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# City of Detroit

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TO: The Honorable Detroit City Council

FROM: David Whitaker, Director  
Legislative Policy Division (LPD) Staff

DATE: July 19, 2019

RE: **Water, Sewer and Drainage Policy and Finance Discussion**

### Introduction

Council President Jones directed the Legislative Policy Division to review financial implications for the City of Detroit involving the Great Lakes Water Authority (GLWA) lease of the Detroit Water and Sewerage Department (DWSD).

As Council will recall, the Legislative Policy Division (LPD) has issued numerous reports regarding the City's and the region's water and sewer systems. The Great Lakes Water Authority (GLWA) was formed between 2014 and 2016, and initiated by and through emergency management, coming out of the City's municipal bankruptcy. Its bifurcated relationship with the Detroit Water and Sewerage Department (DWSD) continues in the present.

The importance and complexity of these ongoing developments are hard to overstate. Residential flooding during heavy rains; chronic mass water insecurity leading to shut offs; the fiscal implications of infrastructure funding for City government; public health; recent implementation of increased drainage fees; these and many other quality of life issues demand and receive major public attention.

Certain ongoing regional measures under the auspices of the GLWA make this an opportune time for a more thorough policy and financial review. We must work within the existing structure of the GLWA documents (e.g., the water and sewer systems leases, Master Bond Ordinance, regional "One Water" outreach meetings, the DWSD Board of Water Commissioners (BOWCs), the GLWA Board of Directors, and other forums), in ways that work to Detroit's advantage.

In this regard, LPD calls Council's attention at this time to three (3) current fields of regional policymaking:

1. Recent development of a truly integrated regional Wastewater Master Plan;
2. The ongoing Sewer Cost of Service Methodology Review, regarding how the dozens of Southeastern Michigan communities served by the regional sewer system will divide up their individual funding contributions for maintaining the costs of the system as a whole; and
3. GLWA's development of their new brand awareness campaign of intentional public relations, framing the regional "One Water" initiatives as building "trust in a post-Flint world".

This report will begin by briefly summarizing and discussing each of these three (3) framing initiatives. Then it will proceed to a more detailed discussion of key issues in the GLWA/DWSD financial relationship.

### **Wastewater Master Plan**

Council Members may be aware of the high costs of the region's wastewater system's compliance with the federal Clean Water Act. These costs were the initial impetus, and a continuing bone of contention, in the long running federal court oversight action involving DWSD between 1977 and 2013. Recent flooding of low lying and riverside areas on the east side of Detroit underline the continuing significance of all this infrastructure and work. The creation of the GLWA represented a step toward more robust regional collaboration around our water and sewer systems.

It is hoped that their new Wastewater Master Plan, based on collaborative regional management of regional infrastructure, designed to deal with a regional problem of continuing Combined Sewer Overflow (CSO) discharges into the Great Lakes, will achieve better results at less cost. Before the system's governance was regionalized, DWSD spent over \$1 billion to eliminate 98% of CSO discharges.

In pursuing its long-range regional objective in 2019, GLWA has made rapid technical progress. In their words, they are "focusing on return on investment for the region, minimizing the number of assets across the system and optimizing its operation over the next 40 years." (One Water Partnership Executive Summary 6/20/19) The 40 year time period evokes the federal court rate settlement imposed on DWSD in 1979. At that time the City was ordered to pursue maximum debt financing for the continued suburban build out and other operational and capital needs of these systems. That directive resulted in a debt load of 40% of the entire DWSD budget some 40 years later. That was a major part of the management challenges that formation of the GLWA was intended, in part, to deal with. Participants in the current "One Water Partnership" regional collaboration now ask: What consequences will we face 40 years from now as a result of management and policy decisions we make today to address major, costly capital infrastructure needs of the core assets of the system that are not really optional?

The new comprehensive regional Wastewater Master Plan is expected to be completed in early 2020. It should be integrated with the Capital Improvement Plan (CIP) so that CIP investments robustly support the plan. Making rapid progress toward this ambitious goal, GLWA has reportedly already updated and combined what were more than 15 municipal, GLWA and DWSD computer models into a single regional model for universal use in the region. They can now comprehensively represent the entire region's physical infrastructure and operations to model how the system's drainage and sewer features will work under various circumstances. When southeastern Michigan receives heavy rain fall, existing Combined Sewer Overflow (CSO) storage facilities hold up to 500 million gallons of wet weather flow water. GLWA is continuing to develop regional operating plans for municipal operators throughout the region to collaborate on the timing of "dewatering" flows at all these facilities to optimize the system's performance during wet weather. It has been noted that this work is already providing current value to the region, pending finalization of the comprehensive Wastewater Master Plan.

The regional public health, fiscal and development implications of the anticipated Wastewater Master Plan would be difficult to overstate. Council Members may wish to seek more information from DWSD and GLWA regarding the implications of this work for the City of Detroit and its residents.

### **Sewer Cost of Service Methodology Review**

Related to the above development of a truly regional, collaborative management system is the current effort to revise, simplify and update the way GLWA allocates the costs of these systems' wastewater operations among the 78 communities they serve. In this regard the attached Interim Draft Report on the Sewer Cost of Service Methodology Review dated June 21, 2019, is both very informative and, especially to novice observers, probably extremely confusing.<sup>1</sup> The process cries out for simplification by water experts who are admittedly more knowledgeable about this complex subject matter than Council staff; however, LPD endeavors to explain: One of 11 "Key Concerns"

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<sup>1</sup> The Interim Draft Report is the initial publicly available work product of Raftelis Financial Consultants, Inc. Raftelis is GLWA's new rates consultant. In that capacity they replace Bart Foster of Foster & Associates, who served in that critical role for many years for DWSD, and then for GLWA. It is LPD's understanding that Mr. Foster remains in a part-time advisory role during the transition to Raftelis. LPD reads Raftelis' Interim Draft Report describing the Sewer Cost of Service Methodology Review as in effect (although he is not named in it) Mr. Foster's "exit interview", summarizing institutional knowledge of this complex process. There is strong consensus among GLWA member communities that the process should be simplified. Mr. Foster has described the complexity of the process as "crazy". A simple review of the attached Raftelis Interim Draft Report should conclusively confirm that judgment for any fair minded reader. This is a regional cost-sharing methodology that needs to be simplified and updated, as opposed to 'the way things have always been done'. How it should be simplified, based on what particular criteria and objectives, and with what local and regional fiscal obligations to whom, is the critical area of public policy decision making at issue.

identified by GLWA's wholesale charges methodology review is affordability, an issue involved in Detroit's experiences with controversial water shut offs in recent years.<sup>2</sup>

The Interim Draft Report, dated June 21, 2019, a key document in the ongoing review process for allocating the costs of these services, states "The methodology used to allocate wholesale service costs in the greater Detroit area has been continually evolving for the past half century." In essence: "The current process distributes costs between wholesale customers<sup>3</sup> of [GLWA] based on their estimated use of the system, measured by estimates of flow volume and amount of pollutants contributed [to the system]".

The difficulties with this general concept arise in the extraordinary complexity of its implementation. How these high costs for critical public services are allocated among the 78 member partner wholesale communities in southeastern Michigan served by the GLWA wastewater systems, ends up involving a range of data and analytical steps that defies clear comprehension, the more one studies it:<sup>4</sup>

- The first step is to allocate the total GLWA budget (or "revenue requirement") to 14 specific functions of the Water Resources Recovery Facility (WRRF)<sup>5</sup> and Wastewater Collections, 7 departments of Operations & Maintenance, 37 categories of operations under those departments, lift stations, CSO facilities, Industrial Waste Control, administrative costs, Centralized Services, Administrative Services and Capital Expenses;
- The second step of the process "is to allocate functionalized costs to cost drivers. The current allocation factors are based on the 1979 and 1980 [rates] Settlement Agreements." There are 10 cost drivers, each representing a particular aspect of wastewater treatment services, the tenth being "Detroit Only". The Interim Draft Report appends 2 charts (Figures 2 and 3, attached) that show the current Operations

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<sup>2</sup> LPD recognizes that the sewer cost shares issue relates to sewerage services, while water shut offs interrupt fresh water service by another division of the systems. However, as water affordability expert Roger Colton has observed in a recent report, retail customers receive one unified bill for sewerage and fresh water services. It is therefore appropriate to analyze affordability in terms of the total burden of both water and sewerage (including drainage) charges. It would be inappropriate to separate these charges for purposes of analyzing and calculating affordability, where customers are not offered an option to pay part of the bill to keep the service turned on.

<sup>3</sup> The "wholesale customers" are the communities in southeastern Michigan served by the GLWA. (including the City of Detroit, their largest single wholesale customer; Detroit and DWSD also have a dual role as, in essence, GLWA's junior partner)

<sup>4</sup> The attached power point presentation on this process seems clearer and simpler, but omits the detail that reveals the complexity.

<sup>5</sup> Formerly known as the Wastewater Treatment Plant (WWTP)

& Maintenance and capital cost allocation factors (Figure 2), and final cost pools to allocate all budget elements (Figure 3);

- The Interim Draft Report goes on to describe the “SHARES process” as “a simplified method of distribut[ing] costs among all customers.” It focuses on “what ‘share’ of common to all costs each customer should be responsible for based on a four-year average (currently FY13 to FY16) of contributed volume and estimated pollution strengths”.<sup>6</sup> Developing the SHARES involves the following steps:
  - Conduct a flow balance to determine total flows for suburban customers, the Detroit+ group<sup>7</sup>, and common inflow and infiltration;
  - Error-corrected meter readings for each of the suburban customers;
  - This total is then corrected for known factors, the amount of inflow and infiltration from GLWA water mains is estimated;
  - Historic suburban flows are then corrected for the Oakland-Macomb Interceptor (OMIDD) diversion in 2016 and “WTUA flows being sent to YCUA beginning in FY 2018”<sup>8</sup>;
  - 11% of excess CSO volume discharged directly into surface waters is deleted from suburban flows in proportion to each of their individual cost allocations, and the remaining 88.7% of this excess CSO volume is deleted from Detroit+ allocation;
  - Sanitary, drainage water and wastewater flows are estimated<sup>9</sup>;

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<sup>6</sup> LPD notes the existence of a “**Detroit only**” functional cost driver, in a regional methodology that states it determines cost SHARES based on “**common to all costs**”. Without being able to fully explain or quantify the impact of this distinction in the context of these complex processes, **the comparison is noted because it would apparently lie at or near the heart of any water equity, affordability and security analysis of southeastern Michigan communities, and Council Members may wish to ask DWSD and GLWA representatives about this and other structural fiscal aspects of the overall GLWA/DWSD, regional/city relationship.** There are almost certainly other specific aspects of these relationships (which this report and these footnotes seek to identify for Council’s information) and their fiscal consequences, as further discussed below in this report that Council Members may wish to pursue with the water systems’ leadership.

<sup>7</sup> “Detroit+” is said to involve Detroit, Hamtramck, Highland Park “and a few small parts of other communities.”

<sup>8</sup> LPD does not know what the acronym-dominated phrase “WTUA flows being sent to YCUA” means.

<sup>9</sup> There is tension between “estimated” flows and those based on “data”, and between use of either/both strength of flow and/or pollutant loads to calculate cost SHARES, that runs throughout this process. Council Members may wish to explore the limits of the data and the implications for fiscal decision making and policy making going forward with DWSD and GLWA leadership.

- The second step in the SHARES process involves estimating the amounts of 4 specified pollutants each customer contributes to the system: BOD (Biological Oxygen Demand), TSS (Total Suspended Solids), Phosphorus, and FOG (Fats, Oil and Grease);
- Use estimated pollutant strengths and previously estimated drainage and wastewater flows to calculate pounds of pollutants for each customer (Figures 4 and 5 attached document strength of flow calculations);
- “Now that the volume and pollutant totals have been developed for each [suburban] customer and [Detroit+], total flow volumes and pounds of each pollutant are converted to percentages for each customer.”;
- Suburban only SHARES are based on each suburban customer’s portion of total suburban flow;
- 83% of CSO shares are distributed to Detroit, 17% are distributed among suburban customers (see further discussion of this artifact of the 1979 rates settlement below); and
- Relevant costs as determined above are allocated to a single common to all cost pool. This total is then multiplied by each individual customer’s common-to-all SHARE, the same process is performed with suburban only costs and SHARES, OMID (Oakland Macomb Interceptor District) only costs and SHARES, and CSO costs and SHARES. The sum of these costs for each customer is their share of GLWA’s revenue requirement, or total budget (see attached Figure 7); and
- The final step is to account for Detroit’s equity in the system and suburban bad debt. Each of these costs is distributed to suburban customers using Suburban Only SHARES, and the equity amount is subtracted from Detroit’s total charge. The final annual total is billed to each customer on a fixed monthly basis.”<sup>10</sup>

The bewildering complexity of GLWA’s existing methodology for determining individual communities’ shares of these costs is apparent. Discussions of all this could get very lengthy, detailed and potentially contentious. At this time, LPD’s primary questions for framing the conversation are **1) whether or not we are using the most appropriate metrics, factors, and cost allocation drivers to make this process what its proponents claim it to be: a true regional “win” that benefits everyone; and 2) whether or not these calculations and funding criteria treat Detroit ratepayers fairly?**

The Draft Interim Report concludes with about a page and a half of “Areas for Consideration”. It identifies “several areas that warrant consideration for change.” This portion of the report mostly

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<sup>10</sup> See note 6 above for questions raised by this.

speaks for itself, and represents only a “preliminary review” of what is likely to be a very interesting, significant and complicated discussion in the coming year. In particular, this preliminary discussion recognizes: 1) the inherent limitations of available data that can be cost effectively gathered and analyzed, and 2) the strong consensus desire for rate share simplification.

More discussion on these charge approaches will occur on July 26, 2019. LPD will keep Council informed of developments and the eventual outcome.

### **“One Water” Brand Awareness Campaign**

In light of the above activities moving with significant speed to develop a real regional Wastewater Master Plan and collaborative operational coordination of sewage and drainage flows, as well as active work to recalculate and establish simplified and hopefully appropriate regional cost sharing for these vital wastewater services, the contemporaneous initiation of GLWA’s first formal brand awareness program may represent an opening for enhanced regional dialog. Greater awareness in Detroit, among both elected officials and residents, of how GLWA (and DWSD) are approaching these issues, is an important goal that upgraded and professionalized brand awareness may serve or undermine, depending on the content.

The general objectives of this campaign are said to be to increase name recognition and positive associations with GLWA. The campaign began on May 13, 2019 and will run until October 15, 2019. GLWA partnered with On Demand featuring actor Rob Lowe to create two videos for member partners to use on their web sites, social media feeds and closed-circuit television broadcasts. **The core idea articulated by GLWA’s public information director is to establish “the trust factor in a post-Flint world”. This key insight speaks volumes.**

Between the spring of 2014 and the fall of 2015, Flint’s water infrastructure was severely damaged by Flint’s emergency managers’ mismanagement. Those blunders led to widespread lead, legionella bacteria, and other serious water contamination for about 18 months. During that same time period, Detroit’s emergency manager initiated widespread water shut offs and simultaneously pursued the confidential, mediated negotiations that culminated in establishing the GLWA. Local activists, the United Nations and others denounced shut offs as a violation of the human right to water and sanitation, to the extent they denied water to residents who cannot afford to pay the full rates. These earth shaking developments in local communities’ water security have indeed sensitized and even inflamed public perceptions around water and sewer services and their costs and benefits. What was once taken for granted as the effective functioning of faucets, toilets, spigots and drains, is now a cause for widespread public alarm virtually every time anything goes wrong with these far-flung, expensive and technically sophisticated infrastructure systems. LPD concurs wholeheartedly with the objective of building trust around water issues via transparency, repeated iterative explanation of the basics of water and wastewater management, and honest, open communication about current issues.

In that regard, considering together the Wastewater Master Plan, the Sewer Cost of Service Methodology Review, and the Brand Awareness campaign, suggests the possibility of productive regional policy making conversation to which Detroit City Council should be a party, along with representatives of the other member partner communities in GLWA.

**In essence, GLWA's oft-announced intention to pursue complete transparency, organizational excellence, increased regional integration, and maximum water quality requires incorporation of issues of water affordability, equity, security and infrastructure funding as they affect the urban core.** GLWA's record on this score, especially insofar as the City of Detroit is deemed DWSD's territory, so that critical human rights issues arising from water shut offs and lack of equitable funding across all communities in the region lead to critical disconnects, has been decidedly mixed in GLWA's few short years of operation so far. The timeliness of the current GLWA initiatives discussed here offer an opportunity to address these issues with a new sense of urgency and significance for needed policy reforms.

