	<b>(39,330,340)</b>	<b>429,026</b>
Special item - memorandum of understanding with DWSD	(32,811,581)	-	-	(32,811,581)
Transfer in	-	110,100,000	234,786,360	344,886,360
Transfer out	(344,671,815)	(214,545)	-	(344,886,360)
<b>Change in net position</b>	<b>(336,724,467)</b>	<b>108,885,892</b>	<b>195,456,020</b>	<b>(32,382,555)</b>
Net position (deficit), beginning of year	(48,444,803)	66,834,234	(22,481,026)	(4,091,595)
<b>Net position (deficit), end of year</b>	<b>\$ (385,169,270)</b>	<b>\$ 175,720,126</b>	<b>\$ 172,974,994</b>	<b>\$ (36,474,150)</b>

Note: Transfers in (out) are used for recording financial activity related to bond proceeds and MBO requirements.

### Combining Schedule of Net Position

Sewage Disposal Fund  
June 30, 2017

	Sewer Operations	Sewer Improvement and Extension	Sewer Construction Projects	Total
<b>Assets</b>				
Current assets:				
Cash and cash equivalents	\$ 160,397,101	\$ 43,351,603	\$ -	\$ 203,748,704
Restricted cash and cash equivalents	57,194,643	-	15,019,170	72,213,813
Investments	1,430,608	-	-	1,430,608
Restricted investments	31,371,834	-	-	31,371,834
Receivables:				
Billed	52,234,778	-	-	52,234,778
Unbilled	24,279,170	-	-	24,279,170
Other	3,157,050	-	-	3,157,050
Allowance for doubtful accounts	(30,410,232)	-	-	(30,410,232)
Due from other governments	29,461,328	-	-	29,461,328
Contractual obligation receivable	11,262,300	-	-	11,262,300
Prepaid items and other assets	1,063,284	-	26,237	1,089,521
Inventories	8,509,454	-	-	8,509,454
<b>Total current assets</b>	<b>349,951,318</b>	<b>43,351,603</b>	<b>15,045,407</b>	<b>408,348,328</b>
Noncurrent assets:				
Restricted cash and cash equivalents	9,449,348	-	118,929,489	128,378,837
Restricted investments	64,195,898	-	16,981,850	81,177,748
Contractual obligation receivable	346,828,300	-	-	346,828,300
Prepaid lease	13,750,000	-	-	13,750,000
Assets not subject to depreciation	278,286,118	-	-	278,286,118
Capital assets being depreciated, net	2,591,023,442	-	-	2,591,023,442
Prepaid insurance on debt	18,581,897	-	-	18,581,897
<b>Total noncurrent assets</b>	<b>3,322,115,003</b>	<b>-</b>	<b>135,911,339</b>	<b>3,458,026,342</b>
<b>Total assets</b>	<b>3,672,066,321</b>	<b>43,351,603</b>	<b>150,956,746</b>	<b>3,866,374,670</b>
Deferred outflows of resources				
Deferred loss on refunding	198,351,942	-	-	198,351,942
Deferred pension amounts	38,462,972	-	-	38,462,972
<b>Total deferred outflows of resources</b>	<b>236,814,914</b>	<b>-</b>	<b>-</b>	<b>236,814,914</b>

continued..

**Combining Schedule of Net Position**

 Sewage Disposal Fund  
 June 30, 2017

	Sewer Operations	Sewer Improvement and Extension	Sewer Construction Projects	Total
<b>Liabilities</b>				
Current liabilities:				
Accounts and contracts payable	\$ 12,013,399	\$ 513,989	\$ 15,019,170	\$ 27,546,558
Other accrued liabilities	898,800	-	-	898,800
Due to other governments	35,801,034	-	47,539	35,848,573
Interest payable	41,011,198	-	-	41,011,198
Current portion of:				
Long-term debt	65,920,307	-	-	65,920,307
Lease payable	5,644,435	-	-	5,644,435
Obligation payable	359,448	-	-	359,448
Accrued compensated absences	679,260	-	-	679,260
Claims and judgments	3,852,062	-	-	3,852,062
Total current liabilities	<u>166,179,943</u>	<u>513,989</u>	<u>15,066,709</u>	<u>181,760,641</u>
Noncurrent liabilities:				
Other noncurrent liabilities	5,983,201	-	-	5,983,201
Long-term debt	3,236,016,730	-	-	3,236,016,730
Long-term lease payable	521,037,424	-	-	521,037,424
Obligation payable	38,835,597	-	-	38,835,597
Claims and judgments	187,500	-	-	187,500
Net pension liability	124,506,503	-	-	124,506,503
Total noncurrent liabilities	<u>3,926,566,955</u>	<u>-</u>	<u>-</u>	<u>3,926,566,955</u>
Total liabilities	<u>4,092,746,898</u>	<u>513,989</u>	<u>15,066,709</u>	<u>4,108,327,596</u>
Deferred inflows of resources				
Deferred amounts for swap terminations	214,393	-	-	214,393
Deferred gain on refunding	49,257,784	-	-	49,257,784
Deferred pension amounts	11,750,654	-	-	11,750,654
Total deferred inflows of resources	<u>61,222,831</u>	<u>-</u>	<u>-</u>	<u>61,222,831</u>
Net position				
Net investment in capital assets	393,956,399	-	-	393,956,399
Restricted for debt service	107,931,677	-	-	107,931,677
Restricted for capital acquisition	15,040,471	-	135,890,037	150,930,508
Restricted for payment assistance program	3,117,744	-	-	3,117,744
Unrestricted (deficit)	(765,134,785)	42,837,614	-	(722,297,171)
Total net position	<u>\$ (245,088,494)</u>	<u>\$ 42,837,614</u>	<u>\$ 135,890,037</u>	<u>\$ (66,360,843)</u>

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**Combining Schedule of Revenues, Expenses and Changes in Fund Net Position**  
 Sewage Disposal Fund  
 For the Year Ended June 30, 2017

	Sewer Operations	Sewer Improvement and Extension	Sewer Construction Projects	Total
<b>Operating revenues</b>				
Wholesale customer charges	\$ 263,311,745	\$ -	\$ -	\$ 263,311,745
Industrial waste charges	14,381,106	-	-	14,381,106
Pollutant surcharges	5,206,294	-	-	5,206,294
Local system charges	187,304,100	-	-	187,304,100
Bad debt recovery	35,065,030	-	-	35,065,030
Other revenues	538,807	-	-	538,807
<b>Total operating revenues</b>	<b>505,807,082</b>	<b>-</b>	<b>-</b>	<b>505,807,082</b>
<b>Operating expenses</b>				
Operating before depreciation:				
Personnel	47,894,911	-	-	47,894,911
Contractual services	55,878,440	-	-	55,878,440
Utilities - Gas	5,497,215	-	-	5,497,215
Utilities - Electric	14,570,263	-	-	14,570,263
Utilities - Sewage	1,656,052	-	-	1,656,052
Utilities - Water	5,468,336	-	-	5,468,336
Chemicals	9,424,428	-	-	9,424,428
Supplies and other expenses	12,180,128	-	-	12,180,128
Capital program allocation	(1,150,316)	-	-	(1,150,316)
Shared services allocation	(101,191)	-	-	(101,191)
<b>Total operating before depreciation</b>	<b>151,318,266</b>	<b>-</b>	<b>-</b>	<b>151,318,266</b>
Depreciation	185,628,465	-	-	185,628,465
<b>Total operating expenses</b>	<b>336,946,731</b>	<b>-</b>	<b>-</b>	<b>336,946,731</b>
<b>Operating income</b>	<b>168,860,351</b>	<b>-</b>	<b>-</b>	<b>168,860,351</b>
<b>Nonoperating revenues (expenses)</b>				
Earnings on investments	1,356,821	27,404	825,647	2,209,872
Interest on obligations receivable	17,062,678	-	-	17,062,678
Interest expense, net of capitalized interest	(159,157,152)	-	-	(159,157,152)
Amortization of debt related items	(17,340,200)	-	-	(17,340,200)
Other	(6,203,206)	-	-	(6,203,206)
Capital outlay	58,892,845	(19,110,580)	(39,782,265)	-
Loss on disposal of capital assets	(42,926)	-	-	(42,926)
<b>Total nonoperating revenues (expenses)</b>	<b>(105,431,140)</b>	<b>(19,083,176)</b>	<b>(38,956,618)</b>	<b>(163,470,934)</b>
<b>Income (loss) before contributions, special item and transfers</b>	<b>63,429,211</b>	<b>(19,083,176)</b>	<b>(38,956,618)</b>	<b>5,389,417</b>
Capital contributions	320,707	-	-	320,707
Special item - memorandum of understanding with DWSD	(61,478,682)	-	-	(61,478,682)
Transfer in	-	(49,600,000)	27,820,997	(21,779,003)
Transfer out	21,997,506	(218,503)	-	21,779,003
<b>Change in net position</b>	<b>24,268,742</b>	<b>(68,901,679)</b>	<b>(11,135,621)</b>	<b>(55,768,558)</b>
<b>Net position (deficit), beginning of year</b>	<b>(269,357,236)</b>	<b>111,739,293</b>	<b>147,025,658</b>	<b>(10,592,285)</b>
<b>Net position (deficit), end of year</b>	<b>\$ (245,088,494)</b>	<b>\$ 42,837,614</b>	<b>\$ 135,890,037</b>	<b>\$ (66,360,843)</b>

Note: Transfers in (out) are used for recording financial activity related to MBO requirements.

# GREAT LAKES WATER AUTHORITY

## Schedule of Operations and Maintenance Expense for Water Operations

Cost Type Category - Budget and Actual

For the Year Ended June 30, 2017

	Original Budget	Amended Budget	Administrative and Centralized Services Reclassification
Operating expenses			
Personnel	\$ 58,395,600	\$ 58,395,600	\$ (17,975,100)
Contractual services	79,616,800	104,148,500	(35,828,400)
Utilities	34,903,600	34,903,600	(143,300)
Chemicals	6,192,400	6,192,400	-
Supplies and other expenses	16,490,700	16,490,700	-
Shared services reimbursement	(10,306,900)	(10,306,900)	-
Capital program allocation	(23,315,600)	(23,315,600)	-
Unallocated reserve	3,849,400	(20,682,300)	-
Centralized services allocation	(34,980,600)	(34,980,600)	34,980,600
Administrative services allocation	(18,966,200)	(18,966,200)	18,966,200
<b>Total operating expenses</b>	<b>\$ 111,879,200</b>	<b>\$ 111,879,200</b>	<b>\$ -</b>

continued...

Note: Centralized and administrative services allocations have been applied to the expense categories above for presentation of the amended budget and actual amounts.

