



GLWA
Great Lakes Water Authority

Sewage Disposal Fund

Fiscal Year Ended June 30, 2019

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

*Prepared by
Great Lakes Water Authority Financial Services Area*

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

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FINANCIAL SECTION

INDEPENDENT AUDITORS' REPORT

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

Report on the Financial Statements

We have audited the accompanying financial statements of the Sewage Disposal Fund (Sewage Disposal Fund) of the Great Lakes Water Authority, as of and for the year ended June 30, 2019, and the related notes to the financial statements, which collectively comprise the Sewage Disposal Fund's 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.

Auditors' Responsibility

Our responsibility is to express an opinion 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 the auditors' 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 over financial reporting relevant to the Great Lakes Water Authority'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 Great Lakes Water 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.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the Sewage Disposal Fund of the Great Lakes Water Authority as of June 30, 2019 and the respective changes in financial position and, cash flows thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Emphasis of Matter

As discussed in Note 1, the financial statements present only the Sewage Disposal Fund and do not purport to, and do not, present fairly, the financial position of the Great Lakes Water Authority, as of June 30, 2019, and the changes in financial position, or cash flows for the year then ended in accordance with accounting principles generally accepted in the United States of America. Our opinion is not modified with respect to this matter.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the required supplementary information as listed in the table of contents be presented to supplement the financial statements. Such information, although not a part of the financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the financial statements in an appropriate operational, economic, or historical context. We and other auditors 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 financial statements, and other knowledge we obtained during our audit of the financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Great Lakes Water Authority Sewage Disposal Fund has omitted the Management's Discussion and Analysis that accounting principles generally accepted in the United States of America require to be presented to supplement the financial statements. Such missing information, although not a part of the financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of the financial reporting for placing the financial statements in an appropriate operational, economic, or historical context. Our opinion on the financial statements is not affected by this missing information. We note the significant financial events of the Sewage Disposal Fund are included in the Management's Discussion and Analysis of the Great Lakes Water Authority's Comprehensive Annual Financial Report.

Supplementary Information

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Sewage Disposal Fund's financial statements. The supplemental information as listed in the table of contents are presented for purposes of additional analysis and are not a required part of the financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. The information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the supplemental information is fairly stated in all material respects, in relation to the financial statements as a whole.

Other Information

Our audit was conducted for the purpose of forming an opinion on the Sewage Disposal Fund financial statements. The statistical section is presented for purposes of additional analysis and is not a required part of the financial statements. Such information has not been subjected to the auditing procedures applied in the audit of the financial statements, and accordingly, we do not express an opinion or provide any assurance on it.

Prior-Year Comparative Information

The financial statements of the Sewage Disposal Fund, as of and for the year ended June 30, 2018, were audited by other auditors whose reported dated December 14, 2018, expressed an unmodified opinion on those statements. The summarized comparative information presented herein as of and for the year ended June 30, 2018, is consistent, in all material respects, with the audited financial statements from which it has been derived.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated December 20, 2019 on our consideration of the Great Lakes Water 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 solely 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 the effectiveness of the Great Lakes Water Authority's 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 Great Lakes Water Authority's internal control over financial reporting and compliance.

Baker Tilly Virchow Krause, LLP

Madison, Wisconsin
December 20, 2019

FINANCIAL STATEMENTS

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

STATEMENT OF NET POSITION
As of June 30, 2019
With Comparative Amounts at June 30, 2018

	2019	2018
Assets		
Current Assets		
Cash and cash equivalents	\$ 160,371,766	\$ 199,056,556
Restricted cash and cash equivalents	95,931,528	54,832,050
Restricted cash for the benefit of DWSD	627,919	-
Investments	75,685,362	9,506,712
Restricted investments	33,384,445	31,790,386
Receivables, net	50,265,895	46,499,593
Due from other governments	179,585	24,339,106
Due from water fund	12,568	3,447,927
Contractual obligation receivable, current portion	12,089,779	11,253,800
Loan receivable - DWSD	17,542,669	9,367,355
Prepaid items and other assets	2,801,271	1,683,659
Inventories	5,445,981	8,471,626
Total Current Assets	454,338,768	400,248,770
Noncurrent Assets		
Restricted cash and cash equivalents	62,030,778	30,001,353
Restricted investments	73,903,089	143,261,763
Contractual obligation receivable	414,766,953	335,574,500
Loan receivable - DWSD	26,503,010	19,932,645
Prepaid lease	13,750,000	13,750,000
Assets not subject to depreciation	318,574,902	271,362,100
Capital assets being depreciated, net	2,357,018,353	2,485,098,172
Prepaid insurance on debt	13,880,254	16,931,255
Total Noncurrent Assets	3,280,427,339	3,315,911,788
Total Assets	3,734,766,107	3,716,160,558
Deferred Outflows of Resources		
Deferred charge on refunding	159,370,167	186,544,140
Deferred pension amounts	20,347,789	33,369,917
Total Deferred Outflows of Resources	179,717,956	219,914,057

	2019	2018
Liabilities		
Current Liabilities		
Accounts and contracts payable	\$ 38,004,322	\$ 34,077,602
Other accrued liabilities	627,919	-
Due to other governments	-	47,539
Due to water fund	2,876,954	330,293
Interest payable	44,130,602	41,108,994
Current portion of		
Long-term debt	88,357,662	61,186,207
Leases payable	6,134,481	5,884,359
Obligation payable	396,291	377,419
Accrued compensated absences	757,328	717,086
Claims and judgments	56,111	334,392
Total Current Liabilities	<u>181,341,670</u>	<u>144,063,891</u>
Noncurrent Liabilities		
Long-term debt	3,163,394,353	3,168,566,028
Long-term leases payable	509,018,588	515,153,064
Obligation payable	38,061,886	38,458,178
Claims and judgments	7,500,000	7,500,000
Other noncurrent liabilities	6,291,681	6,003,540
Net pension liability	84,670,705	114,810,555
Total Noncurrent Liabilities	<u>3,808,937,213</u>	<u>3,850,491,365</u>
Total Liabilities	<u>3,990,278,883</u>	<u>3,994,555,256</u>
Deferred Inflows of Resources		
Deferred amounts for swap terminations	165,223	189,808
Deferred gain on refunding	47,982,938	46,654,836
Deferred pension amounts	-	12,994,118
Total Deferred Inflows of Resources	<u>48,148,161</u>	<u>59,838,762</u>
Net Position		
Net investment in capital assets	(62,382,494)	289,946,091
Restricted for debt service	117,246,259	101,996,536
Restricted for capital acquisition	-	102,506,361
Restricted for payment assistance program	4,631,494	3,308,896
Unrestricted (deficit)	<u>(183,438,240)</u>	<u>(616,077,287)</u>
TOTAL NET POSITION	<u>\$ (123,942,981)</u>	<u>\$ (118,319,403)</u>

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

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GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION

For the Year Ended June 30, 2019

With Comparative Amounts for the Year Ended June 30, 2018

	2019	2018
Operating Revenues		
Wholesale customer charges	\$ 272,772,460	\$ 268,978,831
Local system charges	181,159,300	178,969,200
Industrial waste charges	9,106,274	14,334,979
Pollutant surcharges	5,932,550	6,908,404
Other revenues	<u>506,323</u>	<u>4,391,145</u>
Total Operating Revenues	<u>469,476,907</u>	<u>473,582,559</u>
Operating Expenses		
Operating expenses before depreciation		
Personnel	56,503,053	53,680,162
Contractual services	58,660,680	64,082,761
Utilities	25,147,527	26,823,299
Chemicals	8,187,033	8,073,045
Supplies and other expenses	25,323,636	24,982,773
Capital adjustment	2,258,351	-
Capital program allocation	(1,325,842)	(969,671)
Shared services allocation	<u>(713,633)</u>	<u>(292,965)</u>
Total operating expenses before depreciation	174,040,805	176,379,404
Depreciation	<u>168,544,370</u>	<u>187,250,583</u>
Total Operating Expenses	<u>342,585,175</u>	<u>363,629,987</u>
Operating Income	<u>126,891,732</u>	<u>109,952,572</u>
Nonoperating Revenues (Expenses)		
Earnings on investments	11,763,401	5,266,255
Interest on loan and obligations receivable	18,856,322	15,505,300
Interest expense	(159,893,300)	(161,052,102)
Amortization of debt related items and cost of issuance	(6,776,707)	(5,153,300)
Legacy pension expense	10,763,940	(15,988,471)
WRAP (Water Residential Assistance Program)	(1,168,664)	(2,248,980)
Other	305,723	(709,537)
Sewer lookback - MOU adjustment	(6,527,200)	-
Gain on disposal of capital assets	516,379	2,469,703
Loss on impairment of capital assets	<u>(355,204)</u>	<u>-</u>
Total Nonoperating Expenses	<u>(132,515,310)</u>	<u>(161,911,132)</u>
Change in net position	(5,623,578)	(51,958,560)
NET POSITION (DEFICIT), Beginning of Year	<u>(118,319,403)</u>	<u>(66,360,843)</u>
NET POSITION (DEFICIT), END OF YEAR	<u>\$ (123,942,981)</u>	<u>\$ (118,319,403)</u>

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

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

STATEMENT OF CASH FLOWS
For the Year Ended June 30, 2019
With Comparative Amounts for the Year Ended June 30, 2018

	2019	2018
Cash Flows From Operating Activities		
Cash received from customers	\$ 463,309,071	\$ 469,355,447
Cash payments to suppliers for goods and services	(114,736,847)	(120,179,052)
Cash payments for employee services	(55,136,969)	(52,672,665)
Cash received (paid) for interfund services	5,982,020	(3,117,634)
Cash payments to other governments for:		
MOU and bifurcation liabilities	(6,574,739)	(30,924,662)
B&C obligation payable	(1,969,294)	(6,832,237)
Cash payments for WRAP	(1,168,664)	(2,248,980)
Cash payments for GLWA share pension agreement	(20,475,400)	(20,475,400)
Cash received for DWSD nonoperating pension	3,066,800	3,370,621
Cash paid for DWSD nonoperating pension	(3,066,808)	(4,095,900)
Cash received for DWSD WRAP	496,900	369,000
Cash payments for DWSD WRAP	(208,759)	(348,661)
Cash received (paid) for DWSD budgetary surplus (shortfall)	848,690	(18,480,620)
Nonoperating cash received (paid)	710,028	(867)
Cash payments from fire remediation for operations	-	3,685,867
Principal payments received on obligation receivable	11,253,800	11,262,300
Interest received on obligation receivable	18,001,600	15,505,300
Principal payments received on loan receivable	9,367,355	-
Interest received on loan receivable	1,104,242	-
Payments of long-term debt proceeds to DWSD	(91,000,000)	-
Payments for bond issuance costs on DWSD debt	(526,443)	-
	<u>219,276,583</u>	<u>244,171,857</u>
Net Cash Provided by Operating Activities		
Cash Flows From Noncapital Financing Activities		
Proceeds from long-term debt for DWSD	91,531,771	-
Principal payments	(11,253,800)	(11,262,300)
Interest payments	(15,017,704)	(15,505,300)
	<u>65,260,267</u>	<u>(26,767,600)</u>
Net Cash Provided by Noncapital Financing Activities		
Cash Flows From Capital and Related Financing Activities		
Proceeds from fire remediation	2,935,582	200,533
Proceeds from sale of assets	2,772,950	-
Proceeds from issuance of long-term refunding debt	198,255,349	-
Proceeds from state revolving fund loans	45,258,446	34,750,504
(Payments) returns of bond issuance costs	(1,295,066)	45,000
Principal payments on bonds	(275,115,056)	(91,087,700)
Principal payments on lease	(5,884,354)	(5,644,435)
Interest payments	(140,892,194)	(142,805,295)
Purchase of capital assets	(88,728,673)	(67,808,804)
	<u>(262,693,016)</u>	<u>(272,350,197)</u>
Net Cash Used in Capital and Related Financing Activities		

	<u>2019</u>	<u>2018</u>
Cash Flows From Investing Activities		
Investment purchases	\$(456,010,212)	\$ (453,549,077)
Investment maturities	462,431,278	383,480,724
Interest received	<u>6,807,132</u>	<u>4,562,898</u>
Net Cash Provided by (Used in) Investing Activities	<u>13,228,198</u>	<u>(65,505,455)</u>
Net change in cash and cash equivalents	35,072,032	(120,451,395)
CASH AND CASH EQUIVALENTS, Beginning of Year	<u>283,889,959</u>	<u>404,341,354</u>
CASH AND CASH EQUIVALENTS, END OF YEAR	<u>\$ 318,961,991</u>	<u>\$ 283,889,959</u>
STATEMENT OF NET POSITION CLASSIFICATION OF CASH		
Cash and cash equivalents	\$ 160,371,766	\$ 199,056,556
Restricted cash and cash equivalents	95,931,528	54,832,050
Restricted cash for the benefit of DWSD	627,919	-
Noncurrent restricted cash and cash equivalents	<u>62,030,778</u>	<u>30,001,353</u>
	<u>\$ 318,961,991</u>	<u>\$ 283,889,959</u>
NONCASH FINANCING AND INVESTMENT ACTIVITIES		
Change in unrealized gain on investments	<u>\$ 2,684,646</u>	
Interest expense due to accretion	<u>\$ 863,930</u>	
Amortization expense	<u>\$ 5,481,641</u>	

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

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUNDSTATEMENT OF CASH FLOWS
For the Year Ended June 30, 2019
With Comparative Amounts for the Year Ended June 30, 2018

	<u>2019</u>	<u>2018</u>
Reconciliation of Operating Income to Net		
Cash Provided by Operating Activities:		
Operating income	\$ 126,891,732	\$ 109,952,572
Adjustments to reconcile operating income to net cash provided by operating activities:		
Depreciation	168,544,370	187,250,583
Miscellaneous nonoperating income (expense)	710,028	(867)
Miscellaneous nonoperating income (expense)-MOU related	(6,527,200)	-
Legacy pension expense and administrative fee	10,359,635	(16,697,141)
WRAP (Water Residential Assistance Program)	(1,168,664)	(2,248,980)
Interest income on contractual obligation receivable	17,752,080	15,505,300
Interest income on loan receivable	1,104,242	-
Interest expense on obligation payable	(1,482,494)	(1,596,417)
Changes in:		
Receivables	(6,701,884)	5,036,468
Due from other governments	24,159,521	(24,177,778)
Due from water fund	3,435,359	11,262,300
Contractual obligation receivable	(80,028,432)	(3,447,927)
Loan receivable	(14,745,679)	-
Prepaid items and other assets (excludes investing item)	(996,444)	(401,099)
Inventories	3,025,646	37,828
Accounts and contracts payable (excludes capital items)	2,366,264	(67,562)
Other accrued liabilities (excludes capital items)	627,919	(898,800)
Due to other governments (excludes non-capital financing)	(47,539)	(35,801,034)
Due to water fund	2,546,661	330,293
Obligation payable including accrued interest	(486,800)	(359,448)
Accrued compensated absences	40,242	37,826
Claims and judgments	(278,281)	3,794,830
Other noncurrent liabilities	288,141	20,339
Net pension liability and deferred items	<u>(30,111,840)</u>	<u>(3,359,429)</u>
NET CASH PROVIDED BY OPERATING ACTIVITIES	<u>\$ 219,276,583</u>	<u>\$ 244,171,857</u>

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

NOTES TO FINANCIAL STATEMENTS

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS
As of and for the Year Ended June 30, 2019

NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The Great Lakes Water Authority (GLWA or the Authority) is the regional wholesale provider of water and sewage disposal 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 Regional System 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). The City, acting through DWSD, will continue to manage and operate its own local retail water and sewage disposal system infrastructure. The Regional System Leases assigned all revenues of both systems to the Authority for an initial term of 40 years and, pursuant to bondholder consent, replaced the City with GLWA as the obligor on all outstanding debt obligations of the City related to the systems.

The term “Regional System Leases” is used throughout the financial statements to represent the agreements that transferred the regional water system and sewage disposal system assets and operations from the City of Detroit to GLWA. The Regional System Leases are not considered a lease as defined by the Government Auditing Standards Board (GASB) in GASB Statement No. 87, Leases.

The Sewage Disposal Fund separately accounts for activities of the Authority for the operation of the sewage disposal system. The Authority’s sewage disposal system is one of the largest in the United States, both in terms of treatment capacity and population served. The sewer disposal system currently serves an area of 944 square miles located in three Michigan counties and an estimated population of approximately 2.8 million or approximately 28% of Michigan’s population. Suburban customers comprise approximately 76% of the population in the service area, and the DWSD retail sewer customers comprise the remainder.

The Authority’s Board 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 that the Authority establishes for the retail system for regional commitments as well as other reasonable costs of the local DWSD 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.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS
As of and for the Year Ended June 30, 2019

NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)

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 chief executive of 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, 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.

BASIS OF PRESENTATION

The Authority presents a sewage disposal enterprise fund for its financial statements which consists of a statement of net position, statement of revenues, expenses and changes in net position, and a statement of cash flows.

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 NET POSITION

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.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS
As of and for the Year Ended June 30, 2019

NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)

ASSETS, DEFERRED OUTFLOWS OF RESOURCES, LIABILITIES, DEFERRED INFLOWS OF RESOURCES, AND NET POSITION (cont.)

Cash Deposits and Investments (cont.)

Investments are reported at fair value or estimated value. The Authority maintains and adheres to a formal investment policy in accordance with Michigan Public Act 20 of 1943, Investment of Surplus Funds of Political Subdivisions. Michigan State law allows 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. These investments are subject to interest rate risk and credit risk which may affect the value at which these investments are recorded.

Restricted Assets

Restricted assets are those assets set aside as required by the Authority's Master Bond Ordinance (MBO), funds held on behalf of another entity, or where legally restricted for a particular purpose such as bond proceeds for the capital program. See Note 5 for further details.

Accounts Receivable

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

The Sewage Disposal Fund recognizes an estimate of uncollectible accounts for its customer accounts receivable related to its sewage disposal services.

Due from Other Governments

Amounts owed to the Authority by DWSD for shared services and accrued interest receivable on the contractual obligation receivable.