The balance of this report will itemize certain individual fiscal issues that should inform this dialog.<sup>11</sup> We will address the following fiscal issues:

- 1) What are the financial results of DWSD since January 1, 2016?
- 2) What can we do about water affordability for Detroit residents?

### **What are the financial results of DWSD since January 1, 2016?**

Since the inception of GLWA, there have been three separate Comprehensive Annual Financial Reports (CAFRs) issued by GLWA and DWSD. The first CAFR for the City for the 6-month period that ended June 30, 2016, contained financial statements of DWSD. It was reported that the 6-month period was a difficult period as there were still negotiations regarding the specific provisions relating to the transition of assets and liabilities. This June 30, 2016 CAFR recognized that the amounts included in the 2016 CAFR may change in the following years. DWSD did report excess revenues over expenses in the Water Fund and the Sewage Disposal Fund, and incurred a large gain due to the bifurcation agreement between DWSD and GLWA. The large gain was a result of the initial splitting of the assets and liabilities of DWSD with GLWA. The DWSD Water Fund reported a gain of \$776.5 million, and the DWSD Sewage Disposal Fund reported a gain of \$808.9 million.

In the June 30, 2016 Audited Financial Statements of the City of Detroit Sewage Disposal Fund it was stated that these large bifurcation gains were a result of the lease of the regional water and sewage disposal systems. In fiscal year 2016, the Water Fund reported a gain of \$776.5 million, and the Sewage Disposal Fund reported a gain of \$808.9 million, which are the differences between the consideration receivable and the net position allocated to GLWA in each fund. The consideration receivable is the net present value of the \$50 million to be received over 40 years, assuming a discount rate of 3.677%.<sup>12</sup>

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<sup>11</sup> LPD notes, without further discussing at this time, the outstanding dispute resolution process provided for in the City Charter, regarding the refusal of the administration and DWSD to seek Council's approval of their annual budget and retail rates in the City. Corporation Counsel is the official identified by the Charter as responsible for moving forward with dispute resolution on this issue, which has been the subject of multiple previous reports and discussions, including appointment of independent counsel for City Council, if necessary.

<sup>12</sup> Page 121 of the City of Detroit 2016 CAFR



In the 2016 Audited Financial Statements for DWSD, for both the Water Fund and the Sewage Disposal Fund, it was noted that DWSD finance made certain assumptions regarding the discount rate (3.677%) and methodology used when valuing the consideration receivable from GLWA. Variation in the assumptions from the rate considered by GLWA could cause a material variation from the consideration payable recorded by GLWA.<sup>13</sup> There was a material variation between the two CAFRs, as DWSD used 3.677%, while GLWA used 4.17%. These different rates used resulted in DWSD stating their receivable from GLWA \$39.0 million higher than the payable recorded by GLWA for the water fund, and \$32.0 million higher in the sewage disposal fund. There also could have been an incentive for DWSD to use the lower percentage, as using a lower discount percentage results in a higher receivable balance, thus showing a higher net position. These different rates have been discussed with DWSD and GLWA representatives, and perhaps could be discussed with DWSD's auditors.

The details of the bifurcation gain in fiscal year 2016:

	Water	Sewage
Present value of consideration receivable	\$ 484,313,371	\$ 591,938,565
Cash, cash equivalents, and investments at 12-31-2015	(349,833,408)	(462,833,499)
Receivables assumed by GLWA	(67,167,538)	(248,776,115)
Assets leased to GLWA	(1,386,073,421)	(2,295,028,738)
Bonds assumed by GLWA	2,020,221,695	3,093,035,814
Other liabilities assumed by GLWA	66,233,037	121,715,649
Day one cash	8,839,000	8,911,500
Total	<u>\$ 776,532,736</u>	<u>\$ 808,963,176</u>

The CAFR for the City for the first full year of DWSD's operations under the split with GLWA, the period ending June 30, 2017, again stated that some issues still needed to be worked out.

DWSD continued to negotiate some of the final issues concerning the bifurcation, including the portion of the debt assumed by GLWA that was utilized for local system improvements, whose debt will continue to be funded by DWSD. As a result of these negotiations during fiscal year 2017, DWSD has reduced the recognition of the gain previously recognized in fiscal year 2016 from the bifurcation by \$85.9 million in the Water Fund and \$72.1 million in the Sewage Disposal Fund. There was also an accounting adjustment for pension costs because of the City's bankruptcy, and the Water Fund reported an Operating Net Income of \$12.5 million, while the Sewer Fund reported a Net Operating Loss of \$20.2 million.

The City should closely observe the financial performance of the Water and Sewage Disposal Funds after the bifurcation. The large operating loss of the Sewage Disposal Fund in fiscal year 2017 is of concern, and should be discussed further with DWSD representatives, as cash receipts have been less than required disbursements since June 30, 2016.

<sup>13</sup> Page 34 of the DWSD Sewer Fund Financial Report FY 2016

In the most recent City CAFR, for the period ending June 30, 2018, DWSD reported a gain due to the bifurcation, and both funds reported \$8.8 million in net operating income.

The following shows the gains and the losses from the bifurcation for three fiscal years:

	<u>Water</u>	<u>Sewer</u>	<u>Total</u>
2016	\$ 776,532,736	\$ 808,913,176	\$ 1,585,445,912
2017	(85,895,242)	(72,059,278)	(157,954,520)
2018	<u>35,482,690</u>	<u>66,377,234</u>	<u>101,859,924</u>
	<u>\$ 726,120,184</u>	<u>\$ 803,231,132</u>	<u>\$ 1,529,351,316</u>

GLWA, per the Master Bond Ordinance, receives and disburses all cash for both DWSD and GLWA. Included in the agreement with GLWA, is the requirement of the Reconciliation Committee to address any “cumulative negative variance” of more than two percent (2%) of the total budget for either Local System (Water or Sewage Disposal).

At June 30, 2018, GLWA reported a negative balance of \$47.8 million of required trust receipts and disbursements for the DWSD sewer fund, which exceeds the two percent variance threshold. This \$47.8 million figure (for the first three fiscal years, 2016 – 2018) was adjusted up to \$53.6 million (after adding \$5.8 million for the first five months of fiscal year 2019), and is shown as – Due to Great Lakes Water Authority in the Sewer fund in the 2018 City CAFR. This amount is due to the fact that DWSD received a “loan” from GLWA to meet their cash needs. As this is a loan, it must be paid back and future shortages of receipts over disbursements should be avoided. There are no details provided in the City CAFR or the DWSD audited financial report explaining this amount. We met with GLWA representatives to analyze this amount. Some of it was explained in GLWA’s 2018 CAFR, and some of it was included in GLWA’s monthly reports to its Finance Committee and Board. GLWA provides a highly detailed report each month (130 – 140 pages) to its Finance Committee. Included in this report is a sheet detailing DWSD - Net Cash Receipts and Disbursements as GLWA controls all DWSD cash.<sup>14</sup> This sheet identifies that GLWA paid more in expenditures than DWSD receipted in each year since 2016. DWSD must pay this amount back with interest based on the three-year U.S. Treasury rate (2.63%), plus 150 basis points. This interest rate of 4.13% equates to \$1,900,500 in interest expense which will have to be built into future rate increases.

Since July 1, 2018, DWSD has been making monthly payments (\$866,000) to GLWA on a portion of this loan to GLWA, but will end fiscal year 2019 with a balance due of approximately \$43.2 million, all of which goes back to the period 2016 – 2018. DWSD would have added to this debt balance in fiscal year 2019, had they not transferred \$11.6 million from the operating & maintenance budget for May and June 2019 to reduce their debt. Thus, the sewer fund will end fiscal year 2019 with a positive net cash flow with this transfer, but the balance from 2016 – 2018 still is there, and we must continually verify that future receipts exceed disbursements.

<sup>14</sup> Attachment – Table 2 - DWSD Net Cash Receipts and Disbursements – January 31, 2019

The unaudited finances of DWSD since July 1, 2018 are shown in documents presented to the Board of Water Commissioners (BOWC) at their monthly meetings.<sup>15</sup> These reports do not show DWSD's actual revenues and expenditures compared to budgeted revenues and expenditures. Such a report is shown only for the General Fund in the annual CAFR reports for the City. We believe that such a report would be highly desirable to all.

One area of financial concern is the Accounts Receivable of DWSD. Recently dated reports show that of the total receivables for all active accounts for both the water fund and the sewage disposal fund - \$163.8 million, 55.6% (\$91.1 million) is over 180 days past due, and 18.9% (\$31.0 million) is over 60 days past due. All of these past due accounts are not just residential accounts, but are commercial, industrial, tax-exempt, and governmental entities. All have about 50% in the over 180-day category. Of the total customer accounts of 590,594, 259,464, or 43.9% are inactive accounts. These 259,494 inactive accounts total \$19,605,640, or 10.7% of total receivables. DWSD receivables have been an ongoing problem over the years, and should be thoroughly analyzed. We must realize that if a customer does not pay its bills, these costs must be spread to the ones who do pay.

One customer identified, Michigan Department of Transportation (MDOT) is billed for 714 acres of state highways whose water run-off drains into sewers that feed into the downriver Water Resource Recovery Facility (WRRF). They have an estimated balance due of \$2.8 million. Since the date of transition to DWSD's revised drainage charge methodology, MDOT has disputed the amount of acreage and phase-in rate on their monthly bill, and continues to pay the amount they were billed prior to the transition. DWSD contends the amount of acreage and billable rate should increase. DWSD have been engaged in pre-litigation discussions with the Attorney General and MDOT. These negotiations have been ongoing for almost two years, and were interrupted by a "lame duck" administration and the change in the Governor's office. Due to the dispute, MDOT's phase-in rate to the revised methodology is currently frozen at \$93 per impervious acre, which appears to be a drastic reduction in the amount they are charged compared to other customers. MDOT is paying only about one-half of the amount they are currently billed. According to a consent judgment from 1989, MDOT is to be charged for 714 acres, yet DWSD has been charging MDOT for 2,094 acres based upon updated engineering studies. Given the confidentiality of negotiations, we are not privy to the full details regarding the dispute and potential resolutions; however, we will request monthly updates from DWSD. Additionally, the Michigan Department of Corrections and Department of Natural Resources dispute their bills and have balances due for the Ryan Correctional Facility and Belle Isle. Total debt owed by the State is over \$5 million. We remain concerned about rate affordability when a major ratepayer is not paying the full amount for water, sewer and drainage charges as are other customers, and we challenge DWSD to be more diligent in collecting these revenues.

The BOWC (Board of Water Commissioners) has requested details of the 50 customers with the highest balances due, and what DWSD plans to do about collecting the balances due. This information was provided to the BOWC on July 9, 2019, and was discussed. DWSD staff has been working diligently on collecting these balances, but the vast majority of the balances due are

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<sup>15</sup> Attachment – DWSD March 2019 Review, Finance Committee.

because of the recently implemented drainage fees. The changes to the way drainage fees were implemented and the amounts due because of this change merits discussion with DWSD staff.

### **What can we do about water affordability for Detroit residents?**

After numerous meetings and discussions with DWSD staff, LPD representatives and DWSD staff are exploring whether an income-based water affordability program could work for Detroit. The goal is developing approaches that would hopefully overcome the issues and limitations of the Headlee Amendment and the decision in *Bolt vs. Lansing*, toward the desired result of universal, affordable access to necessary water and sewer services for all, including the City's poorest residents. This program could be modeled after Philadelphia's Tiered Assistance Program or Baltimore's newly proposed program. More about this will be coming soon. DWSD's affordability programs remain primarily focused on payment assistance, but DWSD staff appear amenable to looking all options and are reviewing programs and literature from around the country.

As a preliminary, data-gathering measure toward these ends, DWSD has initiated a joint pilot project with the City Health Department, identifying 70 water insecure Detroit residential accounts for in-depth study and intervention, including rate relief and wraparound social services to help lift these residents out of their water-related predicament. Such a focused initiative targeting relief for Detroit's most vulnerable water customers is a welcome development, and will hopefully lead to longer terms system-wide reforms. DWSD will keep LPD informed of progress on the pilot project.

### **Conclusion**

Council members may wish to seek more information from DWSD and GLWA regarding:

- Recent development of a truly integrated regional Wastewater Master Plan;
- The ongoing Sewer Cost of Service Methodology Review (especially the historical splitting of CSO costs with 83% being charged to the City of Detroit, as well as other regional financial settlements that affect the City);
- GLWA's development of their new brand awareness campaign of intentional public relations, framing the regional "One Water" initiatives as building "trust in a post-Flint world";
- The financial results of DWSD since January 1, 2016, especially the fact that DWSD's sewerage cash receipts have been less than their disbursements, creating a loan from GLWA, and the ongoing issues with their accounts receivable (A/R) balances, including increases in A/R since the implementation of the changes implemented by drainage fees; and

- More information will be coming on pursuing how an income-based water affordability program could work for Detroit.

As we are all aware of the complexities involved with the issues of providing clean, safe and affordable water, sewerage and drainage services to the residents of Detroit, there will be several more reports informing your Honorable Body on these subjects.

We thank the DWSD Director, Gary Brown and his staff, the GLWA CEO, Sue McCormick and her staff, for their assistance as we prepared this report. We must especially commend the DWSD Director, Gary Brown and his staff for the excellent work that they have accomplished over the past three and a half years in several areas. They took a system with billions of dollars in debt, survived through a difficult bankruptcy, a bifurcation with GLWA, and continued providing clean water and safe disposal of sewage.

One of our long-range objectives in providing this report is to make every effort to ensure that our grandchildren and their grandchildren have access to safe, clean and affordable water and safe disposal of waste water including drainage.

If Council has any other questions or concerns regarding this subject, LPD will be happy to provide further research and analysis upon request.

# Great Lakes Water Authority

Wholesale Sewer Charge Methodology Review

June 28, 2019



1

## Overview of Process

- ✓ Early May – Meetings with 13 Member Partners
- ✓ May 31 – Review of Prioritized Key Concerns with GLWA Staff
- ✓ June 13 – Draft Report delivered to GLWA
- ✓ June 21 – Draft Report distributed to SHAREs Work Group
- **June 28 – Presentation to and Workshop with SHAREs Work Group on Potential Approaches**
- July 17 – Updated Draft Report with Recommendations
- July 31 – Final Report due to GLWA
- August 15 – Presentation of Final Recommendations to SHAREs Work Group

2

# Key Concerns from Member Partners

3

## Key Concerns

1. Stability in Charges      Unanimous Concerns
2. Simplification and Understanding of Methodology and Data
3. Incentives to Remove / Reduce Flows
4. Phase-In / Grace Period on any Changes Implemented
5. Recognition of Peak Flows and how it relates to existing 83/17 CSO Methodology
6. Recognition of Investments in Local Systems that benefit the GLWA Regional System

4

## Key Concerns (continued)

7. Recognition of Contract Capacities
8. Minimize changes in distribution among communities
9. Affordability
10. Impact of New Development / Impact Fees
11. Accuracy of existing Cost / Asset Allocations

Are there critical issues that  
have been missed?

5

Cost of Service in a  
Nut Shell

6



## Cost of Service in a Nut Shell

- Determination of Revenue Requirement (i.e., How much money)
- Functionalization of Costs (i.e., Putting the dollars in cost pools)
- Allocation of Costs (i.e., Levels of Service)
- Distribution of Costs to Customers based on Units of Service

7

## Potential Charge Approaches

8

## Average Total Volume (Current)

Total volumetric contribution to the GLWA Regional System (including wet weather volume and dry weather I/I).

### Plus

- Simple and understandable

### Minus

- Significant assumptions needed to determine some customers volume (D+)
- Lacks recognition of historic nature of system

Cost Pool – Approximately 42% of current revenue requirement

Units of Service – Measured and estimated flow from Member Partner Communities

9

9

## Pollutants (Current)

Cost of treating pollutants by GLWA treatment facilities (BOD, TSS, P, and FOG).