UNAUDITED

Final Amended Budget	Actual	Amount Over (Under) Budget	Percent Over (Under) Budget
\$ 40,420,500	\$ 38,261,393	\$ (2,159,107)	-5.3%
68,320,100	34,257,419	(34,062,681)	-49.9%
34,760,300	28,469,603	(6,290,697)	-18.1%
6,192,400	5,340,753	(851,647)	-13.8%
16,490,700	7,982,562	(8,508,138)	-51.6%
(10,306,900)	(11,603,019)	(1,296,119)	12.6%
(23,315,600)	(977,762)	22,337,838	-95.8%
(20,682,300)	-	20,682,300	-100.0%
-	-	-	0.0%
-	-	-	0.0%
<u>\$ 111,879,200</u>	<u>\$ 101,730,949</u>	<u>\$ (10,148,251)</u>	-9.1%

concluded.

# GREAT LAKES WATER AUTHORITY

## Schedule of Operations and Maintenance Expense for Sewer Operations

Cost Type Category - Budget and Actual  
For the Year Ended June 30, 2017

	Original Budget	Amended Budget	Administrative and Centralized Services Reclassification
Operating expenses			
Personnel	\$ 33,777,300	\$ 33,777,300	\$ 17,975,100
Contractual services	28,778,700	28,778,700	35,828,400
Utilities	31,660,100	31,660,100	143,300
Chemicals	14,345,700	14,345,700	-
Supplies and other expenses	9,694,800	9,694,800	-
Shared services reimbursement	-	-	-
Capital program allocation	(3,061,400)	(3,061,400)	-
Unallocated reserve	6,716,900	6,716,900	-
Centralized services allocation	34,980,600	34,980,600	(34,980,600)
Administrative services allocation	18,966,200	18,966,200	(18,966,200)
<b>Total operating expenses</b>	<b>\$ 175,858,900</b>	<b>\$ 175,858,900</b>	<b>\$ -</b>

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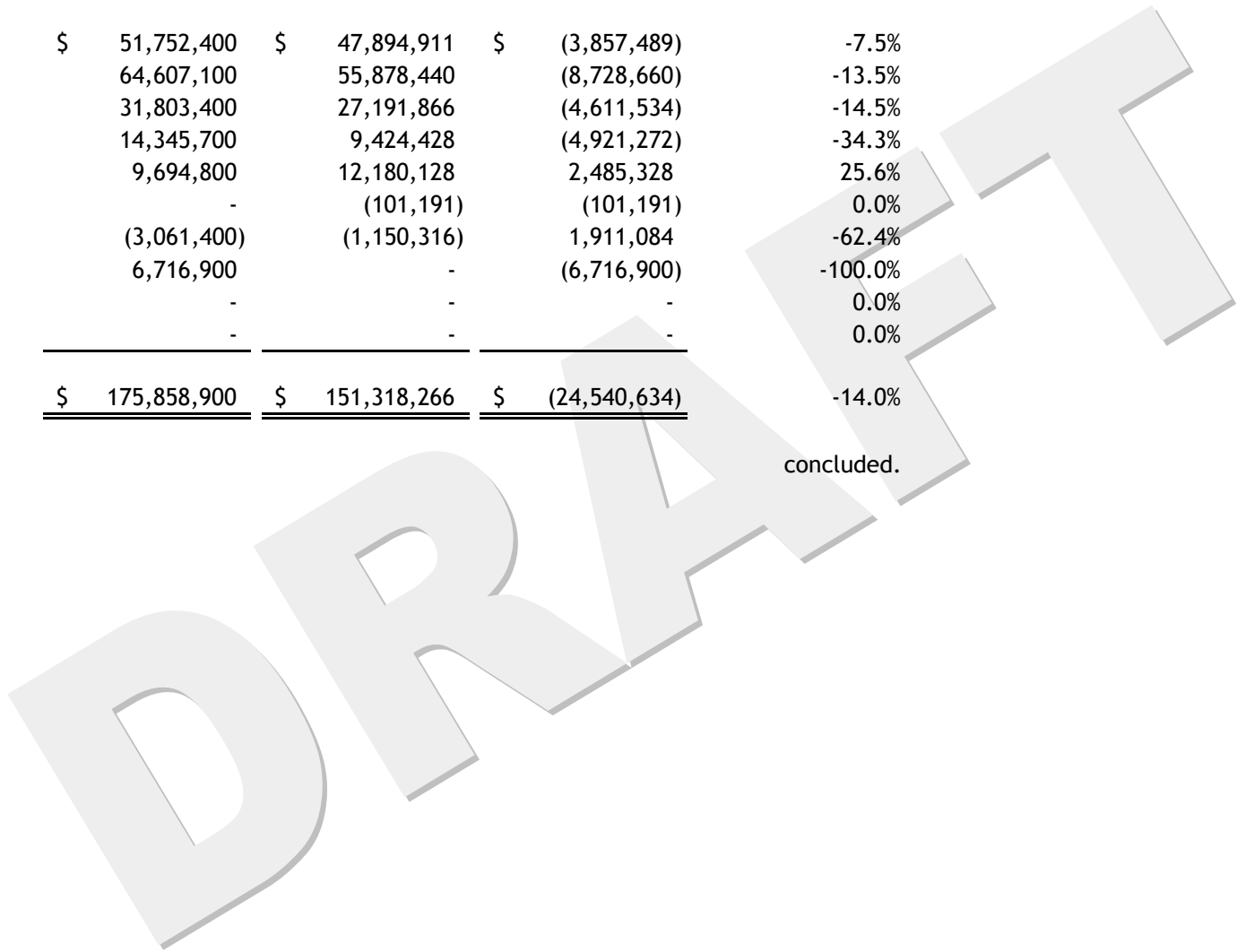
Note: Centralized and administrative services allocations have been applied to the expense categories above for presentation of the amended budget and actual amounts.





Final Amended Budget	Actual	Amount Over (Under) Budget	Percent Over (Under) Budget
\$ 51,752,400	\$ 47,894,911	\$ (3,857,489)	-7.5%
64,607,100	55,878,440	(8,728,660)	-13.5%
31,803,400	27,191,866	(4,611,534)	-14.5%
14,345,700	9,424,428	(4,921,272)	-34.3%
9,694,800	12,180,128	2,485,328	25.6%
-	(101,191)	(101,191)	0.0%
(3,061,400)	(1,150,316)	1,911,084	-62.4%
6,716,900	-	(6,716,900)	-100.0%
-	-	-	0.0%
-	-	-	0.0%
<u>\$ 175,858,900</u>	<u>\$ 151,318,266</u>	<u>\$ (24,540,634)</u>	-14.0%

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### Schedule of Revenue Requirement

Budget to Actual

For the Year Ended June 30, 2017

	Original Budget	Amended Budget	Actual	Over (Under) Budget
<b>Water fund</b>				
Revenue:				
Revenue Requirement from Charges	\$ 329,135,600	\$ 329,135,600	\$ 346,605,431	\$ 17,469,831
Bad Debt Expense Recovery	-	-	5,107,125	5,107,125
Other Revenue	2,077,600	2,077,600	37,388	(2,040,212)
	<u>\$ 331,213,200</u>	<u>\$ 331,213,200</u>	<u>\$ 351,749,944</u>	<u>\$ 20,536,744</u>
<b>Revenue requirements*</b>				
Operations & maintenance expense	\$ 111,879,200	\$ 111,879,200	\$ 111,879,600	\$ 400
Operations & maintenance legacy pension allocation	6,037,100	6,037,100	6,048,100	11,000
Debt service allocation	159,277,500	159,277,500	141,481,548	(17,795,952)
Accelerated legacy pension allocation	6,035,200	6,035,200	6,260,724	225,524
Water residential assistance program	1,645,700	1,645,700	1,646,100	400
Lease payment to local system improvement & extension fund	22,500,000	22,500,000	22,500,000	-
Regional system improvement & extension fund**	23,838,500	23,838,500	23,838,500	-
<b>Total revenue requirements</b>	<u>\$ 331,213,200</u>	<u>\$ 331,213,200</u>	<u>\$ 313,654,572</u>	<u>\$ (17,558,628)</u>
<b>Sewage disposal fund</b>				
Revenue:				
Revenue Requirement from Charges	\$ 467,594,400	\$ 467,594,400	\$ 470,203,245	\$ 2,608,845
Bad Debt Expense Recovery	-	-	35,065,030	35,065,030
Other Revenue	4,115,800	4,115,800	538,807	(3,576,993)
	<u>\$ 471,710,200</u>	<u>\$ 471,710,200</u>	<u>\$ 505,807,082</u>	<u>\$ 34,096,882</u>
<b>Revenue requirements*</b>				
Operations & maintenance expense	\$ 175,858,900	\$ 175,858,900	\$ 175,858,800	\$ (100)
Operations & maintenance legacy pension allocation	10,838,400	10,838,400	10,824,000	(14,400)
Debt service allocation	222,418,500	222,418,500	211,556,875	(10,861,625)
Accelerated legacy pension allocation	11,096,500	11,096,500	11,604,538	508,038
Water residential assistance program	2,299,800	2,299,800	2,299,600	(200)
Lease payment to local system improvement & extension fund	27,500,000	27,500,000	27,500,000	-
Regional system improvement & extension fund**	21,698,100	21,698,100	21,698,100	-
<b>Total revenue requirements</b>	<u>\$ 471,710,200</u>	<u>\$ 471,710,200</u>	<u>\$ 461,341,913</u>	<u>\$ (10,368,287)</u>

\*Item is not considered an expense for accounting purposes but is for revenue requirement basis in establishing customer charges. Actual amounts are based on cash transfers made to the MBO defined bank accounts that must be funded by revenue.

\*\*Amount determined to be available after all of MBO requirements are met.