Due to and Due from Water Fund

An amount owed between the Water and Sewage Disposal Funds based on shared centralized and administrative services administered by the Water Fund and allocated to the Sewage Disposal Fund. Any water system usage of inventory in the Sewage Disposal Fund is charged through an interfund payable to the Sewage Disposal Fund.

Contractual Obligation Receivable

Pursuant to the Water and Sewer Services Agreement, 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. The resulting contractual obligation is a receivable recorded by the Authority and is repaid by DWSD based upon an agreed upon schedule. Any new debt issued on behalf of the City and DWSD is also included in the contractual obligation receivable.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS
As of and for the Year Ended June 30, 2019

NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)

ASSETS, DEFERRED OUTFLOWS OF RESOURCES, LIABILITIES, DEFERRED INFLOWS OF RESOURCES, AND NET POSITION (cont.)

Loan Receivable – DWSD

The balance represents loan receivables from DWSD established per the 2018 Memorandum of Understanding (MOU) dated June 27, 2018 executed between DWSD and the Authority to cure any shortfall created from difference between cash receipts and the MBO obligations. An annual loan amount and interest rate is determined based on any shortfalls during each fiscal year. There was no shortfall for the fiscal year ending June 30, 2019.

Prepaid Items and Other Assets

Certain payments to vendors reflect costs applicable to future accounting periods and are recorded as prepaid items in the financial statements. Prepaid insurance on debt is amortized over the life of the debt. Other assets include accrued interest receivable on investments.

Inventories

Inventories consist of operating, maintenance and repair parts for sewage disposal system 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.

Prepaid Lease

As described in Note 13, 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 noted in the 2018 MOU dated June 2018, this amount will be applied at the end of the 40-year term and, hence, it is classified as a noncurrent asset.

Capital Assets

Capital assets are recorded at historical cost. All acquisitions of land and land improvements are capitalized regardless of cost. The capitalization threshold is \$5,000 for capital assets with the exception of certain information technology which is \$1 million dollars. 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.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS
As of and for the Year Ended June 30, 2019

NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)

ASSETS, DEFERRED OUTFLOWS OF RESOURCES, LIABILITIES, DEFERRED INFLOWS OF RESOURCES, AND NET POSITION (cont.)

Capital Assets (cont.)

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

	<u>Useful Lives (In Years)</u>
Site improvements	15
Buildings and structures	20-50
Infrastructure	80
Machinery and equipment	3-20
Vehicles	5-7
Leasehold improvements	15

Capital assets acquired as of the operational effective date of the Authority 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.

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. At that time, the activity will be recognized as an outflow of resources (or expense). 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 16.

Other Accrued Liabilities

Other accrued liabilities represents amounts held for specific purposes or other parties as described below:

Current

- Under the terms of the MBO, the Authority retains cash on hand for the benefit of DWSD to be used for current revenue requirements.

Noncurrent

- Under the terms of the MBO, the Authority retains cash on hand for the benefit of DWSD for budget stabilization funds to be used if DWSD has cash shortfalls.
- DWSD's local share of the Water Residential Assistance Program (WRAP) funds that have not been remitted to the administrator of the WRAP program.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS
As of and for the Year Ended June 30, 2019

NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)

ASSETS, DEFERRED OUTFLOWS OF RESOURCES, LIABILITIES, DEFERRED INFLOWS OF RESOURCES, AND NET POSITION (cont.)

Arbitrage Rebate Payable

Certain bonds are subject to arbitrage rebate requirements in accordance with regulations issued by the U.S. Treasury Department. The requirements generally stipulate that earnings from the investment of the tax-exempt bond proceeds that exceeds related interest costs on the bonds must be remitted to the Federal government on every fifth anniversary of each bond issue. The Authority did not have an arbitrage rebate liability as of June 30, 2019.

Long-Term Debt

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.

Leases Payable

The effective date of the Regional System leases by the City to the Authority for the leased water and sewage disposal facilities was January 1, 2016. See Note 13 for the details of the regional system leases.

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 sewage disposal systems. See "Obligation Payable - City of Detroit 2014 Financial Recovery Bonds" in Note 11.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS
As of and for the Year Ended June 30, 2019

NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)

ASSETS, DEFERRED OUTFLOWS OF RESOURCES, LIABILITIES, DEFERRED INFLOWS OF RESOURCES, AND NET POSITION (cont.)

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 are 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 absence for PTO accrual is approximately \$757,000 for the Sewage Disposal Fund on June 30, 2019.

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, 2019 balance of the accrued compensated absences for the liability assumed on January 1, 2016 is approximately \$2,190,000 of which \$140,000 is current. This liability is recorded in the Water Fund as the disbursements for payment will be processed from the Water Fund with reimbursement from the Sewage Disposal Fund. The accrued compensated absences includes the employers' share of Social Security and Medicare taxes.

Claims and Judgements

The Authority has accrued in its financial statements for known asserted claims in which future settlements may be necessary.

Net Pension Liability

Under the terms of the Regional System leases, the Authority participates in the City of Detroit General Employee's Retirement system (GRS) Component II plan in a special funding situation. For the purposes of measuring the net pension liability, deferred outflows, and pension expense, information about the fiduciary net position of the Component II plan of the GRS and additions to/ deductions from the plan's net position have been determined on the same basis as they are reported by GRS. The GRS combined plan uses the economic resources measurement focus and the full accrual basis of accounting. Revenue is recorded when earned and expenses are recorded when a liability is incurred. Plan member contributions are recognized in the period in which the contributions are due. Benefits are recognized when due and payable in accordance with the terms of the plan. Investments are reported at fair value or estimated fair value. Refer to Note 16 for additional information on the net pension liability.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS
As of and for the Year Ended June 30, 2019

NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)

ASSETS, DEFERRED OUTFLOWS OF RESOURCES, LIABILITIES, DEFERRED INFLOWS OF RESOURCES, AND NET POSITION (cont.)

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. At that time, the activity will be recognized as an inflow of resources (or revenues). 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 regional system lease agreements with the City. The amounts will be fully amortized for both funds by fiscal 2035. 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 reduced by the balance of outstanding related debt including the share of the regional system lease liability allocable to the net investment in capital assets acquisition value of the regional systems recorded under GASB 69.

Restricted – consists of amounts that are legally restricted by outside parties or by law through constitutional provisions or enabling legislation. The net position consists of restricted assets reduced by liabilities related to those assets.

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.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS
As of and for the Year Ended June 30, 2019

NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)

STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION (cont.)

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 Sewage Disposal Fund are wholesale charges for providing wastewater treatment. The local system charges are the wholesale charges to the City of Detroit under the Water and Sewer Services Agreement (WSSA), dated June 12, 2015. Wholesale customer charges are shown net of bad debt expense of \$2,181,140 for the Sewage Disposal Fund.

Operating expenses include the direct costs of operating the sewage disposal system, centralized support, utilities, administrative expenses and depreciation on capital assets. Costs related to shared facilities and personnel are allocated to the Water and Sewage Disposal Funds on a basis that relates costs incurred to the system benefited. By agreement, the Authority provides shared services to DWSD, which are shown as a reduction to operating expenses.

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

Capital Adjustment

As part of the Authority's capital improvement program the Authority incurs costs to design capital improvement projects. Periodically, the actual construction project may not be completed due to changes in plans or environmental requirements. Once it has been determined that construction will not proceed related costs are charged to the capital adjustment operating expense, including any costs previously recorded in construction in progress.

Taxes

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

Interest Income on Loan and Obligations Receivable

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

Amortization of Debt Related Items and Cost of Issuance

Bond premiums, discounts, and gains or losses on refunding are deferred and amortized over the life of the bonds. Bond premiums, discounts and GASB 69 debt value adjustment are amortized using the effective interest method. The deferred amounts on refunding are amortized using the straight-line method. Debt cost of issuance is expensed when incurred.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS
As of and for the Year Ended June 30, 2019

NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)

STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION (cont.)

Legacy Pension Expense

GLWA is legally responsible for making substantial contributions to a legacy pension plan of another entity, see Note 16 for additional information on this Plan.

Centralized Services and Administrative Services

Various common costs incurred by the Authority are allocated between the Water and Sewage Disposal Funds. The allocations are based on an annual cost allocation analysis and may change from year to year based upon that analysis. The following table shows the allocation of these common costs for the year ended June 30, 2019:

<u>Common Costs</u>	<u>Water % Allocation</u>	<u>Water Allocation</u>	<u>Sewer % Allocation</u>	<u>Sewer Allocation</u>	<u>Total Common Costs</u>
Centralized services	43.3%	\$ 35,961,327	56.7%	\$ 47,102,279	\$ 83,063,606
Administrative services	50.0%	12,559,593	50.0%	12,559,594	25,119,187

Centralized services includes security, systems operations control, field engineering and service operations, facilities and fleet operations, information technology, planning, asset management, 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 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 financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Effect of New Accounting Standards on Current Period Financial Statements

GASB Statement No. 83, *Certain Asset Retirement Obligations* and Statement No. 88, *Certain Disclosures Related to Debt, including direct borrowings and Direct Placements* became effective for years beginning after June 15, 2018. Both of these have been implemented during the fiscal year.

GASB has approved GASB Statement No. 84, *Fiduciary Activities*, Statement No. 87, *Leases*, Statement No. 90, *Majority Equity Interests – an amendment of GASB Statement No. 14 and No. 61*, and Statement No. 91, *Conduit Debt Obligations*. When they become effective, application of these standards may restate portions of these financial statements.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS
As of and for the Year Ended June 30, 2019

NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)

STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION (cont.)

Reclassifications

Certain prior year amounts have been reclassified to conform with current year presentation.

NOTE 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 are 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 adopts a biennial budget for the regional water and sewage disposal systems as required by its Articles of Incorporation. The revenue requirements budget is adopted separately for the water and sewerage disposal systems. It is the sum of: a) operation and maintenance expenses; b) amounts necessary to pay the principal of and interest on all bonds and to fund any reserves required by the Master Bond Ordinance; c) the lease payment, which shall be a common-to-all charge; d) GLWA's portion of the GRS net pension liability and the B&C obligation payable; e) the required deposit 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 sewerage disposal 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 Regional System leases, through the fiscal year ending June 30, 2025, the water and sewerage disposal systems are limited to 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 sewerage disposal facilities that are required to be made by applicable laws.

In the Regional System leases, the City acknowledges that all local water and sewer system revenues received from customers in the City are the property of 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 sewerage disposal system as provided in the Water and Sewer Services Agreement.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS
As of and for the Year Ended June 30, 2019

NOTE 2 – BUDGETARY INFORMATION (cont.)

SCHEDULE OF CHARGES PROCESS

The GLWA Wholesale Customer Model Sewer Contract requires that GLWA provide wholesale customers with written notice of a proposed charge, meet to review the proposed charge, 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 charges take effect.

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

NOTE 3 – CASH DEPOSITS AND INVESTMENTS

The deposits and investments of the Sewage Disposal Fund at June 30, 2019 are reported in the financial statements as follows:

Statement of Net Position	
Cash and cash equivalents	\$ 160,371,766
Restricted cash and cash equivalents	95,931,528
Restricted cash for the benefit of DWSD	627,919
Investments	75,685,362
Restricted investments	33,384,445
Noncurrent restricted cash and cash equivalents	62,030,778
Noncurrent restricted investments	<u>73,903,089</u>
Total	<u>\$ 501,934,887</u>
 Cash Deposits and Investments	
Bank deposits – checking and savings accounts	\$ 77,696,814
Money market accounts	241,265,177
Investments in securities	<u>182,972,896</u>
Total	<u>\$ 501,934,887</u>

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 \$318,961,991 for the Sewage Disposal Fund. The bank balance of the Sewage Disposal Fund deposits and money markets was \$318,257,839 of which \$251,099,839 was uninsured and uncollateralized.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS
As of and for the Year Ended June 30, 2019

NOTE 3 – CASH DEPOSITS AND INVESTMENTS (cont.)

CUSTODIAL CREDIT RISK – DEPOSITS AND MONEY MARKET ACCOUNTS (cont.)

In accordance with the Authority's investment policy and State law, all deposits are 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.

CUSTODIAL CREDIT RISK – INVESTMENTS

Following is a summary of the Sewage Disposal Fund's investments as of June 30, 2019:

U.S. treasury notes	\$	106,695,967
U.S. government agencies		33,321,262
Commercial paper		<u>42,955,667</u>
Total	\$	<u>182,972,896</u>

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, 2019, all of the Sewage Disposal Fund's investments in securities of U.S. agencies were rated AA+ by Standard & Poor's and Aaa by Moody's. The Sewage Disposal Fund's commercial paper was rated A1 by Standard and Poor's and P1 by Moody's. U.S treasury notes are explicitly guaranteed by the U.S. government and not considered to have credit risk. The Sewage Disposal Fund's money market accounts were not rated.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 3 – CASH DEPOSITS AND INVESTMENTS (cont.)

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, 2019, the Sewage Disposal Fund had greater than 5% of its total investment portfolio concentrated as follows:

Investment Type	Issuer	% of Portfolio
U.S. government agencies	Federal National Mortgage Association	8.06%
U.S. government agencies	Federal Home Loan Mortgage Company	8.01%
Commercial paper	MUFG Bank New York	10.16%

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.

As of June 30, 2019, the Sewage Disposal Fund's fixed income investments had the following maturities:

	< 1 Year	1-5 Years	Total
U.S. treasury notes	\$ 80,298,633	\$ 26,397,334	\$ 106,695,967
U.S. government agencies	15,135,364	18,185,898	33,321,262
Commercial paper	42,955,667	-	42,955,667
Total	<u>\$ 138,389,664</u>	<u>\$ 44,583,232</u>	<u>\$ 182,972,896</u>

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 3 – CASH DEPOSITS AND INVESTMENTS (cont.)

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 Sewage Disposal Fund had the following fair value measurements as of June 30, 2019:

	<u>Level 1</u>	<u>Level 2</u>	<u>Total</u>
Investments by fair value level:			
U.S. treasury notes	\$ 106,695,967	\$ -	\$ 106,695,967
U.S. government agencies	-	33,321,262	33,321,262
Commercial paper	-	42,955,667	42,955,667
Total	<u>\$ 106,695,967</u>	<u>\$ 76,276,929</u>	<u>\$ 182,972,896</u>

The fair value of U.S. treasury and U.S. government agencies at June 30, 2019 was based primarily on Level 2 inputs. The Authority estimates the fair value of these securities using other inputs such as interest rates and yield curves, which are observable at commonly quoted intervals.

The Sewage Disposal Fund has investments in commercial paper that meets the criteria to be valued at amortized cost at June 30, 2019.

The Sewage Disposal Fund has no Level 3 inputs at June 30, 2019.

NOTE 4 – RECEIVABLES

The following is a summary of the net receivables as of June 30, 2019:

Receivables, net:	
Billed	\$ 60,549,471
Unbilled	24,297,140
Other	<u>221,452</u>
Subtotal	85,068,063
Allowance for doubtful accounts	<u>(34,802,168)</u>
Total	<u>\$ 50,265,895</u>

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS
As of and for the Year Ended June 30, 2019

NOTE 5 – 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 Regional System Leases, the Authority follows a sequential flow of funds in segregated accounts through which revenue receipts are deposited and are maintained at certain levels in satisfaction of all legal requirements.

The following schedules provide, in the order of the flow of funds per the Master Bond Ordinance, the assignment of cash and investments between restricted and unrestricted assets based on the source of the monies as of June 30, 2019.

	Funded from Revenue and Other		Funded from Debt Issuance	
	Unrestricted	Restricted	Restricted	Total
Receiving fund	\$ 44,656,229*	\$ -	\$ -	\$ 44,656,229
Operations and maintenance	50,441,139	10,277,436**	-	60,718,575
Senior lien debt service	-	66,147,036	-	66,147,036
Senior lien bond reserve	-	-	128,570,253	128,570,253
Second and junior lien debt service	-	39,842,744	-	39,842,744
Second and junior lien debt reserve	-	-	74,210,746	74,210,746
Pension obligation	-	614,746	-	614,746
Water residential assistance program (WRAP)	-	5,423,176	-	5,423,176
Budget stabilization	-	5,525,914	-	5,525,914
Extraordinary repair and replacement	44,311,080	-	-	44,311,080
Improvement and extension – regional	96,648,680	-	-	96,648,680
Subtotal – Reserves Defined by Ordinance	236,057,128	127,831,052	202,780,999	566,669,179
Less: Funded by surety (noncash)	-	-	(147,393,918)	(147,393,918)
Total – Reserves Defined by Ordinance (net of surety coverage)	236,057,128	127,831,052	55,387,081	419,275,261
Cash held for the benefit of DWSD	-	627,919	-	627,919
Unspent construction bond proceeds	-	12,434,013***	69,597,694	82,031,707
Total Cash, Cash Equivalents and Investments	\$ 236,057,128	\$ 140,892,984	\$ 124,984,775	\$ 501,934,887

*Balance for July 1, 2019 required transfers

**Construction retainage and deposits

*** Amount for current liabilities related to construction funds

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS
As of and for the Year Ended June 30, 2019

NOTE 5 – RESTRICTED ASSETS (cont.)

A reconciliation of restricted assets to restricted net position is as follows:

Restricted assets from schedule above:	
From revenue and other	\$ 140,892,984
From debt issuance	124,984,775
Amounts payable to liabilities and debt	<u>(144,000,006)</u>
Restricted Net Position	<u>\$ 121,877,753</u>
Restricted net position for:	
Debt service	\$ 117,246,259
Payment assistance program	<u>4,631,494</u>
Total	<u>\$ 121,877,753</u>

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
Cash and cash equivalents	\$ 160,371,766	\$ 95,931,528	\$ 62,030,778	\$ 318,334,072
Cash held for the benefit of DWSD	-	627,919	-	627,919
Investments	<u>75,685,362</u>	<u>33,384,445</u>	<u>73,903,089</u>	<u>182,972,896</u>
Total	<u>\$ 236,057,128</u>	<u>\$ 129,943,892</u>	<u>\$ 135,933,867</u>	<u>\$ 501,934,887</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.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS
As of and for the Year Ended June 30, 2019

NOTE 6 – DUE FROM OTHER GOVERNMENTS

Due from other governments, which consists entirely of amounts due from DWSD, in the statement of net position are as follows:

Billed shared services	\$ <u>179,585</u>
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NOTE 7 – LOAN RECEIVABLE – DWSD

Under the terms of the WSSA and the 2018 MOU, if DWSD experiences a cumulative negative variance of more than two percent (2%) of the total budget for either local system (a budget shortfall) from its adopted budget, DWSD, as the agent of GLWA, shall, within thirty (30) days thereafter, schedule a meeting of the Reconciliation Committee to discuss a remedy for the shortfall.