### Plus

- Consistent with industry standards
- Differentiates different components of Average Volume (e.g., sanitary vs. I/I)

### Minus

- Significant assumptions necessary for different types of flow
- Complex and difficult to understand

Cost Pool – Approximately 42% of current revenue requirement

Units of Service – Measured and assumed contributed pollutants in pounds

10

10

### CSO Facilities (Current)

**Capital and O&M costs of dedicated CSO facilities**

<p><b>Plus</b></p> <ul style="list-style-type: none"> <li>• Established by 1999 settlement agreements and memorialized in contracts</li> <li>• Intended to assign CSO cost responsibility to communities based on CSO impact</li> </ul>	<p><b>Minus</b></p> <ul style="list-style-type: none"> <li>• 83/17 split not strictly based on cost of service</li> <li>• Disagreement over what assets should be considered CSO facilities</li> </ul>
---	--

**Cost Pool – Approximately 13% of current revenue requirement**

**Units of Service – Based on negotiated settlement**

11

### OMID Specific (Current)

**Allocation directly to OMID for debt service, O&M, and share of other costs based on amended contracts**

<p><b>Plus</b></p> <ul style="list-style-type: none"> <li>• Consistent with existing contract</li> <li>• Costs have been agreed upon and identified</li> </ul>	<p><b>Minus</b></p> <ul style="list-style-type: none"> <li>• None significant</li> </ul>
--	--

**Cost Pool – Approximately 2% of current revenue requirement**

**Units of Service – Not applicable, direct allocation of identified costs to a single customer entity**

12

### Suburban Only (Current)

**Allocation to suburban customers primarily related to cost of measuring their volumes**

<p><b>Plus</b></p> <ul style="list-style-type: none"> <li>• Aligns with cost causation</li> </ul>	<p><b>Minus</b></p> <ul style="list-style-type: none"> <li>• Added complexity for small share of costs</li> <li>• Doesn't align with D+ cost allocation</li> </ul>
---	--

**Cost Pool – Approximately 2% of current revenue requirement**

**Units of Service – Average volume**

13

13

### Sanitary Volume

**Contributed sanitary volumes from each Member Partner Community**

<p><b>Plus</b></p> <ul style="list-style-type: none"> <li>• Ties to retail billing of each Member Partner Community</li> <li>• Recognition of historical development of combined and separated areas</li> </ul>	<p><b>Minus</b></p> <ul style="list-style-type: none"> <li>• Does not recognize differences in wet weather volume and dry weather I/I</li> </ul>
---	--

**Cost Pool – Potential cost pool could be GLWA regional treatment facilities**

**Units of Service – Contributed retail sanitary volume**

14

14

## Peak Volume

**Peak volume conveyed to GLWA regional system by each Member Partner Community**

<p><b>Plus</b></p> <ul style="list-style-type: none"> <li>• Recognition of capacity used in GLWA regional system</li> <li>• Price signal to reduce peak contributions</li> </ul>	<p><b>Minus</b></p> <ul style="list-style-type: none"> <li>• Difficult to accurately measure peak volume</li> </ul>
--	---

**Cost Pool – Potential cost pool could be GLWA regional collection and conveyance assets**

**Units of Service – Peak volume**

15

## Population

**Population of service area in each Member Partner community**

<p><b>Plus</b></p> <ul style="list-style-type: none"> <li>• Recognition of benefits provided by regional system</li> </ul>	<p><b>Minus</b></p> <ul style="list-style-type: none"> <li>• Not commonly used to distribute wastewater costs</li> <li>• Concern over data sources</li> </ul>
--	---

**Cost Pool – Potentially use simplified single cost pool**

**Units of Service – Residential population and/or work force population**

16

# Table Discussions

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## Objectives of Table Discussions

- Which approaches are most promising?
- Which approaches give you the most reservations?

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## Next Steps

- July 17 – Updated Draft Report with Recommendations
- July 31 – Final Report due to GLWA
- August 15 – Presentation of Final Recommendations to SHAREs Work Group



# Great Lakes Water Authority

## Sewer Cost of Service Methodology Review

Interim Draft Report / June 21, 2019



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## INTRODUCTION

The methodology used to allocate wholesale service costs in the greater Detroit area has been continually evolving for the past half century. A series of agreements between the City of Detroit and surrounding suburbs in the late 1970's laid the groundwork for today's rates. The current process distributes costs between wholesale customers of the Great Lakes Water Authority (GLWA) based on their estimated use of the system, measured by estimates of flow volume and amount of pollutants contributed.

The process of determining charges begins with a total revenue requirement. Each component of the requirement is allocated to a function of providing service, and each function is allocated to a cost driver as a way of distributing those costs to customers based on their unique usage characteristics.

GLWA has engaged Raftelis, in conjunction with HDR, to assist both GLWA and the Member Partner Communities in review the existing methodology for recovering costs, provide expertise and assistance in proposing potential changes to the methodology, and determine the steps necessary to move forward with such proposed changes.

This report summarizes our findings to date as part of this engagement. The major sections of this report are in chronological order as they have been developed through this engagement, we began by reviewing and documenting the existing methodology and provided our perspective on areas for consideration based on preliminary direction from GLWA staff. We next conducted member interviews with Member Partner Communities and have documented the feedback we received in those meetings. We then discuss potential rate approaches that currently are or could be incorporated into the sewer rate methodology for GLWA moving forward. This report then discusses how the proposed 'Path Forward' that was recently presented may address our findings so far.

## REVENUE REQUIREMENT

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At a basic level, the total revenue requirement includes operating expenses, debt service, and rate financed capital. After GLWA develops a detailed financial plan forecasting these expenses, they conduct a cost of service study to determine how much each customer pays for service.

## ALLOCATION OF REVENUE REQUIREMENT TO FUNCTIONS

The first step in the cost of service process is to allocate the revenue requirement to functions. The WRRF functions currently used by GLWA are:

**WRRF:**

1. Primary Pumping
2. Rack and Grit
3. Primary Treatment
4. Aeration
5. Secondary Treatment
6. Dewatering

7. Sludge Disposal
8. WRRF General

**Wastewater Collections:**

9. Lift Stations
10. CSO Facilities
11. Interceptors
12. Industrial Waste Control
13. Master Meters
14. GLWA Sewer General

## **Operations and Maintenance Expense**

The O&M revenue requirement is divided into seven departments:

1. Wastewater Operations
2. Wastewater Process Control
3. Wastewater Primary Processing
4. Wastewater Secondary Processing
5. Wastewater Dewatering Process
6. Wastewater Incinerations Process
7. Biosolids Dryer Facility

Each of these departments are subdivided into Personnel, Electricity, Chemicals, Other Utilities, and Other. The resulting 35 categories plus Wastewater Engineering and Analytical Laboratory costs are allocated to the functions listed above based on judgement and experience. Figure 1 presents an example allocation of FY 2019 Personnel Costs<sup>1</sup>. In addition, costs associated with lift stations, CSO facilities, and Industrial Waste Control, are separated from the seven departments and allocated 100% to their respective functions.

Administrative costs are allocated proportionally based on the results of functionalized personnel costs. 54% of the total GLWA budgets for Centralized Services and Administrative Services are allocated to the sewer utility. The sewer portion of Centralized Services is allocated between WRRF General and Wastewater Collection functions, while administrative services are allocated 100% to GLWA Sewer General. Costs allocated to WRRF General are allocated to the other seven WRRF functions based on the proportions of directly allocated non-commodity costs (Personnel, Other, Support Services). GLWA Sewer General costs are allocated among the other 12 functions based on the proportions of all previously allocated non-commodity costs.

## **Capital Expenses**

GLWA Debt Service, transfers to I&E and R&R, and non-rate revenues are allocated to functions in the same proportion as existing assets plus CWIP. Once all assets are allocated to functions, total annual depreciation and current net book value for each function are used to determine a utility basis capital revenue

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<sup>1</sup> All cost allocation examples based on FY 2019 Cost of Service Study and may no longer be applicable to the FY 2020 Study. Figures may be different than published TFG figures due to rounding.

requirement. A 60% adjustment factor is applied to depreciation to approximate “pre-valuation” depreciation expense, and all costs not covered by depreciation are considered return on rate base and are allocated to functions in proportion to current net book value. The return and depreciation components are added to obtain a total capital revenue requirement by function.

## ALLOCATION OF FUNCTIONAL COSTS TO COST DRIVERS

The second step in the Cost of Service is to allocate functionalized costs to cost drivers.

The current allocation factors are based on the 1979 and 1980 Settlement Agreements. The functions are allocated to ten cost drivers:

1. Flow
2. BOD
3. TSS
4. PHOS
5. FOG
6. Suburban
7. OMID
8. CSO
9. Industrial Waste Control
10. Detroit Only

Figure 2 shows the current O&M cost allocation factors in use. Different factors are used for O&M and capital.

Final cost pools are determined using the proportions of each cost driver developed in this step (for total O&M, non-commodity O&M, and capital) to allocate all budget elements as shown in Figure 3.

- » O&M and Contribution to Operating Reserves are allocated on the O&M basis.
- » Pension Obligations are allocated on the non-commodity O&M basis
- » Debt Service and transfers to I&E and R&R are allocated on the capital basis
- » WRAP, Lease Payment, and non-rate revenues are allocated proportionally to everything else.

## UNITS OF SERVICE

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The SHARES process introduced a simplified method of distribution costs among all customers. At a basic level, it determines what “share” of common to all costs each customer should be responsible for based on a four-year average (currently FY13 to FY16) of contributed volume and estimated pollutant strengths. This average is then used for distributing costs in the next three fiscal years.

## FLOW BALANCE

The first step of developing SHARES is conducting a flow balance to determine total flows for suburban customers (M), the Detroit+ (D+) group, and common inflow and infiltration (Z).

## Suburban Customers

The process begins with error-corrected meter readings for each of the suburban customers to measure their total volume contribution. This total is then corrected for known factors; the amount of I&I from GLWA water mains (NNNW) is estimated based on known non-revenue water from the system and proportionally subtracted from M customers based on inch-miles of GLWA water mains within their sewer service area. Historic M flows for appropriate customers are also corrected for the OMIDDD diversion in 2016 and WTUA flows being sent to YCUA beginning in FY 2018. The net amount for each customer represents their total flows into the Water Resource Reclamation Facility (WWRF).

## Detroit+

The D+ area includes Detroit, Hamtramck, Highland Park, and a few small parts of other communities. Flow from D+ is not directly metered, however there are 13 system meters covering areas referred to as D+ Direct. Data from these meters are used to estimate total flows from the Direct districts in a similar manner as the M customers.

Districts within the D+ area that do not contain a system meter are referred to as D+ Incremental. Total flows in the D+ Incremental area are built up from three components: sanitary (discussed below), DWII, and WWII. DWII and WWII are estimated through a process that considers WWII or DWII per unit of impervious area within the D+ Direct areas relative to impervious area in D+ Incremental areas, an estimate of interceptor DWII, and an estimate of DWII related to non-revenue water.

D+ Direct and D+ incremental are added for a total estimate of D+ flow, which is then adjusted for NNNW.

## CSO Discharges

During extreme wet weather events, WW flows can exceed WWRF treatment capacity and CSO basin storage capacity. The excess amount is discharged into the Detroit River and is not treated. 11.3% of this excess is subtracted from M flows in proportion to their CSO cost allocation, and the remaining 88.7% is subtracted from D+ flows. The sum of the final M and D+ flows are referred to as Total Wastewater Toward Treatment.

## Common Flow

However, total WWRF influent (after historic OMID and WTUA adjustments) is not equal to Total Wastewater Towards Treatment. The portion of this difference that is not attributable to recycled flows used in the treatment process is considered common flow. These are not allocable units to which costs can be distributed, effectively making the cost to treat this common flow shared proportionally among all customers.

## Determination of Sanitary, DWII, WWII Flows

In the D+ area, sanitary flows are assumed to be 95% of retail and industrial winter water sales; in the M areas, sanitary flows are 90% of winter water sales. DWII is estimated by subtracting the sanitary flows from total flows on "dry" days. WWII is estimated by subtracting total flow on dry days from total flow on wet days.

## POLLUTANTS

The second step is estimating the amount of BOD, TSS, Phosphorus, and Fats, Oils, and Greases each customer contributes to the system.

### Pollutant Strengths

Due to the infeasibility of measuring each customer's strength of flow, the current process assumes that all customers have the same strengths for each category of flow. Using published national data, the Strength of Flow Subcommittee estimated DWII and WWII strengths as a proportion of sanitary flow strengths for each pollutant and used weighted WRRF loadings and volumes to estimate strengths for each type of flow. See Figure 4 for currently used strengths and ratios, and Figure 5 for the development of these strengths. Total pounds of pollutants for each customer are calculated using these estimated strengths and the sanitary, DWII, and WWII flows previously estimated.

### SHARES

Now that volume and pollutant totals have been developed for each M customer and D+, total flow volumes and pounds of each pollutant are converted to percentages for each customer. Common to All SHARES are calculated with a weighted average, currently set to 50%/50%, of the volume SHARE and pollutant SHARE. Figure 6 contains an example of SHARE development using FY 2018 units of service.

Suburban only SHARES are based on each M customer's portion of total M flow.

CSO SHARES are based on the 1999 Settlement Agreement. 83% of CSO costs are distributed to Detroit. The remaining 17% is distributed among suburban customers based upon an agreed upon methodology by those customers.

## CUSTOMER CHARGES

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Industrial surcharges revenues are netted out of the total customer revenue requirement. Remaining flow, BOD, TSS, PHOS, and FOG costs are combined to create a single common to all cost pool. This total is then multiplied by each customer's CTA SHARE. The same process is performed with suburban only costs and SHARES, OMID only costs and SHARES, and CSO costs and SHARES. The sum of these costs for each customer represents their share of GLWA's revenue requirement. See Figure 7 for an example of the development of customer charges.

The final step is to account for Detroit's equity in the system and suburban bad debt. Each of these costs is distributed to suburban customers using Suburban Only SHARES, and the equity amount is subtracted from Detroit's total charge. The final annual total is billed to each customer on a fixed monthly basis.

## AREAS FOR CONSIDERATION

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Based on our preliminary review of the existing methodology and our experience assisting wastewater utilities with examination and development of cost of service methodologies, we have identified several

areas that warrant consideration for change. The existing methodology is more complicated than typical, even for a utility like GLWA that provides service to its numerous member communities on solely a wholesale basis. The desire expressed by GLWA and Member Partner Communities to simplify further is consistent with the views of other wastewater utilities.

The preliminary areas we have identified are described below. It is important to note that these are preliminary and subject to further refinement and addition as our work on this assignment continues.

One area that warrants consideration for simplification is the use of strength of flow in the existing methodology. It is important that pollutant strength and the costs associated with the treatment and disposal of regulated pollutants be considered for purposes of determining excess strength surcharges for industrial customers to meet EPA requirements. In some cases utilities analyze wastewater samples from wholesale customers, however, this is less common due to recognition of the difficulty of securing representative samples and the associated costs of such sampling and analysis as well as the variability in the results. GLWA's existing methodology that considers the strength of flow for sanitary discharges dry weather I/I, river induced I/I and wet weather related flows is a level of complexity not typically seen. Great effort has been made to estimate the strength of these different flows in the GLWA system, but ultimately, they remain to be estimates with a limited level of accuracy. While additional effort and resources could be expended to improve the accuracy of these estimates, the results would remain relatively inaccurate compared to the other units of service used to allocate and distribute costs to customers.

However, it should be noted that removal of strength of flow without consideration of other facets of the cost of service methodology would not be consistent with the overriding objective of achieving a fair distribution of costs. The existing methodology that accounts for the volume of wet weather and dry weather I/I somewhat necessitates consideration of strength of flow to reasonably allocate costs to those customers with high wet weather volumes and dry weather I/I. Some utilities with similar service areas, for instance, Northeast Ohio Regional Sewer District (NEORS) in the metropolitan Cleveland area, charge their customers based primarily on sanitary flow, so all customers share in wet weather and dry weather I/I costs proportional to their sanitary flow.

Another area of consideration is the split of costs for the CSO facilities that are currently allocated 83% to DWSD and 17% to other Member Partner Communities. While we understand that these numbers are based on many years of technical discussions, hydraulic modeling and negotiation and as such may be a reasonable estimate of DWSD's use of CSO facilities at that time, such an allocation may not appropriately recognize the historic nature of the development of the system with relation to regulation of combined sewer systems. For example, as mentioned previously, NEORS recovers cost in proportion to sanitary flow of all communities, even though some areas are combined and others are separated.

Some consideration should be given to distributing costs to Member Partner Communities based on peak flow. Peak flow is a driver of many sewer utility's capital and operating costs; facilities must be sized to meet peak flow and some regulatory requirements are driven by peak flow impacts. By recognizing peak flow as a factor in cost of service, there is a price signal to customers that reducing peak flow will reduce their share of costs of the utility.



Based on our preliminary discussion with the Member Partner Communities, the impact of facilities constructed, funded, and operated by Member Partner Communities that can benefit the entire regional system may need to be recognized. As GLWA begins its next round of negotiations with MDEQ for its NPDES permit renewal, optimization of the collections system, including the components of the networks within the Member Partner Communities could achieve desired levels of environmental quality at a lower cost than would otherwise be required.