**Schedule of Days Cash - Liquidity**  
June 30, 2017

	Water Fund	Sewage Disposal Fund	Total Business-type Activities
<i>Cash and investments</i>			
Unrestricted	\$ 267,335,558	\$ 205,179,312	\$ 472,514,870
<i>Operating expense</i>			
Operating expense	\$ 245,868,861	\$ 336,946,731	\$ 582,815,592
Less: depreciation	(144,137,912)	(185,628,465)	(329,766,377)
<i>Net operating expense</i>	\$ 101,730,949	\$ 151,318,266	\$ 253,049,215
Operating expense per day (365 days)	\$ 278,715	\$ 414,571	\$ 693,286
<i>Days cash</i>			
Number of days cash	959	495	682

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**Schedule of Days Cash - Liquidity**  
 June 30, 2017

	2017	2016*
<b>Water fund</b>		
Cash and investments - Unrestricted	\$ 267,335,558	\$ 167,292,572
<i>Operating expense</i>		
Operating expense	\$ 245,868,861	\$ 120,841,204
Less: depreciation	(144,137,912)	(71,295,545)
<i>Net operating expense</i>	\$ 101,730,949	\$ 49,545,659
<i>Operating expense per day (365 days)</i>	\$ 278,715	\$ 273,733
<i>Days cash</i>		
Number of days cash	959	611
<b>Sewage disposal fund</b>		
Cash and investments - Unrestricted	\$ 205,179,312	\$ 188,063,375
<i>Operating expense</i>		
Operating expense	\$ 336,946,731	\$ 170,401,050
Less: depreciation	(185,628,465)	(86,021,029)
<i>Net operating expense</i>	\$ 151,318,266	\$ 84,380,021
<i>Operating expense per day (365 days)</i>	\$ 414,571	\$ 466,188
<i>Days cash</i>		
Number of days cash	495	403
<b>Combined</b>		
Cash and investments - Unrestricted	\$ 472,514,870	\$ 355,355,947
<i>Operating expense</i>		
Operating expense	\$ 582,815,592	\$ 291,242,254
Less: depreciation	(329,766,377)	(157,316,574)
<i>Net operating expense</i>	\$ 253,049,215	\$ 133,925,680
<i>Operating expense per day (365 days)</i>	\$ 693,286	\$ 739,921
<i>Days cash</i>		
Number of days cash	682	480

\*GLWA assumed operations on January 1, 2016. Data for 2016 includes six months of operation under GLWA. Operating expense per day is based on a half year (that is, 181 days).

STATISTICAL SECTION

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# GREAT LAKES WATER AUTHORITY

## Statistical Section Table of Contents

The objective of the statistical section is to provide financial statement users with additional historical perspective, context and detail to assist in using the information in the financial statements, notes to financial statements and required supplementary information to understand and assess the Authority's economic condition.

The statistical section information is presented in the following categories:

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**Net Position by Component**  
(accrual basis of accounting)

	2017	2016*
<b>Business-type activities</b>		
Net investment in capital assets	\$ 528,875,506	\$ 851,734,519
Restricted for debt service	134,125,957	178,540,029
Restricted for capital acquisition	323,905,502	164,326,618
Restricted for payment assistance program	5,336,117	977,278
Unrestricted (deficit)	<u>(1,095,078,075)</u>	<u>(1,210,262,324)</u>
<b>Total business-type activities net position</b>	<u>\$ (102,834,993)</u>	<u>\$ (14,683,880)</u>

\*GLWA began operations on January 1, 2016. The data for FY 2016 relates to six months of activity through June 30, 2016. This schedule is being built prospectively. Ultimately, 10 years of data will be presented.

Source: Great Lakes Water Authority Financial Services Area





### Changes in Net Position

(accrual basis of accounting)

	2017	2016*
Operating revenues		
Wholesale customer charges	\$ 594,426,876	\$ 281,883,522
Industrial waste charges	14,381,106	6,910,192
Pollutant surcharges	5,206,294	2,423,910
Local system charges	202,794,400	102,660,400
Bad debt recovery	40,172,155	-
Other revenues	576,195	4,252,477
<b>Total operating revenues</b>	<b>857,557,026</b>	<b>398,130,501</b>
Operating expenses		
Personnel	86,156,304	21,590,763
Contractual services	90,135,859	17,179,869
Utilities	55,661,469	25,037,499
Chemicals	14,765,181	6,451,484
Supplies and other expenses	20,162,690	17,903,355
Capital program allocation	(2,128,078)	-
Shared services allocation	(11,704,210)	-
Centralized services	-	35,228,282
Administrative services	-	10,534,428
Depreciation	329,766,377	157,316,574
<b>Total operating expenses</b>	<b>582,815,592</b>	<b>291,242,254</b>
Operating income	274,741,434	106,888,247
Nonoperating revenues (expenses)		
Earnings on investments	4,042,790	1,481,398
Interest on obligations receivable	42,332,428	21,062,500
Interest expense, net of capitalized interest	(291,592,097)	(148,447,442)
Amortization of debt related items and costs of issuance	(14,937,182)	2,055,724
Other	(8,486,605)	-
Gain (loss) on disposal of capital assets	(250,826)	275,693
Loss on impairment of capital assets	(31,499)	-
<b>Total nonoperating expenses</b>	<b>(268,922,991)</b>	<b>(123,572,127)</b>
Income (loss) before contributions and special item	5,818,443	(16,683,880)
Capital contributions	320,707	2,000,000
Special item - memorandum of understanding with DWSD	(94,290,263)	-
Change in net position	(88,151,113)	(14,683,880)
Net position (deficit), beginning of year	(14,683,880)	-
Net position (deficit), end of year	<u>\$ (102,834,993)</u>	<u>\$ (14,683,880)</u>

\*GLWA began operations on January 1, 2016. The data for FY 2016 relates to six months of activity through June 30, 2016. This schedule is being built prospectively. Ultimately, 10 years of data will be presented.

Source: Great Lakes Water Authority Financial Services Area

GREAT LAKES WATER AUTHORITY

Schedule 3  
UNAUDITED

**Operating Revenues and Charge Increases**  
Last Two Years\*

	2017	2016
<b>Water fund</b>		
Operating revenues:		
Wholesale customers	\$ 331,115,131	\$ 160,777,169
Detroit local system	15,490,300	6,833,500
Bad debt recovery	5,107,125	-
Other revenues	37,388	54,863
<b>Total operating revenues</b>	<b>\$ 351,749,944</b>	<b>\$ 167,665,532</b>
System charge increase	4.0%	4.0%
Number of wholesale customers [1]	88	85
<b>Sewage disposal fund</b>		
Operating Revenues:		
Wholesale customers	\$ 263,311,745	\$ 121,106,353
Detroit local system	187,304,100	95,826,900
Industrial waste and surcharges	19,587,400	9,334,102
Bad debt recovery	35,065,030	-
Other revenues	538,807	4,197,614
<b>Total operating revenues</b>	<b>\$ 505,807,082</b>	<b>\$ 230,464,969</b>
System charge increase	4.0%	4.0%
Number of wholesale customers [1]	18	21

\* GLWA began operations on January 1, 2016. The data for FY 2016 relates to six months of activity through June 30, 2016. This schedule is being built prospectively. Ultimately, 10 years of data will be presented.

[1] Does not include the City of Detroit.

Source: Charge Increases Water Official Statement Series 2016 and Sewer Official Statement 2016 Series

Source: Great Lakes Water Authority Financial Services Area

**Debt by Lien**

as of June 30, 2017

	Original Principal Amount [1]	Outstanding as of June 30, 2017	Total Future Debt [2]
<b>Water Supply System Revenue Bonds</b>			
<b>Senior Lien Bonds</b>			
Water Supply System Revenue Senior Lien Bonds, Series 2003A	\$ 234,805,000	\$ 100,000	\$ 100,000
Water Supply System Revenue Senior Lien Bonds, Series 2005B	194,900,000	3,285,000	3,285,000
Water Supply System Revenue Senior Lien Bonds, Series 2006A	280,000,000	100,000	100,000
Water Supply System Revenue Senior Lien Bonds, Series 2011A	379,590,000	297,815,000	297,815,000
Water Supply System Revenue Senior Lien Bonds, Series 2011B	17,195,000	4,925,000	4,925,000
Water Supply System Revenue Refunding Senior Lien Bonds, Series 2011C	103,890,000	75,145,000	75,145,000
Water Supply System Revenue Refunding Senior Lien Bonds, Series 2014A	206,540,000	192,150,000	192,150,000
Water Supply System Revenue Refunding Senior Lien Bonds, Series 2014B	188,455,000	188,455,000	188,455,000
Water Supply System Revenue Refunding Senior Lien Bonds, Series 2014C	62,700,000	62,700,000	62,700,000
Water Supply System Revenue Refunding Senior Lien Bonds, Series 2014D	307,645,000	209,360,000	209,360,000
Water Supply System Revenue Refunding Senior Lien Bonds, Series 2014E	9,270,000	9,270,000	9,270,000
Water Supply System Revenue Refunding Senior Lien Bonds, Series 2015A	89,430,000	88,925,000	88,925,000
Water Supply System Revenue Senior Lien Bonds, Series 2016A	88,000,000	88,000,000	88,000,000
Water Supply System Revenue Refunding Senior Lien Bonds, Series 2016C	443,930,000	443,930,000	443,930,000
	<u>2,606,350,000</u>	<u>1,664,160,000</u>	<u>1,664,160,000</u>
<b>Second Lien Bonds</b>			
Water Supply System Revenue Refunding Second Lien Bonds, Series 2001C	190,405,000	179,440,000	179,440,000
Water Supply System Revenue Second Lien Bonds, Series 2003B	172,945,000	100,000	100,000
Water Supply System Revenue Second Lien Bonds, Series 2006B	120,000,000	350,000	350,000
Water Supply System Revenue Refunding Second Lien Bonds, Series 2014F	65,425,000	65,425,000	65,425,000
Water Supply System Revenue Refunding Second Lien Bonds, Series 2014G	14,815,000	8,300,000	8,300,000
Water Supply System Revenue Refunding Second Lien Bonds, Series 2015B	37,235,000	37,235,000	37,235,000
Water Supply System Revenue Second Lien Bonds, Series 2016B	163,830,000	163,830,000	163,830,000
Water Supply System Revenue Refunding Second Lien Bonds, Series 2016D	222,045,000	222,045,000	222,045,000
	<u>986,700,000</u>	<u>676,725,000</u>	<u>676,725,000</u>
<b>SRF Junior Lien Bonds</b>			
Water Supply System Revenue Bonds, Series 2005-SRF-1	13,805,164	7,385,164	7,385,164
Water Supply System Revenue Bonds, Series 2005-SRF-2	8,891,730	4,641,730	4,641,730
Water Supply System Revenue Bonds, Series 2006-SRF	5,180,926	2,750,926	2,750,926
Water Supply System Revenue Bonds, Series 2008-SRF	2,590,941	1,205,941	1,205,941
Water Supply System Revenue Bonds, Series 2016A-SRF	9,605,000	-	9,605,000
Water Supply System Revenue Bonds, Series 2016B-SRF	4,180,000	1,268,474	4,180,000
Water Supply System Revenue Bonds, Series 2017-SRF	6,675,000	-	6,675,000
	<u>50,928,761</u>	<u>17,252,235</u>	<u>36,443,761</u>
<b>Total water supply system revenue bonds</b>	<u><u>\$ 3,643,978,761</u></u>	<u><u>\$ 2,358,137,235</u></u>	<u><u>\$ 2,377,328,761</u></u>

continued...