In accordance with the 2018 MOU, budget shortfalls not cured by the end of the fiscal year following the year in which they arise shall be repaid in full, in installments, over a period not to exceed the next three fiscal years, plus a surcharge calculated as provided below, as part of the revenue requirement payable by DWSD. The surcharge factor on the portion of the budget shortfall for the Sewage Disposal Fund which remains unpaid shall be based on the three-year U.S. treasury note rate plus 150 basis points. The combined 2016 and 2017 budget shortfall and the 2018 budget shortfall had remaining balances of \$19,932,645 and \$24,133,034, respectively. The surcharge factor for the combined 2016 and 2017 budget shortfall and the 2018 budget shortfall were 4.125% and 3.209%, respectively.

Budget shortfall loan receivable to be paid by DWSD is as follows:

<u>Year Ended June 30,</u>	<u>2017 DWSD Loan Receivable</u>		
	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2020	\$ 9,761,148	\$ 639,047	\$ 10,400,195
2021	<u>10,171,497</u>	<u>228,699</u>	<u>10,400,196</u>
Total	<u>\$ 19,932,645</u>	<u>\$ 867,746</u>	<u>\$ 20,800,391</u>

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS
As of and for the Year Ended June 30, 2019

NOTE 7 – LOAN RECEIVABLE – DWSD (cont.)

<u>Year Ended June 30,</u>	2018 DWSD Loan Receivable		
	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2020	\$ 7,781,521	\$ 660,000	\$ 8,441,521
2021	8,034,935	406,585	8,441,520
2022	8,296,578	144,918	8,441,496
Total	<u>\$ 24,113,034</u>	<u>\$ 1,211,503</u>	<u>\$ 25,324,537</u>

Total loan receivable to be paid by DWSD for 2016, 2017 and 2018 budget shortfalls:

<u>Year Ended June 30,</u>	Total DWSD Loan Receivable		
	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2020	\$ 17,542,669	\$ 1,299,047	\$ 18,841,716
2021	18,206,432	635,284	18,841,716
2022	8,296,578	144,918	8,441,496
Total	<u>\$ 44,045,679</u>	<u>\$ 2,079,249</u>	<u>\$ 46,124,928</u>

NOTE 8 – INTERFUND RECEIVABLES AND PAYABLES

Interfund balances result from the time lag between the dates interfund goods and services are provided or reimbursable expenditures occur and the payment between funds are made. Interfund balances for the year ended June 30, 2019 consisted of the following:

	<u>Water Fund - Due from Sewage Disposal Fund</u>	<u>Sewage Disposal Fund - Due from Water Fund</u>	<u>Total Due to - Due from</u>
Water Fund - Due to Sewage Disposal Fund	\$ -	\$ 12,568	\$ 12,568
Sewage Disposal Fund - Due to Water Fund	2,876,954	-	2,876,954
Total	<u>\$ 2,876,954</u>	<u>\$ 12,568</u>	<u>\$ 2,889,522</u>

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 9 – CAPITAL ASSETS

Capital assets activity for the year ended June 30, 2019 was as follows:

	Beginning Balance	Additions	Disposals	Transfers	Ending Balance
Nondepreciable capital assets					
Land	\$ 28,984,633	\$ -	\$ (337,713)	\$ -	\$ 28,646,920
Easements	96,211,323	-	-	-	96,211,323
Construction in progress	146,166,144	82,133,524	-	(34,583,009)	193,716,659
Total Nondepreciable Assets	271,362,100	82,133,524	(337,713)	(34,583,009)	318,574,902
Depreciated capital assets					
Site improvements	38,584,812	442,585	(255,573)	848,883	39,620,707
Buildings and structures	1,133,361,703	667,783	(2,017,726)	6,598,959	1,138,610,722
Infrastructure	597,177,020	-	-	12,506,554	609,683,574
Machinery and equipment	1,170,781,940	6,528,267	(2,738,616)	13,470,909	1,188,042,500
Vehicles	2,328,916	269,001	(8,306)	-	2,589,611
Leasehold improvements	1,363,821	279,483	-	1,157,704	2,801,008
Total Depreciable Assets	2,943,598,212	8,187,119	(5,020,218)	34,583,009	2,981,348,122
Less: Accumulated depreciation					
Site improvements	(16,989,190)	(5,161,193)	175,704	-	(21,974,679)
Buildings and structures	(133,328,604)	(46,534,680)	579,179	-	(179,284,105)
Infrastructure	(34,521,589)	(13,687,577)	-	-	(48,209,166)
Machinery and equipment	(272,394,586)	(102,788,667)	1,951,452	-	(373,231,801)
Vehicles	(1,258,465)	(279,451)	8,306	-	(1,529,610)
Leasehold improvements	(7,606)	(92,802)	-	-	(100,408)
Total Accumulated Depreciation	(458,500,040)	(168,544,370)	2,714,641	-	(624,329,769)
Total Capital Assets Being Depreciated, Net	2,485,098,172	(160,357,251)	(2,305,577)	-	2,357,018,353
Net Capital Assets	\$ 2,756,460,272	\$ (78,223,727)	\$ (2,643,290)	\$ -	\$ 2,675,593,255

ASSET IMPAIRMENT

Capital assets are evaluated annually to determine if any asset impairments exist, defined as a significant, unexpected decline in the service utility of a capital asset. The Authority recorded impairments of \$355,204 in the Sewage Disposal Fund.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS
As of and for the Year Ended June 30, 2019

NOTE 9 – CAPITAL ASSETS (cont.)

ASSET IMPAIRMENT (cont.)

As part of the Authority's capital improvement program the Authority incurs costs to design capital improvement projects. Periodically the actual construction project may not be completed due to changes in plans or environmental requirements. Once it has been determined that construction will not proceed related costs are charged to the capital adjustment operating expense, including any costs previously recorded in construction in progress. The Authority recorded capital adjustments of \$2,258,351 in the Sewage Disposal Fund for the year ended June 30, 2019.

NOTE 10 – OTHER ACCRUED LIABILITIES

As described in Note 1, other accrued liabilities in the statement of net position as of June 30, 2019 are as follows:

<u>Current</u>	
Cash held for the benefit of DWSD	\$ <u>627,919</u>
<u>Noncurrent</u>	
Cash held for the benefit of DWSD budget stabilization	\$ 5,500,000
DWSD local system WRAP	<u>791,681</u>
Total	\$ <u>6,291,681</u>

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 11 – LONG-TERM DEBT

Changes in long-term debt and accrued compensated absences for the year ended June 30, 2019 were as follows:

	Beginning Balance	Increase	Decrease*	Debt Forgiveness	Ending Balance	Due Within One Year
Revenue bonds	\$2,584,065,000	\$ 257,465,000	\$ (237,140,000)	-	\$2,604,390,000	\$ 29,415,000
Capital appreciation bonds	17,250,000	-	(2,470,000)	-	14,780,000	3,445,000
State revolving loan Total Installment Debt	475,677,540	45,258,446	(46,758,858)	-	474,177,128	49,675,000
	<u>3,076,992,540</u>	<u>302,723,446</u>	<u>(286,368,858)</u>	<u>-</u>	<u>3,093,347,128</u>	<u>82,535,000</u>
Discount on capital appreciation bonds	(2,265,958)	-	863,930	-	(1,402,028)	(734,587)
Deferred amounts for:						
Unamortized premiums	254,859,637	32,322,120	(38,629,898)	-	248,551,859	16,926,225
Unamortized discounts	(99,833,984)	-	11,089,040	-	(88,744,944)	(10,368,976)
Total Debt, Net	<u>3,229,752,235</u>	<u>335,045,566</u>	<u>(313,045,786)</u>	<u>-</u>	<u>3,251,752,015</u>	<u>88,357,662</u>
Obligation payable	38,835,597	-	(377,420)	-	38,458,177	396,291
Compensated absences	717,086	1,666,278	(1,626,036)	-	757,328	757,328
Total	<u>\$3,269,304,918</u>	<u>\$ 336,711,844</u>	<u>\$ (315,049,242)</u>	<u>\$ -</u>	<u>\$ 3,290,967,520</u>	<u>\$ 89,511,281</u>

* Of the \$237,140,000 decrease in the revenue bonds, \$207,690,000 relates to refundings. Of the \$38,629,898 decrease in unamortized premiums, \$22,504,960 relates to refundings.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 11 – LONG-TERM DEBT (cont.)

As of June 30, 2019, 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	Bonds		Notes from Direct Borrowings and Direct Placements		Total
	Principal	Interest	Principal	Interest	
2020	\$ 32,860,000	\$ 101,793,611	\$ 49,675,000	\$ 10,488,897	\$ 194,817,508
2021	62,860,000	120,855,730	50,355,000	9,313,653	243,384,383
2022	64,825,000	117,986,033	47,150,000	8,179,578	238,140,611
2023	74,080,000	114,706,548	48,204,430	7,073,824	244,064,802
2024	77,635,000	111,058,537	38,930,000	6,057,758	233,681,295
2025 - 2029	539,930,000	487,257,781	137,589,058	19,614,532	1,184,391,371
2030 - 2034	711,365,000	349,392,760	78,256,580	7,734,041	1,146,748,381
2035 - 2039	745,045,000	165,795,419	24,017,060	832,427	935,689,906
2040 - 2044	254,345,000	37,506,012	-	-	291,851,012
2045 - 2049	56,225,000	3,848,375	-	-	60,073,375
Total	\$ 2,619,170,000	\$ 1,610,200,806	\$ 474,177,128	\$ 69,294,710	\$ 4,772,842,644

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, 2019 are not included in the debt service requirements amounts above as they were paid on June 24, 2019.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 11 – LONG-TERM DEBT (cont.)

REVENUE AND CAPITAL APPRECIATION BONDS PAYABLE

Net revenues of the Authority are pledged to repayment of bonds; following are the revenue bonds payable at June 30, 2019:

Issue	Bond Date	Amount Issued	Range of Interest Rates	Maturity Dates	Outstanding Ending Balance	Callable
Series 1999A**	12/01/99	\$ 33,510,118	-	7/01/19-21	\$ 13,377,972	
Series 2001B	9/15/01	110,550,000	5.50%	7/01/23-29	78,895,000	
Series 2001C-1	6/17/09	6,360,000	5.25%	7/01/19	605,000	
Series 2003B	6/17/09	150,000,000	7.50%	7/01/33	100,000	c
Series 2004A	2/12/04	101,435,000	5.25%	7/01/19-24	35,010,000	
Series 2005A	3/17/05	237,805,000	4.50%	7/01/35	100,000	c
Series 2005A	3/17/05	31,785,000	5.00%	7/01/34-35	31,785,000	c
Series 2005B	3/17/05	40,125,000	5.50%	7/01/21-22	17,115,000	
Series 2005C	4/05/05	41,095,000	5.00%	7/01/25	100,000	c
Series 2006B	8/10/06	183,150,000	5.00%	7/01/36	100,000	c
Series 2006B	8/10/06	55,000,000	5.00%	7/01/34-36	55,000,000	c
Series 2006D	12/14/06	370,000,000	Variable(*)	7/01/26-32	239,475,000	c
Series 2012A	6/26/12	95,445,000	5.00%	7/01/19-22	57,380,000	
Series 2012A	6/26/12	564,335,000	5.00-5.50%	7/01/23-39	437,795,000	c
Series 2014C-1	9/04/14	20,000	5.00%	7/01/20-22	15,000	
Series 2014C-1	9/04/14	123,200,000	5.00%	7/01/23-44	123,200,000	c
Series 2014C-2	9/04/14	20,000	5.00%	7/01/20-22	15,000	
Series 2014C-2	9/04/14	27,450,000	5.00%	7/01/23-44	27,450,000	c
Series 2014C-3	9/04/14	142,600,000	5.00%	7/01/21-24	142,600,000	
Series 2014C-3	9/04/14	303,570,000	5.00%	7/01/25-33	303,570,000	c
Series 2014C-5	9/04/14	95,165,000	5.00%	7/01/20	18,620,000	
Series 2014C-6	9/04/14	88,900,000	5.00%	7/01/32-33	88,900,000	c
Series 2014C-7	9/04/14	32,650,000	5.00%	7/01/20-24	26,575,000	
Series 2014C-7	9/04/14	44,065,000	5.00%	7/01/25-36	44,065,000	c
Series 2015C	12/15/15	197,160,000	5.00%	7/01/26-35	197,160,000	c
Series 2016B	10/27/16	14,445,000	5.00%	7/01/24-26	14,445,000	
Series 2016B	10/27/16	111,660,000	5.00%	7/01/27-34	111,660,000	c
Series 2016C	10/27/16	295,190,000	4.00-5.00%	7/01/27-36	295,190,000	c
Series 2018A	10/03/18	14,555,000	3.00-5.00%	7/1/20-28	14,555,000	
Series 2018A	10/03/18	67,040,000	5.00%	7/1/29-48	67,040,000	c
Series 2018B	10/03/18	131,690,000	5.00%	7/1/24-49	131,690,000	
Series 2018C	10/03/18	44,180,000	3.152-3.613%	7/1/20-24	44,180,000	

Total Revenue and Capital Appreciation Bonds Payable

\$ 2,617,767,972

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS
As of and for the Year Ended June 30, 2019

NOTE 11 – LONG-TERM DEBT (cont.)

REVENUE AND CAPITAL APPRECIATION BONDS PAYABLE

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 quarterly based upon a formula specified in the bond using the three-month LIBOR 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.

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, 2019 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 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 sewage disposal bonds is through 2049.

See table below for pledged revenue coverage as of June 30, 2019 for the Sewage Disposal Fund:

Remaining principal and interest requirement	\$ 4,772,842,644
Principal and interest funding requirement for the year ending June 30, 2019 (computed consistent with rate covenant basis for rate determination purposes. Not applicable for purpose of additional bond test)	\$ 239,172,263
Pledged revenue for the year ending June 30, 2019	\$ 305,584,160
Pledged revenue collected as a percentage of funding requirement	127.8%

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 11 – LONG-TERM DEBT (cont.)

STATE REVOLVING LOANS PAYABLE

The Authority participates in direct borrowings through the Clean Water Revolving Fund (CWRF) to finance qualified sewage disposal system projects. 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, 2019:

Issue	Bond Date	Amount Issued	Range of Interest Rates	Maturity Dates	Outstanding Ending Balance
Series 1999 SRF-1	6/24/99	\$ 21,475,000	2.50%	4/01/20	\$ 1,340,000
Series 1999 SRF-2	9/30/99	46,000,000	2.50%	10/01/19-22	11,125,000
Series 1999 SRF-3	9/30/99	31,030,000	2.50%	10/01/19-20	3,850,000
Series 1999 SRF-4	9/30/99	40,655,000	2.50%	10/01/19-20	5,040,000
Series 2000 SRF-1	3/30/00	44,197,995	2.50%	10/01/19-22	9,847,995
Series 2000 SRF-2	9/28/00	64,401,066	2.50%	10/01/19-22	15,501,066
Series 2001 SRF-1	6/28/01	82,200,000	2.50%	10/01/19-24	29,095,000
Series 2001-SRF-2	12/20/01	59,850,000	2.50%	10/01/19-24	21,190,000
Series 2002 SRF-1	6/27/02	18,985,000	2.50%	4/01/20-23	4,585,000
Series 2002 SRF-2	6/27/02	1,545,369	2.50%	4/01/20-23	375,369
Series 2002 SRF-3	12/19/02	31,549,466	2.50%	10/01/19-24	10,289,466
Series-2003 SRF-1	6/26/03	48,520,000	2.50%	10/01/19-25	19,795,000
Series 2003 SRF-2	9/25/03	25,055,370	2.50%	4/01/20-25	8,810,370
Series-2004 SRF-1	6/24/04	2,910,000	2.125%	10/01/19-24	1,005,000
Series 2004 SRF-2	6/24/04	18,353,459	2.125%	4/01/20-25	6,318,459
Series 2004 SRF-3	6/24/04	12,722,575	2.125%	4/01/20-25	4,367,575
Series 2007 SRF-1	9/20/07	167,540,598	1.625%	10/01/19-29	98,800,598
Series 2009 SRF-1	4/17/09	13,970,062	2.50%	4/01/20-30	8,260,062
Series 2010 SRF-1	1/22/10	4,214,763	2.50%	4/01/20-31	2,730,763
Series 2012 SRF-1	8/30/12	14,950,000	2.50%	10/01/19-34	12,520,000
Series 2015A SRF	3/20/15	79,500,000	2.50%	4/01/20-36	69,930,000
Series 2015B SRF	3/20/15	27,175,304	2.50%	10/01/19-35	23,465,304
Series 2015D SRF	12/11/15	15,321,478	2.50%	10/01/19-35	12,981,478
Series 2016 SRF-1	9/16/16	19,305,000	2.50%	4/01/20-38	14,455,854
Series 2016 SRF-2	9/16/16	51,310,000	2.50%	4/01/20-33	32,840,157
Series 2016 SAW-1	5/25/16	10,000,000	2.50%	10/01/19-38	10,000,000
Series 2017 SRF-1	6/23/17	38,450,000	2.50%	10/01/19-36	31,309,424
Series 2018 SRF-2	9/14/18	17,510,000	2.00%	10/01/19-28	4,348,188
Total State Revolving Loans Payable					<u>\$ 474,177,128</u>

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS
As of and for the Year Ended June 30, 2019

NOTE 11 – LONG-TERM DEBT (cont.)

STATE REVOLVING LOANS PAYABLE (cont.)

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.