Finally, some consideration will need to be given to the timing of any changes and future updates. We understand that GLWA and the Member Partner Communities appreciate the consistency of the current approach where the distribution of costs is only updated every three years. To mitigate impacts on customers, GLWA might consider determining the impact of proposed changes in advance of implementation so that the Member Partner Communities can prepare and react, and then the changes may also be phased in over multiple years.

## MEMBER PARTNER MEETINGS

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An important aspect of this engagement is input from the Member Partner Communities. To that end the Raftelis Project Team, in conjunction with GLWA's Member Outreach Consultant, Bridgeport Consulting, conducted meetings with most of the Tier 1 Member Partner Communities over the course of several weeks. The Member Partner Communities that met with us, in order of their meeting were:

- » Macomb County (OMID)
- » Detroit Water and Sewerage Department
- » Oakland County (OMID and Oakland GWK)
- » Melvindale
- » Highland Park
- » Grosse Pointe Park
- » SEMSD and Harper Woods
- » Dearborn
- » Allen Park
- » Grosse Pointe Farms
- » Farmington (including Evergreen Farmington)
- » Wayne County (Rouge Valley)

The Member Partner Communities were encouraged to provide their honest and frank feedback concerning their perspective and concerns regarding GLWA's methodology for recovering sewer costs from all Member Partner Communities.

## MEMBER PARTNER KEY CONCERNS

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Based on the meetings with the Member Partner Communities, the Raftelis Project Team compiled a list of Key Concerns about the sewer rate methodology. These concerns are general in nature, not necessarily

directed at only the existing methodology, but meant to provide guidance on consideration of changes to the methodology.

Issues are ranked by the number of Member Partner Communities that expressed their concern with that issue, in descending order. Communities were unanimous in their concern with stability and simplification.

1. Stability in charges – Minimize each Member Partner Community’s change in charges from GLWA.
2. Simplification of methodology / Understanding of methodology – Simplify rate methodology so it can be easily understood and explained to others (e.g., elected officials)
3. Incentives to remove / reduce flows – Provide pricing signal for Member Partner Communities that reduce contributions to the regional GLWA system.
4. Phase-In / Grace period on any changes implemented – Allow Member Partner Communities an opportunity to respond to changes in the rate methodology before they are implemented or fully implemented.
5. Recognition of peak flows and how it relates to existing 83/17 CSO allocation – How does any new methodology supplement or supplant the existing 83/17 CSO allocation.
6. Recognition of investments in local systems that benefit the GLWA regional system – Member Partner Communities that reduce peaks for the benefit of the regional system through storage or other operational measures would like to know how it benefits them from a rate perspective.
7. Recognition of contract capacities – How does the rate methodology recognize contract capacities for customers.
8. Minimize change in distribution among communities – Some Member Partner Communities expressed concern how changes would disproportionately impact other communities in the region.<sup>2</sup>
9. Affordability – Address affordability considerations for Member Partner Communities retail customers.
10. Impact of new development / Impact fees – Should there be recognition for new retail customers that are benefitting from the GLWA regional system.
11. Accuracy of existing cost / asset allocations – Are the existing cost and asset allocations suitable for any proposed new rate methodology.

## POTENTIAL RATE APPROACHES

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Based on the concerns of the Member Partner Communities and the understanding that the existing GLWA sewer rate methodology accounts for basically five factors in allocating and distributing costs (Average Volume, Pollutants, CSO facilities, OMID Specific, and Suburban Only), we will examine how the existing and other factors may be considered and used as part of the GLWA sewer rate methodology moving forward.

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<sup>2</sup> This differs from item 1 in that this item indicates concern about shifting costs to communities other than themselves. Even if their share of costs were unchanged under a new methodology, they are concerned about the share of costs being shifted to other Member Partner Communities.

## AVERAGE VOLUME

Average volume in effect recognizes each Member Partner Communities' total volumetric contributions to the GLWA regional system for the year. The average volume includes sanitary volume, dry weather I/I, and wet weather volume. While some of GLWA's costs relate to total volume treated, electricity and chemicals for example, many of GLWA's costs are driven by other factors besides total volume treated. Under the current methodology approximately 42% of the GLWA revenue requirement is recovered from Member Partner Communities based on average volume.

While average volume certainly accomplishes the objective of being simple and understandable, due to the nature of the GLWA regional system and the D+ customers, some assumptions need to be made to determine the share of average volumes among customers, so there may be some concern over the accuracy of that allocation.

The primary concern we have with average volume is that it does not differentiate the historic development of the system and recognize the average volumes from combined areas differently from separated areas on its own. Under the existing methodology, this is accomplished through the strength of flow allocation of costs associated with pollutants, which will be discussed separately.

Some other utilities with both older inner-city combined areas as well as newer suburban separated areas do not consider average volume or similar measures because of the burden it would place on those customers with combined systems.

## POLLUTANTS

Pollutants recognizes the cost of treating extra strength surcharge pollutants by the GLWA treatment facilities, specifically BOD, TSS, Phosphorous, and FOG. Philosophical arguments can be made that if not for the pollutants in the wastewater we would not need any treatment facilities, but generally accepted allocation approaches recognize that treatment is driven by the volume of wastewater as well as pollutant loadings.

Under the current methodology approximately 42% of the GLWA revenue requirement is recovered from Member Partner Communities as well as retail surcharge customers. This share of costs allocated to pollutants is based on the 50/50 allocation of costs between volume and pollutants that was established during the previous rate simplification process. Based on our experience, this is a very high allocation of costs to pollutants for a large regional wastewater utility.

In the context of the GLWA rate methodology, the use of pollutants as a cost allocation factor, especially when considering the strength of each component of flow, is important because of the use of average volume. If only average volume were considered, those customers with combined systems would pay a much greater share of the GLWA regional costs due to their high levels of rain dependent I/I.

Throughout our customer meetings in discussing potential simplification, the strength of flow is one area that Member Partner Communities universally had concern about because of the number of assumptions needed to arrive at a determination.

No matter what is ultimately decided there will always need to be a consideration of pollutants in determining excess strength surcharges, but there is a desire among the Member Partner Communities to simplify this aspect of the rate methodology. Any adjustment must be considered carefully due to its impact on costs of different types of flow (i.e., sanitary volume, dry weather I/I, and wet weather volume).

## **CSO FACILITIES**

Costs are allocated to CSO facilities and those facilities are allocated based on the 83/17 split between the City of Detroit and other customers. The 83/17 split was negotiated about 20 years ago and has been in place since while the allocation of the 17% split among the non-Detroit customers was based on an analysis performed around the same time. The share of the revenue requirement allocated to CSO facilities is approximately 13% under the current methodology.

There are concerns about what costs are included in this pool, with some Member Partner Communities believing more should be included in the cost pool while the City of Detroit thinks some costs should be excluded.

There are also concerns related to the 83/17 split and whether it is representative of the cost of service.

Given the concern over this specific cost pool, both what is included and how it is allocated, it may be desirable to move to another cost allocation approach to accomplish the same pricing objectives in the rate structure. One approach may be to use wet weather volume in place of the 83/17 split for some cost pools.

## **OMID SPECIFIC**

Certain debt service and O&M costs as well as shares in GLWA's other costs are allocated directly to OMID in addition to their share of other costs. This allocation would most likely remain in place regardless of any proposed change in methodology for the remainder of the GLWA's revenue requirement under the existing contractual agreements. There was no mention of concerns about this cost allocation during our meetings with the Member Partner Communities. This represents approximately 2% of GLWA's total revenue requirement.

## **SUBURBAN ONLY**

There is an allocation of costs to suburban only customers, related primarily to the cost of measuring their volumes. There was no mention of concerns about this cost allocation during our meetings with the Member Partner Communities. This accounts for approximately 2% of the total GLWA revenue requirement.

These costs are allocated proportionally based on average volume excluding the City of Detroit. Given the minimal share of the total revenue requirement, any simplification may consider the elimination of this cost pool and allocation.

## **SANITARY VOLUME**

A common methodology to allocating costs for sewer utilities is the use of sanitary volume. Sanitary volumes are typically estimated based on metered water usage, especially in regions like Michigan where winter average water usage should provide a reasonable estimate of sanitary volumes for most retail customers.

Some other large regional sewer utilities that serve both combined and separated areas use sanitary volume as a key component of their rate methodology. In effect this results in customers throughout their service area paying for combined areas in proportion to their sanitary volume. The rationale for this approach is often based on a historical perspective that the combined areas were the nucleus of the larger metropolitan area and they were built to accepted standards at the time, which allowed for combined sewers and the overflow of those sewers during rain events.

It may be appropriate to consider allocation of some of GLWA's revenue requirement on the basis of sanitary flow. A potential approach would be to have to primary cost pools, conveyance and treatment, with the treatment cost pool being allocated based on sanitary flows. However, there may still be challenges with such an approach in how some future CSO facilities are allocated between conveyance and treatment.

## PEAK VOLUME

Many facilities and operations in the GLWA system are constructed to meet peak volume demands, yet it is not a component of the existing GLWA rate methodology. One potential challenge is the difficulty of determining peak volume by Member Partner Community. An attempt has been made for some recent discussions, but that estimate is for peak month, while ideally such a determination would be for a shorter period of time, such as a peak day or possibly a longer period to encompass a peak event over more than a 24 hour period.

Peak volume may be a good approach for allocating some costs of the GLWA regional system, and in particular it may make the most sense to allocate the cost of conveyance facilities that need to be sized to meet potential peak volumes.

## POPULATION

There has been discussion that population may be a factor used to allocate some portion of GLWA's revenue requirements. In our discussions with Member Partner Communities there is some concern over how population is measured (e.g., permanent residents, daytime workforce, etc.). There is also a concern that population and another proposed factor, sanitary volume, are closely correlated and may provide the appearance of a more precise approach than is really being delivered.

It is not common to use population as a cost allocation methodology (though it is common for utilities to allocate some costs based on number of customers, which may also correlate with population).

## PATH FORWARD

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A potential option for a 'Path Forward' with regards to the sewer SHARES and rate simplification was presented at a recent meeting. This approach would use sanitary volume, peak volume, and population to allocate a simplified cost pool that includes everything but industrial surcharge revenues and OMID specific costs.

Each of the three factors was discussed in the previous section of this report. The largest concern from the Member Partner Communities related to population, how it would be measured and whether it was significantly different from sanitary volume.

Combining all costs into a single cost pool may be a little too extreme for cost simplification, as mentioned in the previous section it may make sense for some cost pools to still be used such as conveyance and treatment, depending on the units of service ultimately decided upon to allocate costs.

Figure 1: Personnel Cost Allocation

Personnel Costs	Revenue Requirement	WRRF											Wastewater Collection Facilities			
		Primary Pumping	Rack and Grit	Primary Treatment	Aeration	Secondary Treatment	Dewatering	Sludge Disposal	WRRF General	Lift Stations	CSO Facilities	Interceptors	Industrial Waste Control	Master Meters	General	
Wastewater Operations	1,257,900	7.50%	4.00%	8.00%	16.00%	12.00%	10.00%	37.50%								
Wastewater Process Control	2,318,500	7.50%	4.00%	8.00%	16.00%	12.00%	25.00%	25.00%							5.00%	
Wastewater Primary Processing	3,701,800	10.00%	15.00%	75.00%	50.00%	50.00%									2.50%	
Wastewater Secondary Processing	3,997,200						100.00%									
Wastewater Dewatering Process	3,723,300						100.00%									
Wastewater Incinerations Process	3,953,700						100.00%									
Biosolids Dryer Facility	806,100							100.00%								
<b>Total: Personnel Costs</b>	<b>\$19,758,500</b>	<b>\$ 638,410</b>	<b>\$ 698,326</b>	<b>\$ 3,062,462</b>	<b>\$ 2,570,824</b>	<b>\$ 2,427,768</b>	<b>\$ 4,428,715</b>	<b>\$ 5,811,138</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	

Figure 2: Allocation of O&M Functions to Cost Drivers

Common to All

Function	Revenue Requirement	Common to All											Detroit			
		Flow	BOD	TSS	PHOS	FOG	Suburban	OMID	CSO	IWC	Industrial Waste Control	Master Meters	General			
Primary Pumping	6,369,710	100.00%														
Rack and Grit	4,069,013	100.00%														
Primary Chemical Addition	2,103,000				100.00%											
Primary Sedimentation	10,615,000			70.00%	20.00%	10.00%										
Aeration	17,140,010		100.00%													
Secondary Clarification	11,000,100		25.00%	65.00%	10.00%											
Chlorination	2,639,900		15.00%	70.00%	15.00%											
Dewatering	18,098,439		100.00%													
Sludge Treatment	56,791,383															
Process Water and Outfall	-															
Lift Stations	22,533,175		75.00%						25.00%							
CSO Facilities	18,781,675									100.00%						
Interceptors	11,814,478		96.50%								100.00%					
Industrial Waste Control	7,239,484											100.00%				
Master Meters	3,926,133															
<b>Total: O&amp;M</b>	<b>\$193,121,500</b>	<b>\$ 41,379,475</b>	<b>\$ 79,396,184</b>	<b>\$ 27,249,472</b>	<b>\$ 8,040,776</b>	<b>\$ 1,061,500</b>	<b>\$ 3,926,133</b>	<b>\$ 6,046,800</b>	<b>\$ 18,781,675</b>	<b>\$ 7,239,484</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	
		21.43%	41.11%	14.11%	4.16%	0.55%	2.03%	3.13%	9.73%	3.75%	0.00%	0.00%	0.00%	0.00%	0.00%	

Figure 3: Total Revenue Requirement Allocation

		Common to All										Detroit
		BOD	ISS	PHOS	FOG	Suburban	OMID	CSO	IWC			
Flow												
<b>Allocation Proportion</b>												
O&M Total		21.43%	41.11%	14.11%	4.16%	0.55%	2.03%	3.13%	9.73%	3.75%	0.00%	
O&M Non-Commodity		20.81%	38.86%	14.02%	3.08%	0.60%	2.47%	3.80%	11.80%	4.55%	0.00%	
Capital		47.92%	10.73%	18.28%	3.71%	0.48%	2.05%	1.31%	15.37%	0.14%	0.00%	
Indirect		34.99%	25.42%	16.24%	3.88%	0.52%	2.06%	2.23%	12.73%	1.94%	0.00%	
<b>Budget Elements</b>												
O&M	193,122,000	41,379,582	79,396,390	27,249,543	8,040,797	1,061,503	3,926,143	6,046,816	18,781,724	7,239,503	-	
Operating Pension	10,824,000	2,252,796	4,206,322	1,517,956	333,383	65,240	267,054	411,301	1,277,521	492,427	-	
Debt Service	214,991,000	103,033,504	23,075,582	39,296,791	7,981,223	1,025,543	4,407,728	2,817,116	33,042,669	310,845	-	
Non Operating Pension	11,620,700	2,418,612	4,515,929	1,629,685	357,922	70,042	286,710	441,574	1,371,553	528,672	-	
WRAP	2,261,000	791,052	574,657	367,269	87,663	11,646	46,663	50,445	287,726	43,879	-	
R&R	627,000	300,487	67,298	114,605	23,276	2,991	12,855	8,216	96,366	907	-	
Detroit I&E	27,500,000	9,621,372	6,989,412	4,467,008	1,066,226	141,649	567,554	613,555	3,499,537	533,686	-	
I&E	12,010,600	5,756,028	1,289,131	2,195,339	445,876	57,293	246,240	157,380	1,845,948	17,366	-	
Operating Reserves	1,853,800	397,207	762,135	261,571	77,185	10,189	37,687	58,044	180,288	69,493	-	
Non Operating Revenue	(4,570,900)	(1,599,212)	(1,161,742)	(742,482)	(177,222)	(23,544)	(94,336)	(101,982)	(581,674)	(88,706)	-	
<b>Total: Revenue Requirement</b>	<b>\$ 470,239,200</b>	<b>164,351,428</b>	<b>119,715,114</b>	<b>76,357,286</b>	<b>18,236,328</b>	<b>2,422,552</b>	<b>9,704,300</b>	<b>10,502,466</b>	<b>59,801,657</b>	<b>9,148,068</b>	<b>\$ -</b>	