**Debt by Lien**

as of June 30, 2017

	Original Principal Amount [1]	Outstanding as of June 30, 2017	Total Future Debt [2]
<b>Sewage Disposal System Revenue Bonds</b>			
<b>Senior Lien Bonds (revenue and SRF)</b>			
Sewage Disposal System Revenue Bonds (Senior), Series 1997-B-SRF	\$ 5,430,174	\$ 650,000	\$ 650,000
Sewage Disposal System Revenue Refunding Bonds, Series 1998A	67,615,000	20,750,000	20,750,000
Sewage Disposal System Revenue Refunding Bonds, Series 1998B	67,520,000	21,650,000	21,650,000
Sewage Disposal System Revenue Bonds (Senior), Series 1999-SRF1	21,475,000	3,930,000	3,930,000
Sewage Disposal System Revenue Bonds (Senior), Series 1999-SRF2	46,000,000	16,280,000	16,280,000
Sewage Disposal System Revenue Bonds (Senior), Series 1999-SRF3	31,030,000	7,505,000	7,505,000
Sewage Disposal System Revenue Bonds (Senior), Series 1999-SRF4	40,655,000	9,830,000	9,830,000
Sewage Disposal System Revenue Bonds, Series 1999A	33,510,118	22,815,000	22,815,000
Sewage Disposal System Senior Lien Revenue Refunding Bonds, Series 2001C1	154,870,000	41,800,000	41,800,000
Sewage Disposal System Senior Lien Revenue Refunding Bonds, Series 2001C2	122,905,000	107,750,000	107,750,000
Sewage Disposal System Senior Lien Revenue & Revenue Refunding Bonds, Series 2003A	599,380,000	3,150,000	3,150,000
Sewage Disposal System Senior Lien Revenue Bonds, Series 2003B	150,000,000	100,000	100,000
Sewage Disposal System Senior Lien Revenue Refunding Bonds, Series 2004A	101,435,000	35,010,000	35,010,000
Sewage Disposal System Revenue Refunding Senior Lien Bonds, Series 2006D	370,000,000	239,475,000	239,475,000
Sewage Disposal System Revenue & Revenue Refunding Senior Lien Bonds, Series 2012A	659,780,000	527,355,000	527,355,000
Sewage Disposal System Revenue Senior Lien Bonds, Series 2014A	123,220,000	123,220,000	123,220,000
Sewage Disposal System Revenue Senior Lien Bonds, Series 2014B	27,470,000	27,470,000	27,470,000
Sewage Disposal System Revenue Refunding Senior Lien Bonds, Series 2014C	446,170,000	446,170,000	446,170,000
Sewage Disposal System Revenue Refunding Senior Lien Bonds, Series 2014D	95,165,000	69,595,000	69,595,000
Sewage Disposal System Revenue Refunding Senior Lien Bonds, Series 2014E	143,880,000	88,900,000	88,900,000
Sewage Disposal System Revenue Refunding Senior Lien Bonds, Series 2016B	126,105,000	126,105,000	126,105,000
	<b>3,433,615,292</b>	<b>1,939,510,000</b>	<b>1,939,510,000</b>
<b>Second Lien Bonds</b>			
Sewage Disposal System Second Lien Revenue Bonds, Series 2001B	110,550,000	78,895,000	78,895,000
Sewage Disposal System Revenue Second Lien Bonds, Series 2005A	273,355,000	31,885,000	31,885,000
Sewage Disposal System Revenue Refunding Second Lien Bonds, Series 2005B	40,215,000	17,115,000	17,115,000
Sewage Disposal System Revenue Refunding Second Lien Bonds, Series 2005C	63,160,000	100,000	100,000
Sewage Disposal System Revenue Second Lien Bonds, Series 2006B	250,000,000	55,100,000	55,100,000
Sewage Disposal System Revenue Refunding Second Lien Bonds, Series 2014F	76,715,000	76,715,000	76,715,000
Sewage Disposal System Revenue Refunding Second Lien Bonds, Series 2014G	23,240,000	5,850,000	5,850,000
Sewage Disposal System Revenue Refunding Second Lien Bonds, Series 2015C	197,660,000	197,160,000	197,160,000
Sewage Disposal System Revenue Refunding Second Lien Bonds, Series 2016C	295,190,000	295,190,000	295,190,000
	<b>1,330,085,000</b>	<b>758,010,000</b>	<b>758,010,000</b>

continued...

**Debt by Lien**

as of June 30, 2017

	Original Principal Amount [1]	Outstanding as of June 30, 2017	Total Future Debt [2]
<b>Sewage Disposal System Revenue Bonds (concluded)</b>			
<b>Junior Lien Bonds (SRF)</b>			
Sewage Disposal System Revenue Bonds, Series 2000-SRF1	\$ 44,197,995	\$ 13,947,995	\$ 13,947,995
Sewage Disposal System Revenue Bonds, Series 2000-SRF2	64,401,066	22,691,066	22,691,066
Sewage Disposal System Revenue Bonds, Series 2001-SRF1	82,200,000	37,865,000	37,865,000
Sewage Disposal System Revenue Bonds, Series 2001-SRF2	59,850,000	27,575,000	27,575,000
Sewage Disposal System Revenue Bonds, Series 2002-SRF1	18,985,000	6,710,000	6,710,000
Sewage Disposal System Revenue Bonds, Series 2002-SRF3	1,545,369	545,369	545,369
Sewage Disposal System Revenue Bonds, Series 2002-SRF3	31,549,466	13,399,466	13,399,466
Sewage Disposal System Revenue Bonds, Series 2003-SRF1	48,520,000	24,845,000	24,845,000
Sewage Disposal System Revenue Bonds, Series 2003-SRF2	25,055,370	11,460,370	11,460,370
Sewage Disposal System Revenue Bonds, Series 2004-SRF1	2,910,000	1,310,000	1,310,000
Sewage Disposal System Revenue Bonds, Series 2004-SRF2	18,353,459	8,258,459	8,258,459
Sewage Disposal System Revenue Bonds, Series 2004-SRF3	12,722,575	5,707,575	5,707,575
Sewage Disposal System Revenue Bonds, Series 2007-SRF1	167,540,598	114,950,598	114,950,598
Sewage Disposal System Revenue Bonds, Series 2009-SRF1	13,970,062	9,545,062	9,545,062
Sewage Disposal System Revenue Bonds, Series 2010-SRF1	4,214,763	3,115,763	3,115,763
Sewage Disposal System Revenue Bonds, Series 2012-SRF1	14,950,000	13,765,000	13,765,000
Sewage Disposal System Revenue Bonds, Series 2015A-SRF	79,500,000	76,390,000	76,390,000
Sewage Disposal System Revenue Bonds, Series 2015B-SRF	33,030,000	24,814,000	31,740,000
Sewage Disposal System Revenue Bonds, Series 2015D-SRF	19,485,000	14,399,288	18,725,000
Sewage Disposal System Revenue Bonds, Series 2016-SAW	10,000,000	2,602,370	10,000,000
Sewage Disposal System Revenue Bonds, Series 2016-SRF1	19,305,000	8,384,993	19,305,000
Sewage Disposal System Revenue Bonds, Series 2016-SRF2	51,310,000	4,789,662	51,310,000
Sewage Disposal System Revenue Bonds, Series 2017-SRF1	38,450,000	-	38,450,000
	<u>862,045,723</u>	<u>447,072,036</u>	<u>561,611,723</u>
<b>Total sewage disposal system revenue bonds</b>	<u>\$ 5,625,746,015</u>	<u>\$ 3,144,592,036</u>	<u>\$ 3,259,131,723</u>

concluded.

[1] Reflects original amount issued by predecessor entity, DWSD, for bonds issued prior to January 1, 2016.

[2] Includes the full purchase contract amounts not drawn by June 30, 2017 from state revolving funds. Final amounts will be determined after project close-out.

Source: Great Lakes Water Authority Financial Services Area

# GREAT LAKES WATER AUTHORITY

## Schedule of Debt Service Requirements as of June 30, 2017

Fiscal Year Ending [1]	Senior Lien Bonds (in \$1,000s)			Second Lien Bonds (in \$1,000s)		
	Principal	Interest	Total Debt Service	Principal	Interest	Total Debt Service
Water fund						
2018 [2]	\$ 5,735	\$ 65,197	\$ 70,932	\$ 340	\$ 31,271	\$ 31,611
2019	43,955	82,629	126,584	8,815	33,819	42,634
2020	37,705	80,683	118,388	15,420	33,168	48,588
2021	44,070	78,738	122,808	17,925	32,238	50,163
2022	48,980	76,412	125,392	20,345	31,179	51,524
2023	52,225	73,881	126,106	16,875	30,141	47,016
2024	58,610	71,105	129,715	18,185	29,154	47,339
2025	61,550	68,084	129,634	19,275	28,105	47,380
2026	64,650	64,902	129,552	20,350	26,995	47,345
2027	67,915	61,574	129,489	21,490	25,822	47,312
2028	71,310	58,092	129,402	22,700	24,583	47,283
2029	74,870	54,436	129,306	23,970	23,363	47,333
2030	78,625	50,597	129,222	25,135	22,193	47,328
2031	82,550	46,566	129,116	26,310	20,949	47,259
2032	86,690	42,333	129,023	27,625	19,601	47,226
2033	91,015	37,888	128,903	29,005	18,328	47,333
2034	84,900	33,443	118,343	40,840	16,926	57,766
2035	93,165	28,923	122,088	38,555	15,143	53,698
2036	104,610	23,918	128,528	1,210	14,149	15,359
2037	13,255	20,932	34,187	118,605	11,153	129,758
2038	52,690	19,206	71,896	5	8,187	8,192
2039	59,775	16,251	76,026	5	8,187	8,192
2040	62,895	13,052	75,947	5	8,187	8,192
2041	66,180	9,685	75,865	5	8,187	8,192
2042	68,340	6,177	74,517	5	8,186	8,191
2043	15,905	3,997	19,902	29,630	7,446	37,076
2044	16,705	3,182	19,887	31,110	5,927	37,037
2045	17,535	2,326	19,861	32,670	4,333	37,003
2046	18,415	1,427	19,842	34,300	2,658	36,958
2047	19,335	483	19,818	36,015	900	36,915
2048	-	-	-	-	-	-
2049	-	-	-	-	-	-
<b>Total</b>	<b>\$ 1,664,160</b>	<b>\$ 1,196,119</b>	<b>\$ 2,860,279</b>	<b>\$ 676,725</b>	<b>\$ 550,478</b>	<b>\$ 1,227,203</b>