REFUNDED DEBT AND NEW MONEY BOND

In prior years, the Authority's Sewage Disposal Fund defeased certain bonds by placing the proceeds of new bonds in irrevocable trusts for the purpose of generating resources for all future debt service payments on the refunded debt. As a result, the refunded bonds are considered to be defeased and the trust fund assets and related liabilities have been removed from the statement of net position. At June 30, 2019, the balance of the bonds considered to be defeased are \$25,550,000 for Series 2003B revenue bonds. These bonds were called July 1, 2019.

On October 3, 2018, the Authority issued \$81,595,000 in Series 2018A senior lien revenue bonds, \$131,690,000 in Series 2018B senior lien refunding bonds and \$44,180,000 in Series 2018C taxable senior lien refunding bonds. The net proceeds of the Series 2018A revenue bonds will be used to pay certain costs of improvements, enlargements and extensions and repairs to the Local Water System. The net proceeds of the Series 2018B and 2018C bonds were used to purchase securities that were placed in an irrevocable trust with an escrow agent to refund bonds. On October 6, 2018, \$16,665,000 Series 1998A, \$18,260,000 Series 1998B, \$107,045,000 Series 2001C-2 and \$25,015,000 Series 2012A revenue bonds were called. The remaining funds in the trust will be used to refund \$40,705,000 Series 2001C-1 revenue bonds. As a result, the refunded bonds are considered to be defeased and the trust fund assets and related liabilities have been removed from the statement of net position. The refunding resulted in a savings of \$54,048,882 over the next 11 years and an economic gain of \$34,519,422.

ISSUANCE OF STATE REVOLVING LOANS

The Authority's Sewage Disposal Fund received loans from the State of Michigan Revolving Loan Fund totaling \$45,258,446 during the year ended June 30, 2019. 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 regional sewage disposal system. At June 30, 2019, \$42,866,377 for the Sewage Disposal Fund was authorized and unissued.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS
As of and for the Year Ended June 30, 2019

NOTE 11 – LONG-TERM DEBT (cont.)

DEBT RATINGS

In September 2018, Standard & Poor's Global Ratings Services upgraded the ratings on the sewage disposal system senior lien debt by two notches to A+ and the sewage disposal system second lien debt by two notches to A. Both with a positive outlook. Moody's Investor Services upgraded the ratings on the sewage disposal system senior lien debt by one notch to A2 and second lien debt by one notch to A3. All were assigned a stable outlook. Fitch affirmed the ratings on the sewage disposal system senior lien debt at an A and second lien debt at an A-. Both with positive outlooks.

The Authority was asked by the State to seek a rating for the junior lien debt, as this is the debt category of the state revolving fund bonds. In November 2018, S&P Global Ratings assigned an A rating to the Authority's junior lien sewage disposal system SRF bonds.

CONTRACTUAL OBLIGATION RECEIVABLE – DEBT ALLOCATION FOR DWSD RETAIL OPERATIONS

As part of the regional system lease transaction, in which GLWA leased the regional water and sewage disposal 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 \$3,291,282,050 for the Sewage Disposal Fund.

Per the lease agreements, the WSSA and the MBO, 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 sewage disposal 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. The MOU dated June 27, 2018 defines an agreed upon allocation and amortization schedule. The total obligation receivable at June 30, 2019 is \$426,856,732 for the Sewage Disposal Fund.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS
As of and for the Year Ended June 30, 2019

NOTE 11 – LONG-TERM DEBT (cont.)

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 were issued with interest at 5.0 percent per annum. 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.

In 2018, the governing body of the City of Detroit authorized the use of general funds for the full redemption of the General Obligation Bonds, 2014 Series C, including the amount allocated to the Authority. The 2014 Series C debt was fully redeemed on April 13, 2018. In addition, on December 13, 2018, the City issued Financial Recovery Refunding Bonds to redeem a portion of the 2014 Series B. The Authority will repay the City of Detroit General Fund under the terms of the original debt payment schedules for the 2014 Series B & C General Obligation Bonds, with principal and interest due on June 30 each year.

The following is a schedule of the obligation payable for the Financial Recovery Bonds at June 30, 2019:

Bond Issue	Original Issue Amount	Range of Interest Rates	Maturity Date	Outstanding Ending Balance
Series 2014-B	\$ 44,233,463	4.00% and variable	4/1/44	\$ 34,990,439
Series 2014-C	6,382,990	5.00%	6/30/27	<u>3,467,738</u>
Total				<u>\$ 38,458,177</u>

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS
As of and for the Year Ended June 30, 2019

NOTE 11 – LONG-TERM DEBT (cont.)

OBLIGATION PAYABLE – CITY OF DETROIT 2014 FINANCIAL RECOVERY BONDS (cont.)

As of June 30, 2019, debt service requirements of the Financial Recovery Bonds were as follows:

Year Ended June 30	Principal	Interest	Total
2020	\$ 396,291	\$ 1,573,005	\$ 1,969,296
2021	416,106	1,553,190	1,969,296
2022	436,911	1,532,385	1,969,296
2023	458,757	1,510,539	1,969,296
2024	481,694	1,487,601	1,969,295
2025 - 2029	10,025,594	6,406,145	16,431,739
2030 - 2034	8,747,608	4,548,756	13,296,364
2035 - 2039	8,747,608	4,198,851	12,946,459
2040 - 2044	8,747,608	1,574,569	10,322,177
Total	\$ 38,458,177	\$ 24,385,041	\$ 62,843,218

INTEREST EXPENSE

The following represents the amounts recorded as interest expense for the year ended June 30, 2019:

Bonded debt	\$ 136,815,609
Obligation payable	1,482,494
Lease payable	21,595,197
Total	\$ 159,893,300

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 12 – NET INVESTMENT IN CAPITAL ASSETS

The composition of net investment in capital assets as of June 30, 2019 was as follows:

Capital Assets	
Capital assets not being depreciated	\$ 318,574,902
Capital assets being depreciated, net	<u>2,357,018,353</u>
Total Capital Assets	<u>2,675,593,255</u>
Less: Related Debt	
Total debt, net (see Note 11)	3,251,752,015
Less: Portion of bonds used for SWAP termination agreements	(263,770,610)
Less: Obligation receivable-local share of debt	(426,856,732)
Less: Bonds applicable to unspent construction proceeds	(69,597,694)
Deferred charge on refunding	(159,370,167)
Deferred gain on refunding	47,982,938
Deferred amounts for SWAP terminations	165,223
Capital portion of lease payable	<u>357,670,776</u>
Total Related Debt	<u>2,737,975,749</u>
Net Investment in Capital Assets	<u>\$ (62,382,494)</u>

During 2019, the Authority reevaluated the classifications of net position. The following changes in classifications were made for the year ended June 30, 2019, from the prior year ended June 30, 2018:

- The lease payable was analyzed for purposes of net position classifications pursuant to the application of GASB 69 for the Authority's acquisition and the amounts in fiscal year ended June 30, 2019 are reported prospectively. The impact of this change resulted in a decrease in net investment in capital assets and an increase in unrestricted net position of \$357,670,776 for the Sewage Disposal Fund for the fiscal year ended June 30, 2019. For fiscal year ended June 30, 2018, this analysis would have resulted in a decrease in net investment in capital assets and an increase in unrestricted net position of \$361,756,283 for the Sewage Disposal Fund.
- For fiscal year ended June 30, 2019, the restricted unspent construction bond proceeds in the amount of \$69,597,694 for the Sewage Disposal Fund is offset by the related bond liability, resulting in no classification of net position restricted for capital acquisition. In fiscal year June 30, 2018, the unspent construction bond proceeds were reported in the restricted for capital acquisition net position classification.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS
As of and for the Year Ended June 30, 2019

NOTE 13 – LONG-TERM LEASES PAYABLE AND RELATED PREPAID LEASE

On January 1, 2016, the Authority effectuated lease agreements with the City for the regional water and sewage disposal systems 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 sewage disposal systems. The agreements collectively provide for an annual lease payment of \$50 million. Currently, \$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 sewage disposal system provides service to the wholesale customers and the retail sewage disposal customers of the City up to the point of connection to the local sewage disposal 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 be transferred to GLWA, all revenues of the regional and local water and sewage disposal 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.

The regional system leases were recorded under GASB 69 to record the acquisition of the operations of the City of Detroit water and sewage disposal systems. The liability for the leases is allocated in the computation of net position based upon the components of net position acquired. Under the definitions of the regional system leases all improvements, additions and replacements to the original facilities acquired are considered to be leased facilities.

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, 2019 were as follows:

Beginning Balance	Increase	Decrease	Ending Balance	Amount due Within One Year*
\$ 521,037,423	\$ -	\$ (5,884,354)	\$ 515,153,069	\$ 6,134,481

* The current portion of the long-term leases payable represents the 12 monthly payments required from July 1, 2019 through June 30, 2020. Future revenues are intended to cover these payments.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS
As of and for the Year Ended June 30, 2019

NOTE 13 – LONG-TERM LEASES PAYABLE AND RELATED PREPAID LEASE (cont.)

As of June 30, 2019, aggregate requirements of the Authority's leases were as follows:

Year Ended June 30	Principal	Interest	Total
2020	\$ 6,134,481	\$ 21,365,519	\$ 27,500,000
2021	6,395,235	21,104,765	27,500,000
2022	6,667,073	20,832,927	27,500,000
2023	6,950,466	20,549,534	27,500,000
2024	7,245,904	20,254,096	27,500,000
2025 - 2029	41,119,796	96,380,204	137,500,000
2030 - 2034	50,634,250	86,865,750	137,500,000
2035 - 2039	62,350,194	75,149,806	137,500,000
2040 - 2044	76,777,018	60,722,982	137,500,000
2045 - 2049	94,541,976	42,958,024	137,500,000
2050 - 2054	116,417,456	21,082,544	137,500,000
2055 - 2056	39,919,220	1,330,780	41,250,000
Total	<u>\$ 515,153,069</u>	<u>\$ 488,596,931</u>	<u>\$1,003,750,000</u>

As part of the 2018 MOU, the MBO requirement for six months of lease payments made to DWSD on January 1, 2016 will be treated as a prepaid lease payment. The initial term of the regional system 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, \$13,750,000 was recorded in the Sewage Disposal Fund.

NOTE 14 – 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; occupationally related illnesses or injuries to employees; natural disasters; and environmental occurrences. Also included are risk of loss associated with providing medical benefits to employees.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS
As of and for the Year Ended June 30, 2019

NOTE 14 – RISK MANAGEMENT/SELF-INSURANCE PROGRAMS (cont.)

The Authority transfers risk via the purchase of a variety of insurance policies the most significant of which are shown in the table below (alphabetical by coverage):

Coverage	Limits	Retention Per Occurrence
Aviation	\$5,000,000	5% of insured value
Cyber Breach	\$10,000,000	\$100,000
Fiduciary	\$5,000,000	\$1,000
General and Auto Liability	\$10,000,000	\$1,000,000
Pollution Legal Liability	\$25,000,000	\$500,000
Property Damage	\$750,000,000	\$1,000,000
Public Officials and Employment Practices	\$25,000,000	\$250,000
Workers' Compensation	Statutory	\$1,250,000

Settled claims relating to commercial insurance have not exceeded the amount of insurance coverage since inception of the Authority.

The Authority assumes all risk for motor vehicle physical damage.

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.

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.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 14 – RISK MANAGEMENT/SELF-INSURANCE PROGRAMS (cont.)

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. The unpaid claims estimate is accrued within the Water Fund's accrued salaries, wages and benefits payable account on the Statement of Net Position.

	2019	2018
Unpaid claims, beginning of year	\$ 1,044,067	\$ 1,026,178
Incurred claims (including change in IBNR provisions)	10,655,927	8,598,908
Claims payments	(10,698,796)	(8,581,019)
Unpaid Claims, End of Year	\$ 1,001,198	\$ 1,044,067

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. The unpaid claims estimate is accrued within the Water Fund's accrued workers' compensation account on the Statement of Net Position.

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

	2019	2018
Unpaid claims, beginning of year	\$ 303,239	\$ 250,000
Incurred claims (including change in IBNR provisions)	246,138	254,899
Claims payments	(256,897)	(201,660)
Unpaid Claims, End of Year	\$ 292,480	\$ 303,239

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS
As of and for the Year Ended June 30, 2019

NOTE 15 – DEFINED CONTRIBUTION PENSION PLANS

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 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. The Authority recognized expense of \$4,605,975, which is net of forfeitures of \$351,582, for the year ended June 30, 2019. The Authority has accrued approximately \$197,000 of expense on the accrued payroll at June 30, 2019. At June 30, 2019, there were 1,104 plan members.

The Great Lakes Water Authority Defined Contribution Plan Make-Up Benefit 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 rollover to the Authority’s Section 457 Deferred Compensation Plan their refunded employee mandatory contribution from GRS. The amount of the make-up benefit determined by an actuary based on the present value of the lost GRS benefit was \$791,113 which was expensed in fiscal year 2018. The actual funding of the plan occurred in fiscal 2019. An additional employer contribution for \$32,492 was expensed in fiscal year 2019 for an eligible employee. Employees are 100% vested after one year of service. At June 30, 2019 there are 36 participants in the plan.

The Authority has a Section 457 Deferred Compensation Plan which employees can make pre-tax contributions which are immediately 100% vested. The Authority added a Roth provision (post-tax) to the 457 plan effective January 1, 2019. At June 30, 2019 there were 953 plan members.

The Authority adopted a Roth IRA Plan during the fiscal year which allows employees to make post-tax contributions which are immediately 100% vested. At June 30, 2019 there were 25 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. The Authority recognized an expense \$1,907,629, which is net of forfeitures of \$180,773, for the year ended June 30, 2019. The Authority has accrued approximately \$80,000 of expense on the accrued payroll at June 30, 2019. Employee contributions were \$251,160 for the year ended June 30, 2019. At June 30, 2019, there were 1,350 plan members.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS
As of and for the Year Ended June 30, 2019

NOTE 16 – NET PENSION LIABILITY (SPECIAL FUNDING SITUATION)

As part of the City of Detroit bankruptcy plan of adjustment (POA) and the Regional System 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 agreement constitutes a special funding situation pursuant to the provisions of GASB Statement No. 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. Information is available in a separate audit report for the "Combined Plan for the General Retirement System of the City of Detroit" as well as "The General Retirement System of the City of Detroit GASB Statement Nos. 67 and 68 Accounting and Financial Reporting for Pension Plans of Component II" as of June 30, 2018 which are available by contacting the Authority's management.

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.

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). 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 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.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS
As of and for the Year Ended June 30, 2019

NOTE 16 – NET PENSION LIABILITY (SPECIAL FUNDING SITUATION) (cont.)

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

During fiscal year 2018, employer contributions were not actuarially determined, but are determined by the provisions of the POA. Included within contributions for fiscal year 2018 are contributions from the Foundation for Detroit's Future in the amount of \$375,000 and approximately \$67.9 million of contributions from the City, City-related entities, and GLWA. Employer contributions were also made into the Income Stabilization Fund for \$88,494 from the UTGO Stub 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 Regional System 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 2019. This includes a contribution to the GRS pension plan of \$19,347,900 for the Sewage Disposal Fund. The contribution was made subsequent to the measurement date and has been recorded as a deferred outflow. It also includes an administrative fee of \$1,757,500, with \$1,127,500 paid by the Sewage Disposal Fund. Part of the administrative fee is considered a prepayment based on actual administrative expenses incurred by the plan as reported in the other supplemental information of the audited financial report of the GRS Plan.

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. An estimate of the 2024 contribution was included in the GRS annual actuarial valuation of Component II dated June 30, 2018. The total share for the DWSD is estimated to be between \$5.7 million and \$7.3 million. GLWA's share of the 2024 estimated contribution will be between \$4.0 million and \$5.1 million with approximately \$2.6 million to \$3.3 million allocated to the Sewage Disposal Fund.

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

DWSD Employee Contributions. Contribution requirements of plan members are established and may be amended by the GRS Board of Trustees in accordance with the City Charter, union contracts, and plan provisions. For the year ended June 30, 2018, there were no employee contributions into Component II, as the plan was frozen as of June 30, 2014; contributions into Component I began thereafter.

Net Pension Liability. As permitted by GASB Statement No. 68, the net pension liability was measured as of June 30, 2018, 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 SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 16 – NET PENSION LIABILITY (SPECIAL FUNDING SITUATION) (cont.)

Actuarial Assumptions. The total pension liability was actuarial determined as of June 30, 2017, which used updated procedures to roll forward the estimated liability to June 30, 2018. The actuarial valuation used the following actuarial assumptions applied to all periods included in the measurement.

Inflation	Not applicable
Salary increases	Not applicable
Investment rate of return	7.38%, 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 actuarial assumptions other than mortality and the investment rate of return used in the June 30, 2017 valuation to calculate the total pension liability as of June 30, 2018 were based on the results of an actuarial experience study for the period from 2002-2007.

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, 2018, 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%	5.23%	2.25%
Global fixed income	19.0%	3.04%	0.58%
Private equity	8.0%	7.18%	0.57%
Cash	1.0%	25.00%	0.25%
Real estate	10.0%	4.46%	0.45%
Global asset allocation/risk parity/real assets	14.0%	4.30%	0.60%
Hedge funds	5.0%	4.06%	0.20%
	100%		4.90%
Inflation			2.48%
			7.38%

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS
As of and for the Year Ended June 30, 2019

NOTE 16 – NET PENSION LIABILITY (SPECIAL FUNDING SITUATION) (cont.)

Discount Rate. The discount rate used to measure the total pension liability was 7.38%, however the single discount rate used at the beginning of the year was 6.91%. 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 City of Detroit's contributions will be made at rates equal to the difference between actuarially determined contribution rates and the employee 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 both at the beginning of the year, as well as at the end of the year. 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.

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

Total pension liability	\$	333,951,176	
Plan fiduciary net position		<u>(249,280,471)</u>	
Net Pension Liability	\$	<u>84,670,705</u>	
		<u>Total Pension Liability</u>	<u>Plan Fiduciary Net Position</u>
		(a)	(b)
		<u>Net Pension Liability</u>	<u>(a) – (b)</u>
Balances at June 30, 2018	\$	<u>354,791,535</u>	\$ <u>239,980,980</u>
Changes for the year:			
Interest		23,465,553	-
Difference between expected and actual experience		(205,683)	-
Changes in assumptions		(13,693,822)	-
Employer contributions		-	19,347,900
Net investment income		-	19,468,812
Benefit payments, including refunds of employee contributions		(30,406,407)	(30,406,407)
Other changes		-	889,186
Net changes		<u>(20,840,359)</u>	<u>9,299,491</u>
Balances at June 30, 2019	\$	<u>333,951,176</u>	\$ <u>249,280,471</u>
			\$ <u>84,670,705</u>

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS
As of and for the Year Ended June 30, 2019

NOTE 16 – NET PENSION LIABILITY (SPECIAL FUNDING SITUATION) (cont.)