Figure 4: Current Strength of Flow

Strengths (mg/l)	BOD		TSS		PHOS		FOG	
Sanitary	274.45	100.00%	322.94	100.00%	7.62	100.00%	34.82	100.00%
DWII	6.59	2.40%	6.78	2.10%	0.30	4.00%	-	0.00%
WWII	14.55	5.30%	125.95	39.00%	0.19	2.50%	13.96	40.10%



Figure 5: Strength of Flow Calculation

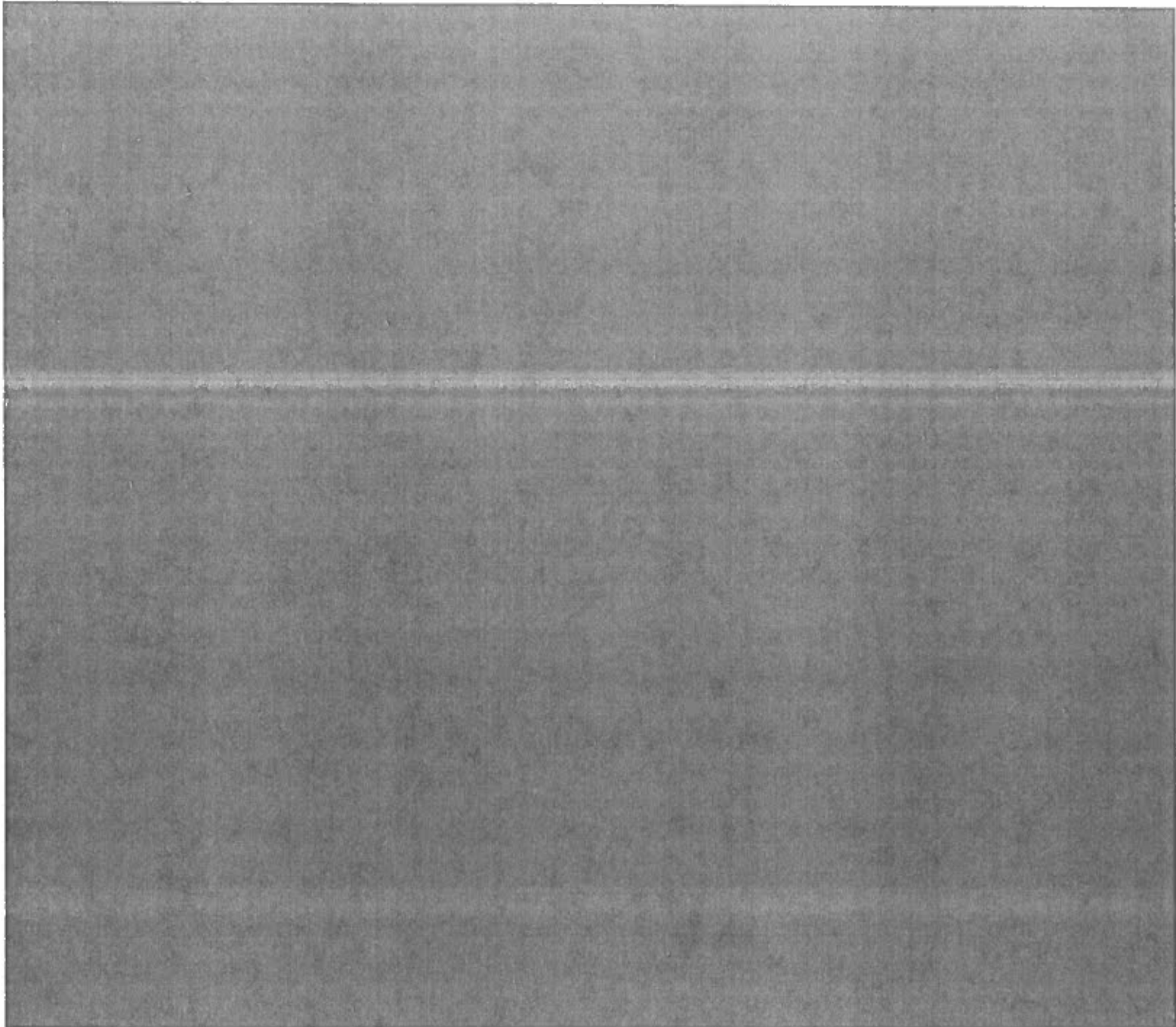
<u>Item</u>	<u>Item Description</u>	<u>BOD</u>	<u>TSS</u>	<u>PHOS</u>	<u>FOG</u>	
1	Total: WRRF Loadings (lbs)	4-year average	176,697,300	255,289,900	4,910,400	27,112,600
2	DWII SoF - Sanitary %	SoF Work Group	2.40%	2.10%	4.00%	0.00%
3	WWII SoF - Sanitary %	SoF Work Group	5.30%	39.00%	2.50%	40.10%
<b><u>Total Influent Volumes</u></b>						
4	Sanitary	4-year average	9,634,000	9,634,000	9,634,000	9,634,000
5	DWII	4-year average	12,822,200	12,822,200	12,822,200	12,822,200
6	WWII	4-year average	7,090,300	7,090,300	7,090,300	7,090,300
7	<b>Total: Flows</b>		29,546,500	29,546,500	29,546,500	29,546,500
<b><u>Weighted Influent Split</u></b>						
8	Sanitary	=(4)	9,634,000	9,634,000	9,634,000	9,634,000
9	DWII	=(2) * (5)	307,733	269,266	512,888	-
10	WWII	=(3) * (6)	375,786	2,765,217	177,258	2,843,210
11	<b>Total: Weighted Influent</b>		10,317,519	12,668,483	10,324,146	12,477,210
<b><u>Loading Allocation Factors</u></b>						
12	Sanitary	=(8) / (11)	93.4%	76.0%	93.3%	77.2%
13	DWII	=(9) / (11)	3.0%	2.1%	5.0%	0.0%
14	WWII	=(10) / (11)	3.6%	21.8%	1.7%	22.8%
<b><u>Allocated Loadings</u></b>						
15	Sanitary	=(1) * (12)	164,991,394	194,140,282	4,582,151	20,934,390
16	DWII	=(1) * (13)	5,270,216	5,426,138	243,941	-
17	WWII	=(1) * (14)	6,435,690	55,723,480	84,308	6,178,210
<b><u>Strengths (mg/l)</u></b>						
18	Sanitary	=(15) / (4), converted	274.45	322.94	7.62	34.82
19	DWII	=(16) / (5), converted	6.59	6.78	0.30	-
20	WWII	=(17) / (6), converted	14.55	125.95	0.19	13.96

Figure 6: Development of SHARES

Customer	Sanitary mcf	DWII mcf	WWII mcf	Total mcf	BOD lbs	TSS lbs	PHOS lbs	FOG lbs	Volume	BOD	TSS	PHOS	FOG	Volume Share	Pollutant Share	CTA SHARE
1	2,181,200	524,900	244,900	2,951,000	37,793,156	46,101,443	1,050,327	4,953,078	12.46%	21.80%	19.34%	21.82%	19.48%	12.46%	20.42%	16.44%
2	1,449,200	751,500	506,200	2,706,900	25,587,274	33,499,970	709,589	3,590,151	11.43%	14.76%	14.05%	14.74%	14.12%	11.43%	14.36%	12.89%
3	1,011,100	645,800	820,900	2,477,800	18,326,596	27,100,097	502,950	2,912,390	10.46%	10.37%	11.37%	10.45%	11.46%	10.46%	11.01%	10.73%
4	997,400	472,500	222,100	1,692,000	17,477,225	22,044,645	486,016	2,360,849	7.14%	10.08%	9.25%	10.10%	9.29%	7.14%	9.61%	8.38%
5	571,600	306,500	454,900	1,333,000	10,328,072	15,223,458	283,106	1,638,452	5.63%	5.96%	6.39%	5.88%	6.45%	5.63%	6.19%	5.91%
6	23,300	8,600	10,100	42,000	411,737	552,548	11,366	59,431	0.18%	0.24%	0.23%	0.24%	0.23%	0.18%	0.23%	0.21%
7	28,700	7,800	12,400	48,900	505,976	679,104	13,946	73,169	0.21%	0.29%	0.28%	0.29%	0.29%	0.21%	0.29%	0.25%
8	30,400	18,700	10,100	59,200	537,482	699,898	14,935	74,859	0.25%	0.31%	0.29%	0.31%	0.29%	0.25%	0.30%	0.28%
9	41,700	25,200	32,300	99,200	753,828	1,104,834	20,697	118,758	0.42%	0.43%	0.46%	0.43%	0.47%	0.42%	0.45%	0.43%
10	41,800	18,600	15,200	75,600	737,306	969,666	20,416	104,075	0.32%	0.43%	0.41%	0.42%	0.41%	0.32%	0.41%	0.37%
11	53,100	43,100	46,800	143,000	969,582	1,456,094	26,632	156,164	0.60%	0.56%	0.61%	0.55%	0.61%	0.60%	0.59%	0.60%
12	420,200	286,700	346,200	1,053,100	7,628,401	11,309,844	209,428	1,214,747	4.45%	4.40%	4.74%	4.35%	4.78%	4.45%	4.59%	4.52%
13	51,200	106,500	44,600	202,300	961,105	1,427,346	26,908	150,119	0.85%	0.55%	0.60%	0.56%	0.59%	0.85%	0.58%	0.72%
14	12,800	26,700	11,200	50,700	240,352	357,261	6,729	37,573	0.21%	0.14%	0.15%	0.14%	0.15%	0.21%	0.15%	0.18%
15	3,600	7,500	3,200	14,300	67,641	100,869	1,893	10,611	0.06%	0.04%	0.04%	0.04%	0.04%	0.06%	0.04%	0.05%
16	76,000	158,300	66,200	300,500	1,426,725	2,118,783	39,946	222,830	1.27%	0.82%	0.89%	0.83%	0.88%	1.27%	0.86%	1.06%
17	3,200	6,600	2,800	12,600	60,057	89,284	1,681	9,393	0.05%	0.03%	0.04%	0.03%	0.04%	0.05%	0.04%	0.04%
18	500	1,000	400	1,900	9,337	13,643	262	1,435	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%
19	6,997,000	3,416,500	2,850,500	13,264,000	123,821,854	164,848,787	3,426,826	17,688,083	55.99%	71.44%	69.15%	71.20%	69.58%	55.99%	70.13%	63.06%
20	2,637,000	5,491,200	2,298,600	10,426,800	49,504,518	73,528,449	1,386,019	7,733,031	44.01%	28.56%	30.85%	28.80%	30.42%	44.01%	29.87%	36.94%
21	9,634,000	8,907,700	5,149,100	23,690,800	173,326,372	238,377,237	4,812,845	25,421,114	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Figure 7: Customer Charge Development

	<u>CTA</u>	<u>Suburban</u>	<u>OMID</u>	<u>CSO</u>	<u>IWC</u>	<u>Total</u>
<b>Budget From Charges</b>						
Total Revenue Requirement	381,082,708	9,704,300	10,502,466	59,801,657	9,148,068	470,239,200
Allocated to Industrial	<b>5,115,100</b>				9,148,068	\$ 14,263,168
Net Budget from Charges	375,967,608	9,704,300	10,502,466	59,801,657	-	455,976,032
	<u>CTA</u>	<u>Suburban</u>	<u>OMID</u>	<u>CSO</u>	<u>IWC</u>	<u>Total</u>
<b>Customer</b>						
OMID	61,792,156	2,152,556	10,502,466	1,585,342		76,032,520
Rouge Valley	48,475,384	1,974,558	-	1,767,737		52,217,679
Oakland GWK	40,360,123	1,807,449	-	1,349,125		43,516,697
Evergreen Farmington	31,496,686	1,234,229	-	888,055		33,618,970
SE Macomb San District	22,219,686	972,417	-	702,071		23,894,174
Dearborn	17,138,483	781,114	-	975,365		18,894,962
Grosse Pointe Farms	2,240,767	104,379	-	301,400		2,646,546
Grosse Pointe Park	1,635,459	72,409	-	37,077		1,744,945
Melvindale	1,379,801	55,127	-	44,253		1,479,182
Farmington	1,035,791	43,203	-	31,097		1,110,091
Center Line	928,640	35,599	-	33,489		997,728
Allen Park	772,613	30,588	-	18,539		821,740
Highland Park	3,908,183	209,967	-	1,234,904		5,353,055
Hamtramck	3,088,574	171,257	-	953,836		4,213,668
Grosse Pointe	751,935	40,438	-	136,348		928,721
Harper Woods	208,662	10,887	-	7,774		227,323
Redford Township	137,228	7,085	-	79,536		223,850
Wayne County #3	20,678	1,037	-	20,931		42,646
Subtotal: Suburban Wholesale	237,590,850	9,704,300	10,502,466	10,166,880	-	267,964,496
City of Detroit	138,380,518	-	-	49,635,375	-	188,015,893
Total:	375,971,368	9,704,300	10,502,466	59,802,255	-	455,980,389
					<u>Ownership</u>	<u>Adj. Total</u>
					1,223,529	77,256,050
					1,122,354	53,340,033
					1,027,368	44,544,065
					701,545	34,320,515
					552,730	24,446,904
					443,991	19,338,953
					59,330	2,705,876
					41,158	1,786,102
					31,335	1,510,516
					24,557	1,134,648
					20,235	1,017,963
					17,386	839,126
					119,347	5,472,402
					97,344	4,311,012
					22,985	951,707
					6,188	233,512
					4,027	227,877
					589	43,235







# **MAY 2019 REVIEW**

## **FINANCE COMMITTEE**

**July 9, 2019**

# Summary Financial Metrics



DETROIT  
Water & Sewerage  
Department

Month Ended Fiscal Quarter	Jul-18 2019.Q1	Aug-18 2019.Q1	Sep-18 2019.Q1	Oct-18 2019.Q2	Nov-18 2019.Q2	Dec-18 2019.Q2	Jan-19 2019.Q3	Feb-19 2019.Q3	Mar-19 2019.Q3	Apr-19 2019.Q4	May-19 2019.Q4	Jun-19 2019.Q4
Water Volumes	Target	269,000	273,100	270,500	233,800	224,500	206,500	226,600	213,300	223,100	211,000	240,200
	Actual	372,613	302,476	221,531	215,105	232,770	202,686	227,697	218,435	208,812		
	Status											
Total Active Meters	Target	178,000	178,000	178,000	178,000	178,000	178,000	178,000	178,000	178,000	178,000	178,000
	Actual	177,027	176,729	176,573	176,594	176,538	176,379	177,094	178,805	179,400	178,905	
	Status											
Billable Impervious Acreage	Target	28,475	28,475	28,475	28,475	28,475	28,475	28,475	28,475	28,475	28,475	28,475
	Actual	27,842	27,796	27,802	27,722	27,688	27,686	27,699	27,512	27,495		
	Status											
Days in Accounts Receivable - Residential	Target	190	190	190	190	190	190	190	190	190	190	190
	Actual	186	184	183	184	186	188	190	192	194	196	199
	Status											
3-Month Rolling Average Collection Rate	Target	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%
	Actual	106%	93%	91%	91%	89%	87%	87%	90%	92%	90%	91%
	Status											
12-Month Rolling Average Collection Rate	Target	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%
	Actual	92%	91%	91%	91%	92%	92%	92%	93%	93%	93%	91%
	Status											
Operating Cash Days on Hand	Target	120	120	120	120	120	120	120	120	120	120	120
	Actual	188	219	235	233	229	227	223	230	237	151	
	Status											
Days Payable Outstanding	Target	45	45	45	45	45	45	45	45	45	45	45
	Actual	50	31	61	30	42	29	58	38	58	45	31
	Status											
Headcount	Target	611	611	611	611	611	611	611	611	611	611	611
	Actual	537	526	526	524	545	550	547	547	543	541	541
	Status											
O&M Spending	Target	9,592,255	9,592,255	9,592,255	9,592,255	9,592,255	9,592,255	9,592,255	9,592,255	9,592,255	9,592,255	9,592,255
	Actual	7,534,065	4,458,249	11,680,248	9,400,983	10,544,595	15,052,971	5,839,015	5,104,907	9,024,517	6,841,727	
	Status											