Junior Lien Bonds (in \$1,000s)			Total (in \$1,000s)		
Principal	Interest	Total Debt Service	Total Debt Service as of June 30, 2017	Additional Future Junior Lien Debt Service on Undrawn SRF Loans	Total Future Debt Service including undrawn SRF Loans
\$ 1,435	\$ 360	\$ 1,795	\$ 104,338	\$ 442	\$ 104,780
1,555	329	1,884	171,102	700	171,802
1,585	295	1,880	168,856	847	169,703
1,625	261	1,886	174,857	848	175,705
1,660	225	1,885	178,801	848	179,649
1,700	189	1,889	175,011	848	175,859
1,735	151	1,886	178,940	848	179,788
1,770	113	1,883	178,897	848	179,745
1,805	75	1,880	178,777	847	179,624
1,833	35	1,868	178,669	846	179,515
235	12	247	176,932	850	177,782
236	6	242	176,881	848	177,729
78	2	80	176,630	893	177,523
-	-	-	176,375	978	177,353
-	-	-	176,249	973	177,222
-	-	-	176,236	977	177,213
-	-	-	176,109	975	177,084
-	-	-	175,786	974	176,760
-	-	-	143,887	976	144,863
-	-	-	163,945	974	164,919
-	-	-	80,088	971	81,059
-	-	-	84,218	977	85,195
-	-	-	84,139	978	85,117
-	-	-	84,057	973	85,030
-	-	-	82,708	974	83,682
-	-	-	56,978	973	57,951
-	-	-	56,924	972	57,896
-	-	-	56,864	976	57,840
-	-	-	56,800	973	57,773
-	-	-	56,733	971	57,704
-	-	-	-	978	978
-	-	-	-	319	319
<u>\$ 17,252</u>	<u>\$ 2,053</u>	<u>\$ 19,305</u>	<u>\$ 4,106,787</u>	<u>\$ 28,375</u>	<u>\$ 4,135,162</u>

# GREAT LAKES WATER AUTHORITY

## Schedule of Debt Service Requirements as of June 30, 2017

Fiscal Year Ending [1]	Senior Lien Bonds (in \$1,000s)			Second Lien Bonds (in \$1,000s)		
	Principal	Interest	Total Debt Service	Principal	Interest	Total Debt Service
Sewage disposal fund						
2018	\$ 25,310	\$ 69,294	\$ 94,604	\$ -	\$ 31,147	\$ 31,147
2019	53,715	86,593	140,308	5,850	37,994	43,844
2020	60,620	84,079	144,699	6,075	37,696	43,771
2021	61,935	81,388	143,323	8,335	37,335	45,670
2022	50,395	78,962	129,357	17,515	36,663	54,178
2023	65,440	76,255	141,695	11,905	35,885	47,790
2024	74,955	72,734	147,689	3,215	35,485	38,700
2025	75,790	68,842	144,632	16,035	34,971	51,006
2026	74,635	64,877	139,512	16,995	34,087	51,082
2027	92,895	60,979	153,874	21,040	33,075	54,115
2028	97,065	57,126	154,191	25,795	31,840	57,635
2029	100,895	53,033	153,928	26,640	30,462	57,102
2030	105,475	48,725	154,200	19,860	29,230	49,090
2031	109,890	44,721	154,611	32,550	27,883	60,433
2032	113,795	40,922	154,717	34,175	26,215	60,390
2033	117,875	36,327	154,202	21,910	24,813	46,723
2034	123,245	30,594	153,839	25,915	23,641	49,556
2035	43,920	26,411	70,331	118,345	20,155	138,500
2036	1,450	25,274	26,724	168,680	13,076	181,756
2037	1,410	25,198	26,608	177,175	4,429	181,604
2038	107,095	22,370	129,465	-	-	-
2039	112,675	16,641	129,316	-	-	-
2040	118,550	10,614	129,164	-	-	-
2041	27,275	6,842	34,117	-	-	-
2042	28,635	5,445	34,080	-	-	-
2043	30,065	3,977	34,042	-	-	-
2044	31,570	2,436	34,006	-	-	-
2045	32,935	823	33,758	-	-	-
<b>Total</b>	<b>\$ 1,939,510</b>	<b>\$ 1,201,482</b>	<b>\$ 3,140,992</b>	<b>\$ 758,010</b>	<b>\$ 586,082</b>	<b>\$ 1,344,092</b>

[1] Reflects fiscal period in which actual payments are due.

[2] For bonds issued through the Michigan Finance Authority (MFA) in 2014 and 2015, the Authority is required to make payment on these obligations to the MFA depository accounts five business days prior to the due date of the bond principal and interest payments. Therefore, the payments for the principal and interest due on July 1, 2017, are not included in the debt service requirement amounts above as they were paid June 26, 2017.

Source: Great Lakes Water Authority Financial Services Area

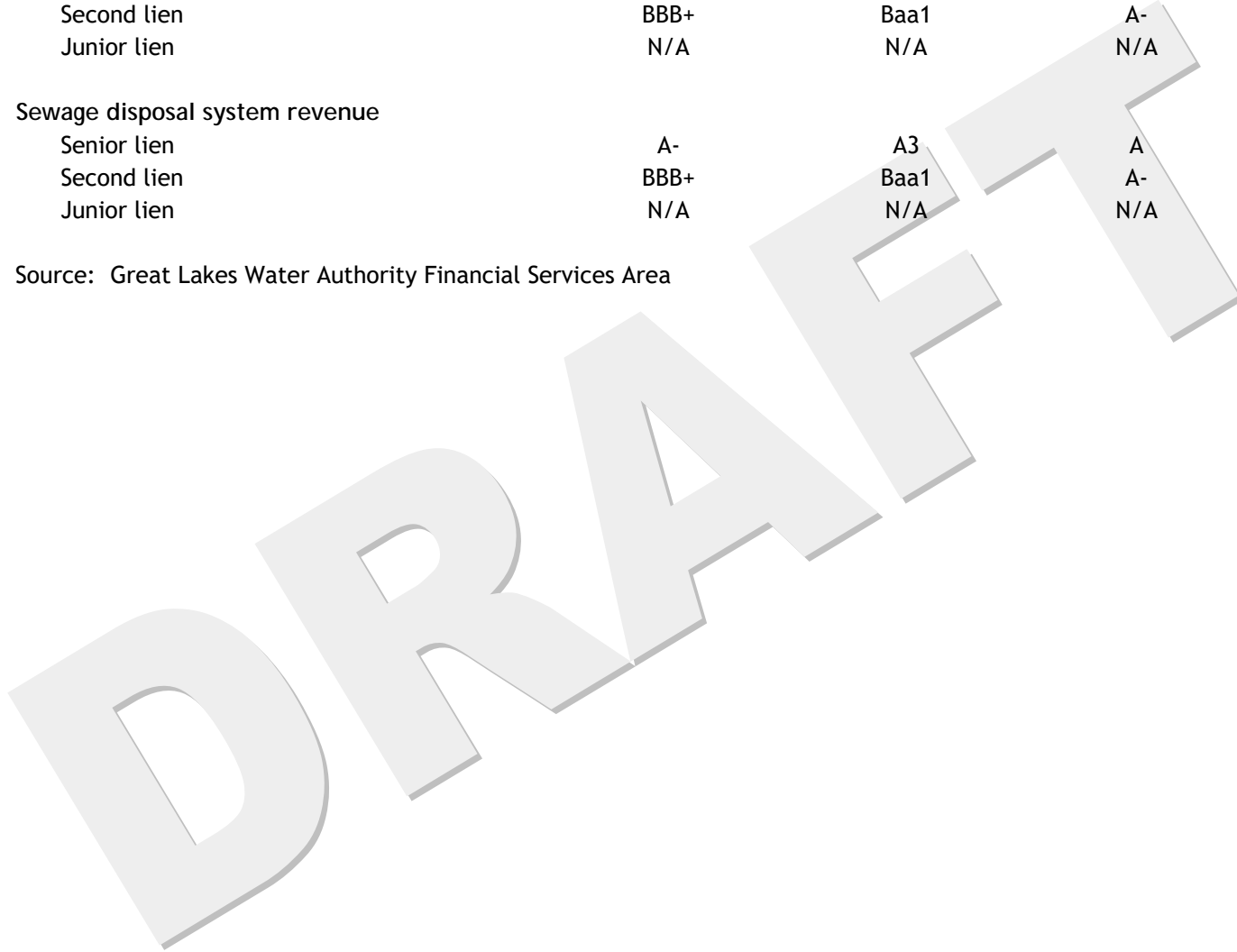


Junior Lien Bonds (in \$1,000s)			Total (in \$1,000s)		
Principal	Interest	Total Debt Service	Total Debt Service as of June 30, 2017	Additional Future Junior Lien Debt Service on Undrawn SRF Loans	Total Future Debt Service including undrawn SRF Loans
\$ 36,025	\$ 9,800	\$ 45,825	\$ 171,576	\$ 2,644	\$ 174,220
37,645	8,968	46,613	230,765	2,863	233,628
40,975	8,092	49,067	237,537	3,604	241,141
42,010	7,138	49,148	238,141	4,395	242,536
42,672	6,157	48,829	232,364	4,933	237,297
43,335	5,165	48,500	237,985	5,216	243,201
34,005	4,242	38,247	224,636	7,389	232,025
34,731	3,470	38,201	233,839	7,430	241,269
20,815	2,820	23,635	214,229	7,437	221,666
18,140	2,415	20,555	228,544	7,437	235,981
18,495	2,041	20,536	232,362	7,433	239,795
18,880	1,658	20,538	231,568	7,431	238,999
19,175	1,307	20,482	223,772	7,481	231,253
8,421	957	9,378	224,422	7,938	232,360
8,360	746	9,106	224,213	7,933	232,146
6,968	555	7,523	208,448	9,525	217,973
5,650	399	6,049	209,444	11,001	220,445
5,795	258	6,053	214,884	10,999	225,883
4,975	124	5,099	213,579	10,996	224,575
-	-	-	208,212	7,654	215,866
-	-	-	129,465	7,659	137,124
-	-	-	129,316	6,419	135,735
-	-	-	129,164	-	129,164
-	-	-	34,117	-	34,117
-	-	-	34,080	-	34,080
-	-	-	34,042	-	34,042
-	-	-	34,006	-	34,006
-	-	-	33,758	-	33,758
<b>\$ 447,072</b>	<b>\$ 66,312</b>	<b>\$ 513,384</b>	<b>\$ 4,998,468</b>	<b>\$ 155,817</b>	<b>\$ 5,154,285</b>