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 7.38%, as well as what the Sewage Disposal Fund's net pension liability would be if it were calculated using a discount rate that is 1% lower (6.38%) or 1% higher (8.38%) than the current rate:

1% Decrease (6.38%)	Current Discount Rate (7.38%)	1% Increase (8.38%)
<u>\$ 109,592,763</u>	<u>\$ 84,670,705</u>	<u>\$ 63,373,522</u>

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

Pension Expense and Deferred Outflows and Inflows of Resources Related to Pensions. For the year ended June 30, 2019, the Authority recognized positive pension expense of \$10,763,940 for the Sewage Disposal Fund. At June 30, 2019, the Sewage Disposal Fund reported deferred outflows and inflows of resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows (Inflows) of Resources
Net difference between projected and actual earnings on pension plan investments	\$ 999,889	\$ -	\$ 999,889
Employer contributions to the plan subsequent to the measurement date	<u>19,347,900</u>	<u>-</u>	<u>19,347,900</u>
Total	<u>\$ 20,347,789</u>	<u>\$ -</u>	<u>\$ 20,347,789</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, 2020. 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	
2020	\$ 2,665,862
2021	1,408,716
2022	(2,427,193)
2023	<u>(647,496)</u>
Total	<u>\$ 999,889</u>

Payable to the Pension Plan. At June 30, 2019, the Authority did not have any outstanding contributions payable to the pension plan for the year then ended.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS
As of and for the Year Ended June 30, 2019

NOTE 17 – 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 \$733.6 million for the Sewage Disposal Fund through fiscal year 2024. The Program is being financed primarily from revenue bond proceeds in addition to the Improvement and Extension Funds. As of June 30, 2019, the Sewage Disposal Fund has unspent bond proceeds of \$69.6 million and Improvement and Extension funds of \$96.6 million available for use in addition to state revolving loan resources of \$42,866,377 in funding these commitments.

The total amount of construction contract commitments outstanding at June 30, 2019 was approximately \$76 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, 2019.

GASB Statement No. 83, *Certain Asset Retirement Obligations*, established accounting and financial reporting standards for legally enforceable liabilities related to the retirement of tangible capital asset(s) where the tangible capital asset is permanently removed from service. The retirement of a tangible capital asset can occur via sale, abandonment, recycling or disposal in some other manner and excludes the temporary idling of a tangible capital asset. An asset retirement obligation does not apply to obligations resulting from the disposal, or plan to dispose, of a tangible capital asset; obligation(s) associated with using a tangible capital asset for a different purpose; obligation(s) for pollution remediation; obligation(s) from regular maintenance or the cost to replace a component. The Authority determined there were no legally enforceable asset retirement obligations to be recorded at June 30, 2019.

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 the NPDES Permit. The Authority's current NPDES permit was issued July 1, 2019 and expires on October 1, 2022.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO FINANCIAL STATEMENTS
As of and for the Year Ended June 30, 2019

NOTE 17 – COMMITMENTS AND CONTINGENCIES (cont.)

CONTINGENCIES (cont.)

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 \$7,556,111 for the Sewage Disposal Fund, which is 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 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.

NOTE 18 – SUBSEQUENT EVENTS

OAKLAND-MACOMB INTERCEPTOR DRAIN DRAINAGE DISTRICT CAPITAL CONTRIBUTION

In March 2019, the Great Lakes Water Authority (GLWA) and the Oakland-Macomb Interceptor Drain Drainage District (OMIDDD) executed a contract amendment that redefined the operation, maintenance, repair and improvement responsibilities of each entity regarding the Northeast Sewer Pump Station (NESPS), interceptor PCI-5 and the North Interceptor East Arm (NIEA). The agreement is effective July 1, 2019. As part of this agreement, OMIDDD is required to pay GLWA a one-time contribution in aid of capital in the amount of \$11,920,000, which generally reflects GLWA's determination of net book value of the assets as of the effective date related to the NESPS. Receipt of this capital contribution in support of revenue requirements will be reflected in the GLWA June 30, 2020 and June 30, 2021 annual financial statements.

REQUIRED SUPPLEMENTARY INFORMATION

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

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			
	2018*	2017*	2016*	2015**
Share of Total Pension Liability				
Interest	\$ 23,465,553	\$ 24,268,718	\$ 25,906,278	\$ 32,970,738
Differences between expected and actual experience	(205,683)	1,519,917	(3,248,690)	(274,022)
Changes in assumptions	(13,693,822)	9,721,266	11,308,613	(12,695,976)
Benefit changes	-	-	-	(97,749,668)
Benefit payments, including refunds of employee contributions	(30,406,407)	(32,770,558)	(44,676,314)	(34,831,342)
Net change	(20,840,359)	2,739,343	(10,710,113)	(112,580,270)
Share of total pension liability, beginning of year	<u>354,791,535</u>	<u>352,052,192</u>	<u>362,762,305</u>	<u>475,342,575</u>
Share of Total Pension Liability, End of Year	<u>333,951,176</u>	<u>354,791,535</u>	<u>352,052,192</u>	<u>362,762,305</u>
Share of Plan Fiduciary Net Position				
Employer contributions	19,347,900	19,347,900	19,347,900	19,342,889
Employee contributions	-	-	-	84,010
Net investment income (loss)	19,468,812	24,899,462	(841,679)	11,085,930
Benefit payments, including refunds of employee contributions	(30,406,407)	(32,770,558)	(44,676,314)	(34,831,342)
Administrative expense	-	-	-	(13,661)
Other changes	889,186	958,487	161,836	17,808,122
Net change	9,299,491	12,435,291	(26,008,257)	13,475,948
Share of plan fiduciary net position, beginning of year	<u>239,980,980</u>	<u>227,545,689</u>	<u>253,553,946</u>	<u>240,077,998</u>
Share of Plan Fiduciary Net Position, End of Year	<u>249,280,471</u>	<u>239,980,980</u>	<u>227,545,689</u>	<u>253,553,946</u>
SHARE OF NET PENSION LIABILITY	<u>\$ 84,670,705</u>	<u>\$ 114,810,555</u>	<u>\$ 124,506,503</u>	<u>\$ 109,208,359</u>
Nonemployer contributing entity share of collective net pension liability - Sewage Disposal Fund	10.2%	12.2%	12.5%	13.2%
Plan fiduciary net position as a percentage of total pension liability	74.6%	67.6%	64.6%	69.9%

*As described in Notes 1 and 16 GLWA was established on January 1, 2016. At that time, GLWA assumed a portion of the net position and liabilities of the City of Detroit Water and Sewerage Department. This 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.

The accompanying notes to required supplementary information are an integral part of these financial statements.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

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		
	2018*	2017*	2016*
Contractually required contribution**	\$ 19,347,900	\$ 19,347,900	\$ 19,347,900
Actual contribution	19,347,900	19,347,900	19,347,900
Contribution deficiency (excess)	\$ -	\$ -	\$ -

*As described in Notes 1 and 16 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. This 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.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

Nonemployer Contributing Entity Share of City of Detroit General Employees' Retirement System –
Component II

NOTES TO REQUIRED SUPPLEMENTARY INFORMATION For the Year Ended June 30, 2019

Changes in Assumptions

In 2016, amounts reported as changes in assumptions resulted from adjustment of the discount rate from 7.61 percent to 7.23 percent.

In 2017, amounts reported as changes of assumptions resulted from adjustment of the discount rate from 7.23 percent to 6.91 percent.

In 2018, amounts reported as changes of assumptions resulted from adjustment of the discount rate from 6.91 percent to 7.38 percent.

Note: Great Lakes Water Authority is required to present the last ten fiscal years of data; however, accounting standards allow the presentation of as many years as are available until ten fiscal years are presented.

SUPPLEMENTARY INFORMATION

COMBINING AND INDIVIDUAL FUND SCHEDULES

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

COMBINING SCHEDULE OF NET POSITION
SEWAGE DISPOSAL FUND
As of June 30, 2019

	Sewer Operations	Sewer Improvement and Extension	Sewer Construction Fund	Sewage Disposal Total
Assets				
Current Assets				
Cash and cash equivalents	\$ 95,103,104	\$ 65,268,662	\$ -	\$ 160,371,766
Restricted cash and cash equivalents	73,233,588	52,519	22,645,421	95,931,528
Restricted cash for the benefit of DWSD	627,919	-	-	627,919
Investments	44,305,344	31,380,018	-	75,685,362
Restricted investments	33,384,445	-	-	33,384,445
Receivables:				
Billed	60,549,471	-	-	60,549,471
Unbilled	24,297,140	-	-	24,297,140
Other	221,452	-	-	221,452
Allowance for doubtful accounts	(34,802,168)	-	-	(34,802,168)
Due from other governments	179,585	-	-	179,585
Due from other funds	-	-	12,568	12,568
Due from other sewage disposal funds	260,762	-	64,415	325,177
Contractual obligation receivable, current portion	12,089,779	-	-	12,089,779
Loan receivable - DWSD	17,542,669	-	-	17,542,669
Prepaid items and other assets	2,562,363	153,579	85,329	2,801,271
Inventories	5,445,981	-	-	5,445,981
Total Current Assets	<u>335,001,434</u>	<u>96,854,778</u>	<u>22,807,733</u>	<u>454,663,945</u>
Noncurrent assets				
Restricted cash and cash equivalents	24,044,432	-	37,986,346	62,030,778
Restricted investments	42,291,740	-	31,611,349	73,903,089
Contractual obligation receivable	414,766,953	-	-	414,766,953
Loan receivable - DWSD	26,503,010	-	-	26,503,010
Prepaid lease	13,750,000	-	-	13,750,000
Assets not subject to depreciation	318,574,902	-	-	318,574,902
Capital assets being depreciated, net	2,357,018,353	-	-	2,357,018,353
Prepaid insurance on debt	13,880,254	-	-	13,880,254
Total Noncurrent Assets	<u>3,210,829,644</u>	<u>-</u>	<u>69,597,695</u>	<u>3,280,427,339</u>
Total Assets	<u>3,545,831,078</u>	<u>96,854,778</u>	<u>92,405,428</u>	<u>3,735,091,284</u>
Deferred Outflows of Resources				
Deferred charge on refunding	159,370,167	-	-	159,370,167
Deferred pension amounts	20,347,789	-	-	20,347,789
Total Deferred Outflows of Resources	<u>179,717,956</u>	<u>-</u>	<u>-</u>	<u>179,717,956</u>

	Sewer Operations	Sewer Improvement and Extension	Sewer Construction Fund	Sewage Disposal Total
Liabilities				
Current Liabilities				
Accounts and contracts payable	\$ 14,325,607	\$ 1,033,292	\$ 22,645,423	\$ 38,004,322
Other accrued liabilities	627,919	-	-	627,919
Due to other funds	1,726,059	1,150,895		2,876,954
Due to other sewage disposal funds	-	225,798	99,379	325,177
Interest payable	44,130,602	-	-	44,130,602
Current portion of:				
Long-term debt	88,357,662	-	-	88,357,662
Lease payable	6,134,481	-	-	6,134,481
Obligation payable	396,291	-	-	396,291
Accrued compensated absences	757,328	-	-	757,328
Claims and judgments	56,111	-	-	56,111
Total Current Liabilities	<u>156,512,060</u>	<u>2,409,985</u>	<u>22,744,802</u>	<u>181,666,847</u>
Noncurrent Liabilities				
Long-term debt	3,163,394,353	-	-	3,163,394,353
Long-term lease payable	509,018,588	-	-	509,018,588
Obligation payable	38,061,886	-	-	38,061,886
Claims and judgments	7,500,000	-	-	7,500,000
Other noncurrent liabilities	6,291,681	-	-	6,291,681
Net pension liability	84,670,705	-	-	84,670,705
Total Noncurrent Liabilities	<u>3,808,937,213</u>	<u>-</u>	<u>-</u>	<u>3,808,937,213</u>
Total Liabilities	<u>3,965,449,273</u>	<u>2,409,985</u>	<u>22,744,802</u>	<u>3,990,604,060</u>
Deferred Inflows of Resources				
Deferred amounts for swap terminations	165,223	-	-	165,223
Deferred gain on refunding	47,982,938	-	-	47,982,938
Deferred pension amounts	-	-	-	-
Total Deferred Inflows of Resources	<u>48,148,161</u>	<u>-</u>	<u>-</u>	<u>48,148,161</u>
Net Position				
Net investment in capital assets	(132,043,120)	-	69,660,626	(62,382,494)
Restricted for debt service	117,246,259	-	-	117,246,259
Restricted for payment assistance program	4,631,494	-	-	4,631,494
Unrestricted (deficit)	<u>(277,883,033)</u>	<u>94,444,793</u>	<u>-</u>	<u>(183,438,240)</u>
TOTAL NET POSITION	<u>\$ (288,048,400)</u>	<u>\$ 94,444,793</u>	<u>\$ 69,660,626</u>	<u>\$ (123,942,981)</u>

The accompanying notes to the supplementary information are an integral part of this schedule.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

COMBINING SCHEDULE OF REVENUES, EXPENSES AND CHANGES IN NET POSITION
SEWAGE DISPOSAL FUND
For the Year Ended June 30, 2019

	Sewer Operations	Sewer Improvement and Extension	Sewer Construction Fund	Sewage Disposal Total
Operating Revenues				
Wholesale customer charges	\$ 272,772,460	\$ -	\$ -	\$ 272,772,460
Local system charges	181,159,300	-	-	181,159,300
Industrial waste charges	9,106,274	-	-	9,106,274
Pollutant surcharges	5,932,550	-	-	5,932,550
Other revenues	<u>506,323</u>	<u>-</u>	<u>-</u>	<u>506,323</u>
Total Operating Revenues	<u>469,476,907</u>	<u>-</u>	<u>-</u>	<u>469,476,907</u>
Operating Expenses				
Operating expenses before depreciation				
Personnel	56,503,053	-	-	56,503,053
Contractual services	58,639,680	21,000	-	58,660,680
Utilities - gas	5,460,329	-	-	5,460,329
Utilities - electric	14,640,343	-	-	14,640,343
Utilities - sewage	1,417,575	-	-	1,417,575
Utilities - water	3,629,280	-	-	3,629,280
Chemicals	8,187,033	-	-	8,187,033
Supplies and other expenses	25,323,636	-	-	25,323,636
Capital adjustment	2,258,351	-	-	2,258,351
Capital program allocation	(1,325,842)	-	-	(1,325,842)
Shared services allocation	<u>(713,633)</u>	<u>-</u>	<u>-</u>	<u>(713,633)</u>
Total Operating Expenses Before Depreciation	174,019,805	21,000	-	174,040,805
Depreciation	<u>168,544,370</u>	<u>-</u>	<u>-</u>	<u>168,544,370</u>
Total Operating Expenses	<u>342,564,175</u>	<u>21,000</u>	<u>-</u>	<u>342,585,175</u>
Operating Income	<u>126,912,732</u>	<u>(21,000)</u>	<u>-</u>	<u>126,891,732</u>
Nonoperating Revenues (Expenses)				
Earnings on investments	7,786,861	1,805,409	2,171,131	11,763,401
Interest on obligations receivable	18,856,322	-	-	18,856,322
Interest expense	(159,893,300)	-	-	(159,893,300)
Amortization of debt related items and cost of issuance	(6,776,707)	-	-	(6,776,707)
Legacy pension expense	10,763,940	-	-	10,763,940
WRAP (Water Residential Assistance Program)	(1,168,664)	-	-	(1,168,664)
Other	305,723	-	-	305,723
Sewer lookback - MOU adjustment	(6,527,200)	-	-	(6,527,200)
Capital outlay	90,320,655	(10,889,201)	(79,431,454)	-
Gain (loss) on disposal of capital assets	516,379	-	-	516,379
Gain (loss) on asset impairment	<u>(355,204)</u>	<u>-</u>	<u>-</u>	<u>(355,204)</u>
Total Nonoperating Revenues (Expenses)	<u>(46,171,195)</u>	<u>(9,083,792)</u>	<u>(77,260,323)</u>	<u>(132,515,310)</u>
Income (Loss) Before Transfers	80,741,537	(9,104,792)	(77,260,323)	(5,623,578)
Transfer in	1,205,194	35,790,817	44,414,588	81,410,599
Transfer out	<u>(80,238,358)</u>	<u>(1,172,241)</u>	<u>-</u>	<u>(81,410,599)</u>
Change in net position	1,708,373	25,513,784	(32,845,735)	(5,623,578)
NET POSITION (DEFICIT), Beginning of Year	<u>(289,756,773)</u>	<u>68,931,009</u>	<u>102,506,361</u>	<u>(118,319,403)</u>
NET POSITION (DEFICIT), END OF YEAR	<u>\$ (288,048,400)</u>	<u>\$ 94,444,793</u>	<u>\$ 69,660,626</u>	<u>\$ (123,942,981)</u>

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

The accompanying notes to the supplementary information are an integral part of this schedule.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

SCHEDULE OF INTERFUND RECEIVABLES AND PAYABLES For the Year Ended June 30, 2019

Interfund balances result from the time lag between the dates interfund goods and services are provided or reimbursable expenditures occur and when the payment between funds are made. Interfund balances for the year ended June 30, 2019 consisted of the following:

	Sewage Disposal Fund due to Water Fund			
	Sewer Operations	Sewer Improvement and Extension	Sewer Bond	Total
Water Operations	\$ 1,726,059	\$ 11,653	\$ -	\$ 1,737,712
Water Improvement and Extension	-	1,139,242	-	1,139,242
Water Construction Fund	-	-	-	-
TOTALS	\$ 1,726,059	\$ 1,150,895	\$ -	\$ 2,876,954