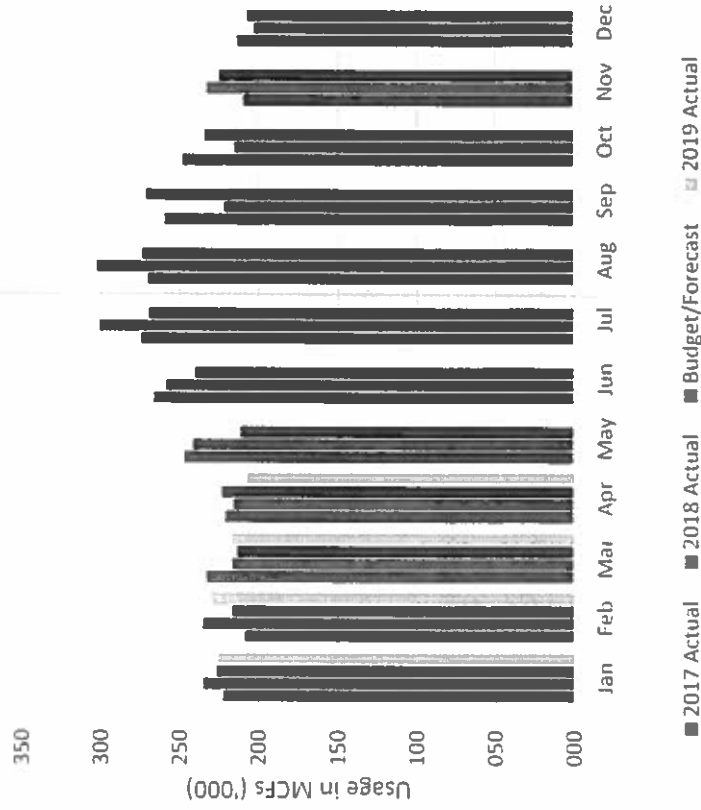
# Account Receivable Aging - Combined

Sales Class	# of Accounts	Avg. Balance	Current	> 30 Days	> 60 Days	> 180 Days	Accounts Receivable	
							Balance	Balance
Residential	287,131	\$ 348.12	\$ 13,421,822	\$ 7,293,580	\$ 19,483,008	\$ 59,758,480	\$ 99,956,890	100.0%
			13.4%	7.3%	19.5%	59.8%		
Commercial	28,189	1,254.98	8,191,882	2,596,370	6,775,449	17,812,997	35,376,698	100.0%
			23.2%	7.3%	19.2%	50.4%		
Industrial	4,804	3,332.65	4,095,039	1,438,226	2,713,151	7,763,646	16,010,061	100.0%
			25.6%	9.0%	16.9%	48.5%		
Tax Exempt Entities	8,147	1,852.66	1,989,066	1,475,626	3,109,733	8,519,213	15,093,639	100.0%
			13.2%	9.8%	20.6%	56.4%		
Government Entities	2,797	1,381.36	975,803	207,475	846,990	1,833,396	3,863,664	100.0%
			25.3%	5.4%	21.9%	47.5%		
<b>Subtotal - Active Accounts</b>	<b>331,068</b>	<b>\$ 514.40</b>	<b>\$ 28,673,612</b>	<b>\$ 13,011,276</b>	<b>\$ 32,928,330</b>	<b>\$ 95,687,732</b>	<b>\$ 170,300,951</b>	<b>100.0%</b>
			16.8%	7.6%	19.3%	56.2%		
Inactive Accounts	262,013	82.64	180,654	194,870	1,193,659	20,082,923	21,652,106	100.0%
			0.8%	0.9%	5.5%	92.8%		
<b>Total</b>	<b>593,081</b>	<b>\$ 323.65</b>	<b>\$ 28,854,267</b>	<b>\$ 13,206,146</b>	<b>\$ 34,121,990</b>	<b>\$ 115,770,655</b>	<b>\$ 191,953,058</b>	<b>100.0%</b>
<b>% of Total A/R</b>			15.0%	6.9%	17.8%	60.3%		
Water Fund	224,090	183.56	6,806,902	2,562,253	5,962,517	25,801,842	41,133,513	
Sewer Fund	284,106	530.86	22,047,365	10,643,893	28,159,473	89,968,813	150,819,545	
Total	593,081	323.65	28,854,267	13,206,146	34,121,990	115,770,655	191,953,058	





# Retail Water Customers – Volumes

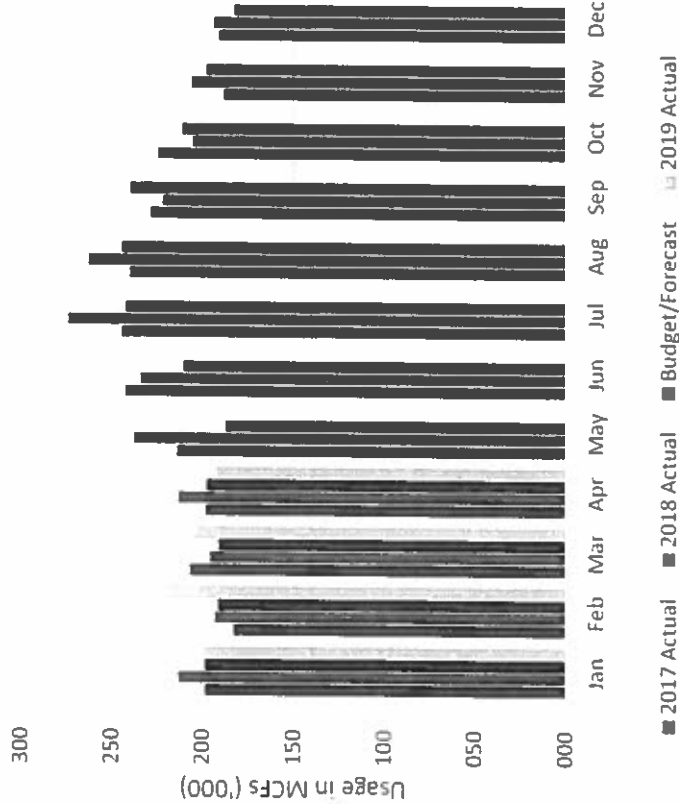


Month	Volume (Mcf)				Variance (%)
	Prior Year	Budget Current Year	Variance (Mcf)	Variance (%)	
July	274,267	269,000	31,613	11.8%	
August	269,802	273,100	29,376	10.8%	
September	259,341	270,500	(48,969)	(18.1%)	
October	247,700	233,800	(18,695)	(8.0%)	
November	208,783	224,500	8,270	3.7%	
December	213,026	206,500	(3,814)	(1.8%)	
January	235,142	226,600	1,097	0.5%	
February	235,436	216,400	15,694	7.3%	
March	216,866	213,300	5,135	2.4%	
April	215,643	223,100	(14,288)	(6.4%)	
May	241,641	211,000			
June	258,608	240,200			
<b>Totals</b>	<b>2,876,255</b>	<b>2,808,000</b>	<b>2,362,218</b>	<b>5,418</b>	<b>0.2%</b>
<b>Subtotals YTD</b>	<b>2,376,006</b>	<b>2,356,800</b>	<b>2,362,218</b>	<b>5,418</b>	<b>0.2%</b>



# Retail Sewer Customers - Volumes

Month	Volume (Mcf)				Variance (%)
	Prior Year	Budget Current Year	Current Year	Variance (Mcf)	
July	244,512	242,100	273,862	31,762	13.1%
August	239,911	244,200	262,525	18,325	7.5%
September	228,122	239,600	221,660	(17,940)	(7.5%)
October	224,159	211,000	205,267	(5,733)	(2.7%)
November	188,312	197,600	205,806	8,206	4.2%
December	190,811	182,400	193,791	11,391	6.2%
January	213,373	198,600	201,171	2,571	1.3%
February	193,452	191,600	220,021	28,421	14.8%
March	196,148	191,000	205,424	14,424	7.6%
April	213,393	197,300	193,725	(3,575)	(1.8%)
May	237,626	187,300			
June	234,144	210,300			
<b>Totals</b>	<b>2,603,964</b>	<b>2,493,000</b>	<b>2,183,253</b>	<b>87,853</b>	<b>3.5%</b>
<b>Subtotals YTD</b>	<b>2,132,194</b>	<b>2,095,400</b>	<b>2,183,253</b>	<b>87,853</b>	<b>4.2%</b>



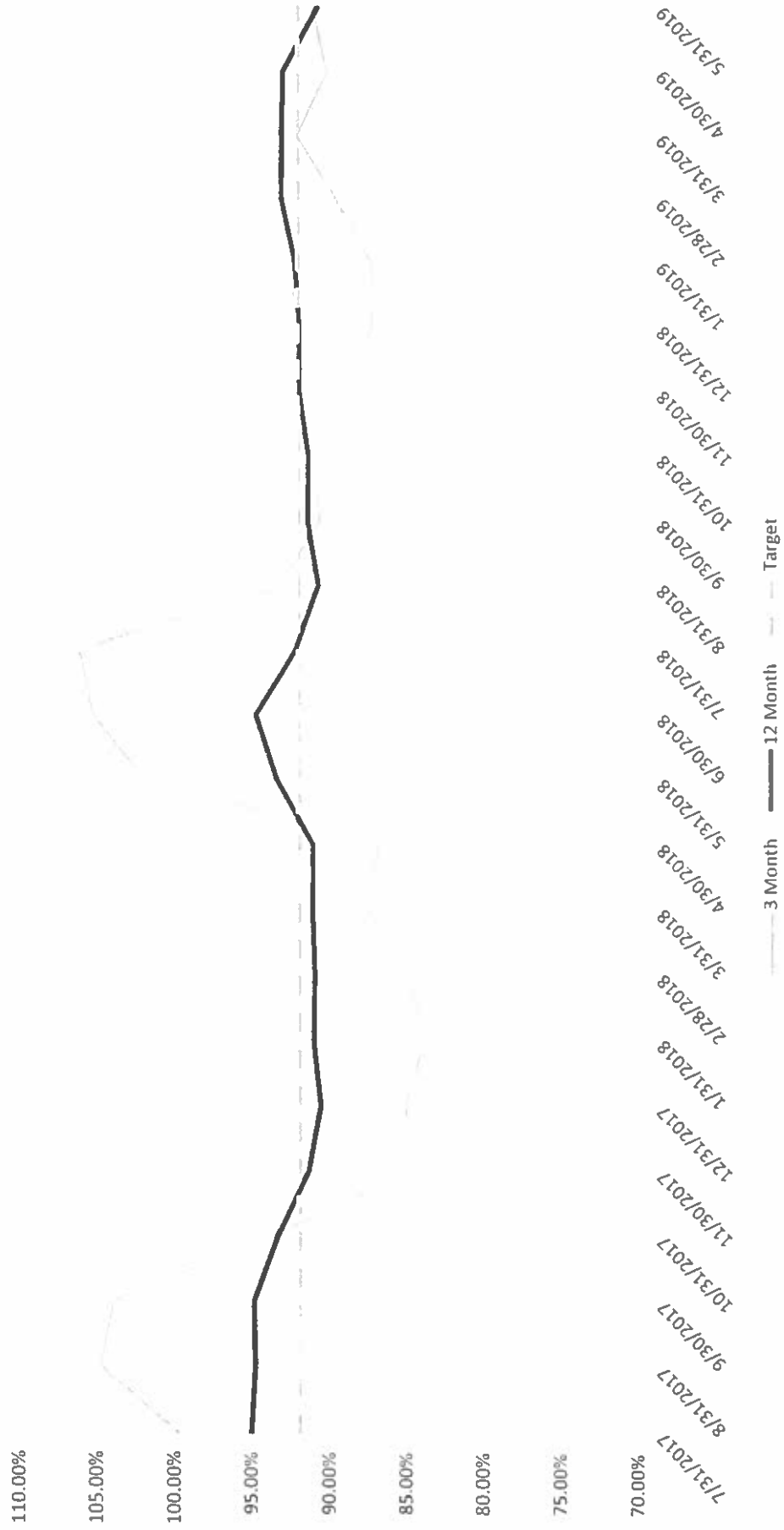
# Retail Customers - Revenue



Month	Revenue (\$)				Revenue (\$)				Variance (%)
	Prior Year	Budget	Current Year	Variance (\$)	Prior Year	Budget	Current Year	Variance (\$)	
July	\$ 9,060,075	\$ 9,424,500	\$ 10,203,409	\$ 778,909	\$ 24,994,676	\$ 27,423,400	\$ 27,851,140	\$ 427,740	1.6%
August	8,904,085	9,377,700	9,833,149	455,449	24,760,250	27,232,200	27,401,816	169,616	0.6%
September	8,985,289	8,494,300	8,996,692	502,392	23,983,587	25,367,500	25,552,254	184,754	0.7%
October	8,137,675	8,165,900	8,010,524	(155,376)	23,936,728	25,177,200	24,230,273	(946,927)	(3.8%)
November	7,473,555	7,750,100	8,325,013	574,913	22,627,682	23,861,000	24,314,979	453,979	1.9%
December	7,523,827	8,224,900	7,659,930	(564,970)	22,405,515	25,293,500	23,925,500	(1,368,000)	(5.4%)
January	8,067,860	7,978,800	8,250,078	271,278	23,250,935	24,852,800	24,407,247	(445,553)	(1.8%)
February	8,054,769	7,980,200	8,649,072	668,872	22,291,876	25,329,400	25,593,281	263,881	1.0%
March	7,527,076	8,163,900	8,165,904	2,004	22,184,361	25,474,500	24,648,366	(826,134)	(3.2%)
April	7,744,106	7,856,900	8,014,291	157,391	22,288,132	24,789,700	23,882,510	(907,190)	(3.7%)
May	8,380,467	9,109,200			24,665,214	26,205,200			
June	8,865,874	9,063,600			24,439,888	26,730,700			
<b>Totals</b>	<b>\$ 98,724,659</b>	<b>\$ 101,590,000</b>	<b>\$ 86,108,061</b>	<b>\$ 2,690,861</b>	<b>\$ 281,828,843</b>	<b>\$ 307,737,100</b>	<b>\$ 251,807,365</b>	<b>\$ (2,993,835)</b>	<b>(1.0%)</b>
<b>Subtotals YTD</b>	<b>\$ 81,478,318</b>	<b>\$ 83,417,200</b>	<b>\$ 86,108,061</b>	<b>\$ 2,690,861</b>	<b>\$ 232,723,742</b>	<b>\$ 254,801,200</b>	<b>\$ 251,807,365</b>	<b>\$ (2,993,835)</b>	<b>(1.2%)</b>



# Collection Rates



# Cash Balance Summary



	Water Fund		Sewer Fund	
	6/30/2018	5/31/2019	6/30/2018	5/31/2019
<b>Unrestricted</b>				
Operating	15,266,537	15,535,869	44,694,855	31,989,187
Improvement and Extension	42,994,009	46,989,022	35,059,899	34,161,171
Pension	9,073,472	3,021,285	181	2,553,285
	<u>67,334,019</u>	<u>65,546,176</u>	<u>79,754,935</u>	<u>68,703,642</u>
<b>Restricted</b>				
Bond	36,346,022	12,425,536	-	92,063,610
Affordability	1,184,871	1,320,935	-	-
Retainage	2,699,459	4,263,523	654,839	3,200,190
Construction	3,464,524	953,035	519,787	500,711
	<u>43,694,876</u>	<u>18,963,029</u>	<u>1,174,626</u>	<u>95,764,511</u>
<b>Total Cash</b>	<b>111,028,895</b>	<b>84,509,205</b>	<b>80,929,561</b>	<b>164,468,153</b>



# Appendix:

## Financial Statements

### Eleven Months Ended May 31, 2019

<b>City of Detroit Water Fund</b>		<b>Statement of Net Position</b>	
	June 30, 2018 (Audited)	May 31, 2019	
<b>Assets</b>			
Cash and cash equivalents	\$ 67,327,735	\$ 65,546,176	
Restricted - Cash and investments	45,800,588	20,963,029	
Accounts receivable - Net of Allowance	18,884,376	23,787,041	
Due from other funds	34,674,582	28,572,977	
Inventory	3,380,693	3,380,693	
Prepaid expenses	452,491	275,381	
Receivables from Great Lakes Water Authority	477,230,749	473,039,574	
Capital assets - net	525,909,122	540,838,862	
<b>Total assets</b>	<b>1,173,660,336</b>	<b>1,156,403,733</b>	
<b>Deferred Outflows of Resources - Pensions</b>	<b>14,359,284</b>	<b>14,359,284</b>	