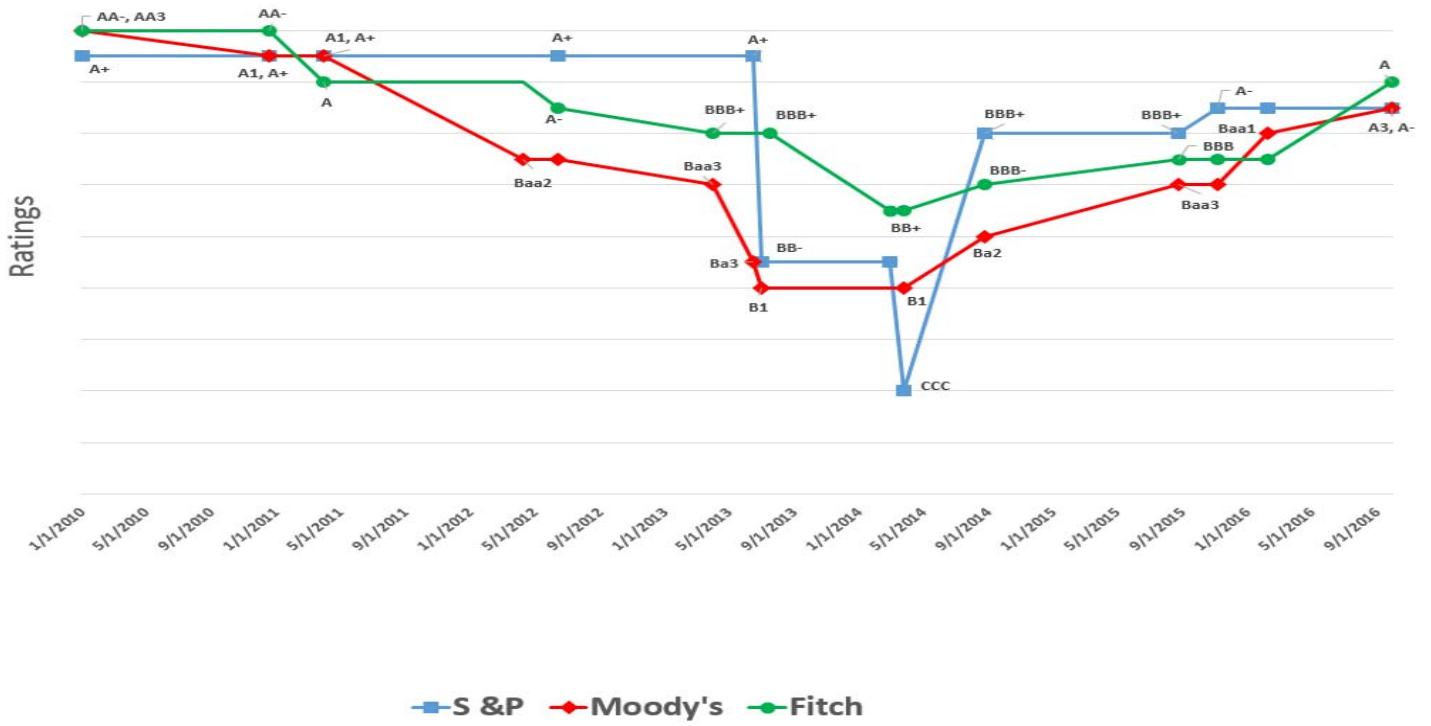
**Current Debt Ratings**  
as of June 30, 2017

Debt Type	Rating Agency		
	Standard & Poor's	Moody's	Fitch
<b>Water supply system revenue</b>			
Senior lien	A-	A3	A
Second lien	BBB+	Baa1	A-
Junior lien	N/A	N/A	N/A
<b>Sewage disposal system revenue</b>			
Senior lien	A-	A3	A
Second lien	BBB+	Baa1	A-
Junior lien	N/A	N/A	N/A

Source: Great Lakes Water Authority Financial Services Area

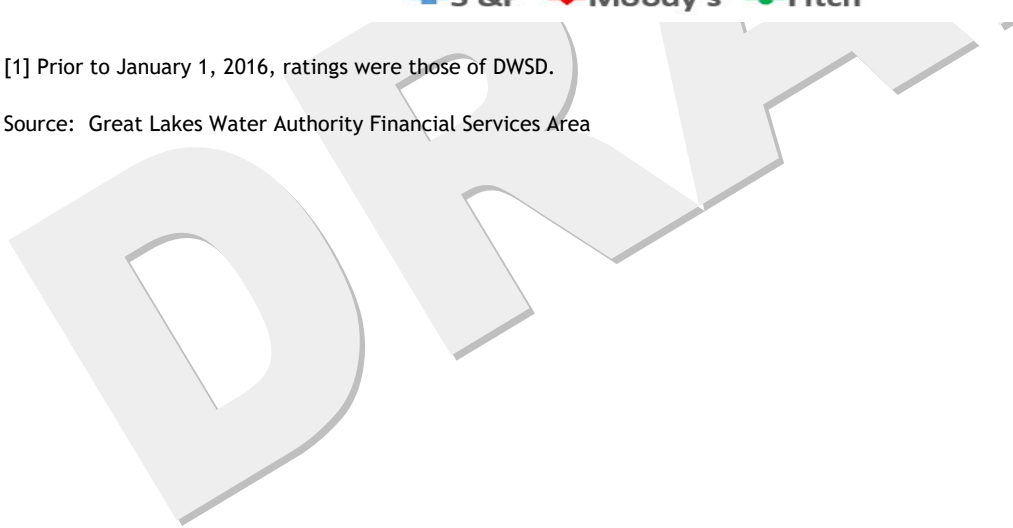


**Water and Sewer Senior Lien - Debt Ratings History**  
2010 to Present [1]



[1] Prior to January 1, 2016, ratings were those of DWSD.

Source: Great Lakes Water Authority Financial Services Area



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**Service Area Demographics**  
 Last Ten Years

Year	Total Population (1)	Unemployment (2)	Per Capita Income (3)	Total Debt Service (5)	Debt Per Capita	Debt Service as a Percentage of Income
<b>Water fund</b>						
2017	3,800,000	4.4%	\$ 49,612 (4)	\$ 175,010,012	\$ 46.06	0.09%
2016 *	3,800,000	5.4%	48,467 (4)	171,138,525	45.04	0.09%
2015 *	3,800,000	5.9%	46,894	178,923,900	47.09	0.10%
2014 *	3,800,000	8.1%	44,718	182,464,900	48.02	0.11%
2013 *	3,800,000	9.7%	42,555	172,458,800	45.38	0.11%
2012 *	3,800,000	10.1%	42,168	153,524,200	40.40	0.10%
2011 *	3,800,000	11.4%	40,607	164,435,900	43.27	0.11%
2010 *	3,800,000	13.9%	37,837	157,590,500	41.47	0.11%
2009 *	3,976,100	15.1%	36,874	156,775,100	39.43	0.11%
2008 *	3,976,100	8.2%	38,998	135,156,500	33.99	0.09%
<b>Sewage disposal fund</b>						
2017	2,800,000	4.4%	\$ 49,612 (4)	\$ 234,554,814	\$ 83.77	0.17%
2016 *	2,800,000	5.4%	48,467 (4)	228,570,571	81.63	0.17%
2015 *	2,807,000	5.9%	46,894	232,612,800	82.87	0.18%
2014 *	2,807,000	8.1%	44,718	229,611,100	81.80	0.18%
2013 *	2,807,000	9.7%	42,555	225,222,900	80.24	0.19%
2012 *	2,807,000	10.1%	42,168	203,092,300	72.35	0.17%
2011 *	2,807,000	11.4%	40,607	209,063,900	74.48	0.18%
2010 *	2,807,000	13.9%	37,837	200,985,100	71.60	0.19%
2009 *	2,998,200	15.1%	36,874	195,544,837	65.22	0.18%
2008 *	2,998,200	8.2%	38,998	175,248,600	58.45	0.15%

(1) Source: Estimated based on data from Southeast Michigan Council of Governments (SEMCOG).

(2) Source: Bureau of Labor Statistics Detroit-Warren-Dearborn MSA Annual Average (For 2017 the September rate was used). The Detroit-Warren-Dearborn Metropolitan Statistical Area (MSA) is comprised of six counties: Wayne, Oakland, Macomb, Livingston, Lapeer and St. Clair. This represents the majority of the service area customers.

(3) Source: FRED Economic Data, St. Louis Fed

(4) Source: Michigan State University Center for Economic Analysis

(5) Debt service is based on set aside debt service requirements for the fiscal year which includes the subsequent year 1st debt payment.

\*GLWA assumed operations on January 1, 2016. The information in this table from 2008-2015 is based on operations under DWSD. Data for 2016 includes six months of operation under DWSD and six months of operation under GLWA.

Source: Great Lakes Water Authority Financial Services Area

# GREAT LAKES WATER AUTHORITY

## Ten Largest Wholesale Water Customers / Total Billed Revenue Last Ten Years

	2008 *	2009 *	2010 *	2011 *
Operating revenues				
Flint [1]	\$ 16,297,870	\$ -	\$ 17,421,663	\$ 17,103,752
Genesee County Drain Commission [1]	-	17,421,571	-	-
Southeast Oakland County Water Authority	10,165,018	9,285,621	9,285,621	10,293,814
Troy	8,606,895	7,445,795	7,550,028	7,295,491
Sterling Heights	9,424,067	8,578,659	8,696,601	8,113,053
Farmington Hills	7,611,586	7,547,579	7,547,585	7,775,635
Warren	7,775,671	-	-	7,532,208
Livonia	7,530,863	7,033,848	7,033,853	7,804,684
Shelby Township	7,537,378	7,403,055	7,403,056	8,175,322
Novi	-	6,913,500	6,782,362	7,063,698
Macomb Township	-	-	-	-
Rochester Hills	8,823,580	8,644,531	8,553,457	9,047,860
North Oakland County Water Authority	-	-	-	-
West Bloomfield Township	-	-	-	-
Canton Township	7,803,359	6,876,444	7,142,729	-
<b>Total</b>	<b>\$ 91,576,287</b>	<b>\$ 87,150,603</b>	<b>\$ 87,416,955</b>	<b>\$ 90,205,517</b>
Operating revenues - DWSD	\$ 292,983,220	\$ 274,095,463	\$ 285,470,426	\$ 316,002,201
Operating revenues - GLWA	-	-	-	-
<b>Total operating revenues</b>	<b>\$ 292,983,220</b>	<b>\$ 274,095,463</b>	<b>\$ 285,470,426</b>	<b>\$ 316,002,201</b>
<b>% of total operating revenues</b>	<b>31.26%</b>	<b>31.80%</b>	<b>30.62%</b>	<b>28.55%</b>

[1] Flint contract terminated April 2013, but service provided through April 2014 and re-established in November 2015 on a temporary basis until a long-term contract took effect on December 1, 2017. Non-contract service has been provided to Genesee County Drain Commission (GCDC) from May 2014 through mid-December 2017. GCDC changed service providers in December 2017 and has contracted with GLWA for as needed emergency water service.