	Water Fund due to Sewage Disposal Fund			
	Water Operations	Water Improvement and Extension	Water Bond	Total
Sewer Operations	\$ -	\$ -	\$ -	\$ -
Sewer Improvement and Extension	-	-	-	-
Sewer Construction Fund	12,568	-	-	12,568
TOTALS	\$ 12,568	\$ -	\$ -	\$ 12,568

The accompanying notes to the supplementary information are an integral part of this schedule.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

SCHEDULE OF OPERATIONS AND MAINTENANCE EXPENSE FOR SEWAGE DISPOSAL OPERATIONS
 COST TYPE CATEGORY - BUDGET TO ACTUAL
 For the Year Ended June 30, 2019

	Original Budget	Amended Budget	Administrative and Centralized Services Reclassification
Operating Expenses			
Personnel	\$ 35,144,950	\$ 36,921,650	\$ 25,890,236
Contractual services	27,755,585	26,247,397	31,378,637
Utilities	28,995,099	25,713,599	125,109
Chemicals	10,946,830	8,293,670	-
Supplies and other expenses	13,832,909	16,152,587	8,798,996
Capital adjustment	-	-	-
Capital program allocation	(921,500)	(1,257,121)	-
Shared services allocation	(6,444)	(431,000)	-
Centralized services allocation	56,455,486	56,455,486	(56,455,486)
Administrative services allocation	16,305,000	16,305,000	(16,305,000)
Capital outlay	131,000	-	-
Unallocated reserve	2,440,485	6,678,132	6,567,508
TOTAL OPERATING EXPENSES	\$ 191,079,400	\$ 191,079,400	\$ -

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 Variance Actual-Budget	Percent Under (Over) Budget
\$ 62,811,886	\$ 56,503,053	\$ 6,308,833	10.04%
57,626,034	58,639,680	(1,013,646)	-1.76%
25,838,708	25,147,527	691,181	2.67%
8,293,670	8,187,033	106,637	1.29%
24,951,583	25,323,636	(372,053)	-1.49%
-	2,258,351	(2,258,351)	-100.00%
(1,257,121)	(1,325,842)	68,721	-5.47%
(431,000)	(713,633)	282,633	-65.58%
-	-	-	0.00%
-	-	-	0.00%
-	-	-	0.00%
<u>13,245,640</u>	<u>-</u>	<u>13,245,640</u>	100.00%
<u>\$ 191,079,400</u>	<u>\$ 174,019,805</u>	<u>\$ 17,059,595</u>	8.93%

The accompanying notes to the supplementary information are an integral part of this schedule.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

SCHEDULE OF REVENUE REQUIREMENT BUDGET TO ACTUAL - SEWAGE SYSTEM OPERATIONS For the Year Ended June 30, 2019

The Great Lakes Water Authority Board adopts a budget using a revenue requirement method for its operating funds that aligns with water and wastewater revenue charges. This method applies an accrual basis of accounting for revenues and operating expenses in addition to a cash basis of accounting for other commitments, such as debt service, Detroit General Retirement closed pension commitment, lease payment, reserves and certain other payments.

The schedule below presents the Board adopted budgeted, adjusted for amendments, for comparison with actual revenues, expenses, and other payments. Overall, the Sewage System experienced a positive variance of approximately \$20.2 million.

	2019 Adopted Budget	2019 Amended Budget	2019 Actual	Amount Variance Over (Under) Budget
Revenues				
Revenue from Charges - Suburban Wholesale Customers	\$ 271,296,300	\$ 271,296,300	\$ 272,772,460	\$ 1,476,160
Revenue from Charges - Detroit Customers	181,159,300	181,159,300	181,159,300	-
Revenue from Charges - Industrial Waste Control	15,000,800	15,000,800	9,106,274	(5,894,526)
Pollutant Surcharges	-	-	5,932,550	5,932,550
Total Revenue from Charges	<u>467,456,400</u>	<u>467,456,400</u>	<u>468,970,584</u>	<u>1,514,184</u>
Other Operating Revenue	-	-	506,323	506,323
Nonoperating Revenue	<u>4,570,900</u>	<u>6,878,800</u>	<u>9,592,270</u>	<u>2,713,470</u>
Total Revenues	<u>\$ 472,027,300</u>	<u>\$ 474,335,200</u>	<u>\$ 479,069,177</u>	<u>\$ 4,733,977</u>
Revenue Requirements				
Operations and Maintenance Regional System Wholesale [2]	191,079,400	191,079,400	174,019,805	(17,059,595)
General Retirement System Legacy Pension	10,824,000	10,824,000	10,824,000	-
Debt Service	214,600,700	208,389,300	210,008,452	1,619,152
General Retirement System Accelerated Pension	11,620,700	11,620,700	11,620,692	(8)
Water Residential Assistance Program Contribution	2,374,100	2,374,100	2,374,092	(8)
Lease Payment to Local System Improvement & Extension Fund	27,500,000	27,500,000	27,500,004	4
Transfer to the Regional System Improvement & Extension Fund [1]	<u>14,028,400</u>	<u>22,547,700</u>	<u>22,547,700</u>	<u>-</u>
Total Revenue Requirements	<u>\$ 472,027,300</u>	<u>\$ 474,335,200</u>	<u>\$ 458,894,745</u>	<u>\$ (15,440,455)</u>
Revenue Requirement Variance	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 20,174,432</u>	<u>\$ 20,174,432</u>

[1] DWSD loan receivable payments are transferred directly to the Improvement & Extension Fund. They are excluded from this schedule because they are not part of the revenue requirement methodology used to set charges.

[2] Refer to the Combining Schedule of Revenues, Expenses and Changes in Net Position for the Sewage Disposal Fund. Operations and Maintenance expenses in this schedule are based on activities relating only to the Sewer Operations Fund.

The accompanying notes to the supplementary information are an integral part of this schedule.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

SCHEDULE OF REVENUE REQUIREMENT TO STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION CROSSWALK

For the Year Ended June 30, 2019

The Great Lakes Water Authority establishes a Revenue Requirement budget for the purpose of establishing charges for services which follows a modified accrual basis of accounting. Conversely, the annual financial report is prepared in accordance with Generally Accepted Accounting Principles for enterprise funds of a local government. Because the budget and the financial report are prepared using different bases of accounting, a crosswalk is prepared to reconcile fiscal year financial performance from the budget basis of accounting to the financial statement basis of accounting.

Key areas of reconciliation include the following:

- Defined Benefit Pension related to the City of Detroit General Employees Retirement System. Annual contributions are an expense for the budget basis while the accrual basis financial report reflects the current year payment as a deferred outflow.
- Debt Service (principal and interest) is an expense for the budget basis while the accrual basis financial report treats interest as an expense and principal payments as a reduction of a liability.
- Lease payments (principal and interest) are an expense for the budget basis while the accrual basis financial report treats interest as an expense and principal payments as a reduction of a liability.
- Contributions to the Regional System Improvement & Extension Fund are an expense for the budget basis while the accrual basis financial report treats this activity as an increase in assets.
- Depreciation and amortization are not a components of the budget basis while the accrual basis financial report treats these as an expense.

Revenue Requirement Variance from Schedule of Revenue Requirement	\$ 20,174,432
 Budgetary categories adjustments to financial reporting basis	
Pension delayed accounting election adjustments	
Current year pension transfers/ payments recorded as deferral	19,347,900
Prior year pension contribution accounted for in current year	10,763,940
Administrative prepaid adjustment	723,195
Debt service	90,941,232
Accelerated pension and B&C notes obligation	490,300
Lease payment	5,905,004
Water Residential Assistance Program	1,205,428
Improvement & Extension fund	22,547,700
 Nonbudgeted financial reporting categories adjustments	
Depreciation	(168,544,370)
Amortization	(6,776,707)
Other nonoperating income	(4,712,938)
Gain (loss) on disposal of capital assets	516,379
Loss on impairment of capital assets	(355,204)
Investment earnings construction fund	2,171,131
Improvement & Extension fund operating expenses	<u>(21,000)</u>
Change in Net Position per Statement of Revenues, Expenses and Changes in Net Position	<u>\$ (5,623,578)</u>

The accompanying notes to the supplementary information are an integral part of this schedule.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

SCHEDULE OF DAYS CASH - LIQUIDITY
June 30, 2019

	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016*</u>
Cash and investments - Unrestricted	<u>\$ 236,057,128</u>	<u>\$ 208,563,268</u>	<u>\$ 205,179,312</u>	<u>\$ 188,063,375</u>
Operating Expense				
Operating expense	\$ 342,585,175	\$ 363,629,987	\$ 336,946,731	\$ 170,401,050
Less: depreciation	<u>(168,544,370)</u>	<u>(187,250,583)</u>	<u>(185,628,465)</u>	<u>(86,021,029)</u>
Net Operating Expense	<u>\$ 174,040,805</u>	<u>\$ 176,379,404</u>	<u>\$ 151,318,266</u>	<u>\$ 84,380,021</u>
Operating Expense per Day (365 days)	<u>\$ 476,824</u>	<u>\$ 483,231</u>	<u>\$ 414,571</u>	<u>\$ 466,188</u>
Days Cash				
Number of days cash	<u>495</u>	<u>432</u>	<u>495</u>	<u>403</u>

*GLWA assumed operations on January 1, 2016. Data for 2016 includes six months of operation under GLWA. Operating expense per day for 2016 is computed using 181 days (six months of operations).

The accompanying notes to the supplementary information are an integral part of this schedule.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO SUPPLEMENTARY INFORMATION For the Year Ended June 30, 2019

Note 1 – Combining and Individual Fund Schedules

The Combining and Individual Fund Schedules presented combined the three funds the Authority maintains in the Financial Statements. The following describes the three funds and the purpose of each fund.

Sewer Operations & Maintenance (O&M) – All sewer revenues are credited to this fund. All expenses for the operations and maintenance of the wastewater system are paid from this fund. This fund aligns with the revenue requirement for establishing service charges.

Sewer Improvement & Extension Fund (I&E) - Amounts that are budgeted in the wastewater revenue requirement to reduce debt financing are transferred to this fund as well as any other wastewater funds that management has determined are available for this use. This fund is used for wastewater system capital improvements. Expenditures under the operating expenses category are expenditures incurred for the betterment of the system, which may lead to capital expenditures but are not necessarily applicable to any current capital improvement.

Sewer Construction Fund – This fund is used for the proceeds of sewer debt obligations and investment earnings thereon. Funds are used to pay for the wastewater system capital improvements in accordance with the debt obligations.

Note 2 – Budget to Actual Schedules

Schedule of Operations and Maintenance Expense Cost Type Activity – Budget to Actual

The schedule of operations and maintenance expense (O&M) for the Sewage Disposal System operations provides the detail of the major expense categories of the O&M budget compared to the actual results. The actual expenditures are the operating expenses before depreciation for the Sewer Operations reported in the Combining Schedule of Revenues, Expenses and Changes in Net Position for the Sewage Disposal Fund.

Schedule of Revenue Requirement – Budget to Actual

The revenue requirement is the basis for GLWA's budget and calculating Member Partner service charges. The revenue requirement is presented to align with the Master Bond Ordinance flow of funds categories. The budget basis reflects revenues and operations and maintenance expenses on an accrual basis in addition to cash payments for debt service, legacy pension obligations, and lease related activities.

The revenue requirement basis is foundational to GLWA's daily operations and long-term financial planning. The budget is adopted by the GLWA Board of Directors by resolution. The Board's action establishes the total operations and maintenance budget, total debt service requirements and total capital expenditures for the Regional Sewer System. The legal level of budgetary control is at this level. Administratively, the budget may be modified within these categories. Modifications to the budget beyond those established levels would be presented to the Audit Committee, and subsequently to the Board.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

NOTES TO SUPPLEMENTARY INFORMATION
For the Year Ended June 30, 2019

Note 3 – Schedule of Revenue Requirement to Statement of Revenues, Expenses and Changes in Net Position Crosswalk

The Great Lakes Water Authority establishes a revenue requirements budget for the purposes of establishing charges, which follows a modified accrual basis of accounting. The financial report is prepared in accordance with Generally Accepted Accounting Principles for enterprise funds of a local government. Because the budget and the financial report are prepared using different basis of accounting, the crosswalk reconciles the Revenue Requirement to the Change in Net Position in the Statement of Revenues, Expenses and Changes in Net Position.

STATISTICAL SECTION

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

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 Sewage Disposal Fund's economic condition.

The statistical section information is presented in the following categories:

		<u>Page</u>
Financial Trends Schedules 1 through 2	Financial trends information is intended to show how the Sewage Disposal Fund's financial position has changed over time.	68
Revenue Capacity Schedules 3 through 6	Revenue capacity information is intended to show the factors affecting the Sewage Disposal Fund's ability to generate its own-source revenue.	71
Debt Capacity Information Schedules 7 through 12	Debt capacity information is intended to show the Sewage Disposal Fund's debt burden and its ability to issue additional debt.	76
Demographic and Economic Schedules 13 through 14	Demographic and economic information is intended to show the socioeconomic environment within which the Sewage Disposal Fund operates.	85
Operating Information Schedules 15 through 16	Operating information is intended to show contextual information about operations and resources to provide understanding and assessing the Sewage Disposal Fund's economic condition.	87

Sources: Unless otherwise noted, information presented in these schedules was obtained from GLWA's comprehensive annual financial reports, the prior financial reports of DWSD or other internal information systems.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

SCHEDULE OF NET POSITION - SEWAGE DISPOSAL FUND

As of June 30, 2019

	2019	2018	2017	2016
Assets				
Current Assets				
Cash and cash equivalents	\$ 160,371,766	\$ 199,056,556	\$ 203,748,704	\$ 156,022,295
Restricted cash and cash equivalents	95,931,528	54,832,050	72,213,813	81,181,424
Restricted cash for the benefit of DWSD	627,919	-	-	51,648
Investments	75,685,362	9,506,712	1,430,608	32,041,080
Restricted investments	33,384,445	31,790,386	31,371,834	28,843,000
Receivables				
Billed	60,549,471	50,439,450	52,234,778	48,046,934
Unbilled	24,297,140	25,200,108	24,279,170	23,037,391
Other	221,452	3,723,036	3,157,050	92,748,989
Allowance for doubtful accounts	(34,802,168)	(32,863,001)	(30,410,232)	(98,968,630)
Due from other governments	179,585	24,339,106	29,461,328	66,202,143
Due from other funds	12,568	3,447,927	-	65,971
Contractual obligation receivable, current portion	12,089,779	11,253,800	11,262,300	5,077,675
Loan receivable - DWSD	17,542,669	9,367,355	-	-
Prepaid items and other assets	2,801,271	1,683,659	1,089,521	407,359
Inventories	5,445,981	8,471,626	8,509,454	9,984,063
Total Current Assets	<u>454,338,768</u>	<u>400,248,770</u>	<u>408,348,328</u>	<u>444,741,342</u>
Noncurrent Assets				
Restricted cash and cash equivalents	62,030,778	30,001,353	128,378,837	155,488,780
Restricted investments	73,903,089	143,261,763	81,177,748	62,186,734
Contractual obligation receivable	414,766,953	335,574,500	346,828,300	366,254,075
Loan receivable - DWSD	26,503,010	19,932,645	-	-
Prepaid lease	13,750,000	13,750,000	13,750,000	-
Assets not subject to depreciation	318,574,902	271,362,100	278,286,118	295,876,258
Capital assets being depreciated, net	2,357,018,353	2,485,098,172	2,591,023,442	2,699,891,145
Prepaid insurance on debt	13,880,254	16,931,255	18,581,897	27,822,085
Total Noncurrent Assets	<u>3,280,427,339</u>	<u>3,315,911,788</u>	<u>3,458,026,342</u>	<u>3,607,519,077</u>
Total Assets	<u>3,734,766,107</u>	<u>3,716,160,558</u>	<u>3,866,374,670</u>	<u>4,052,260,419</u>
Deferred Outflows of Resources				
Deferred charge on refunding	159,370,167	186,544,140	198,351,942	212,147,508
Deferred pension amounts	20,347,789	33,369,917	38,462,972	24,376,481
Total Deferred Outflows of Resources	<u>179,717,956</u>	<u>219,914,057</u>	<u>236,814,914</u>	<u>236,523,989</u>

	2019	2018	2017	2016
Liabilities				
Current Liabilities				
Accounts and contracts payable	\$ 38,004,322	\$ 34,077,602	\$ 27,546,558	\$ 36,152,087
Other accrued liabilities	627,919	-	898,800	674,458
Due to other governments	-	47,539	35,848,573	24,225,013
Due to other funds	2,876,954	330,293	-	-
Interest payable	44,130,602	41,108,994	41,011,198	43,912,888
Current portion of:				
Long-term debt	88,357,662	61,186,207	65,920,307	60,902,189
Leases payable	6,134,481	5,884,359	5,644,435	5,414,293
Obligation payable	396,291	377,419	359,448	342,331
Accrued compensated absences	757,328	717,086	679,260	454,630
Accrued workers' compensation	-	-	-	390,165
Claims and judgments	56,111	334,392	3,852,062	269,250
Total Current Liabilities	<u>181,341,670</u>	<u>144,063,891</u>	<u>181,760,641</u>	<u>172,737,304</u>
Noncurrent Liabilities				
Long-term debt	3,163,394,353	3,168,566,028	3,236,016,730	3,387,291,190
Long-term leases payable	509,018,588	515,153,064	521,037,424	526,681,859
Obligation payable	38,061,886	38,458,178	38,835,597	39,195,045
Accrued workers' compensation	-	-	-	4,390,938
Claims and judgments	7,500,000	7,500,000	187,500	25,914,350
Other noncurrent liabilities	6,291,681	6,003,540	5,983,201	5,912,693
Net pension liability	84,670,705	114,810,555	124,506,503	109,208,359
Total Noncurrent Liabilities	<u>3,808,937,213</u>	<u>3,850,491,365</u>	<u>3,926,566,955</u>	<u>4,098,594,434</u>
Total Liabilities	<u>3,990,278,883</u>	<u>3,994,555,256</u>	<u>4,108,327,596</u>	<u>4,271,331,738</u>
Deferred Inflows of Resources				
Deferred amounts for swap terminations	165,223	189,808	214,393	238,978
Deferred gain on refunding	47,982,938	46,654,836	49,257,784	-
Deferred pension amounts	-	12,994,118	11,750,654	27,805,977
Total Deferred Inflows of Resources	<u>48,148,161</u>	<u>59,838,762</u>	<u>61,222,831</u>	<u>28,044,955</u>
Net Position				
Net investment in capital assets	(62,382,494)	289,946,091	393,956,399	451,547,037
Restricted for debt service	117,246,259	101,996,536	107,931,677	108,742,193
Restricted for capital acquisition	-	102,506,361	150,930,508	164,326,618
Restricted for payment assistance program	4,631,494	3,308,896	3,117,744	-
Unrestricted (deficit)	<u>(183,438,240)</u>	<u>(616,077,287)</u>	<u>(722,297,171)</u>	<u>(735,208,133)</u>
TOTAL NET POSITION	<u>\$ (123,942,981)</u>	<u>\$ (118,319,403)</u>	<u>\$ (66,360,843)</u>	<u>\$ (10,592,285)</u>