<b>City of Detroit Water Fund</b>		<b>Statement of Net Position (Continued)</b>	
	June 30, 2018 (Audited)	May 31, 2019	
<b>Liabilities</b>			
Current liabilities:			
Accounts and contracts payable	\$ 5,887,060	\$ 8,141,907	
Due to other funds	44,482,592	35,265,461	
Due to Great Lakes Water Authority	(8,446,945)	(2,545,393)	
Accrued interest	1,941,491	1,941,491	
Other liabilities	40,790,929	36,658,752	
Accrued compensated absences	1,675,525	1,675,525	
Current portion debt	-	-	
Long-term debt	520,056,143	501,341,546	
Net pension liability	46,948,714	46,948,714	
<b>Total liabilities</b>	<b>653,335,509</b>	<b>629,428,003</b>	
<b>Deferred Inflows of Resources - Pensions</b>	<b>7,119,846</b>	<b>7,119,846</b>	
<b>Net Position</b>			
Fund Balance - End of year	527,564,263	534,215,169	
<b>Total net position</b>	<b>\$ 527,564,263</b>	<b>\$ 534,215,169</b>	



**City of Detroit Water Fund**

**Statement of Revenue, Expenses, and Changes in Fund Net Position**

	Eleven Months Ended May 31, 2019	
	Accrual Basis	Contract Basis
<b>Operating Revenue</b>		
Retail sales - Detroit	\$ 87,906,720	\$ 87,906,720
Other fees	5,056,127	5,056,127
Other revenue	2,460,757	2,460,757
Total operating revenue	95,423,604	95,423,604
<b>Operating Expenses</b>		
Salaries, wages and benefits	25,460,530	25,460,530
Contractual Services	12,866,443	12,866,443
Other operating expense	9,230,006	9,230,006
Wholesale Charges	18,535,792	18,535,792
Depreciation	15,547,691	-
Total operating expenses	81,640,462	66,092,771
<b>Operating Income</b>	13,783,143	29,330,833
<b>Nonoperating Revenue (Expenses)</b>		
Investment income	995,929	995,929
Capital Lease	15,294,717	20,625,000
Capital Outlay/Acquisitions	(19,094)	(19,094)
Debt Service	(21,743,196)	(35,189,289)
Gain (loss) on sale of assets	(1,660,593)	-
Total nonoperating expenses - Net	(7,132,237)	(13,587,454)
<b>Change in Net Position</b>	<b>\$ 6,650,906</b>	<b>\$ 15,743,380</b>

**City of Detroit Sewage Disposal Fund**

		<b>Statement of Net Position</b>	
		June 30, 2018	May 31, 2019
		(Audited)	
<b>Assets</b>			
Cash and cash equivalents	\$	79,749,584	\$ 68,703,642
Restricted - Cash and investments		6,674,626	101,264,511
Accounts receivable - Net of Allowance		73,437,178	87,865,365
Due from other funds		49,382,322	46,189,487
Inventory		848,085	848,085
Prepaid expenses		433,558	433,558
Receivables from Great Lakes Water Authority		606,549,558	602,883,167
Capital assets - net		491,981,714	509,039,641
Total assets		1,309,056,625	1,417,227,456
<b>Deferred Outflows of Resources - Pensions</b>		10,392,771	10,924,542

**City of Detroit Sewage Disposal Fund**

**Statement of Net Position (Continued)**

	June 30, 2018 (Audited)	May 31, 2019
<b>Liabilities</b>		
Current liabilities:		
Accounts and contracts payable	\$ 8,871,455	\$ 7,829,736
Due to other funds	53,931,165	69,576,593
Due to Great Lakes Authority	53,639,106	57,489,008
Accrued interest	3,169,374	3,169,374
Other liabilities	54,935,846	47,979,825
Accrued compensated absences	2,513,288	2,513,288
Current portion debt	-	-
Long-term debt	395,922,651	463,203,992
Net pension liability	32,618,179	32,618,179
<b>Total liabilities</b>	<b>605,601,064</b>	<b>684,379,995</b>
<b>Deferred Inflows of Resources - Pensions</b>	<b>6,258,922</b>	<b>6,258,922</b>
<b>Net Position</b>		
Fund Balance - End of year	707,589,412	737,513,082
<b>Total net position</b>	<b>\$ 707,589,412</b>	<b>\$ 737,513,082</b>

**City of Detroit Sewage Disposal Fund**

**Statement of Revenue, Expenses, and Changes in Fund Net Position**

	Eleven Months Ended May 31, 2019	
	Accrual Basis	Contract Basis
<b>Operating Revenue</b>		
Retail sales - Detroit	\$ 249,236,675	\$ 249,236,675
Other fees	3,827,161	3,827,161
Other revenue	9,694,948	9,694,948
Total operating revenue	262,758,785	262,758,785
<b>Operating Expenses</b>		
Salaries, wages and benefits	32,531,352	32,531,352
Contractual Services	11,616,898	11,616,898
Other operating expense	13,386,747	13,386,747
Wholesale Charges	166,524,765	166,524,765
Depreciation	10,960,174	-
Total operating expenses	235,019,935	224,059,762
<b>Operating Income</b>	27,738,849	38,699,023
<b>Nonoperating Revenue (Expenses)</b>		
Investment earnings	1,857,833	1,857,833
Capital Lease	18,693,539	25,208,333
Capital Outlay/Acquisitions	6,105	6,105
Debt Service	(17,619,085)	(27,391,864)
Gain (loss) on sale of assets	(753,571)	-
Total nonoperating expenses - Net	2,184,821	(319,592)
<b>Change in Net Position</b>	<b>\$ 29,923,670</b>	<b>\$ 38,379,431</b>

# Thank You



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[@detroitwatersewerage](https://www.instagram.com/detroitwatersewerage)

**Table 2 – DWSD Net Cash Flows from Trust Receipts & Disbursements**

	FY 2016	FY 2017	FY 2018	FY 2019-to-Date	Life-to-Date Total
<b>Water</b>					
1 Receipts	\$ 26,201,881	96,451,105	101,716,017	58,280,950	282,649,953
2 MOU Adjustments	18,446,100	-	-	-	18,446,100
3 Adjusted Receipts	44,647,981	96,451,105	101,716,017	58,280,950	301,096,053
4 Disbursements	47,809,552	93,066,144	93,049,457	56,988,575	290,913,728
5 Net Receipts	\$ (3,161,571)	3,384,961	8,666,560	1,292,375	10,182,325
6 Ratio of Receipts to Disbursements	93%	104%	109%	102%	104%
<b>Sewer</b>					
7 Receipts	\$ 65,256,734	233,723,367	247,975,470	152,417,265	699,372,836
8 MOU Adjustments	55,755,100	-	-	6,527,200	62,282,300
9 Adjusted Receipts	121,011,834	233,723,367	247,975,470	158,944,465	761,655,136
10 Disbursements	122,297,300	261,963,973	266,217,825	164,788,461	815,267,559
11 Net Receipts	\$ (1,285,466)	(28,240,606)	(18,242,355)	(5,843,996)	(53,612,423)
12 Ratio of Receipts to Disbursements	99%	89%	93%	96%	93%
13 Receipts	\$ 91,458,615	330,174,472	349,691,487	210,698,215	982,022,789
14 MOU Adjustments	74,201,200	-	-	6,527,200	80,728,400
15 Adjusted Receipts	165,659,815	330,174,472	349,691,487	217,225,415	1,062,751,189
16 Disbursements	170,106,852	355,030,117	359,267,282	221,777,036	1,106,181,287
17 Net Receipts	\$ (4,447,037)	(24,855,645)	(9,575,795)	(4,551,621)	(43,430,098)
18 Ratio of Receipts to Disbursements	97%	93%	97%	98%	96%

**Note 1:** The \$29,300,000 for the DWSD loan receivable balance is calculated as follows.

(1,285,466)	FY 2016 Shortfall
(28,240,606)	FY 2017 Shortfall
(29,526,072)	Subtotal
238,264	June IWC not due until July
(29,287,808)	FY 2017 Shortfall-to-Date

29,300,000 FY 2017 Shortfall-to-Date, Rounded

**Note 2:** During the preparation of this report DWSD made payments totaling approximately \$7 million in principal towards this loan receivable balance. This payment activity will be reflected in the February 2019 TRD report.





# **MARCH 2019 REVIEW**

## **FINANCE COMMITTEE**

**May 1, 2019**



# Summary Financial Metrics



DETROIT  
Water & Sewerage  
Department

Month Ended Fiscal Quarter	Jul-18 2019.Q1	Aug-18 2019.Q1	Sep-18 2019.Q1	Oct-18 2019.Q2	Nov-18 2019.Q2	Dec-18 2019.Q2	Jan-19 2019.Q3	Feb-19 2019.Q3	Mar-19 2019.Q3	Apr-19 2019.Q4	May-19 2019.Q4	Jun-19 2019.Q4
Water Volumes	Target	269,000	273,100	270,500	233,800	224,500	226,600	216,400	213,300	223,100	211,000	240,200
	Actual	372,613	302,476	224,531	215,105	232,770	227,697	232,094				
	Status											
Total Active Meters	Target	178,000	178,000	178,000	178,000	178,000	178,000	178,000	178,000	178,000	178,000	178,000
	Actual	178,435	178,222	178,318	178,219	178,114	179,249	180,292				
	Status											
Billable Impervious Acreage	Target	28,000	28,000	28,000	28,000	28,000	28,000	28,000	28,000	28,000	28,000	28,000
	Actual	27,842	27,796	27,802	27,722	27,688	27,686	27,702				
	Status											
Days in Accounts Receivable - Residential	Target	130	140	140	140	140	140	140	140	140	140	140
	Actual	186	184	183	184	186	188	190	192	194		
	Status											
3-Month Rolling Average Collection Rate	Target	92%	97%	92%	92%	92%	92%	92%	92%	92%	92%	92%
	Actual	106%	93%	91%	91%	89%	87%	87%	90%	92%		
	Status											
12-Month Rolling Average Collection Rate	Target	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%
	Actual	92%	91%	91%	91%	92%	92%	92%	93%			
	Status											
Operating Cash Days on Hand	Target	120	120	120	120	120	120	120	120	120	120	120
	Actual	188	219	235	233	229	227	223	234	230		
	Status											
Days Payable Outstanding	Target	45	45	45	45	45	45	45	45	45	45	45
	Actual	113	65	64	75	50	32	80	86	43		
	Status											
Headcount	Target	611	611	611	611	611	611	611	611	611	611	611
	Actual	537	526	526	524	545	550	547	547	543		
	Status											
O&M Spending	Target	9,592,255	9,592,255	9,592,255	9,592,255	9,592,255	9,592,255	9,592,255	9,592,255	9,592,255	9,592,255	9,592,255
	Actual	7,534,065	4,458,249	11,660,248	9,400,983	10,544,595	15,052,971	5,839,015	10,133,568	5,104,907		
	Status											



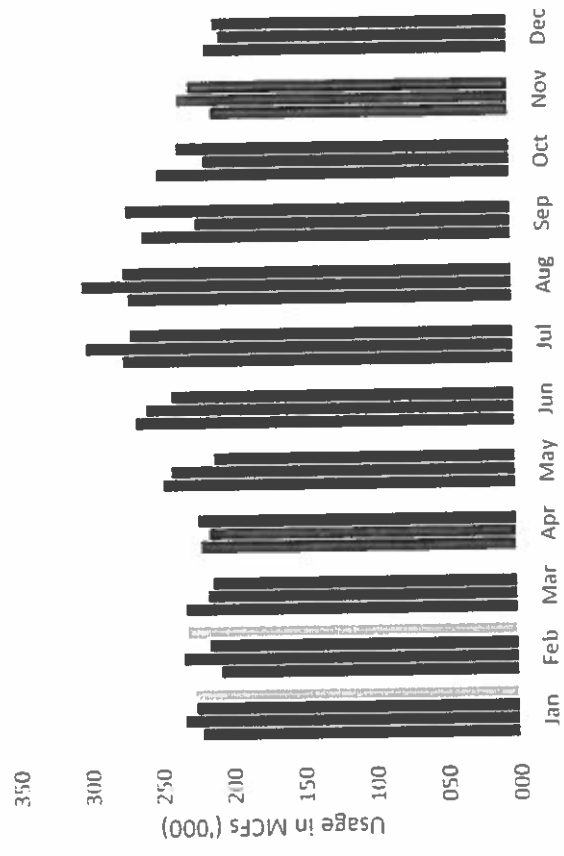
# Account Receivable Aging - Combined

Sales Class	# of Accounts	Avg. Balance	Current	> 30 Days	> 60 Days	> 180 Days	Accounts Receivable	
							Balance	Balance
Residential	287,163	\$ 333.95	\$ 13,086,411 13.6%	\$ 6,964,191 7.3%	\$ 18,014,716 18.8%	\$ 57,832,050 60.3%	\$ 95,897,368 100.0%	
Commercial	28,170	1,214.26	8,200,196 24.0%	2,645,743 7.7%	6,774,295 19.8%	16,585,500 48.5%	34,205,734 100.0%	
Industrial	4,797	3,213.76	5,017,496 32.5%	1,075,617 7.0%	2,635,108 17.1%	6,688,180 43.4%	15,416,401 100.0%	
Tax Exempt Entities	8,396	1,535.14	2,289,341 17.8%	1,162,767 9.0%	2,514,012 19.5%	6,922,887 53.7%	12,889,006 100.0%	
Government Entities	2,604	2,072.27	720,956 13.4%	511,113 9.5%	1,043,297 19.3%	3,120,816 57.8%	5,396,181 100.0%	
<b>Subtotal - Active Accounts</b>	<b>331,130</b>	<b>\$ 494.68</b>	<b>\$ 29,314,400</b> 17.9%	<b>\$ 12,359,431</b> 7.5%	<b>\$ 30,981,428</b> 18.9%	<b>\$ 91,149,432</b> 55.6%	<b>\$ 163,804,691</b> 100.0%	
Inactive Accounts	259,464	75.56	326,341 1.7%	160,039 0.8%	981,602 5.0%	18,137,657 92.5%	19,605,640 100.0%	
<b>Total</b>	<b>590,594</b>	<b>\$ 310.55</b>	<b>\$ 29,640,741</b> 16.2%	<b>\$ 12,519,470</b> 6.8%	<b>\$ 31,963,031</b> 17.4%	<b>\$ 109,287,089</b> 59.6%	<b>\$ 183,410,331</b> 100.0%	
% of Total A/R								
Water Fund	211,500	188.63	\$ 7,040,579 2.4%	\$ 2,461,937 0.8%	\$ 5,717,160 1.8%	\$ 24,675,493 8.0%	\$ 39,895,169 13.6%	
Sewer Fund	268,019	535.47	\$ 22,600,163 7.6%	\$ 10,057,533 3.4%	\$ 26,245,871 8.5%	\$ 84,611,596 27.3%	\$ 143,515,162 47.3%	
Total	590,594	310.55	\$ 29,640,741 10.0%	\$ 12,519,470 4.2%	\$ 31,963,031 10.7%	\$ 109,287,089 35.3%	\$ 183,410,331 59.6%	



# Retail Water Customers – Volumes

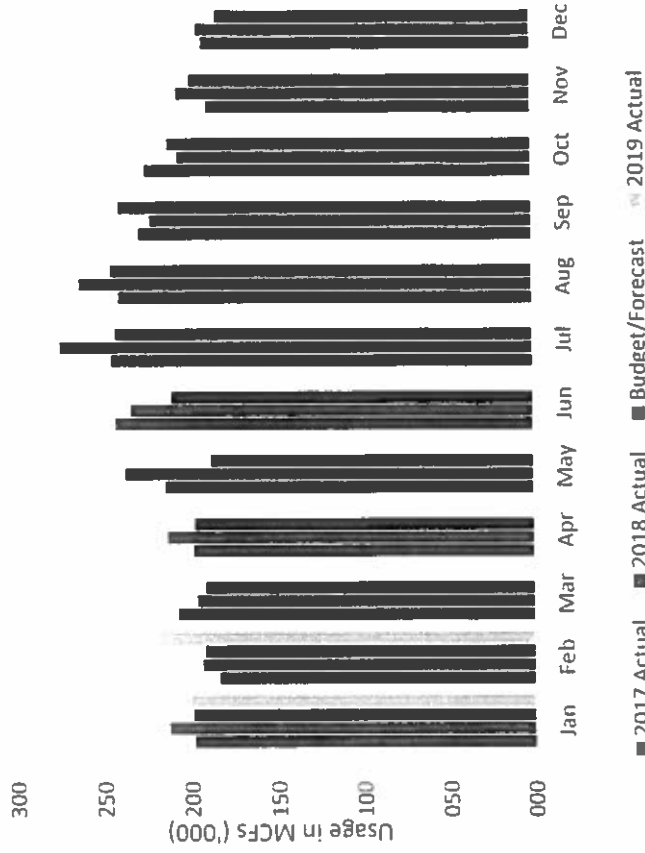
Month	Volume (Mcf)			
	Prior Year	Budget	Current Year	Variance (Mcf) Variance (%)
July	274,267	269,000	300,613	31,613 11.8%
August	269,802	273,100	302,476	29,376 10.8%
September	259,341	270,500	221,531	(48,969) (18.1%)
October	247,700	233,800	215,105	(18,695) (8.0%)
November	208,783	224,500	232,770	8,270 3.7%
December	213,026	206,500	202,686	(3,814) (1.8%)
January	235,142	226,600	227,697	1,097 0.5%
February	235,436	216,400	232,094	15,694 7.3%
March	216,866	213,300		
April	215,643	223,100		
May	241,641	211,000		
June	258,608	240,200		
<b>Totals</b>	<b>2,876,255</b>	<b>2,808,000</b>	<b>1,934,971</b>	<b>14,571 0.5%</b>
<b>Subtotals YTD</b>	<b>1,943,498</b>	<b>1,920,400</b>	<b>1,934,971</b>	<b>14,571 0.8%</b>