\*GLWA assumed operations on January 1, 2016. The information in this table from 2008-2015 is based on operations under DWSD. Data for 2016 includes six months of operation under DWSD and 6 months of operation under GLWA.

Source: Great Lakes Water Authority Financial Services Area

2012 *	2013 *	2014 *	2015 *	2016 *	2017
\$ 20,919,987	\$ 23,308,800	\$ 23,871,366	\$ 15,804,309	\$ -	\$ 13,256,330
-	-	-	-	17,231,935	18,493,530
12,111,306	19,541,038	19,467,746	19,779,978	22,846,983	22,434,129
-	9,311,146	9,715,613	9,761,438	12,365,922	13,939,815
9,882,899	12,089,582	12,015,093	12,650,819	14,678,915	15,480,008
8,503,722	10,575,173	9,769,372	9,797,153	-	-
9,121,108	9,945,794	9,060,112	9,297,285	-	-
8,806,767	10,338,724	9,728,576	10,325,750	12,809,124	13,483,657
9,966,936	10,824,461	10,770,614	11,035,002	12,689,582	13,462,808
8,340,815	-	-	-	11,869,865	-
-	-	-	-	10,103,536	10,945,117
10,324,388	9,529,341	9,600,373	9,432,554	-	-
-	-	-	-	22,585,698	22,913,261
7,973,620	9,655,154	-	-	-	-
-	-	9,400,322	9,692,530	12,319,875	13,872,584
<u>\$ 105,951,548</u>	<u>\$ 125,119,213</u>	<u>\$ 123,399,187</u>	<u>\$ 117,576,818</u>	<u>\$ 149,501,435</u>	<u>\$ 158,281,239</u>
\$ 336,129,945	\$ 355,527,761	\$ 349,369,362	\$ 364,278,054	\$ 167,665,532	\$ -
-	-	-	-	217,759,272	351,749,944
<u>\$ 336,129,945</u>	<u>\$ 355,527,761</u>	<u>\$ 349,369,362</u>	<u>\$ 364,278,054</u>	<u>\$ 385,424,804</u>	<u>\$ 351,749,944</u>
<u>31.52%</u>	<u>35.19%</u>	<u>35.32%</u>	<u>32.28%</u>	<u>38.79%</u>	<u>45.00%</u>

# GREAT LAKES WATER AUTHORITY

## Ten Largest Wholesale Sewer Customers / Total Billed Revenue Last Ten Years

	2008 *	2009 *	2010 *	2011 *
<b>Operating revenues</b>				
Oakland Macomb Interceptor Drainage District	\$ 52,832,546	\$ 57,753,543	\$ 52,780,322	\$ 51,216,403
Wayne County - Rouge Valley	35,784,848	40,843,614	35,175,971	41,807,733
Oakland County-George W Kuhn Drainage District	29,822,251	33,965,834	27,820,025	35,810,320
Evergreen Farmington	24,404,725	26,875,478	22,080,501	24,951,389
NE Wayne County	14,838,182	18,023,991	14,760,986	19,146,923
Dearborn	12,853,361	13,572,269	12,752,026	14,441,467
Highland Park	4,363,745	4,438,562	3,965,206	4,490,709
Hamtramck	2,428,484	2,689,250	4,386,331	3,249,930
Grosse Pointe Farms	1,715,608	1,370,953	1,605,103	1,857,469
Grosse Pointe Park	1,198,731	1,206,275	976,896	1,151,516
<b>Total</b>	<b>\$ 180,242,481</b>	<b>\$ 200,739,770</b>	<b>\$ 176,303,366</b>	<b>\$ 198,123,859</b>
Operating revenues - DWSD	\$ 346,908,831	\$ 390,126,398	\$ 365,537,390	\$ 410,719,075
Operating revenues - GLWA	-	-	-	-
<b>Total operating revenues</b>	<b>\$ 346,908,831</b>	<b>\$ 390,126,398</b>	<b>\$ 365,537,390</b>	<b>\$ 410,719,075</b>
<b>% of total operating revenues</b>	<b>51.96%</b>	<b>51.46%</b>	<b>48.23%</b>	<b>48.24%</b>

\*GLWA assumed operations on January 1, 2016. The information in this table from 2008-2015 is based on operations under DWSD. Data for 2016 includes six months of operation under DWSD and 6 months of operation under GLWA.

Source: Great Lakes Water Authority Financial Services Area/The Foster Group



2012 *	2013 *	2014 *	2015 *	2016 *	2017
\$ 59,379,605	\$ 62,302,424	\$ 71,972,397	\$ 74,853,600	\$ 69,206,904	\$ 69,627,600
47,309,391	44,972,847	51,181,360	50,930,400	51,784,039	55,486,800
39,620,971	38,148,325	41,658,188	42,046,800	42,804,155	45,682,800
28,097,941	27,556,982	29,198,838	29,686,800	30,177,613	32,179,200
20,532,777	19,293,968	20,406,419	22,585,200	22,993,819	24,120,000
15,884,591	15,292,901	16,406,661	18,190,800	18,368,762	19,603,200
4,840,249	5,007,724	6,887,428	5,569,200	5,616,167	5,818,800
3,437,744	3,586,927	3,941,094	4,054,800	3,936,205	4,086,000
1,922,441	2,462,068	2,502,113	2,449,200	2,486,773	2,667,600
1,413,363	1,273,953	1,244,951	1,465,200	1,492,206	1,626,000
<u>\$ 222,439,074</u>	<u>\$ 219,898,118</u>	<u>\$ 245,399,451</u>	<u>\$ 251,832,000</u>	<u>\$ 248,866,643</u>	<u>\$ 260,898,000</u>
\$ 437,654,891	\$ 440,863,260	\$ 475,770,844	\$ 505,671,614	\$ 282,415,566	\$ -
-	-	-	-	230,464,969	505,807,802
<u>\$ 437,654,891</u>	<u>\$ 440,863,260</u>	<u>\$ 475,770,844</u>	<u>\$ 505,671,614</u>	<u>\$ 512,880,535</u>	<u>\$ 505,807,802</u>
<u>50.83%</u>	<u>49.88%</u>	<u>51.58%</u>	<u>49.80%</u>	<u>48.52%</u>	<u>51.58%</u>

**FY 2016-17 Wholesale Water Schedule of Charges\***  
 and Total Revenue Requirement for the Detroit Retail Class

Community Name	Fixed Monthly \$/mo	Commodity \$/Mcf	Community Name	Fixed Monthly \$/mo	Commodity \$/Mcf
Allen Park	\$ 113,700	\$ 6.59	Madison Heights	\$ 99,700	\$ 5.39
Almont, Village of	10,700	9.51	Mayfield Township	1,400	23.86
Ash Township	36,400	7.28	Melvindale	32,700	5.57
Belleville	15,300	8.19	New Haven, Village of	17,100	9.79
Berlin Township	35,300	9.74	North Oakland County Water Authority	1,137,400	9.78
Brownstown Township	165,800	9.75	Northville, City	36,400	9.11
Bruce Township	2,400	19.40	Northville Township	321,900	20.12
Canton Township	638,600	15.77	Novi	426,900	12.98
Centerline	23,300	5.49	Oak Park	64,400	5.00
Chesterfield Township	186,000	9.18	Oakland County Drain Commission	3,200	2.84
Clinton Township	377,500	7.59	Plymouth City	50,100	9.54
Commerce Township	245,600	21.13	Plymouth Township	205,200	9.95
Dearborn	463,100	5.90	Redford Township	166,500	7.70
Dearborn Heights	186,400	6.84	River Rouge	34,400	4.75
East Pointe	79,400	5.43	Riverview	44,800	7.79
Ecorse	70,300	3.60	Rockwood	14,700	10.66
Farmington City	47,500	8.09	Romeo	12,800	17.05
Farmington Hills	430,900	9.50	Romulus	179,600	7.33
Ferndale	47,000	5.70	Roseville	130,500	5.02
Flat Rock	58,100	7.50	Royal Oak Township	11,200	7.47
Flint	662,100	8.93	Shelby Township	667,900	13.49
Fraser	63,600	7.83	Southeastern Oakland County Water Authority	1,099,900	6.84
Garden City	81,200	7.06	South Rockwood	5,000	8.08
Genesee County Drain Commission	964,800	12.71	Southgate	105,900	6.83
Gibraltar	22,900	10.79	St. Clair County-Burtchville Township	14,600	12.98
Grosse Ile	62,600	11.64	St. Clair County-Greenwood	19,000	15.17
Grosse Pointe Park	69,300	9.09	St. Clair Shores	150,400	5.45
Grosse Pointe Shores	30,100	12.68	Sterling Heights	774,900	10.05
Grosse Pointe Woods	69,600	7.42	Sumpter Township	31,800	8.49
Hamtramck	34,300	4.49	Sylvan Lake	11,700	13.37
Harper Woods	42,400	5.84	Taylor	235,800	6.60
Harrison Township	68,800	5.92	Trenton	103,800	9.12
Hazel Park	34,600	5.13	Troy	653,000	12.01
Highland Park	62,600	4.56	Utica	28,900	10.05
Huron Township	68,800	9.18	Van Buren Township	140,900	8.54
Imlay City	56,800	11.22	Walled Lake	45,200	11.66
Imlay Township	134	10.84	Warren	490,200	5.42
Inkster	89,800	6.90	Washington Township	150,800	18.28
Keego Harbor	15,300	11.13	Wayne	132,500	10.70
Lapeer	69,700	9.36	West Bloomfield Township	487,000	15.16
Lenox Township	14,800	6.23	Westland	295,300	7.45
Lincoln Park	108,400	5.94	Wixom	115,900	14.48
Livonia	663,700	10.88	Woodhaven	100,100	12.52
Macomb Township	516,000	13.90	Ypsilanti Community Utilities Authority	524,500	8.56

Total Revenue Requirement for the Detroit Retail Class \$15,490,300 - Effective July 1, 2016