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

CHANGES IN NET POSITION - SEWAGE DISPOSAL FUND

	2019	2018	2017	2016*
Operating Revenues				
Wholesale customer charges	\$ 272,772,460	\$ 268,978,831	\$ 263,311,745	\$ 121,106,353
Local system charges	181,159,300	178,969,200	187,304,100	95,826,900
Industrial waste charges	9,106,274	14,334,979	14,381,106	6,910,192
Pollutant surcharges	5,932,550	6,908,404	5,206,294	2,423,910
Bad debt recovery	-	-	35,065,030	-
Other revenues	506,323	4,391,145	538,807	4,197,614
Total Operating Revenues	469,476,907	473,582,559	505,807,082	230,464,969
Operating Expenses				
Personnel	56,503,053	53,680,162	47,894,911	13,289,741
Contractual services	58,660,680	64,082,761	55,878,440	13,875,756
Utilities	25,147,527	26,823,299	27,191,866	12,668,942
Chemicals	8,187,033	8,073,045	9,424,428	4,006,941
Supplies and other expenses	25,323,636	24,982,773	12,180,128	16,462,711
Capital adjustment	2,258,351	-	-	-
Capital program allocation	(1,325,842)	(969,671)	(1,150,316)	-
Shared services allocation	(713,633)	(292,965)	(101,191)	-
Centralized services	-	-	-	16,733,431
Administrative services	-	-	-	7,342,499
Depreciation	168,544,370	187,250,583	185,628,465	86,021,029
Total Operating Expenses	342,585,175	363,629,987	336,946,731	170,401,050
Operating Income	126,891,732	109,952,572	168,860,351	60,063,919
Nonoperating Revenues (Expenses)				
Earnings on investments	11,763,401	5,266,255	2,209,872	1,089,367
Interest on loan and obligations receivable	18,856,322	15,505,300	17,062,678	8,831,250
Interest expense	(159,893,300)	(161,052,102)	(159,157,152)	(82,489,347)
Amortization of debt related items and cost of issuance	(6,776,707)	(5,153,300)	(17,340,200)	(363,167)
Legacy pension expense	10,763,940	(15,988,471)	(4,504,230)	-
WRAP (Water Residential Assistance Program)	(1,168,664)	(2,248,980)	(1,243,006)	-
Other	305,723	(709,537)	(455,970)	-
Sewer lookback - MOU adjustment	(6,527,200)	-	-	-
Gain (loss) on disposal of capital assets	516,379	2,469,703	(42,926)	275,693
Loss on impairment of capital assets	(355,204)	-	-	-
Total Nonoperating Expenses	(132,515,310)	(161,911,132)	(163,470,934)	(72,656,204)
Income (loss) before contributions and special item	(5,623,578)	(51,958,560)	5,389,417	(12,592,285)
Capital Contributions	-	-	320,707	2,000,000
Special Item - memorandum of understanding with DWSD	-	-	(61,478,682)	-
Change in net position	(5,623,578)	(51,958,560)	(55,768,558)	(10,592,285)
NET POSITION (DEFICIT), Beginning of Year	(118,319,403)	(66,360,843)	(10,592,285)	-
NET POSITION (DEFICIT), END OF YEAR	\$ (123,942,981)	\$ (118,319,403)	\$ (66,360,843)	\$ (10,592,285)

*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.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

OPERATING REVENUES AND CHARGE INCREASES

	Budgeted 2020	Actual 2019	Actual 2018	Actual 2017	Actual 2016* [3]
Operating Revenues:					
Wholesale customer charges	\$ 272,323,600	\$ 272,772,460	\$ 268,978,831	\$ 263,311,745	\$ 121,106,353
Local system charges	185,807,300	181,159,300	178,969,200	187,304,100	95,826,900
Industrial waste and surcharges	13,743,600	15,038,824	21,243,383	19,587,400	9,334,102
Bad debt recovery	-	-	-	35,065,030	-
Other revenues	8,730,800	506,323	4,391,145	538,807	4,197,614
Total Operating Revenues	\$ 480,605,300	\$ 469,476,907	\$ 473,582,559	\$ 505,807,082	\$ 230,464,969
Change in budgeted revenue requirement	2.2%	1.0%	0.3%	4.0%	4.0%
Average annual charge increase:					
All customers	1.4%	0.1%	-0.6%	8.3%	1.5%
Suburban wholesale customers	-0.1%	1.3%	1.9%	4.9%	-1.1%
Detroit wholesale customers [5]	2.5%	1.2%	-2.2%	-9.3%	n/a [4]
Detroit retail rate increase [2]	2.0%	10.2%	1.7%	3.5%	8.6%
Number of wholesale customers [1]	18	18	18	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.

[2] This is the rate increase the City of Detroit Water and Sewerage charges the local customers.

[3] Percentage increase based on previous budget of Detroit Water and Sewerage Department.

[4] Due to the establishment of the Authority and DWSD as separate entities during FY 2016, this information is not applicable.

[5] Represents the annual change in the effective "wholesale service charge" to the Detroit customer class. Does not include any impact of Detroit local system (retail) costs or charges. Also does not include any impact of Detroit's use of the regional system lease payment to finance allocated debt service obligations.

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

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

TEN LARGEST WHOLESALE SEWER CUSTOMERS / TOTAL BILLED REVENUE Last Ten Years

	2010*	2011*	2012*	2013*
Operating Revenues				
Oakland Macomb Interceptor Drainage District	\$ 52,780,322	\$ 51,216,403	\$ 59,379,605	\$ 62,302,424
Wayne County - Rouge Valley	35,175,971	41,807,733	47,309,391	44,972,847
Oakland County-George W Kuhn Drainage District	27,820,025	35,810,320	39,620,971	38,148,325
Evergreen Farmington	22,080,501	24,951,389	28,097,941	27,556,982
NE Wayne County	14,760,986	19,146,923	20,532,777	19,293,968
Dearborn	12,752,026	14,441,467	15,884,591	15,292,901
Highland Park	3,965,206	4,490,709	4,840,249	5,007,724
Hamtramck	4,386,331	3,249,930	3,437,744	3,586,927
Grosse Pointe Farms	1,605,103	1,857,469	1,922,441	2,462,068
Grosse Pointe Park	976,896	1,151,516	1,413,363	1,273,953
TOTAL	\$ 176,303,367	\$ 198,123,859	\$ 222,439,073	\$ 219,898,119
Operating revenues - DWSD	\$ 365,537,390	\$ 410,719,075	\$ 437,654,891	\$ 440,863,260
Operating revenues - GLWA	-	-	-	-
Total operating revenues	\$ 365,537,390	\$ 410,719,075	\$ 437,654,891	\$ 440,863,260
% of total operating revenues	48.23%	48.24%	50.83%	49.88%

*GLWA assumed operations on January 1, 2016. The information in this table from 2010-2015 is based on operations under the City of Detroit Water and Sewerage Department (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

2014*	2015*	2016*	2017	2018	2019
\$ 71,972,397	\$ 74,853,600	\$ 69,206,904	\$ 69,627,600	\$ 72,816,000	\$ 77,533,200
51,181,360	50,930,400	51,784,039	55,486,800	55,022,400	53,761,200
41,658,188	42,046,800	42,804,155	45,682,800	45,751,200	44,972,400
29,198,838	29,686,800	30,177,613	32,179,200	33,733,200	34,578,000
20,406,419	22,585,200	22,993,819	24,120,000	24,637,200	24,672,000
16,406,661	18,190,800	18,368,762	19,603,200	19,628,400	19,372,800
6,887,428	5,569,200	5,616,167	5,818,800	5,642,400	5,614,800
3,941,094	4,054,800	3,936,205	4,086,000	3,958,800	3,962,400
2,502,113	2,449,200	2,486,773	2,667,600	2,696,400	2,727,600
1,244,951	1,465,200	1,492,206	1,626,000	1,740,000	1,801,200
<u>\$ 245,399,449</u>	<u>\$ 251,832,000</u>	<u>\$ 248,866,643</u>	<u>\$ 260,898,000</u>	<u>\$ 265,626,000</u>	<u>\$ 268,995,600</u>
\$ 475,770,844	\$ 505,671,614	\$ 282,415,566	\$ -	\$ -	\$ -
-	-	230,464,969	505,807,082	473,582,559	469,476,907
<u>\$ 475,770,844</u>	<u>\$ 505,671,614</u>	<u>\$ 512,880,535</u>	<u>\$ 505,807,082</u>	<u>\$ 473,582,559</u>	<u>\$ 469,476,907</u>
<u>51.58%</u>	<u>49.80%</u>	<u>48.52%</u>	<u>51.58%</u>	<u>56.09%</u>	<u>57.30%</u>

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

SCHEDULE OF WHOLESALE SEWER MONTHLY CHARGES* AND TOTAL REVENUE REQUIREMENT FOR THE DETROIT RETAIL CLASS

	Total
Oakland Macomb Interceptor District (OMID)	\$ 6,461,100
Rouge Valley	4,480,100
Oakland County - George W. Kuhn (GWK)	3,747,700
Evergreen Farmington	2,881,500
Northeast Wayne County	2,056,000
Dearborn	1,614,400
Grosse Pointe Farms	227,300
Grosse Pointe Park	150,100
Melvindale	126,900
Farmington	95,300
Center Line	85,600
Allen Park	70,600
Highland Park	467,900
Hamtramck	330,200
Grosse Pointe	74,100
Harper Woods	18,200
Redford Township	21,700
Wayne County #3	4,100

Annual Detroit Wholesale Revenue Requirement \$181,159,300 - Effective July 1, 2018

*Wholesale charges went into effect July 1, 2018

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

INDUSTRIAL WASTE CONTROL CHARGES AND POLLUTANT SURCHARGES

	<u>Charge per Month</u>
Industrial Waste Control Charges	
Meter size - inches:	
5/8	\$ 3.55
3/4	5.34
1	8.89
1 1/2	19.56
2	28.44
3	51.55
4	71.10
6	106.64
8	177.74
10	248.84
12	284.38
14	355.48
16	426.58
18	497.67
20	568.77
24	639.86
30	710.96
36	782.06
48	853.15
	<u>Charge per Pound</u>
Pollutant Surcharges	
Biochemical Oxygen Demand (BOD) for concentrations > 275 mg/l	\$ 0.483
Total Suspended Solids (TSS) for concentrations > 350 mg/l	\$ 0.490
Phosphorus (P) for concentrations > 12 mg/l	\$ 7.228
Fats, Oil and Grease (FOG) for concentrations > 100 mg/l	\$ 0.465
Septage Disposal Fee \$ per 500 gallons of disposal	\$ 47.00

Charges went into effect July 1, 2018

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GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

RATIOS OF OUTSTANDING DEBT BY TYPE

	2019	2018	2017	2016*
Revenue bonds [1]	2,764,196,915	2,739,090,653	2,797,168,264	2,922,089,599
Capital appreciation bonds [1]	13,377,972	14,984,042	19,501,737	19,668,138
State revolving loans	474,177,128	475,677,540	485,267,036	506,435,742
Total	<u>\$ 3,251,752,015</u>	<u>\$ 3,229,752,235</u>	<u>\$ 3,301,937,037</u>	<u>\$ 3,448,193,479</u>
Total taxable value **	n/a	n/a	n/a	n/a
Total population served[2]	2,800,000	2,800,000	2,800,000	2,800,000
Total debt per capita	\$ 1,161	\$ 1,153	\$ 1,179	\$ 1,231
Per capital income [3]	\$ 53,748	\$ 51,493	\$ 50,863	\$ 48,692
Total debt as a percentage of income	2.16%	2.24%	2.32%	2.53%

[1] Amounts are reported net of premiums and discounts.

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

[3] Source: FRED Economic Data, St. Louis Fed and Michigan State University Center for Economic Analysis.

* 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.

** GLWA does not levy property taxes; therefore, presentation of taxable values and the ratio of total debt to taxable value is not

Further details regarding the Authority's debt can be found in the notes to the financial statements.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

DEBT BY LIEN
As of June 30, 2019

	Original Principal Amount [1]	Outstanding as of 6/30/2019	Total Future Debt [2]
Sewage Disposal System Revenue Bonds			
Senior Lien Bonds (Revenue and SRF)			
Sewage Disposal System Revenue Bonds (Senior), Series 1999 SRF-1	\$ 21,475,000	\$ 1,340,000	\$ 1,340,000
Sewage Disposal System Revenue Bonds (Senior), Series 1999 SRF-2	46,000,000	11,125,000	11,125,000
Sewage Disposal System Revenue Bonds (Senior), Series 1999 SRF-3	31,030,000	3,850,000	3,850,000
Sewage Disposal System Revenue Bonds (Senior), Series 1999 SRF-4	40,655,000	5,040,000	5,040,000
Sewage Disposal System Revenue Bonds, Series 1999A	33,510,118	14,780,000	14,780,000
Sewage Disposal System Senior Lien Revenue Refunding Bonds, Series 2001C-1	154,870,000	605,000	605,000
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	495,175,000	495,175,000
Sewage Disposal System Revenue Senior Lien Bonds, Series 2014C-1	123,220,000	123,215,000	123,215,000
Sewage Disposal System Revenue Senior Lien Bonds, Series 2014C-2	27,470,000	27,465,000	27,465,000
Sewage Disposal System Revenue Refunding Senior Lien Bonds, Series 2014C-3	446,170,000	446,170,000	446,170,000
Sewage Disposal System Revenue Refunding Senior Lien Bonds, Series 2014C-5	95,165,000	18,620,000	18,620,000
Sewage Disposal System Revenue Refunding Senior Lien Bonds, Series 2014C-6	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
Sewage Disposal System Revenue Senior Lien Bonds, Series 2018A	81,595,000	81,595,000	81,595,000
Sewage Disposal System Revenue Refunding Senior Lien Bonds, Series 2018B	131,690,000	131,690,000	131,690,000
Sewage Disposal System Revenue Refunding Senior Lien Bonds, Series 2018C	44,180,000	44,180,000	44,180,000
	<u>2,828,230,118</u>	<u>1,894,440,000</u>	<u>1,894,440,000</u>
Second Lien Bonds			
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 2014C-7	76,715,000	70,640,000	70,640,000
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
	<u>1,306,845,000</u>	<u>746,085,000</u>	<u>746,085,000</u>

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

DEBT BY LIEN
As of June 30, 2019

	Original Principal Amount [1]	Outstanding as of 6/30/2019	Total Future Debt [2]
Sewage Disposal System Revenue Bonds (concluded)			
Junior Lien Bonds (SRF)			
Sewage Disposal System Revenue Bonds, Series 2000 SRF-1	\$ 44,197,995	\$ 9,847,995	\$ 9,847,995
Sewage Disposal System Revenue Bonds, Series 2000 SRF-2	64,401,066	15,501,066	15,501,066
Sewage Disposal System Revenue Bonds, Series 2001 SRF-1	82,200,000	29,095,000	29,095,000
Sewage Disposal System Revenue Bonds, Series 2001 SRF-2	59,850,000	21,190,000	21,190,000
Sewage Disposal System Revenue Bonds, Series 2002 SRF-1	18,985,000	4,585,000	4,585,000
Sewage Disposal System Revenue Bonds, Series 2002 SRF-2	1,545,369	375,369	375,369
Sewage Disposal System Revenue Bonds, Series 2002 SRF-3	31,549,466	10,289,466	10,289,466
Sewage Disposal System Revenue Bonds, Series 2003 SRF-1	48,520,000	19,795,000	19,795,000
Sewage Disposal System Revenue Bonds, Series 2003 SRF-2	25,055,370	8,810,370	8,810,370
Sewage Disposal System Revenue Bonds, Series 2004 SRF-1	2,910,000	1,005,000	1,005,000
Sewage Disposal System Revenue Bonds, Series 2004 SRF-2	18,353,459	6,318,459	6,318,459
Sewage Disposal System Revenue Bonds, Series 2004 SRF-3	12,722,575	4,367,575	4,367,575
Sewage Disposal System Revenue Bonds, Series 2007 SRF-1	167,540,598	98,800,598	98,800,598
Sewage Disposal System Revenue Bonds, Series 2009 SRF-1	13,970,062	8,260,062	8,260,062
Sewage Disposal System Revenue Bonds, Series 2010 SRF-1	4,214,763	2,730,763	2,730,763
Sewage Disposal System Revenue Bonds, Series 2012 SRF-1	14,950,000	12,520,000	12,520,000
Sewage Disposal System Revenue Bonds, Series 2015A SRF	79,500,000	69,930,000	69,930,000
Sewage Disposal System Revenue Bonds, Series 2015B SRF	27,175,304	23,465,304	23,465,304
Sewage Disposal System Revenue Bonds, Series 2015D SRF	15,231,478	12,981,478	12,981,478
Sewage Disposal System Revenue Bonds, Series 2016 SAW-1	10,000,000	10,000,000	10,000,000
Sewage Disposal System Revenue Bonds, Series 2016 SRF-1	19,305,000	14,455,854	18,550,000
Sewage Disposal System Revenue Bonds, Series 2016 SRF-2	51,310,000	32,840,157	51,310,000
Sewage Disposal System Revenue Bonds, Series 2017 SRF-1	38,450,000	31,309,424	38,450,000
Sewage Disposal System Revenue Bonds, Series 2018 SRF-2	17,510,000	4,348,188	17,510,000
	<u>869,447,505</u>	<u>452,822,128</u>	<u>495,688,505</u>
TOTAL SEWAGE DISPOSAL SYSTEM REVENUE BONDS	<u>\$ 5,004,522,623</u>	<u>\$ 3,093,347,128</u>	<u>\$ 3,136,213,505</u>

[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, 2019 from state revolving funds. Final amounts will be determined after project close-out.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

SCHEDULE OF DEBT SERVICE REQUIREMENTS

As of June 30, 2019

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
2020 [2]	\$ 41,270	\$ 71,390	\$ 112,660	\$ -	\$ 30,849	\$ 30,849
2021	61,770	83,753	145,523	8,335	37,335	45,670
2022	50,125	81,430	131,555	17,515	36,663	54,178
2023	65,060	78,858	143,918	11,905	35,885	47,790
2024	74,420	75,573	149,993	3,215	35,485	38,700
2025	74,965	72,058	147,023	16,035	34,971	51,006
2026	73,315	68,457	141,772	16,995	34,087	51,082
2027	91,335	64,598	155,933	21,040	33,075	54,115
2028	95,140	60,828	155,968	25,795	31,840	57,635
2029	98,670	56,882	155,552	26,640	30,462	57,102
2030	102,975	52,589	155,564	19,860	29,230	49,090
2031	112,020	48,283	160,303	32,550	27,883	60,433
2032	116,030	44,024	160,054	34,175	26,215	60,390
2033	120,220	39,268	159,488	21,910	24,813	46,723
2034	125,710	33,447	159,157	25,915	23,641	49,556
2035	46,505	29,138	75,643	118,345	20,155	138,500
2036	4,170	27,868	32,038	168,680	13,076	181,756
2037	4,260	27,654	31,914	177,175	4,429	181,604
2038	110,090	24,679	134,769	-	-	-
2039	115,820	18,797	134,617	-	-	-
2040	121,855	12,609	134,464	-	-	-
2041	30,740	8,667	39,407	-	-	-
2042	32,280	7,092	39,372	-	-	-
2043	33,885	5,438	39,323	-	-	-
2044	35,585	3,701	39,286	-	-	-
2045	37,150	1,882	39,032	-	-	-
2046	4,425	843	5,268	-	-	-
2047	4,645	616	5,261	-	-	-
2048	4,880	378	5,258	-	-	-
2049	5,125	128	5,253	-	-	-
Total	\$ 1,894,440	\$ 1,100,928	\$ 2,995,368	\$ 746,085	\$ 510,094	\$ 1,256,179

[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, 2019, are not included in the debt service requirement amounts above as they were paid June 24, 2019.