# Retail Sewer Customers - Volumes

Month	Volume (Mcf)				Variance (%)
	Prior Year	Budget Current Year	Current Year	Variance (Mcf)	
July	244,512	242,100	273,862	31,762	13.1%
August	239,911	244,200	262,525	18,325	7.5%
September	228,122	239,600	221,660	(17,940)	(7.5%)
October	224,159	211,000	205,267	(5,733)	(2.7%)
November	188,312	197,600	205,806	8,206	4.2%
December	190,811	182,400	193,791	11,391	6.2%
January	213,373	198,600	201,171	2,571	1.3%
February	193,452	191,600	220,021	28,421	14.8%
March	196,148	191,000			
April	213,393	197,300			
May	237,626	187,300			
June	234,144	210,300			
<b>Totals</b>	<b>2,603,964</b>	<b>2,493,000</b>	<b>1,784,104</b>	<b>77,004</b>	<b>3.1%</b>
<b>Subtotals YTD</b>	<b>1,722,652</b>	<b>1,707,100</b>	<b>1,784,104</b>	<b>77,004</b>	<b>4.5%</b>





# Retail Customers - Revenue

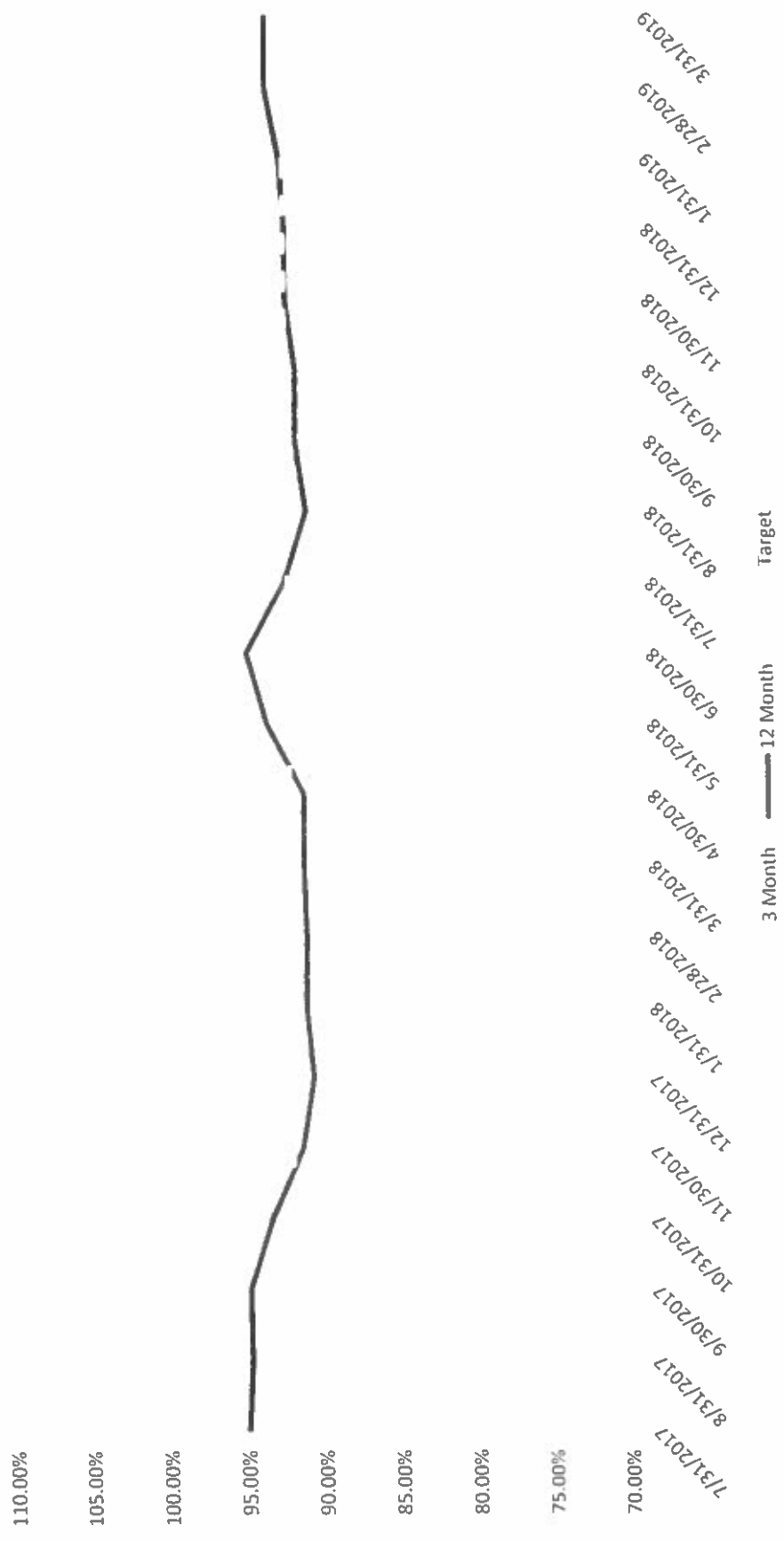
Month	Revenue (\$)				Variance (%)
	Prior Year	Budget	Current Year	Variance (\$)	
July	\$ 9,060,075	\$ 9,424,500	\$ 10,203,409	\$ 778,909	8.3%
August	8,904,085	9,377,700	9,833,149	455,449	4.9%
September	8,985,289	8,494,300	8,996,692	502,392	5.9%
October	8,137,675	8,165,900	8,010,524	(155,376)	(1.9%)
November	7,473,555	7,750,100	8,325,013	574,913	7.4%
December	7,523,827	8,224,900	7,659,930	(564,970)	(6.9%)
January	8,067,860	7,978,800	8,250,078	271,278	3.4%
February	8,054,769	7,980,200	8,649,072	668,872	8.4%
March	7,527,076	8,163,900			
April	7,744,106	7,856,900			
May	8,380,467	9,109,200			
June	8,865,874	9,063,600			
<b>Totals</b>	<b>\$ 98,724,659</b>	<b>\$ 101,590,000</b>	<b>\$ 69,927,867</b>	<b>\$ 2,531,467</b>	<b>2.5%</b>
Subtotals YTD	\$ 66,207,136	\$ 67,396,400	\$ 69,927,867	\$ 2,531,467	3.8%

Month	Revenue (\$)				Variance (%)
	Prior Year	Budget	Current Year	Variance (\$)	
July	\$ 24,994,676	\$ 27,423,400	\$ 27,851,140	\$ 427,740	1.6%
August	24,760,250	27,232,200	27,401,816	169,616	0.6%
September	23,983,587	25,367,500	25,552,254	184,754	0.7%
October	23,936,728	25,177,200	24,230,273	(946,927)	(3.8%)
November	22,627,682	23,861,000	24,314,979	453,979	1.9%
December	22,405,515	25,293,500	23,925,500	(1,368,000)	(5.4%)
January	23,250,935	24,852,800	24,407,247	(445,553)	(1.8%)
February	22,291,876	25,329,400	25,593,281	263,881	1.0%
March	22,184,361	25,474,500			
April	22,288,132	24,789,700			
May	24,665,214	26,205,200			
June	24,439,888	26,730,700			
<b>Totals</b>	<b>\$ 281,828,843</b>	<b>\$ 307,737,100</b>	<b>\$ 203,276,489</b>	<b>\$ (1,260,511)</b>	<b>(0.4%)</b>
Subtotals YTD	\$ 188,251,249	\$ 204,537,000	\$ 203,276,489	\$ (1,260,511)	(0.6%)



# Collection Rates





# Appendix:

## Financial Statements

### Nine Months Ended March 31, 2019

<b>City of Detroit Water Fund</b>		<b>Statement of Net Position</b>	
	June 30, 2018 (Audited)	March 31, 2019	
<b>Assets</b>			
Cash and cash equivalents	\$ 67,327,735	\$ 68,279,357	
Restricted - Cash and investments	45,800,588	29,604,968	
Accounts receivable - Net of Allowance	18,884,376	24,383,568	
Due from other funds	34,674,582	48,637,983	
Inventory	3,380,693	3,380,693	
Prepaid expenses	452,491	452,491	
Receivables from Great Lakes Water Authority	477,230,749	473,309,275	
Capital assets - net	525,909,122	539,388,176	
Total assets	<u>1,173,660,336</u>	<u>1,187,436,511</u>	
<b>Deferred Outflows of Resources - Pensions</b>	14,359,284	14,359,284	



<b>City of Detroit Water Fund</b>		<b>Statement of Net Position (Continued)</b>	
	June 30, 2018 (Audited)	March 31, 2019	
<b>Liabilities</b>			
Current liabilities:			
Accounts and contracts payable	\$ 5,887,060	\$ 7,983,736	
Due to other funds	44,482,592	55,465,402	
Due to Great Lakes Water Authority	(8,446,945)	(6,889,944)	
Accrued interest	1,941,491	1,941,491	
Other liabilities	40,790,929	39,909,979	
Accrued compensated absences	1,675,525	1,675,525	
Current portion debt	520,056,143	511,671,286	
Long-term debt	46,948,714	46,948,714	
Net pension liability			
<b>Total liabilities</b>	<b>653,335,509</b>	<b>658,706,189</b>	
<b>Deferred Inflows of Resources - Pensions</b>	<b>7,119,846</b>	<b>7,119,846</b>	
<b>Net Position</b>			
Fund Balance - End of year	527,564,263	535,969,760	
<b>Total net position</b>	<b>\$ 527,564,263</b>	<b>\$ 535,969,760</b>	

**City of Detroit Water Fund**

**Statement of Revenue, Expenses, and Changes in Fund Net Position**

	Nine Months Ended March 31, 2019	
	Accrual Basis	Contract Basis
<b>Operating Revenue</b>		
Retail sales - Detroit	\$ 73,092,886	\$ 73,092,886
Other fees	4,352,708	4,352,708
Other revenue	2,576,570	2,576,570
Total operating revenue	80,022,164	80,022,164
<b>Operating Expenses</b>		
Salaries, wages and benefits	21,088,208	21,088,208
Contractual Services	10,686,255	10,686,255
Other operating expense	7,277,963	7,277,963
Wholesale Charges	15,244,578	15,244,578
Depreciation	12,699,687	-
Total operating expenses	66,996,691	54,297,004
<b>Operating Income</b>	13,025,473	25,725,160
<b>Nonoperating Revenue (Expenses)</b>		
Investment income	322,435	322,435
Capital Lease	12,527,350	16,875,000
Capital Outlay/Acquisitions	(85)	(85)
Debt Service	(17,469,675)	(28,791,236)
Gain (loss) on sale of assets	-	-
Total nonoperating expenses - Net	(4,619,976)	(11,593,887)
<b>Change in Net Position</b>	\$ 8,405,497	\$ 14,131,273

**City of Detroit Sewage Disposal Fund**

**Statement of Net Position**

	June 30, 2018 (Audited)	March 31, 2019
<b>Assets</b>		
Cash and cash equivalents	\$ 79,749,584	\$ 67,981,836
Restricted - Cash and investments	6,674,626	100,049,342
Accounts receivable - Net of Allowance	73,437,178	89,238,625
Due from other funds	49,382,322	86,086,039
Inventory	848,085	848,085
Prepaid expenses	433,558	433,558
Receivables from Great Lakes Water Authority	606,549,558	601,372,835
Capital assets - net	491,981,714	503,771,745
Total assets	1,309,056,625	1,449,782,065
<b>Deferred Outflows of Resources - Pensions</b>	10,392,771	10,924,542

**City of Detroit Sewage Disposal Fund**

**Statement of Net Position (Continued)**

	June 30, 2018	March 31, 2019
	(Audited)	
<b>Liabilities</b>		
Current liabilities:		
Accounts and contracts payable	\$ 8,871,455	\$ 6,665,668
Due to other funds	53,931,165	87,219,080
Due to Great Lakes Authority	53,639,106	52,081,064
Accrued interest	3,169,374	3,169,374
Other liabilities	54,935,846	53,628,808
Accrued compensated absences	2,513,288	2,513,288
Current portion debt	-	-
Long-term debt	395,922,651	478,924,072
Net pension liability	32,618,179	32,618,179
<b>Total liabilities</b>	<b>605,601,064</b>	<b>716,819,533</b>
<b>Deferred Inflows of Resources - Pensions</b>	<b>6,258,922</b>	<b>6,258,922</b>
<b>Net Position</b>		
Fund Balance - End of year	707,589,412	737,628,152
<b>Total net position</b>	<b>\$ 707,589,412</b>	<b>\$ 737,628,152</b>

**City of Detroit Sewage Disposal Fund**

**Statement of Revenue, Expenses, and Changes in Fund Net Position**

	Nine Months Ended March 31, 2019	
	Accrual Basis	Contract Basis
<b>Operating Revenue</b>		
Retail sales - Detroit	\$ 206,626,937	\$ 206,626,937
Other fees	2,895,099	2,895,099
Other revenue	11,102,282	11,102,282
Total operating revenue	220,624,318	220,624,318
<b>Operating Expenses</b>		
Salaries, wages and benefits	26,650,743	26,650,743
Contractual Services	8,925,117	8,925,117
Other operating expense	10,175,058	10,175,058
Wholesale Charges	137,255,697	137,255,697
Depreciation	8,951,346	-
Total operating expenses	191,957,959	183,006,614
<b>Operating Income</b>	28,666,359	37,617,705
<b>Nonoperating Revenue (Expenses)</b>		
Investment earnings	-	-
Capital Lease	15,311,202	20,625,000
Capital Outlay/Acquisitions	(6,756)	(6,756)
Debt Service	(13,932,064)	(22,411,525)
Gain (loss) on sale of assets	-	-
Total nonoperating expenses - Net	1,372,381	(1,793,281)
<b>Change in Net Position</b>	<b>\$ 30,038,740</b>	<b>\$ 35,824,424</b>



# Treasury Update

March 31, 2019

NiKole Howard-Whitsett



# Cash Balance Summary

	Water Fund		Sewer Fund	
	6/30/2018	3/31/2019	6/30/2018	3/31/2019
<b>Unrestricted</b>				
Operating	\$ 15,266,537	\$ 21,446,914	\$ 44,694,855	\$ 51,183,374
Improvement and Extension	42,994,009	44,527,028	35,059,899	14,722,301
Pension	<u>9,073,472</u>	<u>\$ 2,308,015</u>	<u>181</u>	<u>\$ 2,076,165</u>
	\$ 67,334,019	\$ 68,281,956	\$ 79,754,935	\$ 67,981,840
<b>Restricted</b>				
Bond	36,346,022	19,389,092	-	91,760,425
Affordability	1,184,871	1,297,321	-	-
Retainage	2,699,459	3,923,627	654,839	2,736,015
Construction	<u>3,464,524</u>	<u>2,994,923</u>	<u>519,787</u>	<u>52,914</u>
	43,694,876	27,604,962	1,174,626	94,549,355
<b>Total Cash</b>	<b>\$ 111,028,895</b>	<b>\$ 95,886,919</b>	<b>\$ 80,929,561</b>	<b>\$ 162,531,194</b>



DETROIT  
Water & Sewerage  
Department

## Insured Balance Summary

<b>Banking Institution</b>	<b>Insured</b>	<b>Uninsured</b>	<b>Total</b>
Comerica	\$ 93,954,360	\$91,760,425	\$ 185,714,785
First Independence	67,242,932	1,575,867	68,818,800
JP Morgan Chase	297,048	1,047,321	1,344,368
US Bank	500,000	2,040,123	2,540,123
<b>Total Cash</b>	<b>\$ 161,994,340</b>	<b>\$96,423,736</b>	<b>\$ 258,418,076</b>



# Thank You



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