\*Wholesale charges went into effect July 1, 2016

Source: Great Lakes Water Authority Financial Services Area/The Foster Group

**Schedule of Wholesale Sewer Monthly Charges\* and Total Revenue Requirement for the Detroit Retail Class**

	Total
Oakland Macomb Interceptor District (OMID)	\$ 5,802,300
Rouge Valley	4,623,900
Oakland County - George W. Kuhn (GWK)	3,806,900
Evergreen Farmington	2,681,600
Northeast Wayne County	2,010,000
Dearborn	1,633,600
Grosse Pointe Farms	222,300
Grosse Pointe Park	135,500
Melvindale	115,100
Farmington	92,500
Center Line	77,200
Allen Park	56,000
Highland Park	484,900
Hamtramck	340,500
Grosse Pointe	78,500
Harper Woods	20,000
Redford Township	21,700
Wayne County #3	3,900

Total Revenue Requirement for the Detroit Retail Class \$187,304,100 - Effective July 1, 2016

\*Wholesale charges went into effect July 1, 2016

Source: Great Lakes Water Authority Financial Services Area

**Industrial Waste Control Charges & Pollutant Surcharges**  
Effective July 1, 2016

	Charge \$/Month
<b>Industrial waste control charges</b>	
Meter size - inches:	
5/8	\$ 5.65
3/4	8.48
1	14.13
1 1/2	31.08
2	45.20
3	81.93
4	113.00
6	169.50
8	282.50
10	395.50
12	452.00
14	565.00
16	678.00
18	791.00
20	904.00
24	1,017.00
30	1,130.00
36	1,243.00
48	1,356.00
	Charge Per Pound
<b>Pollutant surcharges</b>	
Biochemical Oxygen Demand (BOD) for concentrations > 275 mg/l	\$ 0.491
Total Suspended Solids (TSS) for concentrations > 350 mg/l	\$ 0.498
Phosphorus (P) for concentrations > 12 mg/l	\$ 7.346
Fats, Oil and Grease (FOG) for concentrations > 100 mg/l	\$ 0.473
Septage Disposal Fee \$ per 500 gallons of disposal	\$ 47.00

Source: Great Lakes Water Authority Financial Services Area

**Produced and Billed Water Volumes**  
 Last Ten Years

Fiscal Year	Estimated Total Water Produced (Mcf) [1]	Reported Water Sales			Non-Revenue Water (Mcf)	Non-Revenue % of Production [3]
		Wholesale Customer Billed (Mcf)	Local System Billed (Mcf)	Total Water Billed (Mcf) [2]		
2008 *	29,360,700	18,405,500	4,145,500	22,551,000	6,809,700	23.2%
2009 *	27,180,700	16,682,100	4,138,100	20,820,200	6,360,500	23.4%
2010 *	25,142,700	15,676,300	3,924,000	19,600,300	5,542,400	22.0%
2011 *	26,513,000	16,094,700	4,176,600	20,271,300	6,241,700	23.5%
2012 *	27,219,500	16,280,300	3,903,100	20,183,400	7,036,100	25.8%
2013 *	26,832,800	15,687,900	3,660,300	19,348,200	7,484,600	27.9%
2014 *	26,088,800	14,778,500	3,410,600	18,189,100	7,899,700	30.3%
2015 *	23,238,000	13,547,000	3,173,700	16,720,700	6,517,300	28.0%
2016 *	23,580,700	14,730,400	3,086,400	17,816,800	5,763,900	24.4%
2017	23,915,600	14,824,000	2,912,030	17,736,030	6,179,570	25.8%

[1] Represents, in part, estimated volumes based on pump curves and engineering analysis. GLWA engineering studies in 2017 concluded that total water production values for calendar year 2016 were over-reported by 5.8%.

[2] Represents metered wholesale amounts for all customers other than Detroit, Dearborn, and Highland Park. Water sales to those customers reflect, in part, estimated retail water sales during this period. GLWA is modifying this approach, which will result in larger reported water sales figures in future years.

[3] As noted in [1] and [2], these values are likely overestimated. GLWA expects recently modified flow measuring methods to result in lower values in future years.

\*GLWA assumed operations on January 1, 2016. The information in this table from 2008-2015 is based on operations under DWSD. Data from 2016 includes six months of operation under DWSD and 6 months of operation under GLWA.

Source: Great Lakes Water Authority Financial Services Area

**Treated and Billed Wastewater Volumes**

Last Ten Years

Fiscal Year	Total	Customer Wastewater Volume (Mg)		
	Wastewater Treated (mg)	Wholesale Customers [1]	Local System [2]	Total
2008 *	244,200	114,200	27,800	142,000
2009 *	260,800	123,200	29,600	152,800
2010 *	221,400	100,600	27,100	127,700
2011 *	253,500	112,700	28,000	140,700
2012 *	255,500	112,600	24,900	137,500
2013 *	220,600	99,400	23,100	122,500
2014 *	233,200	107,200	22,100	129,300
2015 *	222,700	103,700	20,100	123,800
2016 *	209,200	96,800	20,600	117,400
2017	254,400	105,500	19,200	124,700

\*GLWA assumed operations on January 1, 2016. The information in this table from 2008-2015 is based on operations under DWSD. Data from 2016 includes six months of operation under DWSD and 6 months of operation under GLWA.

[1] Primarily metered wastewater volumes, but also includes water sales volumes for some customers whose wastewater is not metered. For 2015 through 2017 a fixed charge billing methodology was implemented. Volumes reflect measured and monitored wastewater flow.

[2] Reported water sales to retail customers

Source: Great Lakes Water Authority Financial Services Area and DWSD

**Pledges of Revenue and Debt Service Coverage**  
as of June 30, 2017

The Authority has pledged specific revenue streams to secure the repayment of the revenue bonds and State of Michigan revolving fund loans. The bonds and loans are paid solely from the net revenues of the Water System and Sewer System including the Retail Revenues from the Retail Customers who are serviced under the Water and Sewer Services Agreement with the City of Detroit. The pledged revenues for the fiscal year ending June 30, 2017 were reported by two entities due to the lease agreement between the City of Detroit and Great Lakes Water Authority which became effective on January 1, 2016. The pledge revenue definition in the Great Lakes Water Authority Master Bond Ordinance includes the retail revenues of the City of Detroit Water and Sewerage Department as this revenue is pledged for payment of the bonded debt owed by Great Lakes Water Authority. A summary of the pledged revenue and the applicable debt as of June 30, 2017 is as follows:

	Water Fund	Sewage Disposal Fund
Term of pledged commitment	Thru 2047	Thru 2045
<b>Calculation of Pledged Revenue as defined in Master Bond Ordinance</b>		
GLWA revenue pledged-excludes local charges [1]		
Wholesale customer charges	\$ 331,115,131	\$ 263,311,745
Industrial waste charges	-	14,381,106
IWC charges to retail included in DWSD pledged revenue calculation below	-	(2,846,569)
Pollutant surcharges	-	5,206,294
Bad debt recovery	5,107,125	35,065,030
Other revenues	37,388	538,807
Earnings on investments net of construction fund investment earnings less cash transfers to GLWA Operations and Maintenance Fund	1,348,898 <u>(117,916,800)</u>	1,384,225 <u>(186,697,200)</u>
GLWA net revenue for pledged revenue calculation	<u>219,691,742</u>	<u>130,343,438</u>
DWSD revenue pledged		
Customer charges	93,480,965	263,213,728
Penalties and fees	5,265,229	4,617,148
Miscellaneous	5,737,953	514,101
less cash transfers to DWSD Operations and Maintenance Fund	<u>(37,858,800)</u>	<u>(44,397,600)</u>
DWSD net revenue for pledged revenue calculation	<u>66,625,347</u>	<u>223,947,377</u>
<b>Pledged revenue for the year ending June 30, 2017</b>	<b><u>\$ 286,317,089</u></b>	<b><u>\$ 354,290,815</u></b>
<b>Principal and interest funding requirement for the year ending June 30, 2017 [2]:</b>		
Senior and second lien bonds		
Senior lien bonds	\$ 134,234,660	\$ 140,854,010
Second lien bonds	38,990,023	47,918,639
Total senior and second lien bonds	<u>173,224,683</u>	<u>188,772,649</u>
Junior lien bonds	1,785,328	45,782,165
Total all bonds	<u>\$ 175,010,011</u>	<u>\$ 234,554,814</u>
Rate covenant debt service coverage [2]		
Senior lien bonds	2.13	2.52
Senior and second lien bonds	1.65	1.88
All bonds, including SRF junior lien	1.64	1.51
Approximate amount in restricted cash and investments related to various bond indentures at June 30, 2017	\$ 186,700,000	\$ 150,900,000

[1] Local charges are excluded from the GLWA revenue calculation as they would duplicated the revenues reported in the DWSD revenue calculation.

[2] Computed consistent with rate Covenant basis for rate determination purposes. Not applicable for purposes of additional bond test calculations.

Source: Great Lakes Water Authority Financial Services Area

**Pledges of Revenue and Debt Service Coverage**  
as of June 30, 2017

	2017	2016 [1]
<b>Water fund</b>		
Pledged revenue	<u>\$ 286,317,089</u>	<u>\$ 270,117,396</u>
Principal and interest funding requirement for the year ending June 30, 2017 [2]:		
Senior and second lien bonds		
Senior lien bonds	\$ 134,234,660	\$ 128,177,999
Second lien bonds	<u>38,990,023</u>	<u>41,178,843</u>
Total senior and second lien bonds	<u>173,224,683</u>	<u>169,356,842</u>
Junior lien bonds	1,785,328	1,781,683
Total all bonds	<u>\$ 175,010,011</u>	<u>\$ 171,138,525</u>
Rate covenant debt service coverage [2]		
Senior lien bonds	2.13	2.11
Senior and second lien bonds	1.65	1.59
All bonds, including SRF junior lien	1.64	1.58
<b>Sewage disposal fund</b>		
Pledged revenue	<u>\$ 354,290,815</u>	<u>\$ 326,048,837</u>
Principal and interest funding requirement for the year ending June 30, 2017 [2]:		
Senior and second lien bonds		
Senior lien bonds	\$ 140,854,010	\$ 140,191,016
Second lien bonds	<u>47,918,639</u>	<u>48,944,924</u>
Total senior and second lien bonds	<u>188,772,649</u>	<u>189,135,940</u>
Junior lien bonds	45,782,165	39,434,631
Total all bonds	<u>\$ 234,554,814</u>	<u>\$ 228,570,571</u>
Rate covenant debt service coverage [2]		
Senior lien bonds	2.52	2.33
Senior and second lien bonds	1.88	1.72
All bonds, including SRF junior lien	1.51	1.43

[1] GLWA started operations on January 1, 2016. Includes 6 months under operations of DWSD and 6 months under the operations of GLWA under the Master Bond Ordinances in effect during the respective time periods.

[2] Computed consistent with rate Covenant basis for rate determination purposes. Not applicable for purposes of additional bond test.

Source: Great Lakes Water Authority Financial Services Area



DRAFT



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