Junior Lien Bonds (in \$1,000s)			Total (in \$1,000s)		
Principal	Interest	Total Debt Service	Total Debt Service as of June 30, 2019	Additional Future Junior Lien Debt Service on undrawn SRF Loans	Total Future Debt Service including undrawn SRF Loans
\$ 41,265	\$ 10,043	\$ 51,308	\$ 194,817	\$ 1,014	\$ 195,831
43,110	9,081	52,191	243,384	1,006	244,390
44,335	8,072	52,407	238,140	1,006	239,146
45,319	7,038	52,357	244,065	1,006	245,071
38,930	6,058	44,988	233,681	1,006	234,687
39,816	5,166	44,982	243,011	1,006	244,017
26,035	4,392	30,427	223,281	1,006	224,287
23,485	3,860	27,345	237,393	1,006	238,399
23,970	3,355	27,325	240,928	1,006	241,934
24,283	2,841	27,124	239,778	1,201	240,979
24,191	2,324	26,515	231,169	1,804	232,973
13,981	1,881	15,862	236,598	1,802	238,400
14,060	1,530	15,590	236,034	1,806	237,840
14,080	1,177	15,257	221,468	2,143	223,611
11,945	823	12,768	221,481	4,638	226,119
11,691	522	12,213	226,356	5,188	231,544
10,432	240	10,672	224,466	5,769	230,235
654	39	693	214,211	8,025	222,236
610	23	633	135,402	8,086	143,488
630	8	638	135,255	6,842	142,097
-	-	-	134,464	1,062	135,526
-	-	-	39,407	1,062	40,469
-	-	-	39,372	1,061	40,433
-	-	-	39,323	1,060	40,383
-	-	-	39,286	-	39,286
-	-	-	39,032	-	39,032
-	-	-	5,268	-	5,268
-	-	-	5,261	-	5,261
-	-	-	5,258	-	5,258
-	-	-	5,253	-	5,253
<u>\$ 452,822</u>	<u>\$ 68,473</u>	<u>\$ 521,295</u>	<u>\$ 4,772,842</u>	<u>\$ 60,611</u>	<u>\$ 4,833,453</u>

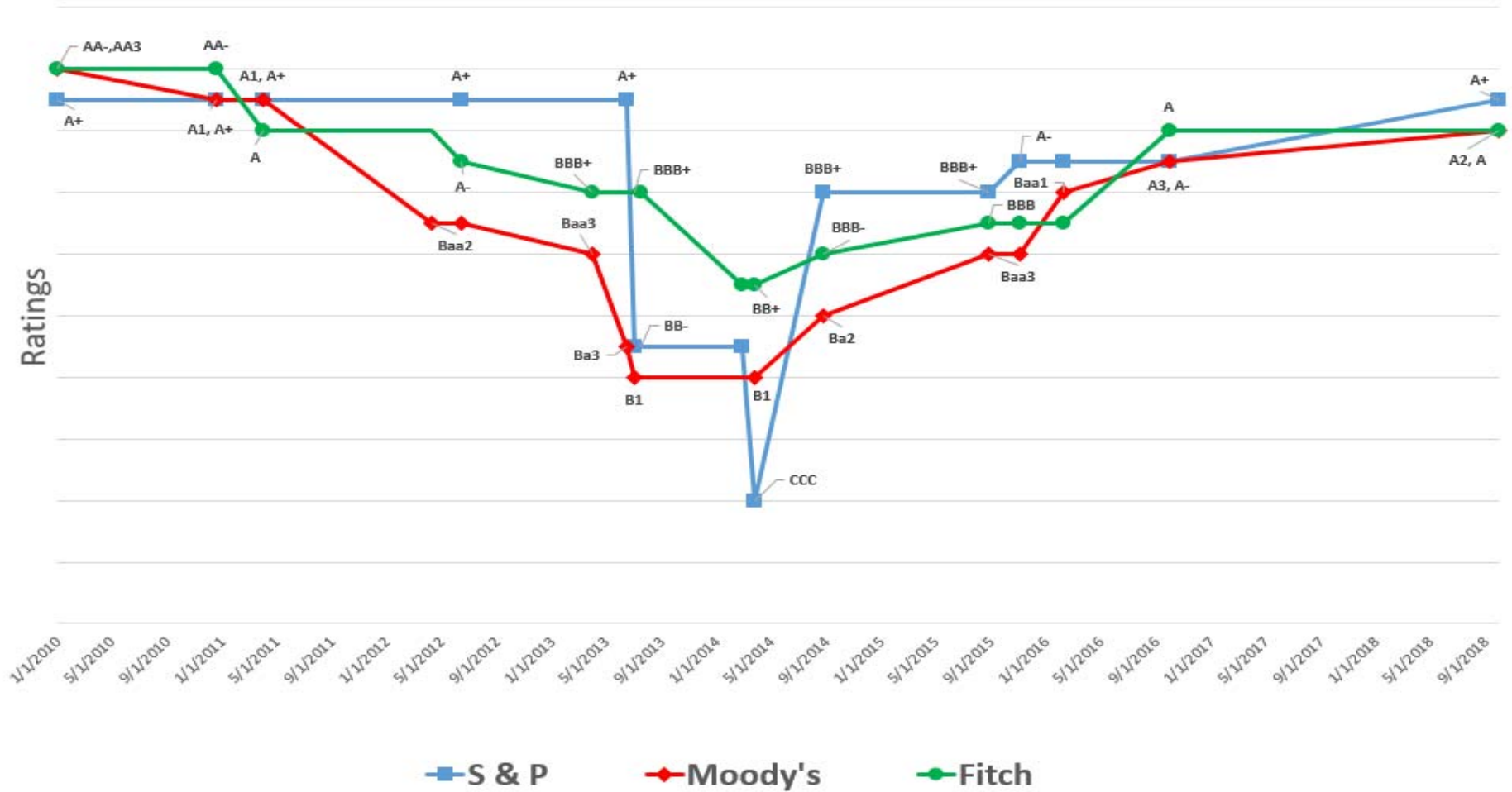
GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND**CURRENT DEBT RATINGS**

As of June 30, 2019

Debt Type	Standard & Poor's	Rating Agency	
		Moody's	Fitch
Senior lien	A+	A2	A
Second lien	A	A3	A-
Junior lien	A	N/A	N/A

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

Water and Sewer Senior Lien - Debt Ratings History
As of June 30, 2019



GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

CALCULATION OF DEBT SERVICE COVERAGE - SEWAGE DISPOSAL FUND

As of June 30, 2019

The Authority has pledged Net Revenues of the system to secure the repayment of the principal and interest of the revenue bonds and State of Michigan revolving fund loans. Net Revenues are defined as all revenues except for those transferred to the Operations and Maintenance Fund. Revenues are defined in the Master Bond Ordinance and are in accordance with the State of Michigan Public Act 94, the Revenue Bond Act of 1933, as all monies collected, directly or indirectly, by GLWA or DWSD as agent for GLWA, under the water and sewer services agreement. A summary of the applicable debt service coverage as of June 30, 2019 is as follows:

	Sewage Disposal Fund			
	Adopted Budget	Amended Budget	Actual [5]	Variance
Operating Revenue				
Suburban Wholesale Customers [1]	\$ 271,296,300	\$ 271,296,300	\$ 272,772,460	\$ 1,476,160
Industrial waste charges	15,000,800	15,000,800	9,106,274	(5,894,526)
Pollutant surcharges	-	-	5,932,550	5,932,550
Subtotal - Regional System Suburban Wholesale Customers	<u>286,297,100</u>	<u>286,297,100</u>	<u>287,811,284</u>	<u>1,514,184</u>
Detroit Customers				
Wholesale Service Charge Revenue [1]	181,159,300	181,159,300	181,159,300	-
Local Service Revenues [2]	93,917,000	93,917,000	66,453,540	(27,463,460)
Subtotal - Detroit Customers	<u>275,076,300</u>	<u>275,076,300</u>	<u>247,612,840</u>	<u>(27,463,460)</u>
Other Operating Revenue-GLWA	-	-	506,323	506,323
Other Operating Revenue-DWSD	5,464,600	5,464,600	4,529,169	(935,431)
Earnings on investments less construction fund investment earnings	4,570,900	6,878,800	9,592,270	2,713,470
Total Revenue	<u>571,408,900</u>	<u>573,716,800</u>	<u>550,051,886</u>	<u>(23,664,914)</u>
Operating Expenses				
Operations and Maintenance Regional System	191,079,400	191,079,400	174,019,805	(17,059,595)
Operations and Maintenance transfer to Local System	68,121,500	68,121,500	56,767,920	(11,353,580)
Legacy Pension Obligations Regional System [3]	10,824,000	10,824,000	10,824,000	-
Legacy Pension Obligations Local System [3]	2,856,000	2,856,000	2,856,000	-
Total Operating Expenses	<u>272,880,900</u>	<u>272,880,900</u>	<u>244,467,725</u>	<u>(28,413,175)</u>
Pledged revenues for the year ending June 30, 2019	<u>\$ 298,528,000</u>	<u>\$ 300,835,900</u>	<u>\$ 305,584,161</u>	<u>\$ 4,748,261</u>
Principal and interest funding requirement for the year ending June 30, 2019 [4]:				
Senior Lien Bonds	\$ 148,606,900	\$ 143,785,600	\$ 145,795,507	\$ 2,009,907
Second Lien Bonds	43,922,600	43,922,600	43,922,600	-
Total Senior and Second Lien Bonds	<u>192,529,500</u>	<u>187,708,200</u>	<u>189,718,107</u>	<u>2,009,907</u>
Junior Lien Bonds	49,936,500	49,936,500	49,454,156	(482,344)
Total All Bonds	<u>\$ 242,466,000</u>	<u>\$ 237,644,700</u>	<u>\$ 239,172,263</u>	<u>\$ 1,527,563</u>
Rate Covenant Debt Service Coverage [4]				
Senior Lien Bonds	2.01	2.09	2.10	0.01
Senior and Second Lien Bonds	1.55	1.60	1.61	0.01
All Bonds, Including SRF Junior Lien	1.23	1.27	1.28	0.01

[1] Total GLWA Regional System Wholesale Revenue reported net of bad debt allowance.

[2] Local Service Revenue reported net of bad debt allowance.

[3] The legacy pension obligations reflects only the Legacy Pension Obligation as defined in Section 504 (c) of the Water Master Bond Ordinance.

[4] Computed consistent with rate covenant basis for rate determination purposes. Not applicable for purposes of additional bond test calculation.

[5] Effective for the year ending June 30, 2019 operating expenses for the regional system reflect actual operating and maintenance expense of the operations funds rather than the budgeted operating and maintenance transfers as reported in the prior years. The operations and maintenance for the local system is the actual cash transfers to the local system O&M bank account.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

DEBT SERVICE COVERAGE HISTORY Last Four Years

	2019 [3]	2018	2017	2016 [1]
Pledged revenue	<u>\$ 305,584,161</u>	<u>\$ 299,055,461</u>	<u>\$ 326,300,994</u>	<u>\$ 326,048,837</u>
Principal and interest funding requirement [2]:				
Senior and second lien bonds				
Senior lien bonds	\$ 145,795,507	\$ 141,718,836	\$ 140,854,010	\$ 140,191,016
Second lien bonds	<u>43,922,600</u>	<u>43,990,100</u>	<u>47,918,639</u>	<u>48,944,924</u>
Total senior and second lien bonds	189,718,107	185,708,936	188,772,649	189,135,940
Junior lien bonds	<u>49,454,156</u>	<u>46,782,877</u>	<u>45,782,165</u>	<u>39,434,631</u>
Total all bonds	<u>\$ 239,172,263</u>	<u>\$ 232,491,813</u>	<u>\$ 234,554,814</u>	<u>\$ 228,570,571</u>
Rate covenant debt service coverage [2]				
Senior lien bonds	2.10	2.11	2.32	2.33
Senior and second lien bonds	1.61	1.61	1.73	1.72
All bonds, including SRF junior lien	1.28	1.29	1.39	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.

[3] Effective for the year ending June 30, 2019 pledged revenue reflects actual operating and maintenance expenses for the regional system rather than budgeted operating and maintenance transfers as reported in prior years.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

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
2019	2,800,000	4.5%	\$ 53,748	(4) \$ 235,381,235	\$ 84.06	0.16%
2018	2,800,000	4.3%	51,493	232,491,813	83.03	0.16%
2017	2,800,000	4.6%	50,863	234,554,814	83.77	0.16%
2016	2,800,000	5.3%	48,692	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%

[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 2019 the August 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 July 1st debt payment.

*GLWA assumed operations on January 1, 2016. The information in this table from 2010-2015 is based on operations under the City of Detroit Water and Sewerage Department (DWSD). Data for 2016 includes six months of operation under DWSD and six months of operation under GLWA.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

LARGEST EMPLOYERS Current Year and 5 Years Ago

Employer	Fixed Monthly Type of Business	Fiscal Year 2019		Fiscal Year 2014	
		Full-time Employees	Rank	Full-time Employees	Rank
Ford Motor Co.	Automobile manufacturer	46,000	1	42,750	1
FCA US LLC/Chrysler Group LLC	Automobile manufacturer	34,452	3	30,580	2
General Motors Co.	Automobile manufacturer	32,770	4	30,570	3
University of Michigan	Public university and health system	35,350	2	29,855	4
Beaumont Health	Health care system	27,492	5	25,404	5
U.S. Government	Federal government	18,893	7	19,010	6
Henry Ford Health System	Health care system	26,929	6	17,949	7
Trinity Health	Health care system	16,403	9	14,056	8
Detroit Medical Center	Health care system	n/a	n/a	11,869	9
U.S. Postal Service	Postal Service	n/a	n/a	11,600	10
Rock Ventures	Umbrella entity managing a portfolio of companies in investment and real estate	17,887	8	n/a	n/a
Ascension Michigan/St. John Providence Health System	Health care system	12,616	10	n/a	n/a

Source: Crain's Detroit Business, Largest Southeast Michigan Employers - Ranked by full-time employees as of July 2019 and January 2014

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

TREATED AND BILLED WASTEWATER VOLUMES Last Ten Years

Fiscal Year		Total Wastewater Treated (mg)	Customer Wastewater Volume (mg)		
			Wholesale Customers [1]	Local System [2]	Total
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
2018		235,600	119,400	19,500	138,900
2019		249,500	124,800	21,200	146,000

* GLWA assumed operations on January 1, 2016. The information in this table from 2010-2015 is based on operations under the City of Detroit Water and Sewerage Department (DWSD). Data for 2016 includes six months of operation under DWSD and six months of operation under GLWA.

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

[2] Reported water usage billed to retail customers

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

ADDITIONAL SUMMARY STATISTICS Last Four Years

	2019	2018	2017	2016*
Capital Asset Statistics - Sewer				
Water Resource Recovery Facility	1	1	1	1
Major Interceptors	3	3	3	3
Pump Stations	9	9	9	9
Combined Sewer Overflow Facilities:				
Retention Treatment Basins	5	5	5	5
Flow-through Type Facilities	3	3	3	3
Miles of Trunk Sewers and Interceptors	195	181	181	181
GLWA Employees				
Water Operations	213	205	180	155
Sewage Disposal Operations	369	358	342	320
Centralized Services	295	276	249	217
Administrative Services	147	129	110	90
Total Employees	<u>1024</u>	<u>968</u>	<u>881</u>	<u>782</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.



We are
One water.



GLWA
Great Lakes Water Authority

Financial Services Area
735 Randolph, Suite 1608
Detroit, Michigan 48226